

## Padding upstream – water management on the prairies

**By Dr. Henry David Venema**

It is difficult to fathom a nation such as Canada, with its mighty rivers, thousands of lakes, towering glaciers and ecologically significant wetlands having to ardently manage its freshwater resources. However, reality dictates that our water is under pressure from human-induced impacts, agricultural pressures and a changing climate.

The prairies account for 75 per cent of all agricultural water consumption in Canada—half of all water used in Canada is for prairie agriculture. The prairies are also constantly afflicted by high hydrological variability, which simply means it either rains a lot, or not much at all.

This past summer and fall in North America have borne witness to the vagaries of water—too much rain, not enough rain, along with the recent devastating impacts of water in the form of Hurricane Katrina. In Manitoba—like Louisiana—many regard these extreme weather events as a local manifestation of larger climatic change.

The *Winnipeg Free Press* has reported extensively on the devastating impacts of water—from swamped (and later parched “like concrete”) farmland, flooded basements and a full floodway in mid-summer, to the declining water quality in Lake Winnipeg and transboundary water issues exemplified by the Devil’s Lake controversy.

It is no surprise then that a recent survey published by the Eos Research group found that respondents identified the three greatest sustainability risks today, and 10 years from now, are climate change,

water quality and water shortages. This survey is not alone in its findings. The Millennium Ecosystem Assessment (MA)—a four-year extensive study by 1,360 scientists from 95 countries—has also identified water as a key vulnerability, particularly in dryland ecosystems such as the Canadian prairies.

The prairie water basin is a vast network of predominantly east and northward flowing watersheds which spans four provinces, two states and multiple First Nations lands.

John Thorson, a U.S. academic, suggests that “water links us to our neighbour in a way more profound and complex than any other.” Never have truer words been spoken.

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Water governance in Canada is a complex patchwork of partially overlapping jurisdictions. The provinces are responsible for drinking water and how we manage our water catchments, but the federal government, among other things, is responsible for the Prairie Provinces Water Board, which manages water at the borders of the provinces.

Yet, water doesn’t recognize boundaries—the forces of nature are greater than the political forces which govern them, so water flows across provincial and

international boundaries. Which is why, many believe, including all three prairie provincial governments, that management is best done not by political boundaries, but at the level of the watersheds themselves. This “watershed-based management” therefore identifies issues locally and brings together the people who live, work and impact on their watershed to work toward identifying and resolving water issues.

We can’t ignore, however, the way in which our political, economic and social institutions are structured, so the conundrum becomes how to overlay these “artificial” governance structures with the courses of water.

So, how do we bring together and address these interconnected, yet daunting water resource challenges?

On the prairies, each provincial government has embraced the goal of “watershed-based management and governance” and developed water strategies which emphasize localized planning and participation. But, the devil is in the details. What does a watershed-based approach to managing our water look like? What are some of the critical information needs? Who are the people who need to be involved? How will local watershed planning and implementation be financed?

There are no easy answers, but in September 2005, about 100 water experts including scientists, researchers, decision- and policy-makers, gathered in Winnipeg at the Prairie Water Policy Symposium to confront the issues. The sustainable development of the provinces is inextricably connected to their ability to manage water quality and quantity. How we achieve this depends on our ability to work together.

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**Watersheds of the prairie region.**

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