



# Dry Spell

WILLIAM SHOTYK interviews Canadian water expert ROBERT SANDFORD about water issues in the Prairie Provinces.

**William Shotyk:** The Prairie Provinces are considered the “breadbasket” of Canada, but there’s no bread without water—and decade-long droughts are part of the current natural climate variability of the west. More than 70 per cent of licensed surface water withdrawals in Alberta are for irrigation in the dry southern regions drained by the South Saskatchewan River and its tributaries. What are the greatest water challenges facing this industry, and how is the industry working toward solving them?

**Robert Sandford:** While that percentage is hardly unusual anywhere in the world where irrigation agriculture is practiced, to some that seems a lot, especially since no more licenses are being granted on the South Saskatchewan in Alberta. At the moment at least, the irrigation community in southern Alberta doesn’t seem to think there is anything to dispute. They are standing fiercely by legal interpretations of the first in time, first in right (FITFIR) licensing system. It makes sense to do so.

FITFIR grants them all the water

they want first, even in a drought, and permits them to use that water for any purpose they desire, even if it means legally denying towns and cities around them the drinking water they need for survival. Fortunately, however, sharing arrangements have prevented that from happening. But there are still many who are concerned that irrigation districts want to start selling water to which they have rights, but do not use, at a profit. Their point is that the government provides irrigators all the water they need for practically nothing and builds infrastructure at considerable public expense to assure supply. Now the irrigation districts want to sell their excess water back to us at a huge profit. They want to turn what is effectively an allocation privilege into a property right. Opponents to these plans argue that this may not be sound 21st-century water policy. They want the Government of Alberta to design its water management house first before they approve the plumbing—not the other way around. The running joke outside agriculture, however, is whether FITFIR is fit for the increasingly water scarce 21st-century.

But you can bet that not everyone is laughing.

Though it is almost heresy to say so, there is more. If we want to avoid conflict in the future we need also to improve our agricultural practices. The fact is that certain kinds of agriculture have a big impact on water quality. Agricultural water use is becoming an issue globally because contemporary industrial-scale food production practices inevitably result in reduced return flows to nature of water of poor quality which diminished and often water-starved natural aquatic ecosystems no longer have the capacity to purify. This results in eutrophication, the nutrient over-enrichment of rivers, streams and lakes with fertilizers and manure carried by run-off. Thousands of Canadian lakes and watercourses are now suffering from varying degrees of eutrophication.

I predict that within five years, agricultural run-off will be recognized publicly as one of the most serious threats to water quality in Canada. A greater effort has to be made to improve agricultural practices or some agricultural producers may find themselves under the threat of losing their social license to operate. If this happens it will not lead us to the kind of agriculture we want or that the world needs.

**WS:** Alberta is the centre of the petroleum industry in Canada. The Athabasca River supplies the water for oilsands development in northeastern Alberta. Currently, the oilsands consume three to six barrels of water per barrel of oil produced. By 2020, oil-sands development will require the equivalent of nearly half of the Athabasca River’s winter flow. What are the oilsands’ greatest water challenges? Are we close to finding any solutions?

**RS:** No serious discussion of water and energy conservation can avoid the issue of Canada’s oilsands. The management of water resources in the context of continued oilsands development in the Athabasca River Basin is already in dispute and represents an area of elevated conflict that casts Canada in a poor light on the international stage. Regrettably, we appear to have given up trying to resolve this dispute. All sides

appear to be relying on public relations spin to carry the day.

We have all seen how effective lobbying ensured that North American automobile manufacturers remained exempt from legislation demanding more fuel-efficient vehicles. They were so successful with their lobby that they were permitted to keep producing inefficient cars and trucks until it nearly killed their business and our economy to do so. We simply cannot afford to let water related issues lead to similar consequences in other important economic sectors.

The oilsands have become a public

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relations Afghanistan. It is a war we are all going to lose. If we want to avoid further conflict we need a new kind of dialogue on what such resources mean to us and their implications for the future management of our water resources.

**WS:** Catchment-scale planning for management and conservation is urgently needed to maximize efficient use of increasingly scarce freshwaters in a time of warming climate and rapidly increasing human activity. But the need for cooperative management of shared waters was recognized by the provinces of Alberta, Saskatchewan, and Manitoba and the federal government as early as 1948, with the signing of the Prairie Provinces Water Board Agreement. One of the missions of the Board is to protect interprovincial waters, another is to ensure that these waters are equitably apportioned. Is it possible to achieve a balance between “protection” and “apportionment?”

**RS:** At present this institutional arrangement appears to work very well. It will, however, be severely tested in the future by three tandem developments. The first is population and economic growth in southern Alberta which will put huge pressure on already existing water supplies. The second threat to

harmony over western waters resides in the threat of reduced water supply posed by climate change effects. The third matter of concern regarding the balance between protection and apportionment is nature’s need for water.

We now realize that in order to provide water and other benefits to people, nature needs water, too. It follows, hence, that nature can’t be where we send water only after we have taken all we need. While better pricing and more open markets will serve to assign water a higher economic value in its economic functions and generate healthy competition that will discourage wasteful and unproductive uses, markets will not solve the real problem we face. The real problem, as the Global Water Policy Project’s

Sandra Postel has so eloquently explained, is that we lack a set of principles and guidelines that stop us from chipping away at natural systems—such as wetlands—until there is nothing left of their life-sustaining functions, which the marketplace fails to value adequately if they are valued at all.

The first lesson we might derive from international examples is that public policy in Canada would be wise to move toward supplying adequate water to nature before over-allocation for human purposes makes it difficult to do so. I predict this will become an explosive issue throughout the West. **wc**

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William Shotyk is the president of the Elmvale Foundation, a non-profit research organization providing environmental science education.

Robert Sandford is the director of the Western Watersheds Climate Research Collaborative.

Robert Sandford is scheduled to speak at this year’s Elmvale Water Festival (August 21).



For the extended interview, visit [watercanada.net](http://watercanada.net)

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