

Groundwater Data Management in support of Basin Scale Water Management Planning

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The shift towards regional management of water resources has created need amongst regulators, project proponents, environmental professionals, and the public at large for analysis and interpretation of vast quantities of data. Groundwater data has been collected over a period of decades by various government agencies and industrial operators in the Cold Lake – Beaver River Basin (CLBRB). Analysis and interpretation of this data is challenging due to its geographic and temporal extent, inconsistency in how this data has been collected, stored and maintained and problems with disseminating the most recent data to all stakeholders involved. The Beaver River Watershed Alliance, in partnership with Alberta Environment, has initiated a project to develop a comprehensive Groundwater Database System (GDS) to store, share, and support regional analysis of the data being collected at a watershed scale. Environmental professionals in general are not database experts, and as such development of a tool to aid in analysis and sharing of large quantities of data needed to be created.

This presentation will describe the GDS under development and highlight its functionality and application to watershed issues. The GDS currently contains groundwater information for approximately 6,500 wells and nearly 500,000 hydrochemistry records. Key features and tools that the end user has at their disposal will be described. Challenges with the development of the system will be described and future applications for stakeholders will be discussed.

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