**Leaks in Manitoba Government Water Bucket**

Jim Collinson[1]

Manitoba's Government deserves credit for flood damage measures this past spring. After delaying flood forecast staffing needs until late winter, they finally got going on what needed to be done during the crisis. However, serious holes in the water program bucket will drain long term potential for economic growth through effective water management.

Effective water management is central to Manitoba's needs, and disjointed emergency efforts alone are not enough. Moreover, meddling from the side by misguided environmental interests, who misunderstanding basic pollution causes just stirs up an already complicated mess.

Manitoba has been well served by water management initiatives begun decades ago. The Red River Floodway, Portage Diversion/Fairford dam and channel and the Shellmouth Dam stand out. Other conservation projects have made a positive difference, including programs taking marginal land out of agriculture for community pastures or wildlife management areas; upstream drainage projects for improved access to production from croplands in wet years (however, these also permitted water to run off faster, causing flooding problems downstream); field shelterbelts which reduce evaporation in dry years, and individual dams for town water supply that help reduce flooding downstream.

This year, huge areas of southern Saskatchewan and Manitoba plus parts of North Dakota faced serious flooding. Towns along the Souris and Assiniboine battled floodwaters for over three months; roads were inundated or washed out; and rain continued to fall. Water crested on the Souris and Assiniboine rivers for the third time in early July. Lakes Manitoba and St. Martin still suffer from high water diverted from the Assiniboine. Further summer rains of consequence would have aggravated already serious flood impacts.

These past two years are a wakeup call about long term climate change cycles that need to be viewed in "geological time", not just since "records were kept".

Geologically, Manitoba sits in an axial position from the Rockies into Ontario and from Minnesota/ North Dakota to Hudson Bay. The Nelson River is the recipient of all upstream water. Lakes Agassiz and Souris formed when the last major glaciers disappeared about 10,000 years ago. Since then there have been many periods of both high water and drought: often orders of magnitude greater than any experienced within living memory. Glaciers and runoff carved the basic features of the Nelson watershed, with significant alluvial deposits added over the centuries.

To illustrate the significance of the entire watershed, it is helpful to note that over half of the flow of the Saskatchewan River entering Lake Winnipeg originates in the Rockies!

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Manitoba has special concerns due to its location as the recipient of all water of the Nelson watershed, but jurisdictions outside the province need to be involved. Alberta, Saskatchewan, Ontario, North Dakota and Minnesota are obvious potential water management "partners". Their flood management successes or failures contribute to Manitoba's situation. Given these jurisdictional implications, scheduling and coordinating water project implementation will require a carefully integrated intergovernmental approach to protect Manitoba from other authorities just shifting the problem downstream.

Time will be needed to adapt to greater fluctuations in climate: a return to more benign weather cannot be assumed. Droughts are not to be forgotten, as they will recur. In short, land and water conservation must take both extremes into account, and include some combination of the following measures.

Balancing drainage for agriculture with ecological diversity is where it starts. Individual and community efforts need to take into account how Manitobans can benefit from compensating farmers for the public good they provide in the form of wildlife, conservation and natural vegetation. Concurrently, this would provide holding and absorption basins for excess water, reducing flooding downstream.

Zoning, dykes and higher ground: some areas are simply too risky for development, and may need to be zoned accordingly. Although compensation may be due those with developments now in place in sensitive and high-risk locations, the cost of bailing out future impacts in designated low areas cannot be a permanent drain on taxpayers. Areas zoned for no development should be kept that way although once-only assistance for raising elevations or constructing dykes around farmsteads where practical may be justified. The increased interest of urban residents in acquiring rural acreages needs to be accommodated without subjecting them to flooding and taxpayers to yet further expense.

Certain obvious engineering works need consideration, including options for better managing Lake Manitoba levels. The Portage diversion worked well this year in terms of protecting Winnipeg, but the unprecedented flows wreaked havoc on Lake Manitoba. Will the new drain just opened result in unusually low levels on Lakes Manitoba and St. Martin in dry years without control structures? How will this affect Lake Winnipeg levels, and during what times of the year?

Jurisdictional realities must be included in the bucket. Two national governments, at least 2 states and at least 2 provinces need to be involved, plus myriad local authorities. Each has certain legal responsibilities, interests and implementation capabilities: and all must be taken into account.

Management Structures for Lake Winnipeg regulation, may have to be shifted from Manitoba Hydro's licence to operate within a predetermined range, to a management body with a more comprehensive responsibility for factors beyond just electrical production.

The complexity of water quality requires a broader science based approach than is thus far evident. Blaming algae blooms on a few dozen hog operations illustrates lack of knowledge

of agriculture and rural life, and ignores the fact that phosphorus (not nitrogen) is the underlying problem. Doesn't the government know that air is 78% nitrogen?

Wrong decisions in the past (ignoring Lake St. Martin and deferring alternate land use measures, to name just two) are examples of neglect that can be righted by dedicating effort to a strong land and water conservation program to benefit both rural and urban Manitobans.

It all relies upon a comprehensive approach involving close cooperation amongst all those having an impact on water flowing into the Nelson!