



# FISCAL YEAR 2020 WORK PLAN

GALLATIN LOCAL WATER QUALITY DISTRICT

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DISTRICT MANAGER

APPROVED MAY 2, 2019

# Gallatin Local Water Quality District Mission

*To protect, preserve, and improve the quality of surface water and groundwater.*

## Purpose

This work plan outlines the Gallatin Local Water Quality District's projects and activities for Fiscal Year 2020 (July 1, 2019 through June 30, 2020); many of which were identified through a prioritization process with the Board of Directors in March 2019. The work plan also aligns with the District's Five Year Strategic Plan (Fiscal Years 2020 through 2024) adopted by the Board of Directors March 7, 2019. The strategic plan is available on the District website at [www.glwqd.org](http://www.glwqd.org).

## Program Approach

The District covers 1,299 square miles within Gallatin County. It includes the incorporated areas of Belgrade, Bozeman, and Manhattan; and the unincorporated communities of Amsterdam, Churchill, Four Corners, Gallatin Gateway, and the Gallatin County portion of Big Sky (Figure 1).

A watershed perspective is used to plan and carry out District activities. Water resources do not adhere to property or political boundaries. Therefore, to aid in meeting the District's mission, programs and activities are based on a watershed perspective. Using this approach, the flow system is viewed as an interconnected whole rather than focusing on groundwater and surface water as separate resources.

Staff operate under the general philosophy that the District is a place where citizens can receive satisfactory answers to questions related to water resource issues. The District strives to be a clearinghouse for information, and assist citizens with contacting other agencies and organizations as needed. This same level of service is extended to local organizations and governmental agencies.

The District is a non-regulatory entity of Gallatin County and does not administer or enforce any local governmental ordinances, rules, or regulations pertaining to water quality. The District may be indirectly involved in regulatory issues by providing information, data, technical assistance, or comments to other agencies or organizations, when the regulatory issue(s) pertain to water resources within the District; and the regulatory activities may have an impact on the District's mission to protect, preserve, and improve water quality.

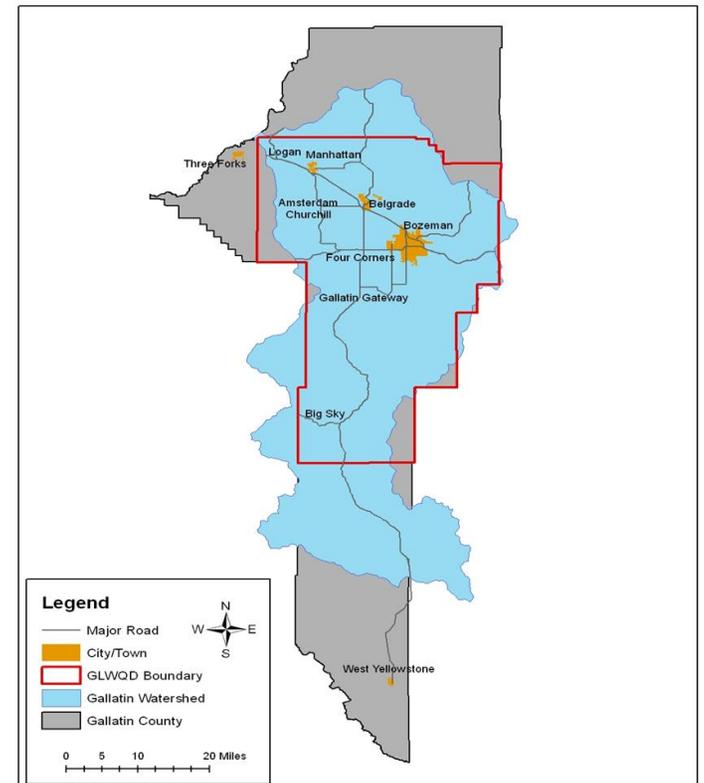


Figure 1. Location of the Gallatin Local Water Quality District, Gallatin County, Montana.

While District programs do not include development of local regulations, this does not preclude other agencies or interested organizations from developing regulations based on data or information collected by the District.

When local citizens reach out to District staff with valid complaints regarding water-related issues, staff will provide citizens with contact information for the appropriate local, state, or federal agencies responsible for enforcement of regulations designed to protect water resources. If data collected by the District indicates that water resources are threatened by activities that appear to be in violation of existing rules or regulations enforced by other agencies, the District will notify the enforcing agency of the concerns and provide any existing data requested by the enforcing agency. However, the District will not specifically collect data for an enforcement agency related to a specific potential violation.

## Fiscal Year 2020 Priorities and Ongoing Activities Overview

Priorities for Fiscal Year 2020 were identified and prioritized by the Board of Directors and District staff to coincide with strategies outlined in the recently approved five-year strategic plan that will meet District goals and objectives.

Projects and activities have been identified that are anticipated to be achieved within the limits of staff time and budget. Estimates of staff effort and other costs (materials/supplies, equipment, and travel) are included for each activity.

### Approximate Effort (staff time, 1 FTE = 160 hr/month):

-  Less than 1 month FTE effort
-  ~ 1 month FTE effort
-   ~ 1-2 month FTE effort
-    ~ 2-3 month FTE effort

### Calculations to Note:

40 hr/wk x 52 wk/yr = 2080 hr = 1 FTE  
2080 hr/yr x 3 FTE = 6240 hr/yr available.

### Approximate Maximum Cost (equipment, materials/supplies, fuel):

- \$ Less than \$1,000
- \$\$ ~ \$1,000 - \$5,000
- \$\$\$ ~ \$5,000 - \$10,000
- \$\$\$\$ Greater than \$10,000

## Status Updates

Updates on progress toward achieving work plan activities will be presented to the Board of Directors in December 2019 and June 2020.

**PRIORITY AREA MONITORING AND RESEARCH OF WATER RESOURCES**

**GOAL:** *Collect and analyze water data and implement monitoring projects that evaluate, protect, and improve long-term water quality*

**Objective 1**      **Sustain and improve data collection activities in the District-wide water monitoring networks**

**Background**

The District has established monitoring networks for groundwater and surface water so trends in water quality and availability can be documented; especially in relation to land use changes. As the datasets for these networks continues to grow, the District will be able assess water quality issues of concern.

The groundwater monitoring network is maintained and monitored in cooperation with the Montana Bureau of Mines and Geology (MBMG) Statewide Groundwater Assessment Program (GWAP) and consists of 64 wells that include 38 monitoring wells owned and/or maintained by the District and a mix of 26 monitoring and domestic wells that are part of the MBMG statewide network. Water-level probes (data loggers) are maintained by the District in 26 of the wells; measuring water level and temperature. Water chemistry sampling of the District groundwater wells in the network is on a five-year schedule and sampling is not scheduled for this fiscal year.

The surface water monitoring network was established in FY18. It consists of 16 monitoring stations in the Lower Gallatin Watershed. Water chemistry sampling is conducted annually at 8 stations on an alternating schedule. Macroinvertebrate sampling is being conducted annually for the first 3 years to establish baseline conditions; then sampling will occur every 5 years. Thirteen stations in the network will be instrumented in FY20 with data loggers for continuous stage measurement; which is important for interpreting grab sample data and creating hydrographs. The Gallatin Conservation District Natural Resource Specialist and citizen scientists from the Gallatin Stream Teams Volunteer Monitoring Program will assist with monitoring activities. The District was awarded a MT Department of Natural Resources Watershed Management Grant (Contract #19-0061) to implement several important components of the surface water monitoring network plan through FY20. This includes staff time for collecting water level data, conducting stream flow measurements, and developing rating curves and hydrographs for the 13 instrumented monitoring stations.

Activities		Jul-Dec 2019		Jan-Jun 2020		Time (est.)	Cost (est.)
		Q1	Q2	Q3	Q4		
1.1	Collect quarterly static water level measurements (this includes MBMG GWAP wells in the District) and data logger downloads from groundwater network wells; and monthly measurements and data logger downloads at a subset of network wells.						\$
1.2	Collect water and macroinvertebrate samples; conduct flow measurements and perform data logger downloads at surface water monitoring stations as outlined in the network quality assurance project plan and the DNRC WMG Contract #19-0061.					 	\$\$\$

<b>Objective 2</b>	<b>Conduct and participate in objective-based research to assess emerging community water quality issues</b>						
<b>Background</b>	<p>The District seeks to collaborate and cooperate with partners on water quality and quantity research projects. These efforts are critical to better understand water resources in the District. The Big Sky Meadow Village Water Quality Sampling Plan, approved by the board in FY2018, is a 10-year plan to conduct inorganic and nutrient monitoring on 8 monitoring wells in cooperation with the Big Sky Water and Sewer District.</p> <p>A review of long-term nitrate data from public water supplies in the District appear to indicate an increasing trend in nitrate concentrations in groundwater. Understanding nitrate sources and whether or not high density subdivisions up-gradient of public water supplies may have a long-term impact on groundwater quality is needed to inform PWS operators and decision-makers as development continues in the county. Developing a project proposal, and exploring opportunities and partnerships to implement a monitoring project is the next step. The project will likely involve collaborating with others to seek outside funding for implementation.</p>						
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
<b>2.1</b>	Conduct groundwater nutrient monitoring in the Big Sky Meadow Village following the board-approved sampling plan.					🕒	\$\$
<b>2.2</b>	Develop a proposal to investigate groundwater quality trends related to onsite wastewater treatment systems in high density subdivision areas and the relationship to nitrate trends in public water supplies downgradient.					🕒 🕒	\$

<b>PRIORITY AREA EDUCATION, OUTREACH, AND COMMUNITY ASSISTANCE</b>							
<i>GOAL: Improve public awareness and understanding of local water quality, water resources, and the District</i>							
<b>Objective 1</b>		<b>Provide water education opportunities to youth</b>					
<b>Background</b>		The youth of today are the leaders of tomorrow. Participating in and providing hands-on learning opportunities about our local water resources is an important role of the District in our community.					
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
1.1	Host and staff the water booth at the Gallatin Valley Farm Fair.					☞	\$
1.2	Participate in water-related activities, as requested and availability allows, at local schools, summer camps, and festivals.					☞	\$
<b>Objective 2</b>		<b>Enhance community awareness of local water quality and quantity trends</b>					
<b>Background</b>		Many activities identified within this objective are components of work plans every year. The development of a water quality index is specific to the District's DNRC Watershed Management Grant contract (#19-0061). The index will be developed for use as an outreach tool to help the public understand the status of water quality and quantity in the watershed as the District continues to collect data from the surface water network. Once developed for the grant contract, the index could serve as a template for a groundwater quality index in future years.					
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
2.1	Develop a water quality index (DNRC WMG Contract #19-0016) for use with the surface water network; make it accessible on the website and other outreach materials.					☞ ☞	\$
2.2	Coordinate with Environmental Health Services Music on Main Booth.					☞	\$
2.3	Plan, coordinate and conduct Well Awareness Courses.					☞	\$
2.4	Incorporate the Custer Septic Assessment data and information into the final District interactive mapper and website.					☞	\$

<b>Objective 3</b>		<b>Develop and deepen community relationships that will sustain existing and drive new projects that improve water quality</b>					
<b>Background</b>		Activities and projects that improve water quality have a greater chance of success when implemented through collaborative partnerships at all levels; from the individual landowner to the federal entity. Fostering relationships across this spectrum is the foundation for future action. Reaping the benefits of these efforts can take years. The District will continue to build upon existing partnerships and facilitate opportunities for stakeholders in the watershed to cultivate efforts that lead to improved water quality.					
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
3.1	Partner with Greater Gallatin Watershed Council Watershed Stewards Program. This includes: assisting with annual training of Gallatin Stream Teams volunteers for the District surface water monitoring network.					🕒	\$
3.2	Actively engage in efforts with committees/organizations: Association of Gallatin Agricultural Irrigators, Gallatin Conservation District, Gallatin River Task Force Headwaters Alliance Partners, Greater Gallatin Watershed Council, NRCS-Bozeman Field Office, and others as opportunities arise.					🕒	\$
3.3	Serve as local facilitator for the Montana State University Extension Water Quality Well Educated Program.					🕒	\$
3.4	Facilitate the Gallatin Watershed Network.					🕒	\$
<b>Objective 4</b>		<b>Provide technical assistance on water quality to decision makers and stakeholders</b>					
<b>Background</b>		The District provides comments related to water for subdivision applications for the County Planning Department on a regular basis. These comments are provided to evaluate water-related data and any potential impacts to water resources along with any potential means of mitigation of adverse impacts. Reviews are non-regulatory in nature. Approximately 15-25 applications are reviewed by staff annually.					
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
4.1	Conduct subdivision reviews, as requested by the County Planning Department following the District's Subdivision Review Policy.					🕒	\$

<b>Objective 5</b>	<b>Increase awareness of District Services, Mission, and Value in the Community</b>								
<b>Background</b>	The District has been in existence over 20 years, yet few residents probably know this. As the county continues to grow, fewer residents are likely to be familiar with the District and its function. Efforts to improve visibility in the community are in the early stages. A first step is to prepare and disseminate information about the District and services provided by utilizing a variety of diverse media outlets.								
<b>Activities</b>				<b>Jul-Dec 2019</b>		<b>Jan – Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
				<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
<b>5.1</b>	Maintain the District website to ensure it remains relevant and up-to-date.							☺	\$
<b>5.2</b>	Design and Install signage at high visibility surface water monitoring stations promoting the District’s water quality data collection efforts as outlined in the District’s DNRC Watershed Management Grant Contract #19-0016.							☺	\$
<b>5.3</b>	Prepare annual report highlighting District services and activities accomplished for FY19; post on District website and work with County Communications Coordinator for social media postings.							☺	\$
<b>5.4</b>	Work with the County Communications Coordinator to coordinate and optimize opportunities for increasing awareness of the District with the Gallatin community.							☺	\$

<b>PRIORITY AREA INFORMATION COLLECTION AND DISSEMINATION</b>							
<b>GOAL: Compile, store, and disseminate water quality data and information</b>							
<b>Objective 1</b>		<b>Compile, store, analyze, and interpret water data to assess and prioritize water quality issues</b>					
<b>Background</b>		Making sure that data collected is reliably stored for long-term use is crucial. GLWQD intends to be the central repository for water quality data in the Gallatin Watershed. This is accomplished by maintaining and populating internal databases and providing that data to partners for inclusion in their databases (MBMG GWIC, DEQ eWQX). Allowing time for pursuing novel inquiries of these datasets will enable District staff to identify needs for future research and monitoring.					
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
<b>1.1</b>	Populate and maintain water quality data from District groundwater projects and the MSU Well Educated Program in the District's groundwater database.					 	\$
<b>1.2</b>	Staff utilize time per individual work plans to analyze datasets from District monitoring networks and other available data sources to assess and identify water quality issues of concern for future research and monitoring efforts.					 	\$
<b>Objective 2</b>		<b>Make water data publicly available and accessible</b>					
<b>Background</b>		The public can always contact District staff with specific data inquiry needs. However, it is important that every effort be made to ensure water quality data housed at the District is available and easily accessible to the community.					
<b>Activities</b>		<b>July-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
<b>2.1</b>	Collaborate with Montana Bureau of Mines and Geology to develop and implement a procedure for uploading continuous stream flow and water quality data into the Surface Water Assessment & Monitoring Program (SWAMP) database. (DNRC WMG #19-0061)						\$
<b>2.2</b>	Publish and maintain the interactive water quality mapper on the County and District websites.						\$

<b>PRIORITY AREA ORGANIZATIONAL CAPACITY AND QUALITY SERVICE</b>							
<b>GOAL: Maintain sustainability of the District's activities and serve the rapidly growing Gallatin community</b>							
<b>Objective 1</b>	<b>District fee and budgetary structure support organizational goals</b>						
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
<b>1.1</b>	Work with the Treasurer's Office to ensure the District Fee is being applied appropriately and accurately for all Fee Assessed Units within the District boundary.					☞	\$
<b>1.2</b>	Evaluate revenue-expenditure projections during annual budget process.					☞	\$
<b>1.3</b>	Develop and implement a Capital and General Equipment Replacement Plan.					☞	\$
<b>Objective 2</b>	<b>Ensure team member capacity aligns with District workload</b>						
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
<b>2.1</b>	Identify a method for tracking hours spent on projects and activities and implement.					☞	\$
<b>2.2</b>	Include estimates of effort and cost for projects and activities in work plans.					☞	\$
<b>Objective 3</b>	<b>Encourage professional development</b>						
<b>Activities</b>		<b>Jul-Dec 2019</b>		<b>Jan-Jun 2020</b>		<b>Time (est.)</b>	<b>Cost (est.)</b>
		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>		
<b>3.1</b>	Staff actively engage in annual MT Section American Water Resources Association Conference					☞	\$\$
<b>3.2</b>	Staff participate in annual MT Local Water Quality District Annual Meeting.					☞	\$
<b>3.3</b>	Staff individual work plans incorporate performance measures.					☞	\$
<b>3.4</b>	Conduct monthly individual team member meetings.					☞	\$

## Summary of Staffing Workload and Maximum Estimated Costs for FY 2020 Work Plan

### PRIORITY AREA: MONITORING AND RESEARCH OF WATER RESOURCES

#### Objective 1. Sustain and improve data collection activities in the District-wide water monitoring networks

Activity	Time (hrs)	Max Cost
1.1	160	\$ 1,000
1.2	320	\$ 10,000
	<b>480</b>	<b>\$ 11,000</b>

#### Objective 2. Conduct and participate in objective-based research to assess emerging community water quality issues

Activity	Time (hrs)	Max Cost
2.1	160	\$ 5,000
2.2	320	\$ 1,000
	<b>480</b>	<b>\$ 6,000</b>

<b>Totals:</b>	<b>960</b>	<b>\$ 17,000</b>
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### PRIORITY AREA: EDUCATION, OUTREACH AND COMMUNITY ASSISTANCE

#### Objective 1. Provide water education opportunities to youth

Activity	Time (hrs)	Max Cost
1.1	80	\$ 1,000
1.2	80	\$ 1,000
	<b>160</b>	<b>\$ 2,000</b>

#### Objective 2. Enhance community awareness of local water quality and quantity trends

Activity	Time (hrs)	Max Cost
2.1	320	\$ 1,000
2.2	80	\$ 1,000
2.3	80	\$ 1,000
2.4	80	\$ 1,000
	<b>560</b>	<b>\$ 4,000</b>

#### Objective 3. Develop & deepen community relationships that will sustain existing and drive new projects that improve water quality

Activity	Time (hrs)	Max Cost
3.1	80	\$ 1,000
3.2	80	\$ 1,000
3.3	80	\$ 1,000
3.4	80	\$ 1,000
	<b>320</b>	<b>\$ 4,000</b>

**Objective 4. Provide technical assistance on water quality to decision makers and stakeholders**

Activity	Time (hrs)	Max Cost
4.1	160	\$ 1,000
		<b>160 \$ 1,000</b>

**Objective 5. Increase awareness of District Services, Mission and Value in the Community**

Activity	Time (hrs)	Max Cost
5.1	80	\$ 1,000
5.2	80	\$ 1,000
5.3	80	\$ 1,000
5.4	80	\$ 1,000
		<b>320 \$ 4,000</b>
<b>Totals:</b>	<b>1520</b>	<b>\$ 15,000</b>

**PRIORITY AREA: INFORMATION COLLECTION AND DISSEMINATION**

**Objective 1. Compile, store, analyze, and interpret water data to assess and prioritize water quality issues**

Activity	Time (hrs)	Cost (\$)
1.1	320	\$ 1,000
1.2	320	\$ 1,000
		<b>640 \$ 2,000</b>

**Objective 2. Make water data publicly available and accessible**

Activity	Time (hrs)	Cost (\$)
2.1	160	\$ 1,000
2.2	80	\$ 1,000
		<b>240 \$ 2,000</b>
<b>Totals:</b>	<b>880</b>	<b>\$ 4,000</b>

**PRIORITY AREA: ORGANIZATIONAL CAPACITY AND QUALITY SERVICE**

**Objective 1.**

Activity	Time (hrs)	Cost (\$)
1.1	80	\$ 1,000
1.2	80	\$ 1,000
1.3	80	\$ 1,000
		<b>240 \$ 3,000</b>

**Objective 2. Ensure team member capacity aligns with District workload**

Activity	Time (hrs)	Cost (\$)
2.1	80	\$ 1,000
2.2	80	\$ 1,000
	<b>160</b>	<b>\$ 2,000</b>

**Objective 3. Encourage professional development**

Activity	Time (hrs)	Cost (\$)
3.1	160	\$ 5,000
3.2	80	\$ 1,000
3.3	80	\$ 1,000
3.4	80	\$ 1,000
	<b>400</b>	<b>\$ 8,000</b>
<b>Totals:</b>	<b>800</b>	<b>\$ 13,000</b>

**GRAND TOTAL: 4160 \$ 49,000**

**Calculations to Note:**

40 hr/wk x 52 wk/yr = 2080 hr = 1 FTE

2080 hr/yr x 3 FTE = 6240 hr/yr available.

**ANALYSIS of ANTICIPATED WORKLOAD ON STAFFING for FY 2020:**

Taking into account the following:

\*County holidays, vacation, and sick leave

\*Additional general tasks conducted by staff on a regular basis, which are not identified as a specific work plan activity (example: time spent assisting an individual with a Well Educated test kit, responding to general phone calls and email inquiries, general internal office organizational activities, etc.)

\*Unanticipated tasks that pop-up

The work plan activities for FY 2020 appear to be well within the anticipated work load for 3 FTE.

**ANALYSIS OF ESTIMATED MAXIMUM COSTS FOR WORK PLAN TASKS/ACTIVITIES FOR FY 2020:**

\$ 35,500 Approximate average fixed operating costs (phones, building, liability insurance, administrative fixed costs)

\$ 49,000 Maximum estimated costs for work plan activities

**\$ 84,500** Total Estimated Operating Costs for FY2020.

Budget request for operations is approximately \$87,000. Note, that actually year-end expenditures are less than budget requested.