

# The River Current

Fall 2017



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

## *The Value of Wetlands*

Wetlands may be the most important part of our landscapes. They play important roles as “sponges”, storing and slowly releasing water and reducing the damaging effects of flooding and drought. They act as nature’s “kidneys” by purifying runoff and helping to keep our lakes and rivers clean. Wetlands have an important role in the recharging of groundwater and providing diverse habitats for plants and animals. No other landscape component provides all of these functions and benefits. Together, these functions and benefits equate to the value of wetlands.

In the past, the value of wetlands has frequently been overlooked. It is estimated that Alberta alone has lost between 60 to 70% of wetlands in the settled areas, with similar numbers in Manitoba and Saskatchewan. Wetlands are now seen as something that is needed to retain and even enhance as they are recognized as a key component to maintaining healthy farms, acreages and communities. The Alberta Wetland Policy plays an important part in both recognizing the relative value of wetlands and retaining them on our landscapes.

The first step in the Wetland Management System is determining the relative value of a particular wetland. The primary intent of the policy is that wetlands with the highest value are protected for the long-term benefit of Albertans and that their benefits are conserved or restored where losses have been high. Some wetlands provide more value than others in terms of how they impact water quality, water quantity, biodiversity and human uses.

Recent research in Ontario at the University of Waterloo suggests that the increase in algal blooms in lakes might be related to disappearing wetlands. According to the researchers, small wetlands can help prevent those blooms.

Small wetlands are disappearing in Ontario, often converted into farmland or housing, even though they are the most effective at filtering water by area. Research indicates that smaller wetlands are more effective because there is less existing water in smaller wetlands and when farm runoff makes its way to the wetland, more water is able to make contact with the soil — where the nutrient filtration happens. Losing wetlands means there is no buffer zone for farm runoff or water from waste treatment plants that is packed with nutrients. Algal blooms are much more likely to happen, especially with heavy rainfall.

When nutrient-filled water headed for the lake hits a wetland, the water slows down and nutrients either get absorbed into the wetland soil or get converted into gas. The water leaving the wetlands is much lighter in nutrient content — meaning less nitrogen and phosphorus for algae to feed on in the lakes and reservoirs. Nutrients that are left behind feed the wetland plants.

Part of the problem is that conservation efforts tend to focus on larger wetlands. While a lot of wetland protection comes from the idea of protecting habitat, it is important to conserve wetlands of all sizes. Different wetlands may be better for flood prevention, others for waterfowl habitat and some for nutrient filtration. Protecting small, medium and large wetlands can protect the different functions of the landscape.

<http://www.cbc.ca/news/canada/kitchener-waterloo/loss-of-wetlands-connected-to-algal-blooms-1.4219437>

<http://aep.alberta.ca/water/programs-and-services/wetlands/documents/ValueWetlandsAlberta--FactSheet-Jul2014.pdf>

## ***Flowing Waters: Water Quality and Transboundary Issues in the Saskatchewan River Basin Conference Registration Now Open!***

The Partners FOR the Saskatchewan River Basin and the North Saskatchewan Watershed Alliance are pleased to announce that our annual conference will be held in Leduc, Alberta, October 17 to 19, 2017 at the Executive Royal Hotel Leduc. The theme for this year's conference is "Flowing Waters: Water Quality and Transboundary Issues in the Saskatchewan River Basin."

Water quality and transboundary issues in the Saskatchewan River Basin are important to everyone who lives within the basin. The most significant interjurisdictional water management arrangement in Canada is the Master Agreement on Apportionment (MAA). The MAA provides for an equitable sharing of available waters for all eastward flowing streams that cross interprovincial boundaries between Alberta, Saskatchewan and Manitoba, and serves to protect transboundary aquifers and surface water quality.

Our keynote speaker is Dr. Glenn Benoy. Dr. Benoy is the Senior Science Advisor to the Canadian Section of the International Joint Commission, based in Ottawa. He is responsible for advising the IJC on the science and management of shared waters – lakes and rivers and their watersheds – between Canada and the United States and in the resolution of disputes over binational water resources. Dr. Benoy leads IJC efforts regarding the issue of nutrient pollution and algal blooms in transboundary basins including the Red River-Lake Winnipeg system and the Rainy River-Lake of the Woods system, and elsewhere along the border.

The conference will take both a broad and a focused perspective of the Saskatchewan River Basin. We are working towards understanding and showcasing issues across the basin but also integrating topics and presentations that look at how these different aquatic systems interact. The preservation and stewardship of our watersheds has a direct impact on the health and quality of our water resources and the systems they support.

The conference is being held at the Executive Royal Hotel Leduc. Please call the hotel directly to register your stay, informing the registration staff that you are attending the Partners FOR the Saskatchewan River Basin conference to receive the conference rate of \$104.00/night (2 Queen room) or \$109 (1 King room), plus taxes. There is a complimentary airport shuttle, free parking and free high speed WiFi for all guests.

Please go to the conference website for more information and to register: [www.flowingwatersconf.com](http://www.flowingwatersconf.com).

## ***Yellow Fish Road™ and World Rivers Day***

World Rivers Day is Sunday, September 24. In 2005, the United Nations launched the Water for Life Decade to help create a greater awareness of the need to better care for our water resources. Following this, the establishment of World Rivers Day was in response to a proposal initiated by internationally renowned river advocate, Mark Angelo, and has been focused on the importance of freshwater and the need for its sustainable management. Water is essential to all living things. What would life be like without clean, clear water? Try to imagine a 'normal' day if when you turned on a tap, dirty smelly water trickled out or no water at all!

Canada has one fifth of the world's freshwater supply, however only about 7% of this water is 'renewable'. The rest of the water is fossil water – retained in lakes, underground aquifers and glaciers. Since we have so much water available, we tend to take it for granted. We must remember that water is our most precious resource and this resource is finite. When it is gone, it is gone.

What's the problem? Unwanted household products discarded in storm drains flow directly into our river untreated. These harmful products include used motor oil, pesticides, herbicides, gasoline, antifreeze, paint thinner, paints, pet waste, cigarette filters and other common household products. These products do not go through the sewage plants and they endanger fish and other aquatic wildlife.

One way you can celebrate World Rivers Day is by participating in the Yellow Fish Road™ program ! Pick a date and paint storm drains at your school or in your neighbourhood with yellow fish and the words "RAIN ONLY"! This helps to remind citizens that what goes down our storm drains impacts our rivers.

To learn more, please go to the Partners FOR the Saskatchewan River Basin website: [www.saskriverbasin.ca](http://www.saskriverbasin.ca), or call 306-665-6887.

## Zebra Mussels could cause province-wide power outages in Manitoba

Zebra mussels are already in three Manitoba waterways and are spreading at an incredible rate, which is a huge concern for Manitoba Hydro. Manitoba Hydro has multi-millions of dollars in infrastructure along Manitoba waterways, intricate and complicated systems that could essentially come to a standstill if zebra mussels get into them. It's an outcome that would not only be extremely expensive to try to reverse but could have potentially devastating effects.

"They proliferate exponentially so they can really take over an ecosystem and they attach to any hard surfaces including one another," said Marcus Smith, senior environmental specialist with Manitoba Hydro. "So for mechanical systems that's our primary concern here."

"It's trying to get ahead of where the zebra mussels are likely going to be," said Bruce Owen, public affairs officer with Manitoba Hydro. "Trying to get ahead of all the damage that they could potentially do to our generation systems." "We have hot water systems that are a series of pipes and strainers and heat exchange pumps... all those sorts of mechanical pieces. If zebra mussels are in those pipes, blocking those valves, clogging up those pumps... it's not going to work," Smith said. "The generators are much like engines in your car and the water we use to cool off engines comes from the rivers," Owen said. "If the water that we're drawing in to cool these engines is clogged by zebra mussels, like any vehicle, that engine overheats and then you've got some pretty bad damage."

Manitoba Hydro has been studying the effects of invasive species, such as zebra mussels, for more than 25 years. In October 2015, they found the first zebra mussel invaders, two shells, at its Selkirk Generating Station.

"If we just disregarded what we know from other jurisdictions... and just ignore this, put our heads in the sand, we could be looking at a huge outages even at a province-wide level," said Smith.

For the past year, Manitoba Hydro has been working on prevention plans for all of its generating stations. The plan involves a type of chlorination system where the water drawn into the system to cool the generators is chlorinated. Chlorination will protect the intake pipes since zebra mussels do not like chlorine. The water will be de-chlorinated once it is ready to be discharged back into the river. The first system will be installed at the Grand Rapids location in the fall of 2017.

Right now it is unclear how much installing systems at every generating station around the province will cost, but the company said they have no choice but to move forward or face a dire outcome. "The worst case outcome would be the lights not coming on," said Smith. "That's a pretty horrible outcome."

Brittany Greenslade Reporter/Anchor Global News: <http://globalnews.ca/news/2982742/ripple-effect-we-could-be-looking-at-province-wide-outages-manitoba-hydro-looks-to-get-ahead-of-zebra-mussels/>



Photo credit Dave Britton

## Meewasin Northeast Swale

Located partially within the city limits of Saskatoon, Saskatchewan, (300 hectares within city limits) the Meewasin Northeast Swale is a diverse network of rare native prairie and wetlands 26 kilometres long, covering 2,800 hectares.

Less than 20% of native prairie remains in Saskatchewan. Native grasslands are now one of the most imperiled ecosystems on the planet and are considered endangered. The swale contains areas of native prairie grasslands and offers high quality biodiversity, proximity to urban areas, economic benefits for recreation and education and a natural filter for our air and water. The swale contains wetlands that provide a means of flood control for the surrounding community.

The diversity of environments offers a large variety of plant species (more than 200), birds (more than 100), mammals, amphibians, reptiles and insects that are present in the Meewasin Northeast Swale on a regular basis. The swale is home to several rare, endangered or culturally significant species as well, including the Northern Leopard Frog, Short-eared Owl, Common Nighthawk and the Western Red Lily.

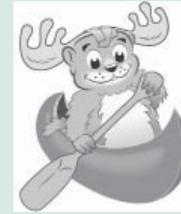
Please go to [www.meewasin.com](http://www.meewasin.com) for more information on the Northeast Swale.

The Athabasca sand dunes, found in the northwest corner of the province near the Northwest Territories, are the largest active dune fields in Canada, and the largest this far north anywhere in the world. The dunes stretch for approximately 100 kilometres along the south shore of Lake Athabasca.

According to Dene legend, the dunes were created when a giant man speared a giant beaver that thrashed its powerful tail around so much in the throes of death that it ground the surrounding soil into sand.

In 1992, Athabasca Sand Dunes Provincial Wilderness Park was established to protect and preserve the dunes, rare plants, and the spectacular scenery.

## Moopher's Amazing Facts



### Conference Listings

**Western Canada Water 2017 Annual Conference**

September 19-22, 2017  
<http://wcv17.wcwwa.ca/>

Saskatoon, Saskatchewan

**Atlantic Canada Water & Wastewater Association  
2017 Annual Conference**

October 15 - 18, 2017  
<http://www.acwwa.ca/conferences/2017conf.html>

Charlottetown, PEI

**Flowing Waters: Water Quality and Transboundary Issues  
in the Saskatchewan River Basin**

**Partners FOR the Saskatchewan River Basin & North  
Saskatchewan Watershed Alliance Annual Conference**

October 17-19, 2017  
<http://www.floatingwatersconf.com/>

Leduc, Alberta

**Canadian Water and Wastewater Association National Conference**

November 5 - 8, 2017  
<https://www.nwwc2017.ca/>

St. John's, NFLD

**9th Annual Canadian Water Summit**

June 20 - 22, 2018  
<http://www.watersummit.ca/>

West Canada, TBD

*If you have an event you would like to include under our listings, please email us at [partners@saskriverbasin.ca](mailto:partners@saskriverbasin.ca).*

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