Manitoba
Water Stewardship

WATER AVAILABLITY AND DROUGHT CONDITIONS REPORT
SEPTEMBER 8, 2008

Conditions for August 25th to September 7th

- Precipitation was much above average in the Interlake region and the Dauphin area where amounts ranged from 75 to 100 mm.
- Precipitation was below average in the Swan River to The Pas and Pilot Mound to Emerson areas.
- Precipitation was somewhat below average across the rest of Manitoba.
- Streamflow ranges from below average on the Pembina River, Souris River and Whiteshell River to average or above average in most other areas.
- Water levels in Manitoba's groundwater aquifers remain close to average.
- Fire hazard potential remains nil to low across most of Manitoba with some areas of moderate to high potential in western Manitoba (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 1st and September 7th, precipitation has been near to above normal across most of southern Manitoba, except for a few pockets near the U.S. border and in the Swan River area 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 significant 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 recovered by mid June. In accordance with the international agreement with the United States, 20 cubic feet per second should be released to the Souris River from North Dakota during June 1st to October 31st. This provides sufficient supplies for cattle watering and other uses along the Manitoba portion of the Souris River. On September 8th, flow in the Souris River at Westhope was 23 cubic feet per second.

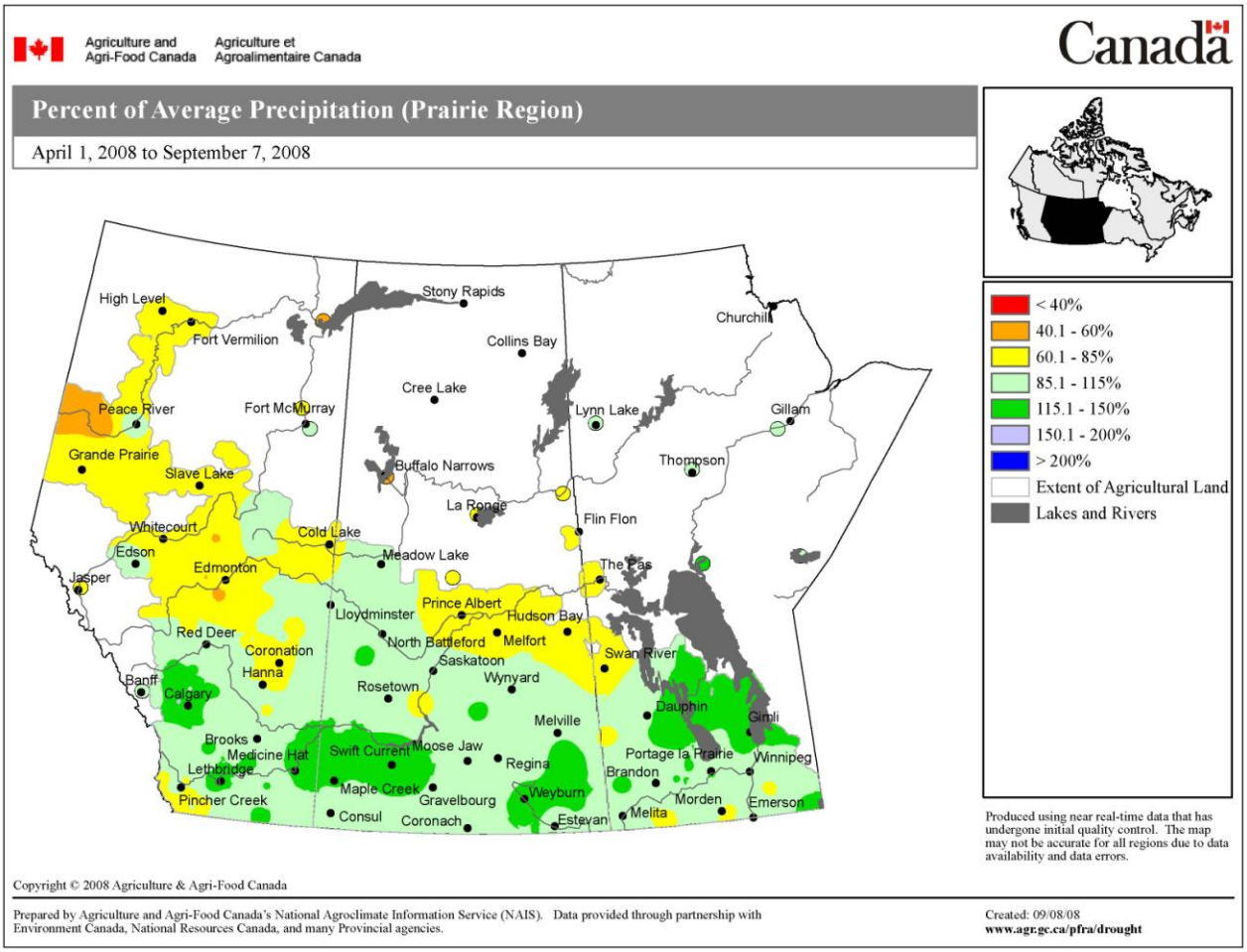

Figure 1. Percent of average precipitation (From Agriculture and Agri-Food Canada)

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

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

Flows on the Red and the Assiniboine rivers are near normal for this time of year.

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.

- 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 about four and a half feet below full supply level.

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 drought conditions increase this autumn, the inter-agency drought committee will provide advice on:

- Non-essential uses and curtailment of such uses;
- Possible difficulties such as the need to lower intakes (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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