



— BUREAU OF —
RECLAMATION

Flaming Gorge Operation Plan May 2023 - April 2024

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Purpose

The development of the Flaming Gorge Operation Plan (FG-Ops) completes the 2006 Flaming Gorge Record of Decision (ROD) process and the 4-step process outlined in the Flaming Gorge Standard Operation Procedures for May 2023 - April 2024. The Upper Colorado Operations Office (UCOO) operators will fulfill the FG-Ops within the boundaries of the operations defined below; however, Reclamation reserves the right to adjust the FG-Ops flows and the implementation of flow experiments based on hydrologic conditions and other considerations. The Upper Colorado River Endangered Fish Recovery Program (Recovery Program), Flaming Gorge Technical Working Group (FGTWG), Flaming Gorge Working Group (FGWG), United States Fish and Wildlife Service (FWS), and Western Area Power Administration (WAPA) provided input that was considered in the development of the FG-Ops.

The FG-Ops describes the current hydrologic classification of the Green River Basin, the hydrologic conditions in the Yampa River Basin, and identifies the Reach 2 peak flow magnitude and duration that is most likely to be targeted for the upcoming spring flows and base flows. Multiple hydrologic conditions were considered in the development of FG-Ops, such that it contains a range of operating strategies that could be implemented. Flow and duration targets for these strategies consider moderately dry, average (above / below median), moderately wet, and wet scenarios as these are most likely classifications to occur this year. As of the approval date of this document, the most likely hydrologic classification is average above median.

Drought Response Operations Agreement (DROA)¹ Operating Year 2023 planning with the Upper Basin States was incorporated into the development of the FG-Ops. After the plan is finalized, the FG-Ops may be amended to adjust releases. These releases are a general representation to illustrate releases for Drought Response Operations (DRO) and could increase or decrease pending the Yampa contributions. Also, these releases will remain within the confines of the Final Environmental Impact Statement/ROD (FEIS/ROD). The plan allows for adjustments and the DROA Partners will meet monthly to review various aspects of the plan including the hydrology and effectiveness and adjust releases accordingly. Adjustments will remain within the flexibility of the 2006 Flaming Gorge ROD and within the constraints of the Flaming Gorge compliance documents in coordination with the FWS (i.e., Biological Opinion, FEIS, DROA, DRO Plan).

General Operation Criteria for May 2023 - April 2024

The hydrology condition is average above median, and this scenario is presented below. Additional details for average above median and other hydrologic classifications (moderately dry, average below median, moderately wet, and wet) are also presented later in this document. Per the FGTWG Proposal, the following experiments are under consideration for an average above median hydrologic condition:

- Larval Trigger Study Plan (LTSP) experimental objectives for the average above median hydrologic classification will be attempted for spring operation and timed with a biological trigger. As part of experiments, ramp-down rates will be 2000 cubic feet per second (cfs)/day.
- A smallmouth bass (SMB) flow spike release may occur (optional due to hydrology and biological trigger) in mid-June to early July and will include the use of the selective withdrawal structure (SWS) to influence temperature. The SMB flow spike release will consist of a one day ramp up to full power plant capacity (4,600 cfs), three consecutive days at power plant capacity, and a ramp down at the rate of 2,000 cfs/day.
- The summer base flow period will use the lower flow values from the Colorado pikeminnow (CPM) base flow experiment (Bestgen and Hill 2016).
- Autumn, and winter base flows period will use the lower flow values that are within the range the 2000 Flow and Temperature recommendations to achieve Reach 2 flows. Differences in mean daily

flow between days between seasons will be 300 cfs/day, instead of being limited to 3% of the previous day's flow, without violating the 0.1 m/day limit on stage change when transitioning from one flow regime to another.

Reclamation continually coordinates release schedules with WAPA. Occasionally, WAPA will request that Reclamation consider modifying hourly scheduled releases at Flaming Gorge Dam due to power market conditions. Reclamation considers all requests from WAPA for hourly modified releases.

Current Hydrologic Classification

Green River Basin Hydrology

To implement the 2006 Flaming Gorge ROD in 2023, an evaluation has been made of the current hydrologic conditions in the Upper Green River (i.e., above Flaming Gorge Dam). The evaluation is centered on the historical unregulated inflow statistics for Flaming Gorge Dam during the period from 1963 through 2022. The 2023 May 1st Colorado Basin River Forecast Center (CBRFC) April to July unregulated spring inflow forecast (current forecast) for Flaming Gorge Reservoir is 1,300,000 acre-feet (135% of 30-year average₁₉₉₁₋₂₀₂₀). This forecast falls at 31% exceedance based on the historic unregulated inflow record (1963-2022). Figure 1 shows the current forecast in relation to the historic unregulated inflow volumes.

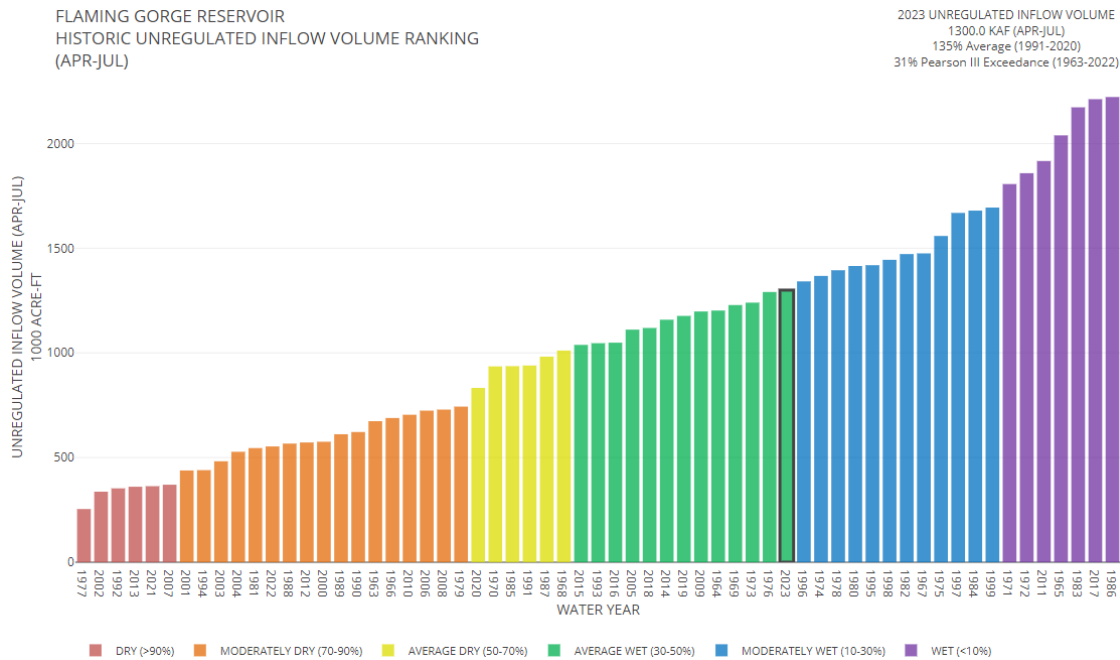


FIGURE 1 - Flaming Gorge Reservoir 2023 May spring April to July forecast and ranked historic unregulated April through July inflow volume for years 1963-2022.

As of May 3, 2023, end of day, Flaming Gorge Reservoir's current water surface elevation is 6010.87 feet above sea level. There is 2,611,492 acre-feet of live storage (71% live storage) in Flaming Gorge.

Yampa River Basin Hydrology

The May 1st 2023 April to July forecast for the Little Snake River and Yampa River combined (Little Snake at Lily plus Yampa at Maybell) is 2,200,000 acre-feet (180% of 30-year average₁₉₉₁₋₂₀₂₀). This spring forecast falls above 4% exceedance based on a ranking of the historic record (1922-2022). Figure 2 below shows the current spring forecast in relation to historic flow volumes.

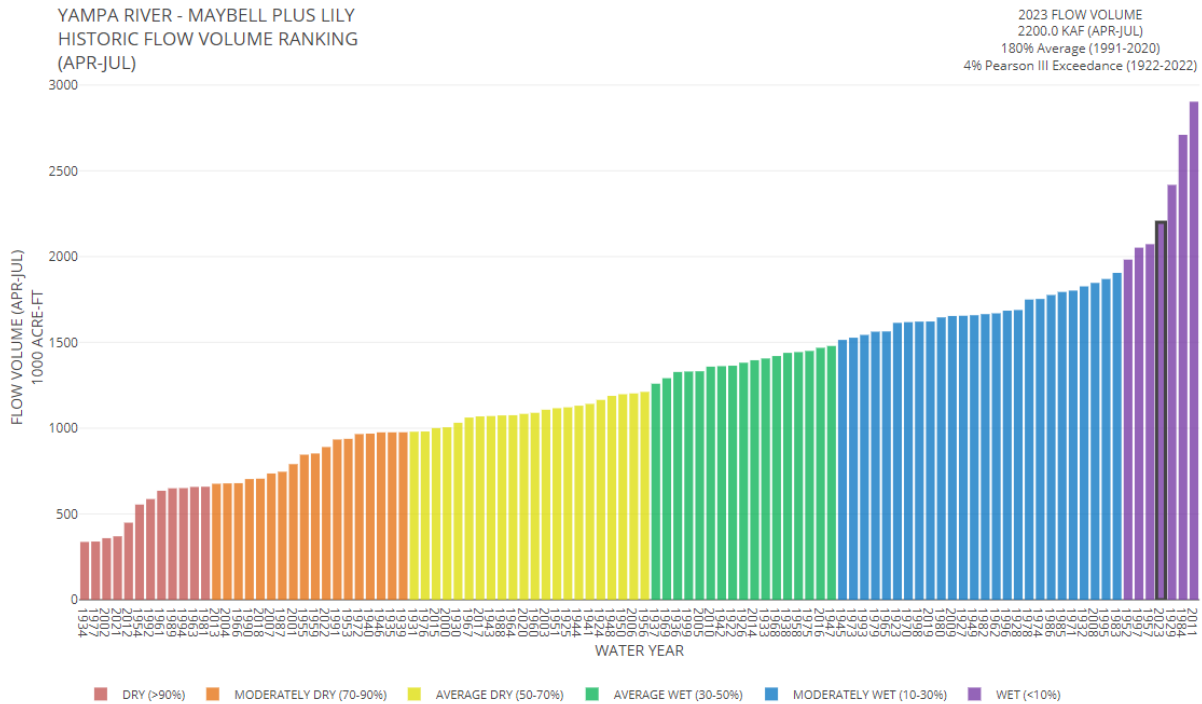


FIGURE 2 – Yampa River Basin (Maybell plus Lily) 2023 May spring April to July forecast and ranked historic unregulated April through July inflow volume for years 1922-2022.

Probabilities of Flow Events for Spring 2023

According to the hydrologic classifications defined in the Flaming Gorge FEIS table 2-4 page 31, the Flaming Gorge Reservoir is currently in the average hydrologic classification and the Yampa River Basin is in the wet hydrologic condition. Table 1 (below) shows the predicted number of days that the Yampa River at Deerlodge Park USGS Gage will exceed various mean daily flow thresholds. The predictions in Table 1 are based on the CBRFC May 1, 2023 Seasonal outlook for maximum flows.

Table 1. The number of days the Yampa River will exceed various mean daily flow thresholds.

Daily Mean Peak (cfs)	90% Exceedance Probability	75% Exceedance Probability	50% Exceedance Probability	25% Exceedance Probability	10% Exceedance Probability
Seasonal Maximum	21,663	22,320	23,751	26,795	28,790
10,000 cfs	41	43	46	50	55
12,000 cfs	36	37	39	44	50
14,000 cfs	28	31	33	35	40
16,000 cfs	17	19	22	28	31
18,000 cfs	11	12	15	18	22
20,000 cfs	4	6	8	9	14
22,000 cfs	0	1	2	4	6

Spring Releases¹

April – July May 1st forecast Exceedance Value Equal or Less than 90% and Values Greater than 70% (Moderately Dry Hydrologic classification)

For a hydrologic classification in the Moderately Dry range (exceedance values between 70% and 90%), spring releases consistent with the Flow and Temperature Recommendations report (Muth et. al, 2000) will be implemented. Peak releases will be timed to coincide with peak and immediate post-peak spring flows in the Yampa River, if needed to achieve targets. The moderately dry ramp-down rate is 350 cfs/day. Spring releases will be dependent on Yampa River flows and other factors. The UCOO will continue to monitor the CBRFC forecast to determine full power plant releases to be timed to coincide with Yampa peak and immediate post-peak spring flows.

April – July May 1st forecast Exceedance Value Less than 90% (Average below/above median, Moderately Wet, Wet)

Target flows per the "Reach 2 Flow and Temperature Recommendation by Hydrologic Condition" matrix (LaGory et al. 2019) will be used for average below median, average above median, moderately wet, and wet hydrologic conditions.

Range of Past Spring Peak Triggers

The mean calendar date of the first capture of razorback sucker larvae (i.e., the "larval trigger") is May 28 (median May 27) and ranges from May 7 to June 24. Historically, 50% of first captures occurred between May 21 and June 2; 75% occurred between May 16 and June 4. In general, first capture of larvae is earliest in years characterized by low flows and/or warmer conditions, and latest in years characterized by high flows and/or cooler conditions.

Spring Peak Pre-trigger Coordination

The UCOO operator will call in as a participant to any coordination, update, and scheduling activities on the pre-trigger LTSP experiment. During mid-May, a coordination meeting with the Recovery Program, Reclamation, Colorado State University (CSU; Dr. Kevin Bestgen), FWS, National Park Service, WAPA, CBRFC, Utah Division of Wildlife Resources (UDWR) among others will convene to coordinate activities such as monitoring, modeling, and forecasting of Yampa hydrology/temperature.

Spring Peak Trigger

Timing of LTSP releases per LaGory et al. 2019 is based on the date of first capture and/or significant emergence of the razorback sucker larvae observed through light trap sampling in the middle Green River which begins in early May of each year. Typically, larval sampling is conducted every morning and

¹Pending the hydrologic condition of the Upper Green River and Yampa River, per the FEIS 2.5.3.1 page 32, either one or two classifications higher (wetter) or one classification lower (drier) than the actual classification established for the Green River could be recommended for operations. Table 2-5 page 32 from the FEIS will be considered.

The duration of spring sustained flows will depend on the type of hydrologic classification and whether hydrology is wetter or drier within that classification range. Pending the Yampa being in a dryer/wetter condition, durations could be extended or reduced regardless of Green River hydrologic classification.

evaluation of each morning’s sample is completed by mid-morning. When the LTSP study can be initiated a Recovery Program representative will notify the Adaptive Management and Water Quality Division (AMWQD) with a courtesy copy to the Provo Area Office (PAO) Manager, Projects, Operations and Modeling Division (POMD) Manager, and Flaming Gorge reservoir operator. If the timing of release coincides with high recreation use, such as Memorial Day weekend, the UCOO may delay releases to minimize risk to the public. If LTSP releases are anticipated to initiate just prior to Memorial Day weekend, the Recovery Program representative will provide notification Tuesday at the latest to provide time to initiate LTSP releases. Additionally, the Yampa River is forecasted to likely reach flood stage around this time in 2023. If the Yampa River is at or near flood stage during the first emergence of razorback sucker larvae, then releases will be delayed until flood risk has subsided. The UCOO will determine the exact timing, magnitude, and duration of the releases and will notify stakeholders. The goal is to have minimal changes in releases over the weekend or during times of expected flooding below the Jensen gage for public safety purposes. The maximum LTSP releases can range between 4,600 cfs to 8,600 cfs. To meet ROD objectives and if conditions allow a Reach 2 flow target of 18,600 cfs may be attempted in the average classification for 2 weeks in 1 of 4 average years and a Reach 2 flow target of 14,000 cfs for 2 weeks in other year.

Spring Peak Release Period

During high releases, the UCOO operator will monitor Yampa River flows in conjunction with Green River flows measured at the Jensen. In a moderately dry, average below median, average above median, moderately wet, and wet condition, the following scenario provides an example. For moderately dry, refer to operation tables 4-6. The dam will be operated to attain Reach 2 peak flow magnitudes and durations that will vary depending on hydrologic conditions (see Table 2 and 3 below).

Table 2. Updated LTSP flow duration matrix per LaGory et al. (2019), Reach 2.

Hydrologic Classification	Peak Flow Magnitude as Measured at Jensen, Utah	Peak Flow Duration as Measured at Jensen, Utah	Duration
Average	≥18,600 cfs / ≥14,000 cfs	≥18,600 cfs / ≥14,000 cfs	2 weeks
Moderately Wet	≥20,300 cfs	≥18,600 cfs	2 weeks
Wet*	≥26,400 cfs	≥22,700 cfs / ≥ 18,600 cfs	2 weeks / 4 weeks

** Wet - To the extent possible, flows will be <24,000 cfs Reach 2 to be less than flood stage*

The LTSP flow targets in Reach 2 will likely require the use of the bypass to supplement flows above maximum power plant releases. The use of bypass will be minimized to meet Reach 2 goals.

Once river flows in Reach 2 begin to peak, the UCOO operators and the wetland biologists in the field will be in close contact to share information about forecasted flows, floodplain inundation and larvae entrainment monitoring.

If it is determined that contributions from Flaming Gorge releases, combined with the Yampa, cannot achieve 14,000 cfs or above (average below median) or 18,600 cfs or above (average above median) in Reach 2 then releases from Flaming Gorge will be reduced.

End of Spring Peak Releases

To limit temperature variations in Reach 2 and as part of experiments, the power plant and bypass release ramp down rate will follow a schedule which reduces flows by 2,000 cfs per day.

Smallmouth Bass Flow Spike

When the SMB flow spike can be initiated (moderately dry and average below/above median), a Recovery Program representative will notify the AMWQD Manager with a courtesy copy to the PAO Manager, POMD Manager, and the Flaming Gorge reservoir operator. The UCOO will determine the exact timing, magnitude, and duration of the releases. Below are notification criteria on when to proceed with the experiment on high use days.

- If the SMB is initiated over the Juneteenth weekend, the experiment will be initiated on Thursday, pending notice from the Recovery Program on the previous Monday COB.
- If the SMB is initiated during the Juneteenth week, it will be initiated on Tuesday (June 20, 2023) following the holiday (Monday June 19, 2023).
- The SMB will not be implemented over the pre-July 4th weekend.
- If the SMB is requested on the weekend after July 4th the experiment will be implemented on Thursday (July 6th), pending notice from the Recovery Program on the previous Thursday COB (June 29, 2023).

If the Recovery Program determines that weekend SMB flow spike is necessary for the success of the study, Reclamation will consider weekend releases. Otherwise, Reclamation will plan to implement the study during the weekdays. If SMB flow spike releases are initiated over the weekend, the Recovery Program representative will provide notification on the Monday before at the latest to provide time to initiate releases, starting on Thursday.

Due to the Yampa high runoff projection, the SMB flow spike will be optional. It may be determined in an average above median condition that a SMB flow spike cannot be accommodated between experiments (LTSP-CPM).

Colorado Pikeminnow experimental base flows

The summer CPM base flow experiment (Bestgen and Hill 2016) will be implemented to attempt to achieve Reach 2 target flows several days prior to the predicted first presence of Colorado pikeminnow. Average, moderately wet, and wet conditions are the only scenarios where CPM flows could be achieved. These flows will be maintained at the target level (table 3) throughout the base flow period, if possible. Achieving this targeted base flow depends on the Yampa River flows in Reach 2, which may be during spring runoff prior to the detection of CPM spawn. When CPM spawning is confirmed (or expected to occur in the very near future) in the Yampa River, a Recovery Program representative will notify the AMWQD Manager, the PAO Manager, the POMD Manager, and the UCOO operator to proceed with the experiment. Past investigations indicate the average date of first presence is July 4 (range June 20 to July 24), and is earlier in warmer and lower flow conditions, and later in cooler and higher flow conditions.

Table 3. Reproduction of Table 10 from Bestgen Hill 2016, illustrating Reach 2 experimental base flows (listed as proposed)

Hydrologic classification	2000 (Muth et al.) (cfs)	Proposed (cfs) (Bestgen and Hill 2016)
Dry (10% of years, 0 to 10% exceedance)	900 – 1,100	1,700 – 1,800
Moderately dry (20% of years)	1,100 – 1,500	1,800 – 2,000
Average (40% of years)	1,500 – 2,400	2,000 – 2,600
Moderately Wet (20% of years)	2,400 – 2,800	2,200 – 2,800
Wet (10% of years, 90 to 100%exceedance)	2,800 -3,000	2,400 – 3,000

Summer, Autumn, and Winter Base Flow Period²

Objectives considered during all base flow periods are the 3% change (~50 cfs) between consecutive mean daily flows and 0.1-m stage change at Jensen within a day as recommended in the 2000 Flow and Temperature Recommendations. The following guidance in LaGory et al. will be used in seasonal base flow periods. Differences in mean daily flow between days could be up to 300 cfs (instead of being limited to 3% of the previous day’s flow) without violating the 0.1 m/day limit on stage change when transitioning from one flow regime to another.

Moderately dry classification--summer

The summer, autumn, and winter base flows period will use the lower flow values that are within the range the 2000 Flow and Temperature recommendations to achieve Reach 2 flows. The range of acceptable base flows for Reach 2 would be selected from the 2000 Flow and Temperature Recommendations for the hydrologic classification set for the current month.

For average, moderately wet, and wet--summer

The start of the summer base flow period will be determined through a combination of hydrologic conditions on the Yampa River and Upper Green River and ends on September 30. The summer base flow period will fully implement the CPM base flows as discussed above.

Moderately dry, average, moderately wet, and wet – autumn and winter

Autumn and winter base flows period will target the Muth et al. respective ranges to achieve Reach 2 flows. The autumn period is from October 1 through November 30. The winter period is from December 1 through February 29.

² FEIS -- For the month of August, the hydrologic classification would be based on the percentage exceedance of the volume of unregulated inflow into Flaming Gorge Reservoir during the spring period. For the months of September through February, the percentage exceedance would be based on the previous month’s volume of unregulated inflow into Flaming Gorge Reservoir. If the unregulated inflow during the previous month is such that the percentage exceedance falls into a different classification than the classification assigned for the previous month, then the hydrologic classification for the current month could be shifted by one classification to reflect the change in hydrology. This shift would only be made when the reservoir condition indicates that the shift would be necessary to achieve the March 1 drawdown level of 6027 feet above sea level. Otherwise, the hydrologic classification for the current month would remain the same as for the previous month.

Utah Division of Wildlife Resources Monitoring Program

UDWR has a long-term fish monitoring program immediately downstream of Flaming Gorge Dam. Each April and September, the agency submits a flow request for two nights of 1,600 cfs, allowing them to electrofish the river at two 1-mile-long study sites, Spillway (Tailrace) and Little Hole. The goal of this request is to ensure that the river is navigable by jet boat and to maintain a consistent flow across sampling events. This request will be considered and approved if conditions are warranted. The UCOO operator will coordinate with WAPA to implement dam releases that meet the flow request.

Other Considerations

Regularly scheduled and/or emergency maintenance activities as well as other activities (i.e., search and rescue, drought/recovery operations, power system emergency (reserves) etc.) may affect reservoir operations. Releases may need to be reduced or increased to accommodate such events. Such interruptions will be remedied, as determined by Reclamation, and operations returned to target flow rates upon work completion.

Drought Response Operation (DRO) Considerations

The figures below contain the upper and lower bound releases that could be implemented for each hydrologic classification. These releases are a general representation to illustrate releases and could increase or decrease pending the Yampa contributions. Also, these releases will be within the confines of the FEIS/ROD. In the event a DRO scenario is implemented, the potential magnitude and durations can be more or less than described below.

Table 4. Operation Matrix for Moderately Dry Hydrologic Classification

Period Name / End of Objective	Date and Description
Pre-spring peak / ends at the start of Spring Release – hydrologic Trigger	May 1 to hydrologic trigger. ~800 cfs to full power generation (pending operation)
Spring peak operations ends when < 8,300 cfs is predicted at the Jensen Gage else ends when ≥8,300 cfs in Reach has been achieved for 7 days.	Estimated middle-late May to early June, pending Yampa Flows, hydrologic trigger. Increase to full power plant capacity in one day to meet Reach 2 peak Target (≥8,300 cfs). The target is to have ≥8,300 cfs in Reach 2 for greater 7 days. Bypass will not be used.
End of spring peak, ends before the SMB spike flow	Ramp down, end of spring peak period to 800-850 cfs– estimated middle to late June. 1000 cfs/day ramp-down from below power plant releases.
SMB spike flow / mid-June to early-July	One day ramp up to full power plant capacity (4,500 cfs) for 72 hours with a ramp down rate of 2,000 cfs/day. SWS units 2 and 3 will be adjusted to 50' below the reservoir surface after full power plant releases are attained. The SWS units 2 and 3 will be returned to 40' below the surface when full power plant releases conclude. SWS unit 1 will be the last unit to be online and the first to be offline before and after full power plant releases.
Summer base flows Muth et al., upper range / ends on September 30	Sustaining upper range of Muth et al., (1100-1,500 cfs) in Reach 2 until September 30. Average daily releases will be ~1,250 cfs.
Autumn base flows Oct 1 to -Nov 30 and winter base flow Dec 1 to Feb 29	Autumn and winter base flow target in Reach 2 is 1,100-1,500 cfs. Average daily base flows ~1,100 cfs in Reach 2 will be targeted. Average daily releases will be ~800 cfs, pending the Yampa River.
End of FG Operation Plan and Transition Period / End April 30	At the maximum, average daily releases are increased or decreased to achieve Upper Limit Drawdown (EIS Table 2-3).

Table 5. Operation Matrix for Average, below median, Hydrologic Conditions

Period Name / End of Objective	Date and Description
Pre-spring peak / ends at the start of LTSP - Biological Trigger	May 1 to LTSP Trigger. ~800 cfs to full power generation (pending operation)
Spring peak (average-below median) / ends when < 14,000 cfs is predicted or observed at Jensen Gage.	Estimated middle-late May to early June, pending Yampa Flows and LTSP trigger dates, increase to full power plant capacity in one day and increase 4,000 cfs/day during bypass to meet Reach 2 Target ($\geq 14,000$ cfs). Pending wetter or dryer hydrologic classification at least 1 days to > 14 days at $\geq 18,600$ cfs, pending Yampa flows will be targeted. To meet the ROD for an average condition if 18,600 cfs is obtainable (pending Yampa) this will be targeted.
End of spring peak / ends when ramp down begins.	Ramp down, end of spring peak period – estimated middle to late June. 2000 cfs/day ramp down from bypass and below power plant releases, until releases at 800-850 cfs is achieved.
SMB spike flow / mid-June to early-July	One day ramp up to full power plant capacity (4,500 cfs) for 72 hours with a ramp down rate of 2,000 cfs/day. SWS units 2 and 3 will be adjusted to 50' below the reservoir surface after full power plant releases are attained. The SWS units 2 and 3 will be returned to 40' below the surface when full power plant releases conclude. SWS unit 1 will be the last unit to be online and the first to be offline before and after full power plant releases.
Summer CPM base flows / ends on September 30	Sustaining Colorado pikeminnow base flow (2,000-2,600 cfs), ~2,000 cfs in Reach 2 until September 30. Average daily releases will be ~1,650 cfs, pending the Yampa River.
Autumn base flows Oct 1 to -Nov 30 and winter base flow Dec 1 to Feb 29	Autumn and winter base flow target in Reach 2 is 1,500-2,400 cfs. Average daily base flows ~1,500 cfs in Reach 2 will be targeted. Average daily releases will be ~1,100 cfs, pending the Yampa River. Winter base flow releases will be planned such to achieve a pool elevation of 6025' by February 29, 2023, pending hydrology.
End of FG Operation Plan and Transition Period / End April 30	At the maximum, average daily releases are increased or decreased to achieve Upper Limit Drawdown (EIS Table 2-3).

Table 6. Operation Matrix for Average, above median, Hydrologic Conditions

Period Name / End of Objective	Date and Description
Pre-spring peak / ends at the start of LTSP - Biological Trigger	May 1 to LTSP Trigger. ~800 cfs to full power generation (pending operation)
Spring peak (average-above median) / ends when < 14,000 or < 18,600 cfs is predicted or observed at Jensen Gage.	Estimated middle-late May to early June, pending Yampa Flows and LTSP trigger dates, increase from full power plant capacity in one day and increase 4,000 cfs/day during bypass, if needed, to meet Reach 2 Peak Target ($\geq 14,000$ and < 20,300 cfs). Pending wetter or dryer hydrologic classification at least 5 days $\geq 14,000$ or $\geq 18,600$ cfs (goal), pending Yampa flows will be targeted.
End of spring peak / ends when ramp down begins.	Ramp down, end of spring peak period – estimated middle to late June. 2000 cfs/day ramp down from bypass and below power plant releases, until 850 cfs release is achieved.
SMB spike flow (Optional) / mid-June to early- July	One day ramp up to full power plant capacity (~4,500 cfs) for 72 hours with a ramp down rate of 2,000 cfs/day. SWS units 2 and 3 will be adjusted to 50' below the reservoir surface after full power plant releases are attained. The SWS units 2 and 3 will be returned to 40' below the surface when full power plant releases conclude. SWS unit 1 will be the last unit to be online and the first to be offline before and after full power plant releases.
Summer CPM base flows / ends on September 30	Sustaining Pikeminnow base flow (2,000-2,600 cfs), ~2,000 cfs in Reach 2 until September 30. Average daily releases will be ~1,650 cfs, pending the Yampa River.
Autumn base flows Oct 1 to -Nov 30 and winter base flow Dec 1 to Feb 29	Autumn and winter base flow target in Reach 2 is 1,500-2,400 cfs. Average daily base flows ~1,500 cfs in Reach 2 will be targeted. Average daily releases will be ~1,100 cfs, pending the Yampa River. Winter base flow releases will be planned such to achieve a pool elevation of 6025' by February 29, 2023, pending hydrology.
End of FG Operation Plan and Transition Period / End April 30	At the maximum, average daily releases are increased or decreased to achieve Upper Limit Drawdown (EIS Table 2-3).

Table 7. Operation Matrix for Moderately Wet Hydrologic Conditions

Period Name / End of Objective	Date and Description
Pre-spring peak / ends at the start of LTSP - Biological Trigger	May 1 to LTSP Trigger. ~800 cfs to full power generation (pending operation)
Spring peak ends when <18,600 cfs is predicted or observed at Jensen Gage	Estimated middle-late May to early June, pending Yampa Flows and LTSP trigger dates, increase from full power plant capacity in one day and increase 4,000 cfs/day during bypass, if needed, to meet Reach 2 Peak Target ($\geq 20,300$ cfs). Pending wetter or dryer hydrologic classification ≥ 5 day at $\geq 18,600$ cfs, pending Yampa flows will be targeted.
End of spring peak / ends when ramp down begins.	Ramp down, end of spring peak period – estimated middle to late June or later. Up to 2000 cfs/day ramp down from bypass and power plant releases, until summer base flows begin; releases in the ~1,500 cfs range.
Summer CPM base flows / ends on September 30	Sustaining Pikeminnow base flow (2,200-2,800 cfs), ~2,200 cfs in Reach 2 until September 30. Releases will be in 1,800 cfs range, pending the Yampa River.
Autumn base flows Oct 1 to -Nov 30 and winter base flow Dec 1 to Feb 29	Autumn and winter base flow target in Reach 2 is 2,400-2,800 cfs. Average daily base flows ~2,400 cfs in Reach 2 will be targeted. Average daily releases will be ~2,000 cfs, pending the Yampa River. Winter base flow releases will be such to achieve a pool elevation of 6025' by February 29, 2023.
End of FG Operation Plan and Transition Period / End April 30	At the maximum, average daily releases are increased or decreased to achieve Upper Limit Drawdown (EIS Table 2-3)

Table 8. Operation Matrix for Wet Hydrologic Conditions

Period Name / End of Objective	Date and Description
Pre-spring peak / ends at the start of LTSP - Biological Trigger	May 1 to LTSP Trigger. ~800 cfs to full power generation (pending operation)
Spring peak ends when <18,600 cfs is predicted or observed at Jensen Gage	Estimated middle-late May to early June, pending Yampa Flows and LTSP trigger dates, increase from full power plant capacity in one day and increase 4,000 cfs/day during bypass, if needed, pending wetter or dryer hydrologic classification ≥ 5 day at $\geq 18,600$ cfs, pending Yampa flows will be targeted.
End of spring peak / ends when ramp down begins.	Ramp down, end of spring peak period – estimated middle to late June or later. Up to 2000 cfs/day ramp down from bypass and power plant releases, until summer base flows begin; releases in the ~1,500 cfs range.
Summer CPM base flows / ends on September 30	Sustaining Pikeminnow base flow (2,800-3,000 cfs), ~2,400 cfs in Reach 2 until September 30. Releases will be in 1,900 cfs range, pending the Yampa River.
Autumn base flows Oct 1 to -Nov 30 and winter base flow Dec 1 to Feb 29	Autumn and winter base flow target in Reach 2 is 2,800-3,000 cfs. Average daily base flows ~2,800 cfs in Reach 2 will be targeted. Average daily releases will be ~2,300 cfs, pending the Yampa River. Base flow releases will be such to achieve a pool elevation of 6025' by February 29, 2023.
End of FG Operation Plan and Transition Period / End April 30/	At the maximum, average daily releases are increased or decreased to achieve Upper Limit Drawdown (EIS Table 2-3)

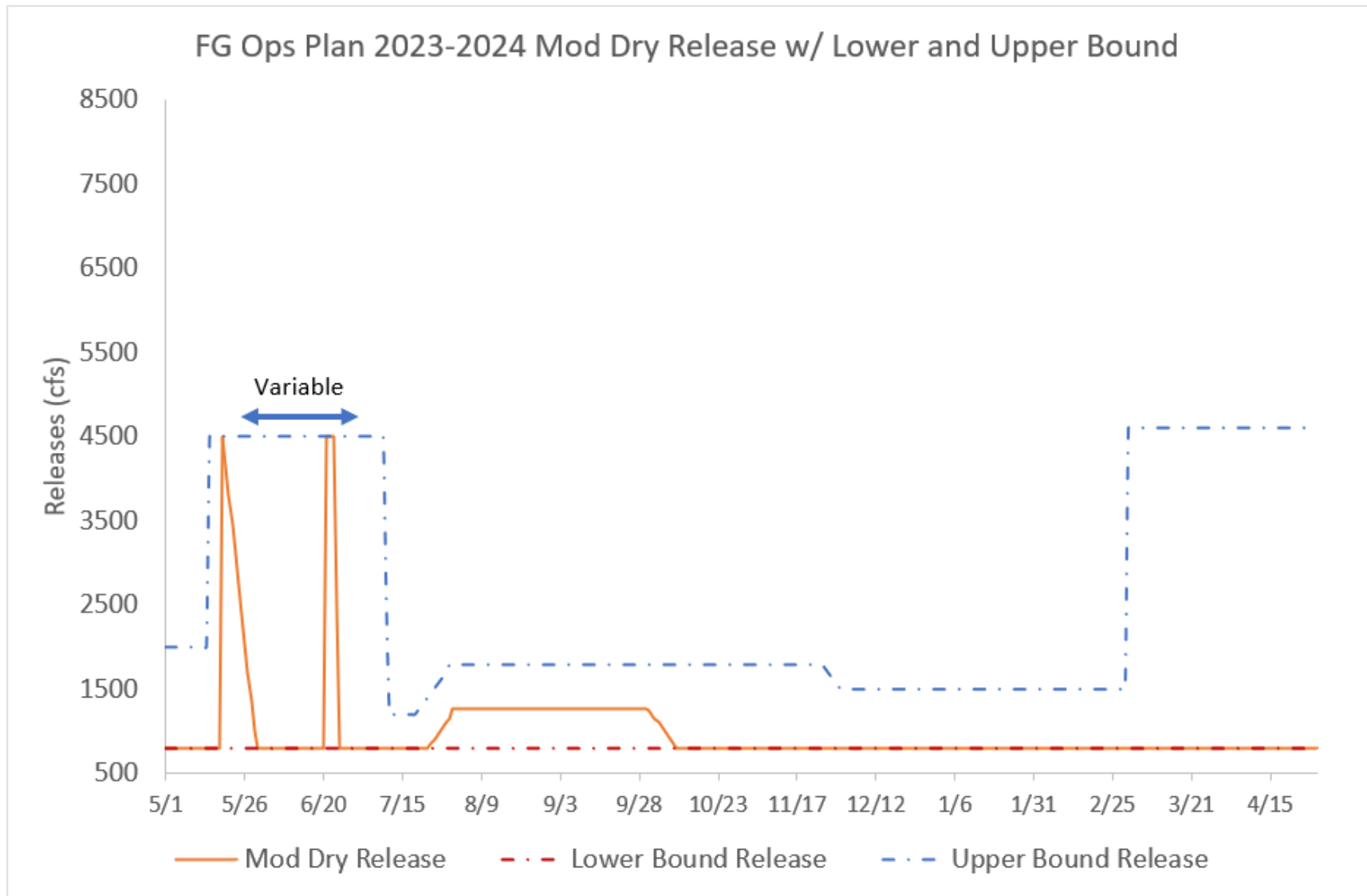


FIGURE 3 – Proposed flow regime for Moderately Dry Hydrology, no bypass.

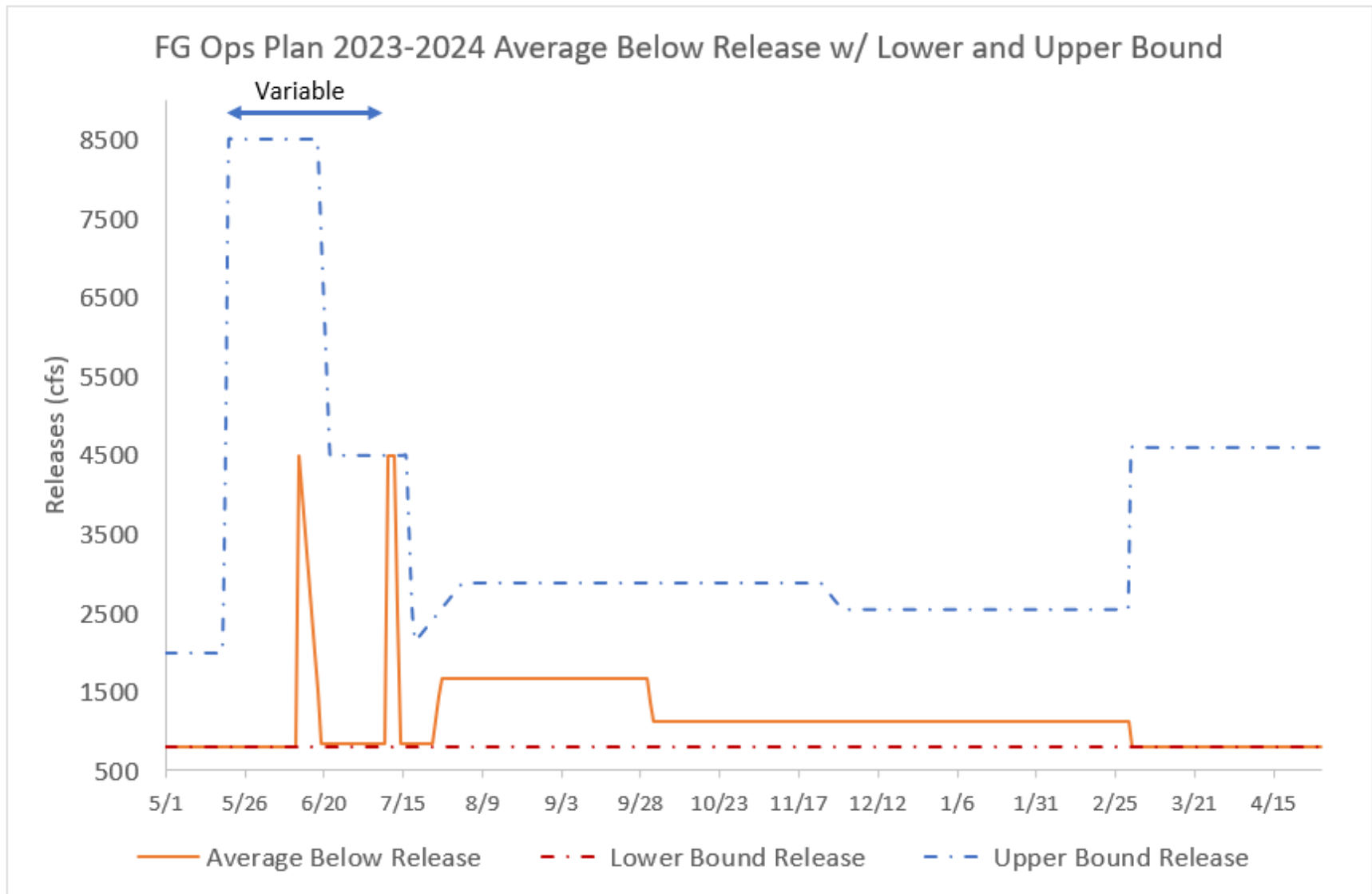


FIGURE 4 – Proposed flow regime for Average (below median) Hydrology, bypass can be used.

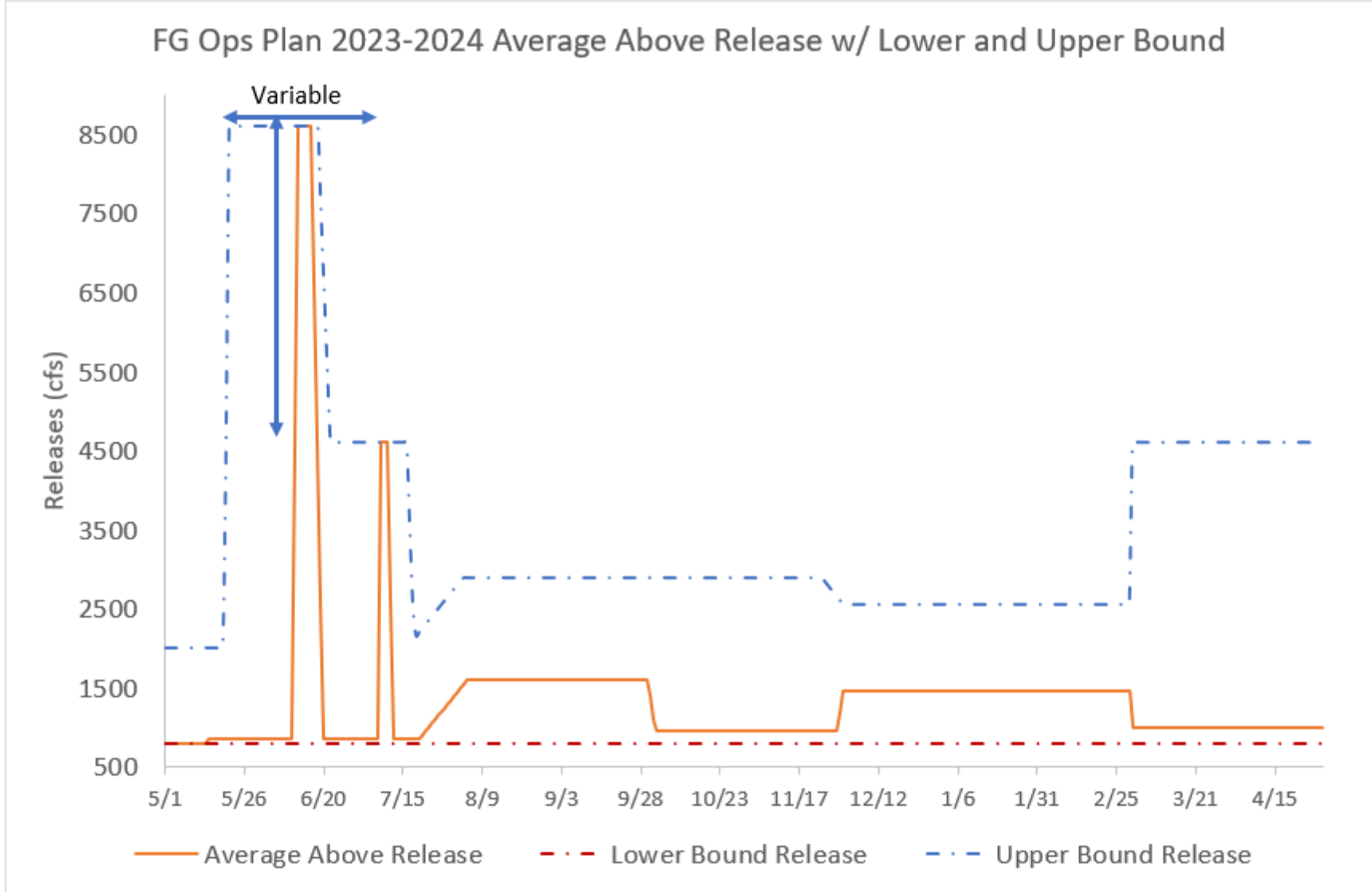


FIGURE 5 – Proposed flow regime for Average (above median) Hydrology, bypass can be used.

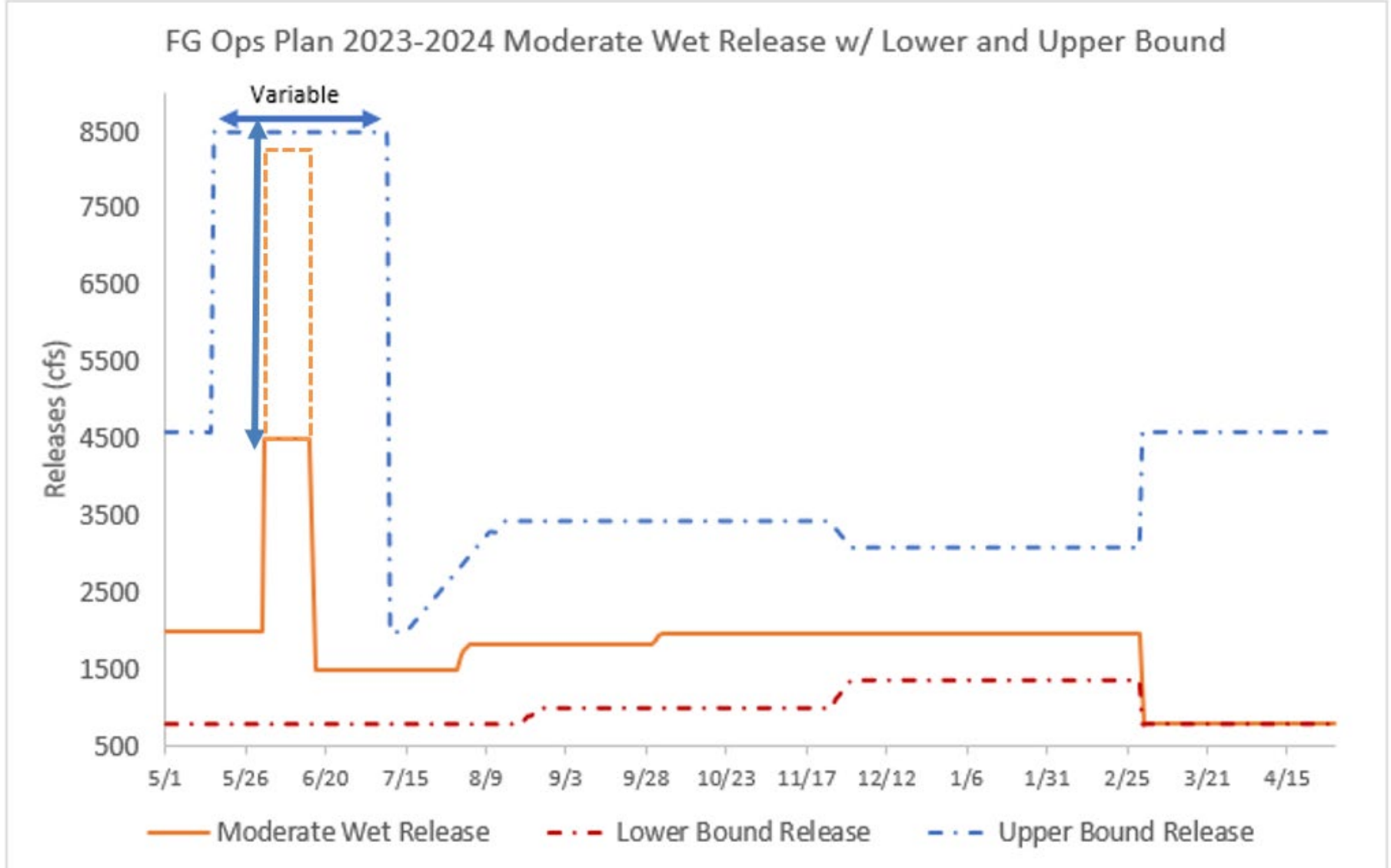


FIGURE 6 – Proposed flow regime for Moderately Wet Hydrology.

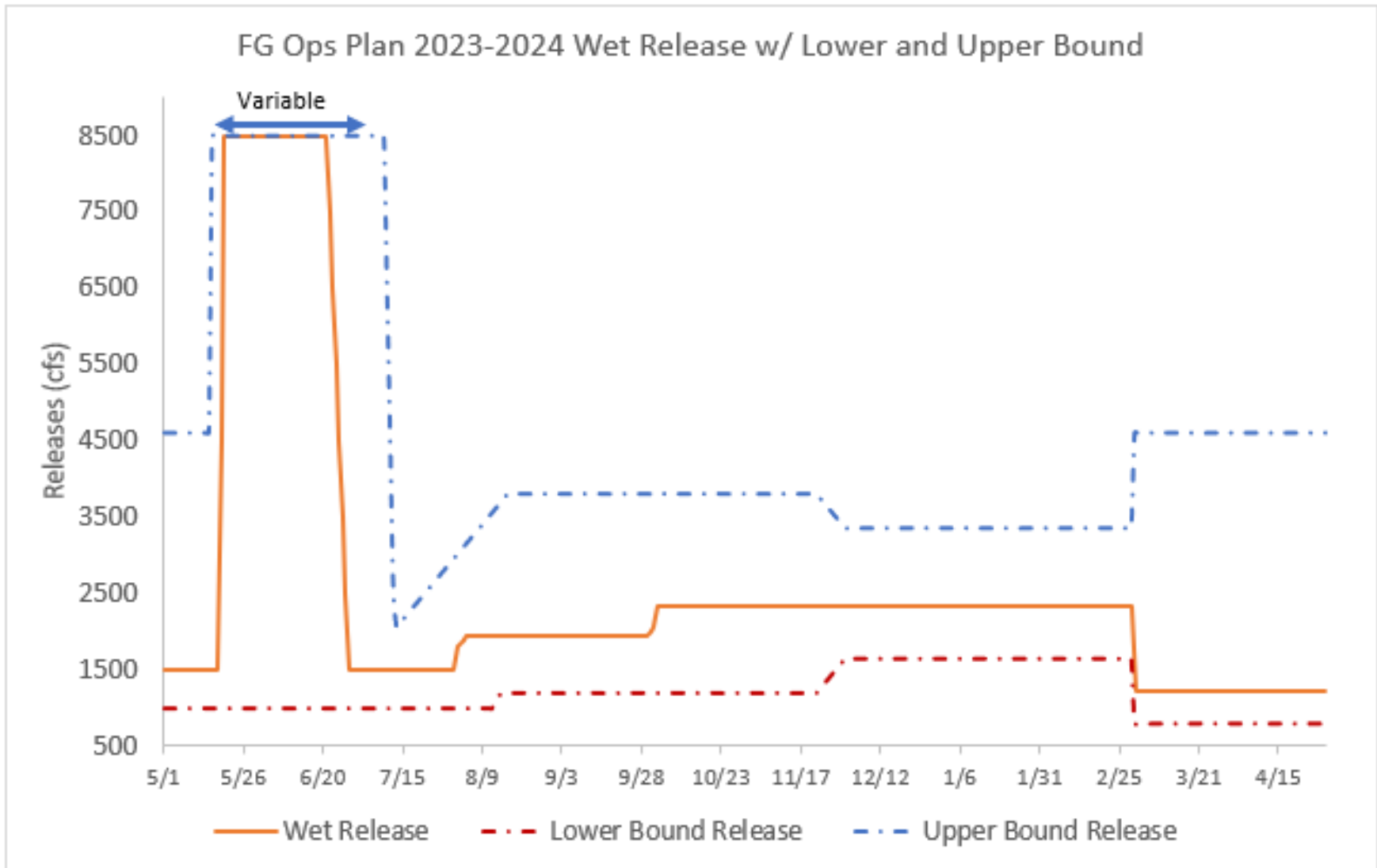


FIGURE 7 – Proposed flow regime for Wet Hydrology.