

An Investigation into Stormwater Management, Pollution, and Monitoring in the Flathead Watershed, Montana: Phase 1



Background & Purpose

The Flathead Basin Commission and the City of Kalispell partnered to investigate and raise awareness of stormwater in the Flathead Watershed. Together, they supported a Big Sky Watershed Corps member to execute the first phase of this stormwater investigation. The purpose of this project is to learn more about how stormwater is currently being managed in the watershed in order to protect waterbodies from nonpoint source pollution in the future.



Accomplishments

During Phase I, the team was able to:

- 1 Create an inventory of existing stormwater infrastructure in urban areas of the basin
- 2 Develop a model for prioritizing known sub-basins to inform future water quality monitoring efforts
- 3 Test two methods for detecting and monitoring nonpoint source pollution in the watershed
- 4 Educate residents about nonpoint source pollution and empower them to take action by building rain gardens on their properties

Highlights

Inventory of Stormwater Infrastructure

Developing the inventory primarily involved communicating with city and town representatives to request access to their stormwater infrastructure data, but in areas where such data had not been previously documented, as was the case in Polson, a citizen science data collection event was organized. During this event, members of the community gathered in downtown Polson to help map Polson's stormwater system.

Outfall Prioritization Model

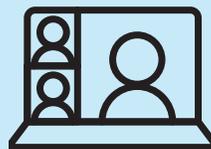
Taking into account each sub-basin's size, predominant land use, and status of the receiving waterbody, the model determined 12 outfalls in the watershed to have the highest potential for stormwater pollution. These will be looked into more in Phase II as potential locations for water quality monitoring.

Methods for Nonpoint Source Pollution Detection

Stormwater sampling and dry-weather inspections of outfalls for illicit discharge detection were employed throughout the basin as methods for monitoring nonpoint source pollution.

Flathead Rain Garden Initiative

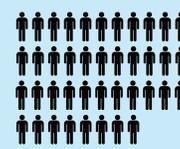
A partnership between the City of Kalispell and the Flathead Conservation District, the Flathead Rain Garden Initiative was able to empower residents to build eight rain gardens, which together manage about 95,000 gallons of runoff every year! The initiative hosted workshops to inform residents about how rain gardens can help mitigate nonpoint source pollution and provided residents with the resources and support to build their own.



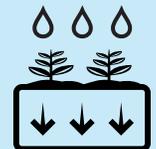
Hosted
2
virtual
workshops



Managed
~95,000
gallons
of runoff



Engaged
41
residents



Helped build
8
rain gardens