2022 planned social media posts outline (details on pages 2-10)

January

1. Ice melt
2. Fill out the online survey

February

1. Snowplowing/ice melt

March

1. When it flows…snowmelt and spring rains
2. Pet waste

April

1. What is illicit discharge?

May

1. Where does storm water go?
2. What's the problem with car washing?

June

1. Construction waste

July

1. RV/camper proper dump stations

August

1. Pet waste
2. Vehicle maintenance

September

1. Construction Waste

October

1. HazWaste Days

November

1. When it flows – deicer and sediment

December

1. What is MS4?
2. Snowplowing

MS4 Website: http://missoula.co/ms4

MS4 Survey: http://missoula.co/ms4survey

MS4 Contact: (until MS4 employee is hired TBD)

Water Quality District

waterquality@missoulacounty.us | 406-258-4890

Environmental Health Specialist Todd Seib

Public Works

sstack@missoulacounty.us | 406-258-3701

Director Shane Stack

MS4 Social Media: managed by Communications Coordinator Sarah Bell

- Facebook @Missoula.County
- Twitter @MissoulaCounty
- Instagram @missoulacountymt
- NextDoor @MissoulaCounty

2022 planned posts:

January – post one

Ice melt (WQD FB post for reference 1/17/20)

Ice melt bucket

Why does salt melt ice? Who monitors the amount of salt applied on Missoula's roadways?

Deicers basically work by lowering the freezing point of water by disrupting the chemical bonds that bind water molecules together.The Water Quality District monitors the big deicer distributors and applicators in Missoula. Each year hundreds of thousands of gallons of magnesium chloride, sodium chloride and other components of deicers are used and can be a problem for ground and surface water if not regulated carefully.

Share link: https://www.thoughtco.com/melting-snow-and-ice-with-salt-602184

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#stormwater #stormwatermanagement #ms4 #waterquality #municipalseparatestormsewersystem #missoula #missoulacounty #urban

January – post two

Fill out the online survey!

MS4_clean water

We want to hear from the community about ideas to improve management of storm water quality. Please consider lending your voice by filling out this short online survey at http://missoula.co/ms4survey

The Environmental Protection Agency requires Missoula County to manage storm water under a system called MS4 (Municipal Separate Storm Sewer System).

There are six minimal control measures that urban communities must meet to demonstrate they are working to reduce pollution caused by storm water. Learn more about the County MS4 initiatives at http://missoula.co/ms4.

Thank you for taking the time to complete the survey!

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February – one post

Snowplowing

Looks like more snow is headed our way!

Missoula County Public Works road crews begin plowing roads outside city limits between 5 and 6 a.m. following a snowstorm, with the goal of having school bus routes cleared first. You can view plow routes at http://missoula.co/roadsdivision.

Have concerns about a particular area in the county that's not being plowed? Call 406-258-4753 to let us know. Also, please keep in mind that while we are responsible for plowing roads throughout much of the county, the City of Missoula plows within city limits: http://www.ci.missoula.mt.us/558/Snow-Removal.

Drive carefully and stay safe out there!

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#stormwater #stormwatermanagement #ms4 #waterquality #municipalseparatestormsewersystem #missoula #missoulacounty #urban

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March – post one

When it flows – snowmelt and spring rains **(WQD FB Post for reference 5/21/21)**

MS4 4 elements

MS4 clean water

Spring gets us thinking about gardens, rain, and storm water pollution! Check out EPA's interactive graphic to learn about ways to reduce the impacts of non-point pollution to our groundwater and rivers.

https://www.epa.gov/.../nonpoint-source-pollution...

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March – post two

Pet waste

Pet Waste 1

Pet Waste 2

We all know there are lots of dogs in Missoula County (around 40,000), which means lots of poop could find its way to the river if not cleaned up properly.

Coliform bacteria are naturally found in soils and surface water but are not naturally found in groundwater. Some forms of these bacteria can make people sick (e.g. *E. coli*) and detections indicate the presence of feces (animal or human) in the water. These bacteria can enter rivers and groundwater from failing septic systems and storm water run-off. Wells that are damaged or poorly sited can allow entry of bacteria into the water supply.

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April – one post

Illicit discharge – **(WQD FB post for reference 11/13/19)**

Series of 7 pictures: Steps to protect drinking water

What it is – non-point source pollution sources, define non-point, rain carries pet waste, engine fluids, ferilizers, herbicides, sediment, salts.

Why its bad – surface water (rivers) and groundwater contamination. County has a program to limit this pollution. Solicit feedback on this program – link to SWMP and survey (put survey on website too)

Since we all live, work and play above our drinking water source, we can all take simple steps to protect it!

- **Dispose of automotive fluids properly**. Never pour engine oil, gasoline, or any chemical etc. on the ground or down a storm drain.
- Limit use of pesticides and fertilizers. Overuse can allow these chemicals to find their way into our water supplies.
- Follow trails along rivers instead of creating new ones. Sediment is one of the biggest threats to our surface waters. Keeping existing vegetation in place and maintaining a healthy riparian habitat prevents erosion and sediment runoff. Also, since our aquifer is constantly being replenished by the Clark Fork River, a healthy river means a healthy aquifer!
- Wash vehicles at a car wash. Soap, chemicals, and sediment from car wash water can enter storm drains and contaminate water supplies when they are washed in a driveway or other hard surface. Car washes are required to have special filters systems that remove contaminants.

- Manage agricultural waste properly. Do not allow animal waste to accumulate. Precipitation and extended storage can allow harmful bacteria and nitrogen to enter groundwater or surface water. Pick up and discard your dog waste when hiking.
- If you see a potential threat to our water, contact us! We can investigate and enforce water laws to ensure we all can enjoy this shared resource! We can also install a sign near you if interested!

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May – post one

Where does storm water go?

MS4 4 elements

Combined

Storm drain

Sanitary Sewer

Storm drains vs. sanitary sewers: Storm drains and sanitary sewers have two distinct functions. It is important to understand the difference:

Storm drains are intended to collect and transport runoff from rainfall. Storm drain systems do not remove pollutants from water before it is discharged into ground water, rivers and streams. These are typically the drains found in streets and parking lots. Dry wells (also referred to as dry-sumps, storm water injection wells, Class V wells, or storm sumps) are the most common, and deliver storm water into a ~8' deep hole in the ground lined with concrete and composed of a gravel bottom. Some storm drains have identical looking inlets but are piped to an outfall which discharges into a water body like a river or stream.

Sanitary sewers collect wastewater from indoor plumbing such as toilets, sinks, washing machines, and other drains and take it to a wastewater treatment plant. The treatment plant removes pollutants from wastewater before it is discharged to the river.

If you come across a hazardous spill anywhere in Missoula County, call 406-258-4890 to report it. Outside of business hours, call 9-1-1. Missoula Valley Water Quality's 24-hour on-call haz mat team will respond ASAP.

If you encounter a broken water main outside the city limits, call 406-544-1458 to reach on-call staff at Missoula County Public Works.

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May – post two

What's the problem with car washing?

Car wash

We all need and value clean water. Often, we also want clean cars! The problem is, during a car wash, dirty water containing soap and detergents, residues from exhaust fumes, motor oils and gasoline washes off the cars, and flows off the pavement into nearby storm drains.

Unlike the water we use in our homes and businesses, which is treated through septic systems or waste-water treatment plants, the water that goes into storm drain sumps flows through soil and into the aquifer, the source of Missoula's drinking water. In some places the aquifer or groundwater is only a few feet below the ground surface!

Car wash water that flows past the parking lot and into the road can enter another kind of storm drain that flows directly to our local rivers that we recreate, swim and fish in, like the Bitterroot, Clark Fork or Blackfoot Rivers.

Please help protect our drinking water and wash your car at the car wash where they are required to have special filters systems that remove contaminants.

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June – one post

Construction waste:

Construction waste

Storm drains aren't for disposal of brush wash water, tile saw slurry, concrete washout, allowing sediment to leave construction site during excavation, etc

Sediment, silt, and other small particles floating in the water are referred to as suspended solids. These solids can come from construction site run-off, erosion, and storm water discharge. As new homes are being built it's important that contractors take necessary steps to keep sediment from leaving the site. Why is sediment bad? High levels of solids can clog fish gills, smother fish eggs and bottom dwelling organisms, reduce light penetration, and lead to water temperature increases. High sediment loads also have implications for infrastructure such as sewer systems and wastewater treatment plants.
Is your site prepared for a rain event? Is sediment leaving the site during normal egress/entry? Are slopes protected? Are storm drains protected? How often is site inspected? Consult your SWPPP administrator or contact county public works for more tips to protect our local water resources.

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July – one post

Campers and RVs – Do not dump waste down the storm drain. Only dump in specified RV dump stations that are designed for the safe disposal of waste from RVs. The waste will be disposed of into a communal septic tank, usually through the use of a hose. It is important that you only use a designated dump spot as to not pose environmental harm or create unsanitary conditions to the surrounding area.

RV dump 1

RV dump 2

Missoula RV dump locations: https://rvshare.com/dumpstations/montana/missoula

Bacteria info to add to the post:

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August – post one

We all know there are lots of dogs in Missoula County (around 40,000), which means lots of poop could find its way to the river if not cleaned up properly.

Pet Waste 1

Pet Waste 2

Bacteria info to add to the post:

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August – post two

Vehicle maintenance

Dispose of automotive fluids properly. Never pour engine oil, gasoline, or any chemical etc. on the ground or down a storm drain.

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Learn more about Missoula County Municipal Separate Storm Sewer System at missoula.co/ms4.

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September – one post

Construction waste

Storm drains aren't for disposal of brush wash water, tile saw slurry, concrete washout, allowing sediment to leave construction site during excavation, etc.

Sediment, silt and other small particles floating in the water are referred to as suspended solids. These solids can come from construction site run-off, erosion and storm water discharge. As new homes are being built it's important that contractors take necessary steps to keep sediment from leaving the site.

Why is sediment bad? High levels of solids can clog fish gills, smother fish eggs and bottom dwelling organisms, reduce light penetration, and lead to water temperature increases. High sediment loads also have implications for infrastructure such as sewer systems and wastewater treatment plants.
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October – update with current info when published.

Proper household waste disposal (can also source text from 2020 household haz waste days press release for latex paint reminder and link to youtube video too) **WQD posts for reference 6/23/2020** for year-round disposal options and **7/24/2020** for what to do with latex paint)

HazWaste Days

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November – one post

When it flows – deicer and sediment

Ice melt bucket

Why does salt melt ice?
Who monitors the amount of salt applied on Missoula's roadways?

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December – post one

What is the MS4?

Images:

- MS4 Map

Missoula County is working to reduce pollution caused by storm water runoff. The County is permitted under a storm water general permit, formally known as the MS4 permit. The Environmental Protection Agency and Montana Department of Environmental Quality regulate Municipal Separate Storm Sewer

Systems (MS4s). This permit requires urbanized areas (populations of 10,000 or more) to establish six specific methods of improving storm water quality:

1. Public education and outreach

2. Public involvement/participation

3. Illicit discharge detection and elimination

4. Construction site runoff control

5. Post construction runoff control

6. Pollution prevention/good housekeeping

https://www.missoulacounty.us/government/public-works/ms4-program

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December – post two

Snowplowing

Looks like more snow is headed our way!

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MS4 history content:

The Federal Water Pollution Control Act (the Clean Water Act) provides the basis for regulating the discharge of pollutants to waters of the United States through implementation of the National Pollutant Discharge Elimination System (NPDES), which is administered by the Environmental Protection Agency (EPA).

In 1974, the EPA delegated Montana authority to implement many CWA programs within the state. Through agencies and laws, Montana executes federal water quality guidelines, updating its delegated programs to reflect changes at the federal level [2002, EQC]. The agency in Montana that is responsible for implementing these programs is the Department of Environmental Quality (DEQ), which they do through the Montana Pollutant Discharge Elimination System (MPDES).

At first the NPDES and MPDES programs primarily focused on regulating pollution discharged from point sources. However in 1987 Congress amended the CWA to include requirements for regulating stormwater discharges from municipal separate storm sewer systems (MS4's). This would be implemented in two phases: Phase I, implemented in 1990, regulated MS4's in large or medium cities generally with populations greater than 100,000. Phase II, implemented in 1990 at the federal level, regulates MS4's in "small" cities with populations of less than 100,000.

EPA Phase I and II requirements have been incorporated into the Administrative Rules of Montana (ARM), Title 17, Chapter 30, Subchapters 11, 12, and 13 . These rules became effective on February 14, 2003, and require small MS4's to obtain coverage under a stormwater discharge general permit.

In January 2005, the Montana Department of Environmental Quality (DEQ) issued a new general permit known as the Small Municipal Separate Storm Sewer System (MS4) permit. The permit is required for urban areas within the state of Montana that have storm sewer systems that serve a population of at least 10,000 people. Areas included in the permit are Billings, Missoula, Great Falls, Butte, Helena, Kalispell, and Bozeman. Cities, counties, universities, military bases, and the Montana Department of Transportation (MDT) are some of the entities required to obtain the permit for these areas. Under the permit, they are required to develop, implement, and enforce a Storm Water Management Program (SWMP) designed to reduce the discharge of pollutants from the Small MS4, to protect water quality, and to satisfy the appropriate water quality requirements of the Montana Water Quality Act.

Special topics:

- Wye/Running H development and issues up there
- Ravenwood run-off – E.Coli and postcard
- Lab capacity – testing stormwater for laundry detergent brighteners, nitrates, sediment, etc. **(WQD FB post for reference 6/25/21)**