



NWE-MYS-4515

Debbie-Anne A. Reese
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

January 21, 2025

Re: NorthWestern Energy filing Mystic Lake Hydroelectric Project 2025 Whitewater Flow Plan Update per Project 2301 License Section 4(e) Condition 11.

Dear Secretary Reese,

By Order dated January 12, 2015, the Federal Energy Regulatory Commission (Commission) approved NorthWestern Energy's (NorthWestern) Revised Mystic Whitewater Flow Plan (Plan) per Section 4(e) Condition 11 of the Project 2301 License¹. Per the Commission approved Plan, the Licensee must file for FERC approval, an updated Plan by January 31, 2025 and every 10 years thereafter. The submittal must include consultation with the Mystic Whitewater Resource Group, approval documentation from the USFS, and a description of all changes made to the Plan.

Since the Mystic Whitewater Program's inception in 2010, the program has provided 38 whitewater flow releases and boating opportunities for 155 registered paddlers. The 2014 Plan incorporated West Rosebud Creek minimum streamflow requirements and West Rosebud Lake minimum and maximum pool elevations, and refill time; provides flow releases of sufficient amount and duration necessary for whitewater boating; provides a decision process based on U.S. Geological Survey (USGS) gage readings prior to weekend flow releases to inform dam operators, whitewater boaters, and others, of pending whitewater flow releases; and relies on readings from two USGS gages (#06204050 and #06204070) to provide measurements for release protocols.

After 10 years of implementation of the 2014 Plan, feedback from recreational users indicated that the current protocol for whitewater flow enhancement was overly cumbersome when it came to determining if there was going to be a whitewater flow. The whitewater section on West Rosebud Creek is remote, and the hydrologic conditions are dynamic with quickly receding natural flows on the descending limb of the hydrograph. The 2014 Plan does not provide for sufficient advance notice and lead time for recreationists to plan a visit to West Rosebud Creek to paddle, which may have contributed to low numbers of registered paddlers during some release days.

¹ Order Approving Revised Whitewater Flow Plan (150 FERC ¶ 62,018)

To help simplify the whitewater enhancement protocol, NorthWestern is proposing to move to a fixed-date release schedule and offer three to four whitewater flow enhancements each year (**Table 1**). The timing and duration of whitewater releases are outlined in the updated protocol for whitewater enhancement in **Section 4.1** of the 2025 Whitewater Flow Plan Update. Having pre-determined specific release days will allow potential future paddlers to make plans to participate well in advance of the whitewater release. This will lead to more registered paddlers using the program and improve overall user satisfaction with the program.

The updated Plan simplifies dam and powerhouse operations for NorthWestern and operators can schedule flow changes further in advance of whitewater release days than they were able to under the previous Plan. It also improves water management throughout watershed by affording water users and irrigators more time to plan for streamflow increases.

Table 1. Proposed Whitewater Release Days for the years 2025 through 2034

Year	Release Day 1	Release Day 2*	Release Day 3	Release Day 4
2025	July 5	July 6	July 12	July 19
2026	July 4	July 5	July 11	July 18
2027	July 3	July 4	July 10	July 17
2028	July 1	July 2	July 8	July 15
2029	July 7	July 8	July 14	July 21
2030	July 6	July 7	July 13	July 20
2031	July 5	July 6	July 12	July 19
2032	July 3	July 4	July 10	July 17
2033	July 2	July 3	July 9	July 16
2034	July 1	July 2	July 8	July 15

*Release Day 2 of each year is dependent on hydrologic conditions and NorthWestern's ability to refill West Rosebud Lake following the previous day's whitewater release (Release Day 1).

NorthWestern proposes to continue to facilitate an annual coordination meeting with the Mystic Whitewater Resource Group during the spring of each year to discuss the previous year's whitewater program results, snowpack, the West Rosebud Creek runoff forecast, and the rate at which Mystic Lake is refilling.

In years where below average snowpack and drought conditions may be present, NorthWestern will discuss with the Mystic Whitewater Resource Group at the annual coordination meeting, the probability of a successful Saturday and Sunday whitewater release the first weekend in July. On the second and third weekends in July, lower inflows to West Rosebud Lake which would have previously made refilling the reservoir for a Sunday release challenging, are addressed by conducting Saturday only releases for those weekends. If there are circumstances where a planned whitewater flow enhancement may not be met, NorthWestern will notify the Mystic Whitewater Resource Group in advance of the release day.

NorthWestern proposes to operate the Mystic Whitewater Program using the 2025 Whitewater Flow Enhancement Plan for the next ten years, through the 2034 recreation season. After this ten-year period, NorthWestern will evaluate the effectiveness of the 2025 Plan and provide a report to the Mystic Whitewater Resource Group and FERC by January 31, 2035.

NorthWestern consulted with Montana Fish Wildlife and Parks, Montana Department of Environmental Quality, the U.S. Forest Service, and American Whitewater on the development of this Plan. Record of consultation is included in **Attachment A**.

Please contact Jordan Tollefson at 406-443-8907 or Jordan.Tollefson@NorthWestern.com with any questions.

Sincerely,



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Attachment A – Agency Consultation Record

NorthWestern Energy consulted with Montana Fish, Wildlife and Parks, the Montana Department of Environmental Quality, the U.S. Forest Service, and American Whitewater in the development of this plan, and a record of that consultation is included with this letter as Attachment A.

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By: KEVIN COLBURN
Date: 1/7/25
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Representing American Whitewater

Mystic Lake Hydroelectric Project P-2301

2025 Whitewater Flow Plan Update



Final Version – 01/10/2025

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Section 1.0 – Introduction

NorthWestern Energy (NorthWestern or Licensee) is the owner and operator of the Mystic Lake Hydroelectric Project No. 2301 (Project) in south-central Montana. The Project is located in Stillwater County, Montana south of the town of Fishtail on West Rosebud Creek. The West Rosebud Creek watershed encompasses approximately 210.7 square miles and is a tributary to Rosebud Creek and the Stillwater River in the Upper Yellowstone River basin (HUC 100700) (USGS, 2024). The elevation in the West Rosebud Creek watershed ranges from a maximum elevation of 12,763 feet at Granite Peak, to a minimum elevation of 4,164 feet at the mouth of West Rosebud Creek. Mean annual precipitation for the watershed is 30.84 inches, and approximately 60.4% of the watershed lies at an elevation above 6,000 feet (USGS, 2024). Due to a combination of high elevation and north-facing aspect, the West Rosebud Creek watershed can experience spring snowmelt and runoff later in the season than other Montana watersheds of a similar size.

The Project, completed in 1927, has an upper impoundment, Mystic Lake, which has a full pool elevation of 7,673.5 feet, total volume of approximately 47,000 acre-feet, and provides water to a penstock feeding a powerhouse located approximately 2 miles downstream of Mystic Lake (**Figure 1-1**). Mystic Lake is a natural lake whose water surface elevation was raised by the construction of Rowe Dam in 1936 to provide additional water storage. The maximum flow through the powerhouse is 164 cfs with additional flow being provided through the approximately 2-mile bypass reach. Downstream of the powerhouse are West Rosebud Lake and Emerald Lake (**Figure 1-1**). West Rosebud Lake Dam has a full pool elevation of 6,401.9 feet, impounds between 320 and 470 acre-feet of water, and serves as the re-regulation reservoir to attenuate releases from the powerhouse (PPL Montana, 2006).

On December 17, 2007, the Federal Energy Regulatory Commission (FERC) issued a new 40-year License to operate the Project, which became effective January 1, 2010. Section 4(e) Condition no. 11 of the new License requires the Licensee to develop a plan in consultation with and approved by the U.S. Forest Service (USFS) that provides a framework for implementation of all recreation site protection, mitigation, and enhancement measures, including the development of a Mystic Whitewater Flow Plan.

The previous Licensee submitted a Mystic Whitewater Flow Plan (Plan) to FERC on December 17, 2009, and a revised Plan was submitted to FERC on October 27, 2014 (PPL Montana, 2009 and 2014). The revised Plan incorporates West Rosebud Creek minimum streamflow requirements and West Rosebud Lake minimum and maximum pool elevations and refill time; provides flow releases of sufficient amount and duration necessary for whitewater boating; provides a decision process based on U.S. Geological Survey (USGS) gage readings prior to weekend flow releases to inform dam operators, whitewater boaters, and others, of pending whitewater flow release; and relies on readings from two USGS gages (#06204050 and #06204070) to provide measurements for release protocols.

Per FERC Order approving the revised Plan, issued on January 12, 2015, the Licensee must file for FERC approval, an updated Plan by January 31, 2025 and every 10 years thereafter. The submittal must include consultation with the Mystic Whitewater Resource Group, approval documentation from the USFS, and a description of all changes made to the Plan. The following sections in this document outline the previously approved 2014 Plan, a summary of the previous 10 years of whitewater flow enhancements, and the updated whitewater plan to be implemented for the years 2025 through 2034.

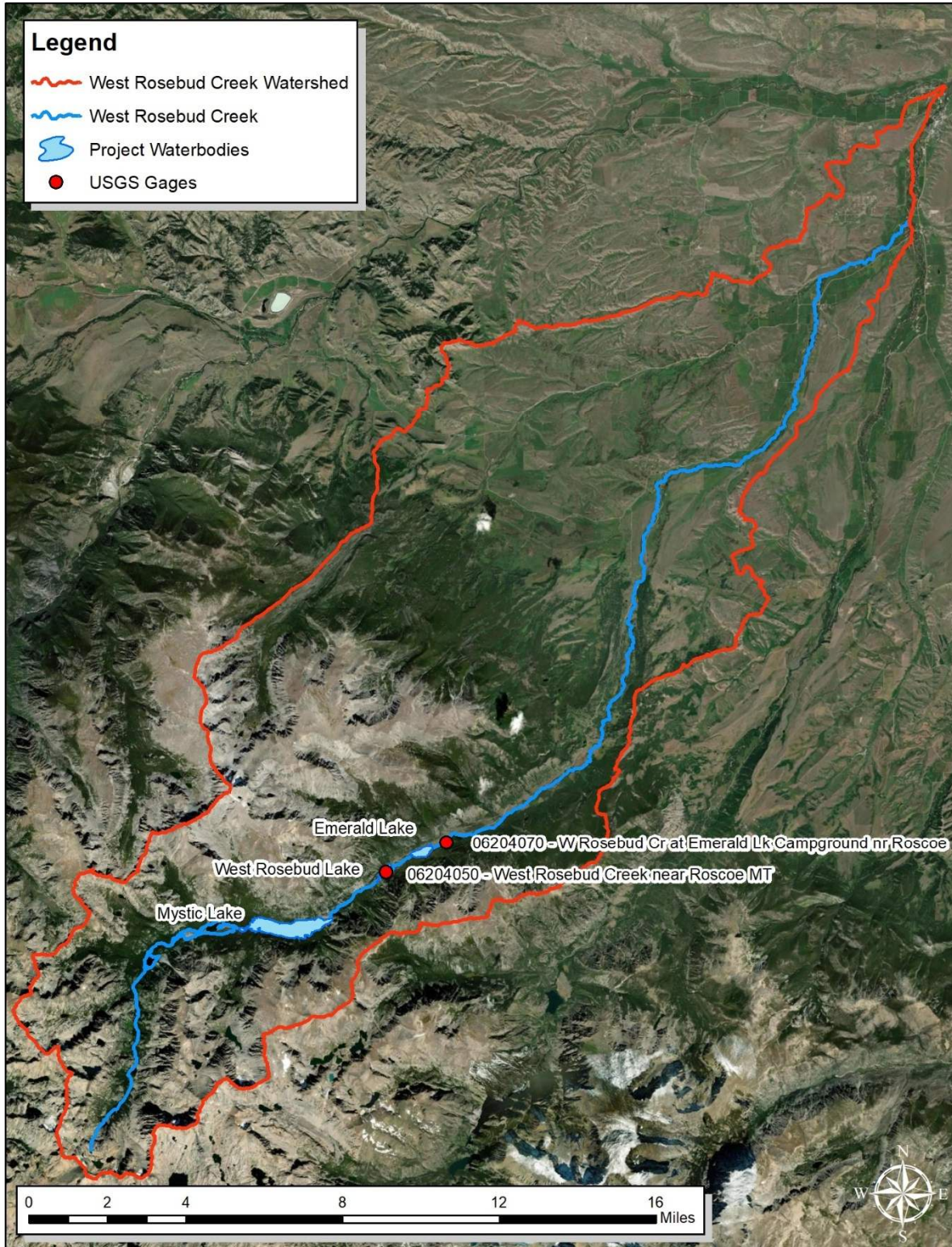


Figure 1-1. Map of the Project waterbodies and their location in the West Rosebud Creek watershed.

Section 2.0 – 2014 Whitewater Flow Enhancement Plan

The 2014 Whitewater Flow Enhancement Plan (Plan) was developed and submitted to FERC on October 27, 2014 (PPL Montana, 2014). The Plan provides conditions for recreational whitewater releases to West Rosebud Creek downstream of Emerald Lake through the 2.5-mile Class IV and V whitewater “Boated Reach” typically ending at Pine Grove Campground.

Based on information collected from paddlers in 2007 during the development of the initial Plan, the optimum whitewater flow in the Boated Reach for most paddlers is between 360 and 455 cfs. Flows in this range achieve creek stages between 1.8’ and 2.0’ at the Pine Grove staff gauge and provide Class IV–Class V whitewater opportunities through the Boated Reach between Emerald Lake and Pine Grove Campground. During flow enhancements, streamflow increases in the morning and decreases in the afternoon between its base level and target whitewater flows, providing various boating opportunities and allowing paddlers the ability to select a flow based on the timing of their runs (PPL Montana, 2014).

Upon approval, NorthWestern implemented the Plan from the 2015 recreation season through the 2024 recreation season. This Plan outlines the protocol for whitewater flow enhancement (**Section 2.1**) as well as the requirement for annual coordination meetings with stakeholders (**Section 2.2**).

Section 2.1 – 2015-2024 Protocol for West Rosebud Creek Whitewater Flow Enhancement

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

When the Wednesday noon stream flow reported on [USGS Streamflow Gauge # 06204050 West Rosebud Creek near Roscoe MT](#) is greater than 400 cfs, no whitewater flow enhancement will be provided.

When the Wednesday noon streamflow reported on the [USGS Streamflow Gauge # 06204050 West Rosebud Creek near Roscoe MT](#) is between 286 cfs and 400 cfs, NorthWestern 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 West Rosebud Creek near Roscoe MT](#) is less than 270 cfs due to rapidly decreasing inflow, NorthWestern 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 # 06204050 West Rosebud Creek near Roscoe MT](#) is between 250 cfs and 285 cfs, NorthWestern 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 West Rosebud Creek near Roscoe MT](#) 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 # 06204050 West Rosebud Creek near Roscoe MT](#) is less than 250 cfs, no whitewater flow enhancement will be provided.

NorthWestern 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 # 06204070 West Rosebud Creek at Emerald Lake Campground](#).

Whitewater 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 # 06204050 West Rosebud Creek near Roscoe MT](#) 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 # 06204050 West Rosebud Creek near Roscoe MT](#) 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.

Section 2.2 – Annual Coordination Meeting

NorthWestern facilitates an annual coordination meeting with the Mystic Whitewater Resource Group during the spring of each year to discuss the previous year's whitewater program results, snowpack, the West Rosebud Creek runoff forecast, and the rate at which Mystic Lake is refilling. West Rosebud Creek runoff forecasts are most reliable by early June and weather changes can rapidly affect whitewater flow conditions.

Spill over Rowe Dam is necessary for the onset of naturally-occurring whitewater flows and for the base flows required for whitewater enhancement. Mystic Lake refill rate and timing of spill are important for providing whitewater flow enhancements. To assist in the monitoring of Mystic Lake conditions, the [lake level](#) is reported on NorthWestern's website, <https://northwesternenergy.com>. The lake's refill trajectory provides insight into the timing and magnitude of spill.

The Mystic Whitewater Resource Group is comprised of representatives from NorthWestern, the U.S. Forest Service (USFS), Montana Fish Wildlife and Parks (FWP), Montana Department of Environmental Quality (DEQ), American Whitewater and local paddling groups, as well as adjacent downstream landowners.

Section 3.0 - Summary of Whitewater Releases 2015-2024

The decision to provide whitewater flow enhancements was made using the 2014 Whitewater Flow Enhancement Plan, and over the past 10 years there have been 56 registered paddlers participating in 14 whitewater release days (**Table 3-1**).

Table 3-1. 2015-2024 whitewater flow release summary.

Year	Number of Release Days	Dates of Whitewater Releases	Registered Paddlers
2015	3	July 4, July 5, July 11	27
2016	0	N/A	0
2017	1	July 29	7
2018	2	July 28, July 29	2
2019	3	July 27, July 28, August 3	3
2020	0	N/A	0
2021	0	N/A	0
2022	0	N/A	0
2023	5	July 1, July 2, July 15, July 16, July 22	17
2024	0	N/A	0

All except one of the 14 whitewater release days for this period occurred during the month of July. Some whitewater flow release days are utilized by multiple paddlers, while others have zero registered paddlers. The success of whitewater flow releases is dependent on several factors including weather conditions, outreach effort, and the availability of other paddling opportunities at the time of the release. This section provides the details of the annual whitewater flow enhancements for each of the past 10 years.

Section 3.1 – 2015 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 16th, 2015 to discuss the results of the 2014 whitewater flow season and provide an outlook for the 2015 season. In 2015 there were three whitewater release days provided to paddlers over two weekends.

The first whitewater release weekend was Saturday July 4th, and Sunday July 5th (**Figure 3-1**). On July 4th, there were seven registered paddlers and on July 5th there were twelve registered paddlers. The second whitewater release weekend was Saturday July 11th, which saw eight registered paddlers (**Figure 3-2**).

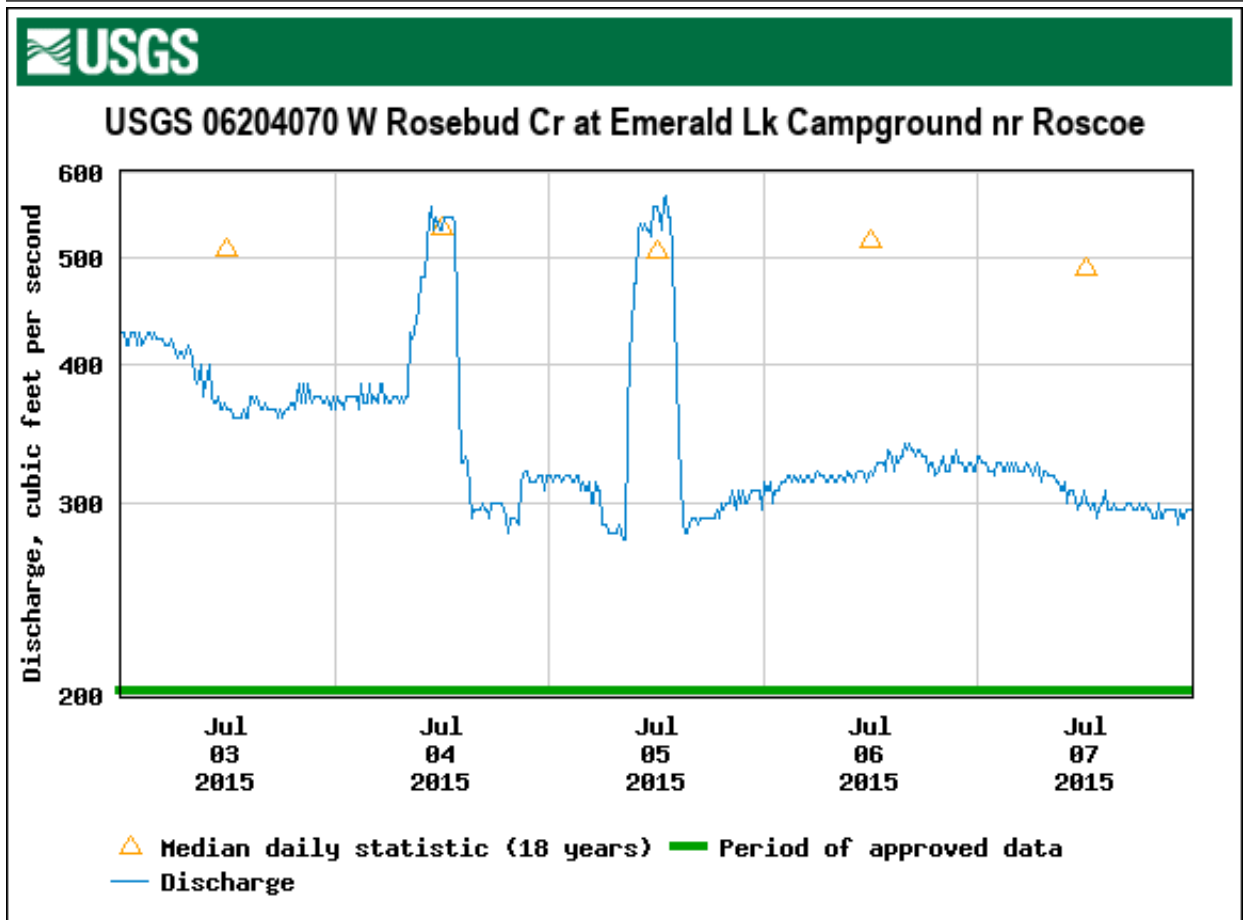


Figure 3-1. USGS Streamflow Gauge # 06204070 discharge data for the July 4 and July 5, 2015 whitewater enhancement flows.

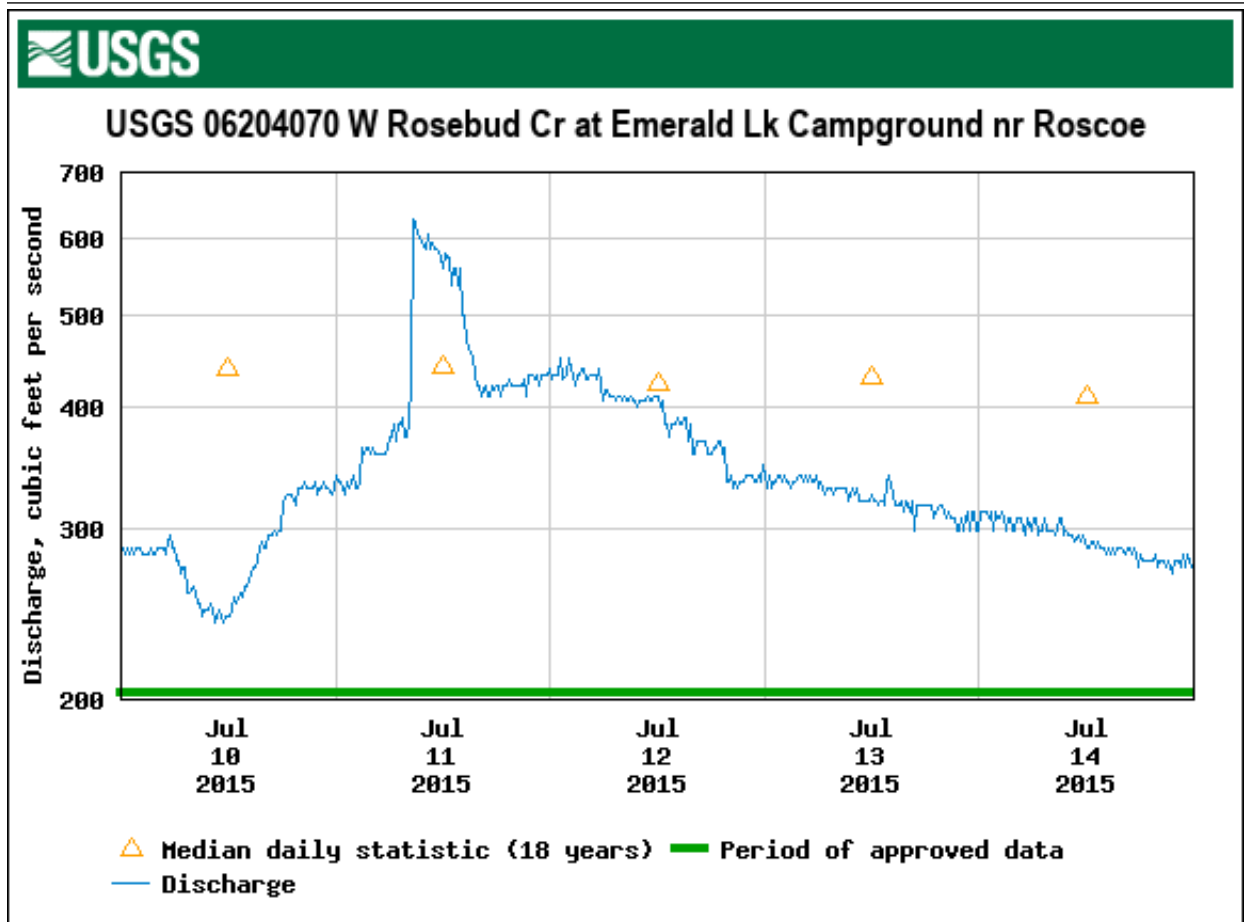


Figure 3-2. USGS Streamflow Gauge # 06204070 discharge data for the July 11, 2015 whitewater enhancement flow.

Section 3.2 – 2016 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 15th, 2016 to discuss the results of the 2015 whitewater flow season and provide an outlook for the 2016 season. In 2016, there were no whitewater release days. The conditions for conducting a whitewater release were not met, and therefore no whitewater releases were made for the 2016 season.

Section 3.3 – 2017 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 8th, 2017 to discuss the results of the 2016 whitewater flow season and provide an outlook for the 2017 season. In 2017 there was one whitewater release day provided to paddlers on Saturday July 29th, and there were seven registered paddlers for that release (**Figure 3-3**).

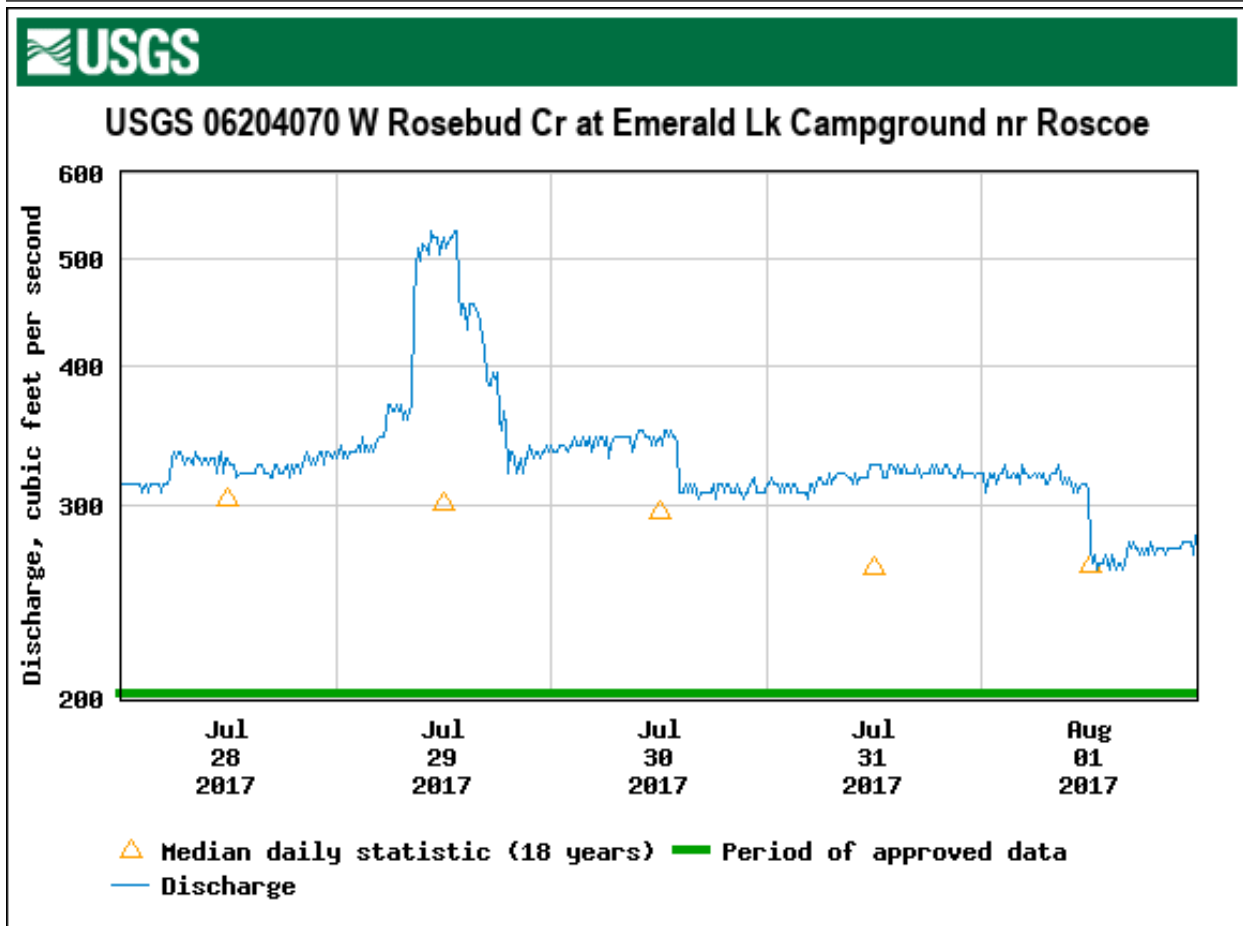


Figure 3-3. USGS Streamflow Gauge # 06204070 discharge data for the July 29, 2017 whitewater enhancement flow.

Section 3.4 – 2018 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 8th, 2018 to discuss the results of the 2017 whitewater flow season and provide an outlook for the 2018 season. In 2018 there were two whitewater release days provided to paddlers over one weekend. The first whitewater release day was Saturday July 28th, and the second on Sunday July 29th (Figure 3-4). On July 28th, there were no registered paddlers and on July 29th there were two registered paddlers.

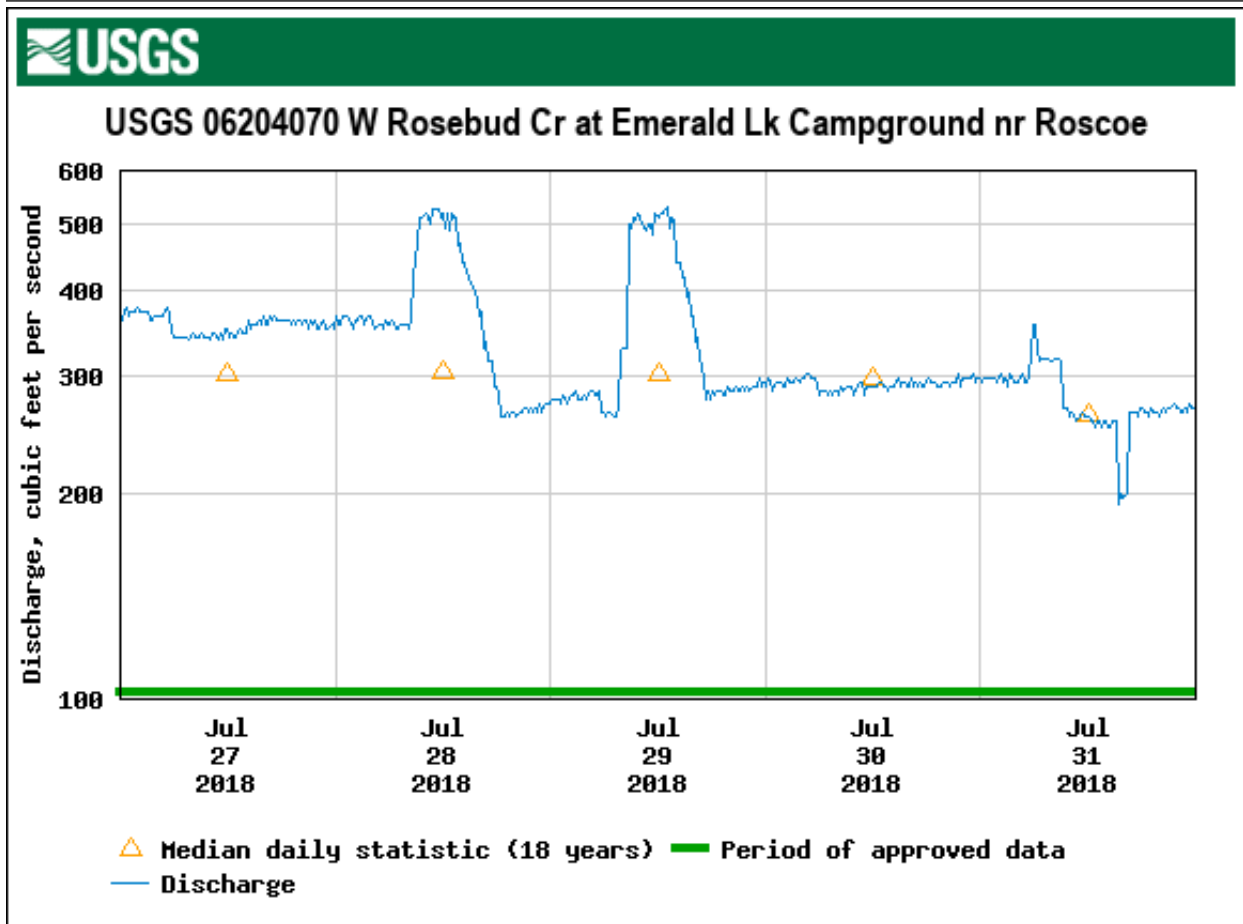


Figure 3-4. USGS Streamflow Gauge # 06204070 discharge data for the July 28 and July 29, 2018 whitewater enhancement flows.

Section 3.5 – 2019 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 6th, 2019 to discuss the results of the 2018 whitewater flow season and provide an outlook for the 2019 season. In 2019 there were three whitewater release days provided to paddlers over two weekends. The first whitewater release weekend was Saturday July 27th, and Sunday July 28th (**Figure 3-5**). On July 27th, there were no registered paddlers and on July 28th there were three registered paddlers. The second whitewater release weekend was Saturday August 3rd, and there were no registered paddlers for that release (**Figure 3-6**).

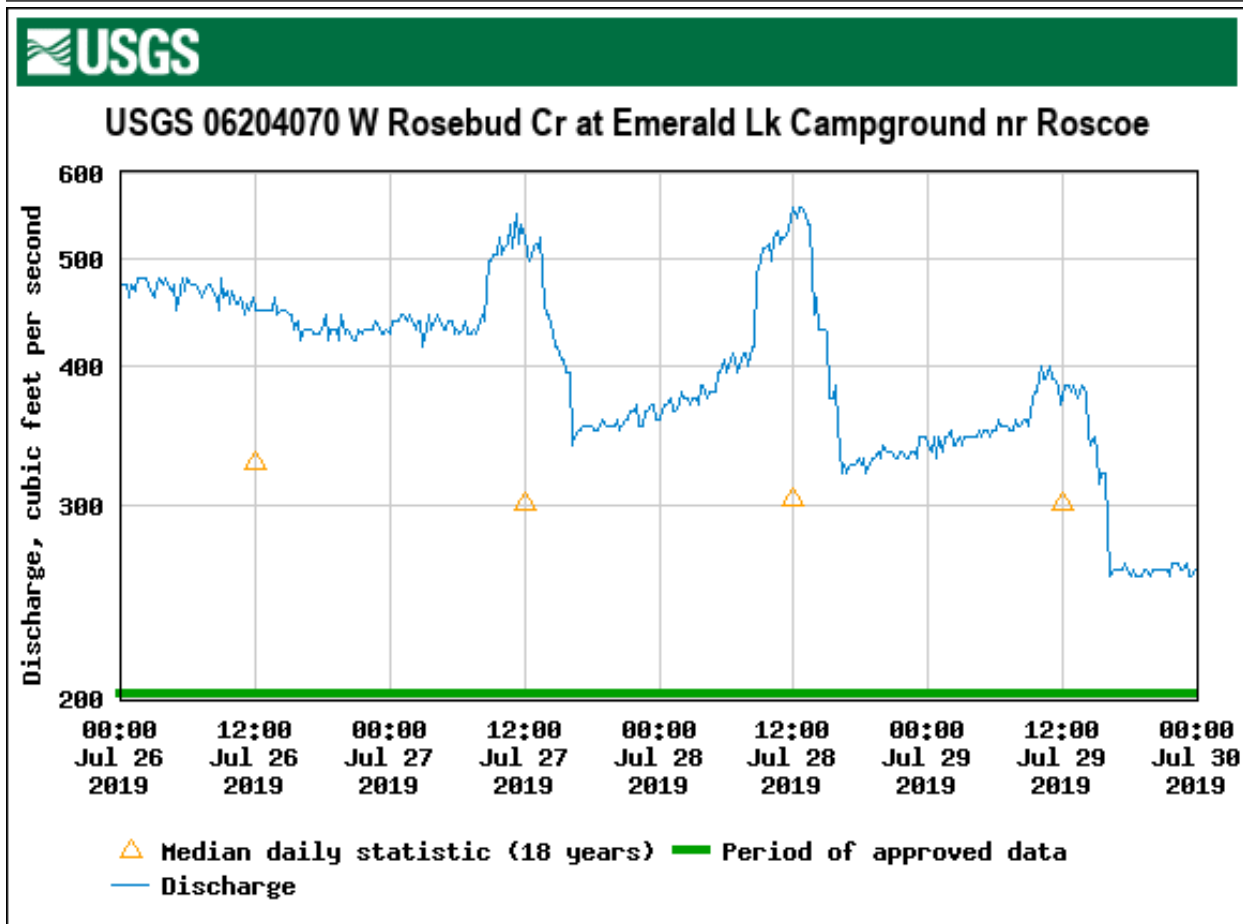


Figure 3-5. USGS Streamflow Gauge # 06204070 discharge data for the July 27 and July 28, 2019 whitewater enhancement flows.

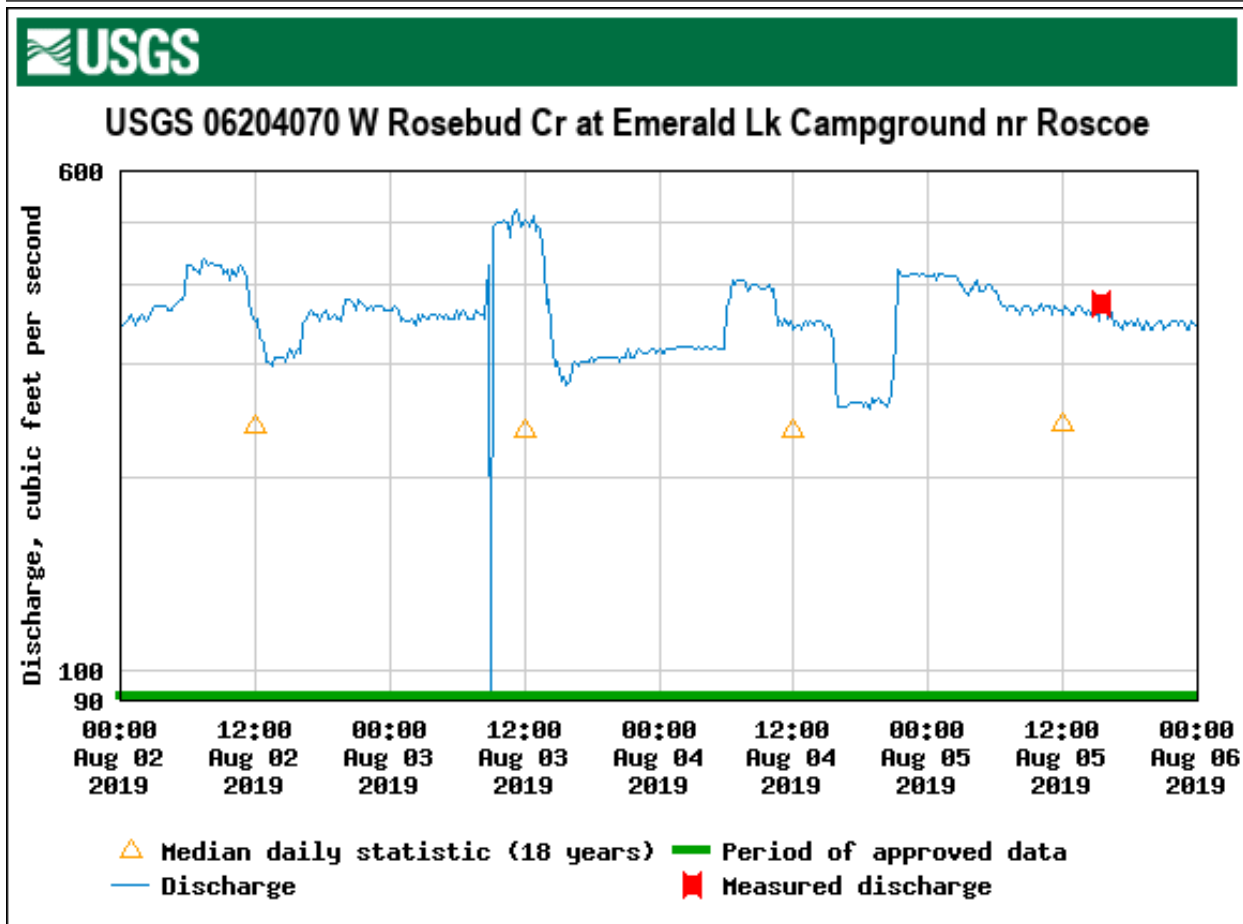


Figure 3-6. USGS Streamflow Gauge # 06204070 discharge data for the August 3, 2019 whitewater enhancement flow.

Section 3.6 – 2020 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 18th, 2020 to discuss the results of the 2019 whitewater flow season and provide an outlook for the 2020 season. In 2020, there were no whitewater release days. The conditions for conducting a whitewater release were not met, and therefore no whitewater releases were made for the 2020 season.

Section 3.7 – 2021 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 23rd, 2021 to discuss the results of the 2020 whitewater flow season and provide an outlook for the 2021 season. In 2021, there were no whitewater release days. The conditions for conducting a whitewater release were not met, and therefore no whitewater releases were made for the 2021 season.

Section 3.8 – 2022 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 14th, 2022 to discuss the results of the 2021 whitewater flow season and provide an outlook for the 2022 season. In 2022, there were no whitewater release days. The conditions for conducting a whitewater release were not met, and therefore no whitewater releases were made for the 2022 season.

Section 3.9 – 2023 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on June 8th, 2023 to discuss the results of the 2022 whitewater flow season and provide an outlook for the 2023 season. In 2023 there were five whitewater release days provided to paddlers over three weekends. The first whitewater release weekend was Saturday July 1st and Sunday July 2nd, and there were no registered paddlers for either of those release days (**Figure 3-7**). Streamflow continued to increase through July 5th, and there were two registered paddlers on July 4th and two registered paddlers on July 5th. July 4th and July 5th were not planned whitewater release days, but streamflow was high enough to allow whitewater opportunities on those days. The second whitewater release weekend was Saturday July 15th and Sunday July 16th (**Figure 3-8**). There were four registered paddlers for the July 15th whitewater release and eight registered paddlers for the July 16th whitewater release. A third weekend of whitewater releases occurred on Saturday July 22nd, and there were five registered paddlers on that release day (**Figure 3-9**). Due to declining streamflow, the whitewater release protocol indicated that there would be a Saturday release only for that weekend.

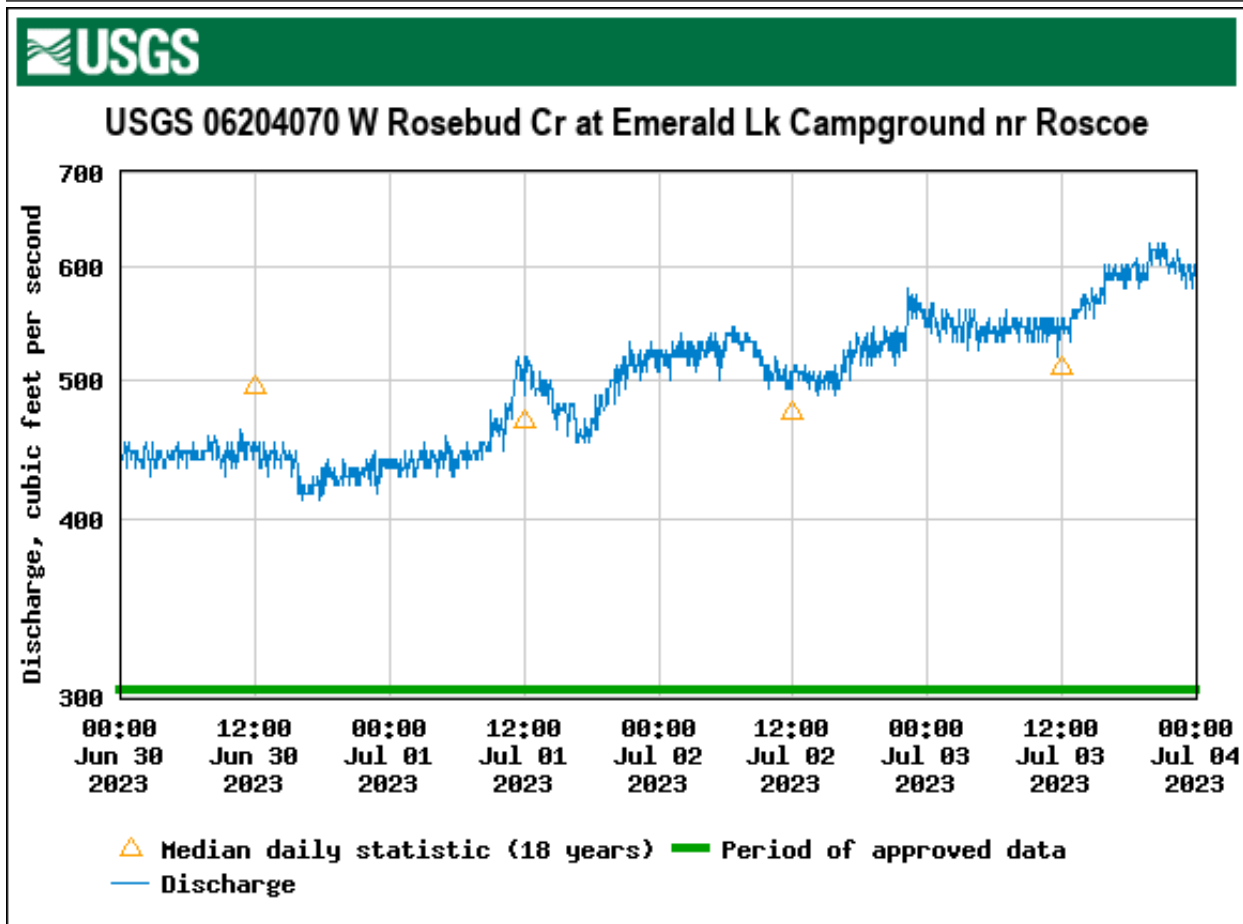


Figure 3-7. USGS Streamflow Gauge # 06204070 discharge data for the July 1 and July 2, 2023 whitewater enhancement flows.

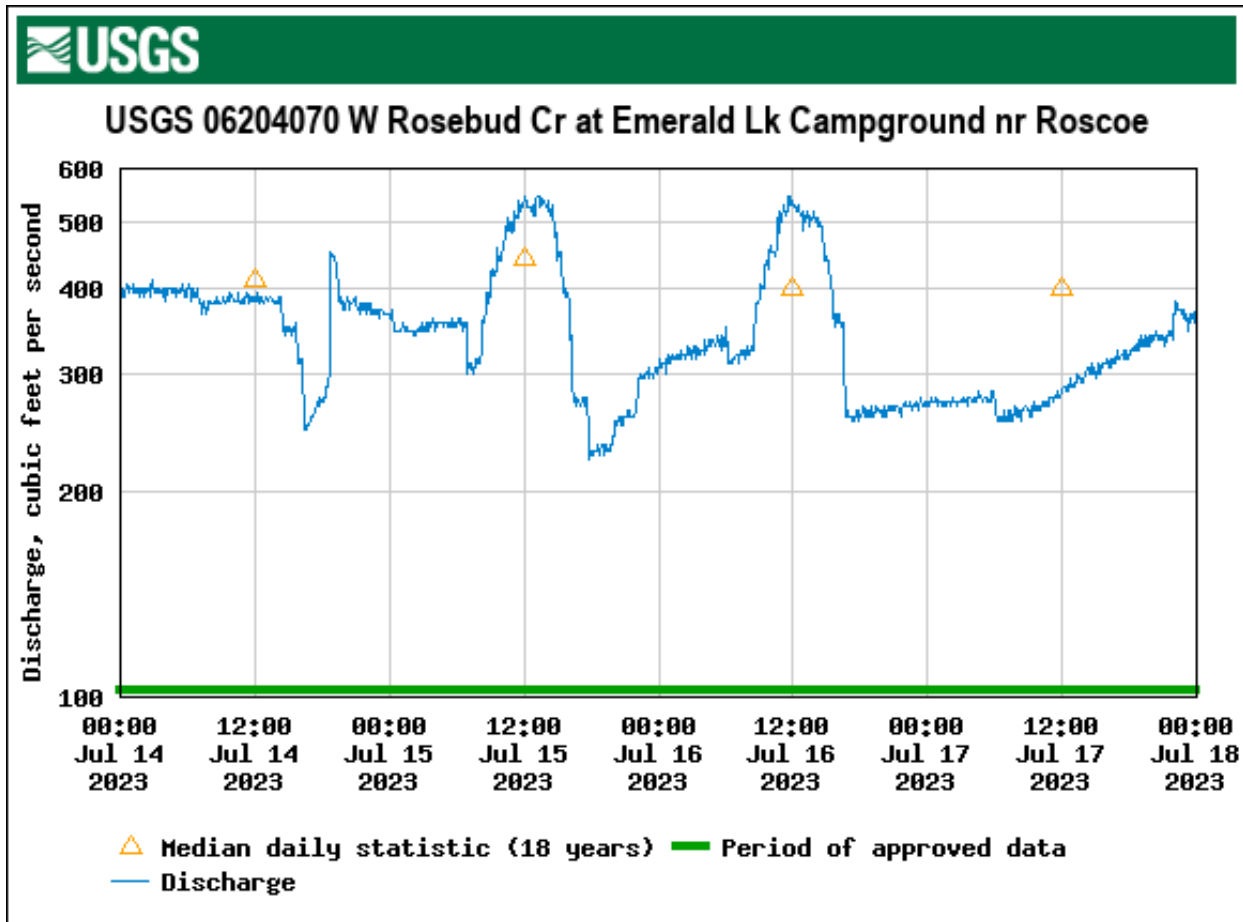


Figure 3-8. USGS Streamflow Gauge # 06204070 discharge data for the July 15 and July 16, 2023 whitewater enhancement flows.

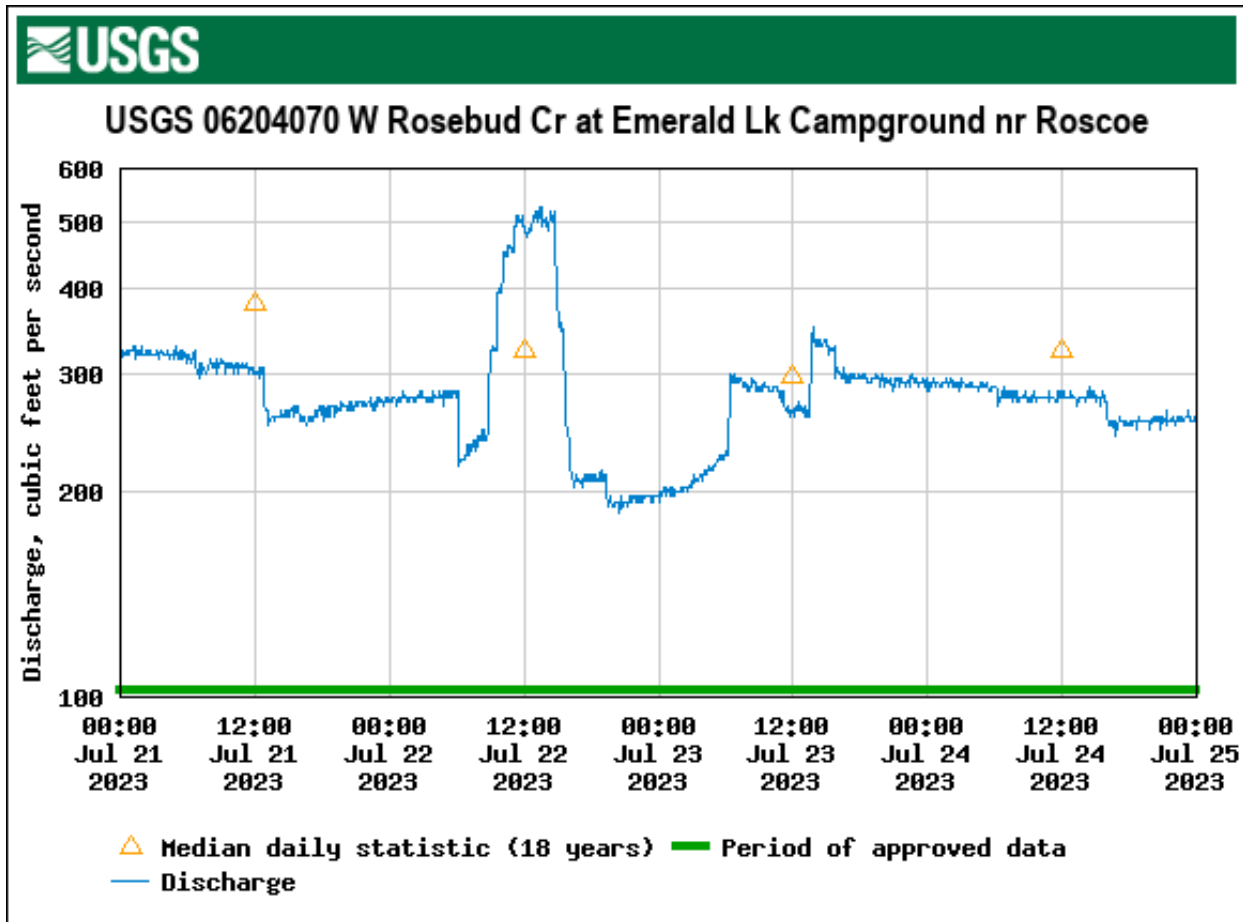


Figure 3-9. USGS Streamflow Gauge # 06204070 discharge data for the July 22, 2023 whitewater enhancement flow.

Section 3.10 – 2024 Whitewater Releases

The annual Mystic Whitewater Coordination Meeting was held on May 29th, 2024 to discuss the results of the 2023 whitewater flow season and provide an outlook for the 2024 season. In 2024, there were no whitewater release days. The conditions for conducting a whitewater release were not met, and therefore no whitewater releases were made for the 2024 season.

Section 4.0 – 2025 Whitewater Flow Enhancement Plan

While the 2014 Whitewater Flow Enhancement Plan was comprehensive in outlining situations in which a whitewater flow enhancement would be conducted, NorthWestern is proposing to simplify the whitewater enhancement protocol starting in the 2025 recreation season. Feedback from recreational users indicated that the current protocol for whitewater flow enhancement was overly cumbersome when it came to determining if there was going to be a whitewater flow. The Boated Reach on West Rosebud Creek is remote, and the hydrologic conditions are dynamic with quickly receding natural West Rosebud Creek flows on the descending limb of the hydrograph. The 2014 whitewater flow protocol does not provide for sufficient advance notice and lead time for recreationists to plan a visit to West Rosebud Creek to paddle, which may have contributed to low numbers of registered paddlers during some release days.

To help simplify the whitewater enhancement protocol, NorthWestern is proposing to move to a fixed-date release schedule and offer three to four whitewater flow enhancements each year. Analysis of the previous whitewater flow enhancements from 2010-2024 showed that the third and fourth weekends in July have historically provided the greatest number of whitewater flow enhancements (**Figure 4-1**). This was likely in part due to the language in the 2014 Whitewater Flow Enhancement Plan (**Section 2.1**) that specified that whitewater flow enhancements must occur on the descending limb of the hydrograph. High natural flows during the peak of the annual hydrograph may provide sufficient flow to support whitewater boating prior to the whitewater release season.

Streamflow data from the USGS indicates that annual peak streamflow on West Rosebud Creek typically occurs either the last week of June or the first week of July (**Figure 4-2**). Based on this, NorthWestern believes that in years of average or above average snowpack conditions in the watershed, the Project should have enough water available to provide Saturday and Sunday whitewater flow enhancements the first weekend in July. In years of below average snowpack conditions, this may not be possible if drought conditions prevent the timely refilling of West Rosebud Lake in order to provide a Sunday whitewater flow enhancement.

In addition to the whitewater flow enhancements provided the first weekend in July, NorthWestern proposes to provide a Saturday only whitewater release the second weekend of July as well as a Saturday only whitewater release the third weekend of July. As normal streamflow in West Rosebud Creek becomes diminished throughout the month of July, the ability to refill West Rosebud Lake in time for a Sunday release is more challenging. By providing Saturday only releases, the risk of not refilling West Rosebud Lake in time for a Sunday release is negated.

Scheduling set whitewater flow enhancement days well in advance of the release will help simplify the program and allow recreationists time to plan for these release days. NorthWestern

believes that the updated whitewater release protocol outlined in **Section 4.1** will provide more reliable paddling opportunities for the public and may facilitate an increase in participation by registered paddlers on those days. The updated whitewater release protocol simplifies dam and powerhouse operations for NorthWestern and operators can schedule flow changes further in advance of whitewater release days than they were able to under the previous Plan. It also improves water management throughout watershed by affording water users and irrigators more time to plan for streamflow increases.

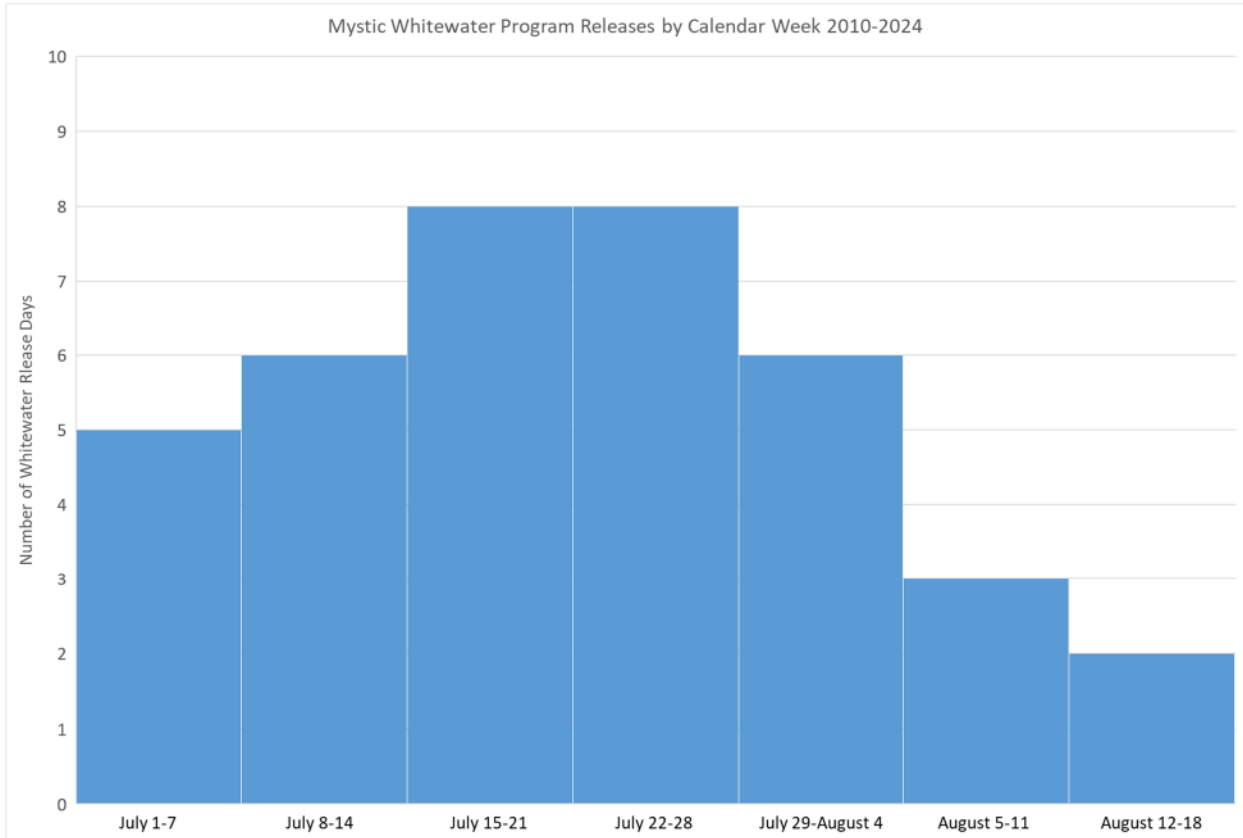


Figure 4-1. Mystic Whitewater Program release days by calendar week (2010-2024).

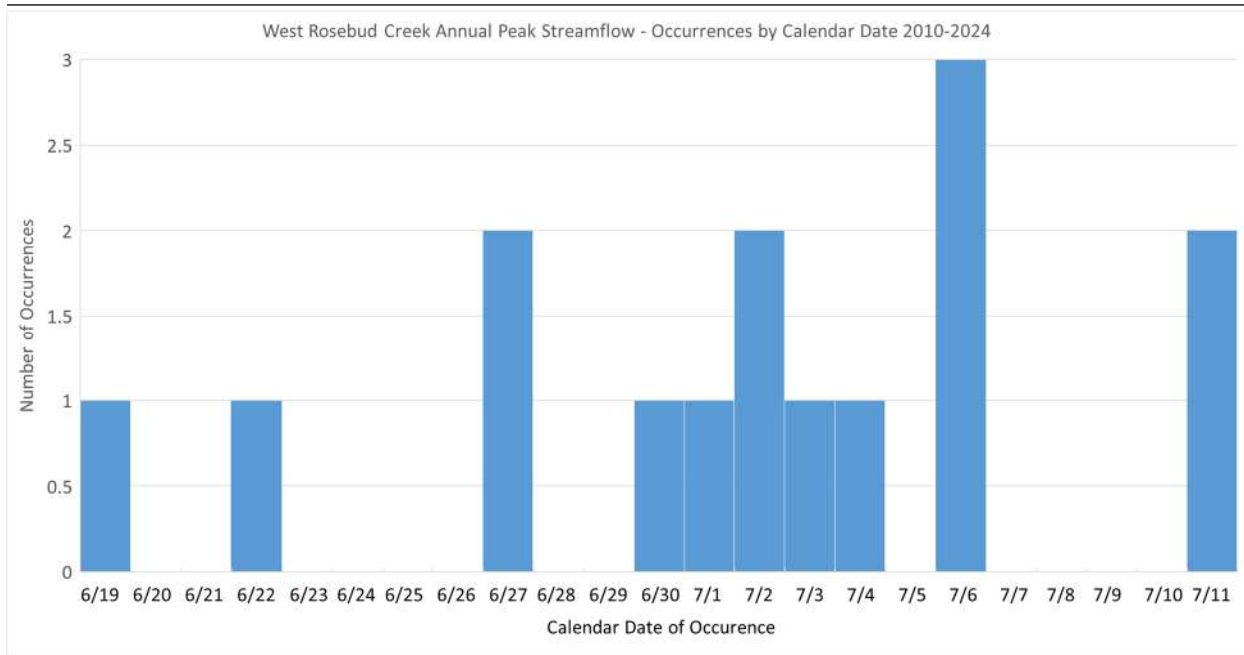


Figure 4-2. West Rosebud Creek annual peak streamflow by calendar date (2010-2024).

Section 4.1 – 2025-2034 Protocol for West Rosebud Creek Whitewater Flow Enhancement

Under normal, routine operation of the Mystic Lake Hydroelectric Project by NorthWestern Energy (NorthWestern), up to four whitewater flow enhancements will be provided annually. For each of these flow enhancements, NorthWestern will endeavor to release 500 cfs for 5 hours from West Rosebud Lake Dam as measured at the [USGS Streamflow Gauge # 06204070 West Rosebud Creek at Emerald Lake Campground](#).

Whitewater releases will be conducted the first weekend in July (Saturday and Sunday releases) and the second and third Saturdays (only) in July. Rapidly decreasing flows as reported on the [USGS Streamflow Gauge # 06204050 West Rosebud Creek near Roscoe MT](#) 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.

NorthWestern 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 # 06204070 West Rosebud Creek at Emerald Lake Campground](#).

Whitewater releases from West Rosebud Lake Dam will begin at 9:00 AM. Peak flow (near 500 cfs) will reach the Emerald Lake Outlet between approximately 11:30 AM and 12:30 PM and will

continue for approximately 2.5 hours, gradually reducing to pre-enhanced base flow conditions thereafter.

Beartooth Paddlers and American Whitewater will endeavor to communicate information regarding whitewater flow enhancement days to the paddling community through social media, websites, email and other means.

Section 4.2 – Annual Coordination Meeting

NorthWestern proposes to continue to facilitate an annual coordination meeting with the Mystic Whitewater Resource Group during the spring of each year to discuss the previous year's whitewater program results, snowpack, the West Rosebud Creek runoff forecast, and the rate at which Mystic Lake is refilling. West Rosebud Creek runoff forecasts are most reliable by early June and weather changes can rapidly affect whitewater flow conditions. In years where below average snowpack and drought conditions may be present, NorthWestern will discuss with the Mystic Whitewater Resource Group at the annual coordination meeting, the probability of a successful Saturday and Sunday whitewater release the first weekend in July. If there are circumstances where a planned whitewater flow enhancement may not be met, NorthWestern will notify the Mystic Whitewater Resource Group in advance of the release day.

Section 5.0 – Discussion

The Mystic Whitewater Flow Enhancement Program provides recreational boating opportunities in a flow-regulated system. Since its inception in 2010, the program has provided 38 whitewater flow releases and boating opportunities for 155 registered paddlers.

The updates to the Plan (**Section 4.0**) aim to simplify and standardize the process in which these whitewater flow enhancements are provided. Having pre-set specific release days will allow potential future paddlers to make plans to participate well in advance of the whitewater release. This will likely lead to more registered paddlers using the program and improve overall user satisfaction with the program. The updated Plan simplifies dam and powerhouse operations for NorthWestern so that operators can schedule flow changes further in advance of whitewater release days. The Plan also provides further benefit to downstream water users by affording them more time to plan for streamflow increases.

In years where below average snowpack and drought conditions may be present, NorthWestern will discuss with the Mystic Whitewater Resource Group at the annual coordination meeting, the probability of a successful Saturday and Sunday whitewater release the first weekend in July. On the second and third weekends in July, lower inflows to West Rosebud Lake which would have previously made refilling the reservoir for a Sunday release challenging, are addressed by conducting Saturday only releases for those weekends. If there are circumstances where a planned whitewater flow enhancement may not be met, NorthWestern will notify the Mystic Whitewater Resource Group in advance of the release day.

NorthWestern proposes to operate the Mystic Whitewater Program using the 2025 Whitewater Flow Enhancement plan for the next 10 years, through the 2034 recreation season. After this 10-year period, NorthWestern will evaluate the effectiveness of the 2025 Plan and provide a report to the Mystic Whitewater Resource Group and FERC by January 31, 2035.

Section 6.0 – References

- PPL Montana. 2006. Mystic Lake Hydroelectric Project FERC no. 2301 Final License Application. December 15, 2006.
- PPL Montana. 2009. Mystic Lake Hydroelectric Project Whitewater Flow Plan. November 19, 2009.
- PPL Montana. 2014. Mystic Lake Hydroelectric Project Whitewater Flow Plan. October 6, 2014.
- U. S. Geological Survey (USGS). 2024. The StreamStats program, <https://streamstats.usgs.gov/ss/>. Accessed 9/24.
- U. S. Geological Survey (USGS). 2024. USGS Stream Gage Data, West Rosebud Creek near Roscoe MT and at Emerald Lake Campground Near Roscoe, sites 06204050 and 06204070. <https://nwis.waterdata.usgs.gov/mt/nwis/current/>. Accessed 9/24.