Mystic Project Annual Whitewater Meeting 6/6/2019 - Conference Call

Attendees:

Mary Broache – Montana DNRC
Bruce Bugbee – American Lands
Jeff Frost – REC Resources
Jon Hanson – NorthWestern Energy
Jason Rhoten – Montana FWP
Mike Ruggles – Montana FWP
Jake Stagnoli - NorthWestern Energy
Jordan Tollefson - NorthWestern Energy

Meeting Minutes:

Jordan Tollefson started the meeting and all attendees introduced themselves and the agency/group that they represent on the phone.

Jeff Frost gave an update of the 2018 Mystic whitewater flow releases (see attached). High flows through June led to only two whitewater flow release days. On Saturday July 28th, there was a release, but no registered paddlers for that day. There was another release the following day (Sunday, July 29th), and there were two registered paddlers for that day.

Jake Stagnoli provided the group with the water forecast for 2019. Mystic Lake is currently at an elevation of 7,629'. From June 1st until now, it has filled approximately 11.5'. Current inflows are 593 cfs and current outflows are 138 cfs. The remaining snowpack is 118% of normal and has a snow water equivalent of 29.6".

Jeff Frost did a review of the whitewater release protocol (see attached).

There were no further questions from the group.

2018 Mystic Whitewater Releases

2018 Release Weekend

Wednesday, July 25 protocol gage monitoring

USGS Gage 06204050 West Rosebud Creek near Roscoe MT
12:00 338 cfs triggers Saturday and Sunday releases
USGS Gage 06204070 West Rosebud Creek at Emerald Lake Campground
12:00 387 cfs 49 cfs higher than upstream gage

Friday, July 27 protocol gage monitoring

USGS Gage 06204050 West Rosebud Creek near Roscoe MT
12:00 322 cfs maintains Saturday and Sunday releases
USGS Gage 06204070 West Rosebud Creek at Emerald Lake Campground
12:00 352 cfs 30 cfs higher than upstream gage

Saturday, July 28

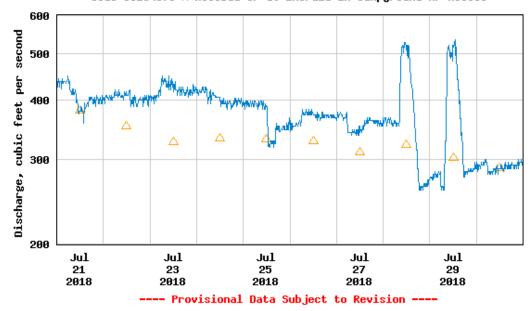
USGS Gage 06204070 West Rosebud Creek at Emerald Lake Campground 08:30 362 cfs prior to release 10:45 527 cfs maximum release 18:45 260 cfs minimum release Registered paddlers: 0

Sunday, July 29

USGS Gage 06204070 West Rosebud Creek at Emerald Lake Campground 08:30 328 cfs prior to release 13:00 533 cfs maximum release 17:45 276 cfs minimum release

Registered paddlers: 2

USGS 06204070 W Rosebud Cr at Emerald Lk Campground nr Roscoe

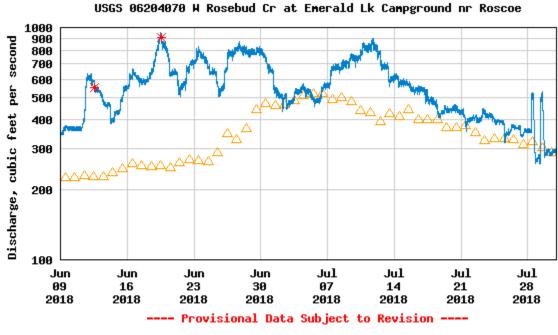


△ Median daily statistic (12 years) — Discharge

2018 Release Summary

2 release days

2 registered paddlers (Sunday only)



 $[\]triangle$ Median daily statistic (12 years) \divideontimes Measured discharge — Discharge

Protocol for West Rosebud Creek Whitewater Flow Enhancement

Under normal, routine operation of the Mystic Lake Hydroelectric Project by NorthWestern Energy (NWE) during the descending limb of the West Rosebud Creek annual hydrograph:

- When the Wednesday noon stream flow reported on the USGS Streamflow Gauge West Rosebud Creek near Roscoe MT (#06204050) is greater than 400 cfs, no white water flow enhancement will be provided.
- When the Wednesday noon streamflow reported on the USGS Streamflow Gauge West Rosebud Creek near Roscoe MT (#06204050) is between 286 cfs and 400 cfs, NWE will endeavor to release 500 cfs for 5 hours from the West Rosebud Lake Dam on the following Saturday and Sunday, except:
 - When the following Friday noon streamflow reported on the USGS Streamflow Gauge #06204050 is less than 270 cfs due to rapidly decreasing inflow, NWE will endeavor to release 500 cfs for 5 hours from the West Rosebud Lake Dam on the following Saturday only.
- When the Wednesday noon streamflow reported on the USGS Streamflow Gauge West Rosebud Creek near Roscoe MT (#06204050) is between 250 cfs and 285 cfs, NWE will endeavor to release 500 cfs for 5 hours from the West Rosebud Lake Dam on the following Saturday only, except:
 - When the following Friday noon streamflow reported on the USGS Streamflow Gauge #06204050 is less than 250 cfs due to rapidly decreasing inflow, a Saturday release will not be provided.
- When the Wednesday noon streamflow reported on the USGS Streamflow Gauge West Rosebud Creek near Roscoe MT (#06204050) is less than 250 cfs, no whitewater flow enhancement will be provided.
- NWE will endeavor to operate West Rosebud Lake below 6397.6 feet and above 6395.0 feet elevation during whitewater flow enhancement events.
- Minimum flow below West Rosebud Lake, during whitewater flow enhancements, will be maintained at 200 cfs or greater as measured at the USGS Streamflow Gauge West Rosebud Creek at Emerald Lake Campground (#06204070).
- White water releases from West Rosebud Lake Dam will begin at 8:30 AM. Peak flow (near 500 cfs) will reach the Emerald Lake Outlet between approximately 11:00 AM and 12:00 noon and will continue for approximately 2.5 hours, gradually reducing to pre-enhanced base flow conditions thereafter.
- When the Wednesday noon stream flow reported on the USGS Streamflow Gauge West Rosebud Creek near Roscoe MT (#06204050) indicates a pending whitewater flow enhancement on the following weekend, Beartooth Paddlers and American Whitewater will endeavor to communicate this information to the paddling community through social media, websites, email and other means.
- Rapidly decreasing flows as reported on the USGS Streamflow Gauge West Rosebud Creek near Roscoe MT (#06204050) can, on rare occasions, cause whitewater flow enhancements to be less than optimal on the first and second day of a 2-day flow enhancement, when releases of 500 cfs for less than a 5-hour duration from West Rosebud Dam occur.