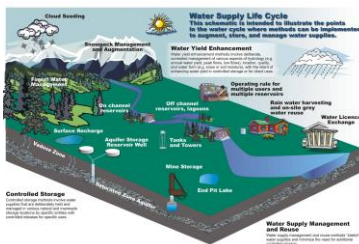


**Alberta Environment**

**Alberta Alternative Water Supply Storage and Management Methods Brochure**

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As part of Alberta Environment’s Water for Life Strategy, Watercat staff conducted a study of alternative water storage and management methods that can help increase available water supplies to meet Alberta’s water needs. For each method, summaries were prepared on how each method has been used and how it works, as well as case studies and a preliminary analysis of potential issues and applications in Alberta and next steps towards their use have been used to address similar water challenges in other areas, and prepares summaries of those approaches at an appropriate technical level for the decision-makers involved.

To convey a better understanding of how various alternative water storage and management approaches can be used by water managers, the various technical and policy approaches were sorted into a “Water Supply Life Cycle” with classifications as follows:

- **Water Yield Enhancement Methods:** Managed aquifer recharge for groundwater management; cloudseeding and snowpack management; rainfall harvesting; forest management; phreatophyte control, and local and regional climate modifications.
- **Controlled Water Supply Storage Methods:** Managed Underground Storage and Aquifer Storage Recovery; Storage in caves and mines; conversion of natural surface water bodies for water supply storage; off-stream storage
- **Water Supply Management and Reuse Methods:** Water markets; optimal operating strategies and regional water supply coordination; reclaimed water systems and greywater reuse; conversion of hydropower and flood control reservoirs to water supply storage.

Watercat was then contracted by AENV to prepare a brochure summarizing the findings of the review of alternative water storage and management methods and their potential use in Alberta. As part of the Water for Life provincial water strategy, watershed planning advisory councils (WPACs) were formed as multi-stakeholder, non-profit organizations that assess the conditions of their watersheds and develop plans and activities to address watershed issues in Alberta. The brochure was designed to stimulate a dialogue with the WPACs and other water providers, managers, and regulatory agencies in order to introduce or facilitate the use of these methods to address Alberta’s rapidly growing water needs and security of supply.

**Outcomes:** The study originally completed by Watercat staff, and the subsequent educational brochure developed by Watercat, led to a greater understanding of potential applications of alternative water storage and management methods to meet Alberta’s current water demands. Watercat has worked with Alberta agency personnel, Alberta Water Council members, and consultants to convey information on these methods and potential Alberta applications, and was invited to present at the international Weeds Across Borders conference in Banff, Alberta on the impacts of phreatophytes on water supplies. This project also laid the groundwork for the development of a 2010 study in which the Alberta Water Research Institute and Town of Okotoks jointly retained Watercat and other consultants to review conjunctive water management options to meet Okotoks and regional water challenges in this Calgary suburb in the South Saskatchewan River Basin.