

News from your Watershed



Although they've only been together for over a year, members of the Moose Jaw River Watershed Stewardship Association have caught the attention of others in the province's "watershed community."

Jennifer Nelson, who initially coordinated the group, said "I think it's moving fast."

"We first met in January 2003 in Avonlea. We had rural municipalities, government agencies, villages, cities, businesses, golf courses, parks and recreation areas involved—and it grew. Since then, a couple of conservation areas and irrigation groups have also come on side."

The Moose Jaw River Watershed, which encompasses approximately 3600 square miles, is bound by the communities of Central Butte to the northeast and Yellow Grass to the southwest. It includes Avonlea Creek, Brokenshell Creek, Thunder Creek and several smaller tributaries.

Nelson said the groundwork for creating an association in this region was done through the Saskatchewan Watershed Authority, with funding from Agriculture Canada's Canadian Adaptation and Rural Development in Saskatchewan. Additional support has also been provided by Fisheries and Oceans Canada.

"I was hired as a coordinator in October 2002 and spent most of my time, until January, talking to people to find out if there was any interest and what some of the issues might be," said Nelson, who later became an Assistant Resource Planner within the Watershed Authority.

Since the Authority has objectives to create a "source water protection management plan," and this association is so proactive—the group was asked to participate in developing a management plan for the Moose Jaw River Watershed. Nelson said that in doing so, they would actually be involved in identifying threats to their source water and "what needs to be done, where and how."

To develop a plan, the association would come up with recommendations, developed with support from a technical committee. Recognizing that various interests and concerns could be accommodated through this approach, the association agreed to participate in April 2003.

"But in order to do that—and keep their group moving along when they have 20 to 30 people at a meeting, they decided

to create an Executive Board to work on the management plan," said Nelson, adding the eight member board includes nine alternates from other organizations.

To date, they have compiled planning objectives to reduce erosion and sedimentation; meet surface water quality objectives for protection of aquatic life; increase awareness about the importance of properly decommissioning out of service wells; and explore the feasibility of creating reservoirs. They also compiled a draft list of 27 recommendations for addressing sedimentation and erosion.

To implement these initiatives the group is amalgamating with an inactive local Watershed Association. Nelson said the association is trying to secure additional funding for activities.

"They're very enthusiastic," said Nelson, adding "and are very proactive in the protection of water resources."

The Thunder Creek Watershed Advisory Committee, although not members of the Stewardship Association, is also working on their portion of the management plan.



Karyn Mossing, a landowner along Moose Jaw River, looks at leafy spurge during a recent workshop at Wakamow Valley. Karyn voluntarily works on the Moose Jaw River Watershed Stewardship Association Executive Board and the Moose Jaw & Area Trans Canada Trail Committee.

Highlights from: *Moose Jaw River Watershed*



1

Kirk Newton of Central Butte implemented a rest-rotation grazing system in partnership with Ducks Unlimited Canada. Nine quarters of native prairie were divided into eight paddocks while four-and-a-half miles of suspension fence were used around Williams Marsh. This marsh is one of the largest water bodies on the 'Thunder Creek System' which runs from Riverhurst all the way down to Caronport and includes a series of water bodies that serve as breeding and staging areas for many waterfowl and shorebirds. As part of Kirk's project, a network of ponds, spillways and dams was created around the marsh to enhance wildlife habitat. To provide limited livestock access, three new dugouts were made and existing springs were fenced. Kirk says, "It's perfect because the cows always have fresh water. Now, with the way it's been fenced, it's like watering out of a trough."

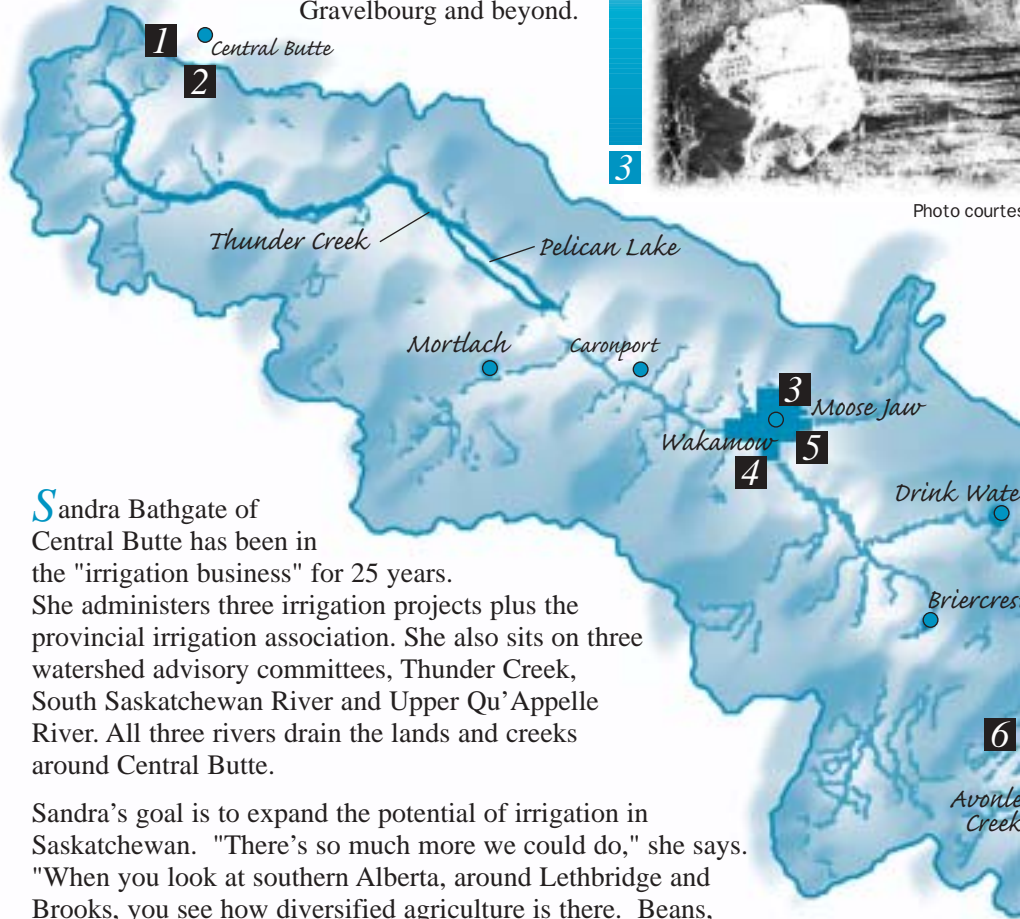
Take in scenery along the Moose Jaw River Watershed while on the Trans Canada Trail – the longest recreational trail in the world at a distance of over 18,000 kilometers!

A local committee is developing a 60 kilometer section of trail which will wind through the Moose Jaw River Watershed from Buffalo Pound Lake south to Moose Jaw. It will link to another trail section meandering through Mossbank, Gravelbourg and beyond.



3

Photo courtesy of...



Sandra Bathgate of Central Butte has been in the "irrigation business" for 25 years. She administers three irrigation projects plus the provincial irrigation association. She also sits on three watershed advisory committees, Thunder Creek, South Saskatchewan River and Upper Qu'Appelle River. All three rivers drain the lands and creeks around Central Butte.

Sandra's goal is to expand the potential of irrigation in Saskatchewan. "There's so much more we could do," she says. "When you look at southern Alberta, around Lethbridge and Brooks, you see how diversified agriculture is there. Beans, feedlots, potatoes, sunflowers, sugar beets, vegetables - the list goes on. We could have that here, but it takes a learning curve. People have to learn to change their farming methods to irrigate. It's slowly coming."



2

Photo courtesy: Jennifer Neilson



Photo courtesy: Karyn Mossing

At Moose Jaw, the Wakamow Valley Authority is relying on biological methods to control a perennial weed called leafy spurge (sheep and the release of spurge eating beetles). While the sheep eat plant tops and reduce seed production, the beetles work by laying their eggs below the soil. The larva that hatch, feed on the roots of the plant. Unlike some chemical controls that may contaminate groundwater, this combination of sheep and beetles has proven to be “environmentally and visitor friendly.” Since 1981, when Wakamow was established, conservation activities and public education activities have brought the 365-hectare river valley closer to its original state. This has been done with tremendous support from volunteers, public donors, the city, the province and local rural municipalities.

4



Photo courtesy: Wakamow Valley Authority



5

Canadian Pacific Railway is cleaning up past practices at Moose Jaw Yard. In the 1990s, CPR began investigating the environmental conditions of its major rail yards. This assessment determined unintentional fuel releases had occurred in the past affecting soil and ground water. Since then, investigations determined that the fuel had been contained within the CPR site with no environmental impacts to nearby residents. Efforts have now been made to prevent further unintentional releases by upgrading the entire refueling system. Five large diameter wells and trenches were installed to collect old diesel fuel trapped below ground.

6



Photo courtesy: Long Creek Golf Course and Country Club

The Avonlea Reservoir holds 8,000 cubic meters of water when full. The reservoir plays an important role in the watershed as it supplies drinking water to the Village of Avonlea, the Long Creek Golf and Country Club, Dunnet Regional Park, Redthorpe Pipeline and several acreages. Water is released downstream into the Avonlea Creek for irrigation by the Avonlea Water Users and the Long Creek Golf and Country Club. The reservoir is an important recreational fishery for the area, being stocked with Northern Pike, Yellow Perch and Walleye. The reservoir water is nearly fully allocated, with little remaining water to meet future demands. The Saskatchewan Watershed Authority has nearly completed rehabilitating the dam to meet current safety standards.



Decommissioning Wells

What can happen when old wells aren't used anymore?

Just ask Nolan Shaheen, Director of Groundwater Management for the Saskatchewan Watershed Authority in Moose Jaw. During watershed planning sessions in several communities, Shaheen said, "It's both a water quality protection issue and a public safety issue."

"We've all heard stories about kids falling in wells, especially some of the old hand dug ones that have a large diameter," said Shaheen, adding he knows a farmer "who found out what happens when you're travelling six miles-per-hour in a combine, with 200 bushels of grain in the hopper—and you hit a six foot diameter well with a front wheel and drop it straight in. He had \$20,000 damage to that combine."

Also citing Manitoba's Red River Flood as an example, Shaheen added, "When farm sites were submerged, they were able to notice locations of some of the larger diameter wells by the whirlpools over top. You can imagine anything that was in that flood water ... literally swirling down into those aquifers."

"When we put a well in the ground, we bypass all the protective mechanisms of that aquifer. This includes the physical barrier of glacial tills and clays as well as chemical and biological processes that slow down and reduce the concentration of contaminants."

When people simply walk away and "abandon" wells, there is potential for future problems—especially in areas susceptible to runoff. Over time, well caps and casings will deteriorate.

"Decommissioning," however, is the conscious effort to properly seal a well.

"The nice thing is, it's not rocket science. It's pretty straight forward," said Shaheen. "There is no one solution to decommissioning a well. Ideally, you're going to vary your methodology a little bit depending on the well type and geology."

He said one of the materials commonly used is a clay, called bentonite, which is essentially volcanic ash that "just swells up and forms an impermeable seal once any moisture hits it."

To decommission a "bored" well, the casing is first back filled with clean sand or gravel. For a "drilled" well, which has a smaller diameter, a special pump is used to pressure grout a slurry of bentonite into the casing.

In each situation, the top eight to ten feet of casing is then removed. The bottom of this excavation, across the top of the well, is sealed with a bentonite plug. Clay or glacial till, used as backfill to finish the job, is mounded to prevent seasonal pooling of water around the well head.

Shaheen concluded interest in wells is growing—especially from lenders and real estate agents who are cautious about the potential liabilities of a property. Since the 60s, when the Groundwater Conservation Act required submission of drilling records, more than 110,000 well and test hole records have been filed. The public can access this information by contacting the Watershed Authority.



Nolan Shaheen

In the meantime, the Authority is working closely with the Prairie Farm Rehabilitation Administration and the Saskatchewan Groundwater Association, which represents the water well drilling industry.

"We do have regulations—but we would prefer the approach of trying to educate the public on the need to do this for their own benefit."

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