

**SUPPORTING SCIENCE-BASED WATER  
MANAGEMENT FOR MONTANA**

The Ground Water Investigation Program (GWIP), established by the 2009 Legislature (HB 52), applies scientific research to answer the most urgent water issues in Montana.

**Current topics of investigation include:**

- The effects of changing to more efficient irrigation methods (i.e., converting from flood to pivot irrigation) on groundwater availability and surface-water flows
- Aquifer and stream response to changing land use from irrigated agriculture to residential development
- Hydrogeologic viability of replacing surface-water diversion points with irrigation wells
- Groundwater sustainability in response to increasing residential, irrigation, and commercial development
- Changes in water quality due to increasing subdivisions
- Groundwater availability of buried river channel aquifers



*Collecting drill cuttings to identify aquifers in the Flathead Valley.*

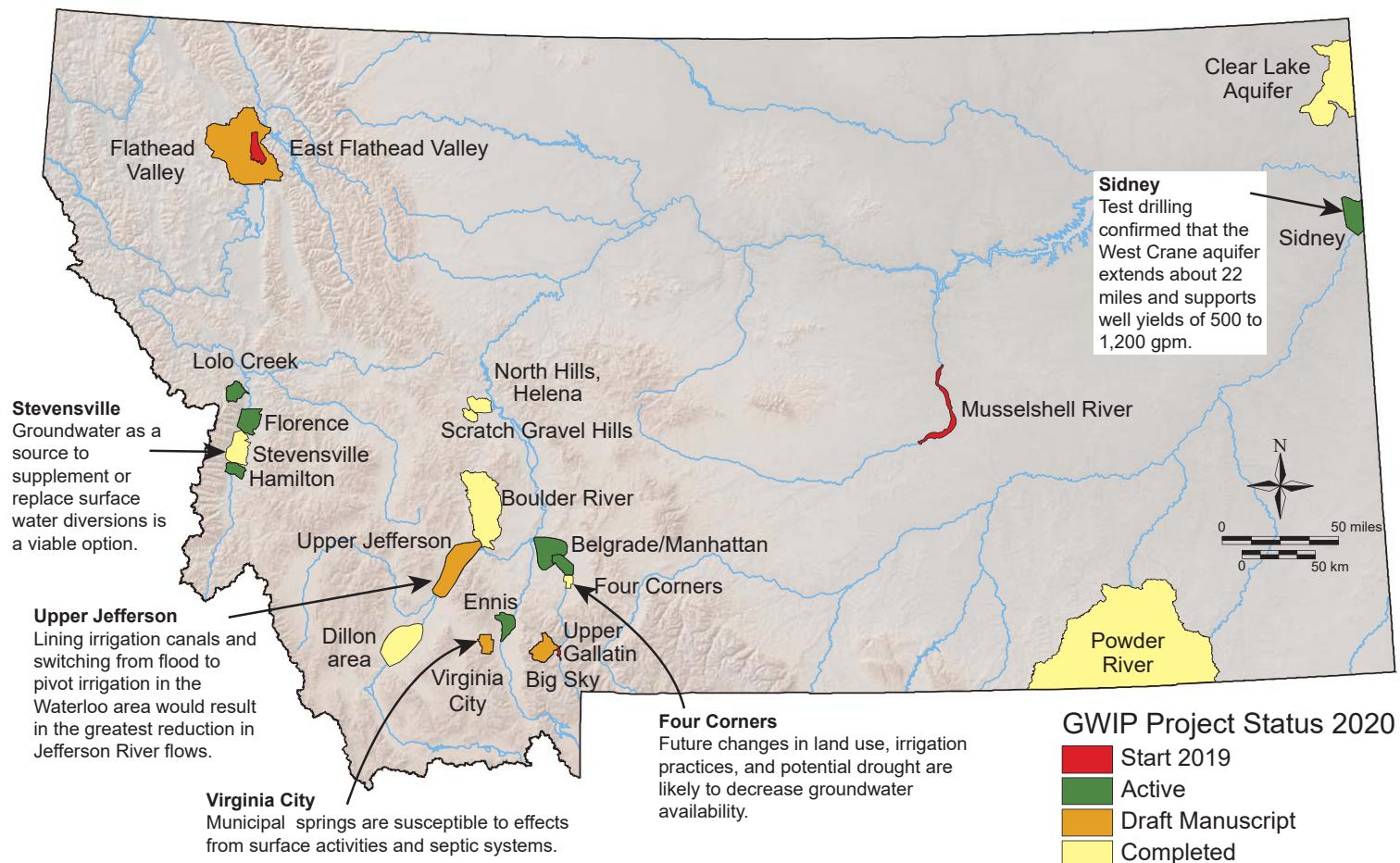
To date, over 85 projects have been nominated and prioritized by the Ground Water Steering Committee. Results of GWIP projects have been used in water rights permit decisions, water resource development, and county planning.

**Latest Projects:**

- **Musselshell River** (Musselshell and Petroleum Counties)—Investigate the sources of salinity in the lower Musselshell River. High-salinity irrigation water can result in crop yield loss, degraded soils, and groundwater.
- **East Flathead Valley** (Flathead County)—Evaluate sustainable new groundwater development and groundwater/surface-water interaction. Conflicts over water rights occur because of the lack of information.
- **Upper Gallatin Corridor** (Gallatin County)—Determine the effects of increased residential and commercial development on water availability and quality.

**For more information: [mbmg.mtech.edu/gwip/gwip.html](http://mbmg.mtech.edu/gwip/gwip.html)**

## Water Management Tools for Montana



## Water-Related Education and Outreach

The public receives results in reports, presentations, and individual questions to the scientists:

- Over 20 peer-reviewed MBMG reports have been published to date.
- Computer models of site-specific groundwater flow are available to the public for continued use.
- Scientists are available to the public for questions and presentations.
- Comprehensive set of hydrogeologic data for each site are permanently stored online.



**January 27, 2020:** Upper Jefferson River study:  
“With the completion of the upper Jefferson River Groundwater Investigation there now is definitive information on the potential impacts, and key areas of concern.”



### Water Wisdom: Mining for Water



**Jul 30, 2020:** Researchers from the Montana Bureau of Mines and Geology conducting groundwater studies in Gallatin Canyon. Photo courtesy of the Gallatin River Task Force.