

**Manitoba Planning Conference: Feb 23-25, 2012**  
**“Beyond Surviving: Planning To Thrive”**

**Title of presentation: Manitoba Flood 2011**

**Presented by: Steven Topping**

**Date: February 24th, 2012**

The end of the 2011 Manitoba flood marked the largest and most extensive flood in the history of Manitoba, after the 1997 Red River flood. Steven Topping, Executive Director, Regulatory and Operational Service Division, Manitoba Water Stewardship gave a concise and clear presentation of the 2011 Manitoba flood which focused mainly on three aspects namely;

- a. The causes of the flood
- b. The provincial emergency response
- c. The mitigation program to address the flood

**a) The causes of the flood**

The major factors accountable for the flood include soil moisture, increased snow level and the geographical landscape of Manitoba. Due to soil moisture, the water level in the province increased more than normal level. In 2010 Winnipeg was marked as one of the wettest places on record due to much rain fall across the province that affected the soil moisture level. Nevertheless, the level of snow between the Manitoba-Saskatchewan borders and Red River base was very high. Snow fall totals 75 to 90 inches which doubled the climatological average and in some places across the province, snow fall was about 6-7 feet. Lastly, the geographical landscape of the Province played a significant role. The flat lowland nature of Manitoba landscape made it plausible for water to settle in the province from South Dakota, Saskatchewan and Ontario. Manitoba had storms at the wrong time which greatly increased water levels. The above factors converged by the winter and foreshadowed clear danger ahead.

**b) The provincial emergency response**

The government was quick to start responding to pre-flood preparation. Supplies and equipments such as 3 amphibex icebreakers, 7 ice cutting machines, 3 amphibious ATVs, 3 million sandbags, 24 heavy duty steamers, 21 mobile pumps and 72km of water filled barriers were purchased in preparation for the flood. Most of the focus was on ice breaking, cutting, clearing and the reinforcement of dykes especially on the Assiniboine River, Red, Pembina, and Souris Rivers. Despite all the measures put in place to manage flooding, in April, the flood waters arrived and major evacuations followed, including the Gladstone hospital, over 750 roads were closed and 647 evacuees in April. As of May 1<sup>st</sup>, the province totalled 1879 evacuees, 709 road closure and 23 locales with a state of emergency. There was flooding in almost all the communities along these rivers, and the Assiniboine dyke was in bad shape. At this stage, the Canadian Armed forces were needed to help in sandbagging. The total volume of water flowing down the Assiniboine River between April and July was 8,339,917ac-ft, twice the amount in 1976. With the continuous increase in the volume of water, and the potential negative impacts on land, the government of Manitoba decided to attempt to reduce river flows by breaching the dyke at Hoop and Holler bend on the Oxbow river in order to lessen its pressure on banks and dikes elsewhere. This drew a lot of media attention both international and nation media regarding the flood fight efforts and raising awareness on the various measures put in place.

### **C) The mitigation program to address the flood**

The effects of the 2011 flood opened the way for possible mitigation programs to address possible floods in the future. Steven Topping highlighted several steps taken by the government to better plan against any future flood which includes;

- It is very important to meet with emergency coordinators and share planning efforts
- The braking of ice early is much preferable
- The need for upgrades in dikes is very important

- Dedicated staff and monitoring crew to be increased
- Communication is very important for the community to know the water level and the potential effects of the flood
- The population needs to be educated on how to build sand bags
- Developed wind alert system to help predict water level

### **Reflection on the Flood**

Floods are natural disasters. In Manitoba, flood control measures were built after the 1950 devastating flood from the Red River Valley and engulfed the City of Winnipeg. Nevertheless, the 2011 flood was substantially larger than the 1950 flood but resulted in far less property damage because of the flood control measures in place especially along the major river the Assiniboine River. The flood protection work has prevented property damage and reduced the potential impact of flooding on families and communities. Some important lessons to take home include;

- a. Emphasis should be placed on managing the water level on the main rivers and dykes for future flood protection measures
- b. The construction of permanent dykes along the strategic rivers and lakes in Manitoba
- c. New water tracks should be constructed to divert water from Ontario, Saskatchewan and South Dakota not to enter Manitoba
- d. Communication is vital in flood management programs

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