

The River Current

Winter 2010



Our Mission: Promoting watershed sustainability through awareness, linkages and stewardship.

The State of the Saskatchewan River Basin – Some Things Left Undone

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June 2009 saw the release of the Partners' report, *From the Mountains to the Sea: The State of the Saskatchewan River Basin*. This report summarized current water-related knowledge of the basin, in particular hydrology, water use, water quality, and aquatic ecosystems. The intent was to provide a report that would enable residents of the basin to see how they fit in to this large and complex river basin.

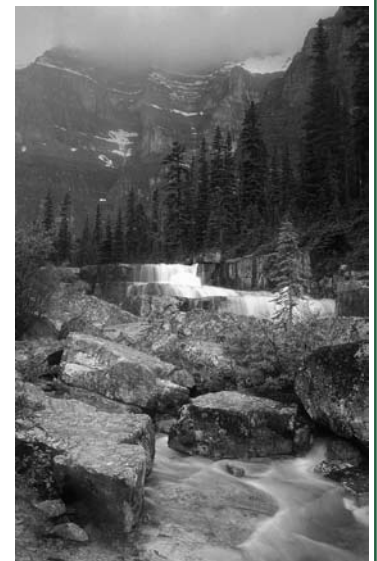
The state of the basin report was based on then available information. During preparation of the report several gaps in information availability or scientific understanding were noted. As well, there are other initiatives that would lead to more integrated management of the basin. Some are being addressed by provincial governments and other organizations but can still be considered as things left undone.

The quantity and quality of the waters flowing in the Saskatchewan River Basin are influenced by the underlying topography, the soils, land cover, and land uses in the basin. Future water availability is a function not only of climate but also of changes in land use and land cover, both forested lands and agricultural lands. Water quality will depend on the natural landscape and on the application of agricultural and other chemicals, as well as industrial and urban sources. Improved knowledge of the current state and trends in land cover and land use is fundamental to understanding the water resource and hence the aquatic ecosystems that depend on that resource.

The three provinces within the basin have robust water allocation databases – the result of over 100 years of licensing water uses within their jurisdictions. Similar detailed information on actual water withdrawals and consumption is sadly lacking. Despite some well-informed estimates, we really don't know how much water is withdrawn or consumed in the basin. Effective water management in some water-short prairie tributaries and the South Saskatchewan basin requires a better understanding of actual water use.

Water quality indices have been developed as a means of reducing myriad measures of water quality to a single number. In Canada the standardized water quality index developed under the auspices of the Canadian Council of Ministers of the Environment allows year-to-year comparisons at a single monitoring site. Differing methodologies, data gaps and presentation differences, however, do not allow comparisons of indices calculated for various parts of a river basin. Comparable water quality indices would help enable a whole basin approach.

Riparian zones are important to sustaining both terrestrial and aquatic species. In parts of the basin, through programs such as the Cows and Fishes program in Alberta, riparian zones have been sampled and categorized as healthy, healthy with problems or unhealthy. There is a need for a more consistent and rigorous program aimed at determining riparian health throughout the basin.



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State of the Saskatchewan River Basin continued

Within the basin considerable attention has been focused on monitoring environmental quality along the mainstems of the North and South Saskatchewan rivers and some key tributaries such as the Bow and Oldman rivers. For the most part, the degree of monitoring on smaller tributaries, particularly plains tributaries, pales in comparison to that carried out on the principal streams. There is a need to get beyond the mainstem and increase understanding of the aquatic systems of the basin as whole.

Although groundwater consumption in the basin is very small in comparison to surface water consumption, groundwater is important to rural residents and many small communities. Increased understanding of surface and groundwater interactions as they pertain to shallow aquifers in particular would allow improved calculations of sustainable use of the aquifers and assist preparation of drought contingency plans.



The Saskatchewan River Delta, which straddles the Saskatchewan-Manitoba boundary, is the largest inland freshwater delta in North America. The 9950 km² delta is important to aboriginal people, has historical significance as the entry point of European explorers to the interior plains, is a globally significant bird area, and is the site of the largest Ducks Unlimited project in North America. A massive natural channel change in the 1870's and more recent construction of hydro-electric dams provide a unique setting for examining channel processes. The delta is changing and our understanding of the causes and long term effects of these changes is limited. In addition, the delta contains few protected areas. It appears to be a prime candidate for designations such as a Heritage River, a Ramsar site or a bi-provincial park.

Lake Diefenbaker on the South Saskatchewan River in Saskatchewan is the only reliable source of good quality water in the southern portion of the province. This reservoir can store as much water as all the reservoirs upstream combined. Water availability from Lake Diefenbaker and the quality of that water is therefore particularly important to most residents of Saskatchewan. Despite that, very little is known about the lake. There is a significant need for a baseline limnological survey of the lake.



There are countless maps that cover some portion of the Saskatchewan River basin, but maps of the entire basin are rare. In the era of geographic information systems by which a user can build a map by combining layers of information, one can visualize a user friendly mapping service that would allow regional water planning and stewardship groups to build required maps knowing that the underlying data will be to a consistent framework.

The 2000-2001 drought was broad, severe and mercifully short. The response by governments and other organizations to the drought meant that basin residents were able to cope. The likelihood of a longer drought is always with us. How would we fare with a five-year drought or a decadal drought? Considering such a scenario and ensuring that contingency plans are available is important to the basin as a whole.

Many of the items identified above could be considered as tools that would lead to improved water resources planning and management in the Saskatchewan River basin. Increased understanding of the basin's water resources and related aquatic ecosystems would enable regional planning groups to engage the public in achieving sustainable use of the basin's water resources. At the same time there is also a need for residents of the basin to develop a sense of ownership for the entire basin. Providing a means of ensuring a whole-basin approach is the ultimate challenge.

Caring for our Watersheds

The Agrium Caring For Our Watersheds program encourages environmental stewardship by students. It asks students to think about their watersheds and how they can protect this most essential asset. It encourages creativity and rewards students for the solutions they identify. Caring For Our Watersheds is a program that partners with communities to create focused solutions to local watershed issues.

Students can enter one of two categories: Grade 7 - 9 or Grades 10 - 12. Students entered in the program can win cash rewards for themselves and their school!



Independently, or as a team of no more than four, students identify a concern that impacts the watershed in their area. They must come up with an idea to address the concern and can discuss their idea with their parents, teachers, friends and local experts. Students research and explain their idea in an approximately 1,000 word report, plus graphics, models, pictures or videos. Entries are judged on innovation, environmental impact, comprehensive scope, research, realistic solution, written presentation and visuals.

Students, teachers and volunteers are encouraged to go to *CaringForOurWatersheds.com* and register their name, or team captain's name. If they do not have web access they must contact their local Program Coordinator for a paper registration form. Entries must be delivered by mail or submitted online no later than the contest deadline.

For more information please contact the appropriate Program Coordinator listed below:

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Watershed Basin Wide Meeting

In October 2009, PFSRB held a meeting with members of the water conservation groups that represent the Saskatchewan River Basin. Participants had the opportunity to meet their counterparts and discuss the successes and problems faced by the various groups. The Watershed Planning & Advisory Committees (WPACs from Alberta), the Watershed Advisory Committees (WACs from Saskatchewan) and the Water Conservation Districts (Manitoba) located within the Saskatchewan River Basin sent representatives to this meeting. One of the things discovered at this meeting was that while we need to keep in mind the institutional differences native to each region, water issues are common across the basin. There is a need to build a sense of community around the watershed and when considering the future uses and water demands, we need to look 100 years into the future and factor in the estimated population growth.



Wall maps of the Saskatchewan River Basin now are available. The maps are 35" X 22" in size. Please contact Partners at partners@saskriverbasin.ca to receive your free copy.

Moopher's Amazing Journey to the Sea

Partners FOR the Saskatchewan River Basin (PFSRB) has reprinted their children's board game - *Moopher's Amazing Journey to the Sea!* It is available for a nominal fee of \$15 plus postage (to offset the cost of printing). This game is designed for children ages 7-12+. By helping Moopher (a mischievous gopher) travel from the Rocky Mountains to the sea, children learn about their place within the Saskatchewan River Basin, its diverse culture, and how their actions can influence the greater watershed basin.



The board game has been recently translated into French—*Moopher présente le Voyage extraordinaire à la mer!* Because of the generous support from the companies that sponsored the French version of the game, we still have the French version available free of charge. Donations are accepted to help cover the cost of reprinting.

Please contact the office at partners@saskriverbasin.ca or 306-665-6887 if you wish to obtain a copy!



Check out what I read...

The total amount of water consumption from the North Saskatchewan River is roughly equivalent to the evaporation from Lake Diefenbaker.

Your favorite explorer,

A stylized, cursive signature of the character Moopher.

Moopher's Amazing Facts

Conference Listings

Going Wild in Town - Native Plants in Urban Areas

February 5-6, 2010
(306) 525-9999

Regina, SK

Water for Life 2010 Conference Free Event

March 25, 2010
www.haskayne.ucalgary.ca/faculty/centres/cpia/water_for_life_2010

Calgary, AB

GeoCanada 2010

May 10-14, 2010
www.geocanada2010.ca

Calgary, AB

CWRA's 63rd Annual Conference

June 15 - 18, 2010
www.cwra.org

Vancouver, B.C.

If you have an event you would like to include under our listings, please email us at partners@saskriverbasin.ca

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