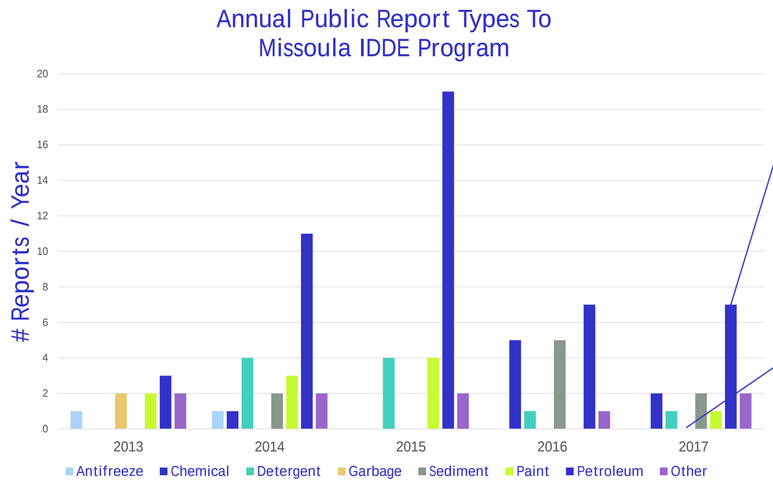
Missoula: Finding & Treating Small, Unreported, Illicit Discharges

Finding The Pollution Sources Which May Not Be Reported To The IDDE Program

Petroleum's a big problem and is the most commonly reported illicit discharge to Missoula's IDDE (Illicit Discharge Detection and Elimination) Program. Other problems, like garbage, occur in small incidences and go largely unreported by the public. Yet the sheer amount of garbage collected along rivers is astounding. Annual garbage cleanups are run by Missoula Valley Water Quality District, and in 2017 alone their partners removed 25 tons of garbage from the floodplain along the Reserve Street homeless camps. Missoula's Clark Fork Coalition has removed an additional 30 tons of garbage in the their last 15 annual clean-ups. Moreover, Parks and Recreation report they take a truck load of garbage from transient camps every 1 or 2 weeks starting in March and ending in October. Despite these efforts, trash and other unreported illicit discharges continue.

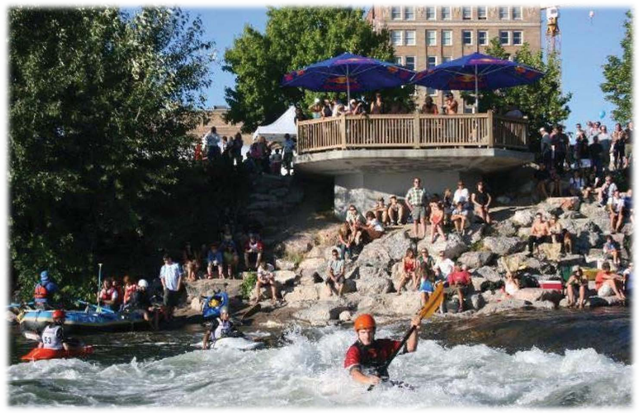


For years, Caras Park outfall discharged untreated storm water containing garbage, hydrocarbons, bacteria, sediment, and metals into an already impaired surface waterbody. That stretch of the Clark Fork River (MT76M001_020) contains pollutants for Chlorophyll-a, Nitrogen (Total), Organic Enrichment (Sewage) Biological Indicators, and Phosphorus (Total). The Caras Park outfall has a drainage area of approx. 63 acres containing several hundred downtown Missoula buildings, businesses, and high traffic roads. In some form or other, all of these are possible pollution generators and their storm water footprints combine at the Caras Park outfall.

To address this, Missoula installed a pretreatment HDS (Hydrodynamic Separator) named Phase 1 of the Caras Park Storm Water Outfall Retrofit. After a single month of operation the HDS was already collecting a visible amount of trash. Right now the HDS sits 22ft deep under Caras Park's pavers. It's spinning downtown Missoula's runoff into a vortex, pulling oil, sediment, and trash to the deeper part of the chamber. This allows clean water to rise up and flow to the outlet next to the popular kayak and surf spot "Brennan's Wave".

Phase 2 of this project will add infiltration chambers to recharge the aquifer, reduce temperature, and remove excess bacteria.

Caras Park Storm Water Outfall Retrofit



Phase 1 As Completed In December 2017 Provided:

- Public outreach for this high exposure site (kayak/surf queue);
- Massive public support (outfitters, biologists, conservationist, elected officials, downtown association);
- Funding through a variety of partners (City of Missoula, Storm Water Division, Parks and Recreation, Parking Commission, Missoula Valley Water Quality District, Department of Natural Resources and Conservation, Missoula Redevelopment Agency) totaling $ 278,000; and
- Design and Construction of an HDS pretreatment system to remove floatables.

Phase 2 Projected For 2020 Will:

- Gain City Council's approval for additional Debt Service Funding;
- Design infiltration chambers to recharge the aquifer and additionally reduce temperature and bacteria in 2019 ; then
- Construct in 2020.

Working Together To Provide Treatment

MISSOULA VALLEY water quality district

Public Works MISSOULA Storm Water Utility

STORM "keep it clean, drains to streams"