



the

VOL. 1 NO. 4 FEBRUARY/MARCH 2006

# FOSSIL WATER report



*Anastomosing Columbia River. photo by HJA Berendsen*

## Paskapoo Formation – Alberta’s Most Heavily Used Aquifer

10 million Canadians rely on groundwater for their drinking water supply with more than 70% of the regional aquifers located in fractured bedrock. Natural Resources Canada has initiated a 3-year long, Canada-wide study to assess key regional aquifers in Canada. NRC’s project will produce maps that will help identify the quality and sustainability of these aquifer waters and examine the effects of climate change on groundwater resources. NRC’s goal is to provide hydrogeological information and models to water management agencies and owners responsible for ensuring reliable groundwater supplies

One of NRC’s primary study targets is the Paskapoo Formation, which covers 10,000 km<sup>2</sup> and is penetrated by more than 80,000 groundwater wells, making it the most heavily used aquifer in the Prairies. It is a mudstone-dominated unit with interbedded sand channels that form isolated aquifer units. Channel sandstones are 5–10m thick and can pinch out over short distances (100–150m). The Paskapoo was likely deposited by an anastomosing (interlacing) river system (perhaps similar to the Columbia River In BC). In Alberta, Mr. Steven Grasby is spearheading the NRC study.



Water levels in the Paskapoo respond to changes in aquifer demand, surface water recharge, irrigation practices and climatic trends. In recognition of the importance of the aquifer, policy makers and scientists are meeting on June 16th, 2006 in Calgary to discuss long-term trends and their impacts on land use practices in southern Alberta. For more information on the workshop, visit <http://www.brbc.ab.ca/images/Groundwater%20in%20Southern%20Alberta.doc>



# A Management Plan for the Elbow River Watershed

The Elbow River, like many small foothills streams in Alberta, supports a variety of commercial, agricultural and municipal uses but it is at risk with full allocation and deterioration in water quality. Important scientific information and water management planning is required to ensure the sustainability of the river. Up to 47% of the water flow in the Elbow River is allocated for withdrawal for commercial or municipal uses. Scientific studies indicate many sections of the river require 70% or more of water flow to maintain fish habitat, aquatic life, and riparian plants. Add the impact that increased development has on the river's water quality and it is evident that the river system needs proactive stewardship. As one Alberta scientist has said, "the Elbow does more than its fair share", referring to its small annual discharge and large population served. It has a very impressive "river resume" when it comes to the water services it provides!

The Elbow River watershed covers an area of approximately 1,230 km<sup>2</sup>. Originating in Kananaskis Country, its journey to its confluence with the Bow River covers 120 km. The river flows through a diverse landscape, from the mountains to prairie, and is affected by many uses; such as, timber harvesting, gas and oil recovery operations, cattle grazing and ranching, residential developments, and a wide spectrum of recreational activities including off-road vehicle trails, camping and golfing. Tourism and year round recreation opportunities make this river a popular destination with tens of thousands of people visiting Elbow Falls every year.

The River provides drinking water for half a million people, or about one seventh of Alberta's population. Including the communities of Bragg Creek, Tsuu T'ina, Redwood Meadows, and the rural community of

Springbank, before it finally reaches Calgary, and the Glenmore Reservoir, where it provides much of south Calgary's drinking water.

For these reasons, the Elbow River Watershed Partnership (ERWP) has undertaken a Watershed Management Plan for the Elbow River to ensure that future development focuses on sustainable water management planning and preserves the aquatic ecosystem. The first phase of the planning process is near completion. A Terms of Reference has been prepared for consideration by Alberta Environment. This document will guide the water management planning process. The ERWP will be holding a public open house this fall to present the proposed management plan and solicit public input. Further details on public meetings will be posted in the coming weeks on the ERWP website [www.erwp.org](http://www.erwp.org).



photo by Bob Lee

*The Elbow River Watershed Partnership was formed in 2001 as a watershed stewardship group dedicated to protecting the Elbow River. It is a not-for-profit group working in partnership with stakeholders of the watershed, including municipal, provincial and federal governments, First Nations, industry, community groups, and the scientists to increase awareness and encourage positive action toward watershed protection. For more information or to help, please contact the ERWP Watershed Coordinator at (403) 685-5580.*



## Fossil Water Assists Town of Banff

Fossil Water is completing a review of a turbidity incident which affected the Town of Banff's water supply in March 2006. The incident was associated with the commissioning of a new water line which replaced an 80-year-old line extending up from Banff Avenue to the Tunnel Mountain Reservoir. Fossil Water is reviewing design, construction and operational documentation to assess possible causes and provide recommendations for preventing future incidents.



## FOSSIL WATER

### About the Fossil Water Report

The Fossil Water Report is published six times a year as a service to our clients and partners. Each issue will focus on three areas:

- (i) trends that are important to water managers in western Canada
- (ii) perspectives from our active projects
- (iii) news and views regarding fossil water resources around the world

If you would like to receive copies of our report, visit our website @ [www.fossilwater.ca](http://www.fossilwater.ca)

### About Fossil Water Corporation

Fossil Water Corporation provides turnkey water and wastewater solutions to the energy and development sectors. Our goal is to become part of our client's competitive advantage by delivering innovative solutions that consider the full life-cycle of our clients' projects.

Our name comes from our commitment to treat water as a non-renewable resource – we seek to unlock the hidden value in this precious resource.

Contact:  
1-403-807-2782  
[billberzins@fossilwater.ca](mailto:billberzins@fossilwater.ca)

