



## BUYING AND SELLING ALBERTA'S WATER – TO WHOM, FOR WHAT, AND HOW MUCH?

By Danielle Droitsch and Meghan Beveridge, *Water Matters*

During 2006 and 2007, the public battle over the \$15 million sale of water rights to support the building of a mega-mall in Balzac raised the profile of Alberta's emerging water market. More importantly, it spurred a debate over how to protect the public interest – including the interest in healthy rivers – as water rights are sold to the highest bidder. The discussion heated up when, in late 2007, the Eastern Irrigation District (EID) asked for the right to distribute water for uses other than irrigation agriculture. The request raised public debate over who should control water in an increasingly water-scarce region. If the government had approved this request, the EID would have set a dangerous precedent by circumventing the existing water rights trading system, which has government oversight, opportunities for public input, and possibilities for restoring river flows.

Controversies like these indicate that Alberta has not yet settled on the most effective system for water allocation. Demand for water coupled with declining river flows induced by climate change is exacerbating water scarcity in southern Alberta. While demand is on the rise, irrigation districts still hold the majority of rights to water (over 76 percent of allocated water) in the South Saskatchewan River Basin.

There is little certainty, based on population projections and current water-use rates, that southern Alberta communities will have enough water in coming years. The Calgary Regional Partnership (CRP) predicts that High River, Okotoks, and Strathmore will exceed their water licences by 2012, Turner Valley by 2016, and Black Diamond, Canmore, Cochrane, and Nanton by 2028 or sooner. Based on the CRP study, most shortfalls could be addressed by a 30 percent reduction in water use by 2030; however, even with such a reduction, Okotoks, Strathmore, and Cochrane will maximize their



*This irrigation canal is part of the Western Irrigation District's infrastructure to deliver water from the Bow River to more than 400 farms, 96,000 acres of land, and more than 12,000 people in four different communities.*

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water licences by 2012, 2015, and 2031, respectively.

In 2001, a dry year, the Bow River held less water than had been allocated to water users. Even during the wet year of 2005, "approximately 46 percent of the average annual natural flows of the Bow River were either diverted or consumed, and many of the existing licenses were being underused. At the lowest reaches of the river, 68 percent of the average flows had been allocated for withdrawals. During low flow years, these allocations can be as high as 80 percent" (CRP, *Summary Report*, 2007). Climate change predictions anticipate warmer temperatures and melting glaciers leading to reduced stream flow and less water availability overall – for humans and rivers.

The closure of the South Saskatchewan River Basin (SSRB) to any new surface water licences in 2006 ushered in a new era of water management: new demand must be met either with groundwater, which is inadequately understood, or by reallocation of surface-water rights.

The 1996 *Water Act* enables water rights holders to transfer all or a portion of their water licence to another user. Since this transfer system was introduced to southern Alberta, 26 water rights transfers have occurred. Issues related to the effective implementation of a water market (i.e., water transfer system) include protection of river flows, adequate availability of water to current and future populations, effective government oversight, public access to information, and planning for climate changes and future occurrences of drought. In short, any future water market must effectively address these issues.

In September 2008, the Government of Alberta announced that it would review the entire water allocation system. This review might not only alter the system for re-allocating water through water rights transfers but also change the entire water allocation system. This review could challenge the more than century-old allocation principle, "first in time, first in right" (FITFIR; see sidebar, p. 12), and change how we allocate water in the province.

Currently, Alberta's water rights trading system addresses some social and environmental interest for water by requiring the following:

- Public review of permanent transfers
- Consideration of hydrological impacts

**Water Right:** The right of a user to divert a specific amount of water from a source (e.g., a river, stream, lake, or groundwater). Water rights in Alberta are authorized by a water licence, a legal document issued by Alberta Environment under the *Water Act*. Each licence states the terms and conditions of the user's water right including the purpose of use; the volume, rate, and timing of diversion; and the source of water, as well the licence's priority during water-short periods.

- Consideration of impacts to third parties
- Conservation holdback to keep up to 10 percent instream (although discretionary)

In our view, however, Alberta's trading and overall allocation system fails in a number of ways. Ecosystem flows remain relatively unprotected in the central and northern basins and are already compromised in southern basins. Water rights trading will lead to currently underused licences being more fully used and thereby leave less water in the rivers. And the FITFIR priority system continues to favour heavily old irrigation licences to the detriment of small and rural municipalities, new economic users, and the environment.

We can learn from other jurisdictions to help define what will be most appropriate in Alberta. In Australia, water rights are now generally based on shares of available water, rather than volumes. As water availability varies year to year, users share the burden of scarcity and benefits of abundance. To prevent environmental harm, Australian states set aside water for environmental needs. In the U.S., Oregon has a water rights trading system very similar to Alberta but has the added component of the Oregon Water Trust, which facilitates buying or leasing water rights for environmental instream purposes.

Alberta's challenge is more than just grabbing a smattering of advanced water policy from around the world. We need to find tools that specifically address the context of the province's water flow and water use. As the government considers how to revise the current allocation system, including the trading system, the examples and comparison to Alberta point to a number of possible improvements. Any system of allocation or trading should be able to adapt in times of drought as well as predicted climate change impacts by, for example, changing licenced volumetric amounts to shares of what water is available each year or season. All water allocation decisions should be transparent, accessible, open to public input, and subject to periodic review, while minimizing transaction costs as much as possible. Ultimately, any future water sharing will need to take the river's needs into account.

It is critical that Alberta's system



*Bassano Dam is where the Eastern Irrigation District withdraws water from the Bow River. These withdrawals cause extremely low flows in late summer. On this day, August 9, 2006, the flow below Bassano Dam was 9 m<sup>3</sup>/sec; the flow in Calgary (above all irrigation diversions) on that day was 82 m<sup>3</sup>/sec. PHOTO: WATER MATTERS*

offer more than a good process. Hard choices need to be made to determine priority uses and a priority scale for approving transactions (e.g., secure water for environmental and basic human needs first, followed by allocations to other users). Basic human water needs should be guaranteed at reasonable cost to current and future Albertans and the water allocation system must respect First Nations' water rights. Allocation decisions should prioritize purposes of water use. Environmental flows in central and northern basins should be afforded legal protections – through environmental allocations and water trusts, for example – while new strategies to restore flows to southern basins should be identified and pursued.

How we choose to share water will not only determine the health of our rivers for future generations; the choices will shape the resources and choices available to society in the future. This is true for southern Alberta, already challenged by scarcity. But central and northern Alberta are also anticipating serious water demand challenges. The Edmonton region's population growth and burgeoning industrial heartland will challenge the abundance of the North Saskatchewan River. Expanding requirements for water withdrawals from the lower Athabasca River for oil sands extraction, particularly during winter low flows, mean that hard decisions in this region are just around the corner. It is vital that Alberta begin

to address these challenges in thorough open, public dialogue. How Alberta shares water among new and current users while protecting basic human and environmental needs for water will determine the future health of this province. 🌱

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**FITFIR:** The principle of “first in time, first in right,” on which Alberta's water allocation system is based. This principle ensures that the earliest granted licensee (the “senior” rights holder) is entitled to receive the entire amount stipulated in the licence before the next “junior” licensee can receive any water. In times of water shortage, a junior licence holder could be unable to access water unless they can find an existing senior licence holder willing to transfer all or a portion of their licence temporarily as an assignment or permanently as a water rights transfer.