

SURFACE WATER MANAGEMENT: Is there a brighter future for Manitobans?

I am going to focus on Municipal Manitoba

Let's start with history.

European settlement of Manitoba flourished under a system that provided folks the means to own and develop land for agriculture and other purposes.

As a result, in Municipal Manitoba our lands are mostly privately owned and managed. Even most Crown lands in the region have long-term land use agreements, mainly for grazing rights.

Private ownership of land is one of the bedrock values in our society for the simple reason that it works for individuals, works within our democratic institutions and it has worked for our economic development.

But as time passes, we increasingly realize that we have to square those rights with another reality: There are publicly owned natural resources woven through that privately held landscape: air, water and wildlife are all publicly owned and, when you look at the first two, absolutely essential to us all.

These public resources have been called our Ecological Commons and, in the real world, you can't really separate one from the other. Let's look at the following example:

- There is a slough in the middle of a grain field – it affects the owners' private enterprise and he often thinks it intrudes on his god-given right to maximize production.
- That's probably true, but his actions, to send that water where it never used to flow, impacts the ecological commons downstream – adding to floods and carrying silt, P and other contaminants with it.

- That extra water may also affect other private landowners living downstream, including their god-given right to maximize production, or simply live without added flooding threats
- Add that up across thousands of landowners and scores of watersheds and, well, it is no surprise that we – YOU folks in particular! – are caught in the crosshairs of local fights over water going in places it never used to.

Now, add the climate change discussion and you have to ask yourself, “Can we do a better job of surface water management, especially knowing that we are facing more extreme events, and the reality that the last 150 years of plumbing is adding to the challenge?”

Before I try to answer that, I want to talk about a related issue: community. We recognize many communities in our lives and try to be good citizens within these networks:

- Neighbourhood
- Towns
- Church
- Sports
- Fraternities and business

A community that we don’t recognize is Watersheds! By and large we don’t accept our responsibilities as watershed citizens to our neighbours, especially the ones living downstream of us.

- Conservation Districts try their darnedest to create watershed communities but, in spite of their efforts, I don’t think we have made that much progress. Socially, we have not knitted folks together to create a community of opinion on watersheds.

- Attempts to create watershed communities actually have a long history in this province. You can go back one hundred years and find a studies and even a Provincial commission that tried to develop a watershed community response within given watersheds.
- It failed. So, the province is in the unenviable role of having to mediate between upstream and downstream neighbours, and generally everyone ends up unhappy.

What should we expect from Climate Change and how can we adapt?

- More extremes means more wet AND more dry!
- That can occur in the same year.
 - Apparently in 2011 there were areas of Manitoba that had spring flood compensation AND summer drought compensation!
- Our agricultural system is not as resilient and we might think:
 - Recent Western Producer article summarizing an analysis from U of Chicago about the Great Plains region of North American
 - They concluded that we are just as vulnerable now as we were in the *Dirty Thirties*. Maybe more.

WHAT DO WE NEED TO DO TO ADAPT TO CLIMATE CHANGE?

A recent *op ed* piece in the Manitoba Cooperator started with the following dilemma:

The bathtub is almost full. It will begin to overflow momentarily, unless I do something right away. Do I pull the plug or turn off the tap?

That question was posed by Dr. Allan Preston, who was Assistant Deputy Minister of Agriculture before retiring a few years ago, to return to his mixed farm operation near Hamiota. He is also chair of the Assiniboine River Basin Initiative. He was trying to take a fresh look at the issue after attending public meetings the SW corner of the province, where new drainage projects out of Saskatchewan were being discussed.

We have spent the last 150 years mostly trying to pull the plug, to hurry water off the land, rather than look at the turning off the tap option. We know that approach has had positive results for many landowners in most years.

But we also know it has had major infrastructure consequences during extreme events. Infrastructure damage and crop insurance payments from the 2011 flood added a billion to the provincial debt, caused the government of the day to add a point to the sales tax and there is still a huge amount of infrastructure work that the 2011 flood told us needs to be done.

Can we keep pulling the plug? And, does it help us to deal with the impacts of climate change, especially extremes events?

My first answer to this question is a quote from Albert Einstein, who said:

The world that we have made, as a result of the thinking we have done thus far, creates problems that we cannot solve at the same level of thinking from which we created them."

Dr. Preston has a more specific view of our surface water situation:

The solution to our predicament, one that took many generations to create, is not a longer, deeper, wider trenches that simply pass the excess water to neighbours downstream.

If we are going to focus more on turning off the tap, what does that future look like?

- 1) More stored water on the land at the farm level
 - Wetlands
 - Small dams

 - 2) More stored water at local scales
 - i. Sub watershed
 1. A community taking responsibility for its water
 - a. Pelly's Lake is a great example of such an approach
 - i. Headwater storage, timed release and multiple benefits
- (Hank's 3% solution!)
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- 3) It is said that water management begins on the land. We need more protection for fragile/erodible soils
 - i. Perennial cover
 - ii. Cover crops and conservation tillage
 - iii. Gully stabilization
 - iv. Streambank protection
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- 4) Ultimately, we need a more neighbourly approach to how we will manage that in time of wet and times of dry. We can't just evaluate every situation by asking whether my problem has been solved and leaving it at that. A neighbourly approach required shared responsibilities and shared solutions.

Over time, these approaches will slow the flow, retain more moisture on the land when we need it in dry periods, and have the additional benefit of saving soil, storing carbon and reducing contaminants entering our surface waters.

- 5) Turn off the tap, don't pull the plug

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