

GROUND WATER INVESTIGATION PROGRAM

Montana Bureau of Mines and Geology

General Information for submitting a GWIP project nomination

The Montana Bureau of Mines and Geology's Ground Water Investigation Program (GWIP) investigates site-specific water-resource issues throughout Montana. Candidate projects are prioritized by the Ground Water Assessment Steering Committee (GWSC) prioritizes GWIP project nominations (MCA [85-2-525](#)). The GWSC consists of representatives from state agencies and units of government that have management responsibilities related to groundwater, and organization/groups as specified in MCA [2-15-1523](#).

Nominated projects have included:

- Cumulative effects of existing and proposed water development on groundwater and stream flow,
- Impacts to groundwater and surface water from changes in irrigation practices or land use,
- Groundwater availability for residential and agricultural development
- Possible impacts of energy development on groundwater resources,
- Implementation of aquifer storage and recovery (ASR), and
- Evaluation of mitigation/offset plans in closed basins.

Each investigation is expected to take between 1 and 3 years to complete, depending on the complexity. The results of projects will typically include:

- A detailed report that addresses the nominated issues,
- Numerical models that simulate hydrogeologic features and processes, and
- A comprehensive set of hydrogeologic data available through the MBMG Ground Water Information Center (GWIC).

Projects may be nominated by any individual or group. But to avoid duplication of effort we do encourage coordination through local or state water-resources groups such as your local county or conservation district, the Montana Association of Counties (MACo) or Montana Association of Conservation Districts (MACD).

More information about the program and updates on active and completed projects are available at the GWIP web site:

<http://www.mbmgs.mtech.edu/WaterEnvironment/GWIP/main.asp>.

If you have any questions, contact Ginette Abdo (gabdo@mtech.edu; 406-496-4152), GWIP Program Manager, or Chris Boe, (cboe@mt.gov ; 406-444-6752), GWSC Chair.

Ground Water Investigation Program 2021 Project Nomination Timeline

The timeline presented below includes the key dates in the submittal, review and ranking of projects. If you have any questions, contact Ginette Abdo (gabdo@mtech.edu; 406-496-4152), Ground Water Investigation Program (GWIP) Manager, or Chris Boe, (cboe@mt.gov; 406-444-6752), Ground Water Steering Committee (GWSC) Chair.

Activities are completed on or before the indicated dates

ON or BEFORE:

- March 5:** Requests for GWIP project nominations are distributed jointly by the GWSC and GWIP.
- June 1:** Nomination packages are returned to GWIP by the project sponsors.
- September 1:** GWIP prepares project summaries and the draft-ranking matrix (excluding the GWSC discretionary points). If necessary, GWIP will seek additional input from sponsors.
- The GWSC voting and ex-officio members are sent the project nomination documents and the draft-ranking matrix.
- October 1:** The GWSC voting and ex-officio members review the proposals; create their individual project ranking based on their experience and the contingency they represent, and submit project comments to the GWSC Chair.
- November 1:** An informational public meeting is held to discuss the projects. At least one week prior to the public meeting, project sponsors will be sent the project summaries and draft-ranking matrix.
- During the meeting GWIP provides a summary of each project, project sponsors are invited to provide commentary and answer questions from the GWSC.
- November 15:** The GWSC voting members reconvene at a separate ranking meeting to assign discretionary points based on their professional judgement, directives from their perspective agencies, information from the ex-officio members and the public, and other pertinent information.
- November 22:** The project ranking is publicized.

The GWSC prioritizes the projects based on the information supplied by the applicant (Required Information for GWIP Nominations, below) and the Ranking Criteria (below). Prior to the GWSC informational public meeting, the GWIP manager will evaluate the available GWIP resources and estimate how many projects GWIP might reasonably investigate during the next cycle. The GWSC will approve the appropriate number of projects for the upcoming GWIP workload. If GWIP does not complete all of the approved projects prior to the next round of ranking, the approved but not initiated projects will move to the top of the next-cycle ranking list and the future approved work load decreased to accommodate these carry overs. In the event GWIP completes the approved investigations prior to the next scheduled round of ranking, the Committee can re-evaluate the existing list of lower-ranked projects and move one or more into the approved category.

Required Information for GWIP Nominations

Applicants are required to provide information in seven categories (listed below). The nomination is limited to [three](#) pages of text that provides information to rank the project. Include figures and tables in an appendix.

Note that each GWIP project requires landowner access to collect data needed for hydrogeologic interpretations and the success of a project. The project sponsor may be required to assist with site access permissions. Lack of access can result in discontinuing a project even after it is underway.

1) Defined Project Purpose

Submit a concise statement of the water issue and investigation question, as related to current and anticipated growth in agriculture, industrial, housing and/or commercial activity (MCA 85-2-525). Identify permit applications for the development of water rights and the timing of adjudication, if it relates to the project question, in the project purpose statement. Typically, the length of the project purpose statement with the succinct investigation question should be no more than one paragraph.

2) Study area

Include a scaled map with the proposed project boundaries. A workable study area size depends on the nature of the investigation question and water issues in the project area. For example, detailed hydrogeologic investigations related to groundwater/surface-water interactions should generally be less than 25 square miles. Focused investigation questions or efforts regarding some specific element of a basin water budget or aquifer system might encompass larger areas. Generally, larger study areas result in less resolution in the results.

3) Overview and magnitude of the problem

Specifically state if the project is being nominated for water issues related to current and anticipated growth of:

- a. Agriculture
- b. Industry
- c. Housing/subdivisions, or
- d. Commercial activity

In your discussion, present credible information supporting why the project is being nominated on the selected issue(s) stated in a – d above. Specify the source(s) of information that supports the nomination issue(s).

Provide background on the proposed investigation question, what has led up to the problem, current status of concern, be specific. Cite references of previous work within the proposed study area.

4) Uses of the Project Results

How does the project sponsor plan to use the results provided by this GWIP investigation? Be specific.

Include any other ancillary or secondary uses of the project results.

5) Technical Urgency

Address how urgent and timely from a technical viewpoint the proposal is with regards to how GWIP results relate to any pending water resource permits, other water management decisions etc. Include pertinent information such as dates of pending water right applications, timelines related to water management decisions or other time frames related to growth factors in housing, agriculture, industrial and /or commercial components of the nomination. This will help determine whether pending water management decisions fall within the GWIP timeline for project completion.

6) Supports Local, State, or Federal Water Plans

Describe how the project relates to Local, State or Federal water plans. Provide specifics to how the nominated project supports each respective plan.

Plans may include, but are not limited to:

- The Montana State Water Plan, http://dnrc.mt.gov/divisions/water/management/docs/state-water-plan/2015_mt_water_plan.pdf;
- Water Quality Improvement Plans (or TMDL Reports), <https://deq.mt.gov/water/surfacewater/TMDL> ;
- Watershed Restoration Plans, <https://deq.mt.gov/Water/SurfaceWater/WatershedRestoration>;
- Forest Service Management Plan, <https://www.fs.usda.gov/main/planningrule/101>.

7) Complimentary Investigations and Project Support

Specify other ongoing investigations in the project area and how GWIP data/results can complement that research. List cooperators on a local and state level such as conservation districts, watershed groups, local government, and/or other entities, etc.

8) Appendices

Include any figures, maps, tables cited in 1 – 8 above.

The Ranking Criteria

The Ranking Criteria listed below are used by the GWSC to prioritize projects. Projects are prioritized based on the sum of the ranking criteria scoring.

Do not add comments or input in the Ranking Criteria section, use it as an information guide to complete the seven categories in the Nomination Package.

Note: If the project purpose and the geographical area are not appropriate for a GWIP investigation and the water issue and area can be refocused to a GWIP question, MBMG will work with the sponsor to revise the project nomination.

Criteria

1. Is the water issue related to the current and anticipated growth of the following activities:

a. Agriculture

- Yes
- No

b. Industry

- Yes
- No

c. Housing/subdivisions

- Yes
- No

d. Commercial

- Yes
- No

2. Is the project purpose and the geographical area appropriate for a GWIP investigation?

- Yes
- No

3. Designated Closed Basin or Open Basin with Closed Basin Issues (Score: 0 or 2)

In basins where there is no water legally available for new appropriation (closed basin), the score is based on comparing the nominated study area to the Department of Natural Resources and Conservation (DNRC) Montana Basin Closures map (<http://dnrc.mt.gov/divisions/water/water-rights/montana-basin-closures>). Open basins experiencing issues similar to closed basins are identified in the DNRC State Water Plan River Basins Plans for the Clark Fork and Kootenai, Yellowstone, Upper Missouri, and Lower Missouri River Basins (<http://dnrc.mt.gov/divisions/water/management/regional-river-basin-information>).

- Score 2: Project is in a closed basin or an open basin in an area experiencing closed basin issues.
Score 0: Project is not in a closed basin and is not experiencing legal availability issues.

4. Controlled Groundwater Area (Score: 0, 1 or 2)

Controlled groundwater area location and status is based on information from the project sponsor and DNRC based on pending petitions and temporary controlled groundwater area designations.

- Score 2: Project is within the boundary of a pending controlled groundwater area petition.
Score 1: Project is within a temporary controlled groundwater area.
Score 0: Project is located outside active pending petition or temporary controlled groundwater area.

5. Impaired Surface-Water Quality and Flow (Score: 0, 1 or 2)

The score is based on information provided in the nominating package, available public data (for example the Montana State 303(d) TMDL list from DEQ) committee members, and scientific research.

- Score 2: There has been a documented impact to surface-water quality and/or flow and a groundwater pathway; it is the reason the project is nominated.
Score 1: a. There is a suspected threat to surface-water quality/flow, and a groundwater pathway is likely. The project would aid in understanding the threat, or
b. There is a documented impact to water quality/flow, however, the project was not nominated for the impairment, but would provide information to aid in understanding the impairment or threat.
Score 0: a. There is no known surface-water quality or flow impact, or threat, or
b. There is a documented impact to surface water-quality/flow but the project does not address the impairment nor provide any further interpretation to resolve the impairment.

6. Impaired Groundwater Quality and Quantity (Score: 0, 1 or 2)

The score is based on information provided in the nominating package, databases, committee members, and scientific research.

- Score 2: There has been a documented impact to groundwater quality and/or quantity, and it is the reason the project is nominated.
Score 1: a. There is a suspected threat to groundwater quality/quantity. The project would aid in understanding the threat, or
b. There is a documented impact to groundwater quality/quantity, the project was not nominated for the impairment but would provide information to aid in understanding the impairment or threat.
Score 0: a. There is no known groundwater quality or quantity issues, or suspected threats, or
b. There is a documented impact to groundwater quality/quantity but the project does not address the impairment and would not provide any further interpretation.

7. Project Approach and Transferability of Information (Score: 0, 1 or 2)

This criterion is based on the type of water resource question, the hydrogeologic approach, and the transferability of information to other areas in the State.

- Score 2: Project question is new to GWIP and will utilize innovative hydrogeologic approaches to answer the project question.
- Score 1: a. The GWIP question has been investigated before and will utilize a new approach because of the hydrogeologic setting and/or new hydrogeologic techniques.
b. The project question is new to GWIP, uses traditional hydrogeologic approaches and is transferable to other areas.
- Score 0: Project question has been investigated before and can be answered using a known hydrogeologic approach.

8. Ground Water Steering Committee Input (Score 0 to +3)

Steering Committee membership (MCA [2-15-1523](#)) is based on expertise on water issues across the state.

Voting GWSC members may choose to assign additional scoring points based on

- **Professional judgment,**
- **Directives of their agencies,** and
- **Additional information,** such as
 - input from GWSC ex-officio members
 - water permit applications in the project area
 - census data
 - ongoing or complimentary projects in the study area
 - likelihood of using project results
 - value of project results
 - number of subdivision lots in the past 5 years
 - considerations regarding Local, State or Federal water plans
 - other information, as appropriate.

9) Efficiency of effort (Score: 0 or 1)

If an adjacent and related study area is nominated where the GWIP program can combine field work and analysis, efficiency in effort can be realized. Efficiency of effort also includes those areas where existing data and previous publications provide an initial hydrogeologic framework for data collection and interpretation.

- Score 1: Project meets the criteria described above for *efficiency of effort*.
- Score 0: There is no efficiency of effort.