

# Saving Alberta's Rivers Through Water Transfers

by *Milagros Palacios* &  
*Jeremy Brown*

In many parts of Alberta water for human use, as well as for the aquatic environment, is becoming increasingly scarce. Any new licenses for water withdrawal along the Red Deer and Oldman River Basins have a substantial risk of not being available in drier years. Among the proposed solutions to dealing with this scarcity is a promising mechanism that efficiently gets water to its highest valued use.

Allowing the transfer of water withdrawal rights among competing interests is an efficient way to resolve water scarcity concerns in such river basins. Water rights transfers are a market-based tool that allows all or part of an existing water allocation to be transferred from an existing license holder to another entity for use within the same river basin. Whether a farmer needs more irrigation water, a municipality

needs more drinking water, or a group wishes to preserve in-stream flow for aquatic habitat, everyone will be able to purchase the right to a share of a river's water.

Transfers occur within a river basin, and more specifically within a sub-basin (i.e., along the same river). This type of allocation system does not allow for any *more* water to be withdrawn than under previous allocations; existing rights are simply transferred among users. The governing authority still determines the maximum flow that can be safely withdrawn in a given year in order to protect the aquatic environment.

Even though this method of allocation has been used successfully in several western US states, as well as in Australia, it was not used in Canada until 2002. The first application of this market-based mechanism was introduced to the South Saskatchewan River Basin (SSRB) in southern Alberta.

## How has water been allocated in Alberta?

Water rights are allocated under the Alberta Water Act (1999), which employs the doctrine of prior appropriation. The doctrine, which is characterized by allocating water use through land rights, uses the principle of "first in time, first in right," which means that the first person to put water to a beneficial use is granted the right to continue that use without interference from those using it later (Landry, 1998). Essentially, it means that in times of shortage, holders of older water licenses are entitled to divert all their requirements from the river before more recent water licenses can divert. Thus under a system that allows transfers of withdrawal rights, older entitlements may become more valuable as they are less likely to be subject to withdrawal restrictions.

Before 1991, the Alberta Water Resources Act was the guiding legislation used for allocating water rights, but under that Act holders were not able to sell or lease their licences because they were permanently attached to a particular parcel of land. In 1999, Alberta published the new Alberta Water Act, which focused on managing and protecting Alberta's water and on streamlining administrative processes (Alberta Environment, 2005). Under this new act, public and private entities are allowed to transfer withdrawal rights separate from land titles, which has enabled Albertans to move toward more effective water markets.



*Milagros Palacios is a student intern at the Fraser Institute. She holds a BSc in Industrial Engineering from the Pontifical Catholic University of Peru and an MA in Economics from the University of Concepcion, Chile.*

*Jeremy Brown, MSc, MA (jeremyb@fraserinstitute.ca) is a Policy Analyst in the Centre for Studies in Risk, Regulation, and Environment at The Fraser Institute.*



### The introduction of water allocation transfers in Alberta

Under the new Water Act, Alberta Environment began a multiphase water management plan for water use in the SSRB. The plan involved inputs from four multi-sector stakeholder Basin Advisory Committees—one for each sub-basin: Red Deer, Bow, Oldman, and South Saskatchewan Rivers—and the general public. In 2002, phase one was approved and water allocation transfers were authorized within the SSRB, with previous approval of Alberta Environment. Transfers can be made for entire allocations, or simply a fraction of a holding. Transfers can be sold outright or leased for a fixed period of time. When a transfer is agreed upon, it not only relocates the license to a new location within the basin, the priority of the existing allocation is also maintained. One caveat to the free exchange of water rights is that Environment Alberta maintains the right to hold back up to ten percent of any transfer to increase in-stream flows to protect the aquatic environment.

### Who is acquiring water and at what price?

The SSRB water management plan, including the ability to transfer water withdrawal rights, has only been in operation for two years and the number of transactions registered is still limited. (In 2003 there were only two transfers and in 2004 only three.) The two 2003 transfers were both permanent and amounted to 544,086 m<sup>3</sup>. To give some perspective, an average of 8.4 billion m<sup>3</sup> of water flows down the South Saskatchewan River each year. Alberta Environment exercised its option to withhold ten percent of each transfer to

convert back to in-stream flow (60,457 m<sup>3</sup>). Both transfers changed their use from irrigation to municipal use, and prices were not disclosed. The three 2004 transfers were also permanent and amounted to 3,274,073 m<sup>3</sup>. Alberta Environment only withheld water from one transfer (166,667 m<sup>3</sup>) as one was specific to early May when flows are the highest, and another had terms of trade that stipulated minimum flow requirements. Only one transfer changed its use from irrigation to municipal use; the others remained irrigation licenses. Prices ranged from \$0.36 to \$0.49 per cubic metre (Nicol, 2005).

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As it exists currently, potential buyers and sellers find each other through informal linkages. Depending on the purpose and seniority of a transfer, transaction costs associated with the transfer may effect prices and therefore market participation. According to Nicol (2005), transaction costs of the water license transfers in the SSRB were between 3.1 and 14.5 percent of the total price. Alberta Environment is planning to prepare a list of water allocation licences (in priority order) in the

SSRB in order to help interested parties in arranging water allocation transfers (Alberta Environment, 2002).

### Conclusions

Trading water withdrawal rights is an efficient, market-based mechanism that allows water to be allocated to the most beneficial use. It also provides an incentive to current allocation holders to become more efficient, as any reduction in water use can be transferred to another user, resulting in monetary benefits. Even though it has been demonstrated that transferring water allocation is an efficient tool that is feasible to apply, there are some concerns about market development, including price information, finding willing buyers and sellers, and the associated transaction cost. Despite these concerns, Albertans appear ready to transfer water rights. Three other projects in the Battle River, Cold Lake Beaver River, and Lesser Slave Basins are in the initial stages of enabling water rights transfers in order to maximize the benefits of water use.

### References

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