

## **WATER AVAILABILITY AND DROUGHT CONDITIONS REPORT**

### **JULY 14, 2008**

#### **Conditions for June 28<sup>th</sup> to July 14<sup>th</sup>**

- Precipitation has been normal to below normal in the region south of the Trans Canada Highway. For the region north of the Trans Canada Highway, precipitation has been above normal with some areas receiving up to 75 mm of precipitation during this reporting period.
- Water levels and flows on most streams and rivers in southern Manitoba are in the normal range.
- Water supply reservoirs in southern Manitoba are generally full or close to full.
- Water levels in Manitoba's groundwater aquifers remain close to average.
- As of July 14<sup>th</sup>, fire danger levels were low in the northern part of the Province. Rainfall over the past two weeks alleviated the fire situation with more than 100 mm of precipitation having fallen in Thompson. Fire danger levels in the southern half of the province are low (<http://www.gov.mb.ca/conservation/fire/>)

#### **Background Conditions**

##### **Weather:**

Most of southern Manitoba experienced a dry summer and autumn in 2007, followed by below average winter precipitation and dry conditions during April and May of 2008. Precipitation in June was above average which alleviated immediate drought concerns. Between April 1<sup>st</sup> and July 13<sup>th</sup>, precipitation has been near normal across most of southern Manitoba. There is a pocket in the Dauphin-Swan River area and in the Turtle Mountains where precipitation has been below normal as shown on Figure 1.

Manitoba Water Stewardship provides routine updates on maps showing the percent of normal monthly precipitation and major rainfall events and can be found at <http://www.gov.mb.ca/waterstewardship/floodinfo/maps.html>

##### **River Flows:**

Spring runoff was below average across most of southern Manitoba and there was little or no runoff in the Souris River and Pembina River watersheds.

Flow in the Souris River was well below average during April and May but had recovered to near normal by mid June. In accordance with the international agreement with the United States, 20 cubic feet per second will be released to the Souris River from North Dakota during June 1<sup>st</sup> to October 31<sup>st</sup>. This will provide sufficient supplies for cattle watering and other uses along the Manitoba portion of the Souris River. On July 14<sup>th</sup>, flow in the Souris River was 25 cubic feet per second.

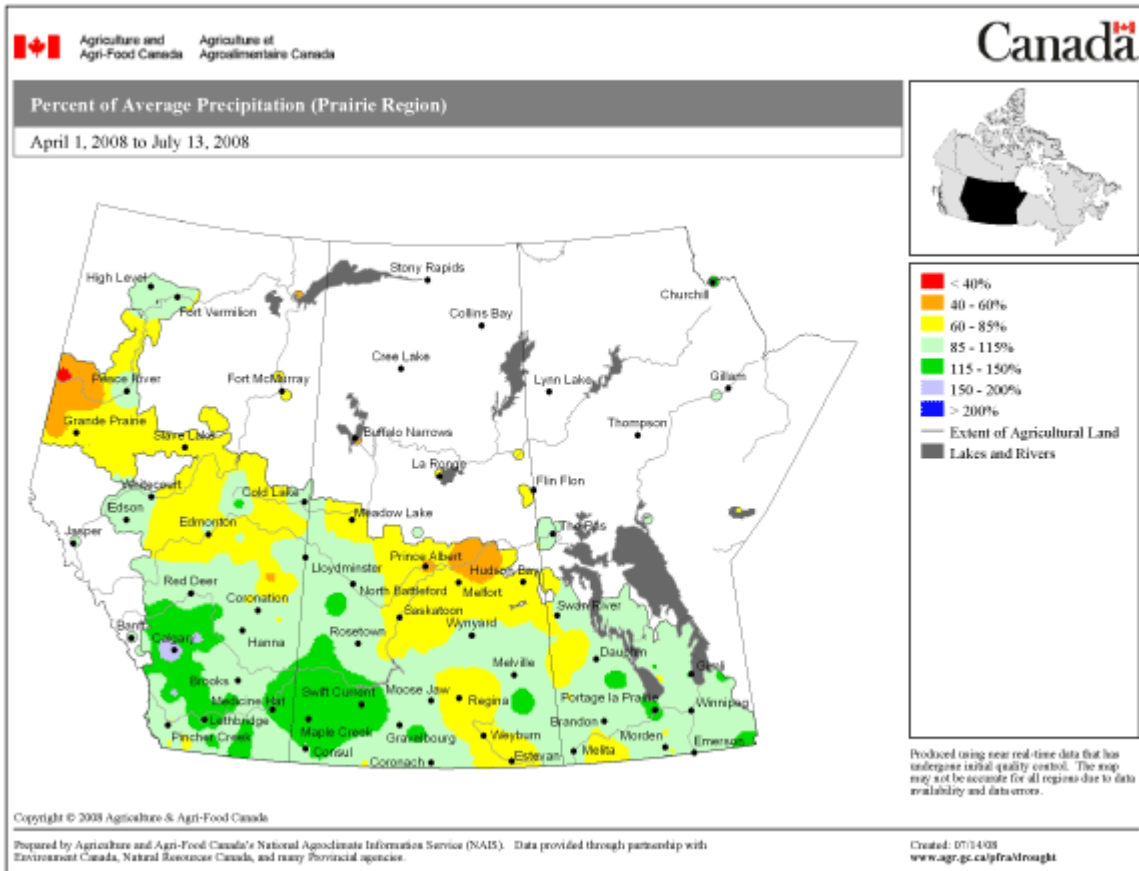


Figure 1. Percent of average precipitation (From Agriculture and Agri-Food Canada)

Flows on streams with large reservoirs such as the Assiniboine, Boyne, and Valley rivers will be sufficient to support agricultural uses this summer.

Flows and water levels on the Winnipeg River are well above normal as a result of several significant rainfall events in the Lake of the Woods and Lac Seul watersheds over the past two months.

Flows on the Red River are near average but are declining rapidly.

For more information on the river flows, please visit <http://www.gov.mb.ca/waterstewardship/floodinfo/index.html>

### On-Farm Water Supply:

On farm surface water supplies are very low in southwestern Manitoba due to a lack of water sources from which to pump water this spring. The Water Services Board and conservation districts report that many dugouts are dry or contain very little water. It is expected that precipitation received last week will have helped to refill dugouts by providing temporary sources of water for pumping.

- Farmers in southwestern Manitoba have been hauling water since early May for cattle watering and domestic use.
- In central and southeastern Manitoba, there appears to have been a moderate replenishment of dugouts. Some off-stream storage reservoirs in the Pine Creek, Tobacco Creek, and Buffalo Channel areas are about 90 % full.

### **Reservoirs:**

Most reservoirs operated by the province are full and have plenty of water for the remainder of 2008 although levels could decline to below average with dry weather. However, a few reservoirs are relatively low, including Deloraine which is 3.0 feet below full supply level. Pleasant Valley Reservoir near Gilbert Plains has recovered and is now less than one foot below full supply level. Jackson Lake near MacGregor is near full.

### **Aquifers:**

Water levels in most aquifers are currently at or close to average levels for this time of year. Water level responses to seasonal or yearly precipitation fluctuations in most aquifers lag considerably behind surface water responses, so even prolonged periods of below normal precipitation may not have a significant deleterious effect on groundwater levels. Most aquifers also retain very large amounts of groundwater in storage and can continue to provide water during extended periods of dry weather. Consequently, the major concern regarding groundwater and dry periods relates to shallow sand aquifers and large-diameter wells constructed into these aquifers. Many of these areas are serviced by water supply pipelines sourced by more drought resistant aquifers.

### **Background on Water Supply and Drought**

#### **Actions to Cope With Drought:**

As of June, 2008:

- Operate dams to supply downstream water needs while conserving reservoir water as much as possible for later use (Regulatory and Operational Services Division, Water Stewardship).
- Continue providing pumps for farmers to fill dugouts from ditches or other temporary water sources following rainfall (Manitoba Conservation Districts).
- Advise as to sources of reliable water for water hauling (Manitoba Water Services Board).
- Provide inter-agency water supply/drought condition reports (Ecological Services Division and Regulatory and Operational Services Division, Manitoba Water Stewardship).
- Inter-agency drought committee established (Manitoba Agriculture, Food and Rural Initiatives, Emergency Measures Organization, Conservation, Water

Stewardship, Infrastructure and Transportation as well as federal agencies such as Prairie Farm Rehabilitation Administration (PFRA)).

If the Drought worsens this summer, the inter-agency drought committee will provide advice on:

- Non-essential uses and curtailment such uses;
- Possible difficulties such as intakes needing to be lowered (based on river and reservoir forecasts); and
- The need to secure rural water supplies by deepening pump intakes.

### **Levels of Drought:**

There are several levels of drought depending on the length of the dry period and the time of the year. Drought pertaining to crops and forest fires can develop quite quickly following a period of below average precipitation. Surface water drought with respect to farm dugouts can occur quickly during the spring if there is little or no spring runoff. A more general surface water drought with low reservoir and low river levels tends to develop after a somewhat longer period of dry weather of a few seasons. Groundwater drought is the last to develop and may require many years of dry weather to develop.

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