

Flooding Family & Home Preparedness

A Presentation to the Helena Valley Flood Committee

LCPH & Community Partners

Feb 28, 2019



Flood Preparations

Plan for the Before, the During, and the After

Develop Emergency Plans & Kits

Do Neighborhood Planning

Personal and Community Responsibility



A Little Review....

Natural Physical and Environmental Factors:

- Valley setting/slope
- Mountain Snowpack
- Valley Snowpack
- Timing of Snowmelt
- Spring Precipitation



Hydrologic Response:

- Streamflow
- Activation of alluvial channels
- Rising Groundwater

Also see

https://www.lccountymt.gov/fileadmin/user_upload/Health/Water/Documents/2018_Flooding_Presentation_with_Notes_1.pdf

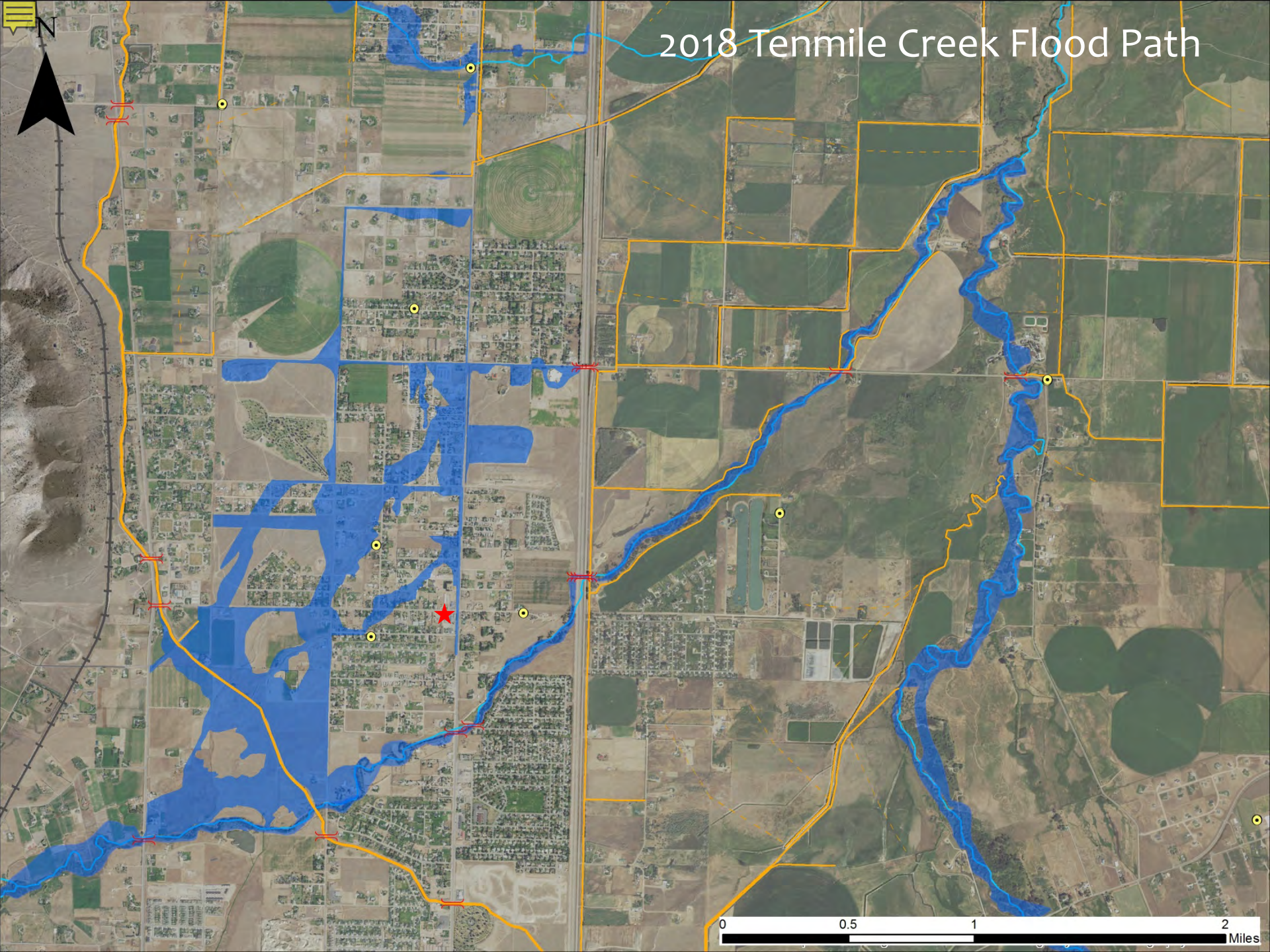


2018 May 1



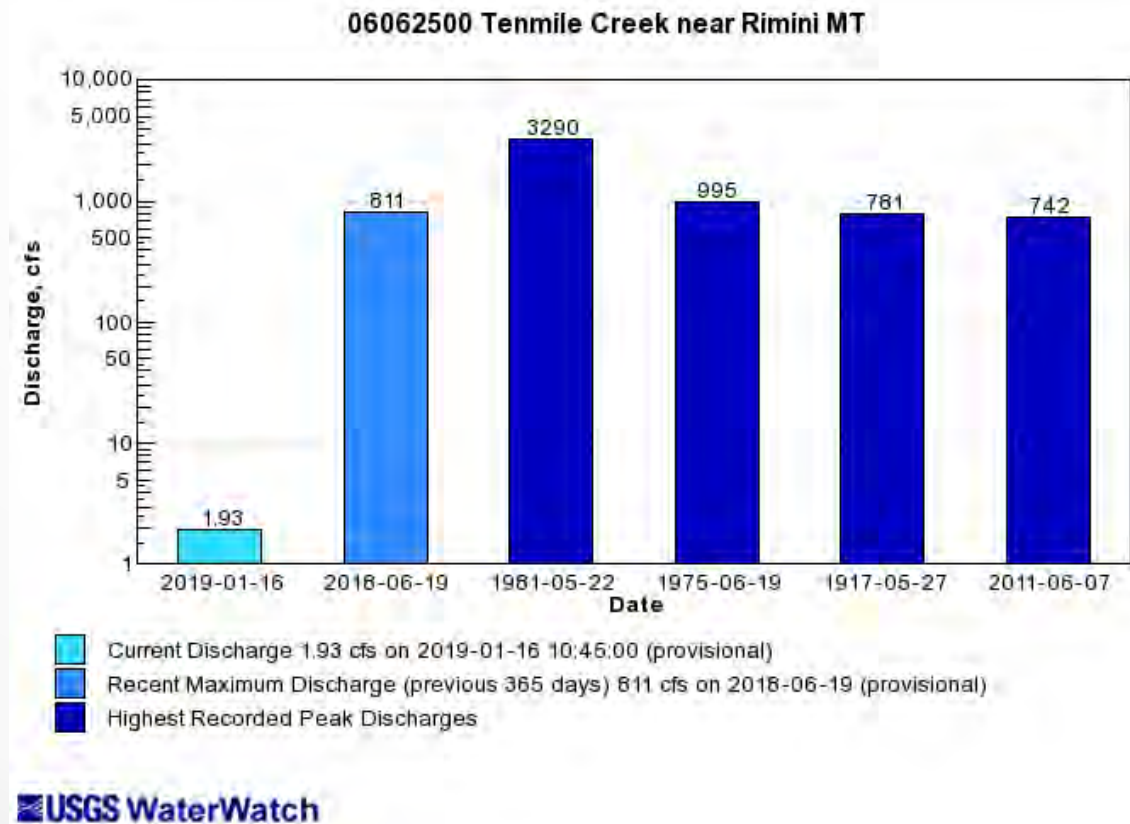


2018 Tenmile Creek Flood Path



0 0.5 1 2 Miles

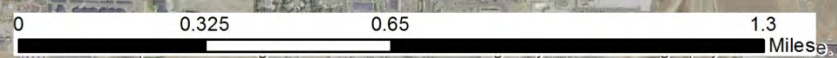
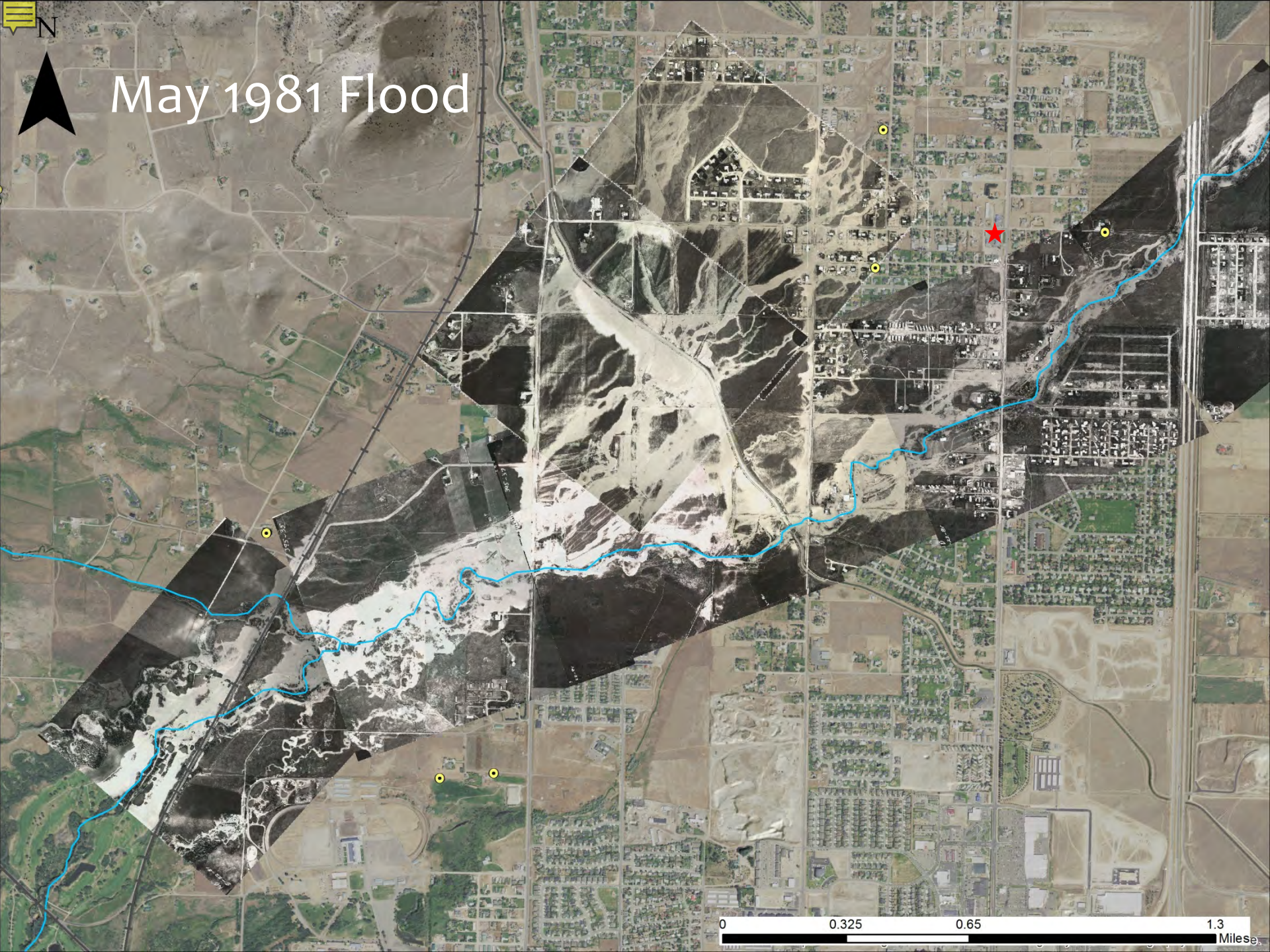
Tenmile Creek Flooding is a periodic event...



Additional flooding in 1879 – 1892 – 1917 – 1927 – 1938 – 1944 – 1949 – 1953 – 1955 – 1956 – 1957 - 1969... (ACOE 1973)



May 1981 Flood





Flood Preparations

Before...

Understand your risk

Develop a Family Emergency Plan/Flooding Plan
Family Emergency Kit

Learn about the school's Emergency Plan
workplace Emergency Plan

Prepare your home

Clear culverts and ditches of debris and obstructions

Identify sources of community information

Flood Preparations

Before...

Watch the Signs

SnoTel, Stream Gauges, Weather

Develop a post-flooding/clean-up plan

Personal tools, pumps, supplies

Who you gonna call?

- Well water, septic, basement, clean-up/restoration, plumber...
- COAD, City/County resources

Meet with your neighbors, make a neighborhood plan

Evacuation - Sandbagging - Cleanup - Traffic

Resources



Flood Response

During...

Monitor information channels

Traffic flow, emergency services, sandbagging...

Limit contact with flood waters

Don't drive through flood waters & no sight-seeing

Watch the Signs

Flood Response

After...

Monitor information channels

Help your neighbors

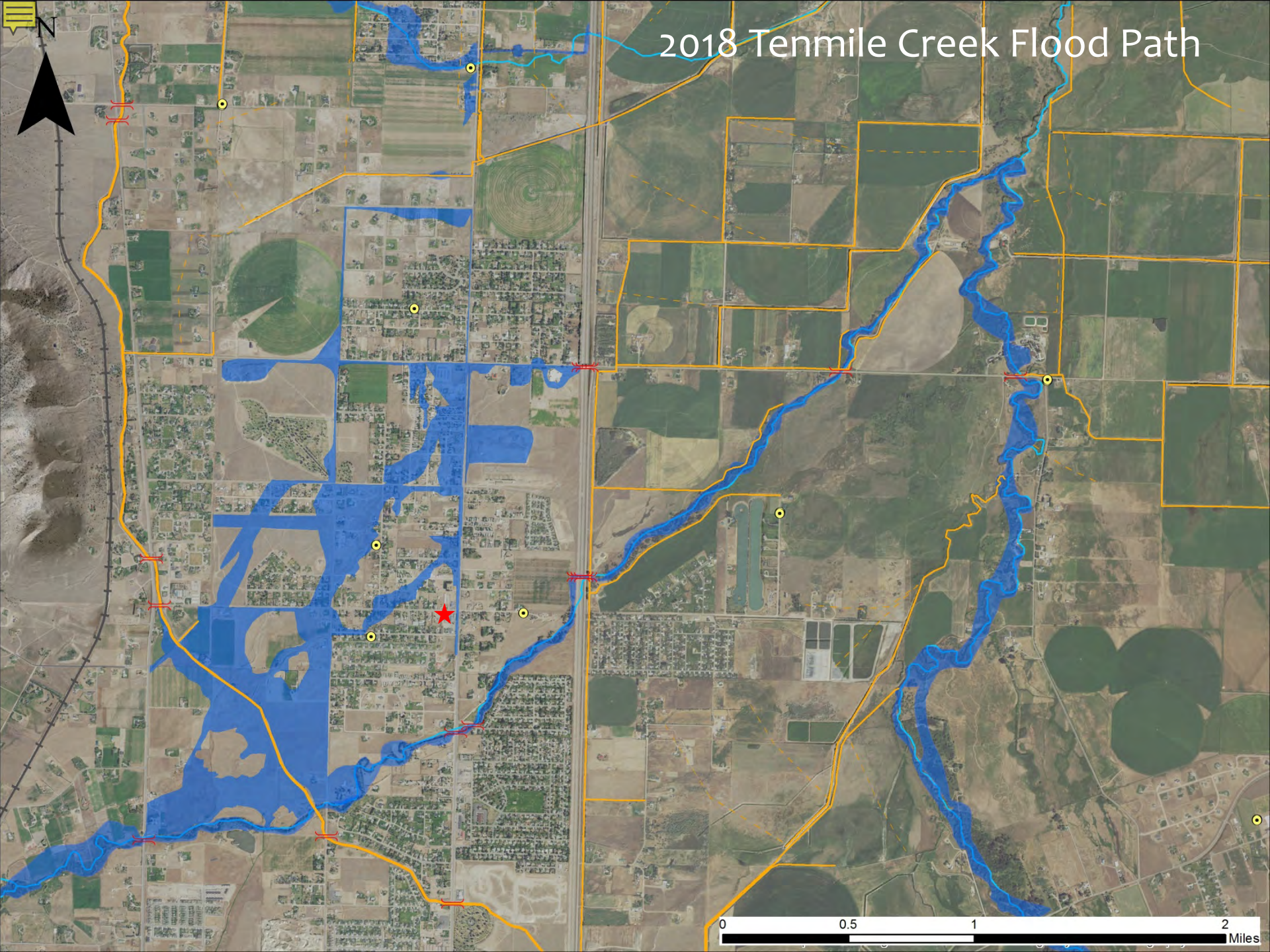
Limit contact with flood waters

Make way for emergency vehicles and response services

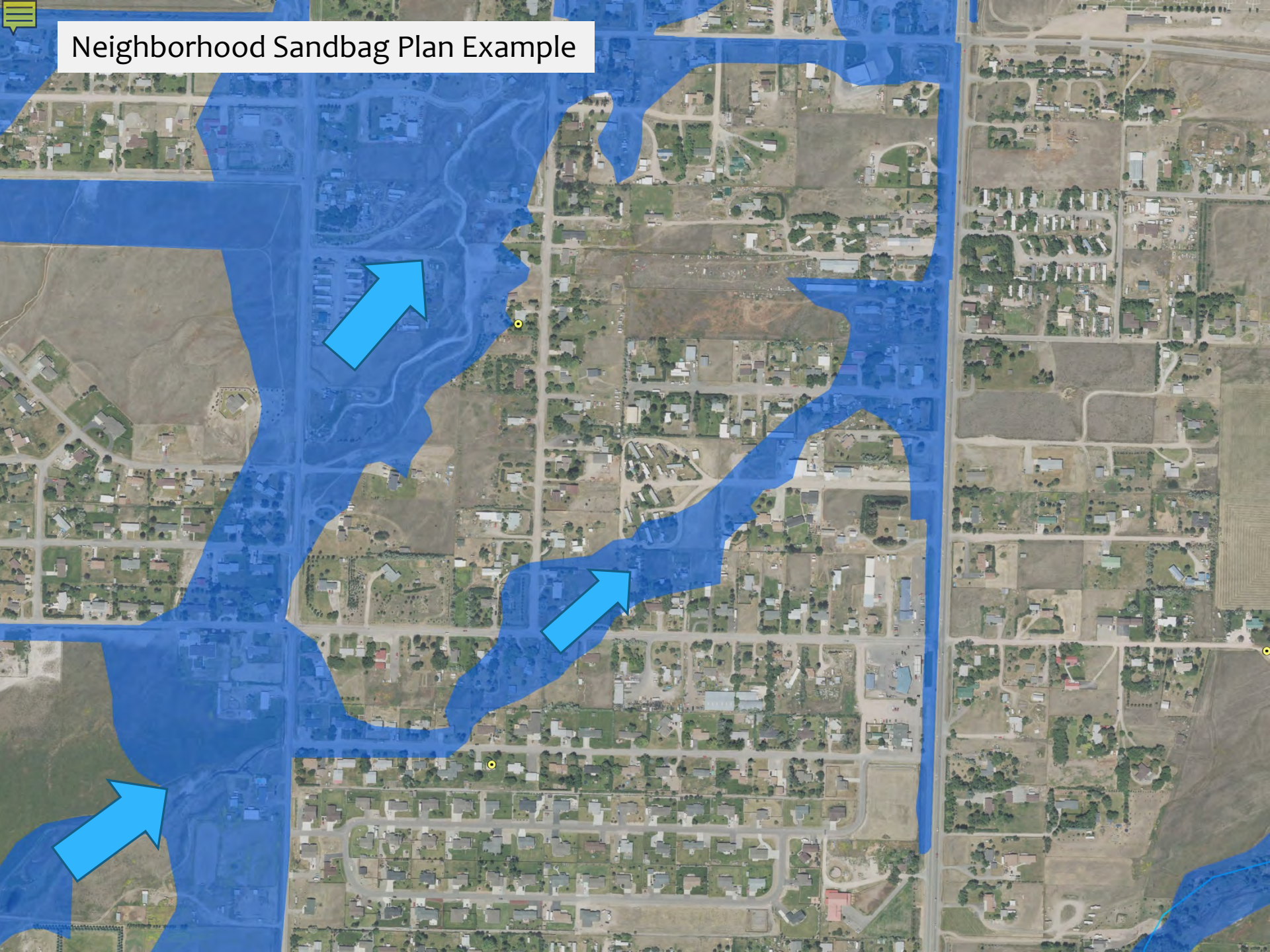
Evaluate condition of your septic system, water well, and other utilities

Cleanup & Contamination

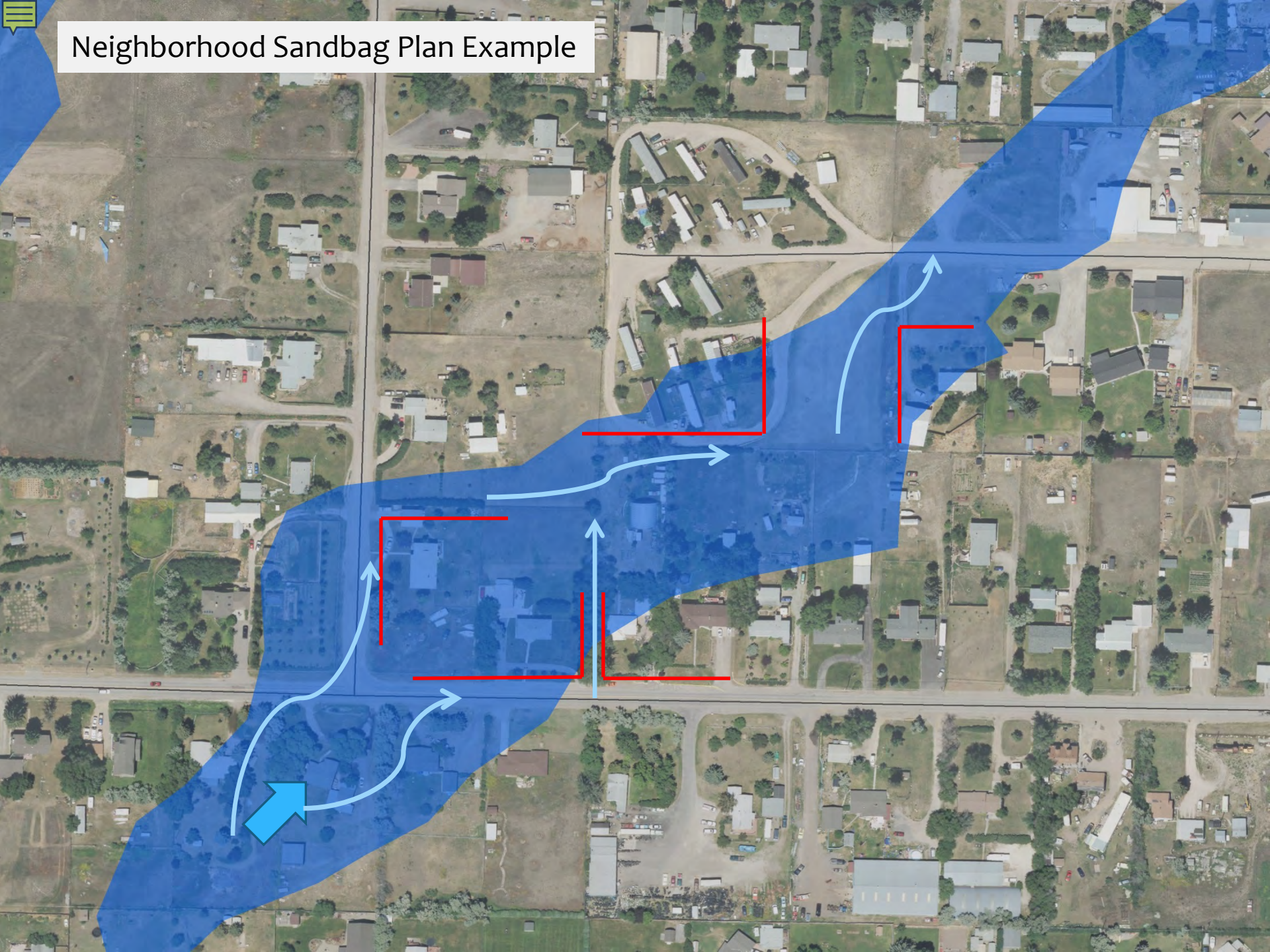
2018 Tenmile Creek Flood Path



Neighborhood Sandbag Plan Example



Neighborhood Sandbag Plan Example

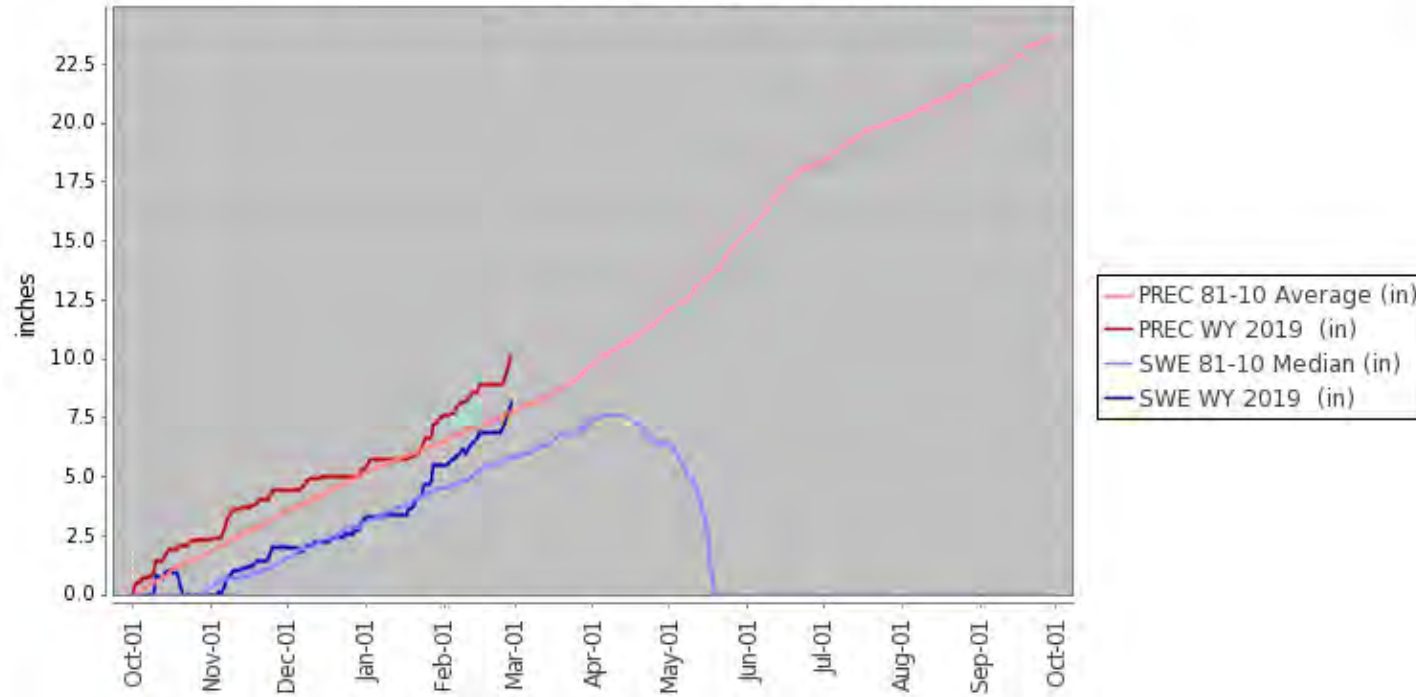


Watching the Signs

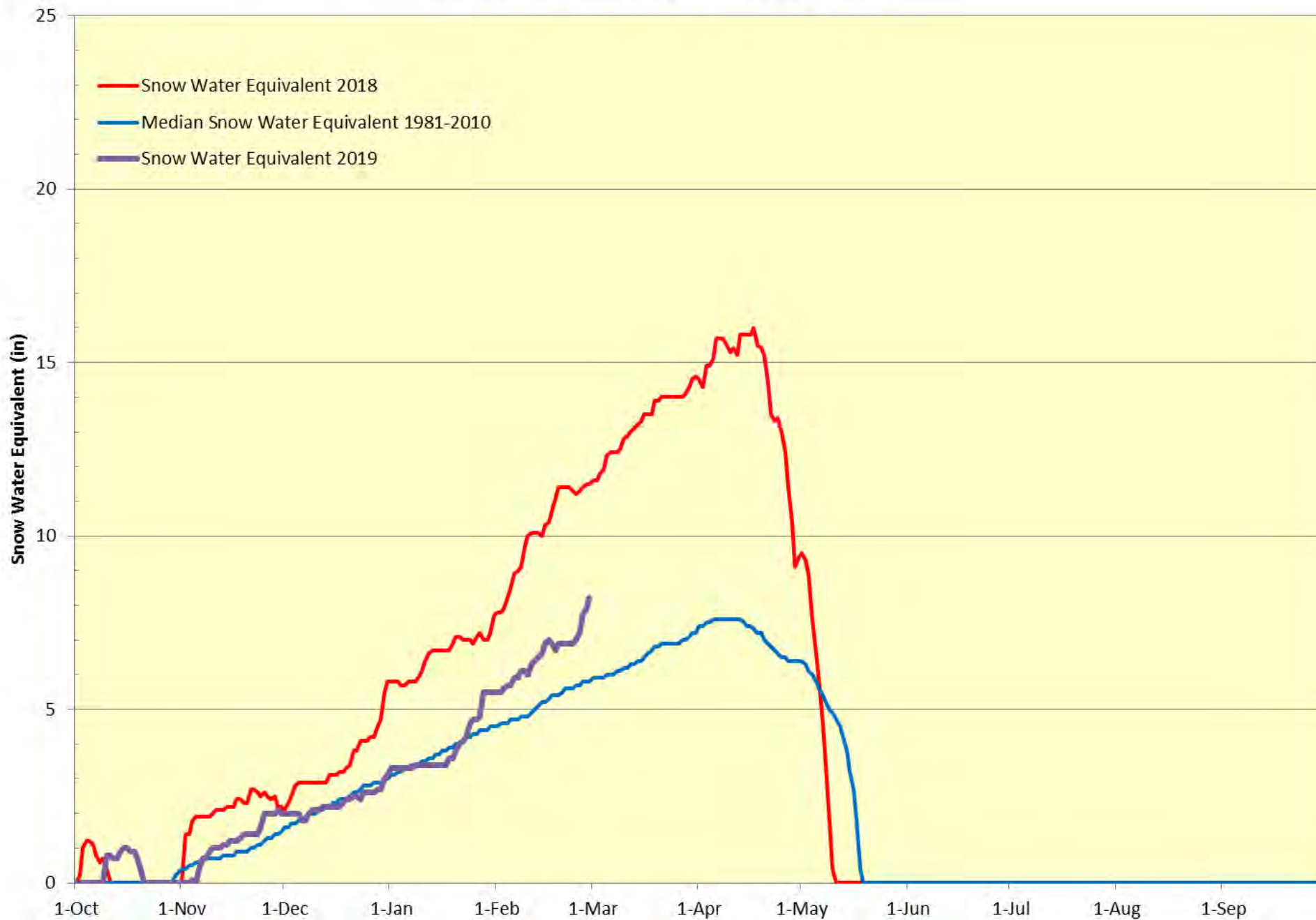
Frohner Meadow Snotel Website

<https://wcc.sc.egov.usda.gov/nwcc/site?sitenum=487>

Station (487) WATERYEAR=2019 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Feb 28 10:54:04 GMT-08:00 2019



Frohner Meadow Snotel Data



Watching the Signs

Tenmile Creek USGS Flow Station

<https://waterdata.usgs.gov/monitoring-location/06063000/>

Tenmile Creek near Helena MT



IMPORTANT [Classic Page](#)

Monitoring location 06063000 is associated with a STREAM in LEWIS AND CLARK COUNTY, MONTANA. Current conditions of DISCHARGE and GAGE HEIGHT are available. Water data back to 1908 are available online.

7 days 30 days 1 year

Streamflow, ft³/s

Ice Affected - Feb 28, 2019 11:15:00 AM MST

Ice Affected - Feb 28, 2018 11:45:00 AM MST



Current: — Provisional — Estimated — Ice Affected
Last year: — Provisional — Approved — Estimated — Ice Affected
Median: ⋯ 1909 - 2017

Compare to last year

Watching the Signs

Groundwater Levels/Data

<https://helenamtmaps.maps.arcgis.com/apps/MapJournal/index.html?appid=7cf103fa1833499b983f1ed7634167f4>

Groundwater Data

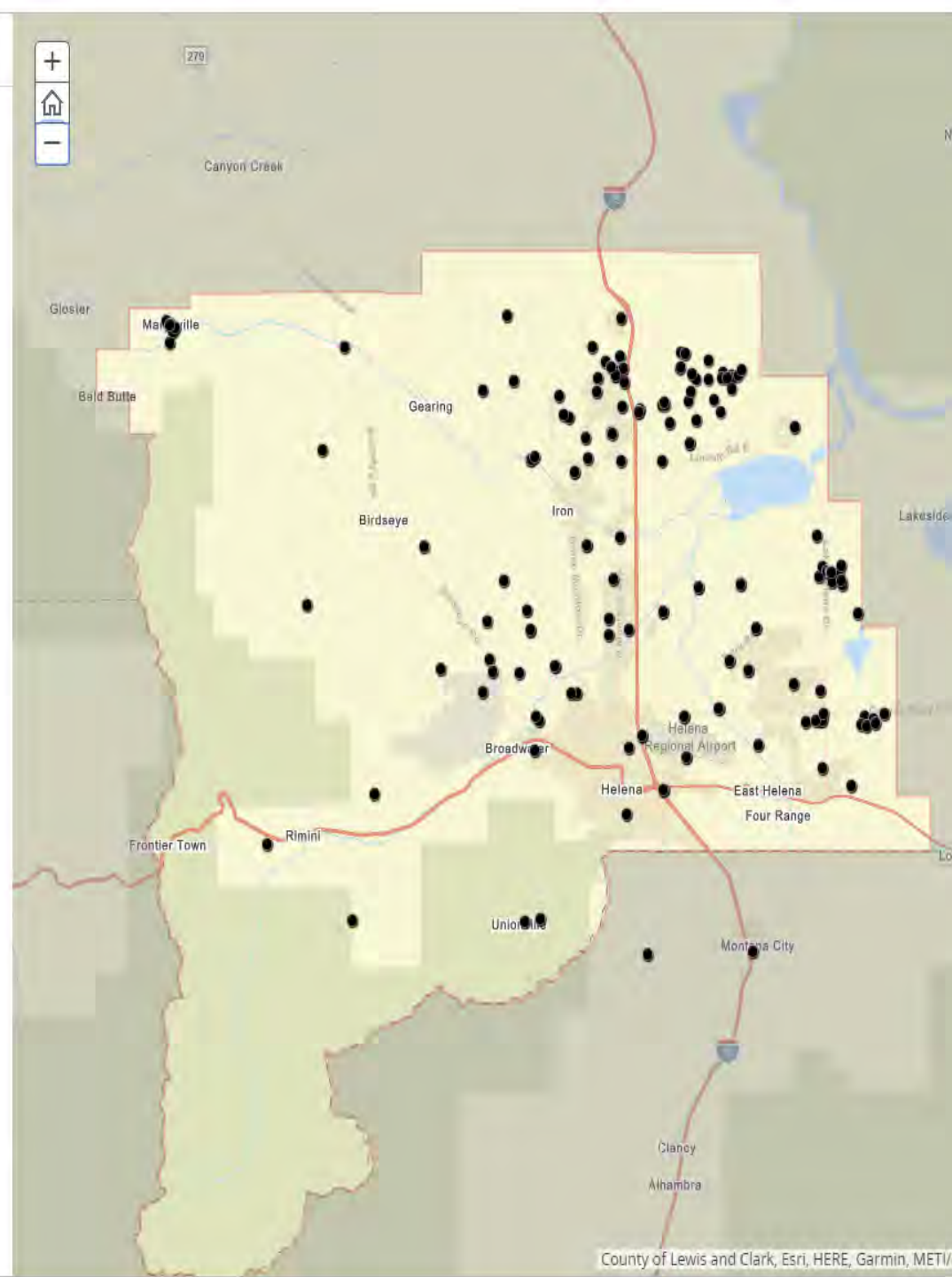
The Lewis and Clark Water Quality Protection District monitors a number of wells throughout the District on a monthly basis. The highlighted area on the map to your right is the District boundary, and each circle represents an individual well.

Groundwater levels are collected monthly, and at some locations, quarterly. All information is added to an open-source, online database through Montana Bureau of Mines and Geology's [Groundwater Information Center](#) (GWIC).

Each well has a corresponding **GWIC ID** that you can use to search the GWIC database and retrieve the well log (summary information), as well as the hydrograph and corresponding water level measurements.

To view this information:

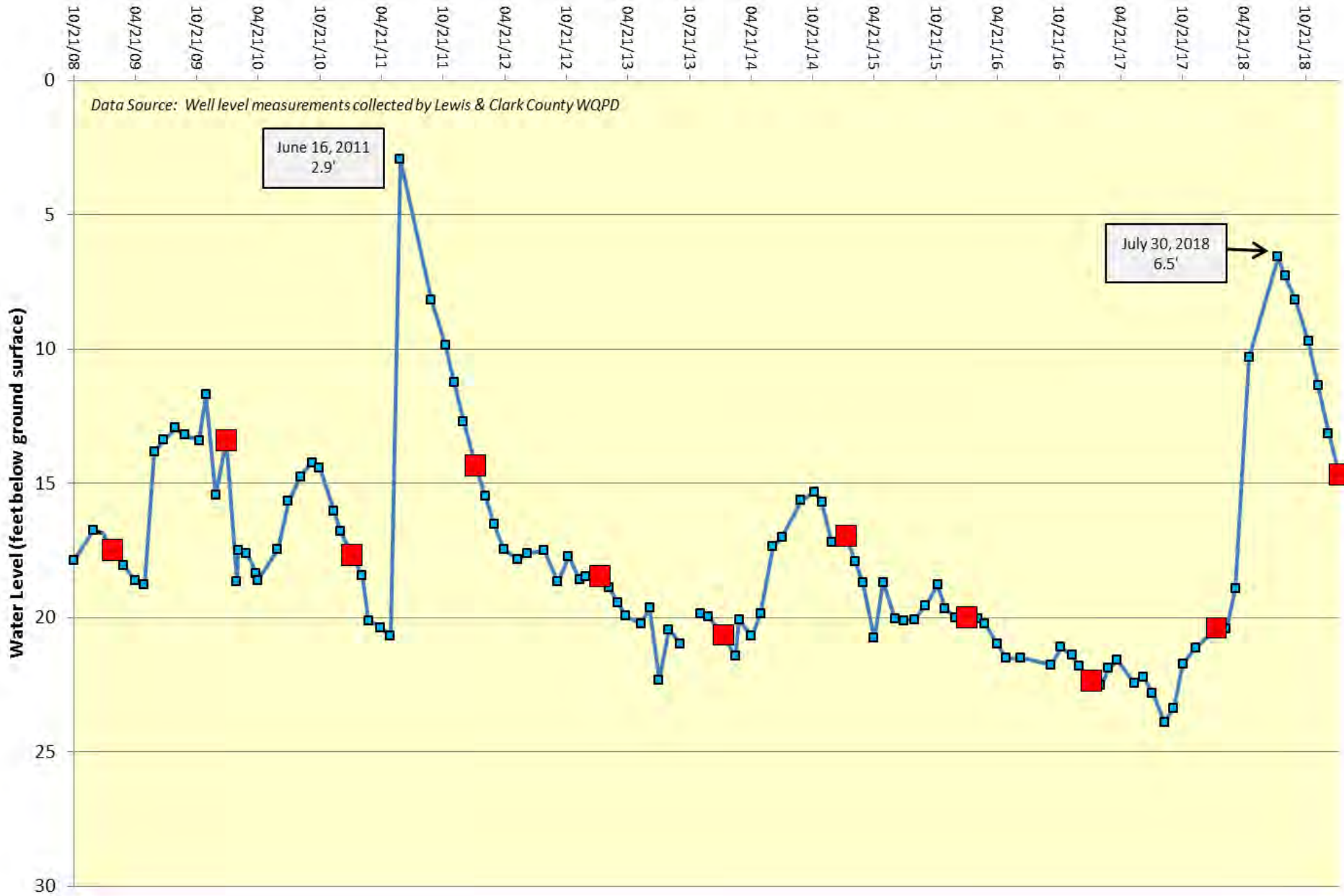
1. Zoom in **close** to the point of interest
2. Click on the point / well of interest
3. You can click on the "Hydrograph" button, or the "One page summary" link. Both will bring you to the Groundwater Information Center site and provide information for that particular well.



Motsiff Rd

Residential Well Hydrograph

GWIC ID 61368



Roles of County Government

Disaster & Emergency Services (DES)

Public Works/Weed District

Public Health

Planning & Floodplain Administration

Water Quality Protection District

Sheriff's Office

Valley Residents Panel

Harold Begger

Jeannene Maas

Archie Harper

Danyel Bauer