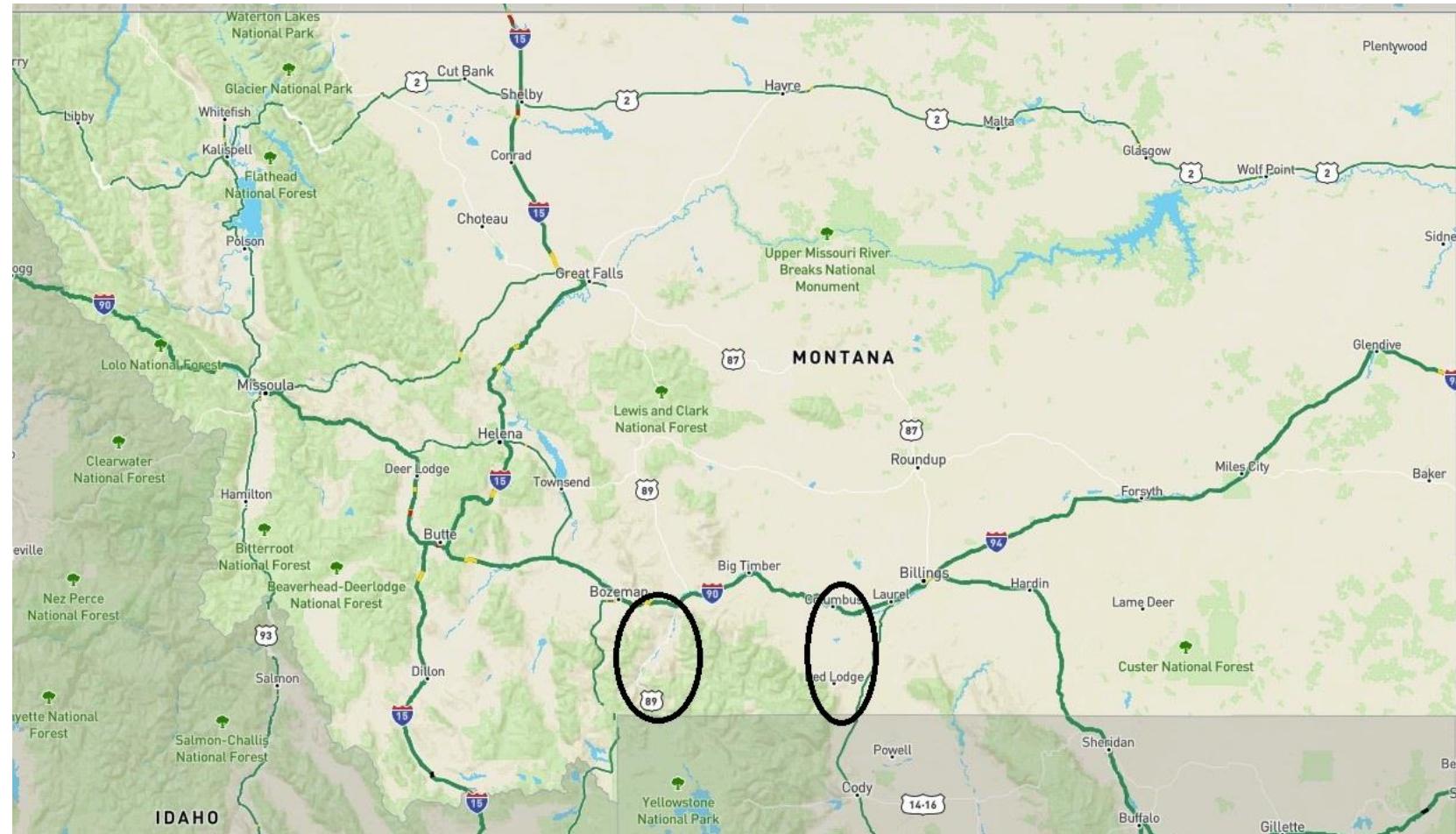




2022 Montana Flood

Mike Warren





- On the weekend of June 10, 2022, heavy rains landing on a considerable late season snowpack, resulted in historic flooding of the Stillwater, Yellowstone, and Clarks Fork rivers...
 - Beartooths and Absarokas received between 0.8" to +5" of rain
 - Snowpack at the time contained between 14" and 32" of snow-water equivalent

National Weather Service - Snotel

<u>Site</u>	<u>Elev.</u>	<u>6/10 SWE</u>	<u>6/13 SWE</u>	<u>SWE Melt</u>	<u>6/10-13 Precip</u>	<u>Water Event (SWE Melt+Precip)</u>	<u>SWE Left</u>
<i>Beartooth/Absarokas</i>							
		Inches	Inches	Inches	Inches	Inches	Inches
Cole Creek	7850	14.2	9.4	4.7	0.8	5.6	9.4
Beartooth Lake	9360	19.2	7.2	2.0	1.8	3.8	17.2
Placer Basin	8830	18.2	15.2	3.0	2.2	5.2	15.2
Monument Peak	8850	15.4	13.4	2.0	3.5	5.5	13.7
White Mill	8700	16.8	13.8	3.0	4.0	7.0	13.8
Fisher Creek	9100	32.8	29.2	3.6	5.1	8.7	29.2
<i>The Park</i>							
Parker Peak	9400	21.9	18.4	3.5	2.8	6.3	18.4
Evening Star	9200	21.1	17.8	3.3	3.1	6.3	17.8
<i>Bighorns</i>							
Burgess Junction	7880	4.0	0.0	4.0	0.3	4.3	0.0
Sucker Creek	8800	7.6	1.9	5.7	0.2	5.9	1.9
Dome Lake	8800	4.5	0.1	4.4	0.2	4.6	0.1
Big Goose	7990	0.4	0.2	0.2	0.0	0.2	0.2
Little Goose	8870	3.0	0.0	3.0	0.1	3.1	0.0

A few peak water levels during the flood

- Stillwater River crested at 10' – old record was 7.17'
- Yellowstone River at Corwin Springs crested at 13.88' – old record was 11.5'
- Clarks Fork of the Yellowstone crested at 12.98' – old record was 9.5'
- Rock Creek near Red Lodge rose to 6.68', before the gauge was damaged
- Yellowstone River at Billings crested at 16.5' – old record was 15.0'

MDT Response

- Crews mobilized early morning June 13
- Statewide effort
 - Surrounding Sections
 - Equipment loans
- HQ
 - Review Team
 - Budget/Operations
 - Bridge
 - Environmental
- Exigency Contracts

MDT Response

- Activity tracking – Maintenance Management System
 - 13 cost centers
 - \$5.2 million
 - \$4.45 million in contracted services

Red Lodge - Before and After



Red Lodge - Before and After



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Red Lodge



Olie's Corner



Olie's Corner



Olie's Corner



US 212 – South of Red Lodge



US 212 – South of Red Lodge



Carbella Bridge

https://www.youtube.com/watch?v=itiLhF_CN9k



US 89 South



US 89 South



US 89 South



US 89 South



Emigrant Rest Area



US 89 North MRL Bridge



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