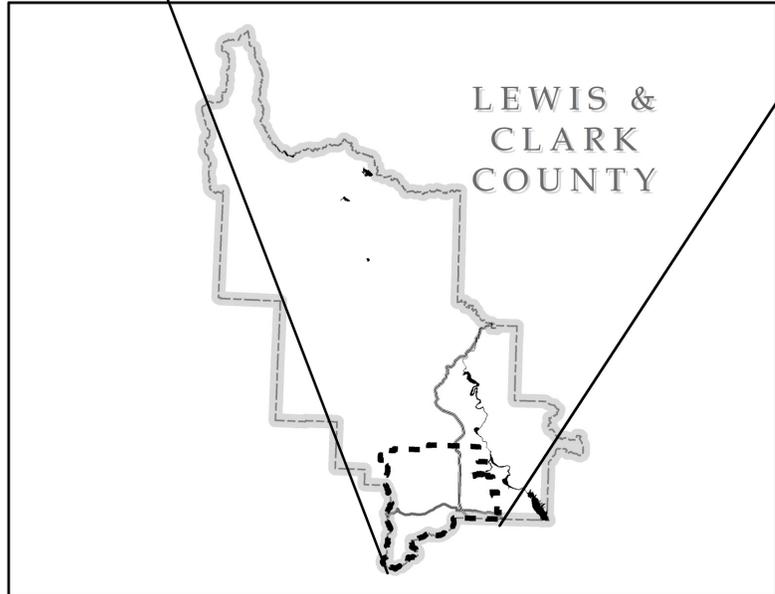
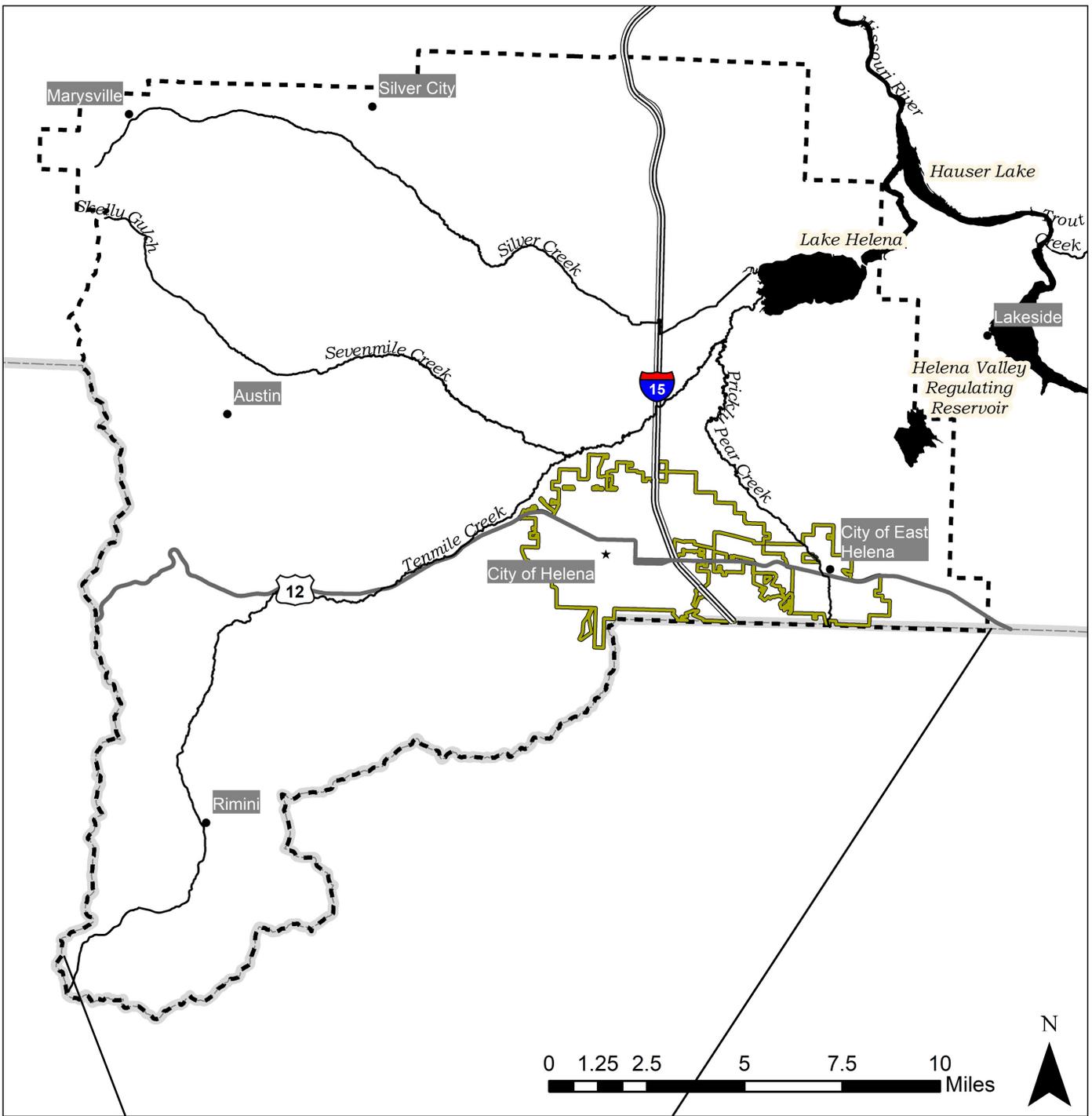


Lewis & Clark County  
Water Quality  
Protection District

# FISCAL YEAR 2020 ANNUAL REPORT

*Our mission is to preserve, protect  
and improve water quality and  
quantity within WQPD Boundaries*





**Water Quality Protection District Facts:**

**Total Acres: ~240,000**

**Total Square Miles: ~370**

**Miles of Stream: ~100**

# Our Values

💧 We strive for **competent, knowledgeable stewardship** of the environment.



💧 We practice **transparent and accountable service**.



💧 We maintain a **culture of leadership, service, commitment, and integrity**.



💧 We **collaborate** with partners, customers, and our community to preserve, protect, and improve water resources.

# Organizational Structure

The WQPD Board is comprised of nine directors, including a Lewis and Clark County Commissioner, a representative of the Helena City Commission, an East Helena City Council representative, a member of the Lewis and Clark Conservation District, a Lewis and Clark City-County Board of Health member, a Helena Citizens' Council representative, and three members of the public at large. Board members as of June 30, 2020 are listed in the table to the right.

## Budget

In FY 2020, the WQPD's budget included revenue from fee assessments of \$370,643.91 and grant funding for special projects of \$41,317.25. Other income of \$2,700 included a contract with the Montana Bureau of Mines & Geology for water level measurement. Total expenditures were \$409,584.28.

## Fees & Personnel

Currently, fees for County homeowners pay \$10.76 a year and resident of Helena and East Helena pay \$8.80 a year. The fee is based upon water usage for city, non-city, commercial and industrial units.

Name	FTE
Environmental Service Administrator	0.150
Water Quality Program Supervisor	1.0
Hydrogeologist	1.0
Water Quality Specialist	1.0
Outreach Educator	0.350
Environmental Technician	0.350
Administration Support Staff	0.060

Name	Representing	Term
Susan Good Geise	Board of County Commissioners	BOCC Pleasure
Jamie Schell	East Helena City Council	EHCC Pleasure
Stan Frasier	L&C Conservation District	CD Pleasure
Ryan Leland	Helena City Commission	HCC Pleasure
Vacant	Helena Citizen's Council	HCC Pleasure
Kammy Johnson	Board of Helena	BOH Pleasure
Catherine Scott	General Public	06/30/2022
Amanda Harrow	General Public	06/30/2021
Jeff Ryan	General Public	06/30/2020

## COVID-19 and the WQPD:

This pandemic has certainly impacted each and every one of us in tremendous ways. The WQPD also had to be flexible this year due to a number of changes because of COVID-19: Groundwater monitoring of residential wells was suspended from March - June of FY 2020. Planned education and outreach events were put on hold because of the need to limit gatherings to slow the spread of the virus. The Water Watchers program was also impacted this year. This program was unable to reach the number of students as expected due to the stay at home order which sent students to online schooling. However, the Outreach Educator has been working to bring Water Watchers online and is working closely with teachers to find a solution to continue the program.

# Goal 1



## Improve the public's support for and understanding of the WQPD Mission

### 1.1 Provide educational opportunities to improve understanding of water issues

**12** 12 total  
Goal: 8

Education and outreach events partnering with other agencies or organizations

**839** Goal:  
1550

4th and 5th graders participated in the Water Watchers water education program

**0** Goal: 2

High school classes participating in Water Watchers water education program

**1** 1 total  
Goal: 3

Events hosted by the WQPD to share water-related information to the public

### 1.2 Provide access to clear, concise data and info on public platforms



Data management system and master database created



Mapping application created that allows public to access all WQPD collected data



Quality Assurance documentation created for WQPD data collection activities



Create Story Maps to share data and information

### 1.3 Encourage public participation across all WQPD activities

**5** 5 total  
Goal: 5

Promote messaging through social media and printed materials

**51** 51 total  
Goal: 40

Number of Well-Educated Kits distributed

### 1.4 Coordinate and assist with the operation of the watershed groups



Staff member coordinates Lake Helena Watershed Group meetings and events

**3** 3 total  
Goal: 5

Projects or events carried out through partnership with the Lake Helena Watershed Group

**340** Goal:  
315

People receiving watershed-related news through E-Newsletters

# Promoting Experiential Education

## A DAY AT PRICKLY PEAR CREEK



In July of 2019, the WQPD teamed up with the Montana Conservation Corps to provide a group of middle school students an opportunity to explore various aspects of the watershed. With the help of volunteers from local organizations and agencies, the students had a full day of interactive games and lessons outdoors, learning about water quality, plant and animal identification, as well as the threats and impacts that we have on our watershed. We would like to thank Janice Miller from the the Last Chance Audubon Society and Liz Burke from the U.S. Forest Service for helping us put on this great event.

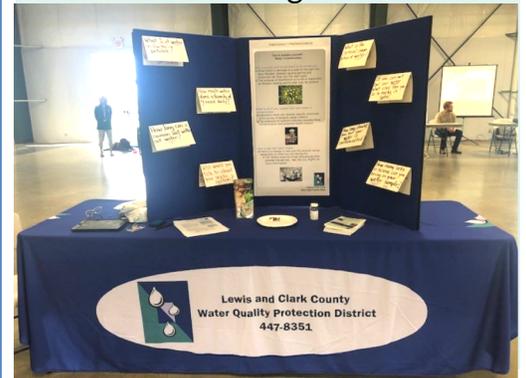
## ALIVE @ 5!



The Lake Helena Watershed Group was the hosted non-profit organization at one of Downtown Helena's most popular events of the summer. Hundreds gathered to listen to music at Women's Park, and had the opportunity to play watershed trivia, explore how surface-level activities impacts groundwater, and learn about the work of the WQPD.

## COUNTY PREPAREDNESS FAIR

Lewis and Clark County hosted a family-preparedness fair, focusing on what you and your family can do to prepare for and survive disasters and emergencies like floods, wildfires, earthquakes, and disease epidemics. The WQPD was there to talk to attendees about water quality-related issues and well & septic maintenance, especially during times of natural disasters and emergencies



## GIRLS IN STEM: STORY MAP TRAINING



A "Girls in Government" camp brought over 25 young adults interested in pursuing degrees in the STEM fields to the State Capitol's complex in September. As part of this camp, WQPD staff helped lead a training that guided participants in collecting field data, transferring data into an online map, and creating an interactive Story Map. They also discussed potential career paths, as well as the importance of developing technical skills.

"The art of teaching is an art of assisting discovery."  
- Mark Van Doren

# Jim Darcy Kid's College Days



In March, the WQPD participated in Jim Darcy Elementary School's Kid's College Days. This is Jim Darcy's 18th year, many of which the WQPD has participated in. This event gives all 1st and 2nd graders an opportunity to experience all types of career paths including becoming a Police Officer, or a Fish, Wildlife and Parks Specialist. Kid's College Days takes place on three Friday afternoons for one hour.

This year, the WQPD led students through several hands on-activities, including a fun and interactive experiment that teaches students how water moves through the earth, demonstrating key concepts that a Water Quality Specialist uses daily to understand how pollution impacts water sources (see photo, left).

Unfortunately, this year we were only able to get in one class before Jim Darcy canceled the event due to the Coronavirus outbreak.

Using celery, water, and food coloring, this simple experiment helps children (and adults!) understand how pollution can get into our water, and pumped up through our wells (and through plants).



*teaching-tiny-tots.com*



*teaching-tiny-tots.com*



## WQPD Board takes tour of Sevenmile Creek Project

Building strong community partnerships and relationships is integral to the WQPD mission, and it continues to lead to new opportunities for the WQPD to improve the public's understanding of local water resources and foster a greater sense of stewardship.

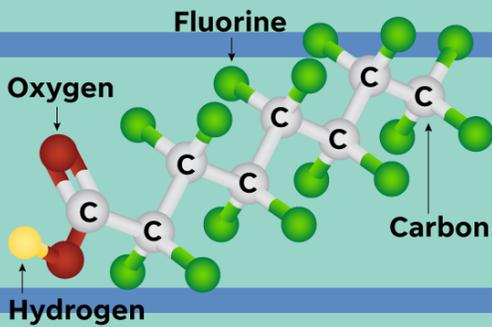
In 2016, the Prickly Pear Land Trust (PPLT) acquired over 300 acres just west of Head Lane.



About 2 miles of Sevenmile Creek bisects the parcel. After the acquisition, PPLT has successfully restored most of the creek on their property. The work has already shown incredible benefit to fish and wildlife habitat, while also improving the area's ability to mitigate flooding and reduce sediment loads into the greater Lake Helena watershed. With the PPLT as the landowners, the WQPD saw this as a great opportunity not only to provide important technical assistance but also to use the property for education and outreach. The WQPD continues to monitor stream conditions, such as seasonal stream flows and aquatic insect life. The WQPD also has helped coordinate and plan for re-vegetation efforts along vulnerable parts of the newly created channels of Sevenmile Creek.

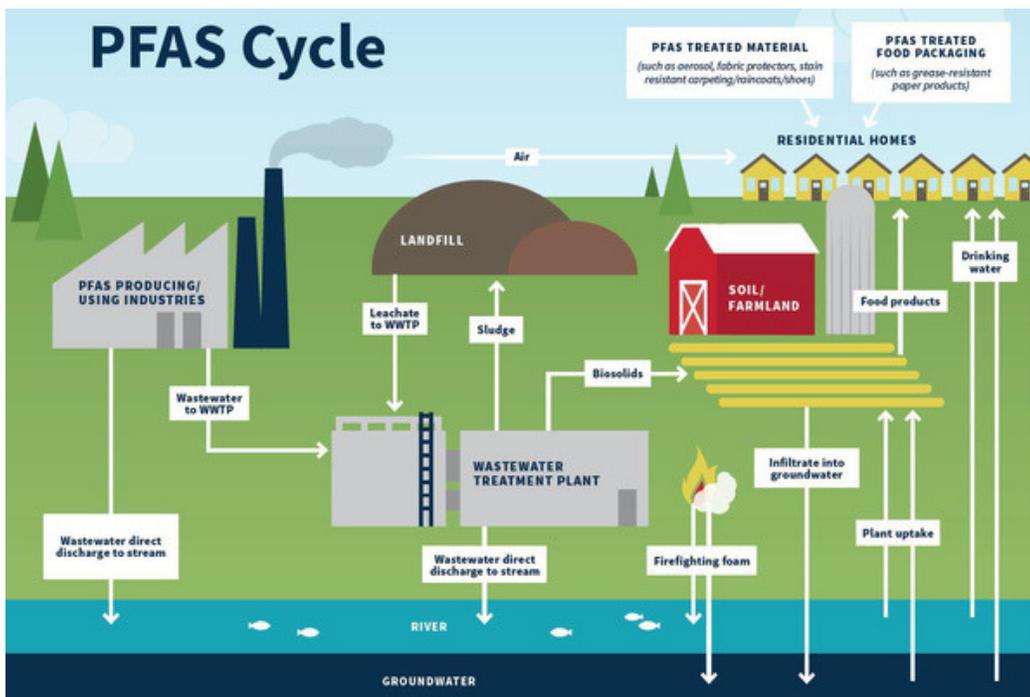
One of the most exciting programs that has grown from this partnership is an annual monitoring event with the Carroll College Environmental Science Department, with tremendous help from Professor Travis Almquist. Not only is the monitoring building a long-term data set of important stream health indicators, but around 25 new students each year are able to see the impacts of stream restoration projects, learn techniques for monitoring them, and understand the importance of watershed health.

The WQPD will continue to provide support for and participate in PPLT's Sevenmile Creek Restoration Project. WQPD staff look forward to expanding their educational programs through partnerships such as this one.



# Working with the Army National Guard: PFAS

Groundwater monitoring conducted by the Army National Guard (ARNG) at Fort Harrison detected polyfluoroalkyl substances (PFAS) in monitoring wells on the Fort property. PFAS is an environmental contaminant and is likely sourced from aqueous fire-fighting foam (AFFF) used at Fort Harrison. ARNG subsequently contacted adjacent property owners regarding the issue and requested permission to sample well water for PFAS at six homes. The ARNG contacted Lewis & Clark Public Health and the Water Quality Protection District for assistance with outreach to local residents regarding information on PFAS, public health concerns, or other environmental health issues. Water Quality Protection District staff presented information on PFAS and environmental health at a public meeting at Fort Harrison in October, and accompanied ARNG staff to nearby homes requesting permission to sample well water. Five of six homeowners provided permission, and sampling was completed in the winter of 2019-2020. For all wells sampled, PFAS concentrations were below the Montana DEQ's groundwater standard and the EPA's Health Advisory level of 70 parts per trillion.



For more information on PFAS, please visit the EPA's website at: <https://www.epa.gov/pfas>

# Responding To Concerns in the East North Hills

Residents in the area north of Lincoln Road and East of the interstate, also known as the "East North Hills" (ENH) area (Figure 1), have expressed grave concern over future water supplies as development continues. In response to these concerns, in 2018 the WQPD launched a study to look at the groundwater properties and behavior of the East North Hills, collecting groundwater level measurements (depth of groundwater from the ground surface), as well as water chemistry information.

In 2004-2006, the Montana Bureau of Mines and Geology collected water level measurements at 11 wells throughout the ENH area. Looking at these same wells again in 2019, the WQPD did not observe signs of groundwater depletion (draw-down of water table from pumping). Most wells appeared to have stable water levels. Two wells did show slight declining

trends (see Figure 2 as an example). Additionally, the chemistry shows that recharge sources vary across the area. Specifically, there is a distinction between deeper, bedrock wells and the clay-rich tertiary sediments. The bedrock wells may be at less of a risk of depletion than the wells pulling from the clay-rich sediments.

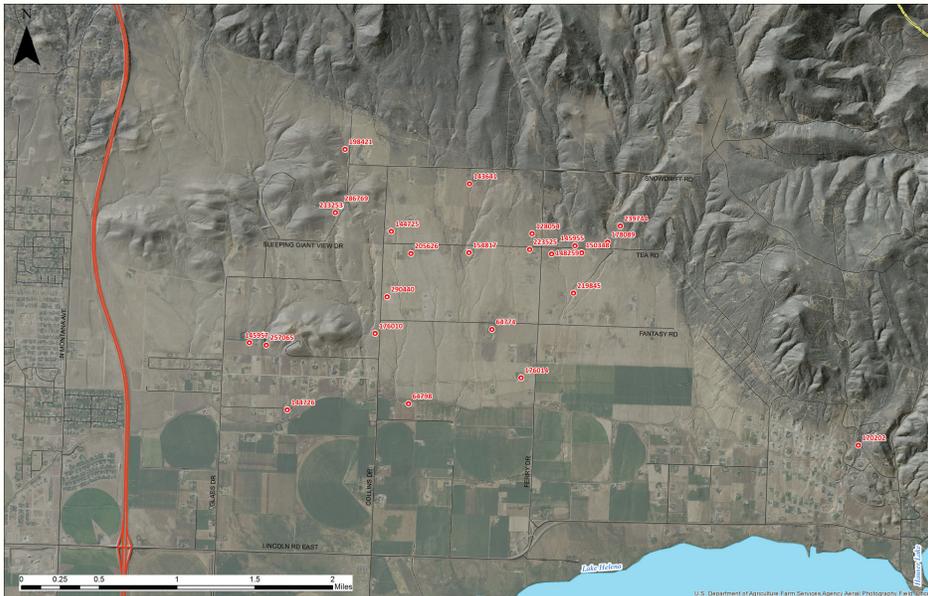


Figure 1. East North Hills Area and groundwater monitoring locations.

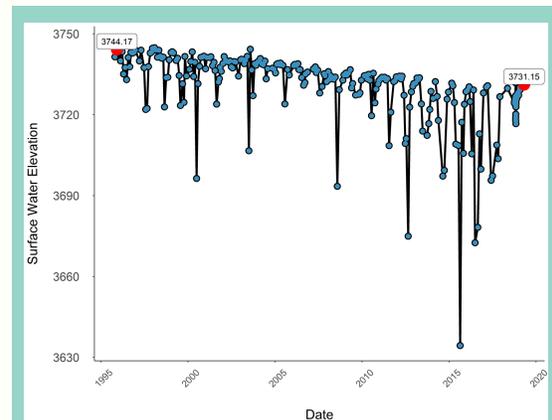


Figure 2. Surface water levels for GWIC ID = 148259. Over the past 24 years, this hydrograph shows a decline of about 10-15 feet

## WQPD Recommendations for subdivision development:

- Wells to be installed as deep as practical, to ensure adequate supply and reduce surface pollution. Deep, bedrock aquifers have shown to have more reliable water supplies
- All wells to be sampled after installation for Arsenic, Uranium and Fluoride. Residents should test water biannually
- Water level monitoring to be continued by WQPD staff

## Outline of WQPD plan for continued ENH monitoring:

- The ultimate goal is to provide baseline data to determine in the future whether groundwater depletion is occurring in the area from over-utilization and pumping
- Water levels will be monitored monthly in selected wells
- Transducers may be installed to supplement monthly measurements
- Data will be reported in a brief report annually, each winter, with an assessment of all year-to-date information



Hydrogeologist James Swierc presents data to East North Hills residents in October 2019

For more detailed summaries of the East North Hills groundwater study, please contact the WQPD at: 406-457-8584 or visit us at: [lccountymt.gov/health/water](http://lccountymt.gov/health/water)

To report issues of water quantity, please fill out this online survey, [surveymonkeys.com/r/WYVGCRC](https://surveymonkeys.com/r/WYVGCRC) or contact us directly



# East North Hills Hydrogeology Investigation

# SUMMARY

With increased development activity for the East North Hills area, residents expressed concern about impacts to long-term availability of water. With limited information in this area, the Lewis and Clark County Water Quality Protection District (WQPD) conducted an investigation to gain a better understanding of the current condition of water supplies.

## What we did:

- WQPD staff measured water levels and collected water quality samples from residential wells throughout the East North Hills area, beginning in the summer of 2018
- We collected water levels in 2018-2019 and compared those to the levels collected 15 and 10 years ago by the Bureau of Mines and Geology (MBMG), to determine if depletion has occurred
- We collected water quality samples to help us identify the different sources of water, and the quality of each of those water sources

## What we learned:

- 8 of the 11 wells that had historic data showed water levels that were similar to those over 15 years ago
- Three wells did show a decline of about one foot per year over the past 15 years
- The three main sources of water ("aquifers") in the area are:
  - Shallow bedrock aquifer: located in the western part of the East North Hills, generally produces reliable yields
  - Clay-rich aquifer: less reliable in terms of yields, and has a higher risk of depletion due to its limited recharge (it's harder for water to travel through clay)
  - Deep bedrock aquifer: underneath the clay-rich aquifer (deeper), with more reliable water supply

## \*Water Levels Accessible Online\*

To view water levels in the East North Hills, as well as valley-wide, please visit: [arcg.is/b14q9](http://arcg.is/b14q9)

\*A full technical report is currently in review by the Montana Bureau of Mines and Geology. Upon publication, this report will be available to view online.



View looking North at the East North Hills study area (box)



### Will development of new homes and wells impact future water supplies?

Not necessarily. Drilling new wells deep into bedrock should limit the impacts of new wells to existing wells. Bedrock aquifers are more reliable and generally produce better yields than wells drilled into the clay-rich aquifer.



### How will climate change impact the future of our water supply?

While it's not possible to predict exactly how future changes in climate will impact the East North Hills, we would expect to see impacts to water supplies that are linked closely to snowpack and precipitation patterns. The Montana Climate Assessment states:

- "A warming climate will strongly influence Montana's snowpack, streamflow dynamics, and groundwater resources, with far-reaching consequences for social and ecological systems"
- "Earlier onset of snowmelt and spring runoff will reduce late-summer water availability in snowmelt-dominated watersheds"

Please visit: [montanaclimate.org](http://montanaclimate.org) for more information



### This study was conducted after two very wet years. Does that influence the conclusions of the study?

No. By looking at wells with a data record over a 15-year period, we accounted for the yearly and seasonal variation when we evaluated the long-term trend (stable or declining).



### Why wasn't data presented from all wells in the area?

To determine trends, we needed to compare water levels to the levels observed over the past 15 years. For this reason, only wells with multiple years of data were included in the analysis.



### What is the Water Quality Protection District doing now that the study is complete?

WQPD staff will continue to monitor wells in the East North Hills, and will continue to track water levels throughout the area. All current water level data can be accessed by visiting: [arcg.is/b14q9](http://arcg.is/b14q9)



### What can I do to conserve water?

There are a variety of practices, big and small, that you can do to save water in your home. Outdoor irrigation is the biggest use of water in any household, and presents the biggest opportunity for water-saving. Below are a few tips:

- Update the timing (only watering early in morning or late at night) and structure (drip irrigation vs. high-powered sprinklers) of your irrigation
- Mulch! (fewer weeds, less water)
- Capture storm runoff by installing rain gardens and rain-barrel collection systems
- Try "Xeriscaping" when possible: the use of drought-tolerant plants and materials that require very little water to maintain
- Installing low-flow and high efficiency toilets, faucets, and shower heads in the home can also save a household hundreds of gallons of water each year

# Goal 2



## Design and implement projects that protect and improve water quality and quantity

### 2.1 Operate surface water and groundwater monitoring networks

**680/1066**

Groundwater level measurements collected



Collect surface water measurements according to annual sampling plan

**5/5**

Sampling and analysis plans reviewed and updated for future monitoring

### 2.2 Identify, prioritize, and implement project opportunities



Work with landowners and partners to improve riparian areas and implement other water-related projects



Work with partners on water resources and other related projects

### 2.3 Encourage public participation across all WQPD activities

**20** 20 total  
Goal: 30

Number of volunteers recruited for projects and events

**0** 0 total  
Goal: 3

Number of landowner contacts made to implement projects

### 2.4 Identify, prioritize and implement funding opportunities



Evaluate and update the Lake Helena Restoration Plan



Research and apply for appropriate grant opportunities



# Practicing Transparency and Accountability:

The WQPD endeavors to provide proper documentation on its environmental monitoring and data collection programs. Several planning and reporting documents were developed during the third quarter of this fiscal year in support of the WQPD's groundwater and surface water monitoring programs. These documents ensure that data is collected using appropriate procedures. In concert with the below documentation, the WQPD has also developed an on-line map viewer (<https://arcg.is/b14q9>) that allows the public to access and view groundwater levels collected by the WQPD, and is presently developing a similar on-line interface that will allow the public to access and view water quality data collected by the WQPD. Collectively, these efforts will provide a comprehensive system for the WQPD's environmental data collection, data management and storage, and public data delivery. The Quality Assurance Plan, as well as the East North Hills Summary FAQ Sheet, are attached to this report and can be found in the last pages. The other documents can all be found on the WQPD's website at: [lccountymt.gov/health/water](http://lccountymt.gov/health/water)

## **Quality Assurance Plan: Environmental Sampling Programs**

This document provides information on how the WQPD collects and manages hydrologic data. It includes methods, protocols, quality assurance, and data management processes employed by the WQPD.

## **2020 Groundwater Monitoring and Sampling Plan**

This document provides details on the WQPD's planned efforts to collect well water levels and groundwater quality samples. It includes locations and frequencies of water level data collection for calendar year.

## **2020 Tenmile Creek Groundwater Monitoring Plan**

This document provides details on the WQPD's plan to collect groundwater level data within the Tenmile Creek and Silver Creek flood zones. It includes locations and frequencies of water level data collection for calendar year 2020.

## **2020 Streamflow Monitoring Plan**

This document provides details on the WQPD's plan to collect streamflow data on Prickly Pear Creek, Tenmile Creek, Sevenmile Creek, and Silver Creek. It includes locations and frequencies of streamflow data collection for calendar year 2020.

## **Tenmile Creek Groundwater Monitoring Program: 2019 Summary Report**

This document reports on the results of 2019 groundwater level monitoring in the Tenmile Creek and Silver Creek flood zones.

## **East North Hills Summary FAQ Sheet**

This FAQ sheet is a brief summary of water quality and water level results from the WQPD's East North Hills hydrologic assessment efforts. A detailed technical report has been prepared and is currently in review by the Montana Bureau Of Mines & Geology.

# Monitoring Summary

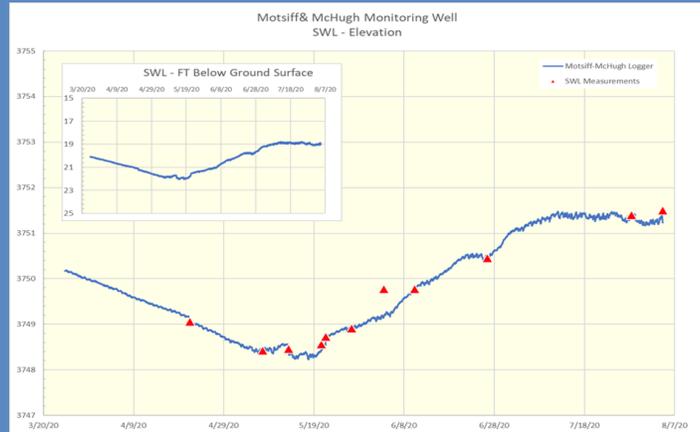
July 1st, 2019 - June 30th, 2020

## Groundwater Network Highlights

The WQPD maintains a Groundwater Monitoring Network of more than 150 residential and dedicated monitoring wells in and around the Helena Valley. Water level measurements are collected either monthly or quarterly and stored in the Montana Bureau of Mines and Geology statewide groundwater database.

In 2019, the WQPD developed an on-line map that allows the public access to WQPD-collected data. From this map <https://arcg.is/b14q9>, the public can easily view the most recently collected groundwater level measurements. In an effort to expand the WQPD's information and understanding of groundwater dynamics within the residential areas of the Tenmile Creek flood zone, the WQPD expanded groundwater monitoring within the flood zone and installed water level data-loggers in four WQPD monitoring wells drilled in 2019. Water level data presented in the hydrograph to the right illustrates the seasonal fluctuation in static water level (SWL) at the Motsiff & McHugh Rd location in a non-flood year.

In March 2020, the WQPD temporarily suspended monitoring of residential wells due to COVID-related concerns. The WQPD continued to measure monthly water levels in about 40 dedicated monitoring wells. The WQPD is presently reviewing its procedures and protocols to ensure that all wells can be monitored safely, and that residents are aware of the WQPD's monitoring procedures.



Hydrograph showing manual SWL measurement with logger data

## Surface Water Network Highlights

The WQPD's surface water monitoring network includes flow monitoring stations on several local streams: Prickly Pear Creek, Tenmile Creek, Sevenmile Creek, Silver Creek. Flow monitoring supports several WQPD projects, particularly the WQPD's long-standing Prickly Pear Creek Re-Watering Project, and in on-going monitoring within the Tenmile Creek flood zone.

In 2019-2020, the WQPD enhanced its stream monitoring network by installing a wire-weight wheel on the Birdseye Rd bridge over Sevenmile Creek (Figure 2). A wire wheel acts as a fixed stage measurement instrument on Sevenmile Creek and allows accurate stream stage measurements, and accompanying discharge calculations under all flow conditions.



Measurement of flow conditions on Sevenmile Creek, particularly high flow, will help the County understand flood conditions downstream on Tenmile Creek.

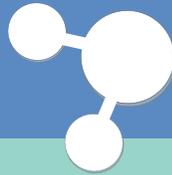


Wire-weight on Sevenmile Creek

# Collaboration in Research

Maintaining partnerships and providing technical assistance

## Water Isotope Sampling Program



WQPD staff have been collecting water isotope samples as part of local water resource projects for the last 8 years, beginning with the Helena Ground Water Project completed in 2013. Water isotopes, differences in the oxygen and hydrogen atoms of water molecules, represent tracers that do not change with water chemistry. For groundwater, water isotopes provide information on the groundwater flow path between where recharge occurs and downgradient discharge points such as streams or wells. In order to determine the isotopic composition of groundwater recharge for precipitation and from streams, WQPD staff have been collaborating with the Montana Bureau of Mines and Geology (MBMG) with sample collection as part of the Montana Precipitation Isotope Network (MtPIN), with laboratory analysis of water isotope samples at their stable isotope laboratory.

Precipitation sampling locations are located at McDonald Pass, along the continental divide; and in the south-central part of Helena Valley, south of the Airport. Precipitation samples are collected monthly from composite samplers. Surface water grab samples are collected monthly from Prickly Pear Creek, Tenmile Creek, Silver Creek and Sevenmile Creek near where they enter the Helena Valley, and on the Helena Valley Irrigation Canal during irrigation season. As a pilot project, a quarterly groundwater sample collection program was implemented for 6 shallow wells in the southwest part of the Helena Valley, where flooding from Tenmile Creek has occurred. The shallow wells, screened at the top of the water table, provide sampling points to evaluate the impact of surficial or near surface contaminant sources to local groundwater quality. The initial groundwater sampling event occurred in June, and included sampling for major ions and nutrients in addition to the water isotope samples.



Precipitation gauge on MacDonald Pass

## Public Water Supply Development in East Helena

WQPD staff have provided support for expansion of municipal public water supply (PWS) sources in the southeastern part of the Helena Valley. For East Helena, funding from the Montana Environmental Trust Group (METG), and managers of the former Asarco Smelter site, have provided funding for the City of East Helena to install an additional PWS source well as a replacement to an existing well. WQPD staff worked with the METG contractor to review well locations, and assess the potential impacts to private wells on nearby properties. At the same time, staff have assisted the contractor for the City of Helena in assessing potential locations for new PWS wells to utilize existing unused valley groundwater as a supply source for the Helena municipal PWS.



Cam Carstarphen with MBMG inside a dug-out snow pit to collect samples from different layers in the snowpack

# Prickly Pear Creek Re-Watering Project 2019 Summary



Figure 1. Prickly Pear Creek Rewatering Project Area

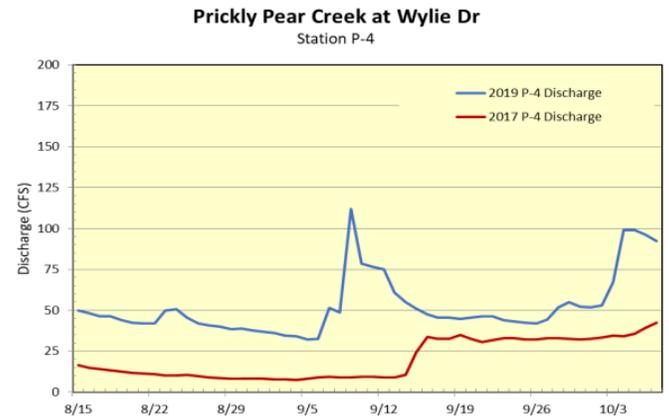


Figure 2. Station P-4 2019 compared to 2017 flows

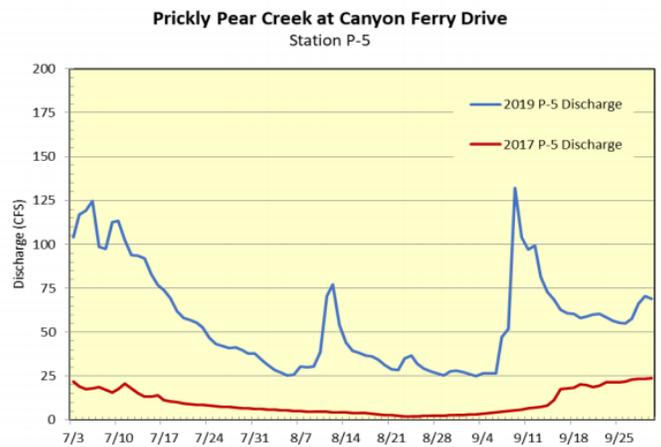


Figure 3. Station P-5 2019 compared to 2017 flows

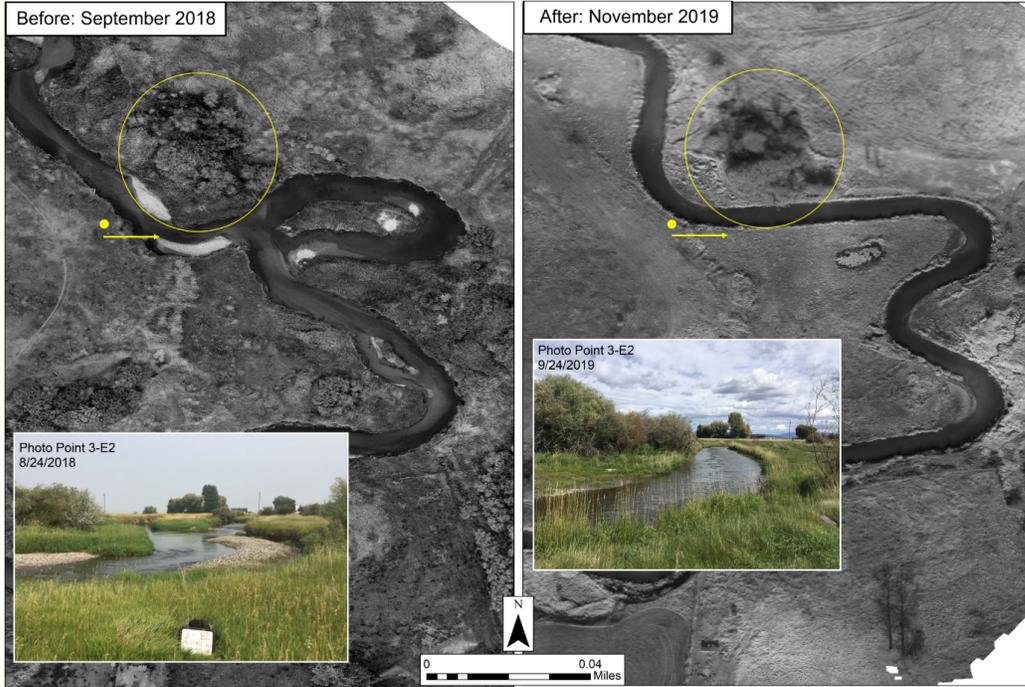
2019 was another exceptional flow year for Prickly Pear Creek. Heavy winter snowpack in the winters of both 2018 and 2019 combined with lingering cold temperatures and early spring snowpack contributed to higher than average flows on Prickly Pear Creek throughout the 2019 summer months. The lowest recorded flows were 32 CFS at Station P-4 on 09/05/2019 (Figure 2) and 25 CFS at Station P-5 on 09/03/19 (Figure 3). This is in sharp contrast to 2017 when the lowest flows recorded were 7.5 CFS and 1.7 CFS at Stations P-4 and P-5, respectively. (Note that early season high flows hampered the WQPD's ability to install equipment and monitor flows at Station P-4 until August 2019).

The Prickly Pear Rewatering Project agreement is scheduled to be implemented when flow triggers of 40 CFS at Station P-4 (Figure 2) or 20 CFS at Station P-5 (Figure 3) are reached. Notwithstanding seasonal (June/July) flows well above trigger values, the Prickly Pear Rewatering Project was implemented on July 2nd by the Helena Valley Irrigation District (HVID). On July 2nd, HVID closed the main headgate drawing water from Prickly Pear Creek, instead drawing water from the irrigation network fed by water delivered from the Helena Valley Regulating Reservoir. The water usage report (Table 1\*) shows the schedule of water delivery from the HVID network to water users as allowed by the Prickly Pear Rewatering Project agreement with HVID. In total, 2,000 acre-feet of water was delivered to water users that, prior to the Prickly Pear Rewatering Project, would have been sourced from Prickly Pear Creek itself.

\*For more detailed information, please refer to the Prickly Pear Creek 2019 Rewatering Project Final Report, found at: [lccountymt.gov/health/water](http://lccountymt.gov/health/water)

# Tryan Restoration Project: The finishing touches

Using drone aerial imagery for before-after comparison



With the help from DEQ's James Strait, high-resolution drone imagery was captured over the 2 miles of stream restored for the Tryan restoration project. Having this high-resolution imagery helps WQPD and DEQ staff evaluate the effectiveness of the project, potential problem areas, and areas of significant improvement. Coupling this aerial imagery with on-the-ground photo points, we have a comprehensive view of the construction and final design of the restoration effort, completed by Allen McNeal and Stream Works in December 2018.

# Tryan Restoration Project: Vegetation Efforts

Strengthening partnerships with Carroll College and the Conservation Corps



For the third consecutive year, Dr. Travis Almquist from Carroll College partners with the WQPD to give his students an opportunity to connect with professionals and work on local restoration projects. This helps the WQPD out tremendously, as finding enough volunteers for projects can be challenging. Almquist's ecology class provides about 20, hard-working volunteers that are eager to learn and get their hands dirty. Students helped plant over 300 willow stakes along banks of the Tryan Restoration Project, and received valuable lessons on stream restoration from Allen McNeal.



Jennifer McBroom (left) and Kristy Fortman stand proudly by a water gap installed to improve grazing and riparian management. Kristy Fortman, Watershed Protection Supervisor at DEQ, has helped the WQPD staff fulfill monitoring requirements set forth by DEQ.

## About Willow Biology...



- Willows are from the genus "Salix" which are part of a larger family called "Salicaceae," including willow, aspen, poplar, birch, and cottonwood species.
- One unique trait of willow is their ability to produce either roots or shoots (stems and leaves), from any point along its stem, depending on whether it is covered in soil or exposed to air and sunlight.
- Willow roots are rhizomes, meaning they grow horizontally (like strawberries!).
- Their roots are remarkably strong, aggressive, and have a great tenacity to survive.
- These willow are imperative to protecting and armoring stream banks, providing shade to keep stream temperatures cool, and habitat for fish and wildlife.

# Goal 3



## Inform public policies for the management of water quality and quantity

### 3.1 Provide issue-specific information to stakeholders and decision makers.



Generate WQPD reviewed summary materials on water quality or quantity issues



Attend County planning meetings

### 3.2 Advocate for legislation that supports the WQPD's activities.



Provide or present information to Legislative Committees



Research and track bills that affect the WQPD or water resources

# Goal 4



## Optimize internal organizational capacity to support the WQPD's activities

### 4.1 Provide technical training to staff and Board.

**0** 0 total  
Goal: 4

Provide WQPD staff workforce development training

**0** 1 total  
Goal: 2

Provide the WQPD Board with board development and orientation

**1** 8 total  
Goal: 4

Provide WQPD staff with professional development

### 4.2 Develop internal policies and procedures that enhance WQPD operations



Write policy that directs WQPD responses to public requests and queries



Develop, implement and evaluate work plans, reporting and data review procedures including project and funding requests



Develop procedures and protocols for external and internal review of documentation that is for public consumption

### 4.3 Identify and implement Quality Improvement projects

**1** 1 total  
Goal: 2

Evaluate WQPD activities and conduct a QI project when necessary

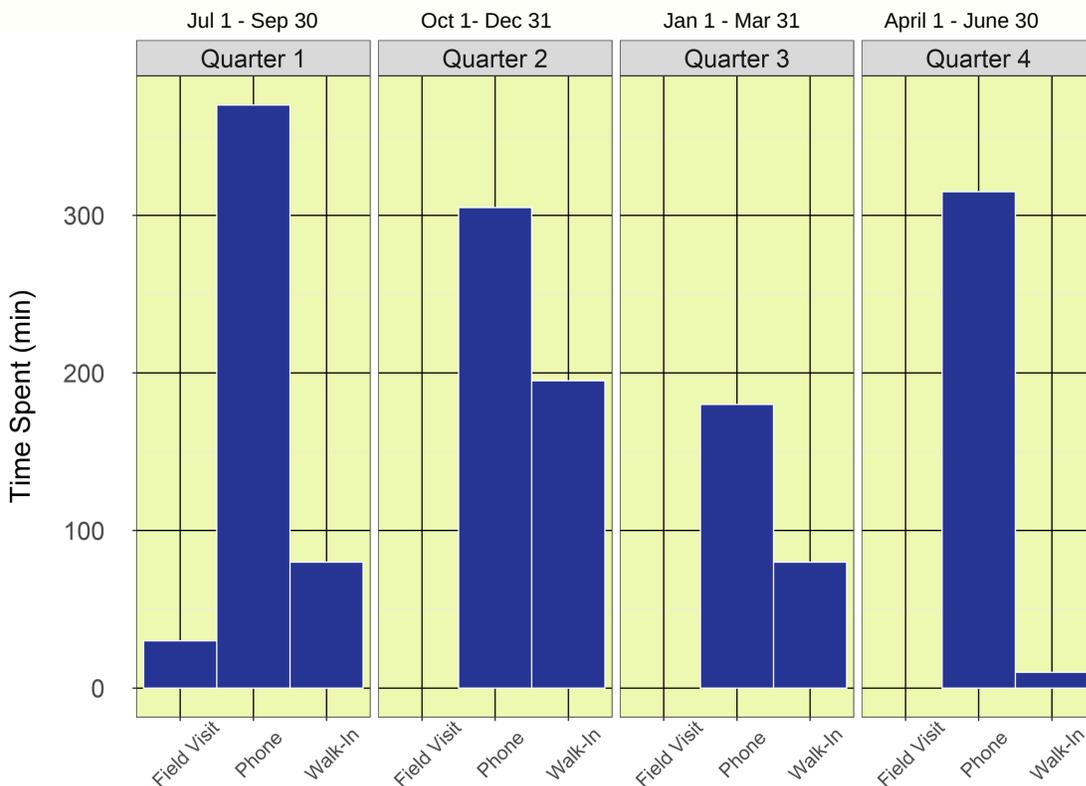
# A quick look at the stats for FY2020:

This year, WQPD staff spent a total of about 26.5 hours engaging directly with the public from direct contacts (either received phone calls, requests for site visits, or walk-ins to the office). The majority of time spent interacting with the public was spent on the phone (74%). The vast majority of any interaction, whether it was a phone call or a walk-in visit, revolved around general water quality concerns, requests for water quality or quantity sampling, and general information or assistance requests.

# Tracking Customer Service: A quality improvement project

WQPD staff are in and out of the office frequently due to commitments to field work, attending meetings, conferences and training, or responding to public investigation requests. Often, people calling the WQPD for any number of reasons will leave messages on more than one staff member's answering machine. Tracking down whether the individual has received the service or information they were looking for can be challenging. In order to eliminate that confusion and to improve our customer service, we created an online database that tracks any public interaction (phone call, field visit, or in-person visit), and important details associated with that interaction such as: the date of interaction, what type of request was received, whether or not the request was satisfied, who resolved the request, and any additional comments. Staff can now check the database to see whether or not the individual already received service through another staff member. Additionally, tracking this information has shed light on the amount and types of services that people are most concerned with. Through this database, we also improved our tracking of the number of well-educated kits distributed.

**Total time spent (minutes) per type of interaction**



## Annual Stats:

**51** Well-Educated Kits Distributed

**2** Site Visits

Total time spent: 30 min

**98** Phone Calls

Total time spent: 19.6 hours

**20** Walk-Ins/Meetings

Total time spent: 6.0 hours

# Tracking Customer Service: types of interactions and inquiries

As the WQPD began tracking the number and types of calls and requests that they receive as of July 1st, 2019 (Fiscal Year 2020), we have been able to get a better idea of the most common needs and concerns of residents living in the WQPD. Below are the most common categories of inquiries and conversations that the WQPD staff has with its constituents:

## Concern/Complaint

Example(s): reporting of improper sprinkler use, concern of unlawful dumping of sewage or other contaminants near waterways or near wells

## Information Request/Assistance

Example(s): requests for professional opinions on development (such as gravel pit or subdivision), discussions of Harmful Algae Blooms (HABs), requests for guidance on flood-related issues

## Water Quality

Example(s): concerns regarding private water supply (discolorations or odors, for example), requests for Well-Educated kits, assistance with interpreting water quality results

## WQPD Business

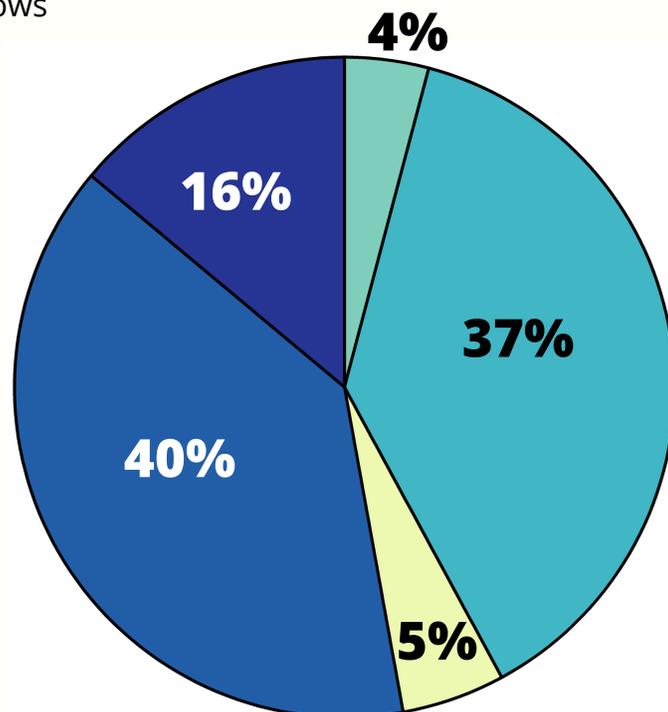
Example(s): discussions with partners and the public of upcoming meetings or events, other discussions with external companies or services

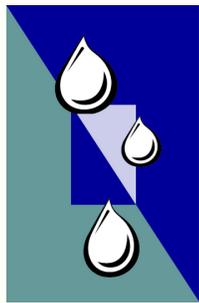
## Other

Example(s): concerns of water supply or yields, requests for water level monitoring, general discussions of local groundwater conditions or trends, discussions regarding surface water flows

## FY 2020:

Total time spent: 26.5 hours





# Lewis & Clark County Water Quality Protection District

## Contact Us:

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