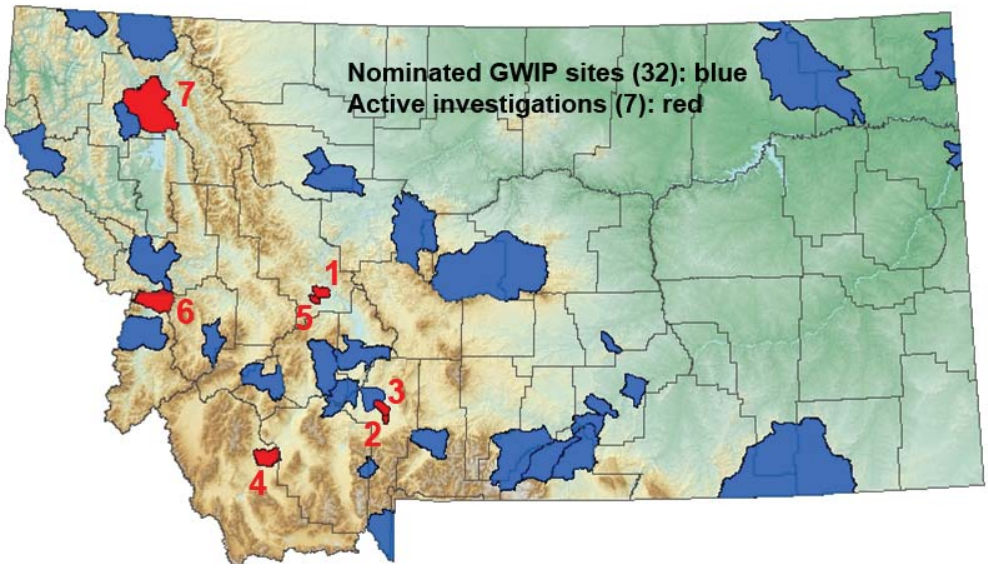
Ground Water Investigation Program

The Ground Water Investigation Program (GWIP) was established by the 61st Montana Legislature through House Bill 52. This bill was prepared by the 2007/2008 Water Policy Interim Committee (WPIC) in recognition 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."



Program Status:

Thirty-nine projects were nominated and prioritized by the Ground-Water Assessment Steering Committee based on land use changes and anticipated growth in housing, agriculture, industry, and commercial activities. Seven sites have been selected for the current biennium, and the projects for those sites are underway. Each investigation is expected to take from 1 to 3 years to complete.

Program Products:

The final products for each sub-basin investigation are expected to include:

- A detailed report that describes the hydrogeologic system,
- A computer model that simulates hydrogeologic features and processes, and
- A comprehensive set of hydrogeologic data available online.

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.

Current Investigations:

1) North Hills area, Helena—Increasing groundwater development by subdivisions in this area raises the concerns of impacts to water-rights holders by declining water levels, and possible impacts from use of individual septic systems in dense housing developments.

2) Four Corners area, Bozeman—The possible hydrologic effects of land-use conversion from irrigated agriculture to high-density residential have raised questions concerning both water quality and water availability and groundwater/surface-water interaction.

3) Belgrade—In the area between Belgrade and the West Gallatin River, shallow groundwater in connection with the surface-water systems may be impacted by withdrawals and by nitrates due to continuing subdivision pressures.

4) Lower Beaverhead River West, Dillon—The increased number of high-volume production wells since the mid-1990s has caused concerns for senior water-rights holders and raised the issue of possible stream depletion by induced flow away from the stream or capture of stream recharge.

5) Scratchgravel Hills, Helena—Increased subdivisions and declining water levels have been observed in some parts of this project area, indicating a need to better quantify aquifer recharge and withdrawals.

6) Florence—Increasing population density in the Bitterroot Valley has increased the demand on the aquifer and the possibility of induced contamination of drinking water by septic waste drainage.

7) Flathead Valley Deep Confined Aquifer—The increase in high-capacity municipal and irrigation wells, domestic wells, and localized water-level declines in the deep aquifer have raised concerns about the long-term sustainability of this water supply.

Visit the website (*http://www.mbmg.mtech. edu/gwip/gwip.asp*) for more details about the GWIP program.