2016

UPPER GALLATIN RIVER WATERSHED

WATER QUALITY REPORT

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The Gallatin River Task Force Community Water Quality Monitoring Program is supported by the Big Sky Resort Area Tax District, the Montana Department of Environmental Quality, Task Force donors, and volunteers. Thank you for investing in the health of the Upper Gallatin River Watershed.

GALLATIN RIVER
TASK FORCE

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Gallatin River Task Force began collecting routine water quality data in the Upper Gallatin River Watershed in 2000. This data is used to assess and track the long-term health of rivers and streams, plan for restoration projects, and identify and monitor unforeseen events. The 2016 Upper Gallatin River Watershed Water Quality Report outlines data trends observed between 2000 and 2016 and summarizes data collected after the wastewater effluent spill at the Yellowstone Club in March 2016.

Routine Monitoring

Indicators of river health, including temperature, pH, and dissolved oxygen, suggest cold and clean water in the Upper Gallatin River Watershed. Elevated levels of nitrate, algae, chloride, and E. coli have been measured at several monitoring sites within the West Fork Watershed. Nitrate concentration was highest in the fall and winter when nutrient uptake by plants and algae is low. Potential human sources of nitrate include fertilizer, land application of treated wastewater effluent on the Big Sky Golf Course and Big Sky Community Park, effluent from privately owned septic systems, and storm water runoff.

Chloride concentration was elevated during the winter throughout the watershed with the highest concentration in April, when snow melts and flows into rivers and streams as runoff. Wastewater and road salt likely contribute to elevated chloride levels. E. coli levels were highest in the warm months when temperatures are conducive to bacteria growth. E. coli sources include wastewater and animal waste. Turbidity was low throughout the year, except for spring runoff, when water carries sediment (small pieces of sand, silt, and mud) downstream.

Quarterly E. coli, nitrate, and chloride measurements demonstrated no conclusive trends over the past sixteen years. Analysis of stream insect population in the West Fork suggested that water quality has declined over time. Conversely, the South Fork exhibited slight nutrient enrichment, but no evidence for water quality degradation with time. Data suggests that summer water temperatures may be increasing in the West Fork Watershed while remaining stable in the Gallatin River.

Yellowstone Club Spill

On March 3, 2016, tertiary-treated wastewater from a storage pond in the Yellowstone Club spilled into Second Yellow Mule Creek. From the time of the spill through August, water quality did not exceed Montana human health standards. However, ammonia and turbidity exceeded Montana aquatic life standards while the pond was actively leaking, and sediment delivered to the stream by the spilled wastewater adversely impacted in-stream habitat quality. Observations of stream insect numbers initially declined after the spill, but recovered after runoff. The greatest impact to Westslope Cutthroat Trout and Rocky Mountain Sculpin populations occurred just downstream of the spill in Second Yellow Mule Creek. A fish population survey in August suggested these species are returning to pre-spill conditions in the South Fork.

Long-term impacts of the spill are not yet known. The South Fork drainage is a geologically active landscape where slope failures are common; therefore, the streams in these drainages recover relatively quickly from large sediment pulses. In addition, the steep gradient of these streams assists their ability to flush large amounts of sediment during high water events. Impacted streams appear to be on a trajectory toward a full and rapid recovery from the effects of the spill.

A team of scientists from Montana Fish, Wildlife, and Parks, the United States Forest Service, Confluence Consulting, and Gallatin River Task Force preparing to assess fish population immediately after the Yellowstone Club Spill on March 10th, 2016. Photo by Stephanie Lynn

INTRODUCTION

The Gallatin River Task Force is the only organization whose focus is to protect the health of the headwaters of the Gallatin River, now and for future generations. The Task Force monitors water quality, plans and implements projects to improve the ecological health of the watershed, and provides water resource education to the Big Sky community.

The Task Force and volunteers have collected routine watershed data on the Upper Gallatin River and its tributaries for sixteen years. The Upper Gallatin River flows north from the headwaters in Yellowstone National Park to the Spanish Creek confluence, just before the river exits Gallatin Canyon.

The Task Force and partners use this monitoring data to evaluate the health of the Upper Gallatin River Watershed, identify spatial and historical trends, and to assess unforeseen events. In addition, our data guides restoration project planning and evaluates the successes and failures of these projects.

MONITORING PROGRAM

The Task Force collects routine water quality data to understand baseline conditions and executes focused monitoring efforts to evaluate specific events.

Routine Monitoring

The Task Force trains volunteers to monitor sixteen sites in the Upper Gallatin River Watershed. Seven sites are located on the mainstem Gallatin River (Figure 1A), one site is on the Taylor Fork (Figure 1A), and eight sites are located on streams within the West Fork Watershed (Figure 1B). These sites capture the influence that geology and land use may have on our river system.

All sixteen sites are monitored four times every year to track changes in water quality across hydrological regimes, such as high flow versus low flow, and biological regimes, such as the growing season versus the dormant season.

At each water quality monitoring event, the Task Force measures the following water quality parameters: pH, temperature, dissolved oxygen, turbidity, chloride, nitrate, E. coli, and total coliform. During the summer water quality monitoring event, data collection includes the additional parameters: total nitrogen, total phosphorous, fine sediment, macroinvertebrate (stream insect) populations, and photo documentation of algae.

In addition, the Task Force maintains four streamflow stations in the West Fork Watershed that continuously measure stream stage (water level), temperature, and conductivity (Figure 1B). We calculate streamflow from continuous stream stage measurements using a rating curve built from field measurements.

Yellowstone Club Spill

The Gallatin River Task Force executes focused monitoring efforts to assess the impacts of specific events or to evaluate the potential successes and failures of restoration projects. In 2016, the Task Force partnered with Confluence Consulting, Montana Department of Environmental Quality, Montana Fish, Wildlife, and Parks, and the Yellowstone Club to determine the immediate and long-term impacts of a wastewater effluent spill in Big Sky, MT (Figure 1B). We have compiled the results to summarize the impacts to water quality, habitat, algae growth, and fish and stream insect populations in the South Fork and Second Yellow Mule Creek.

MORE INFORMATION

Glossary for technical terms: gallatinrivertaskforce.org/resources

Real-time water quality data: gallatinrivertaskforce.org/stream-data

Wastewater effluent spill: gallatinrivertaskforce.org/yellowstoneclubspill

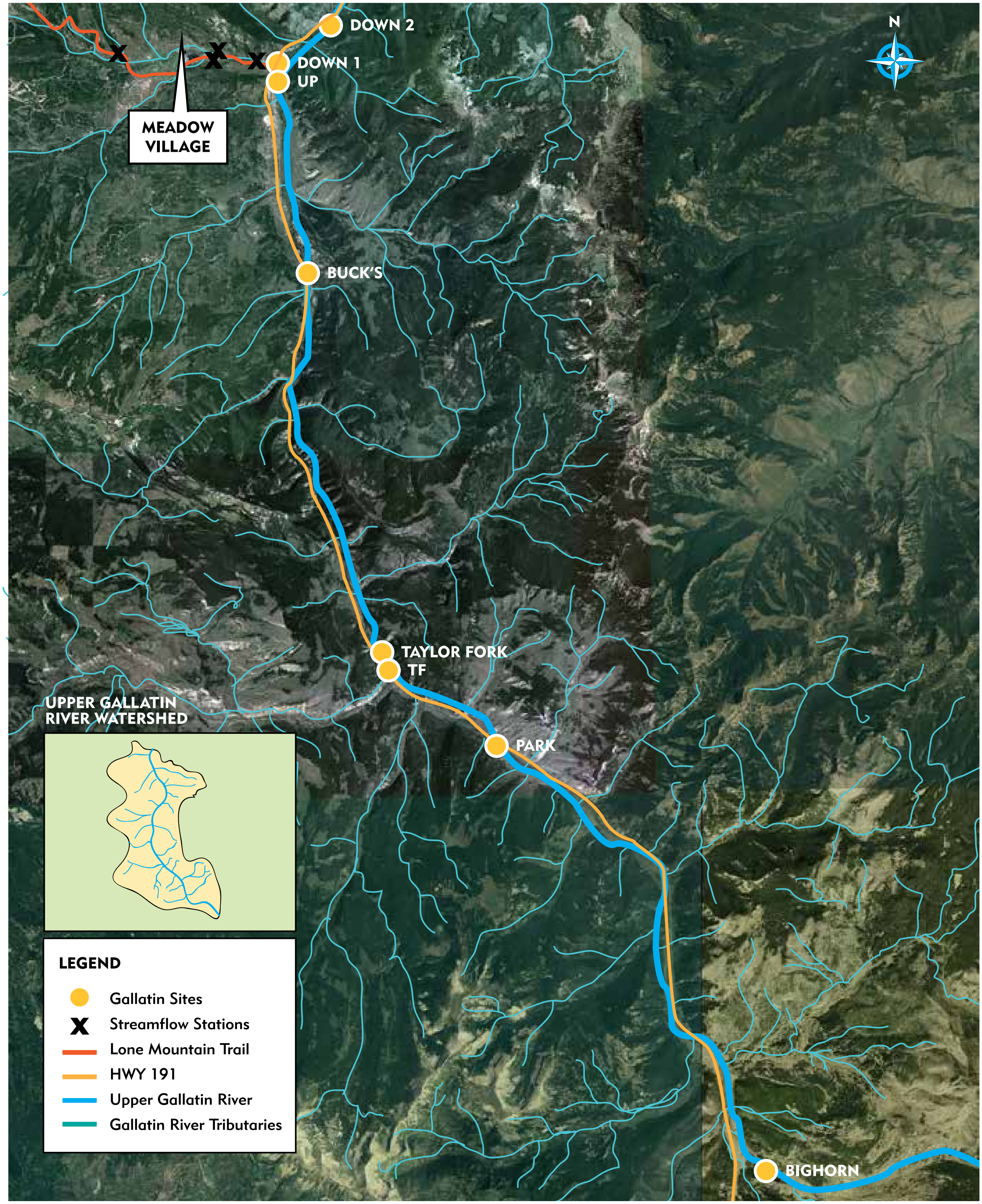


Figure 1A. The Gallatin River Task Force monitors seven sites on the mainstem Upper Gallatin River and one site on the Taylor Fork (yellow circles) four times a year. Our sites are located on the Upper Gallatin River from the headwaters in Yellowstone National Park to immediately downstream of the West Fork confluence.

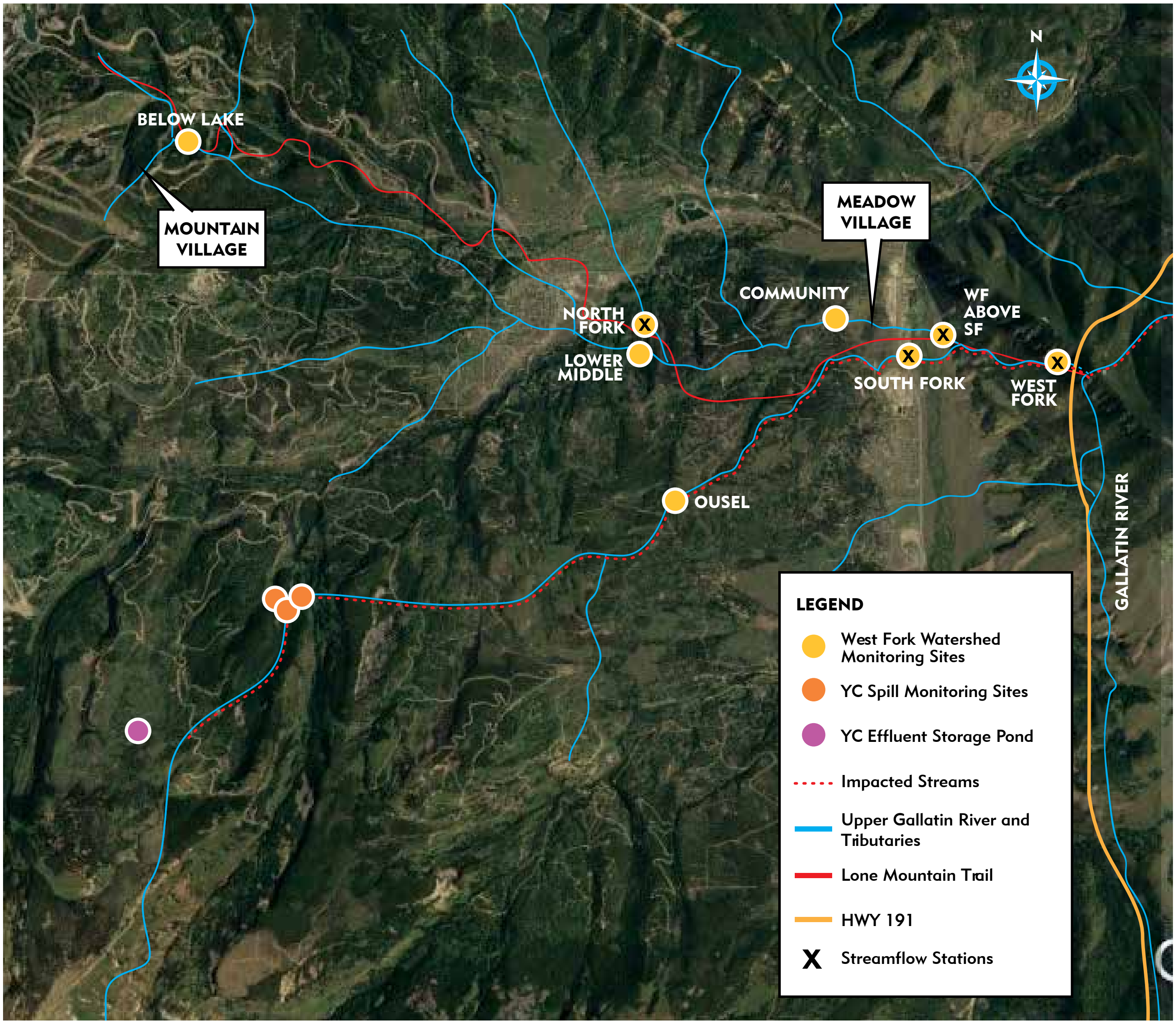


FIGURE 1B: The Gallatin River Task Force monitors eight sites for water quality (yellow circles) four times a year and maintains four continuous monitoring stations (black x's) in the West Fork Watershed. In 2016, the Gallatin River Task Force measured the impacts of a wastewater effluent spill at the Yellowstone Club. The Yellowstone Club wastewater effluent storage pond (pink circle) spilled tertiary treated wastewater onto a hillside, which drained into Second Yellow Mule Creek. The impacted stream segments are highlighted with red dots. The Task Force partnered with Confluence Consulting, Montana Department of Environmental Quality, Montana Fish, Wildlife, and Parks, and the Yellowstone Club to monitor the effects of the spill at sites (orange circles) along the impacted stream reaches.

ROUTINE MONITORING RESULTS

Task Force staff and trained volunteers have collected sixteen years of water quality data in Upper Gallatin River Watershed (Figures 1A & 1B). Over the years, the monitoring program has evolved to include sixteen sites and thirteen parameters. The figure titles note where we have collected less than sixteen years of data for a given parameter or a given location.

This year, we compiled this data to summarize the spatial, seasonal, and long-term trends measured since the inception of the watershed monitoring program. We appreciate the many intrepid volunteers who braved cold, high water, and blazing sun to build this invaluable record of watershed health.

Spatial Trends

Indicators of river health, including temperature, pH, and dissolved oxygen, suggest cold and clean water in the Upper Gallatin River Watershed. Elevated levels of nitrate, chloride, and E. coli as well as excess algae have been measured at several monitoring sites in the Big Sky area.

Two of the monitoring sites located in the Meadow Village downstream of the Little Coyote bridge ("Community Park" and "WF above SF") demonstrated average nitrate concentrations that exceeded recommended levels between 2000 and 2016 (Figures 2A & 2B). Nitrate is a form of nitrogen readily available to plants and animals. Elevated nitrate stimulates growth of algae which depletes dissolved oxygen vital to aquatic life. In addition, excess algae on the streambed can reduce the biodiversity of stream insect populations. Potential human sources of nitrate to the West Fork include fertilizer, land application of treated wastewater effluent on the Big Sky Golf Course and Big Sky Community Park, effluent from privately owned septic systems, and storm water runoff.

Chloride concentrations measured in the West Fork and the Middle Fork were elevated above background conditions (Figures 3A & 3B), but were well below the concentration that is toxic to aquatic life. Chloride is a water-soluble salt that can be toxic to aquatic life at very high concentrations. Wastewater and road salt likely contribute to elevated chloride levels in these streams.

Summer chlorophyll-a levels have been documented above Montana state target levels of 150 mg/m2 in the main tributaries of the West Fork Watershed. Chlorophyll-a is a green pigment found in plants and is an indicator of the amount of algae growing in streams.

Andrea, Travis, and Dave measuring fish population in the South Fork on March 10th, 2016. Photo by Stephanie Lynn

Seasonal Trends

Nitrate concentrations in stream water vary significantly from season to season at all monitoring sites (Figure 4). Nitrate concentrations were highest in the fall and winter. In the cold, dark months, dormant algae and aquatic plants take up little nitrate in stream water. The concentration of nitrate in the water is diluted when the snow melts and the amount of water in the river increases. Nitrate levels continue to decrease during the summer growing season because plants utilize nitrate in the water to grow. The seasonal nitrate cycle is similar in the streams in the Big Sky area; however, the magnitude of the winter nitrate peak is consistently much higher in the West Fork than in other streams (Figure 5).

Chloride concentrations were elevated during the winter throughout the watershed with the highest concentration in April (Figure 6). High chloride levels in the winter, and during early spring runoff, suggest that chloride originates from salt used for winter road maintenance, accumulated throughout the winter in snow, and carried by snowmelt to rivers and streams.

Turbidity is extremely low from September to February throughout the Upper Gallatin River Watershed, which indicates clear water (Figure 7). Turbidity increases from March to June as the snow melts and carries sediment (small pieces of sand, silt, and mud) downstream.

Several field sites have exceeded state standards for E. coli over the past sixteen years; however, there were no sites with persistently elevated E. coli levels. E. coli is a bacterium commonly found in the lower intestines of warm-blooded animals. E. coli levels were highest during the spring and summer months when warmer temperatures provide more favorable conditions for bacteria survival (Figure 8).

Long-term Trends

Quarterly E. coli, nitrate, and chloride measurements demonstrate no conclusive long-term trends over the past sixteen years. However, stream insect population distribution suggests deteriorating water quality in the West Fork between 2008 and 2016. The species and diversity of stream insects suggest that excess nitrate and fine sediment are impacting the health of the West Fork.

JeNelle and Stephanie measure chloride in the Middle Fork in April. Photo by Kristin Gardner

Mayflies are extremely sensitive to pollution, which makes them a powerful indicator species. The diversity of mayfly species in the West Fork suggests increasing nutrient enrichment after the Fall of 2010 (Figure 9). Conversely, stream insect population distribution in the South Fork suggests mild nutrient enrichment and some habitat disturbance, but relatively stable conditions over the past eight years.

A graph of summer water temperature may suggest a slight increase in summer water temperature in the West Fork Watershed while summer water temperature remained stable in the Gallatin River during this period (Figure 10A & 10B). Increased summer water temperature could be the result of changes in temperature and/or streamflow. Changes in streamflow could be the result of earlier snowmelt, decreased snowpack, or increasing groundwater withdrawals due to population growth in the Big Sky area. Additional study, including more frequent water temperature measurements taken over a longer period, could confirm or deny this possible trend in warming water temperature in the West Fork.

FIGURE 2A. WEST FORK WATERSHED AVERAGE SUMMER NITRATE | 2000-2016

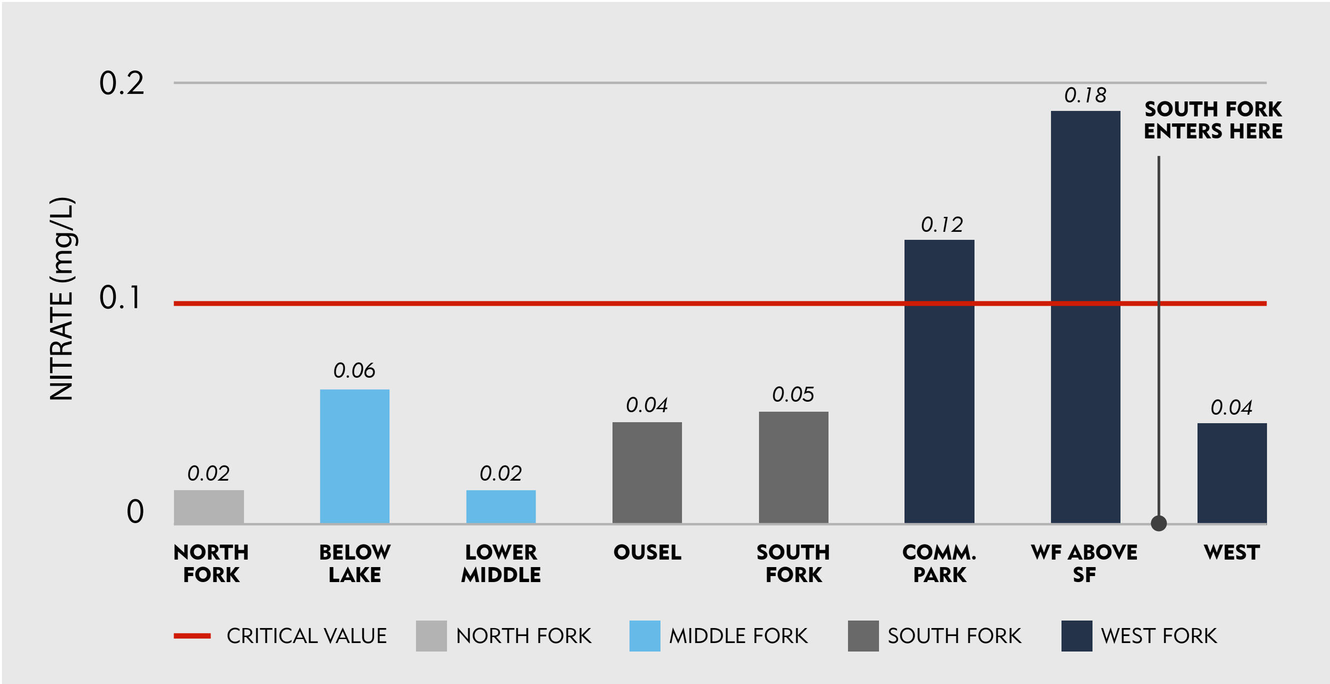
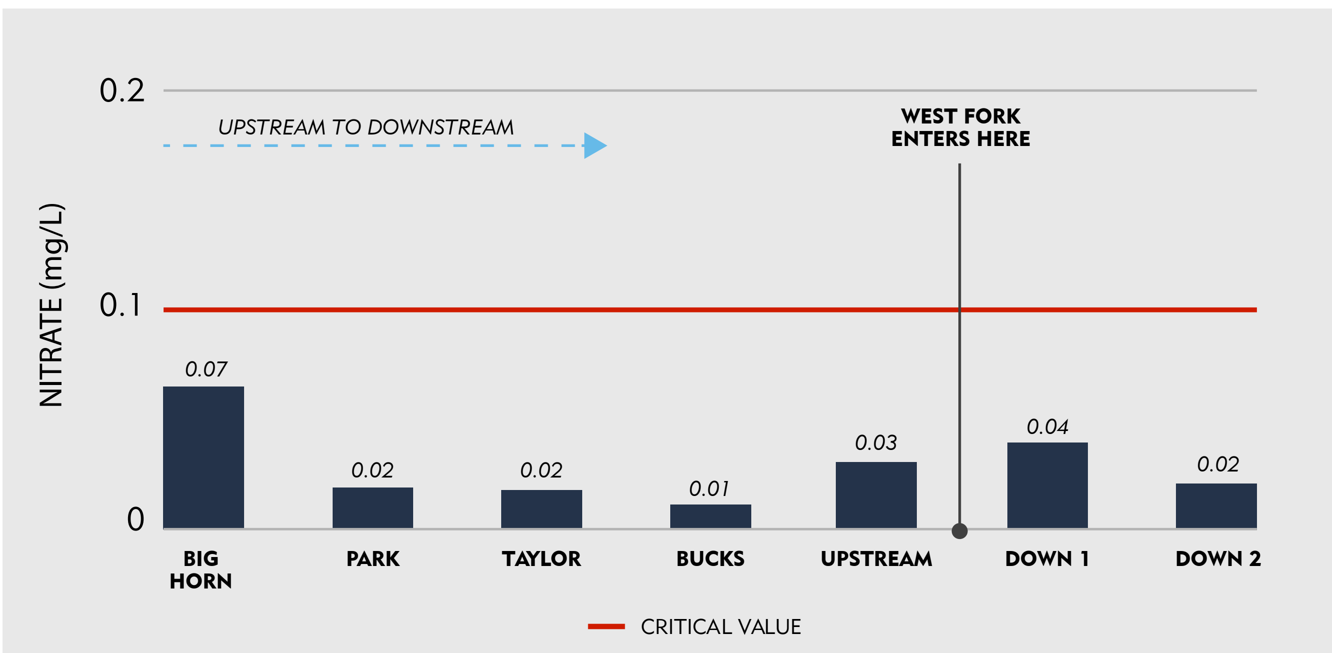


FIGURE 2B. UPPER GALLATIN RIVER AVERAGE SUMMER NITRATE | 2000-2016



Figures 2A & 2B. Average summer nitrate concentration in the West Fork Watershed (2A) and the mainstem Upper Gallatin River (2B) from 2000 to 2016. Field sites correspond with the sites shown on Figures 1A and 1B; TF is not included because it is on the Taylor Fork. If nitrate exceeds the 0.1 mg/L "critical value" during the growing season (July 15th to September 30th), elevated nitrate may cause excess growth of algae which depletes dissolved oxygen vital to aquatic life. Average nitrate measured at "Community Park" and "WF above SF" exceeded the critical value for nitrate between 2000 and 2016.

FIGURE 3A. WEST FORK WATERSHED AVERAGE CHLORIDE | 2012-2016

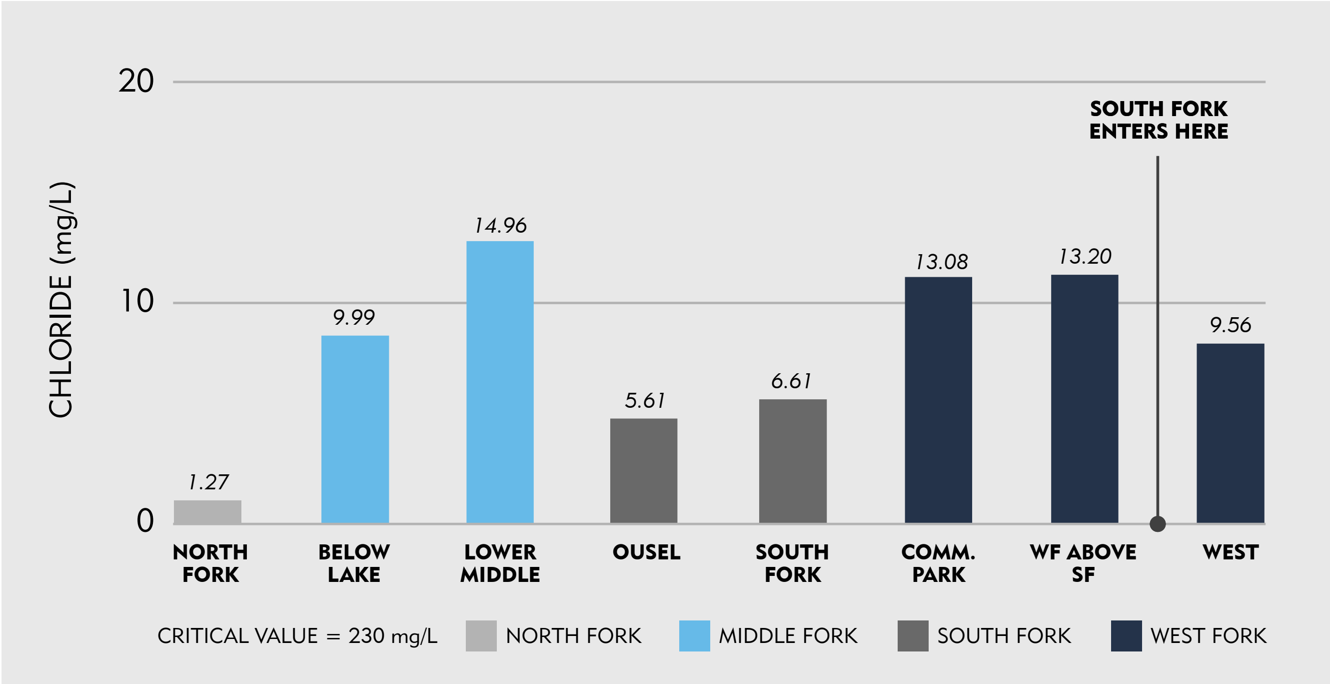
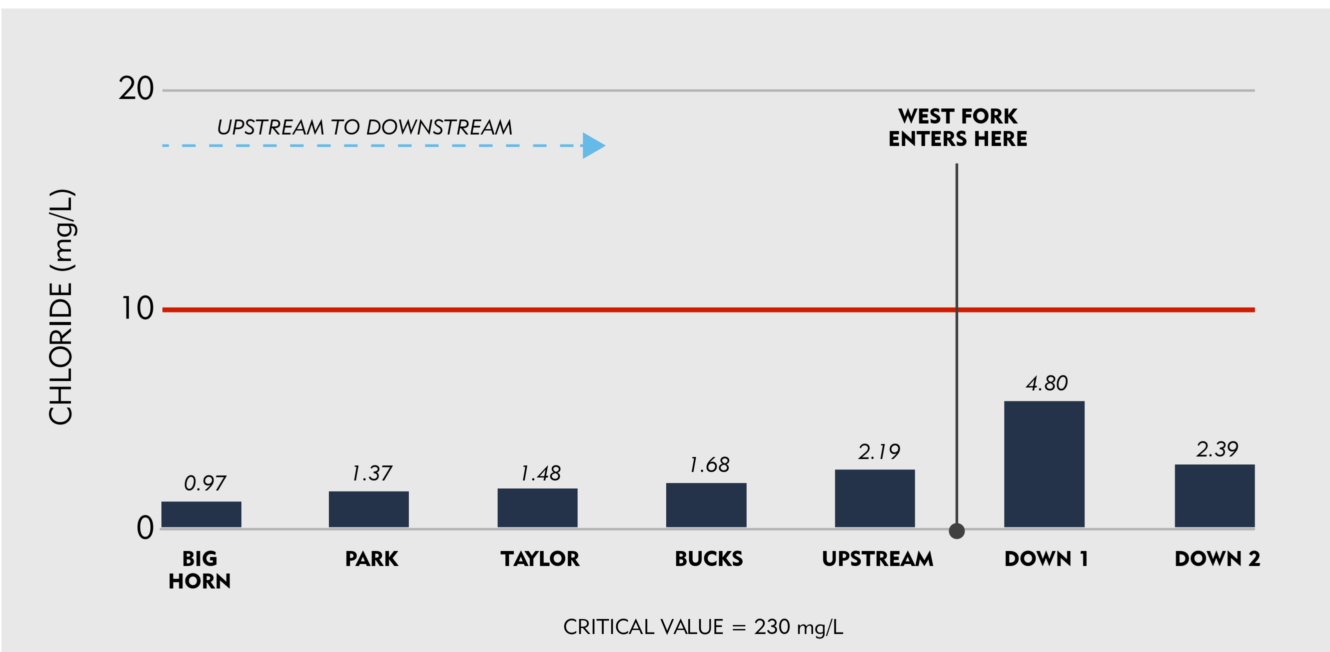


FIGURE 3B. UPPER GALLATIN RIVER AVERAGE CHLORIDE | 2012-2016



Figures 3A & 3B. Average chloride concentration in the West Fork Watershed (3A) and the mainstem Upper Gallatin River (3B) from 2012 to 2016. Field sites correspond with the sites shown on Figures 1A and 1B; TF is not included because it is on the Taylor Fork. Chloride can be toxic to aquatic life when the concentration exceeds 230 mg/L. All measurements were well below the critical value; however, average chloride concentrations in the West Fork and the Middle Fork were elevated above baseline conditions.

FIGURE 4. GALLATIN WATERSHED AVERAGE MONTHLY NITRATE | 2000-2016

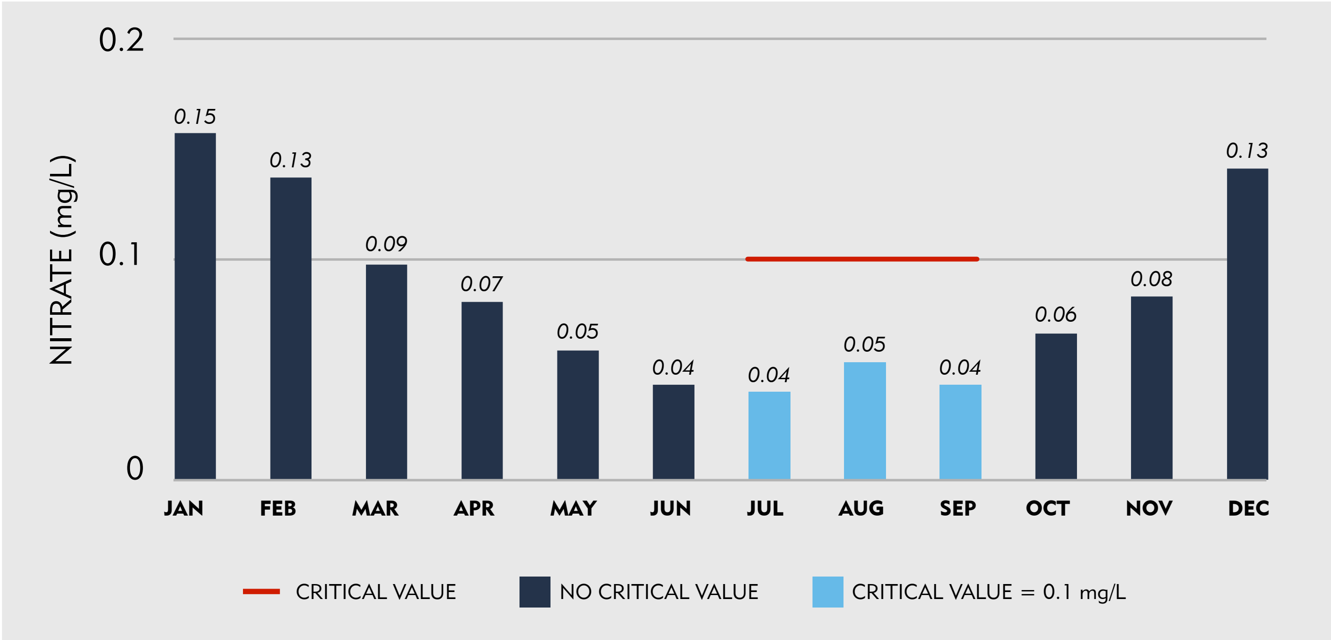


Figure 4. Average monthly nitrate measured at sixteen field sites in the Upper Gallatin River Watershed from 2000 to 2016. If nitrate exceeds the 0.1 mg/L "critical value" during the growing season (July 15th to September 30th), elevated nitrate may cause excess growth of algae which depletes dissolved oxygen vital to aquatic life. Average nitrate measurements throughout the watershed were below the critical value. Nitrate concentrations were highest in the winter and lowest in the summer.

FIGURE 5. QUARTERLY NITRATE IN THE WEST FORK & NORTH FORK | 2009-2013

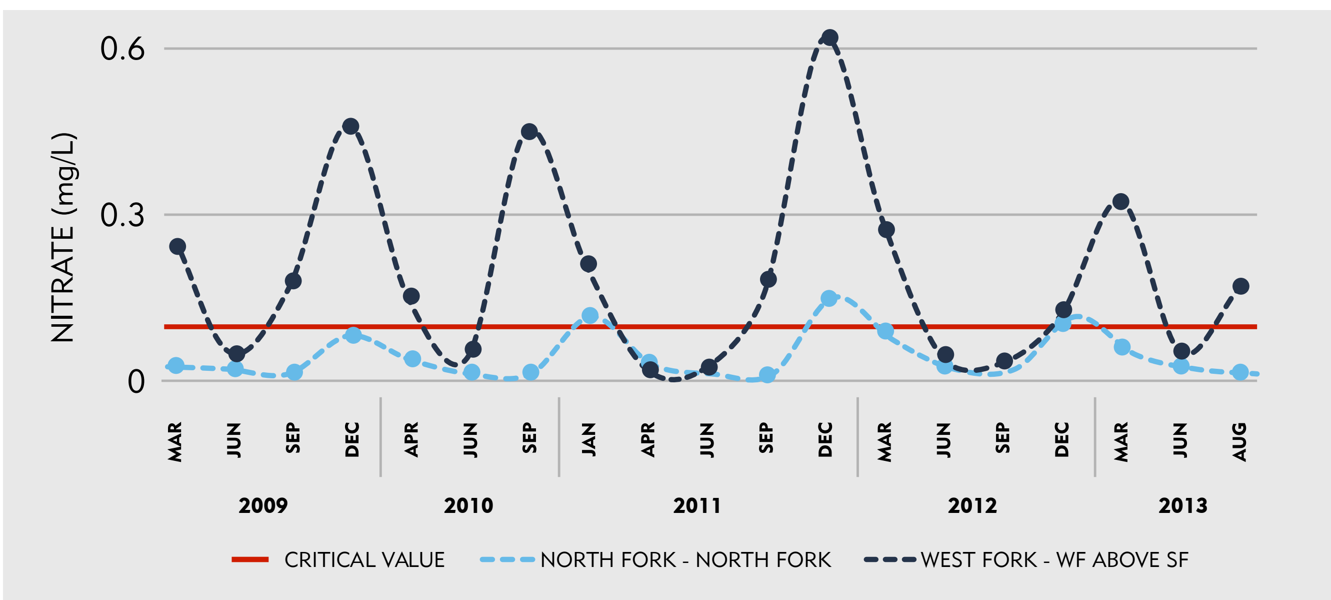


Figure 5. Quarterly nitrate measurements from "WF above SF" (dark blue) and "North Fork" (light blue) field sites from 2009 to 2013. If nitrate exceeds the 0.1 mg/L "critical value" during the growing season (July 15th to September 30th), elevated nitrate may cause excess growth of algae which depletes dissolved oxygen levels vital to aquatic life. "WF above SF" and "North Fork" demonstrated similar seasonal patterns; however, the winter peak at "WF above SF" was significantly higher. In addition, four of the five growing season measurements at "WF above SF" exceeded the nitrate critical value.

FIGURE 6. GALLATIN WATERSHED AVERAGE MONTHLY CHLORIDE | 2012-2016

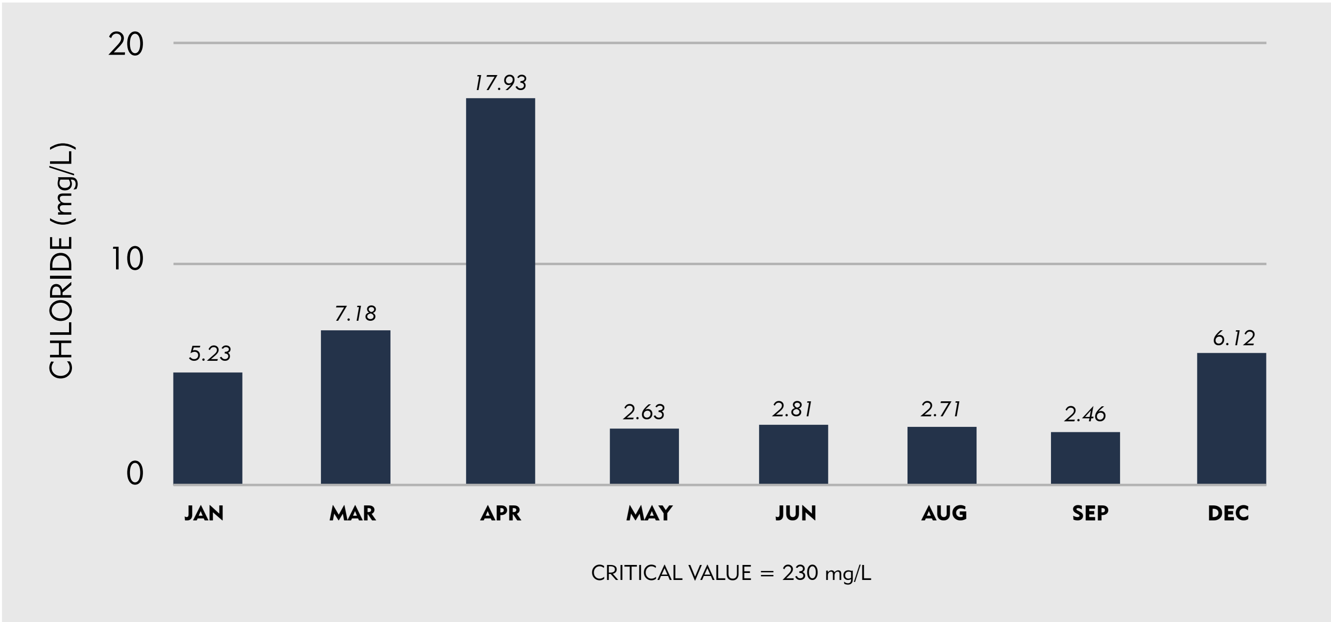


Figure 6. Average monthly chloride measured at sixteen field sites in the Upper Gallatin River Watershed from 2012 to 2016. Months without measurements (February, July, October, and November) are not shown on the graph. Chloride can be toxic to aquatic life when the concentration exceeds 230 mg/L. Chloride levels were well below the critical value throughout the year. Chloride measurements were highest in the winter and during early snowmelt in April.

FIGURE 7. GALLATIN WATERSHED AVERAGE MONTHLY TURBIDITY | 2001-2016

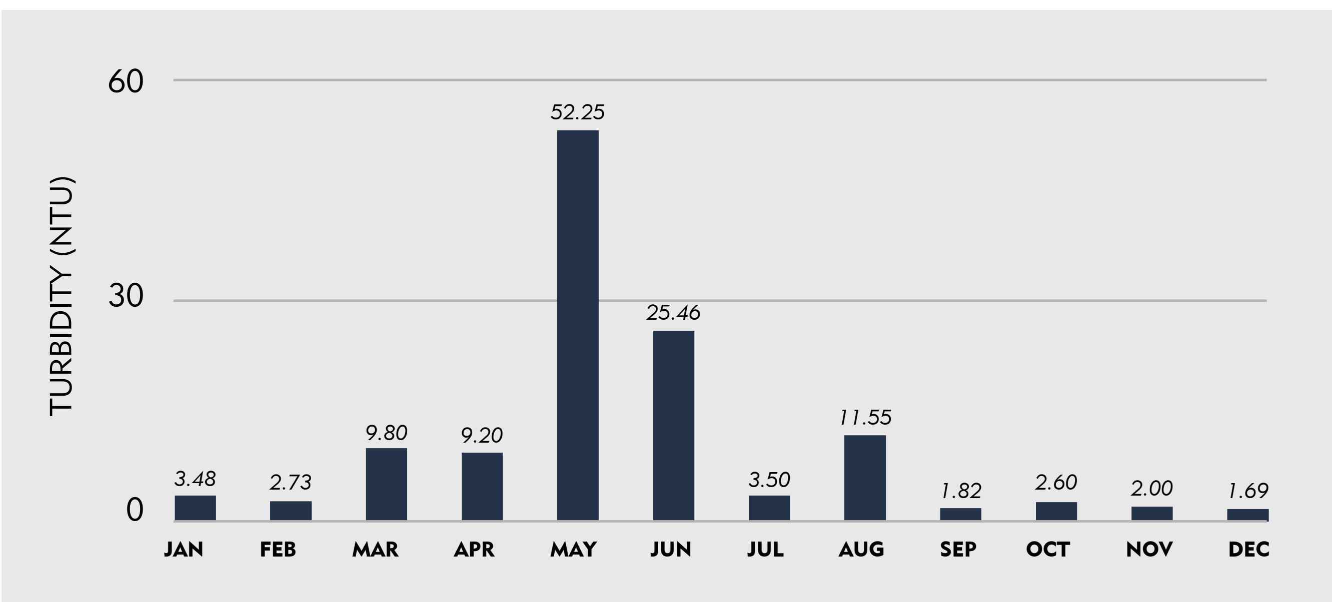


Figure 7. Average monthly turbidity measured at sixteen field sites in the Upper Gallatin River Watershed from 2001 to 2016. Turbidity is a measure of water clarity, and naturally varies throughout the year with the highest values during runoff.

FIGURE 8. GALLATIN WATERSHED AVERAGE MONTHLY E. COLI | 2000-2016

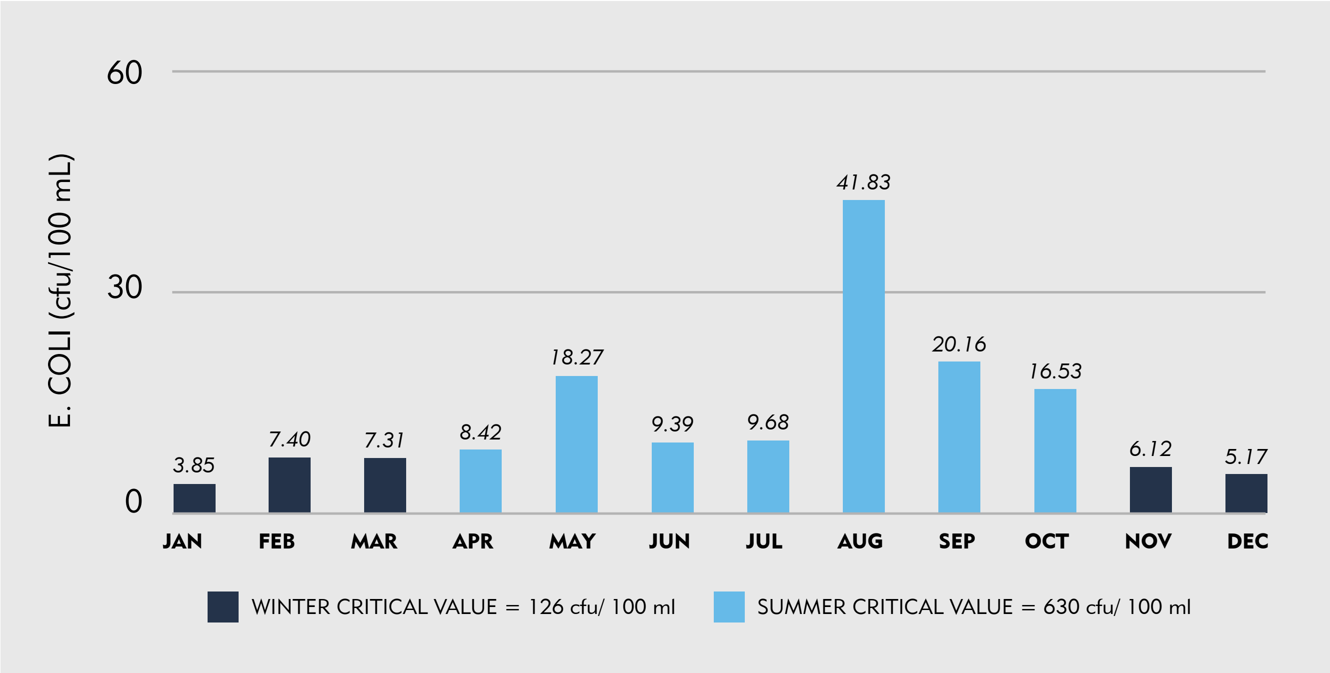


Figure 8. Average monthly E. coli concentration measured at sixteen field sites in the Upper Gallatin River Watershed from 2000 to 2016. The Montana Department of Environmental Quality set the E. coli primary standard as 126 cfu/100 mL during the warm months from April 1st thru October 31st (light blue) and 630 cfu/100 mL for the rest of year (dark blue) (Administrative Rule of Montana 17.30.620 (2)(ii)). Average data for the Gallatin Watershed suggested no exceedances of the standard. E. coli levels were highest during runoff and late summer.

FIGURE 9. WEST FORK MAYFLY TAXA RICHNESS | 2008-2016

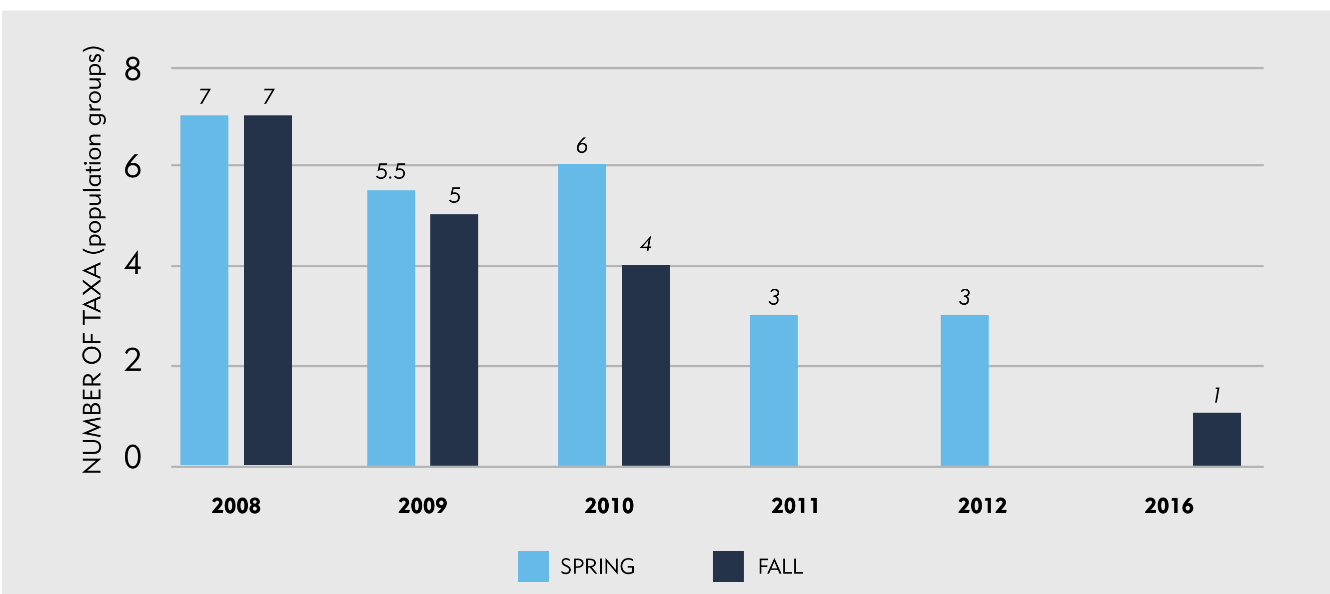


Figure 9. Mayfly taxa richness (number of population groups) calculated from samples collected in the West Fork from 2008 to 2016. Data collected in both spring (light blue) and fall (dark blue) suggest that the diversity of mayfly species declined with time. The number of mayfly taxa were below expected levels for a mountain stream from Fall 2010 to Fall 2016.

FIGURE 10A. WEST FORK SUMMER WATER TEMPERATURE | 2000-2016

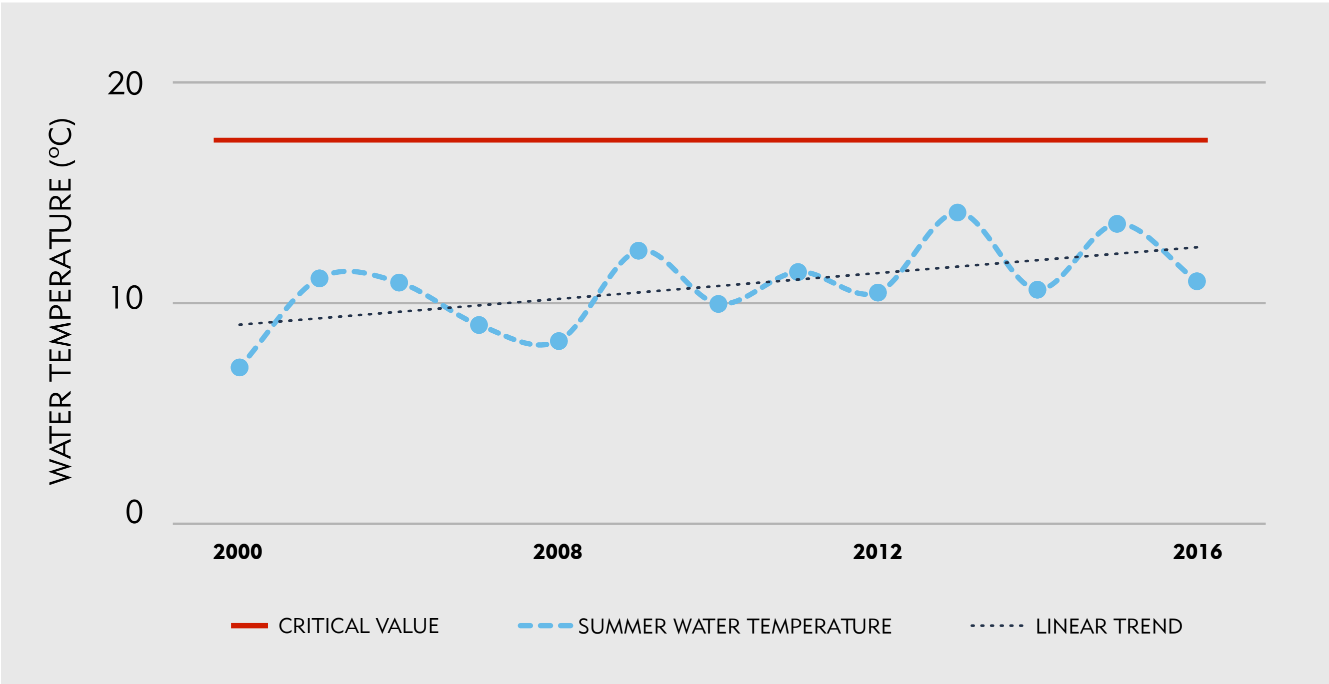
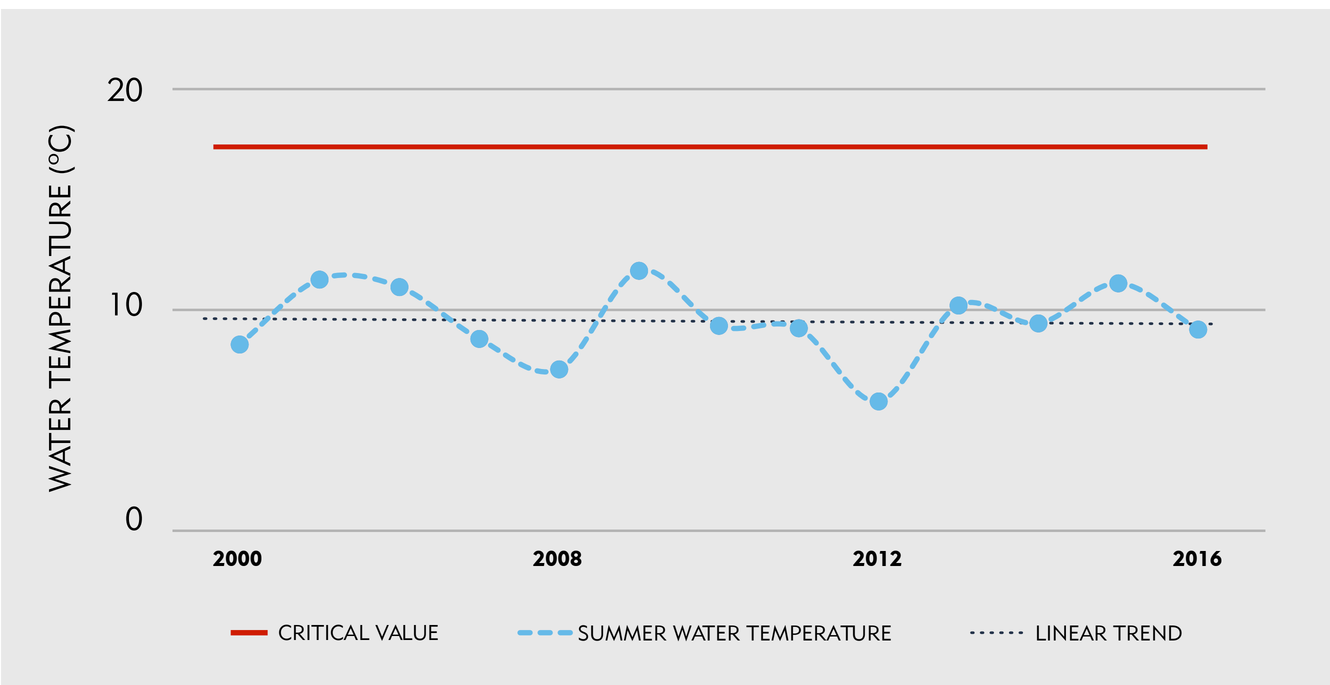


FIGURE 10B. GALLATIN RIVER SUMMER WATER TEMPERATURE | 2000-2016



Figures 10A & 10B. Summer water temperature from 2000 to 2016 in the West Fork (10A) and the Gallatin River (10B). Cutthroat trout prefer water temperatures between 10.3 – 17 °C (50 - 63 °F) [Bear et al., 2005]. Water temperatures remained below the 17 °C critical value during the hottest months of the year in both the Gallatin River and the West Fork. Summer temperatures in the Gallatin River were variable, but relatively stable, while data from the West Fork may suggest a weak warming trend.

YELLOWSTONE CLUB SPILL RESULTS

Early in the morning of March 3rd, 2016, a mechanical failure in the wastewater effluent storage pond at the Yellowstone Club in Big Sky, MT caused a leak and spilled tertiary treated wastewater into the Second Yellow Mule drainage. Second Yellow Mule Creek is a small headwater tributary of the South Fork of the West Fork of the Gallatin River (South Fork). Approximately 30 million gallons of treated wastewater effluent spilled into Second Yellow Mule Creek over four days until the pond stopped leaking on March 7th at 4 AM. Treated wastewater effluent from the spill cut through the hillside, where the storage pond is located, and carried sediment to Second Yellow Mule Creek.

Sediment carried by the spill water increased the specific conductance (amount of charged particles) in the South Fork. The South Fork continuous monitoring station measures specific conductance every 30 minutes (Figure 1B). The rapid increase in specific conductance on March 3rd and precipitous decline on March 7th mark the period when the pond was actively leaking (Figure 11).

Water Quality Data

The Task Force and Confluence Consulting Inc. monitored water quality daily while the pond was actively leaking and impacting downstream surface waters and then monthly through spring runoff until August. Water quality results indicated that Montana health standards were not exceeded at any of the sampling sites.

Aquatic life standards were exceeded for ammonia and turbidity over the initial days following the spill and returned to background levels soon after the leak stopped. Ammonia at high levels can be toxic to fish by affecting the central nervous system; while, high turbidity levels can harm fish and other aquatic life by reducing light and food supplies, degrading spawning beds, and affecting gill function.

Habitat Data

Confluence Consulting, with assistance from Task Force and Yellowstone Club staff members, lead habitat assessments before and after spring runoff to assess impacts from the spill. Habitat assessments took place at stream reaches upstream and downstream of the spill on Second Yellow Mule Creek and the South Fork.

Results indicated that Second Yellow Mule Creek was impacted by sediment delivered to the stream by the spill water. Sediment from the spill flows decreased pool frequency before runoff; however, pool frequency was re-established by spring flows. Pool frequency refers to the number of pools occurring in a length of stream. An abundance of high-quality pools is necessary to sustain healthy trout populations.

In addition, fine sediment in pool tails downstream from the spill was elevated pre-runoff. High water during runoff flushed a significant amount of fine sediment from pool tails, but fine sediment remained elevated after runoff. A pool tail is the downstream end of a pool and contains ideal habitat for trout spawning. Fine sediment in pool tails can fill the spaces between cobbles and gravels reducing high oxygen levels required for trout egg development.

Stream insect numbers were greatly diminished after the spill; however, following runoff, aquatic insect numbers had returned to similar levels as those found in reaches upstream of the spill.

Results from the assessments in the South Fork indicate fewer impacts to stream habitat than in Second Yellow Mule Creek. Pool frequency did not appear impacted by the spill. Excess fine sediment was exhibited in pool tails before runoff but was washed away by high spring flows.

The confluence of the South Fork and Second Yellow Mule Creek in early March 2016. The highly turbid waters of Second Yellow Mule Creek carried sediment from the hillside below the Yellowstone Club wastewater effluent storage pond to the South Fork. The South Fork is noticeably clearer upstream of the confluence with Second Yellow Mule Creek.

Fish Population Data

Montana Fish, Wildlife and Parks, with assistance from Task Force, Yellowstone Club, and Confluence Consulting staff, conducted fish population surveys to assess impacts from the spill (Figure 12). Sites were assessed immediately after the spill in March and then again following spring runoff.

Immediately following the spill, in the South Fork just downstream of Second Yellow Mule Creek, five Westslope Cutthroat Trout mortalities were documented and Westslope Cutthroat Trout numbers were significantly lower than in the South Fork upstream of Second Yellow Mule. Approximately 60% of Rocky Mountain Sculpin sampled showed obvious signs of fin erosion.

In August, Westslope Cutthroat Trout numbers were still depressed in the South Fork, just downstream of Second Yellow Mule Creek; however, there was a significant increase from the numbers observed during the March sampling event. Rocky Mountain Sculpin appeared to be in excellent condition with no signs of fin erosion.

Upon review of the combined results from the fisheries and habitat assessments, Montana Fish, Wildlife, and Parks expects that Westslope Cutthroat Trout and Rocky Mountain Sculpin populations to fully recover in Second Yellow Mule Creek and the South Fork in several years; however, additional data will be needed to verify this expectation.

More information at gallatinrivertaskforce.org/resources

- Yellowstone Club Wastewater Effluent Spill Monitoring Project Data Analysis, Gallatin River Task Force
- Wastewater Spill into the Upper Gallatin River Watershed Parts 1-3, Water Quality Standards and Modeling Section, Montana Department of Environmental Quality
- Yellowstone Club Macroinvertebrate and Physical Aquatic Habitat Monitoring Report, Confluence Consulting
- Fisheries Investigation South Fork West Fork Gallatin River, Montana Fish, Wildlife, and Parks
- Biological Assessment of Sites in the Gallatin River Watershed: Gallatin County, Montana 2008 - 2016, Rhithron Associates

FIGURE 11. SOUTH FORK SPECIFIC CONDUCTANCE | FEB. & MAR. 2016

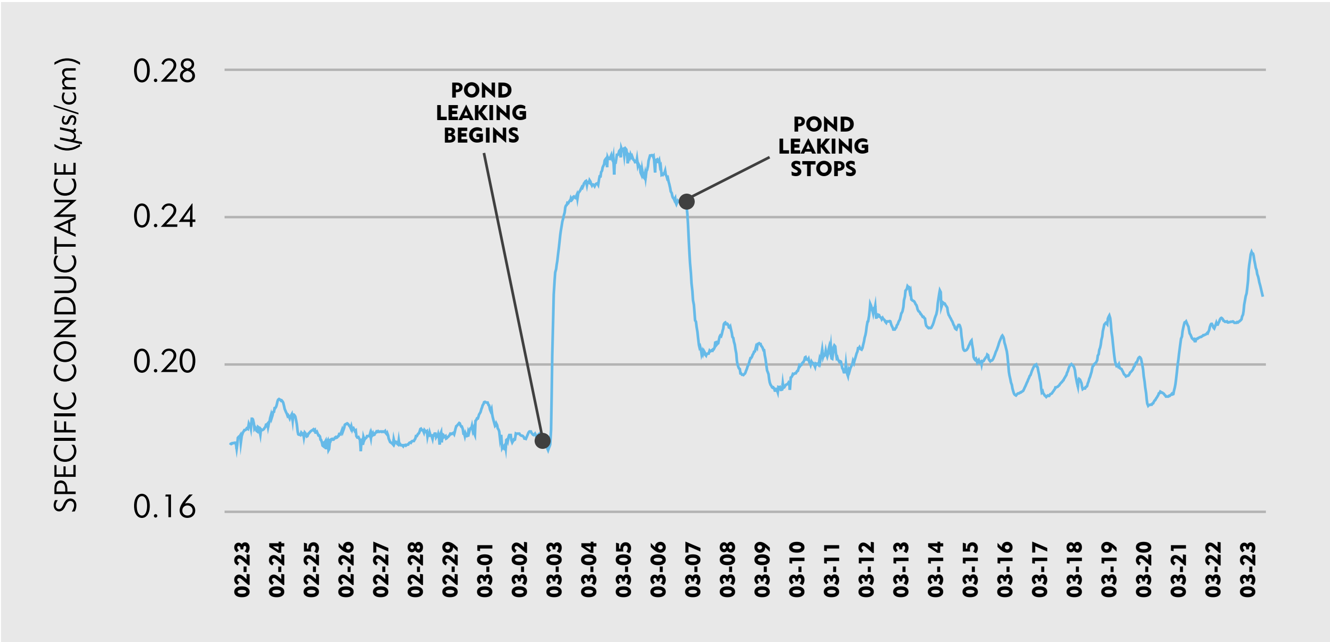


Figure 11. Specific conductance (charged particles) measured every 30 minutes at the South Fork continuous monitoring station from February 23rd to March 23rd, 2016 (Figure 1B). The data shows a rapid increase in charged particles on March 3rd at 6:30 AM when the wastewater effluent pond at the Yellowstone Club started leaking and a sharp decline on March 7th at 7:30 PM after the pond had finished draining.

FIGURE 12. SOUTH FORK TROUT POPULATION | MAR. & AUG. 2016

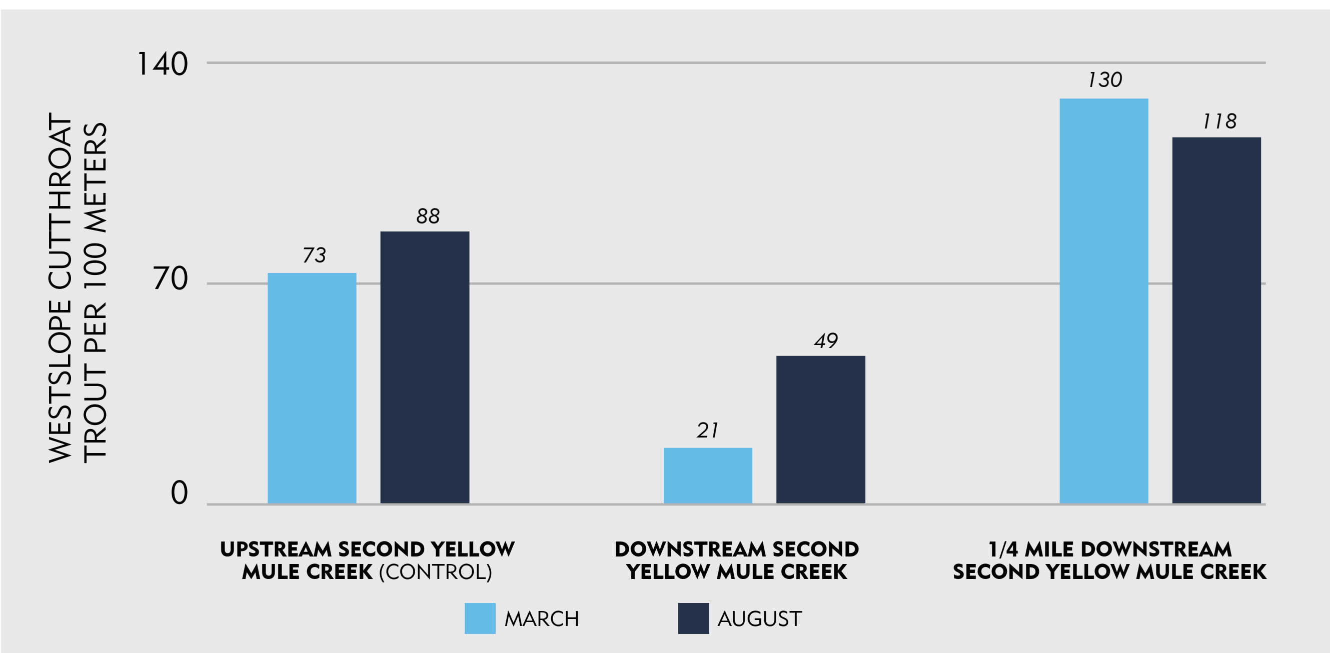


Figure 12. Westslope Cutthroat Trout population assessments completed by Montana Fish, Wildlife, and Parks on three sections of the South Fork West Fork Gallatin River to assess the immediate (March – light blue) and post runoff (August – dark blue) effects of the wastewater effluent spill at the Yellowstone Club. In the section of stream immediately downstream of Second Yellow Mule Creek, the number of Westslope Cutthroat Trout more than doubled between March and August, but remained below expected levels. There was a significant increase in the upstream section (control) and no significant decrease ¼ mile downstream section between March and August.

CONCLUSIONS

Routine Monitoring
Sixteen years of monitoring data indicated healthy levels of dissolved oxygen and water temperature for fish and stream insects throughout the Upper Gallatin River Watershed. Elevated levels of nitrate, fine sediment, and chloride in the Middle Fork and the West Fork suggest that development in the Big Sky area is negatively impacting water quality and stream insects. Human threats to the health of West Fork streams include wastewater, disturbed streamside vegetation, road salt and sand from winter maintenance activities, increased water use, and fertilizer application. These impacts underscore the need to protect rivers through sustainable growth, smart land use practices, and restoration work where necessary to ensure a future of cold, clean, and abundant water for the Gallatin River.

Yellowstone Club Spill
The South Fork drainage, including Second Yellow Mule Creek, have evolved in a geologically active landscape where slope failures are common. For this reason, the streams in these drainages are relatively adept at recovering from large sediment pulses and appear to be on a trajectory toward a full and rapid recovery from the effects of the spill. Because of its proximity to the spill and smaller size and drainage area, Second Yellow Mule Creek should be expected to take longer to recover than the South Fork. Additional sampling of habitat parameters and fish populations over the next few years will be useful to understand the rate and amount of recovery.

INVEST IN A HEALTHY GALLATIN RIVER FOR FUTURE GENERATIONS
TOGETHER, WE CAN MAKE A DIFFERENCE!

Learn More | At the Task Force, we believe an educated community is the foundation for a healthy watershed. We work hard to bring engaging and relevant water resource information to the residents and visitors of the Big Sky community. Attend an educational event or workshop hosted by the Task Force and learn about storm water management, septic care and maintenance, trout friendly landscaping, and so much more.

Apply for a Rebate | Did you know that Big Sky has one of only two municipal water conservation programs in Montana? Through the Big Sky Water Conservation Program, you can help ensure adequate streamflows in the Gallatin by reducing your water use. Visit our website and apply to receive rebates for installing water efficient showerheads, toilets, and clothes washers in your home. Starting in spring 2017, apply for rebates for irrigation audits, smart controllers, rain sensors, and sprinkler heads and nozzles.

Become a Volunteer | Do you want to get your feet wet with citizen science, engage your community in the conservation conversation, or get your hands dirty protecting the Gallatin River? Volunteers are assets, who partner with the Task Force at all levels. Visit our website to join the Volunteer Task Force today!

Make an Investment | We envision a future of cold, clean, and abundant water for the Gallatin River, now and for future generations. Together, we can collect credible data, engage in sound water resource planning, and educate the next generation of conservation leaders. We invite you to invest in the Gallatin River today. Together, we can make a difference.

GALLATIN RIVER
TASK FORCE

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