



# How's the Water?

TRANQUIL SCENE

All is calm in this photo of the Athabasca River near Fort MacKay.

-photo courtesy Athabasca Watershed Council

**Ten years in, Alberta's innovative *Water for Life* strategy has created successful approaches while balancing often competing interests. But will it be enough for the coming decades? Albertans close to the system that links stewards and water councils to provincewide goals weigh in on its successes, its challenges and its shortfalls**

BY **BILL CORBETT**

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Growing up in southeast Alberta, Lorne Taylor, PhD, would tour the family ranch and see cattle dugouts drying up during periods of drought. At such times, Medicine Hat residents on one side of the street could water their gardens one day, those on the other side the next. If Dr. Taylor's mother mistakenly watered on the wrong day, there came a reminding knock on the door from a neighbour.

"I grew up with an appreciation for the value of water," he says. So when Dr. Taylor became Alberta's environment minister in 2001, crafting a long-term strategy for managing and safeguarding the province's water resources quickly became a priority. But first he wanted input from ranchers, environmentalists and industry officials — "real people, not just academics. I wanted it driven from the community up, not from

the government down. If you're going to do that properly, if you truly want to listen, it takes time."

Guided by this stakeholder input, the province's *Water for Life* strategy was unveiled in 2003. It was, and still is, intended to achieve three main goals, which are

- safe, secure drinking water
- healthy aquatic ecosystems
- reliable, quality water supplies for a sustainable economy.

Dr. Taylor, who retired from elected provincial office in 2004, summarizes the goals this way: they're about meeting the water needs of people, the environment and the economy.

"*Water for Life* was heralded as one of the first strategies of its kind to take a comprehensive, holistic and watershed-based approach to looking at water, to engage citizens and to do all this proactively," says Andy Ridge, director of the water policy division of Alberta Environment and Sustainable Resource Development. "Most other leaders were in places like Australia or Nevada, with no water. To do this without a water crisis was kind of unique."

*Water for Life* was also unique in establishing partnerships with what are now 11 Watershed Planning and Advisory Councils, or WPACs, as well as watershed stewardship groups. Besides educational activities, these multi-stakeholder, non-profit organizations have been busy developing status reports and management plans for their watersheds. "The WPACs are the grassroots voice for water," says Mr. Ridge. "In the last 10 years, they've helped promote awareness of water issues in the community."

"There are probably at least 1,000 Albertans who are much more involved now in the water world," adds David Trew, executive director of the North Saskatchewan Watershed Alliance. "There's been a big increase in activity and awareness and accomplishment outside of government as a result of the WPACs being set up." He believes, however, there is now a need to move beyond the voluntary aspects of WPACs and compel some stakeholders to participate in the process.



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**DR. LORNE TAYLOR**

*Former Alberta Environment Minister*

#### CHECKING UP — A DECADE LATER

As *Water for Life* celebrates its 10th anniversary, just how much progress has been made in achieving its ambitious goals? What challenges lie ahead in a province where water pressures are definitely increasing? Indeed, in 2009 the province issued a renewed action plan for its water strategy, one that reflected such things as a closure to new water allocations in much of southern Alberta, rapid economic and population growth (to five million from 3.5 million over the next 15 years) and rising concerns about environmental impacts.

Perhaps the most measurable achievement of *Water for Life* in its first decade has been progress on the first goal, the people-

centred aspects of the strategy. To date, some \$600 million has been spent on improving drinking and waste water facilities, especially in small towns and rural areas of Alberta. While not inexpensive, such investments have been quicker to justify – the applicable scientific standards and best practices are well understood.

It's also been a big chunk of employment for APEGA's membership. The construction and operation of water treatment facilities, of course, requires considerable input from Alberta's engineers.

The third goal — having reliable, quality water supplies for a sustainable economy — has had mixed results. On the positive side, seven major water-using sectors have been involved in voluntarily developing plans

RIVER PALS  
 Fishing the North Saskatchewan River upstream of the Centennial Footbridge near Fort Edmonton are Owen Isaac (foreground) and Finn Shepherd.  
 -photo courtesy North Saskatchewan Riverkeeper



to help the province meet its ambitious target of improving overall efficiency and productivity of water use. The target is a 30 per cent increase, from 2005 levels, by 2015.

Under what are called Conservation, Efficiency and Productivity Plans, sectors such as irrigation, upstream oil and gas, and municipalities are determining their own improved efficiency targets. “It’s somewhat unprecedented for each sector to set up plans like these,” says Mr. Ridge.

“The voluntary approach supports the notion that the best people to decide how to reduce water use are the people actually using it,” says Andre Asselin, project manager with the Alberta Water Council, which monitors and promotes *Water for Life* implementation and issues a progress report every few years. “Every drop of water the oil and gas industry pumps down a hole costs money. It’s not just an environmental feel-good story. It does have an impact on the bottom line.

“But at the end of the day, the sectors developing these voluntary plans were aware that if sufficient progress in conservation, efficiency and productivity is not made across the province, regulation should be considered.”

But Mark Bennett, executive director of the long-standing Bow River Basin Council, says that “conservation means different things to different people. With irrigation, for example, does that mean the same number of acres with 30 per cent less water, or a 30 per cent increase in acres served with the same amount of water?”

He also wonders how economic growth will be accommodated in river sub-basins of southern Alberta where new water allocation licences are no longer being issued. “If industry is going to expand, it has to get its water somewhere,” he says. “Do

you buy someone else’s allocation or will some people want to go into the groundwater resource? Groundwater is not currently closed, though the government is informally committed to the notion of not mining groundwater. But groundwater is absolutely going to receive attention in the next 10 years, in terms of both quantity and quality.”

To some degree, it already has. In 2010, the province released soil and groundwater remediation guidelines for contaminated sites, with a focus on protecting domestic-use aquifers. Environment and Sustainable Resource Development recently released the draft *Contaminated Sites Policy Framework* for public comment.

Groundwater issues are also tied to the second *Water for Life* goal, healthy aquatic ecosystems. It is the least advanced goal, largely because the science of aquatic ecosystems is the least understood. “The environmental aspects of the water strategy are just starting to come into focus,” says Dr. Taylor.

The various WPACs have spent considerable time developing status reports and now management plans for each of their distinctive, complex watersheds. Mr. Bennett says management plans of the Bow River Watershed Planning and Advisory Council have been looking at such ecosystem issues as surface water quality, wetland preservation and groundwater use. “We’ve been looking at potential planning around groundwater, and the prevailing opinion is we don’t have enough information to actually do that.”

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**BERND MANZ, P.ENG.**  
CEO, Aquatera Utilities

#### WETLANDS POLICY COMING SOON

A key aquatic ecosystem issue under *Water for Life* is wetlands preservation and restoration. Wetlands cover some 18 per cent of the province, although two-thirds of them in the settled, white zone, of central and southern Alberta have been lost to human development. A new wetlands policy — especially one that would replace a 1993 interim policy for the white zone — has been long awaited, while the government completed a wetlands inventory for the whole province and developed healthy ecosystem indicators. Mr. Ridge says a new wetlands policy should be unveiled later this year.

Maintaining healthy ecosystems is further complicated by the cumulative effects of development in a watershed. For example, adding 100,000 people and several food processing plants in Calgary affects not just water quality and quantity in the Bow River but also users in downstream communities and irrigation districts.

Now, all these issues must be considered in the broader context of land-use planning, such as the recently approved Lower Athabasca Regional Plan. It includes frameworks for managing surface water quality and groundwater. A similar plan for the South Saskatchewan region is currently underway.

Even smaller northern communities with more plentiful water supplies have had to adapt to new regulations under *Water for Life*. The Grande Prairie region, for example, is undertaking a \$58-million upgrade of its wastewater treatment plant to meet more stringent effluent standards. At the same time, in seeking a new long-term water diversion licence, it has agreed to simultaneously return an equivalent amount of high-quality effluent to the Wapiti River during low-flow conditions.

“The ability to divert more water to accommodate growth is definitely impacted by the *Water for Life* strategy,” says Bernd Manz, P.Eng., CEO of Aquatera Utilities, which provides drinking water and wastewater services for the Grande Prairie area. “There’s been an increased focus on people’s health and that of the aquatic ecosystem. It requires a heightened level of professional awareness and diligence to meet higher public expectations. It requires increasing innovation on the part of engineers to meet societal needs and work within the constraints of a changing climate that affects supply.”

Much of the first decade under *Water for Life* has been spent laying the groundwork for the more action-oriented next stage. “We’ve done a ton of technical work, built our organizational capacity and produced a couple of very high-level water management plans,” says Mr. Trew of the North Saskatchewan Watershed Alliance’s efforts. “We’re now ready to take things into the public domain instead of just the expert domain.”

#### PUBLIC OPINION COLLECTED

In keeping with that sentiment, Environment and Sustainable Resource Development recently launched open public forums around the province to allow Albertans to voice their views on four water topics: healthy lakes, water use for hydraulic fracturing, water management, and drinking and wastewater systems. Many of the province’s lakes, for instance, are subject to the impacts of urban and agricultural runoff, sewage and vegetation removal.

“All the good engineering and science that’s been applied to river water quality since the 1970s also exists for lakes,” says Mr. Trew. “There’s lots of good information, but it’s not being used. No

one has defined jurisdictional responsibilities." He calls such lakes "orphans" when it comes to water management.

Tributary basins, such as the North Saskatchewan's Vermilion and Sturgeon rivers, are orphans, too, with municipalities currently playing a significant role to play in tackling key issues.

### A CALL FOR BETTER METRICS

In its most recent *Water for Life* progress report (2009-2011), the Alberta Water Council notes significant progress has been made in the strategy's first 10 years. But looking ahead, it adds a new recommendation: develop quantitative performance criteria and clear metrics for assessing progress towards the strategy's three main goals.

"*Water for Life* is a pretty qualitative document. It has little in the way of hard numbers," says the council's Mr. Asselin. "It would be nice to have a way to measure progress on specific outcomes. For example, how do you know if you have healthier water ecosystems without having appropriate metrics?"

Mr. Ridge of Environment and Sustainable Resource Development agrees that developing effective, meaningful performance measures is one of the many challenges facing water management in Alberta. But he is thankful the province started tackling big-picture water issues a decade ago. "We've been fortunate in Alberta over the past 100 years to have had a pretty good balance of supply and demand," he says.

"And there's not a crisis today. But in 20 to 30 years, we could be facing some real issues."

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