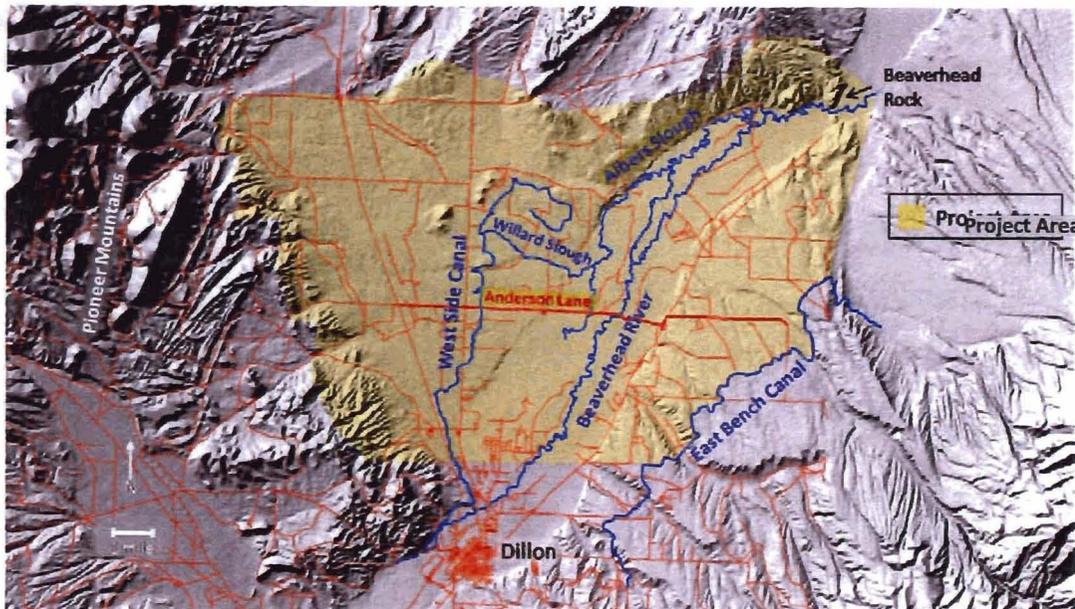


GWIP Project Area: Lower Beaverhead River West, Beaverhead & Madison Counties



Detailed

data collection efforts will occur between the West Side Canal and the Beaverhead River.

The Lower Beaverhead River - West project area is north of Dillon and extends downstream to Beaverhead Rock. The mainstay of the economy in this area is agriculture which is supported by groundwater and surface water irrigation. The Beaverhead River basin has been closed to new surface water appropriations since 1993. Groundwater permit applications must include a hydrogeologic assessment that evaluates whether the proposed appropriation will result in a net depletion of surface water. If so, the application must be accompanied by aquifer recharge or mitigation plans.

Irrigation needs are primarily met by the Clark Canyon Reservoir and Beaverhead River, which supply the East Bench Canal, West Side Canal, and ditches throughout the valley. As a result of drought and increasing irrigation demands, there has been an increase of high-volume production wells since the mid-1990s. Applications for well permits have resulted in conflicts between senior and junior groundwater and surface-water rights holders. A primary concern is that groundwater withdrawals will result in stream depletion by inducing flow away from the stream or by capturing stream recharge. Several hydrogeologic studies were previously conducted in the Beaverhead River valley but none provided adequate information for the west side of the Beaverhead River valley north of Dillon.

This investigation will provide more detailed hydrogeologic information in order to better understand the effects of pumping high capacity wells on groundwater and surface water. Data collection will include well and test-hole drilling, aquifer testing, water-chemistry sampling and monitoring groundwater and surface-water. A numerical groundwater model will be used to predict impacts of groundwater development on the Beaverhead River and its tributaries and stream depletion mitigation scenarios. The final products will be a publically available report and several web-based project maps, and the groundwater model. GWIP results will provide land owners and regulatory personnel with scientific information to help make informed water management decisions that provide a balance between further development and protection of water resources.

Current Montana Bureau of Mines and Geology personnel assigned to this project include:

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Montana Bureau of Mines and Geology Ground-Water Investigations Program

The 2007/2008 Water Policy Interim Committee (WPIC) recognized that competition for water resources and the lack of detailed information on groundwater/surface-water interaction has challenged water-resource management and development in Montana. The WPIC found that "continued and expanded study of ground-water resources is vital to shaping statewide policy as well as providing the data necessary for local decisions regarding water."

To that end, the **Ground-Water Investigations Program (GWIP)** was established to provide specific scientific information on important water resource issues, including:

- stream depletion from groundwater development by new withdrawals,
- cumulative effects of existing and proposed water development,
- groundwater/surface-water response to changes in irrigation practices,
- implementation of aquifer storage and recovery (ASR) in Montana, and
- evaluating potential mitigation/offset plans in closed basins.

A typical groundwater investigation will involve the compilation of existing data, drilling of test/monitoring wells, aquifer testing, water quality sampling, stream flow analyses, and extensive modeling of groundwater, surface water, and chemistry

Highlights of HB 52 (61st Legislature):

- Directs the Ground-Water Assessment Steering Committee to prioritize sub-basin investigations based on anticipated growth in housing, agriculture, industry, and commercial activities.
- Directs the Montana Bureau of Mines and Geology to conduct 1 to 3-year focused investigations of groundwater and surface water in the prioritized areas.
- Funding for 5 to 7 investigations each biennium starting July 1, 2009. There are currently 37 potential sites identified (see map on reverse side).

Ground-Water Investigation Program Products:

Each sub-basin investigation product will include:

- A detailed report that describes the hydrogeologic system
- Models that simulate hydrogeologic features and processes
- A comprehensive set of hydrogeologic data available online

Each project will be a focused investigation of groundwater and surface water in a sub-basin of sufficient size to construct models and a detailed report of the investigation. The models, reports, and supporting data will be technical in nature and used directly by scientists and engineers representing agencies, senior water-right holders, new applicants, and other stakeholders.

Ground-Water Assessment Steering Committee includes:

Four voting members from:

Department of Agriculture
Department of Natural Resources and Conservation
Department of Environmental Quality
State Library, Natural Resource Information System

Ex-officio members from numerous other interested agencies and interests.

For more information, visit the MBMG website:
<http://www.mbmgt.mtech.edu/gwip/gwip.asp>

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