

Reflections on the 2011 Flood

News Release

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I have been approached by news media regarding a retrospective on the flood of 2011. In particular, I have been asked to comment on the 2011 flood forecasting. To this end I would like to offer some observations to all news media.

In addition to the many properties that were saved from flooding, the most significant provincial success during the 2011 Manitoba Flood was the ability to increase the capacity of the Portage Diversion from its design capacity of 25,000 cfs to nearly 34,000 cfs. This increase of 36% is a terrific example of real time engineering during a time of need.

The biggest challenge of the 2011 flood was flood forecasting. Specifically:

1. Red River at Winnipeg: predicted crest up to 24 ft (*i.e.*, similar to 1997)
actual crest of 19.6 ft
Consequences: considerable money spent on emergency flood protection that wasn't required. Unnecessary heightened state of anxiety in the City of Winnipeg.
2. Assiniboine River at Brandon: predicted peak of 33,500 cfs
actual peak of 37,500 cfs
Consequences: near insufficient capacity along 18th street dykes; could have led to significant flooding in the City of Brandon.
3. Assiniboine River at Portage reservoir: predicted peak of 56,000 cfs
actual peak of 52,000 cfs
Consequences: Hoop and Holler cut was unnecessary. Flow had crested at/before time of the cut.
4. Souris River at Souris: predicted peak of 38,000 cfs
actual peak of 27,500 cfs
Consequences: considerable money spent on emergency flood protection for flows that didn't occur.
5. Lake Manitoba water levels: initially predictions were much too low while subsequent predictions were too high

There were other challenges during the 2011 flood, such as the condition of the lower Assiniboine River dykes. The dykes reportedly were unable to convey

more than 18,000 cfs, well below their design capacity of approximately 22,500 cfs. This reach of river conveyed 24,600 cfs during the 1976 with the assistance of flashboards. Millions were spent raising these dykes after the initial spring flood outlook, yet the raised portions of the dykes never saw water. We need to maintain our flood infrastructure rather than scramble to refurbish neglected infrastructure during a time of need.

The following actions are required:

- need an independent review of the handling of the 2011 flood
- need an independent review of flood forecasting to determine what is needed to yield accurate flood forecasts
- install the promised gates on the Shellmouth Reservoir and look at ways to use the reservoir and its future gates to peak shave future floods on the Assiniboine River
- restore the lower Assiniboine River dykes to their design capacity
- develop and implement a plan to increase the level of flood protection on the Assiniboine River comparable to that provided by the Red River infrastructure. Such a plan needs to consider the impacts on Lake Manitoba and areas downstream.

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