Rush Creek Project, FERC Project No. 1389

AQ 2 – Hydrology Technical Study Report

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List of Acronyms

FERC	Federal Energy Regulatory Commission
PAD	Pre-Application Document
PeakFQ	USGS Software to calculated peak flow recurrence intervals.
PMF	Probable maximum flood
POR	Period of record
SCE	Southern California Edison
SR-158	California State Route 158
TSR	Technical Study Report
USGS	United States Geological Survey
VIC	Variable Infiltration Capacity Hydrology Model

1 INTRODUCTION

This AQ 2 – Hydrology Technical Study Report (AQ 2 – TSR) describes the hydrology data developed based on implementation of the AQ 2 – Hydrology Technical Study Plan (TSP) for the Rush Creek Project (Project). The AQ 2 – Hydrology TSP was included in Southern California Edison's (SCE) Revised Study Plan[1] and was approved by the Federal Energy Regulatory Commission (FERC) on October 26, 2022, as part of Study Plan Determination. Specifically, this report describes the objectives, methods, and results of the AQ 2 – Hydrology TSP.

2 STUDY OBJECTIVES

- Model the Proposed Project, historical, and existing hydrology, and refine (as needed) the analysis of unimpaired hydrology presented in the PAD Section 4.3 (SCE 2021).

- Perform a hydrologic alteration analysis for the unimpaired, existing, and Proposed Project flow regimes in the select Project-affected stream segments.

- Conduct a high flow/flood-frequency analysis for the different flow regimes in the select Project-affected stream segments.

- Develop hydrology data for the lower Rush Creek and South Rush Creek channels near SR-158 to facilitate the evaluation of potential enhancements to address local flooding of residences during high-runoff events.

3 STUDY IMPLEMENTATION

Study elements described in the AQ-2 – TSP were initiated in 2023 and completed in early 2024. Study elements completed, outstanding, or deviations to the AQ-2 – Hydrology TSP are discussed in the following subsections.

3.1 STUDY ELEMENTS COMPLETED

All AQ-2 – TSP study elements were completed.

3.2 VARIANCES FROM THE A2-TSP

There were no variances.

The modeling period of record (POR) was extended from 2000 – 2021 to 1990 – 2021 based on a request by stakeholders and a review of available gage data (enhancement of the approved TSP).

[1] SCE filed a Proposed Study Plan on May 26, 2022 (SCE 2022a). Four comment letters were filed on the Proposed Study Plan; and six study plans were revised. Therefore, SCE filed a Revised Study Plan on September 23, 2022 (SCE 2022b). FERC subsequently issued a Study Plan Determination on October 26, 2022, approving study plans for the Rush Creek Project (FERC 2022).

3.3 OUTSTANDING STUDY ELEMENTS

There are no outstanding study elements.

4 STUDY AREA AND STUDY SITES

The study area for development of the Proposed Project, historical, existing, and unimpaired hydrology includes Project-affected stream segments (Table AQ 2-1, Figure AQ 2-1, and Map AQ 2-1). The locations for the hydrological alteration analyses and high flow / flood-frequency analyses are also included in Table AQ 2-1, Figure AQ 2-1, and Map AQ 2-1.

5 STUDY APPROACH

The following describes the study approaches used for developing Project hydrology; conducting a hydrologic alteration and flood-frequency analyses; and developing hydrology in lower Rush Creek and South Rush Creek channels in the potential enhancement area.

5.1 HYDROLOGY DEVELOPMENT

- A hydrology working group meeting was conducted January 18, 2024, to review and help guide the hydrological modeling approach. The group recommend that the original 2000–2021 period of record (POR) should be extended to 1990–2021 subject to verification that historical gage data were available for the POR.

- The modeled unimpaired (without the Project[2]) daily average flow hydrology presented in PAD Section 4.3 (SCE 2021) for the POR was extended and refined as needed.

- A spreadsheet operations model was developed to characterize the Proposed Project (future operations[3]), historical (operations prior to reservoir seismic restrictions[4]), and existing (current operations under seismic restrictions[5]) daily average flow hydrology for the POR based on the modeling working group input.

- Downstream of the Rush Creek Powerhouse sub-daily flows (hourly) were incorporated into the operations model to characterize the range of flow fluctuations related to powerhouse outflows.

[2] The unimpaired hydrology (2000–2019) presented in the PAD represents synthesized instream flows in Rush Creek without the influence of the Rush Creek Project.

[3] The Proposed Project hydrology is the modeled hydrology based on how the Project will be operated in the future with removal of Rush Meadows and Agnew dams and retrofitting (modified operations) at Gem Dam.

[4] The historical hydrology (2000–2011) will be used to develop / calibrate the historical hydrology model over the 2000–2021 POR. The historical hydrology represents instream flows and Project operation under the existing license conditions prior to implementation of the seismic restrictions in 2012.

[5] The existing hydrology represents instream flows and Project operation under the existing license conditions and implementation of the seismic restrictions in 2012.

- Available climate change data and/or modeling applicable to the Rush Creek Watershed were reviewed. No quantitative data or modeling was available to incorporate into the spreadsheet model to characterize future climate change hydrology over the term of the new license (e.g., 50 years); however, information was available to qualitatively assess the effects of climate change.

5.2 HYDROLOGIC ALTERATION ANALYSIS

The Proposed Project, historical, existing, and unimpaired daily average daily flows were analyzed and compared using the following metrics for Project-affected stream segments (Table AQ 2-1, Figure AQ 2-1, and Map AQ 2-1) (e.g., Richter et al. 1996):

- Monthly flow exceedance plots / tables for the POR.
- Time-series plots for the POR.
- January to December (annual) plots / tables showing mean daily and 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance flows.
- Tables and summary analysis showing differences in the following:
  - Monthly timing and magnitude of mean and median flow conditions (e.g., high and low flows).
  - Magnitude, duration, and timing of annual high flow and low flow conditions (1-day, 3-day, 7-day, monthly, etc.), including the presence of pulse flow events.
  - Rate, timing, and frequency of hydrograph changes (e.g., rate and timing of the declining limb of the spring high flow hydrograph).

5.3 FLOOD FREQUENCY

A flood-frequency analysis for the Proposed Project, historical, existing, and unimpaired flows (1990-2021) was generated using annual peak flow estimates (15-min peaks) developed from average daily peak flow data at the locations in Table AQ 2-1.

- A regression analysis of average daily peak flows versus 15-min peak flows at the Rush Creek above Grant Lake gage (LADWP 5013; USGS 10287400) was used to estimate the correction factor to convert average daily peak flows to 15-min peak flows.
- The USGS PeakFQ software (Veilleux et al. 2014; Flynn et al. 2006) Bulletin 17c (England et al. 2018) procedures were used along with the regional skew information in Parrett et al. (2011) to calculate the flood-frequency probabilities.
- Regional flood-frequency curves (Gotvald et al. 2012) were not used to develop an additional estimate of unimpaired peak flow magnitudes and their corresponding annual probabilities (see AQ 2 – Hydrology TSP). Gotvald et al. (2012) specifically excluded the Rush Creek area, including the eastern/southern

Sierra Nevada region from their peak flow analysis equations. We tested using the adjacent Lahontan Region to calculate regional peak flows but the peak values appeared anomalously high (see Section 6.0 Study Results)

- Other peak flow or probable maximum flood (PMF) data available for the study area (e.g., PMF calculations for the SCE dams) were summarized, including historical gage data outside of the 2000–2021 analysis period of record when available.

5.4 HYDROLOGY IN LOWER RUSH CREEK AND SOUTH RUSH CREEK CHANNELS (POTENTIAL ENHANCEMENT AREA)

Hydrological data for the lower Rush Creek and South Rush Creek channels near California State Route 158 (SR-158) were generated to facilitate the evaluation of potential enhancements to address local flooding of residences during high-runoff events. The analysis included quantifying the following:

- The Rush Creek/South Rush Creek percent flow split downstream of Horseshoe Falls was determined using temporary gage data from South Rush Creek (see gage installation below) and data from USGS gage 10287289 (Rush Creek at Flume below Agnew Lake near June Lake, California) over a range of flow conditions that occurred in 2023 (e.g., minimum flow releases from Agnew Dam to peak flow events). We also compared that data to historical data collected in 2017.

- Additional flows entering South Fork Rush Creek and Rush Creek near SR-158 were determined using the following approach:

  - Temporary gages were installed and operated[6] October 2022 to present and will continue to be operated through September 2024 at the following locations:

    - South Rush Creek upstream of SR-158 (River Mile [RM] 0.2).

    - Unnamed tributary entering South Rush Creek upstream of SR-158 (RM 0.12).

    - Unnamed tributary entering Rush Creek upstream of SR-158 (RM 17.66).

    - Reversed Creek upstream of the confluence with Rush Creek (RM 0.25).

    - Empirical data and watershed area were used to develop a time series of accretion to South Rush Creek, Rush Creek upstream of SR-158, and Reversed Creek to Rush Creek.

[6] During the wintertime period, the gages will be operated to the extent reasonably possible given the potential for ice and snow cover. The primary operation period focused on fall, spring, and summer.

- Peak design flows for each of the channels / culverts at SR-158 (South Rush Creek, Rush Creek, and Powerhouse Tailrace) were estimated using the 100-year flood frequency data in Section 5.3 Flood Frequency data (see above). Potential backwater effects from Silver Lake on the channels and culverts near SR-158 during spring high flows were developed in the AQ 1 – Instream Flow Technical Study Plan.

6 STUDY RESULTS

6.1 HYDROLOGY DEVELOPMENT

- Watershed areas used in the Project operations model are shown in Map AQ 2-2. Gages used in the hydrological modeling are shown in Table AQ 2-2. Hydrology model operational constraints and targets (e.g., release capacities, reservoir storage constraints, minimum instream flows) are shown in Table AQ 2-3. The Project operational constraints and targets were different for the Proposed Project (future operations), historical (operations prior to reservoir seismic restrictions), existing (current operations under seismic restrictions), and unimpaired conditions (all dams removed). Downstream of the Rush Creek Powerhouse, hourly powerhouse modeling was incorporated into the operations model by disaggregating daily average powerhouse flows into hourly flows based on the relationship shown Table AQ 2-4.

- Time-series plots of the reservoir elevations and stream flows for the Proposed Project, historical, existing, and unimpaired operations for the POR are shown in Figure AQ 2-2 through Figure AQ 2-23.

- A subset period of hourly powerhouse flow is shown in Figure AQ 2-24 for the Proposed Project. Hourly flows are similar for other time periods and scenarios (e.g., existing and historical) with the flows varying between approximately 3 cfs and 110 cfs and, therefore, are not included in the report.

- The available climate change data / modeling applicable to the Rush Creek Watershed were reviewed. No quantitative data / modeling were available to incorporate into the hydrology model to characterize future climate change hydrology over the term of the new license (e.g., 50 years). Two climate change modeling documents, however, were available to qualitatively assess the effects of climate change on hydrology in Rush Creek.

    - Ficklin et al. (2012), used 16 global climate models and a hydrology model (Soil and Water Assessment Tool) to assess the potential effects of projected climate change on Mono Lake Basin hydrology, including Rush Creek. The study indicated the following:

        - Annual streamflow decrease (10-15%) for the 2050’s

- Streamflow timing shifted earlier due to higher spring temperatures and earlier snowmelt (May instead of June).

- 'Wet' water years decreased in frequency and there was an increase in drought years.

- Pierce et al. (2018), Cal-Adapt.org website, used the 10 GCMs that best matched California's climate to model air temperature and precipitation throughout California. Pierce et al. (2018) created bias-corrected monthly streamflow projections using the Variable Infiltration Capacity (VIC) hydrology model at 11 locations in California on the west side of the Nevada Sierra mountain range. Climate change modeling results in the June Lake area for the medium greenhouse gas emission scenario (RCP 4.5) was discussion in AQ 3 – Water Temperature TSR. The Peirce et al. (2018) data indicated the following:

  - Future air temperature (annual average) in the June Lake area could increase 1.4 – 3.1 °C (2.2 °C average) mid-century (2035 – 2064) compared to modeled baseline conditions (1961 – 1990). The change from current conditions, 2024, is approximately 0.5°C less because some climate change has already occurred.

  - Minimal mid-century change in precipitation would occur.

  - Because of the increased air temperature there is a projected 5% decrease in runoff (stream flow) and a shift to earlier runoff mid-century (more runoff January – March and less runoff May – July) on the west side Sierra Nevada mountain range, e.g., Merced River (Figure AQ 2-25). Likely a similar shift in timing of stream runoff will occur on the east side Sierra Nevada mountain range.

6.2 HYDROLOGIC ALTERATION ANALYSIS

The Proposed Project, historical, existing, and unimpaired scenarios are system wide and the daily average flows are compared at each Project-affected stream segment in Table AQ 2-1 (see Figure AQ 2-1, and Map AQ 2-1) for each of the four scenarios as follows:

- Monthly flow exceedance plots for the POR are shown in Figure AQ 2-26 through Figure AQ 2-46. Time-series plots for the POR are shown in Figure AQ 2-2 through Figure AQ 2-23. January to December annual exceedance plots of 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance flows are shown in Figure AQ 2-47 through Figure AQ 2-60 for monthly average flows and in Figure AQ 2-61 through Figure AQ 2-67 for daily average flows.

- Tables showing the monthly timing and magnitude of mean and median flow conditions (e.g., high and low flows) are presented in Table AQ 2-5 through Table AQ 2-8.

- Additional tables showing the magnitude and timing of annual high flow and low flow conditions (1-day, 3-day, 7-day, monthly) are included in Appendix A. Appendix A also includes tables of January to December annual exceedance flows (95%, 90%, 75%, 50% median, 25%, 10%, and 5%).

- The general result of the hydrologic alteration analyses for the scenarios at each modeling location (Table AQ 2-1) are as follows:

  - Rush Creek at Rush Meadows Dam – Flows downstream of the dam are similar for unimpaired, existing, and the Proposed Project scenarios because they do not include storage in Waugh Lake (Figure AQ 2-54). The historical scenario, however, includes storage at Waugh Lake (5,200 AF) and as a result Rush Creek downstream of the dam shows slightly decreased flows in the storage season (May primarily) and increased flows in the storage release season (September and October) compared to the other scenarios.

  - Rush Creek at Gem Dam – Unimpaired flows downstream of Gem Dam are greater than historical, existing, and Proposed Project flows in all months (Figure AQ 2-55). This is due to water storage in Gem Lake and diversion of flow from the dam to the Rush Creek Powerhouse for the historical, existing, and Proposed Project scenarios.

  - Rush Creek Below Agnew Dam – Stream flow in Rush Creek downstream of Agnew Dam is very similar to stream flow below Gem Dam. Unimpaired flows are greater than historical, existing, and Proposed Project flows in all months due water storage and diversion of flow upstream at Gem Dam (Figure AQ 2-56). In all but the historical scenario, Agnew Dam does not store water or affect flows. Under the historical scenario Agnew Dam stores 800 AF of water (May, June) each year, but this results in very limited change in downstream flows due to the small amount of storage (e.g., the reservoir can fill in four days of 100 cfs inflow).

  - Rush Creek above SR-158 – Stream flow in Rush Creek before the Rush Creek / South Rush Creek flow split just downstream of Horsetail Falls (see Section 6.4 below) is the same as flow below Agnew Dam (see above). However, after the flow split, flows in Rush Creek above SR-158 are reduced substantially, particularly when flows are above about 286 cfs. At the higher flows, an additional portion of the stream flow spills into South Rush Creek (see Section 6.4 below). Rush Creek daily average flows above SR-158 are less than approximately 300 cfs (Figure AQ 2-57). These flows include the small unnamed tributary entering Rush Creek near the powerhouse.

  - Rush Creek Above Silver Lake – Flows in this reach include variable releases (up to 110 cfs) from the Rush Creek Powerhouse and inflow from Reverse Creek. January through March the Proposed Project, historical, and existing daily average flows are higher than unimpaired conditions due to storage releases from Gem Dam (Figure AQ 2-58). During May, the scenarios have

lower flow than unimpaired conditions due to water storage in Gem Lake. July and August all scenarios are similar. September through December existing, Proposed Project, and historical flows are higher than unimpaired conditions (especially historical) due to storage releases from Gem Lake.

- Rush Creek Below Silver Lake – The general pattern of stream flow below Silver Lake is similar to flow in the Rush Creek above Silver Lake reach (see above) but with additional accretions (e.g., Alger Creek) (Figure AQ 2-59).

- South Rush Creek – The amount of flow that enters South Rush Creek depends on the amount of flow in Rush Creek below Agnew Dam. The Rush Creek / South Rush Creek flow split occurs below Horsetail Falls (see Section 6.4 below). Flow in South Rush Creek cease or are extremely low during much of the year, except during spring high flow events (Figure AQ 2-60). Unimpaired flows in South Rush Creek are always higher than the other scenarios. Storage and diversion of water at Gem Lake reduce South Rush Creek flows in the Proposed Project, historical, and existing scenarios.

- The rate and timing of the declining limb of the spring high flow hydrographs are shown in Figure AQ 2-61 through Figure AQ 2-67. Flow time series during the May through September season were delineated into three groups (100% to 66% exceedance, dry; 33% to 66% exceedance, normal; and 0% to 33% exceedance; wet). The average daily flow for each group of years was plotted. The results show the following:

  - Dry year declining limb hydrographs start in at the beginning of June, normal year declining limbs start in early/mid-June, and the wet year declining limbs start in July.

  - The slopes of the dry and normal year declining limb hydrographs are generally similar but the wet year declining limb hydrographs are slightly steeper.

  - As expected, the magnitude of the high flow events is greater for wet years and less for dry years.

  - At the different model locations, the high flow magnitude and slope of the declining limb hydrographs are affected by flow regulation as discussed above. Where there is significant storage and/or diversion of flow, the magnitude of the high flow and slope of the declining limbs decrease (e.g., below Rush Meadows Dam for historical conditions and below Gem and Agnew dams for the historical, existing, and Proposed Project scenarios).

6.3 FLOOD FREQUENCY

Average daily peak flows were very similar to the 15-min peak flows based on an analysis at the Rush Creek above Grant Lake gage (LADWP 5013; USGS 10287400) (Figure AQ 2-68). Average daily flow peaks were converted to 15-min peak flows using the following:

- Peak Flow (15-min) = 1.0248*Average Daily Peak Flow (1)

- The converted 1990-2021 POR peak flow data are shown in Figure AQ 2-68 for each location in Table AQ 2-1. The data are ordered in exceedance plots and show that the highest flows in the modeling POR occur under the unimpaired scenario, followed by the Proposed Project, existing, and historical in descending order as a function of the amount of storage that occurs in each scenario. The unimpaired scenario includes no storage and the historical scenario incudes maximum storage (Waugh, Gem, and Agnew lakes at full capacity).

- Table AQ 2-9 shows the PeakFQ (Veilleux et al. 2014) flood frequency analysis for each scenario. Generally, the annual peak recurrence flow estimates show the same pattern as the 1990-2021 POR data above. Peak recurrence interval flow estimates are highest for unimpaired, then decrease for the Proposed Project, existing, and historical scenarios in that order and increase in the downstream reaches. For example, the 25-year annual recurrence flows for the combined Rush Creek at SR158 discharge (including South Rush Creek) were 997 cfs, 834 cfs, 799 cfs, and 667 cfs, for unimpaired, Proposed Project, existing, and historical conditions, respectively (Figure AQ 2-70). Peak flow estimates farther downstream in Rush Creek above Grant Lake were 212 to 253 cfs higher depending on the scenario.

- Typically, the unimpaired annual peak flow recurrence data should be used for design purposes as the peak flow distribution fitting analyses were well behaved. Conversely, caution should be observed using the Proposed Project, existing, and historical conditions impaired flood frequency calculations for the reaches below Gem and Agnew dams and above SR158 because frequent low flow data (impairment from water storage and diversion) have an adverse effect on the flood frequency fitting process. These data have been flagged in Table AQ 2-9. The PeakFQ software tests for potential influential low flow values and excludes them from the regression, but the remaining low flow values increase the slope of the fitted relationships and typically results in inordinately high flood frequency magnitudes.

- The regional flood-frequency curves calculated using the Lahontan Region 2 general equations in Gotvald et al. (2012), which is north of Rush Creek, were approximately twice the magnitude of flood recurrence magnitudes calculated using actual data from gages in Rush Creek (e.g., Rush Creek below Silver Lake, Table AQ 2-9). Gotvald et al. (2012) specifically excluded the Rush Creek area and the eastern Sierra Nevada range south of Rush Creek from their equation

development. Data from Gotvald et al. (2012), therefore, are not available for design purposes.

- Probable maximum flood (PMF) data calculated for each of the Project dams (SCE 2021) and other available high flow data, including historical flow data outside of the 1990–2021 analysis period of record are shown in Table AQ 2-10. The SCE (2021) PMF estimates at the dams are on the order of 8,000 cfs and the other estimates based on historical data and PeakFQ modeling range from 535 to 2,608 cfs depending on the method used and the location.

6.4 HYDROLOGIC DATA IN LOWER RUSH CREEK AND SOUTH FORK RUSH CREEK CHANNELS (POTENTIAL ENHANCEMENT AREA)

Hydrological data for the lower Rush Creek and South Rush Creek channels near SR-158 (Map AQ 2-1) were generated to facilitate the evaluation of potential enhancements to address local flooding of residences during high-runoff events including:

- The Rush Creek/South Rush Creek percent flow split downstream of Horseshoe Falls is provided in Figure AQ 2-71 over a range of flow conditions based on data from the 2023 temporary gage installed on South Rush Creek (see temporary gages below) and data from USGS gage 10287289 (Rush Creek at Flume below Agnew Lake near June Lake, California). Historical data collected in 2017 were included as comparison data; however, the flow split relationship appears to be different. An aerial image of the split location taken July 13, 2023, when the flow over Horseshoe Falls was 385 cfs (Figure AQ 2-72) shows the potential dynamic / abrupt nature of the flow split relationship. As flows reach approximately 286 cfs, the spill relationship changes abruptly with a higher percentage of flow spilling into the South Rush Creek channel. Data collected in 2024 will be used to refine the Rush Creek/South Rush Creek flow split relationship.

- Additional flows entering South Fork Rush Creek and Rush Creek near SR-158 from unnamed tributaries and Reversed Creek are shown in Figure AQ 2-73 for the period in 2023 when the temporary gages were active. The figure includes other gages used for mass balance calculations. The sub-watershed areas (Map AQ 2-2) and total discharge for the gages during May 10 – September 21, 2023, period are shown in Table AQ 2-11.

- Because of apparent gage error (gages typically have up to 10% error) there was not a gage mass balance during the 2023 period when all gages were operating (Figure AQ 2-73). To complete a mass balance of the system for 2023 we did the following:

    - Estimated unmeasured Alger Creek flows as a percent of the Rush Creek above Grant Lake gage using empirical data collected in 2017 (Figure AQ 2-74).

    - Assumed accretion flows into Rush Creek downstream of Silver Lake were relatively negligible.

  - Held all gages fixed except Rush Creek above Grant Lake, which we scaled as needed. Historical data since spring 2020 indicate that the Rush Creek above Grant Lake gage and the SCE gages (Rush Creek Flume below Agnew Lake and Rush Creek Powerhouse) are not matching as closely as they did prior to spring 2020.

  - Scaled the Rush Creek above Grant Lake gage by a factor of 1.0754 (7.5%) to create an approximate mass balance in the system. Empirical data on the percent of flow observed in 2023 (Table AQ 2-11) were used to hindcast / create a POR time series of accretion to South Rush Creek, Rush Creek upstream of SR-158, Reversed Creek to Rush Creek, and Alger Creek over the 1990-2022 POR (Figure AQ 2-2 through Figure AQ 2-23). The percent of watershed area for each accretion could also have been used (Table AQ 2-11) to develop the POR time series of accretions splits but may not have accounted for the proportion of flow by area correctly because the sub-watershed areas have differing elevations.

- Peak design flow for each of the channels / culverts at SR-158 (South Rush Creek, Rush Creek, and Powerhouse Tailrace) was estimated based on the 100-year recurrence interval (Table AQ 2-12). The peak flows for combined Rush Creek and South Rush Creek (including unnamed tributary inflows) are 1,328 cfs (100-year) and 1,758 cfs (500-year). Using the hydrology model relationship between Rush Creek and South Rush Creek peak flows above SR-158 (Figure AQ 2-75) an estimate of the flow split is a follows: South Rush Creek 230 cfs (100-year) / 264 cfs (500-year) and Rush Creek 1098 cfs (100-year) / 1,494 cfs (500-year). An analysis of the culvert capacities will be conducted in the AQ 1 — Instream Flow TSR.

- Potential backwater effects from Silver Lake on the channels and culverts near SR-158 during spring high flows are being developed in the AQ 1 – Instream Flow Technical Study Report Part B.

6.5 SUMMARY

Rush Creek hydrology modeling was completed for the 1990-2021 POR for the Unimpaired, Proposed Project, historical, and existing hydrology scenarios. The modeling included daily average flow at seven locations from Rush Meadows Dam downstream to Grant Lake. Hourly flows were also modeled at the two locations in Rush Creek downstream of the Rush Creek Powerhouse tailrace.

Climate change data applicable to the Rush Creek Watershed were reviewed. No quantitative data / modeling were available to incorporate into the hydrology model to characterize future climate change hydrology over the term of the new license (e.g., 50 years). Two climate change modeling documents, however, were available to qualitatively assess the effects of climate change on hydrology in Rush Creek. It is predicted that by mid-century there will be little change in precipitation but, with warmer air temperatures in the future (approximately 1.7°C), stream flow could decrease 5-15%

(i.e., higher evapotranspiration), and runoff will shift to earlier in the year (more runoff January – March and less runoff May – July).

Hydrologic alteration analysis for the different scenarios indicates that the unimpaired scenario results in higher flows during the runoff season throughout Rush Creek compared to the other scenarios. The Proposed Project and existing hydrology scenarios have similar storage (Waugh Lake – no storage, Gem Lake – reduced storage, Agnew Lake – no storage); therefore, compared to the unimpaired scenario, the Proposed Project and existing hydrology have similar flows at Rush Creek below Rush Meadows Dam, reduced flows from Gem Dam to Rush Creek Powerhouse Tailrace, and higher base flows (particularly in the summer /fall) below the Rush Creek Powerhouse. Tailrace Flows from the powerhouse are variable between days and within days. The historical scenario includes the highest storage (Waugh Lake, Gem Lake, Agnew Lake at full capacity) and, therefore, has the lowest stream flows during the runoff season and highest fall to early spring base flows downstream of the powerhouse tailrace.

The rate and timing of the declining limb of the spring flow hydrographs were modeled for dry, normal, and wet years for each scenario. Dry year declining limb hydrographs started at the beginning of June, normal year declining limbs started in early/mid-June, and the wet year declining limbs started in July. At the different model locations, the high flow magnitude and slope of the declining limb hydrographs were affected by flow regulation. For example, below Gem Dam the magnitude of the high flow and slope of the declining limbs of the hydrographs decreased in the project scenarios compared to the unimpaired scenario.

Peak flow analysis indicates that the highest flows in the 1990 – 2021 modeling POR occur under the unimpaired scenario, followed by the Proposed Project, existing, and historical, in descending order, as a function of the amount of storage that occurs in each scenario. Estimates for low frequency flood events (e.g., 100-year recurrence interval flood events) are provided in the study results. The 100-year estimate for unimpaired flow above SR-158 is 1098 cfs in Rush Creek and 230 cfs in South Rush Creek. Data collected in 2024 will be used to help refine the flow split between Rush Creek and South Rush Creek.

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TABLES

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Table AQ 2-1. Hydrology Analysis Locations in Project-affected Stream Segments

Location Name	Location (RM)	Proposed Project, Historical, Existing, Unimpaired Hydrology			Hydrology Data Collection in the lower Rush Creek and South Rush Creek channels (Potential Enhancement Area) (2022–2023)
		Daily Average Hydrology (2000–2021 POR)	Hydrological Alteration Analysis (2000–2021 POR)	High Flow / Flood-Frequency Analysis (2000–2021 POR)	
Rush Creek					
Rush Creek at Rush Meadows Dam	RM 22.24	X	X	X	—
Rush Creek at Gem Dam	RM 19.48	X	X	X	—
Rush Creek Below Agnew Dam	RM 18.61	X	X	X	—
Rush Creek above SR158	RM 17.58	X	X	X	X
Rush Creek Above Silver Lake	RM 17.38	X	X	X	—
Rush Creek Below Silver Lake	RM 13.67	X	X	X	—
South Rush Creek					
South Rush Creek	RM 0.1	X	X	X	X

Notes: POR = Period of Record**;** RM = River Mile

Table AQ 2-2. Hydrology Data Sources

Location	Entity and Station No.	Data Type	Period of Record	Notes	Data Use	Location (NAD27)	Drainage Area (Square Miles)	Elevation (Feet above NGVD29)
Waugh Lake								
Waugh Lk near June Lk CA	SCE 359 & USGS 10287260	Daily Storage	10/01/1989–09/30/2019	Full Record Available	Unimpaired Calculation	Latitude 37°45'04", Longitude 119°10'52"	15.3	9,370
Rush Creek below Rush Meadows Dam (Rush Creek below Waugh Lake)								
Rush C controlled release below Waugh Lk near June Lake CA	SCE 359 R & USGS 10287262	Daily Flow	08/11/1999–09/30/2019	Spotty data — no flows recorded above 30 cfs	Comparison Only	Latitude 37°45'04", Longitude 119°10'50"	15.3	9,375
Gem Lake								
Gem Lake	SCE 352 & USGS 10287280/CDEC GLK	Daily Storage	10/01/1989–09/30/2019	Full Record Available	Unimpaired Calculation	Latitude 37°45'07", Longitude 119°08'25"	21.9	8,970
Rush Creek below Gem Dam (Rush Creek below Gem Lake)								
Rush C controlled release below Gem Lake near June Lake, CA	SCE 352 R & USGS 10287281	Daily Flow	10/19/1999–09/30/2019	Full Record Available	Comparison Only	Latitude 37°45'05", Longitude 119°08'26"	21.9	9,000
Agnew Lake								
Agnew Lake near June Lake, CA	SCE 351 & USGS 10287285	Daily Storage	10/01/1989–09/30/2019	Full Record Available	Unimpaired Calculation	Latitude 37°45'30", Longitude 119°07'52"	23.2	8,470

Location	Entity and Station No.	Data Type	Period of Record	Notes	Data Use	Location (NAD27)	Drainage Area (Square Miles)	Elevation (Feet above NGVD29)
Rush Creek below Agnew Dam (Rush Creek at Flume below Agnew)								
Rush Creek at Flume below Agnew Lake near June Lake, CA	SCE 357 & USGS 10287289	Daily Flow	10/01/1988–09/30/2019	Full Record Available	Unimpaired Calculation	Latitude 37°45'33", Longitude 119°07'47"	23.2	8,440
Rush Creek Powerhouse (Rush Creek PP tailrace)								
Rush Creek PP tailrace near June Lake, CA	SCE 367 & USGS 10287300	Daily Flow	10/01/1986–09/30/2019	Full Record Available	Unimpaired Calculation	Latitude 37°45'59", Longitude 119°07'17"	23.2	7,230
Rush Creek below Silver Lake (Rush Creek above Grant Lake)								
Rush Creek ab Grant Lake near June Lake, CA	LADWP MS 5013 & USGS 10287400	Daily Flow	10/01/1986–09/30/2019	Pre-1990 Monthly Data	Unimpaired Calculation	Latitude 37°48'23", Longitude 119°06'29"	51.3	7,200
Grant Lake								
Grant Lake	CDEC GNT	Monthly Storage	01/01/1956–09/30/2019	Monthly Data, CDEC	Comparison Only	Latitude 37°51'43.2", Longitude 119°6'7.2"	58.5	7,140
Walker River								
Walker River	USGS 10296000	Daily Flow	04/01/1938–09/30/2019	Full Record Available	Comparison and Gap Filling	Latitude 38°22'47", Longitude 119°26'57"	181	6,591

Notes: CDEC GNT = California Data Exchange Center Grant Lake Station (GNT)
LADWP MS 5013 = Los Angeles Department of Water and Power Measuring Station 5013
NAD27 = North American Datum of 1927
NGVD29 = National Geodetic Vertical Datum of 1929
PP = Powerplant
SCE = Southern California Edison Company
USGS = U.S. Geological Survey

Table AQ 2-3. Hydrology Modeling Operational Constraints

Operational Constraint	Historical	Existing Conditions	Proposed Project
Waugh Lake			
Minimum Outflow (cfs)	10	NA	NA
Minimum Storage (AF)	0	0	0
Maximum Storage (AF)/ Elevation (feet)	5200 AF / 9,414 feet	Outflow Rating Curve	0
Fill Start Date	May 18 (on average)	NA	NA
Release Start Date	September 7 (on average)	NA	NA
Release Rate (AF/day)	197 (when releasing from storage) or outflow rating curve (all other times)	Outflow Rating Curve	NA
Gem Lake			
Minimum Outflow (cfs)	1	NA	NA
Minimum Storage (AF)	1000	0	0
Maximum Storage (AF) /Elevation (feet)	17200 AF/ 9,050 feet	10751 AF/ 9,027.5 feet	10751 AF/ 9,027.5 feet
Fill Start Date (Julian Day)	Varies by year; May 18 (on average)	May 18	May 18
Release Start Date (Julian Day)	Waugh Lake storage empties	August 17	August 17
Release Rate (AF/day)	78	20 (initial) 80 (after February 14)	20 (initial) 80 (after February14)
Agnew Lake			
Minimum Outflow (cfs)	1	NA	NA
Minimum Storage (AF)	26	26 (Natural Lake)	26 (Natural Lake)
Maximum Storage (AF)/ Elevation (feet)	800 AF/8,481 feet	26 AF / 8,470 feet	26 AF / 8,470 feet
Fill Start Date (Julian Day)	Varies by year; April 27 (on average)	NA	NA
Release Start Date (Julian Day)	October 16	NA	NA
Release Rate (AF/day)	50	NA	NA

NA=Not Applicable

Table AQ 2-4. Table used to convert mean daily flows at the Rush Creek Powerhouse to hourly flows. The table assumes powerhouse flows range from a minimum (e.g., 3 cfs) to a maximum (111 cfs) each day.

Time	Number of Hours of Generation per Day																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Hourly Power House Generation Flow (cfs)																								
1:00 AM																									111
2:00 AM																								111	111
3:00 AM																							111	111	111
4:00 AM																						111	111	111	111
5:00 AM																111	111	111	111	111	111	111	111	111	111
6:00 AM										111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
7:00 AM											111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
8:00 AM												111	111	111	111	111	111	111	111	111	111	111	111	111	111
9:00 AM																		111	111	111	111	111	111	111	111
10:00 AM																					111	111	111	111	111
11:00 AM																				111	111	111	111	111	111
12:00 PM																			111	111	111	111	111	111	111
1:00 PM																	111	111	111	111	111	111	111	111	111
2:00 PM															111	111	111	111	111	111	111	111	111	111	111
3:00 PM													111	111	111	111	111	111	111	111	111	111	111	111	111
4:00 PM							111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
5:00 PM					111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
6:00 PM		111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
7:00 PM			111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
8:00 PM				111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
9:00 PM						111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
10:00 PM								111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
11:00 PM									111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111	111
12:00 AM														111	111	111	111	111	111	111	111	111	111	111	111

Table AQ 2-5. Mean and median monthly flows at Rush Creek at Rush Meadows Dam and Rush Creek at Gem Dam.

Mean Monthly Flow - Rush Creek at Rush Meadows Dam (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	7.39	7.39	7.46	7.39
February	6.68	6.68	6.67	6.67
March	10.15	10.15	10.06	10.14
April	35.34	35.34	32.51	33.49
May	114.12	114.12	102.54	64.76
June	138.16	138.16	137.37	110.05
July	76.79	76.79	87.63	75.94
August	20.93	20.93	25.19	21.97
September	7.50	7.50	7.58	65.54
October	6.84	6.84	6.54	27.22
November	4.91	4.91	5.22	6.26
December	5.35	5.35	5.27	5.35

Median Monthly Flow - Rush Creek at Rush Meadows Dam (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	4.22	4.22	4.21	4.22
February	5.67	5.67	5.67	5.67
March	9.41	9.41	9.39	9.39
April	36.78	36.78	30.91	33.36
May	106.17	106.17	102.64	62.67
June	120.22	120.22	131.64	95.87
July	37.21	37.21	39.12	37.21
August	13.09	13.09	13.72	13.09
September	4.24	4.24	4.24	76.00
October	4.37	4.37	4.38	15.41
November	3.96	3.96	3.96	3.96
December	3.55	3.55	3.55	3.55

Mean Monthly Flow - Rush Creek at Gem Dam (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	10.84	2.23	1.98	2.31
February	9.80	1.00	1.00	1.00
March	14.89	1.00	1.00	1.00
April	51.85	7.32	6.14	2.94
May	167.46	17.15	8.21	7.02
June	202.75	79.64	75.35	41.37
July	112.69	50.76	59.38	38.20
August	30.71	4.03	6.44	3.82
September	11.01	1.03	1.01	4.71
October	10.04	1.86	1.36	3.27
November	7.20	1.00	1.06	1.03
December	7.85	1.06	1.02	1.15

Median Monthly Flow - Rush Creek at Gem Dam (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	6.19	1.00	1.00	1.00
February	8.32	1.00	1.00	1.00
March	13.81	1.00	1.00	1.00
April	53.97	2.39	1.87	1.00
May	155.79	4.69	1.00	1.33
June	176.42	33.02	39.96	11.81
July	54.60	1.61	1.42	1.00
August	19.21	1.00	1.00	1.00
September	6.22	1.00	1.00	1.00
October	6.41	1.00	1.00	1.00
November	5.81	1.00	1.00	1.00
December	5.22	1.00	1.00	1.00

Table AQ 2-6. Mean and median monthly flows at Rush Creek below Agnew Dam and Rush Creek above SR158.

Mean Monthly Flow - Rush Creek below Agnew Dam (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	11.41	2.85	2.60	2.44
February	10.31	1.56	1.56	1.00
March	15.68	1.86	1.85	1.00
April	54.58	10.29	9.10	3.33
May	176.28	26.74	17.80	7.79
June	213.42	91.24	86.95	46.43
July	118.62	57.21	65.83	42.26
August	32.32	5.78	8.20	4.30
September	11.59	1.66	1.64	4.83
October	10.57	2.43	1.93	4.42
November	7.58	1.41	1.48	1.04
December	8.27	1.51	1.47	1.17

Median Monthly Flow - Rush Creek below Agnew Dam (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	6.51	1.35	1.35	1.00
February	8.75	1.48	1.48	1.00
March	14.54	1.79	1.79	1.00
April	56.81	5.79	4.96	1.00
May	163.99	12.96	9.92	1.59
June	185.70	45.13	48.54	13.09
July	57.47	4.27	4.48	1.00
August	20.22	2.10	2.10	1.00
September	6.55	1.36	1.36	1.00
October	6.75	1.37	1.37	1.00
November	6.12	1.33	1.33	1.00
December	5.49	1.30	1.30	1.00

Mean Monthly Flow - Rush Creek above SR158 (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	11.09	3.45	3.30	3.19
February	10.28	2.44	2.43	1.93
March	15.50	3.12	3.12	2.35
April	51.30	11.81	10.98	5.56
May	157.35	29.14	21.22	12.13
June	183.91	83.28	81.43	45.87
July	103.21	51.61	59.42	39.71
August	30.03	6.43	8.69	5.11
September	11.06	2.17	2.15	5.16
October	10.03	2.79	2.39	4.63
November	7.61	2.08	2.15	1.75
December	8.25	2.21	2.17	1.90

Median Monthly Flow - Rush Creek above SR158 (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	6.87	1.38	1.38	1.35
February	8.45	1.59	1.56	1.52
March	13.85	2.20	2.20	2.12
April	53.12	4.89	4.78	3.85
May	148.98	7.74	7.12	6.24
June	169.32	11.30	11.96	8.36
July	53.07	2.87	2.84	2.58
August	18.90	1.52	1.52	1.38
September	6.38	0.89	0.89	1.10
October	6.42	1.01	1.01	1.10
November	6.20	1.10	1.10	1.10
December	5.77	1.29	1.29	1.16

Table AQ 2-7. Mean and median monthly flows at Rush Creek above Silver Lake and at Rush Creek below Silver Lake.2

Mean Monthly Flow - Rush Creek above Silver Lake (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	19.21	31.02	31.10	56.51
February	18.18	58.54	58.54	53.12
March	26.43	67.11	67.03	60.42
April	72.44	99.88	97.28	69.99
May	215.00	102.83	89.06	77.12
June	259.60	210.80	212.03	138.85
July	143.86	141.22	152.05	114.47
August	42.80	47.05	51.32	39.00
September	17.05	26.83	26.91	65.28
October	15.97	25.56	25.26	75.47
November	13.91	23.90	24.21	52.05
December	14.67	24.81	24.74	51.67

Median Monthly Flow - Rush Creek above Silver Lake (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	13.78	25.73	25.73	56.10
February	14.84	55.24	55.23	54.01
March	24.80	66.13	65.92	60.97
April	73.13	98.51	95.23	68.88
May	197.44	78.19	72.03	63.22
June	217.10	177.84	185.11	85.17
July	70.78	70.17	70.36	51.06
August	27.70	31.73	32.36	24.46
September	10.87	21.27	21.23	68.96
October	13.22	23.41	23.38	72.23
November	11.82	22.12	22.11	50.83
December	11.39	21.58	21.57	53.14

Mean Monthly Flow - Rush Creek below Silver Lake (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	22.72	34.53	34.61	60.03
February	21.84	62.21	62.20	56.78
March	31.57	72.26	72.17	65.57
April	81.37	108.81	106.21	78.92
May	233.12	120.95	107.19	95.25
June	279.85	231.05	232.28	159.11
July	154.54	151.90	162.73	125.15
August	47.07	51.32	55.59	43.27
September	19.44	29.22	29.30	67.67
October	18.25	27.84	27.54	77.75
November	16.80	26.79	27.10	54.94
December	17.67	27.81	27.73	54.66

Median Monthly Flow - Rush Creek below Silver Lake (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	16.20	28.26	28.24	58.86
February	18.46	58.96	58.95	56.22
March	29.88	70.88	70.83	67.82
April	83.14	109.03	104.43	76.83
May	211.37	96.06	88.60	77.67
June	231.08	195.06	202.33	97.79
July	76.37	75.14	75.64	55.53
August	31.23	34.78	35.13	28.92
September	13.41	23.73	23.69	71.12
October	15.77	25.51	25.48	74.11
November	14.45	24.46	24.46	53.55
December	15.17	25.25	25.25	55.74

Table AQ 2-8. Mean and median monthly flows at South Rush Creek.

Mean Monthly Flow - South Rush Creek (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	1.32	0.40	0.27	0.26
February	1.07	0.16	0.16	0.10
March	1.63	0.19	0.19	0.10
April	5.81	1.15	0.96	0.35
May	24.07	2.93	1.87	0.81
June	35.25	14.20	11.55	6.57
July	18.44	8.93	9.71	5.92
August	3.51	0.61	0.87	0.45
September	1.21	0.17	0.17	0.52
October	1.19	0.30	0.20	0.54
November	0.79	0.15	0.15	0.11
December	0.86	0.16	0.15	0.12

Median Monthly Flow - South Rush Creek (cfs)				
Month	Unimpaired	Proposed Project	Existing Conditions	Historical
January	0.68	0.14	0.14	0.10
February	0.91	0.15	0.15	0.10
March	1.51	0.19	0.19	0.10
April	6.06	0.62	0.52	0.10
May	18.85	1.36	1.03	0.17
June	20.34	4.75	5.11	1.38
July	5.99	0.44	0.47	0.10
August	2.11	0.22	0.22	0.10
September	0.68	0.14	0.14	0.10
October	0.70	0.14	0.14	0.10
November	0.64	0.14	0.14	0.10
December	0.57	0.14	0.14	0.10

Table AQ 2-9. Annual flood recurrence magnitudes (years).

Rush Creek Peak Flow at Rush Meadows Dam				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	10,648	0.591	0.166	0.408
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	96	82	96	77
1.05	127	109	127	97
1.11	149	127	149	110
1.25	180	154	180	132
1.5	217	187	217	157
2	264	231	264	193
2.33	286	253	286	211
5	392	359	392	301
10	485	458	485	390
25	612	602	612	526
50	713	722	713	645
100	819	854	819	781
200	932	1,000	932	936
500	1,091	1,216	1,091	1,177

Rush Creek Peak Flow at Gem Dam				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	10,473	0.583	0.165	0.406
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	140	60	46	18
1.05	186	80	78	31
1.11	218	94	102	42
1.25	264	117	140	61
1.5	318	146	186	87
2	387	186	250	129
2.33	420	207	281	152
5	575	314	432	284
10	712	423	569	437
25	897	594	754	702
50	1,045	748	900	961
100	1,201	928	1,052	1,282
200	1,366	1,136	1,210	1,675
500	1,600	1,465	1,428	2,329
Grayed areas not representative due to many low flow years.				

Rush Creek Peak Flow below Agnew Dam				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	10,429	0.581	0.164	0.405
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	147	67	61	23
1.05	196	89	97	38
1.11	229	105	123	50
1.25	278	130	164	72
1.5	334	161	213	101
2	407	204	278	146
2.33	442	227	311	171
5	605	342	464	311
10	749	458	602	471
25	945	639	790	744
50	1,100	801	939	1,007
100	1,265	989	1,094	1,330
200	1,438	1,207	1,257	1,723
500	1,684	1,549	1,484	2,371
Grayed areas not representative due to many low flow years.				

Combined Rush Creek and South Rush Creek above SR158				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	10,359	0.577	0.164	0.404
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	154	73	76	18
1.05	205	99	115	34
1.11	240	118	143	47
1.25	292	147	187	70
1.5	351	182	238	104
2	428	230	306	156
2.33	465	254	339	185
5	638	374	497	354
10	790	491	637	549
25	997	665	827	880
50	1,161	814	978	1,199
100	1,335	981	1,135	1,587
200	1,518	1,169	1,300	2,056
500	1,777	1,454	1,530	2,822
Grayed areas not representative due to many low flow years.				

Rush Creek Peak Flow above Silver Lake				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	9,769	0.544	0.160	0.400
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	155	173	186	107
1.05	210	213	243	144
1.11	248	241	281	170
1.25	304	281	336	210
1.5	370	328	398	259
2	457	388	475	325
2.33	499	417	512	359
5	696	554	679	525
10	873	677	821	687
25	1,118	847	1,009	928
50	1,315	986	1,154	1,135
100	1,524	1,134	1,303	1,367
200	1,748	1,293	1,458	1,628
500	2,067	1,523	1,672	2,024

Rush Creek Peak Flow below Silver Lake				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	9,753	0.543	0.160	0.400
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	164	182	189	113
1.05	223	227	251	153
1.11	264	257	293	182
1.25	325	302	353	226
1.5	396	353	420	280
2	489	419	505	353
2.33	535	450	546	389
5	749	598	728	572
10	942	730	883	749
25	1,209	911	1,087	1,011
50	1,424	1,056	1,244	1,235
100	1,654	1,211	1,405	1,487
200	1,899	1,377	1,572	1,768
500	2,250	1,615	1,802	2,192

Rush Creek Peak Flow above SR158				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	10,359	0.577	0.164	0.404
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	156	75	106	20
1.05	192	96	134	34
1.11	215	110	153	45
1.25	250	131	181	65
1.5	289	157	214	92
2	340	192	256	133
2.33	364	210	277	155
5	478	297	376	277
10	579	380	467	409
25	717	504	593	623
50	828	610	697	821
100	947	728	809	1,055
200	1,073	862	930	1,330
500	1,255	1,064	1,107	1,764
Grayed areas not representative due to many low flow years.				

South Rush Creek Peak Flow above SR 158				
Recurrence Probability	Basin Mean Elevation (ft)	Regional Skew	Variance	Standard Deviation
	10,359	0.577	0.164	0.404
	Unimpaired (cfs)	Historical (cfs)	Proposed Project (cfs)	Existing Conditions (cfs)
1.01	40	3	2	4
1.05	54	6	5	7
1.11	64	8	9	9
1.25	77	12	17	13
1.5	92	18	29	19
2	110	28	48	28
2.33	118	34	59	33
5	154	70	119	66
10	183	116	180	107
25	218	203	269	185
50	245	297	341	269
100	270	420	416	380
200	296	582	494	527
500	330	872	600	794
Grayed areas not representative due to many low flow years.				

Notes: calculated using PeakFQ (Veilleux et al. 2014) and hydrology model data (1990-2021) for each of the model scenarios (unimpaired, historical, Proposed Project, and Existing conditions). Grayed columns indicate recurrence calculations that are affected by low flow data, which reduce the accuracy of the fitting process (typically the projected recurrence estimates are biased high).

Table AQ 2-10. Potential high flow event data for Rush Creek

Location	Potential High Flow Event Data (cfs)					Mean Annual Precipitation (in)	Mean Basin Elevation (ft)	Cummulative Watershed Area (sq miles)
	Probable Maximum Flood (PMF)[1]	500 yr Unimpaired Peak Flow (0.2% AEP[2])	100 yr Peak Unimpaired Peak Flow (1% AEP[2])	1990 - 2021 Highest Unimpaired Flow[3]	Maximum Gaged Flow (1939 -2023)			
Rush Creek at Rush Meadows Dam	6,500	1,091	819	605	--	46.0	10,648	15.0
Rush Creek at Gem Dam	8,700	1,600	1,201	888	--	45.0	10,473	22.1
Rush Creek below Agnew Dam	8,400	1,684	1,265	935	--	44.8	10,429	23.4
Rush Creek above SR158 (includes South Rush Creek)	--	1,758	1,328	975	--	44.4	10,359	24.7
Rush Creek above Silver Lake	--	2,067	1,524	1,065	--	40.2	9,769	40.1
Rush Creek below Silver Lake	--	2,550	1,654	1,129	992 (in 1967)	39.4	9,753	51.3

[1] SCE 2021 Pre-Application Document.

[2] Annual exceedance probability flow in a particular year based on unimpaired model PeakFQ analysis (Veilleux, A.G., T.A. Cohn, K.M. Flynn, R.R. Mason, Jr., and P.R. Hummel. 2014. Estimating magnitude and frequency of floods using the PeakFQ 7.0 program: U.S. Geological Survey Fact Sheet 2013-3108, 2 p., https://dx.doi.org/10.3133/fs20133108.)

[3] These are highest estimated 15-min annual peak flows for unimpaired conditions based on the hydrology model 1990-2021 period of record.

Table AQ 2-11. Watershed area and observed flow percents for the May 10 – September 21, 2023 period.

Gage Location	Watershed Area (sq miles)	Watershed Area Percent (%)	Gage Data From 5/10/2023 to 9/21/2023		
			Observed Flow (Acre-Ft)	Observed Flow Percent (%)	Percent of Delta[1]
Reversed Creek (R-1)	14.3	11.09	12,782	13.60	46.52
Unnamed Tributary Entering South Rush Creek (R-2)	0.78	0.60	3,526	3.75	12.83
Unnamed Tributary Entering Rush Creek Above PH (R-4)	1.01	0.78	2,467	2.63	8.98
Rush Creek Flume Bl Agnew + Rush Creek Powerhouse	101.17	78.46	66,477	70.76	--
Alger Creek (Est using 2017 data)	7.5	5.82	8,700	9.26	31.67
Rush Creek Above Grant Lake (Modified 1.0754 * X)	128.95	100.00	93,952	--	--

[1] Delta is the difference between the SCE Gage data (Rush Creek Bl Agnew + Powerhouse) and Rush Creek Abv Grant Lake

Table AQ 2-12. Estimated peak flows immediately upstream of California State Route 158 for Rush Creek and South Rush Creek.

Location	Peak Annual Flow (cfs)	
	500-year	100-year
Combined Site Estimate		
Combined Rush Creek and South Rush Creek above SR158	1,758	1,328
Individual Site Estimate		
Rush Creek Peak Flow above SR158	1,494	1,098
South Rush Creek Peak Flow above SR 158	264	230

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FIGURES

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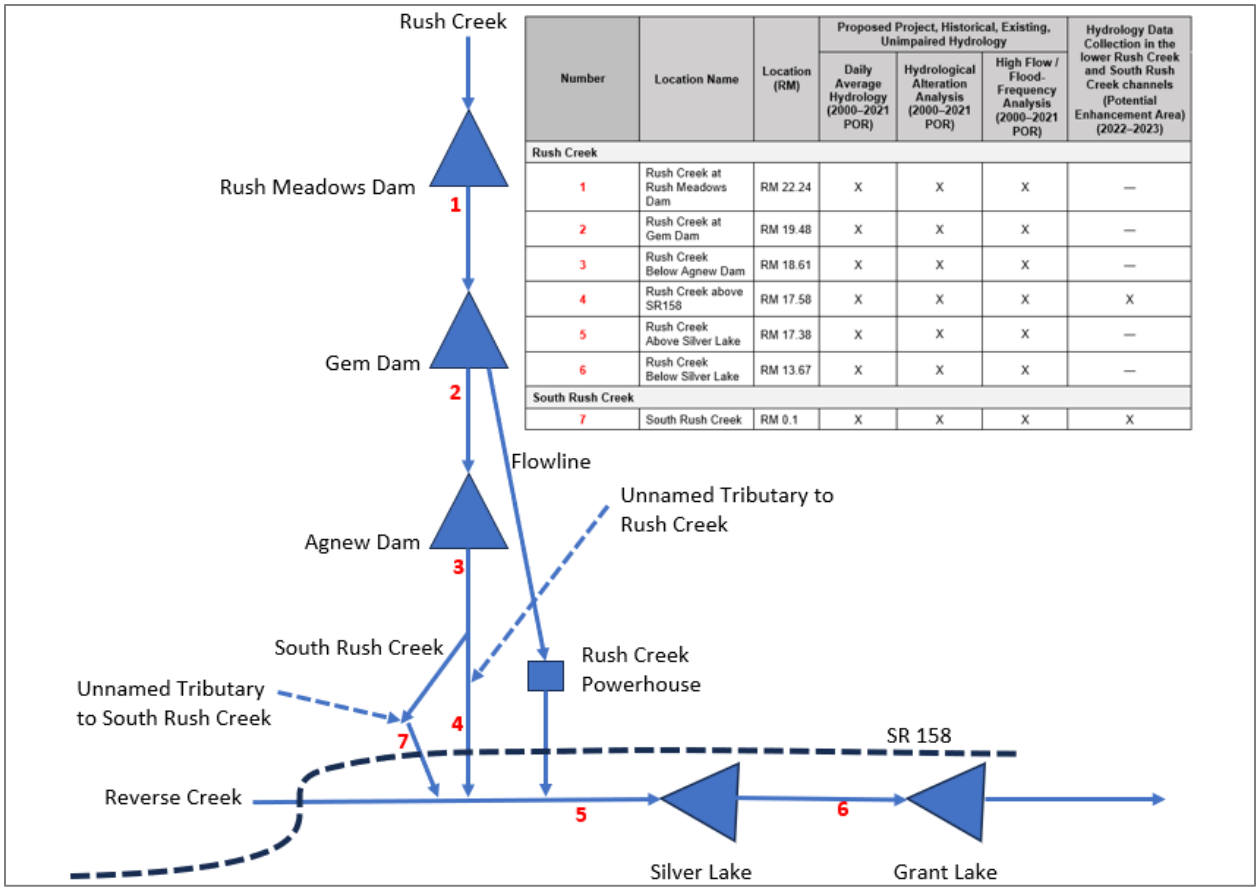


Number	Location Name	Location (RM)	Proposed Project, Historical, Existing, Unimpaired Hydrology			Hydrology Data Collection in the lower Rush Creek and South Rush Creek channels (Potential Enhancement Area) (2022–2023)
			Daily Average Hydrology (2000–2021 POR)	Hydrological Alteration Analysis (2000–2021 POR)	High Flow / Flood-Frequency Analysis (2000–2021 POR)	
Rush Creek						
1	Rush Creek at Rush Meadows Dam	RM 22.24	X	X	X	—
2	Rush Creek at Gem Dam	RM 19.48	X	X	X	—
3	Rush Creek Below Agnew Dam	RM 18.61	X	X	X	—
4	Rush Creek above SR158	RM 17.58	X	X	X	X
5	Rush Creek Above Silver Lake	RM 17.38	X	X	X	—
6	Rush Creek Below Silver Lake	RM 13.67	X	X	X	—
South Rush Creek						
7	South Rush Creek	RM 0.1	X	X	X	X

Figure AQ 2-1. Schematic of flow analysis locations.

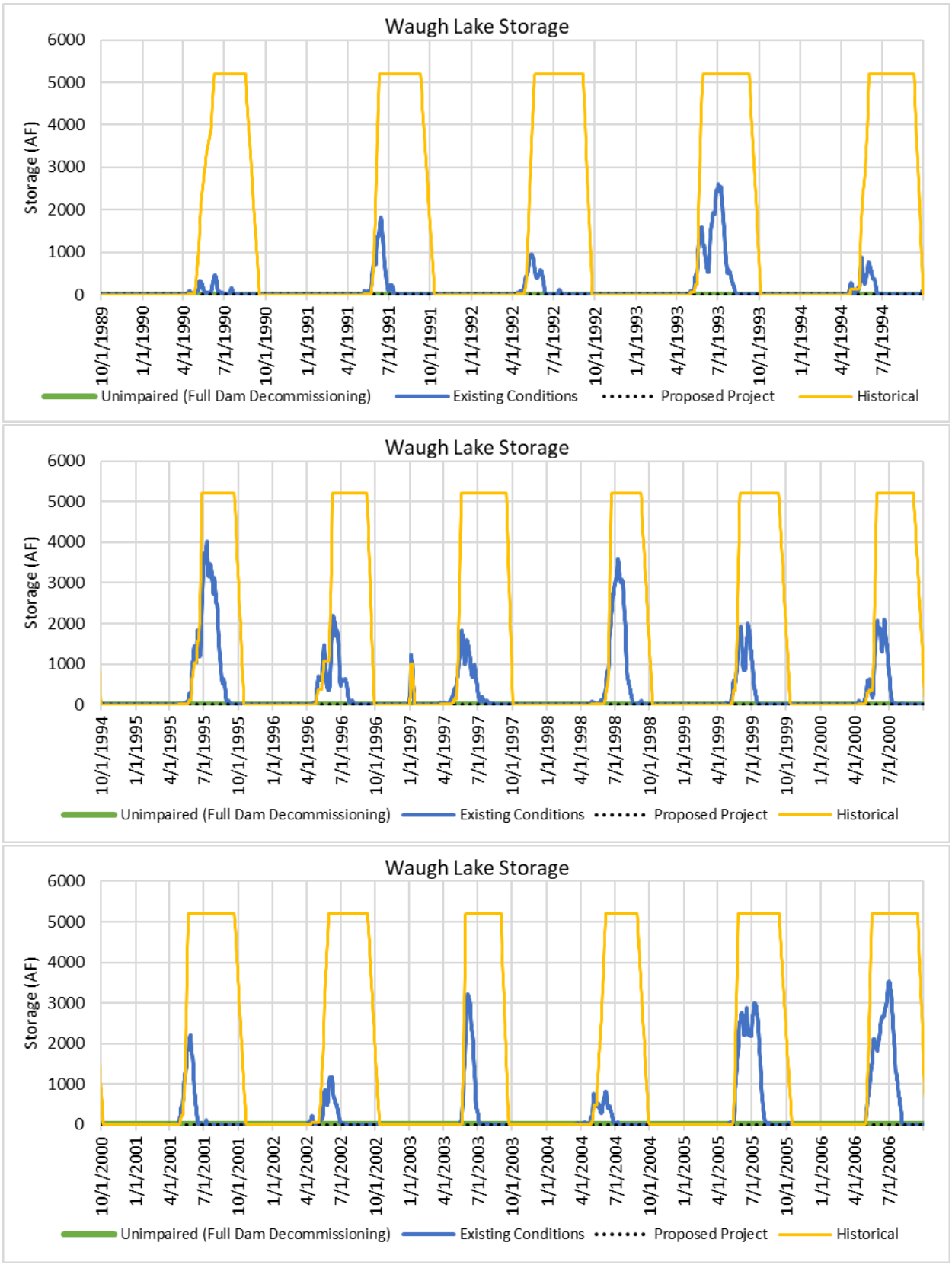


Figure AQ 2-2. Modeled Waugh Lake Storage (WY1990-2006).

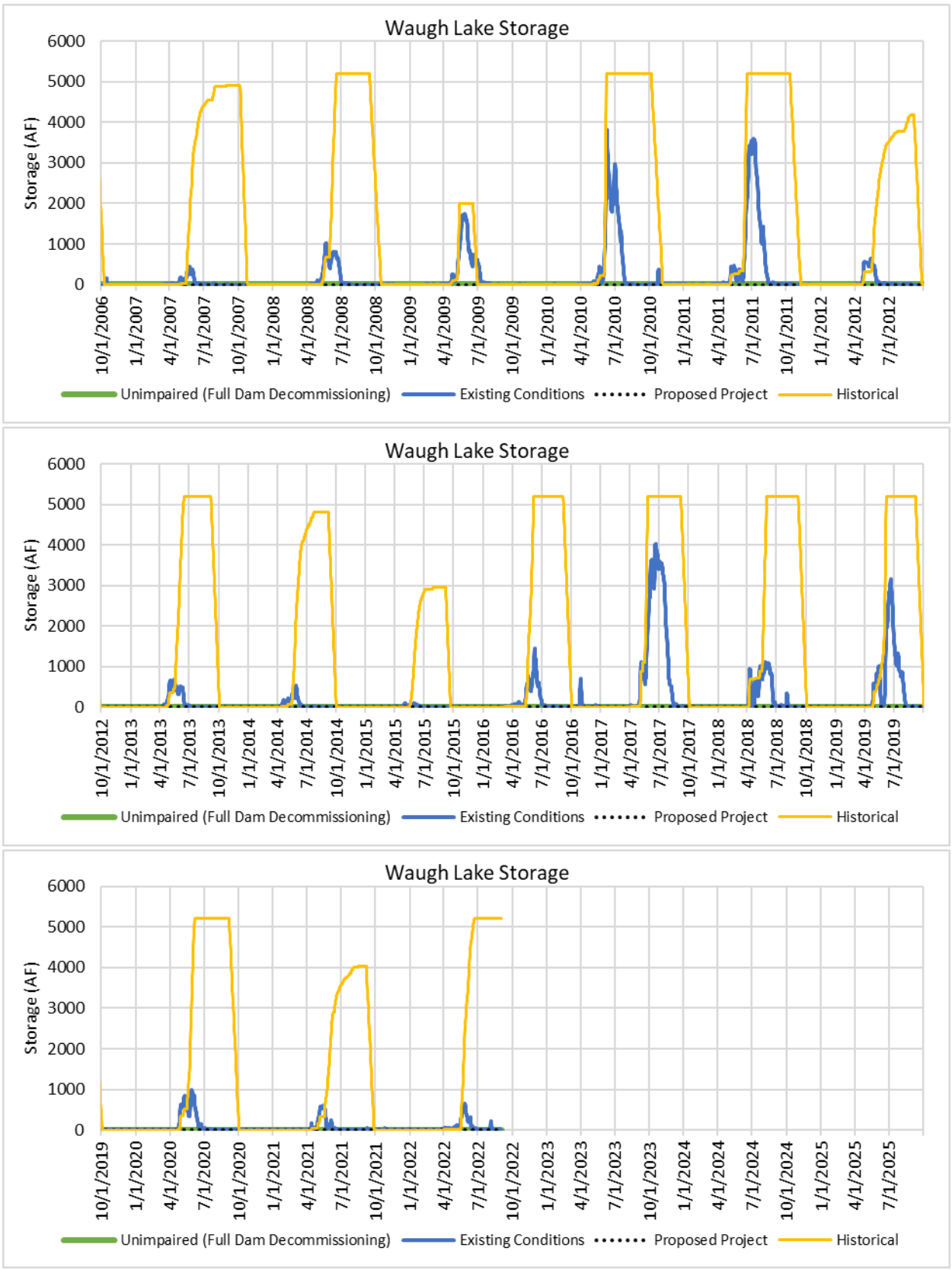


Figure AQ 2-3. Modeled Waugh Lake Storage (WY 2007-2022).

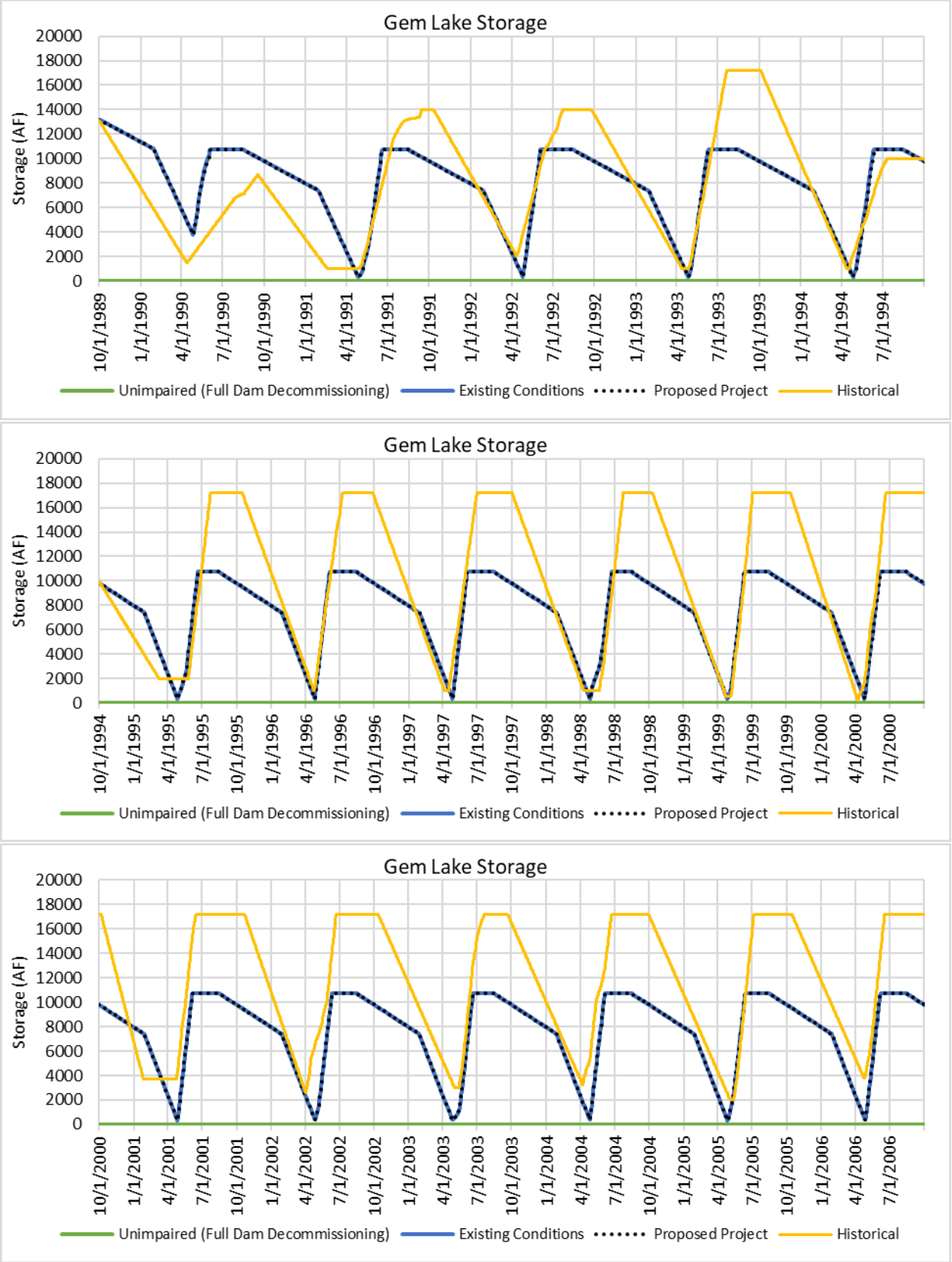


Figure AQ 2-4. Modeled Gem Lake Storage (WY 1990-2006).

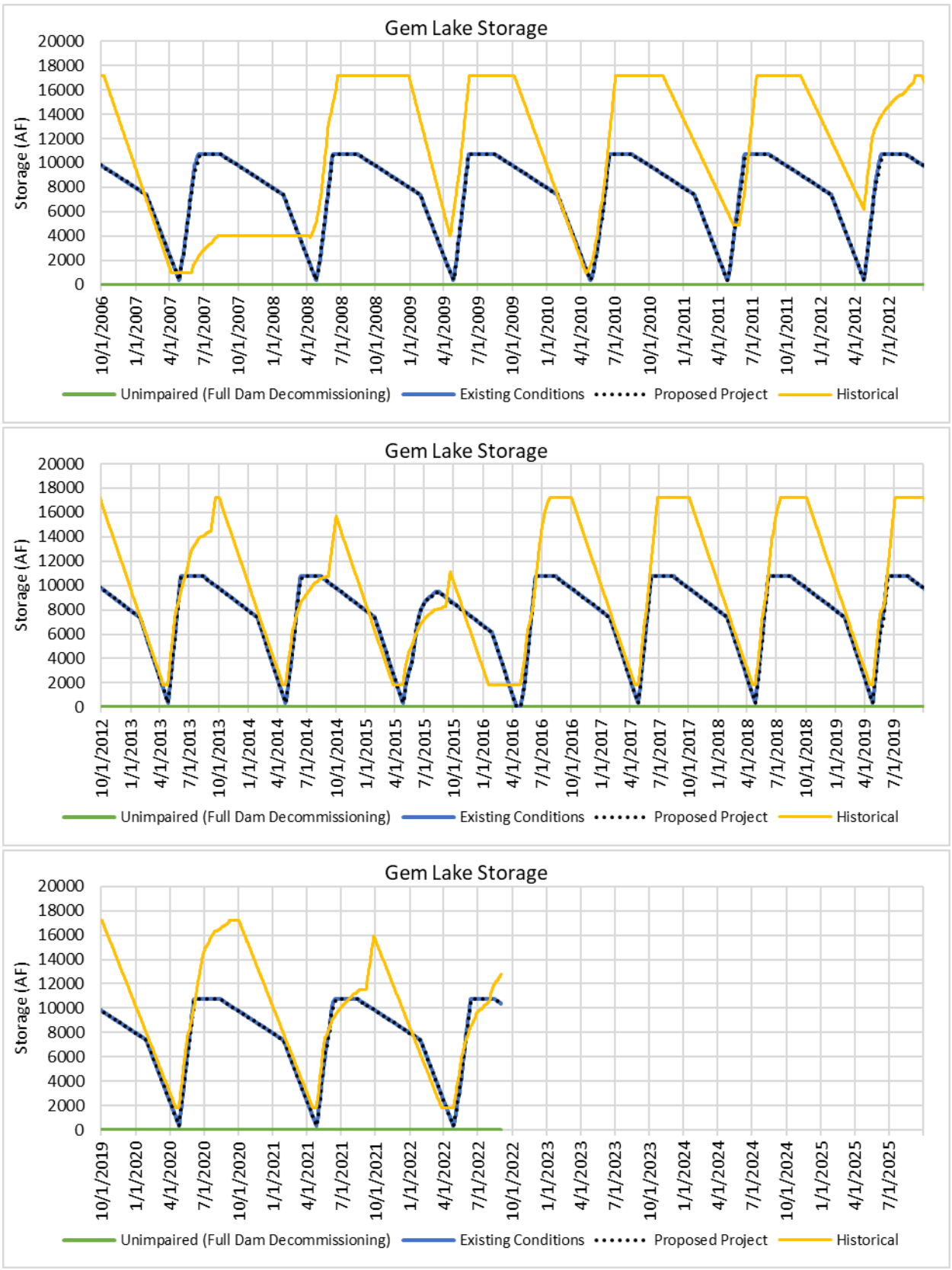


Figure AQ 2-5. Modeled Gem Lake Storage (WY 2007-2022).

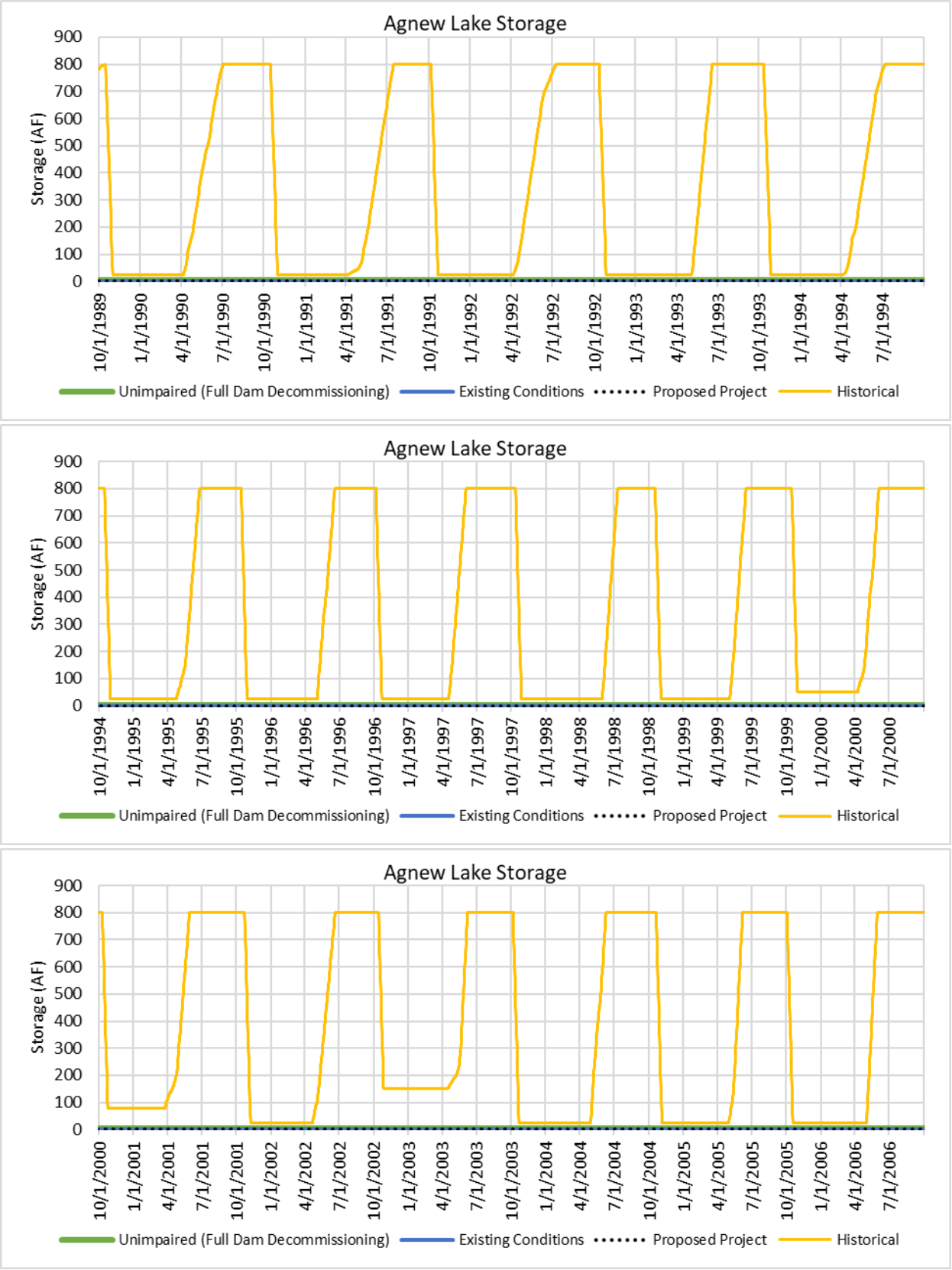


Figure AQ 2-6. Modeled Agnew Lake Storage (WY 1990-2006).

Figure AQ 2-7. Modeled Agnew Lake Storage (WY 2007-2022).

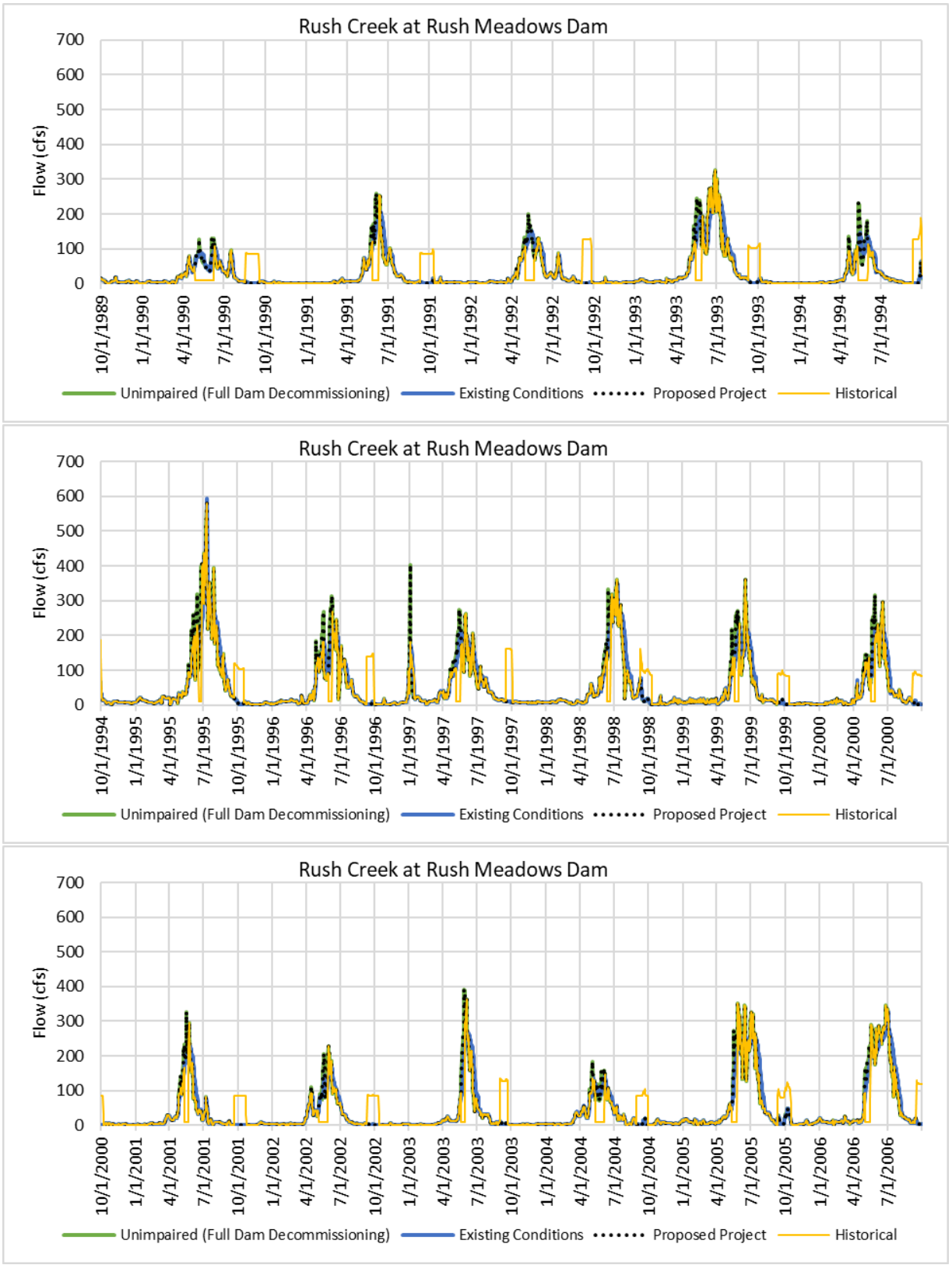


Figure AQ 2-8. Modeled Rush Creek at Rush Meadows Dam Flows (WY 1990-2006).

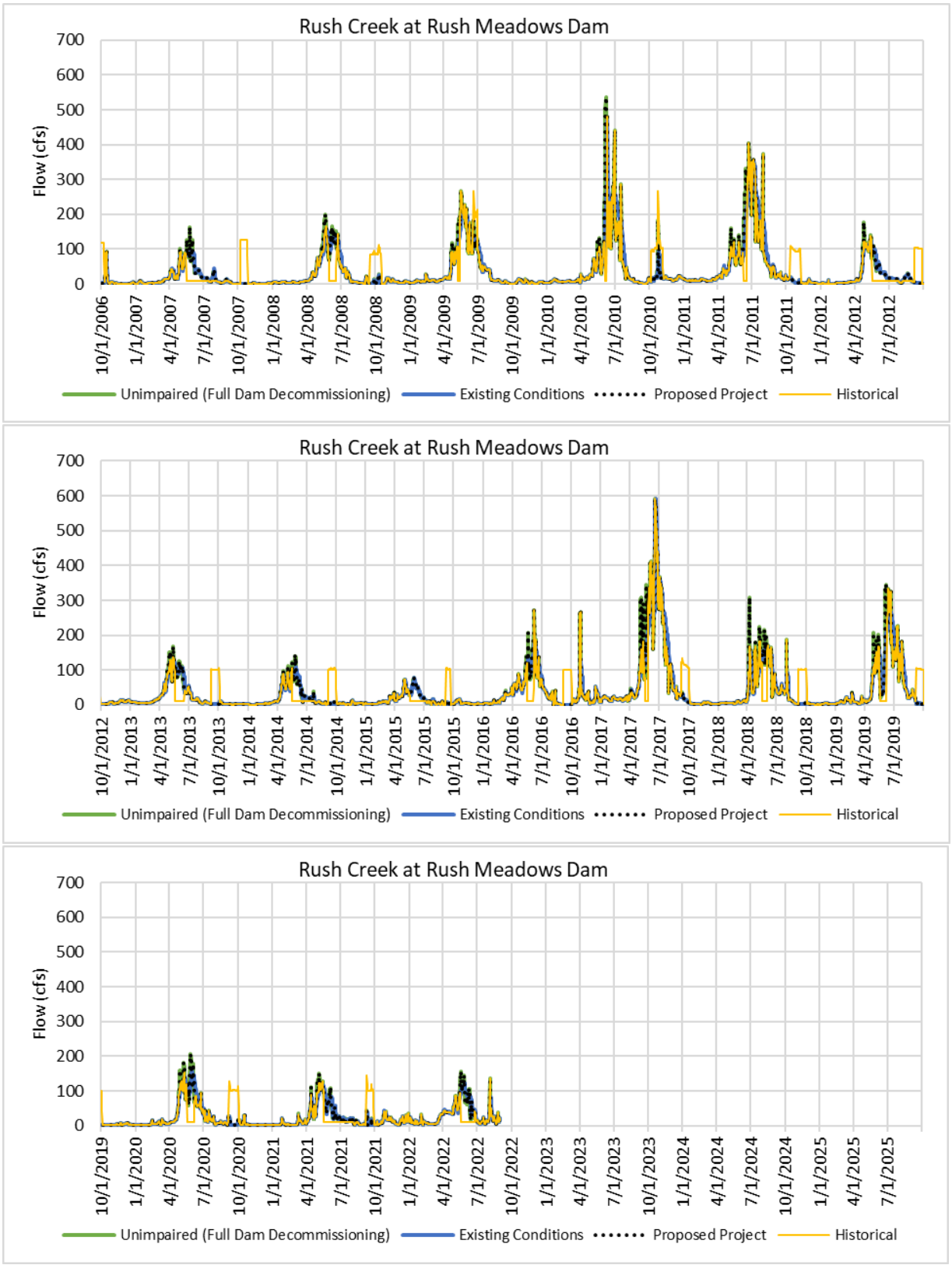


Figure AQ 2-9. Modeled Rush Creek at Rush Meadows Dam Flows (WY 2007-2022).

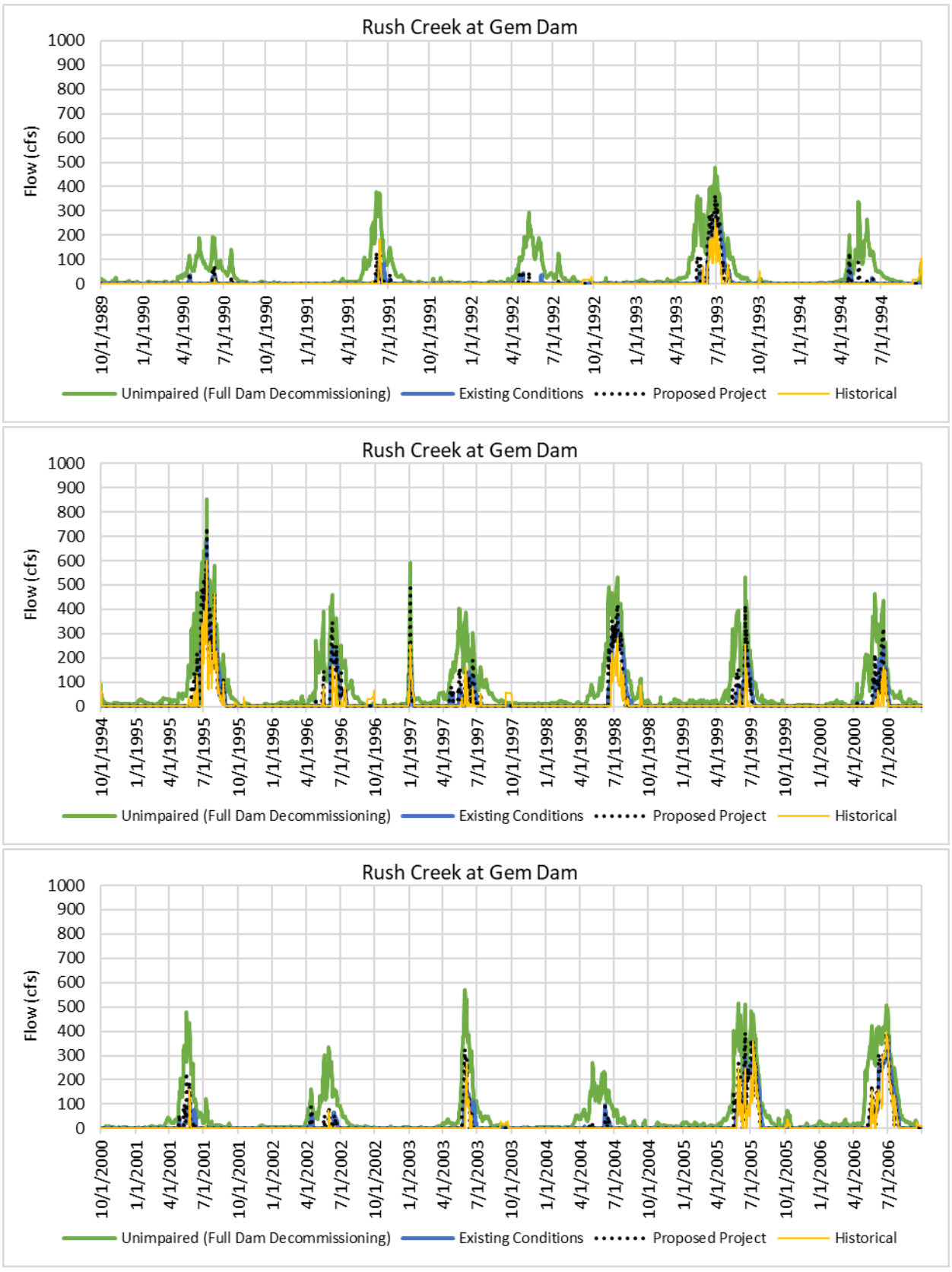


Figure AQ 2-10. Modeled Rush Creek at Gem Dam Flows (WY 1990-2006).

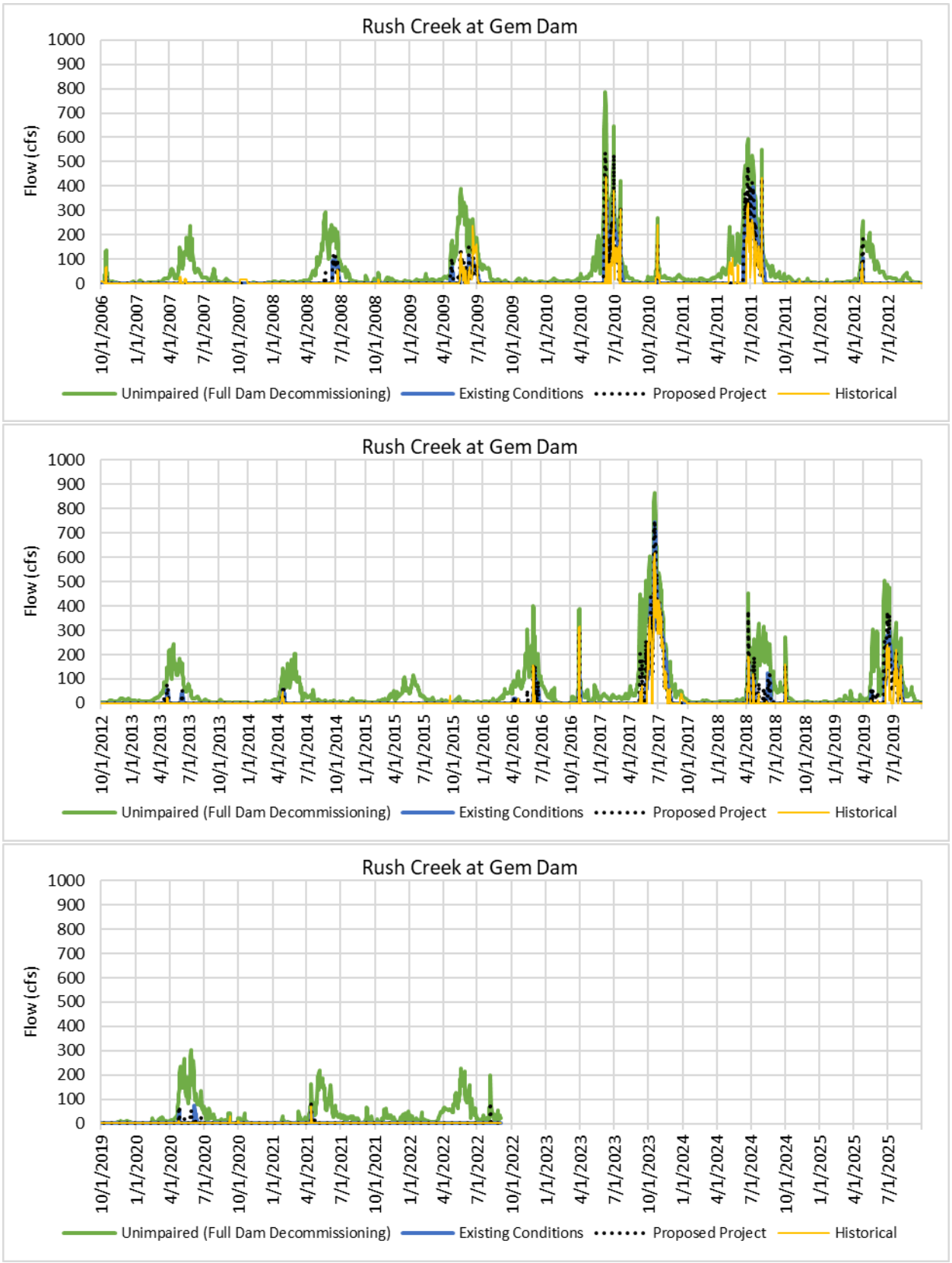


Figure AQ 2-11. Modeled Rush Creek at Gem Dam Flows (WY 2007-2022).

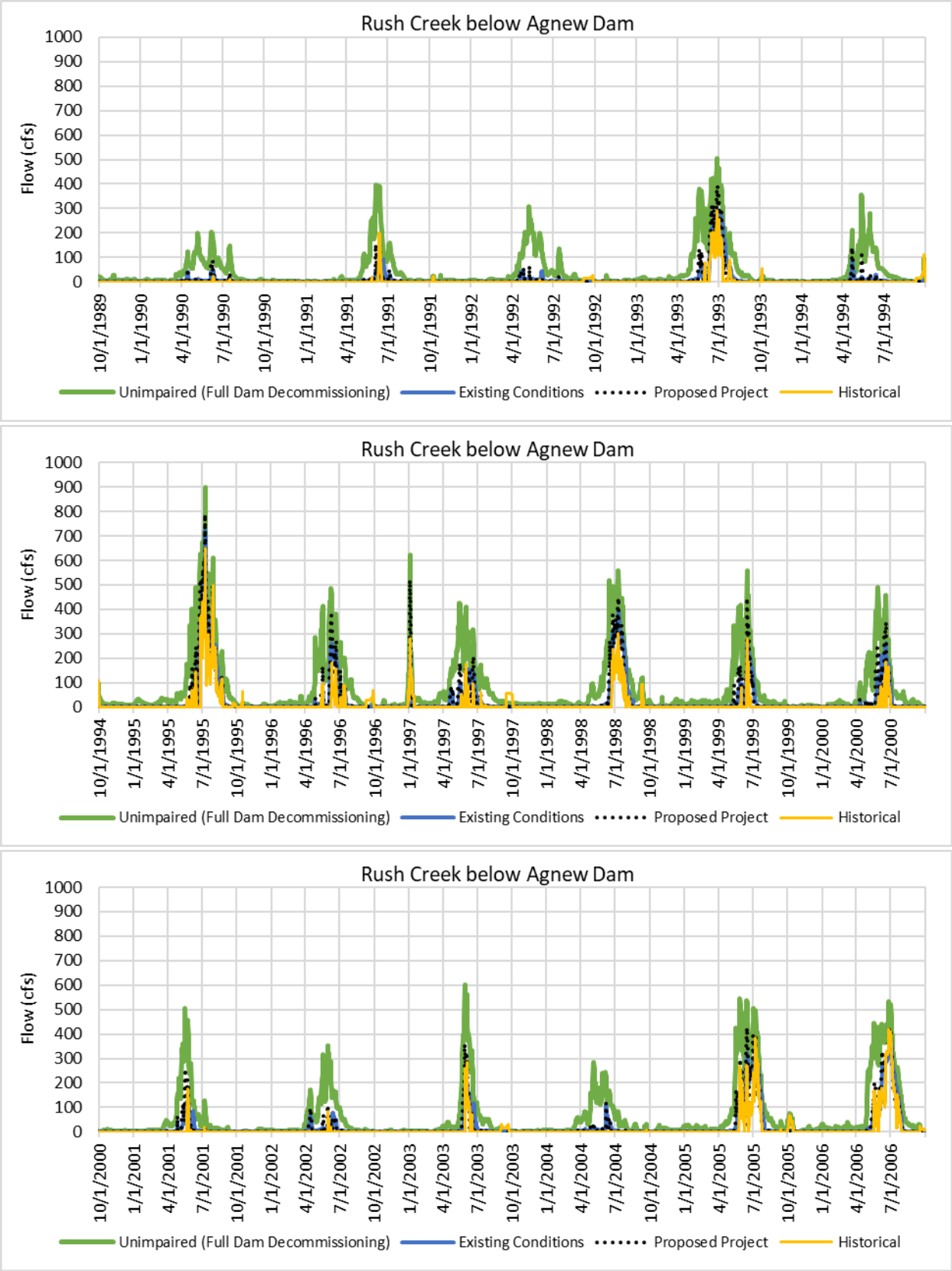


Figure AQ 2-12. Modeled Rush Creek below Agnew Dam Flows (WY 1990-2006).

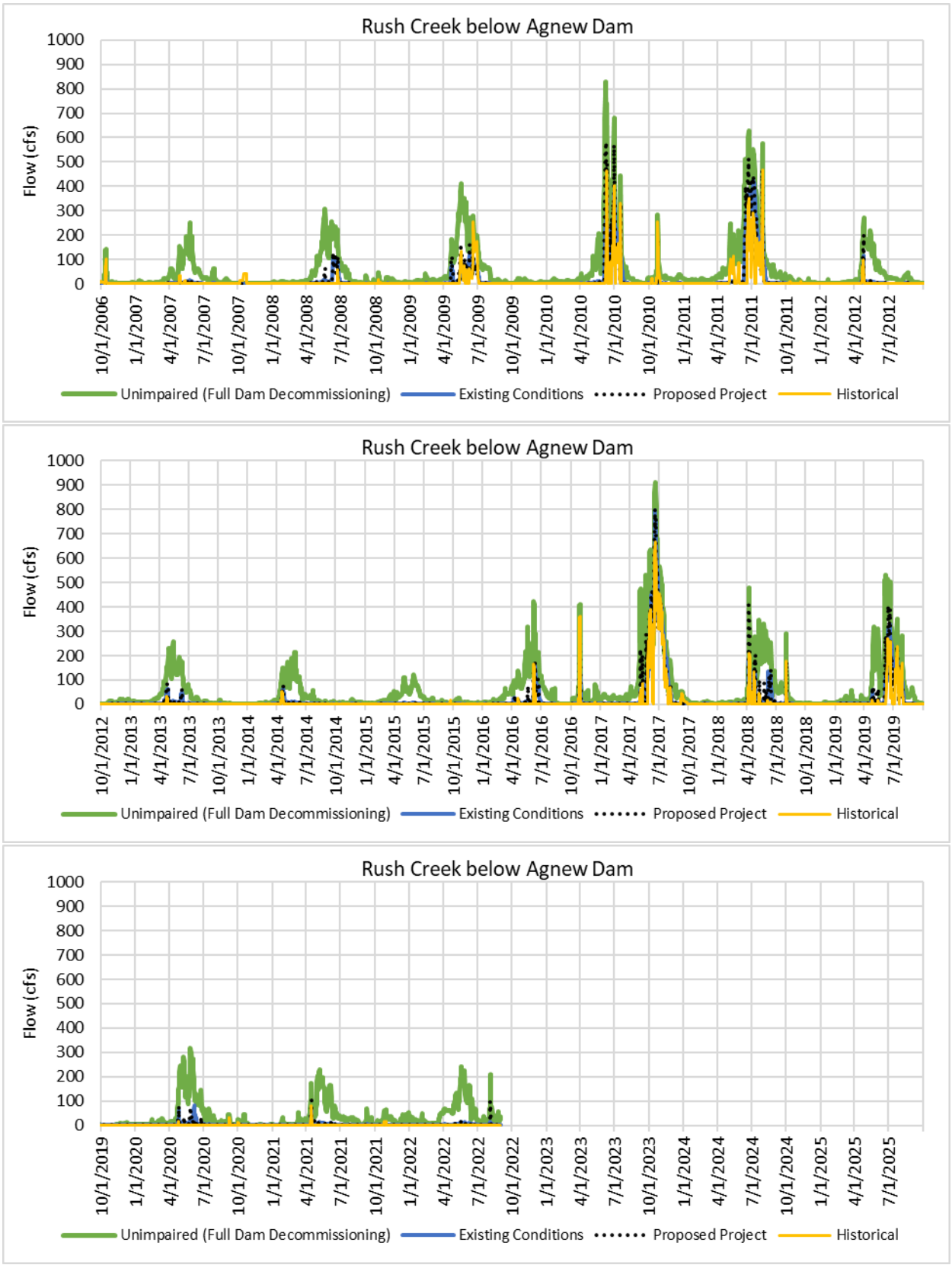


Figure AQ 2-13. Modeled Rush Creek below Agnew Dam Flows (WY 2007-2022).

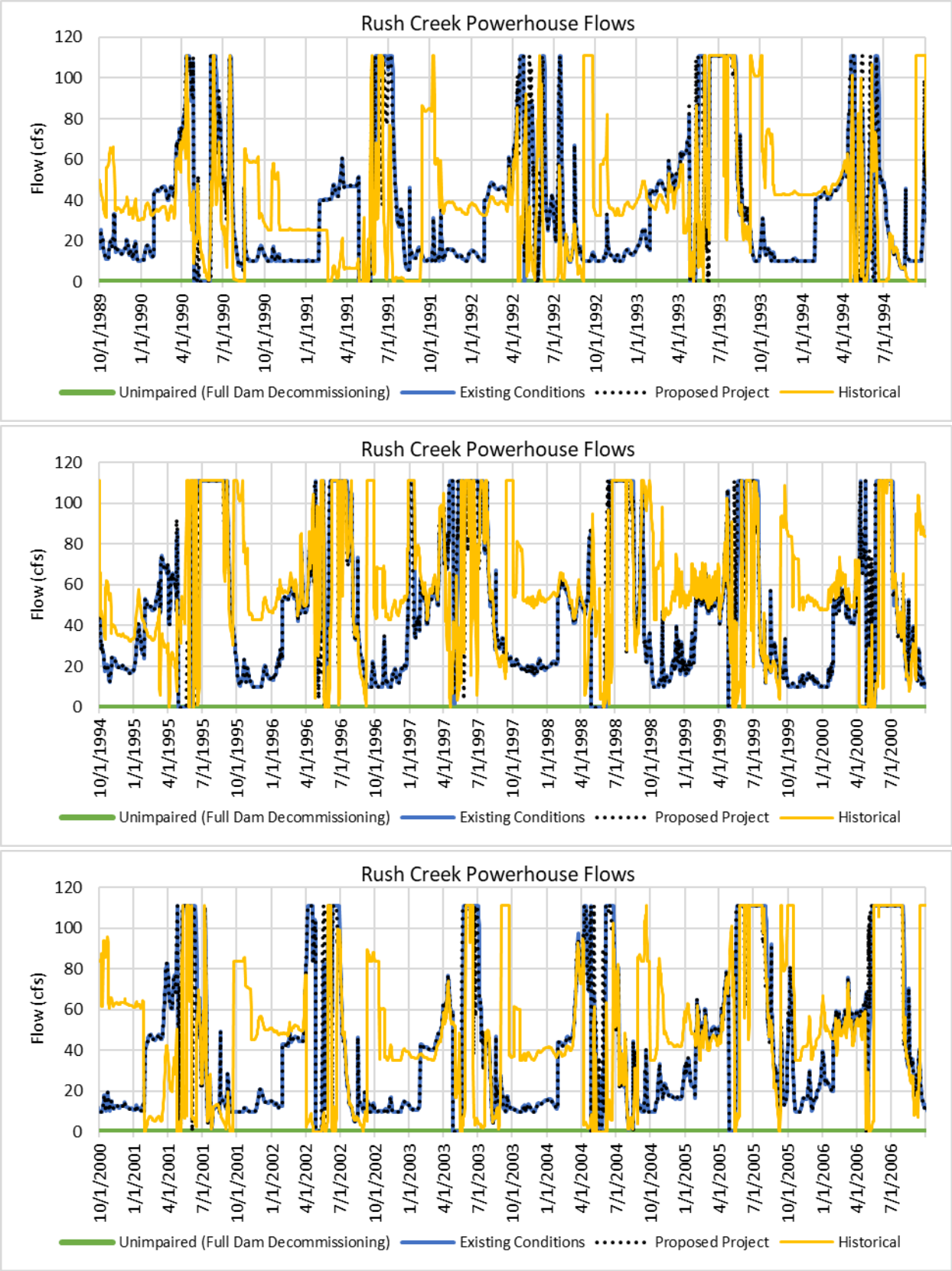


Figure AQ 2-14. Modeled Rush Creek Powerhouse Flows (WY 1990-2006).

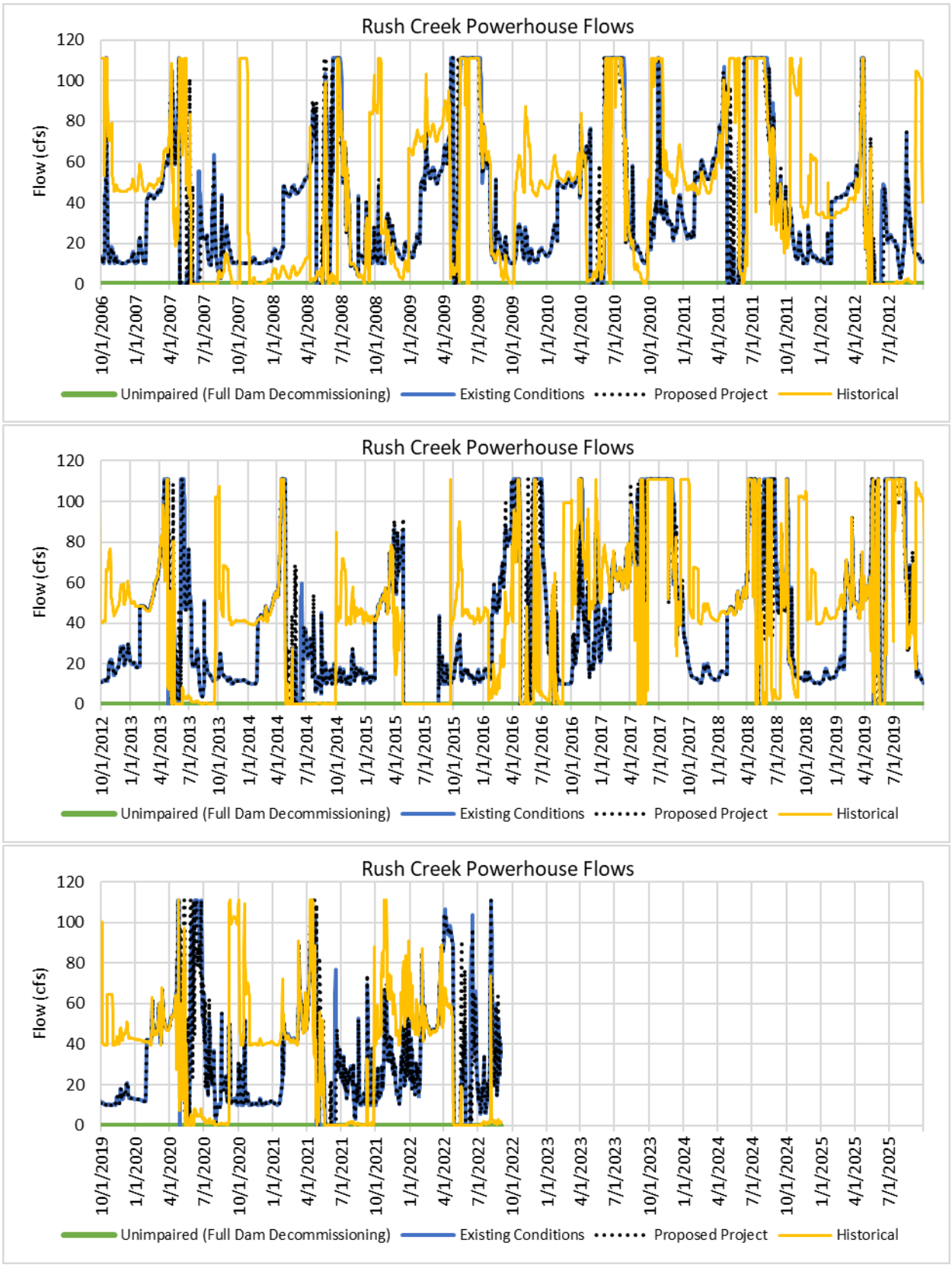


Figure AQ 2-15. Modeled Rush Creek Powerhouse Flows (WY 2007-2022).

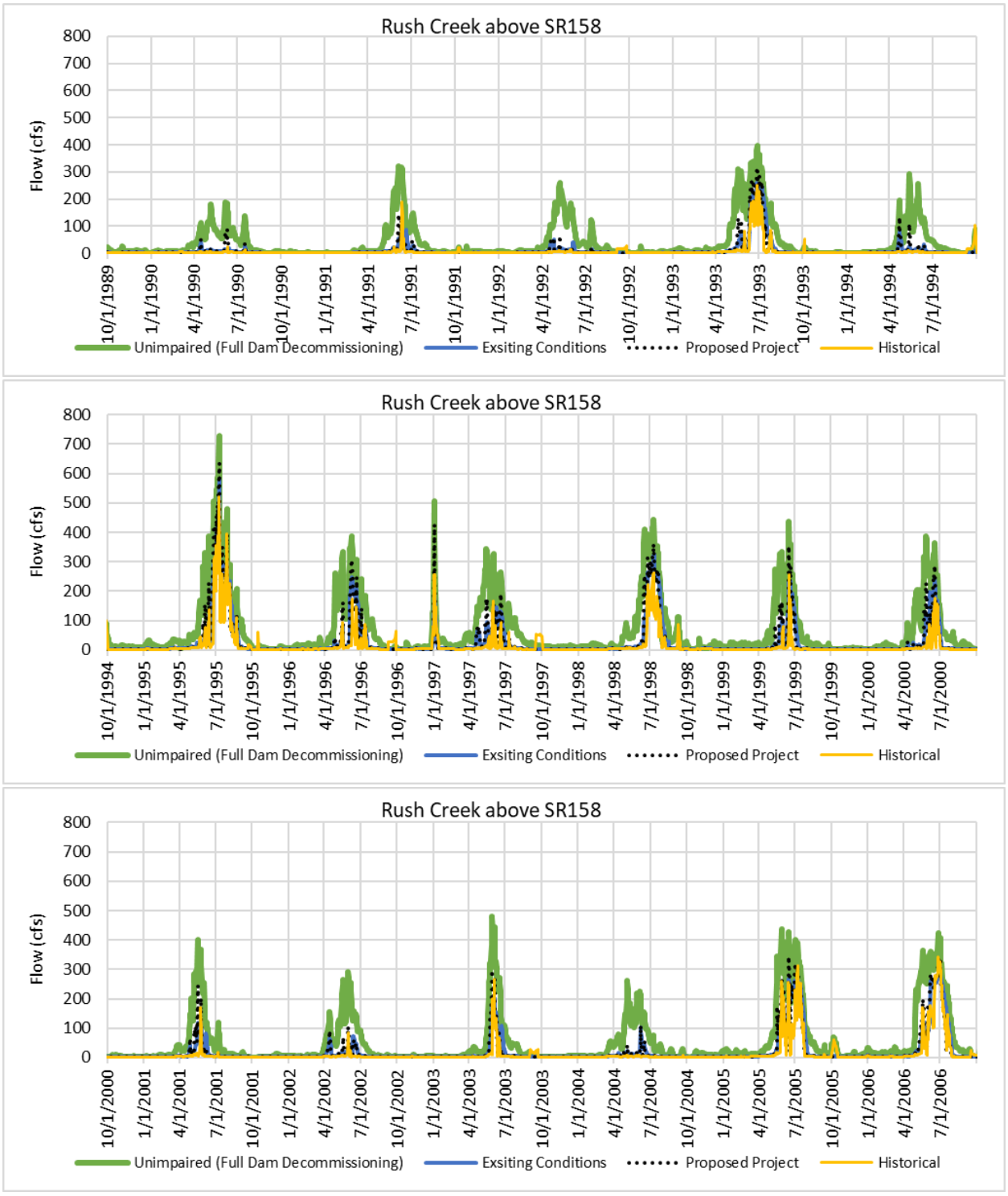
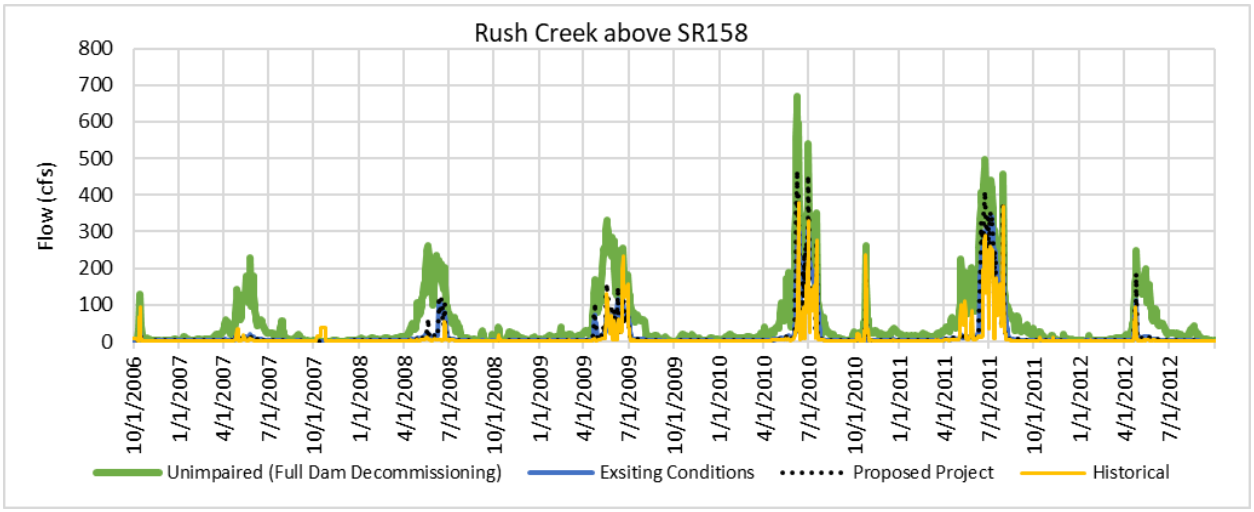
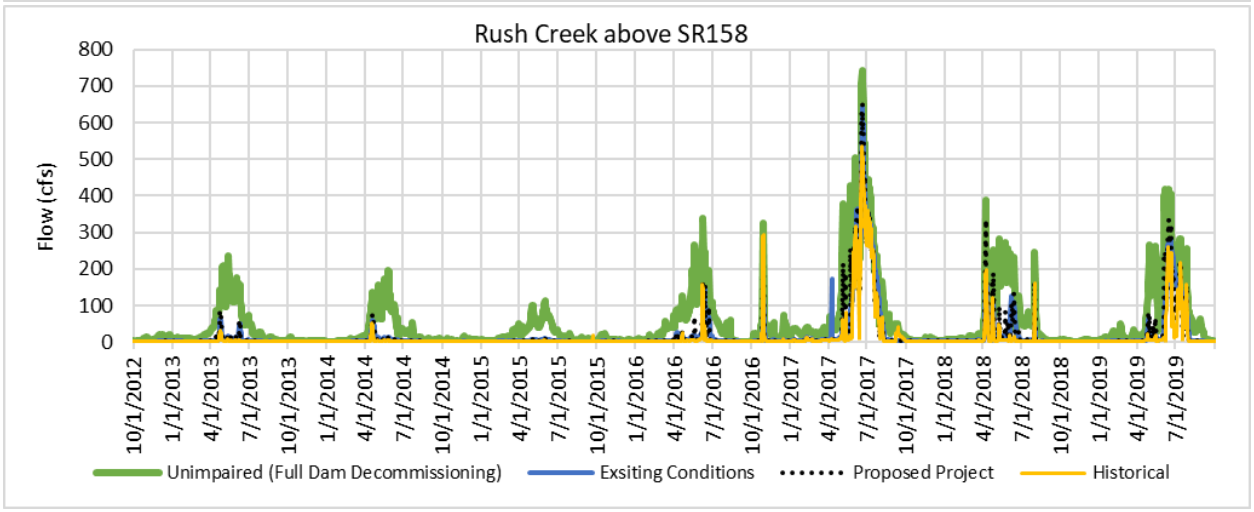


Figure AQ 2-16. Modeled Rush Creek above SR158 Flows (WY 1990-2006).





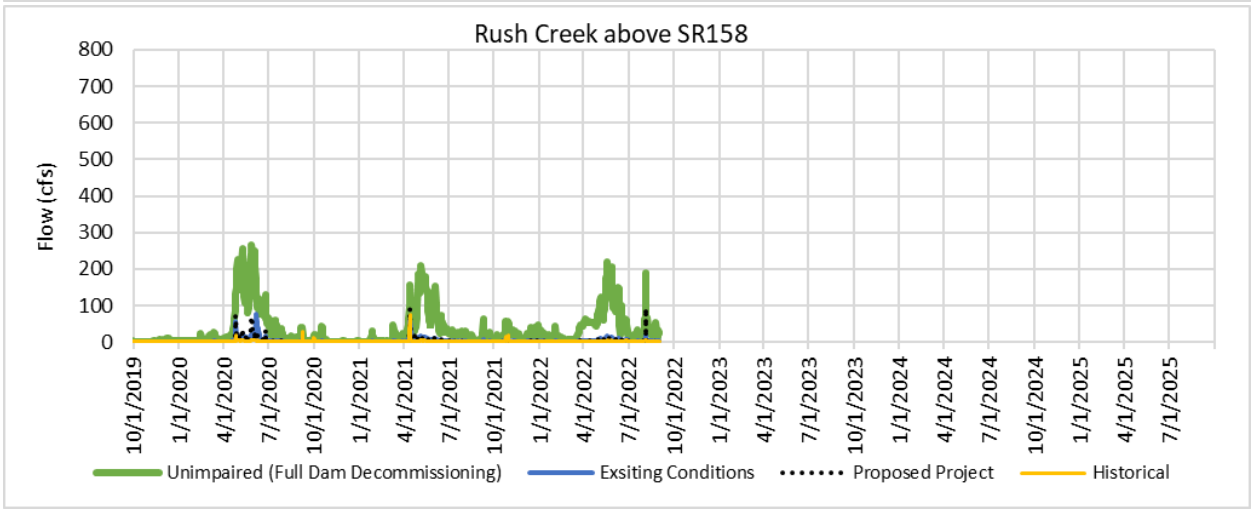


Figure AQ 2-17. Modeled Rush Creek above SR158 Flows (WY 2007-2022).

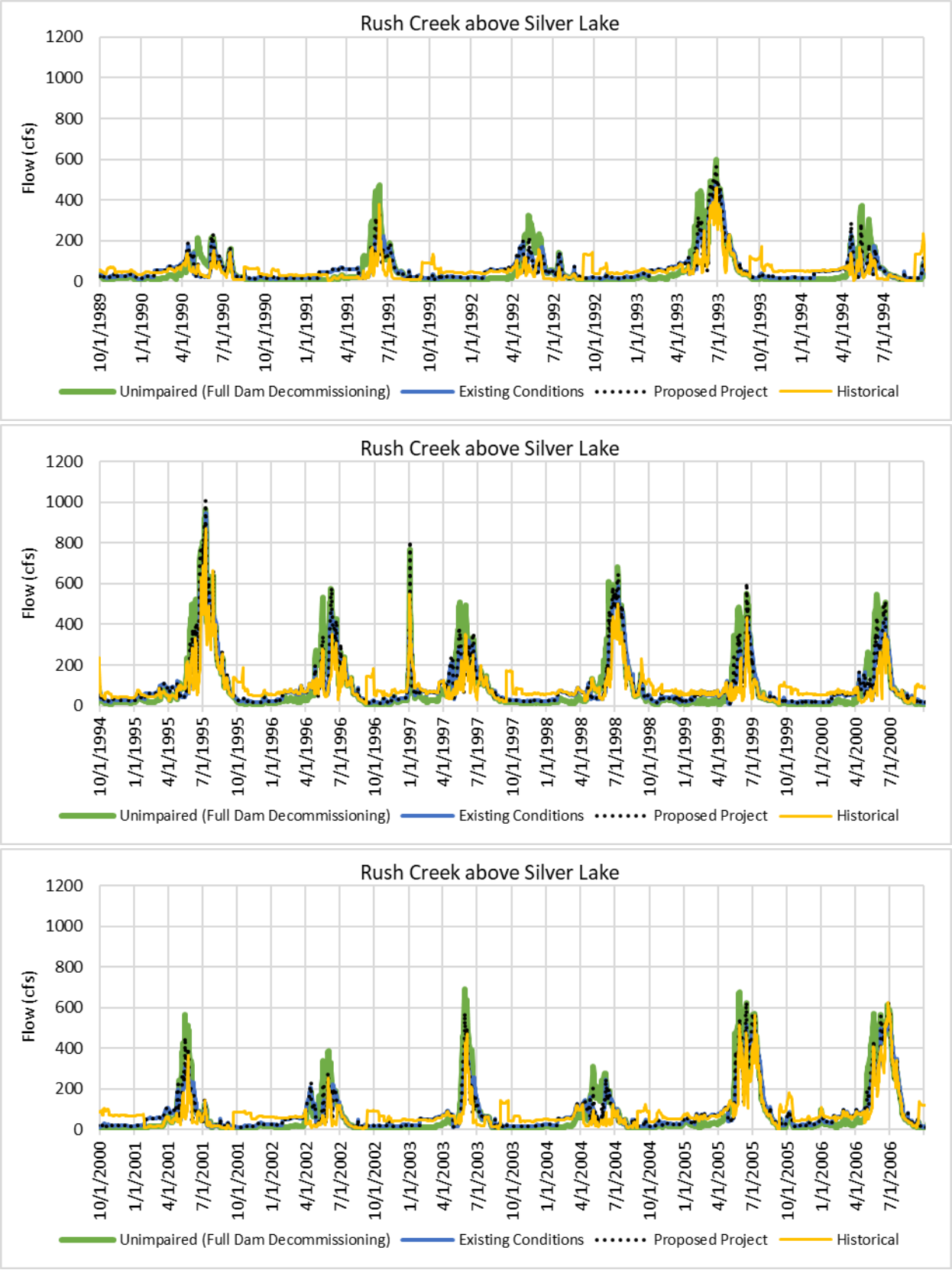


Figure AQ 2-18. Modeled Rush Creek above Silver Lake Flows (WY 1990-2006).

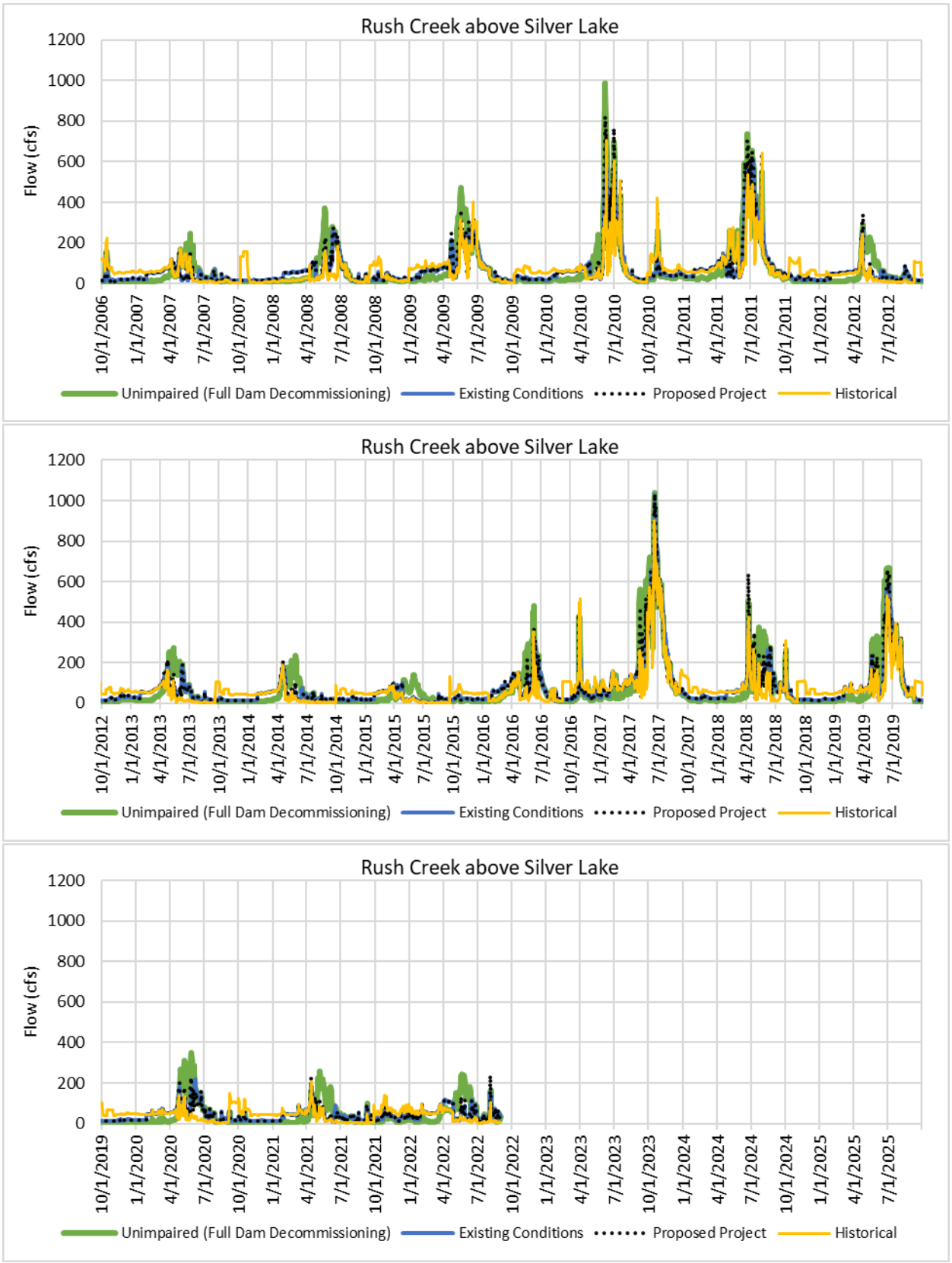


Figure AQ 2-19. Modeled Rush Creek above Silver Lake Flows (WY 2007-2022).

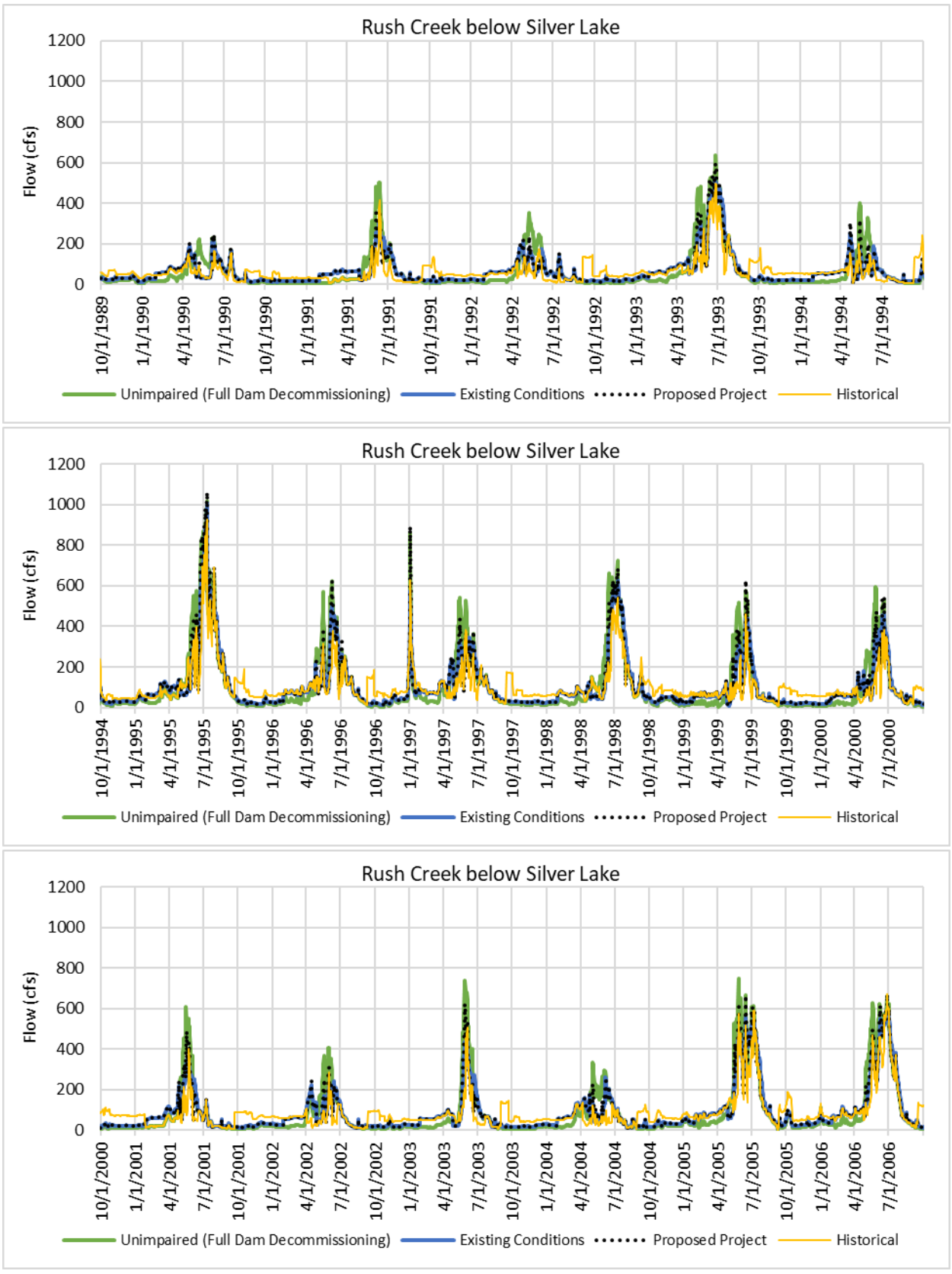


Figure AQ 2-20. Modeled Rush Creek below Silver Lake Flows (WY 1990-2006).

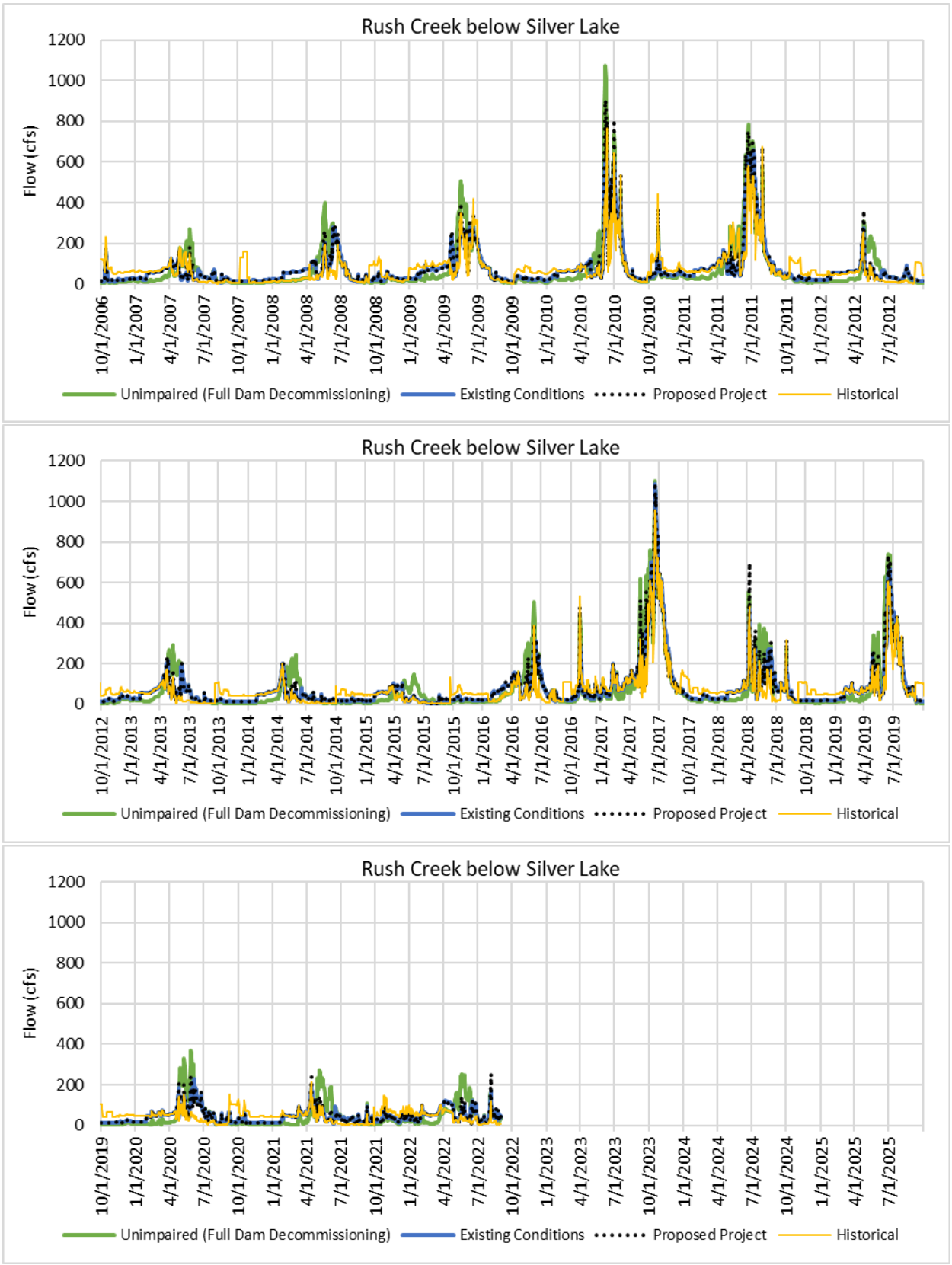


Figure AQ 2-21. Modeled Rush Creek below Silver Lake Flows (WY 2007-2022).

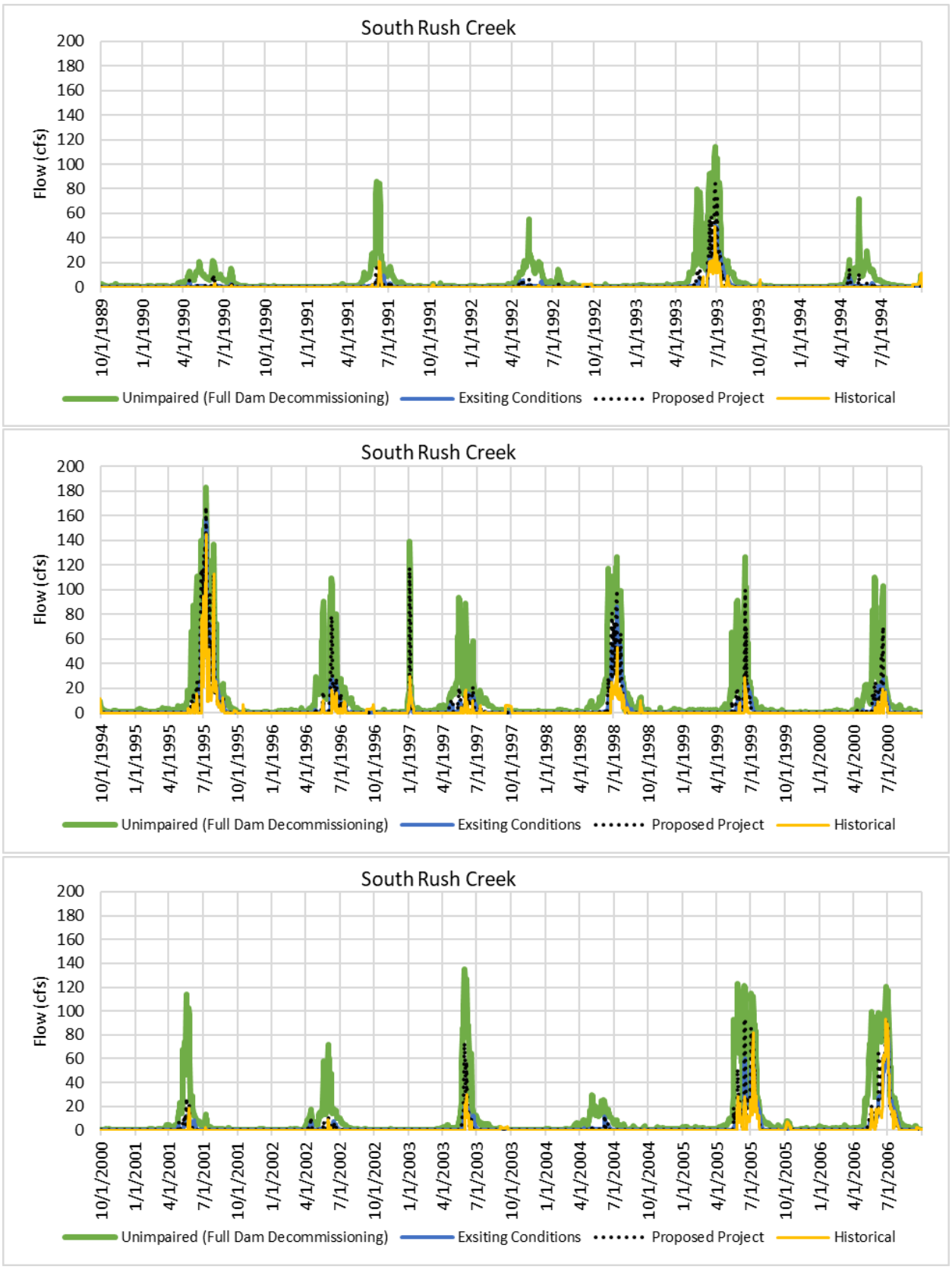


Figure AQ 2-22. Modeled South Rush Creek Flows (WY 1990-2006).

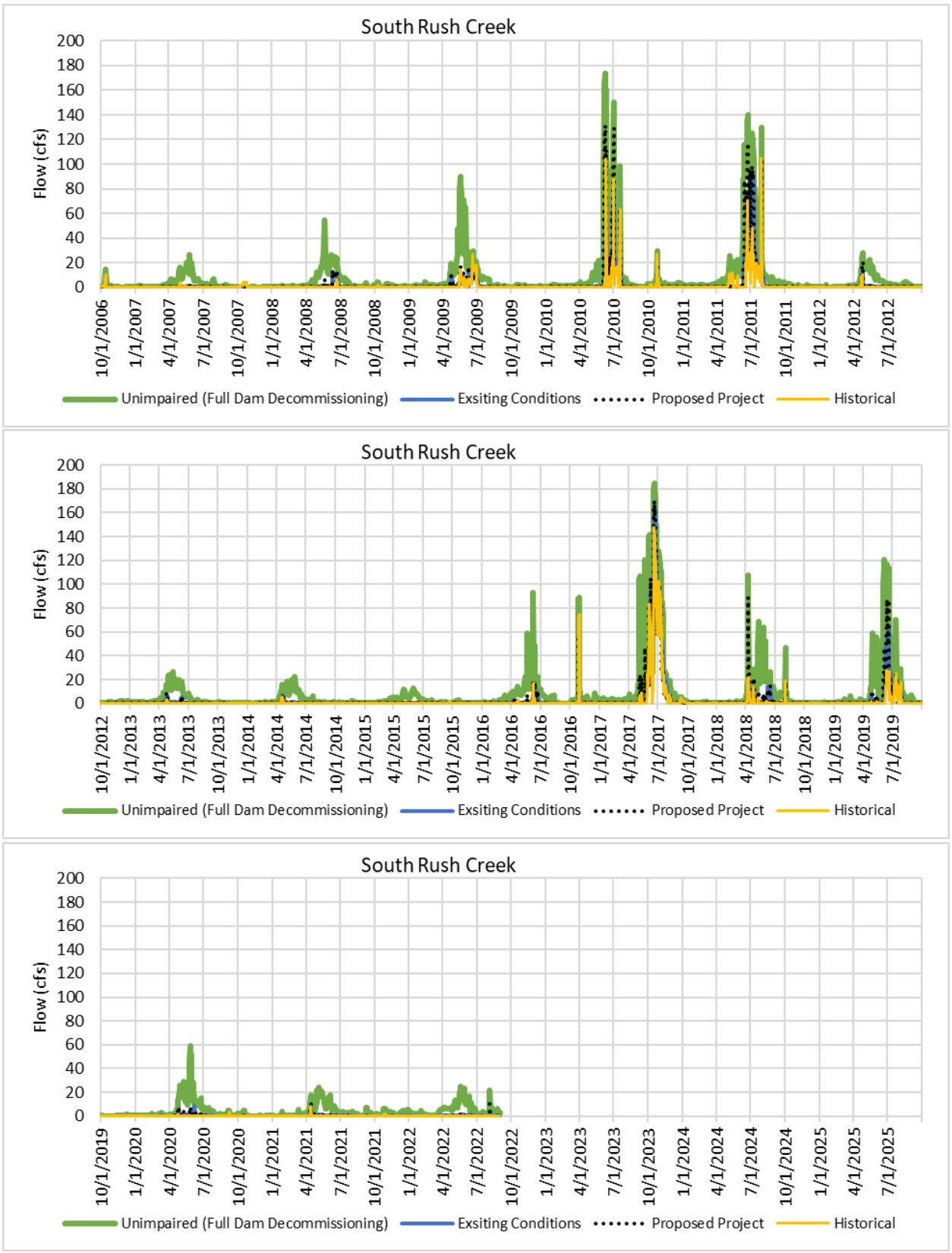


Figure AQ 2-23. Modeled South Rush Creek Flows (WY 2007-2022).

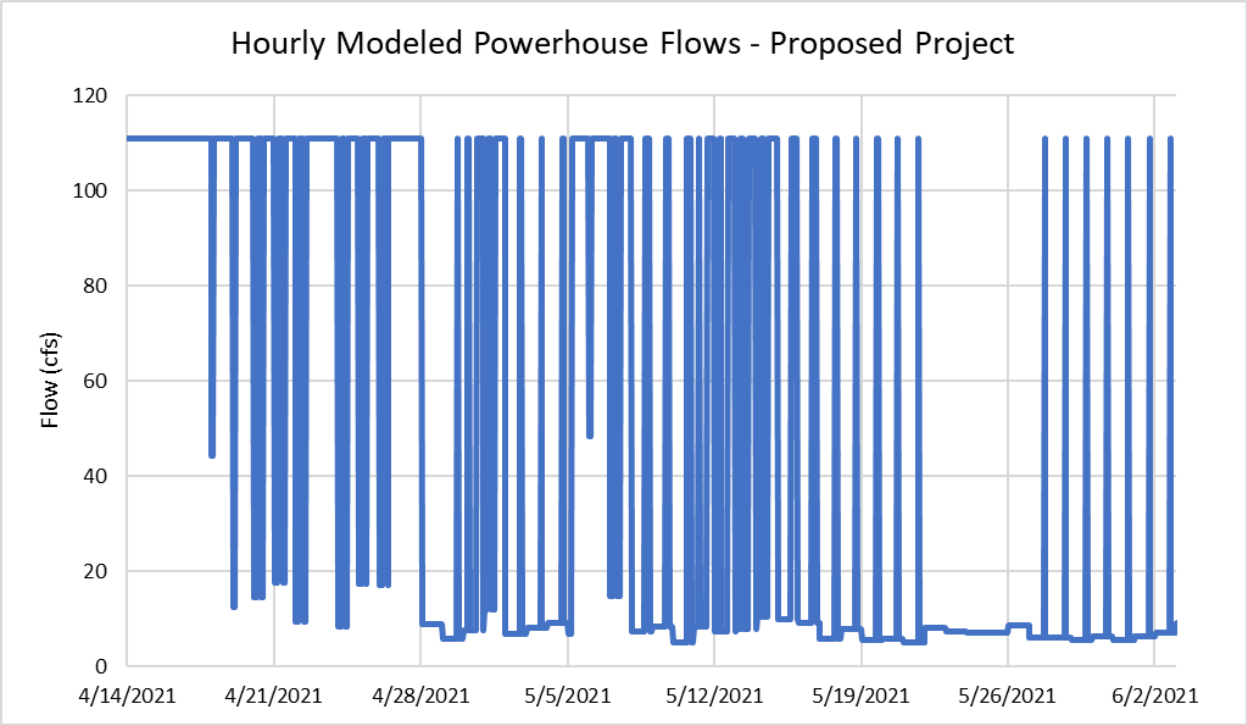
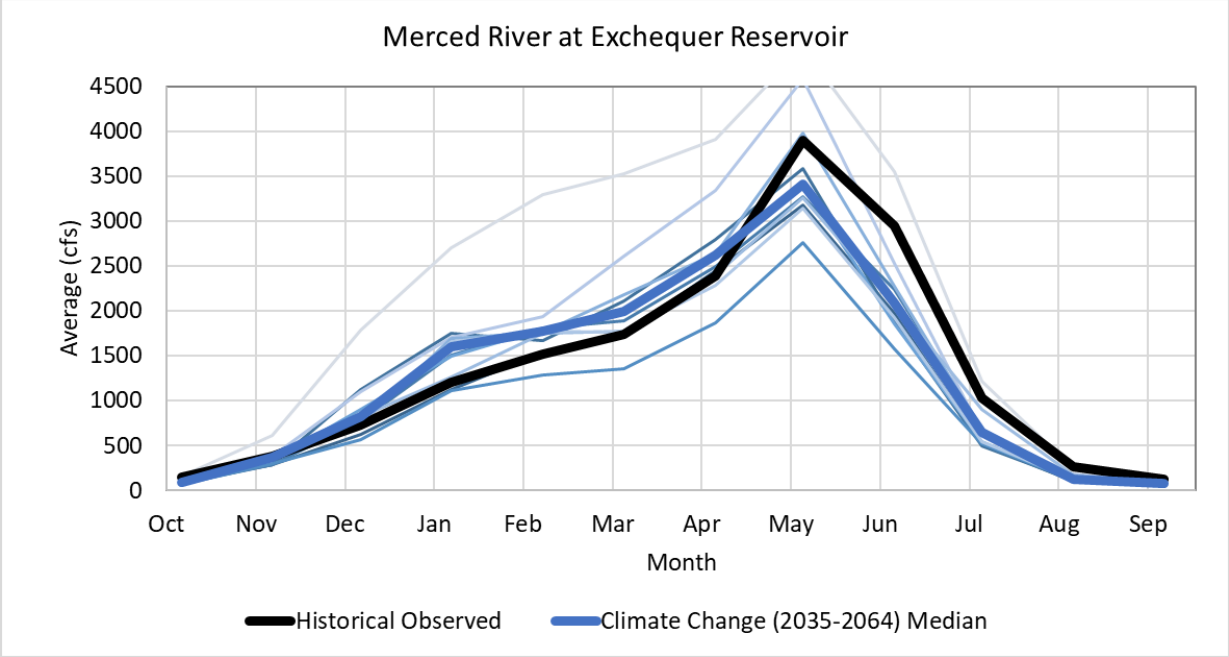


Figure AQ 2-24. Hourly powerhouse flows for the Proposed Project model scenario.



NOTE: Based on Pierce et al. (2018) (https://cal-adapt.org/) modeling using the medium greenhouse gas emissions scenario (RCP 4.5) for 2035-2064 (thin blue lines = 10 global climate models)

Figure AQ 2-25. Projected hydrology changes, historical versus mid-century, west of Rush Creek on the Merced River.

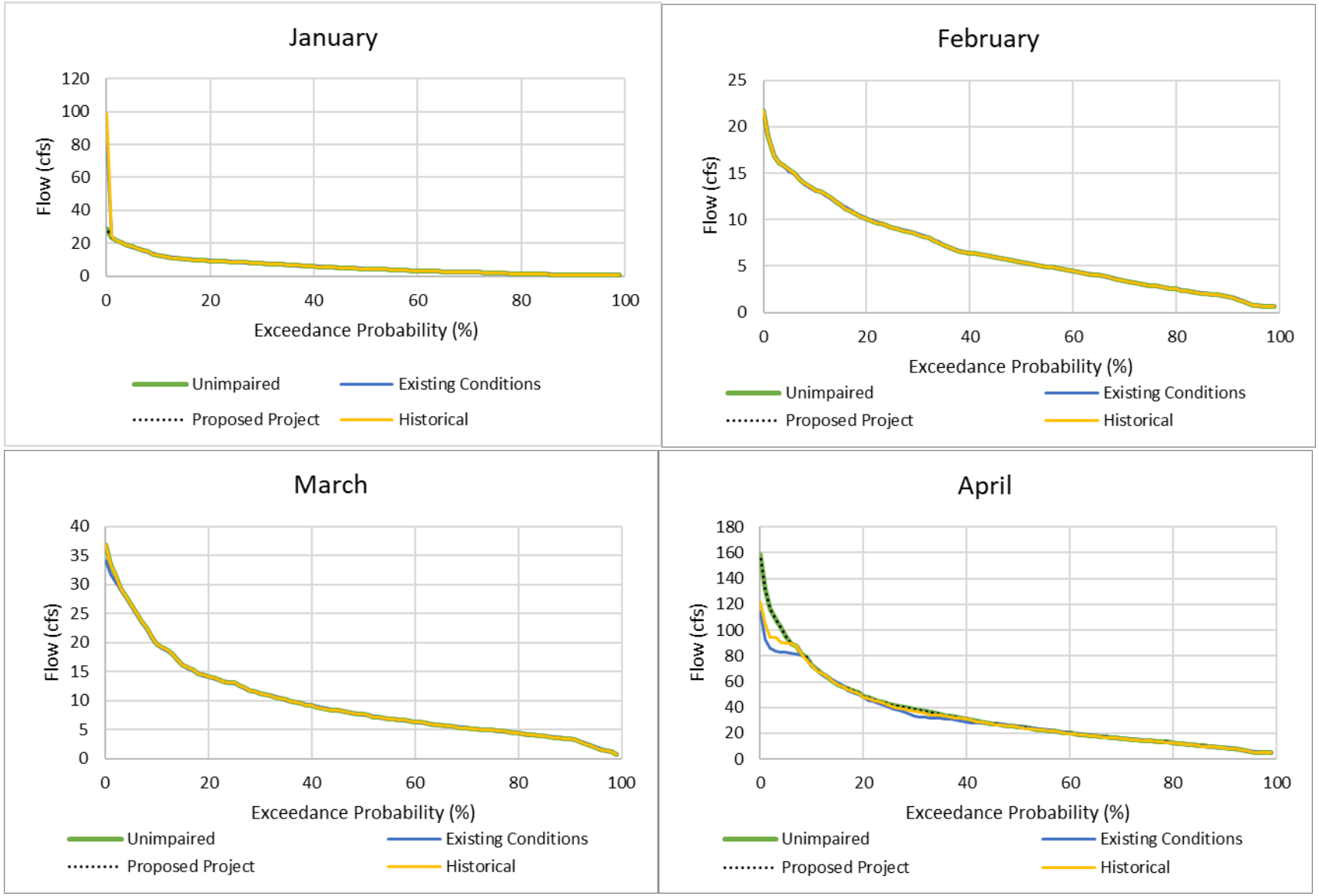


Figure AQ 2-26. Rush Creek at Rush Meadows Dam daily average flow exceedance by month (January-April).

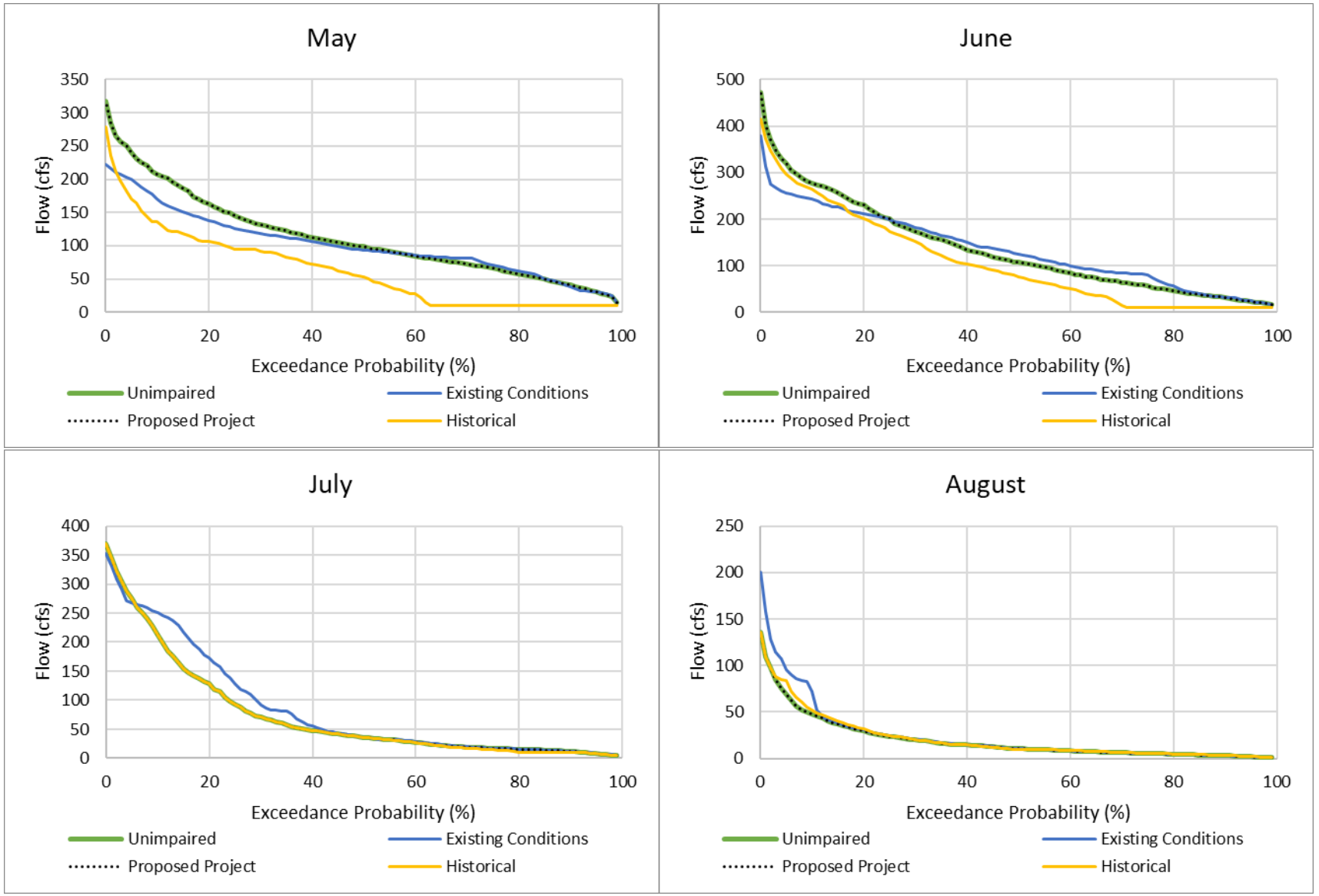


Figure AQ 2-27. Rush Creek at Rush Meadows Dam daily average flow exceedance by month (May-August).

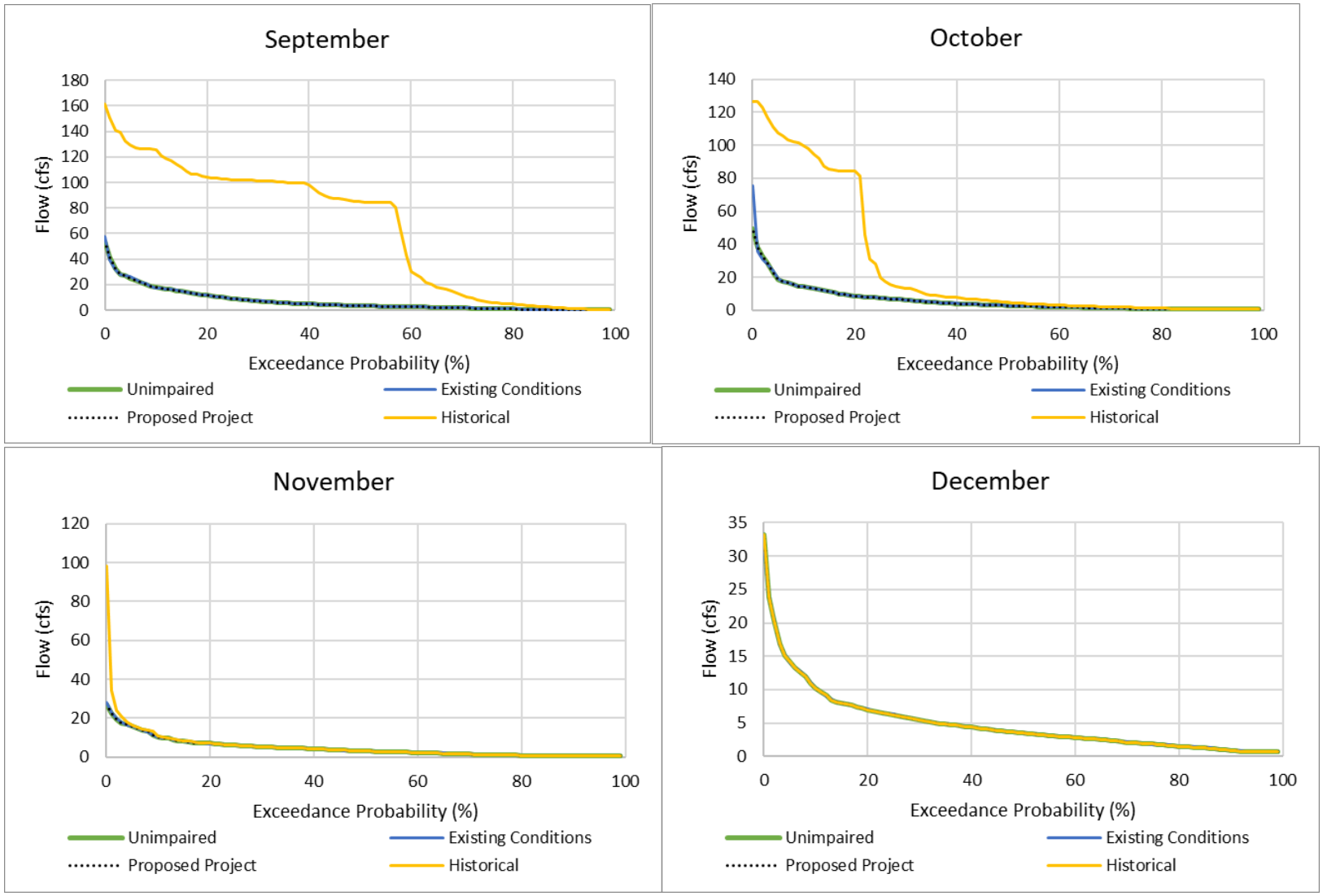


Figure AQ 2-28. Rush Creek at Rush Meadows Dam daily average flow exceedance by month (September-December).

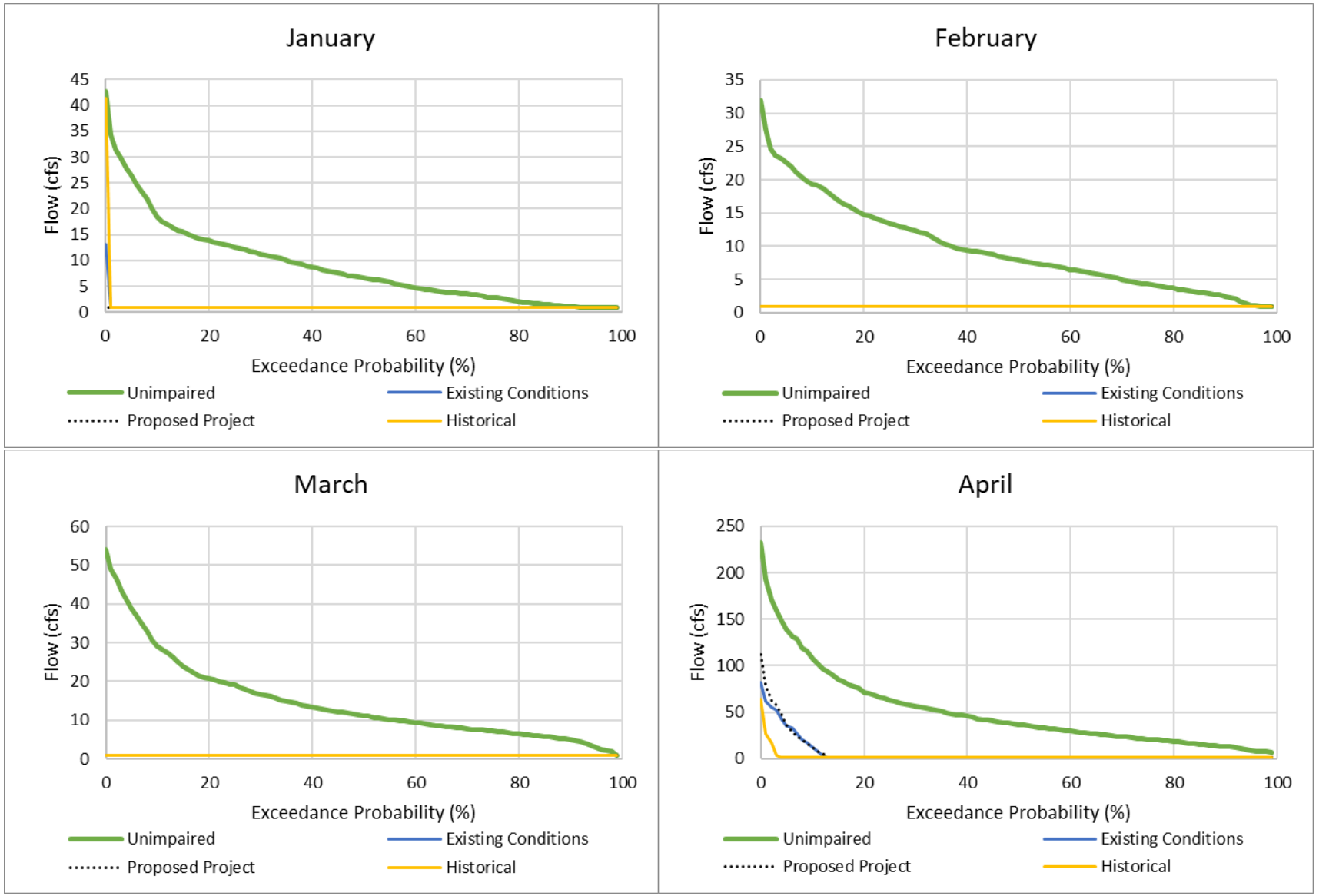


Figure AQ 2-29. Rush Creek at Gem Dam daily average flow exceedance by month (January-April).

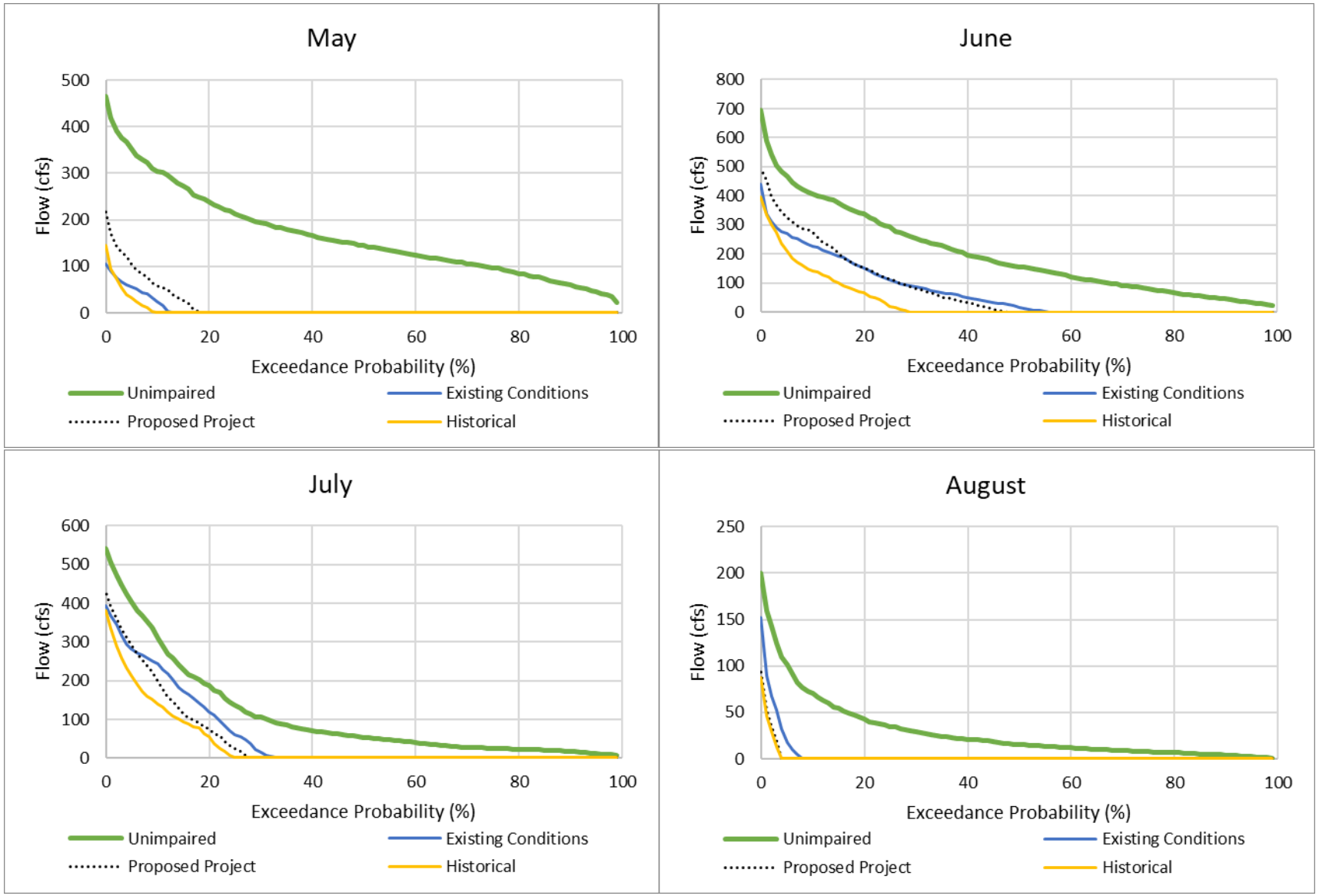


Figure AQ 2-30. Rush Creek at Gem Dam daily average flow exceedance by month (May-August).

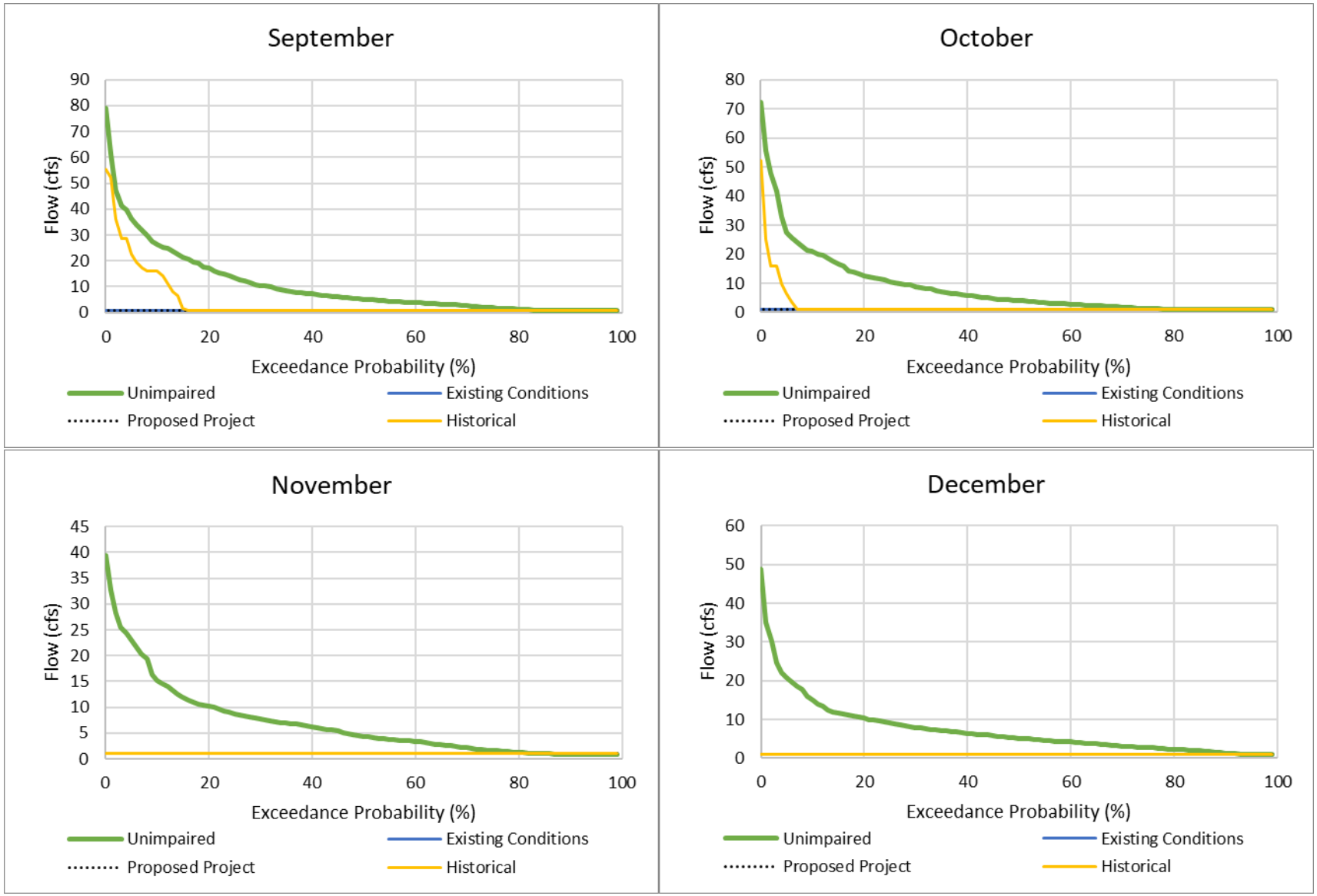


Figure AQ 2-31. Rush Creek at Gem Dam daily average flow exceedance by month (September-December).

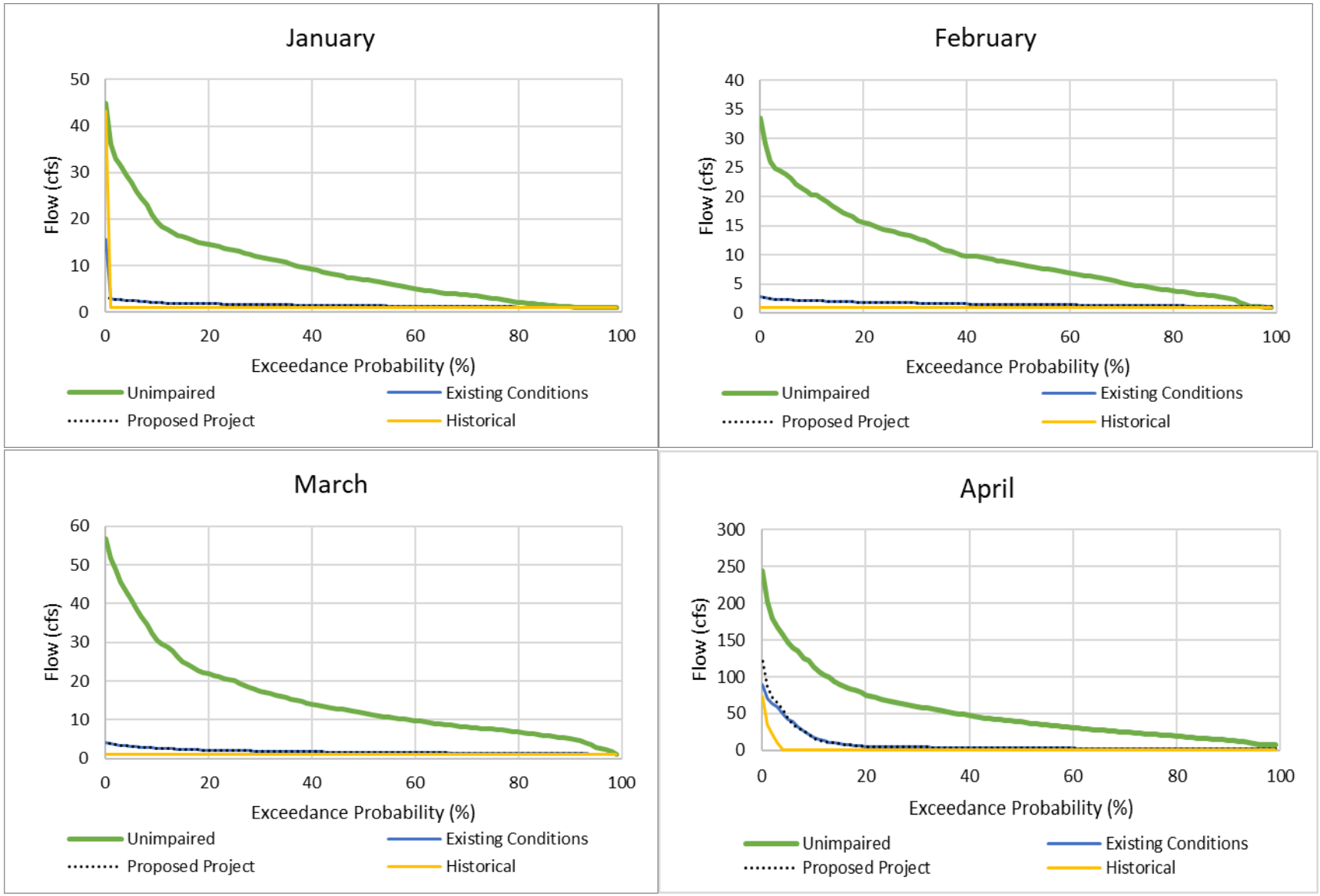


Figure AQ 2-32. Rush Creek below Agnew Dam daily average flow exceedance by month (January-April).

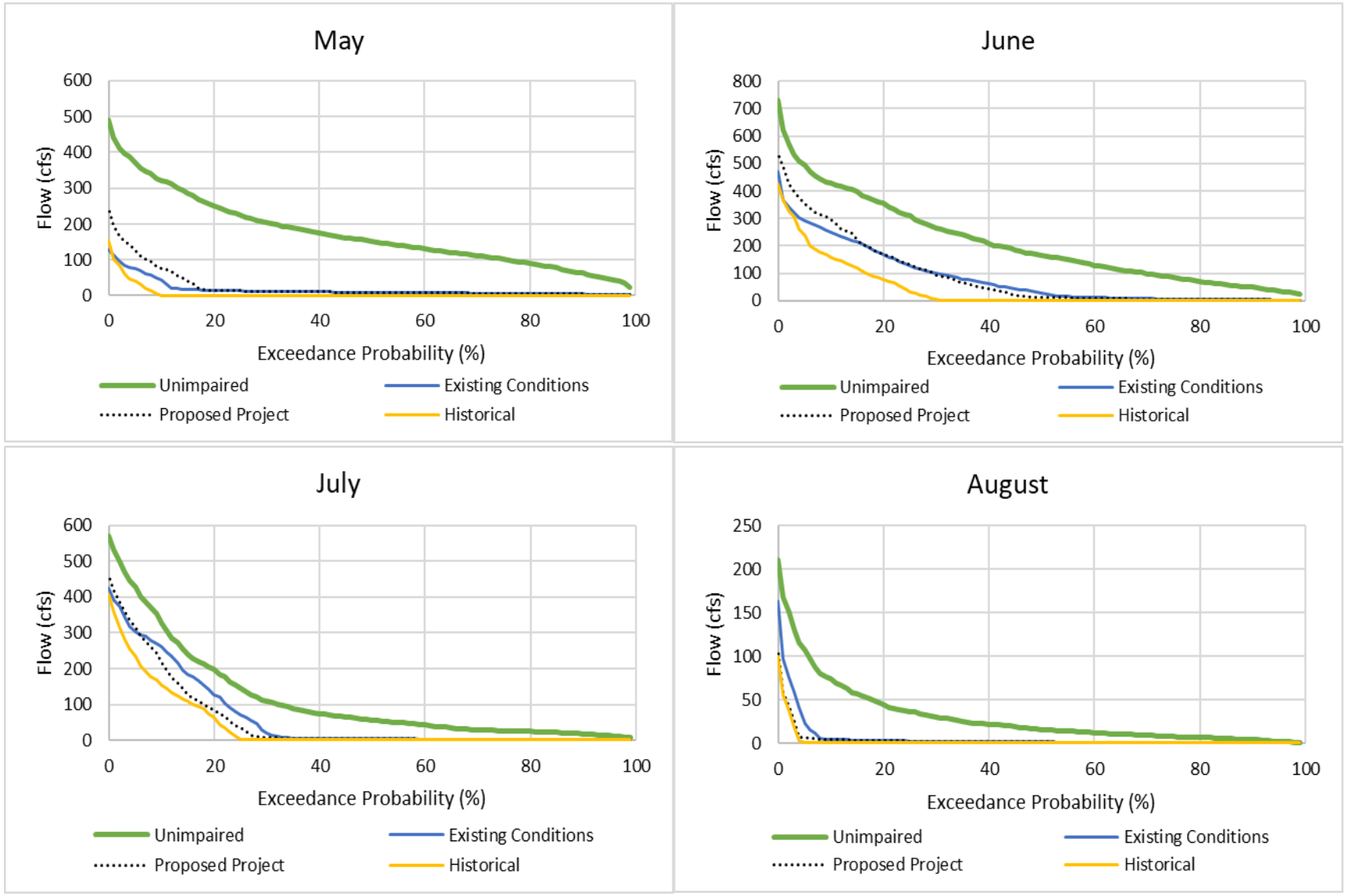


Figure AQ 2-33. Rush Creek below Agnew Dam daily average flow exceedance by month (May-August).

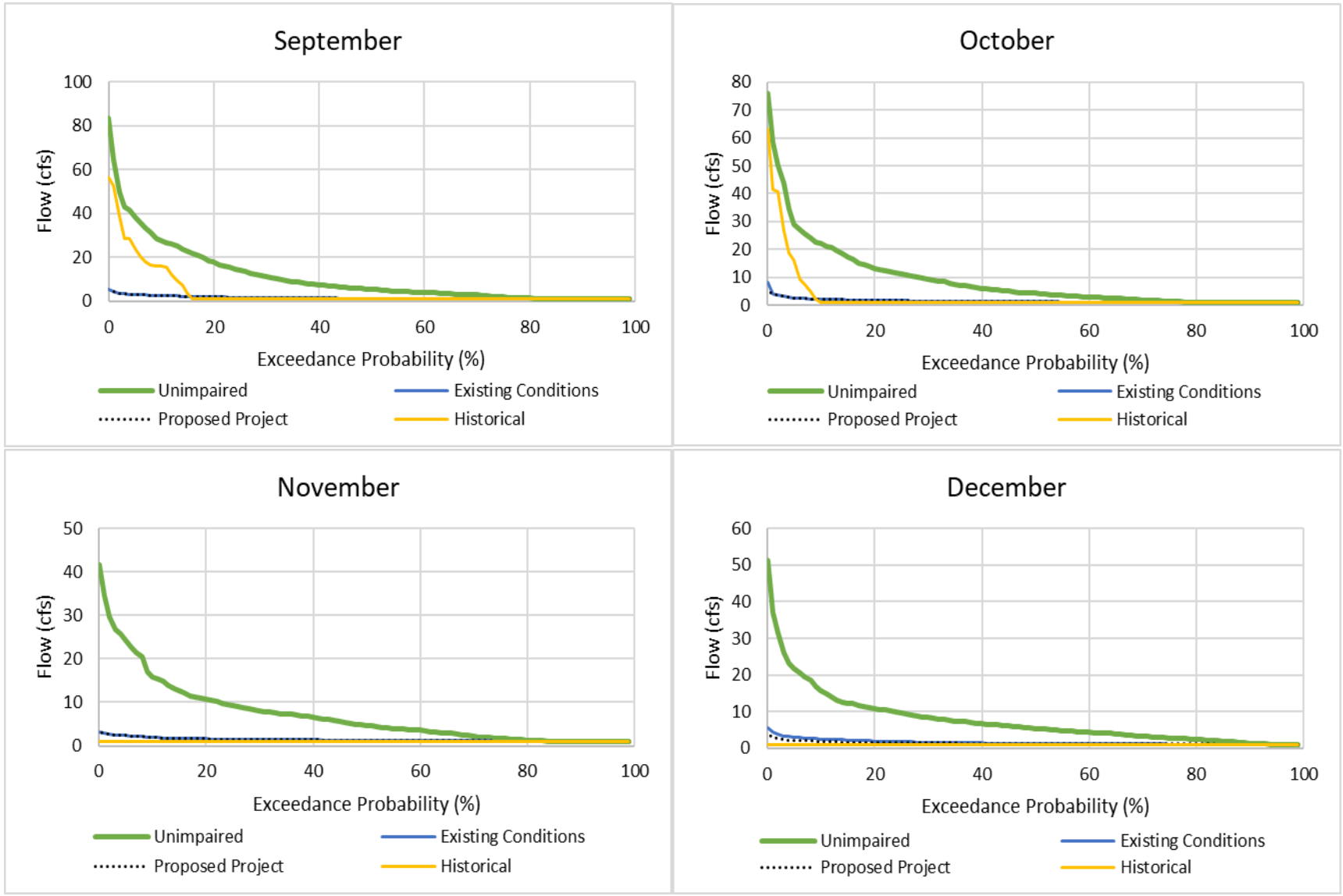


Figure AQ 2-34. Rush Creek below Agnew Dam daily average flow exceedance by month (September-December).

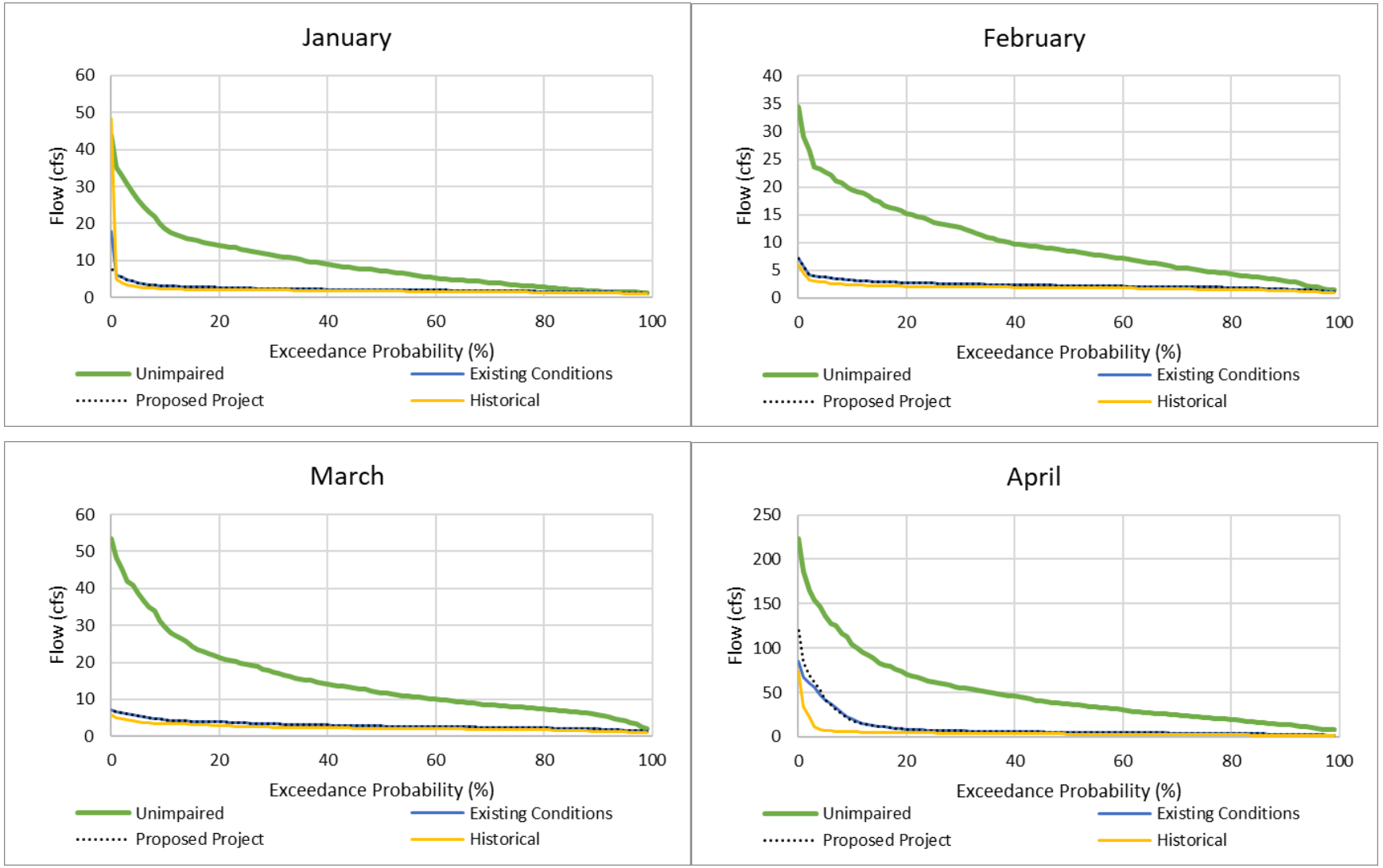


Figure AQ 2-35. Rush Creek above SR158 daily average flow exceedance by month (January-April).

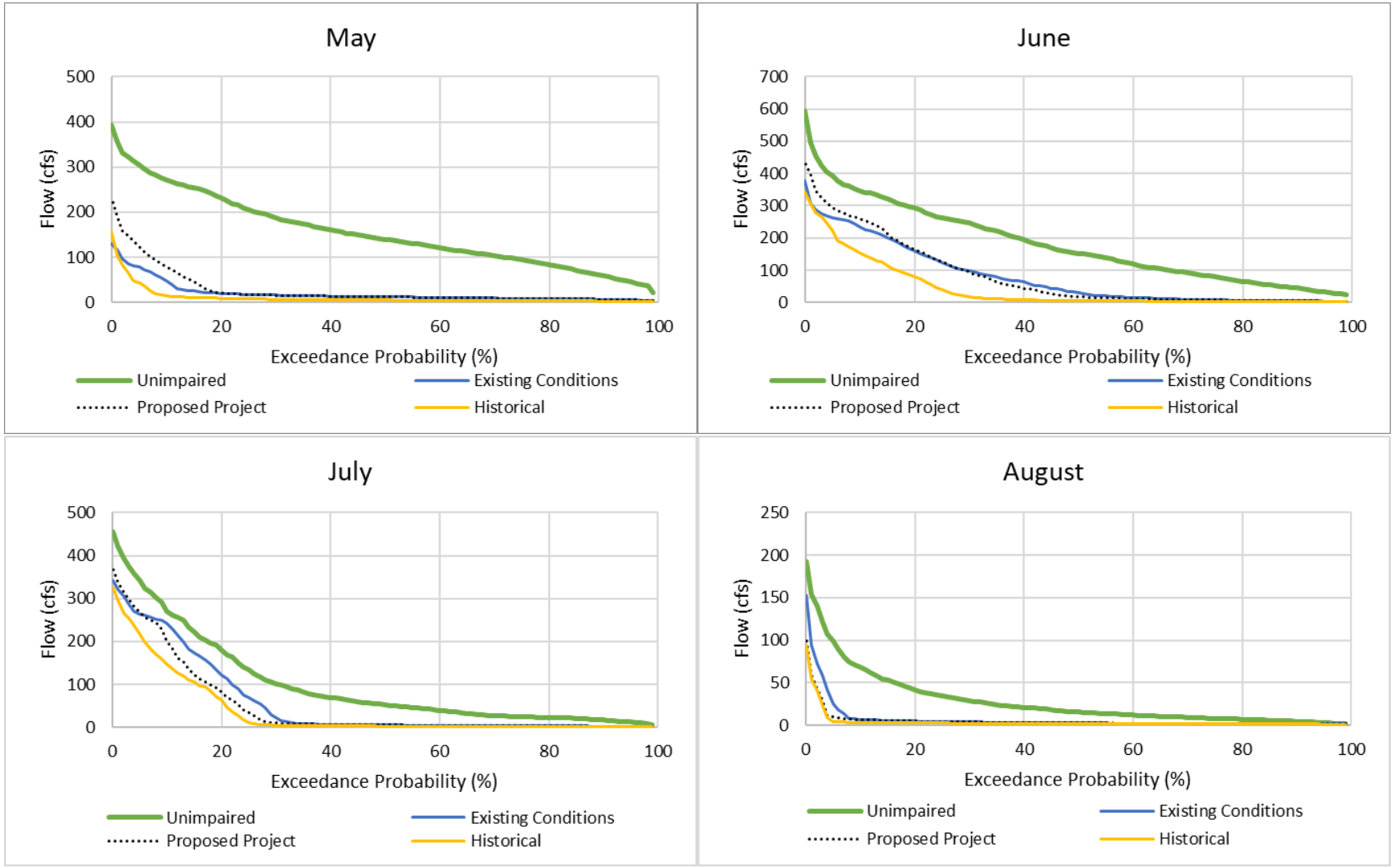


Figure AQ 2-36. Rush Creek above SR158 daily average flow exceedance by month (May-August).

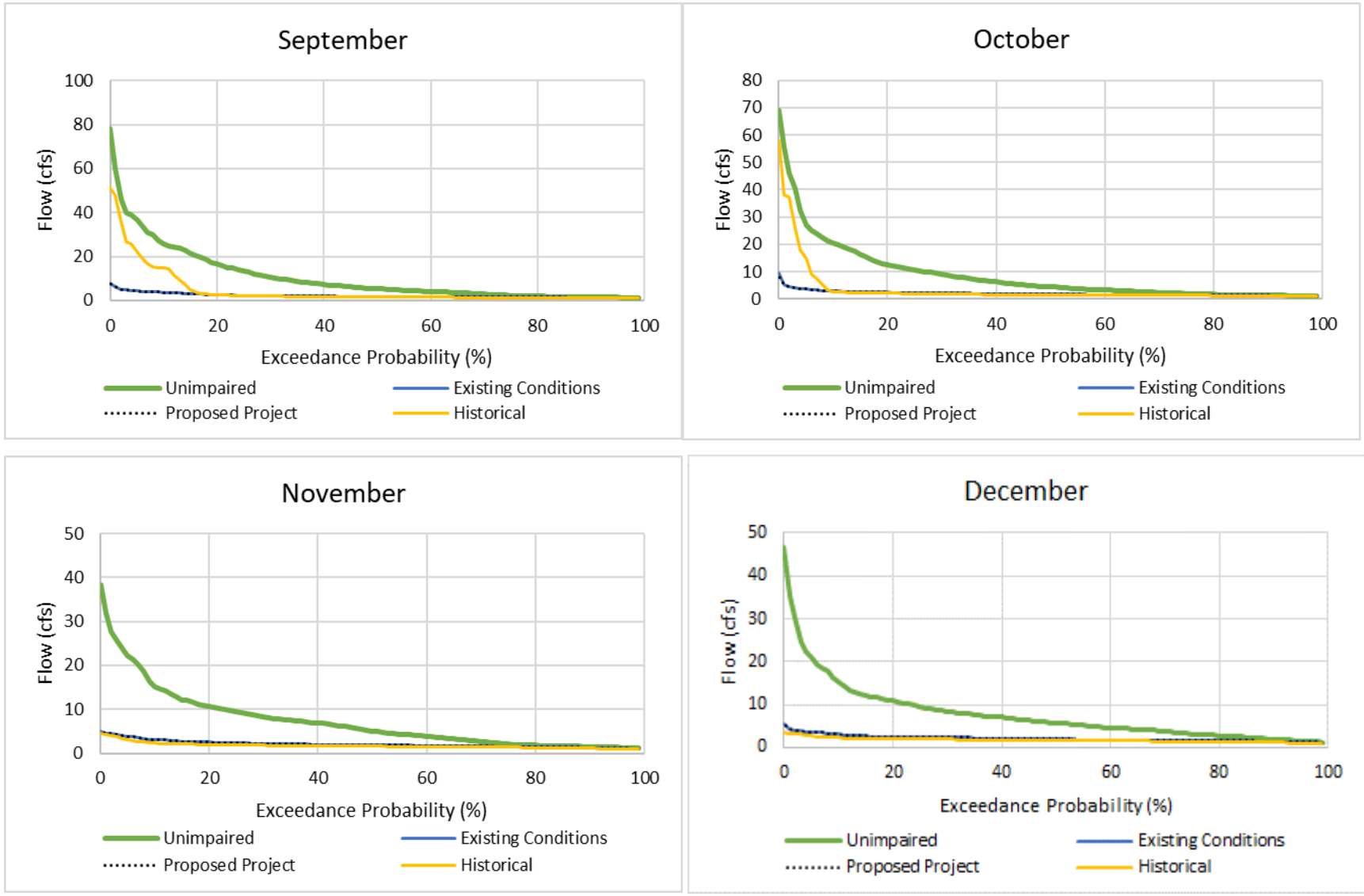


Figure AQ 2-37. Rush Creek above SR158 daily average flow exceedance by month (September-December).

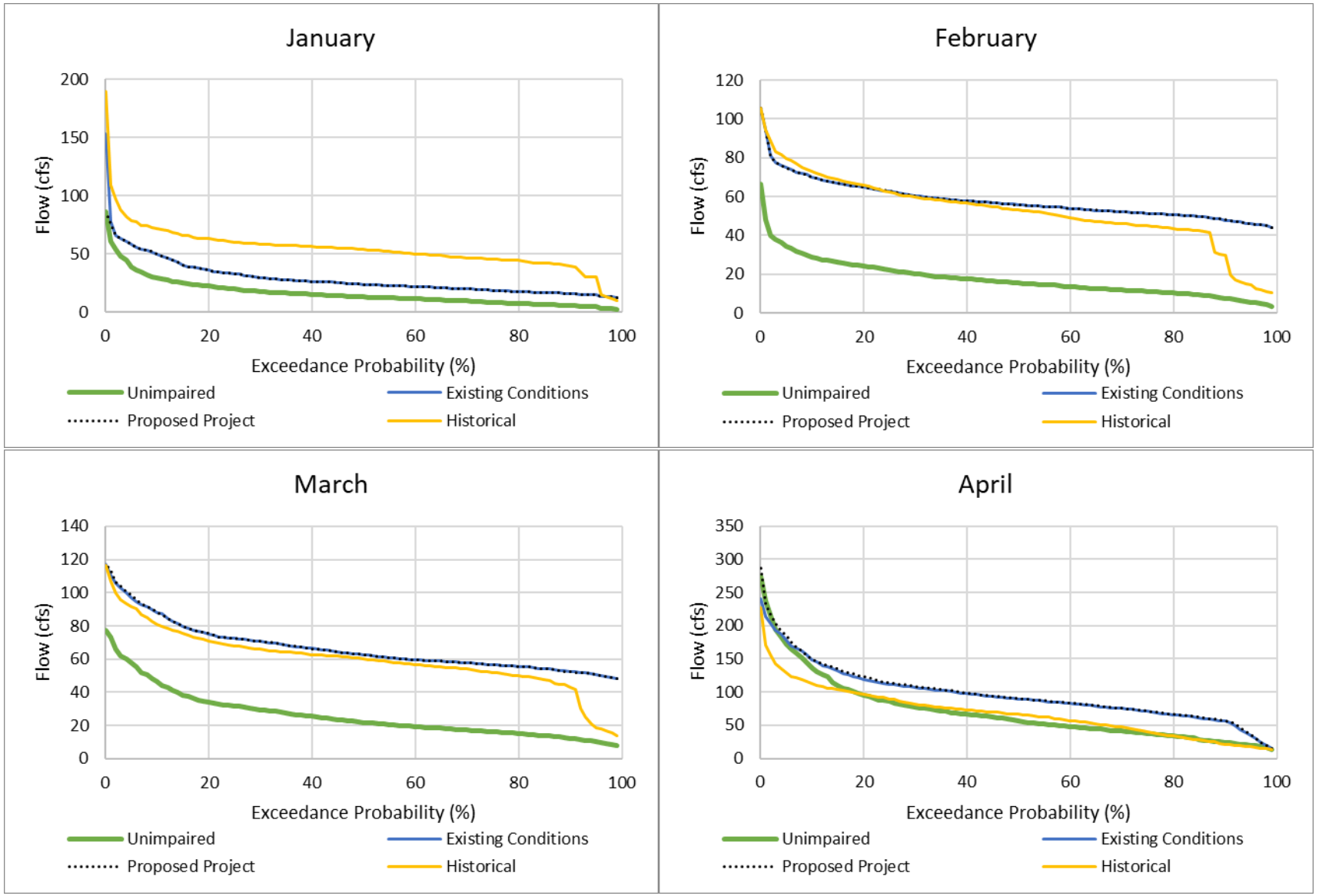


Figure AQ 2-38. Rush Creek above Silver Lake daily average flow exceedance by month (January-April).

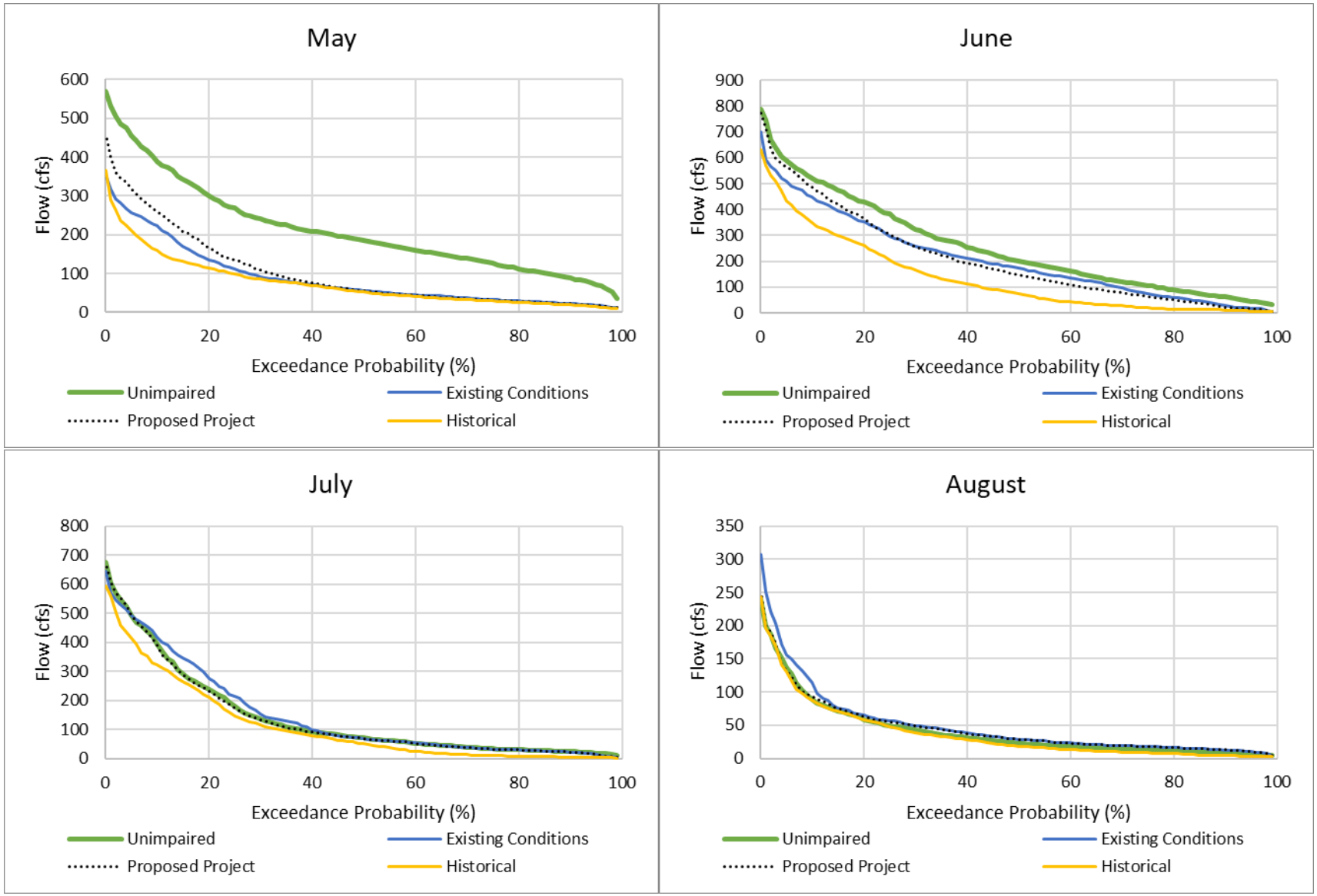


Figure AQ 2-39. Rush Creek above Silver Lake daily average flow exceedance by month (May-August).

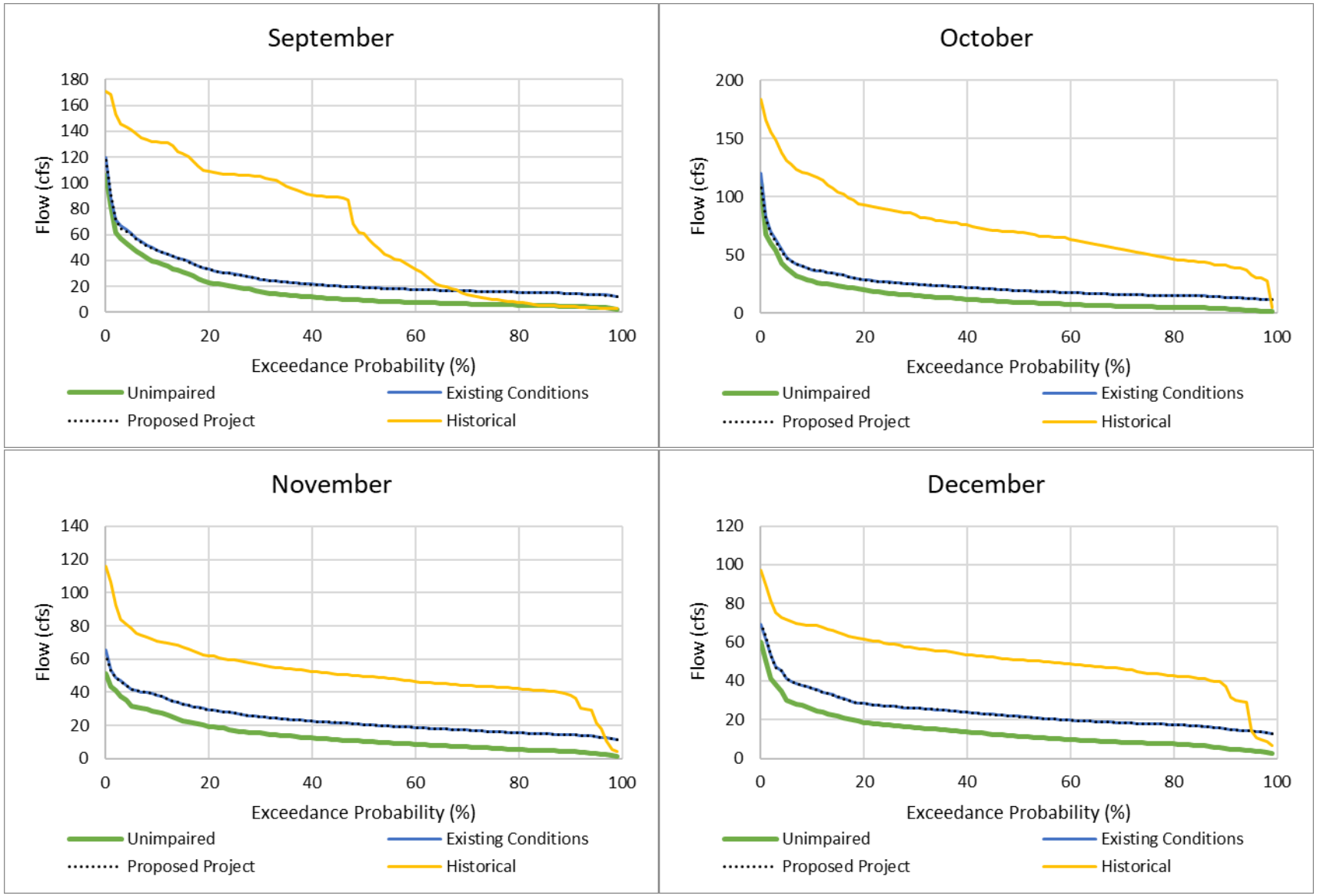


Figure AQ 2-40. Rush Creek above Silver Lake daily average flow exceedance by month (September-December).

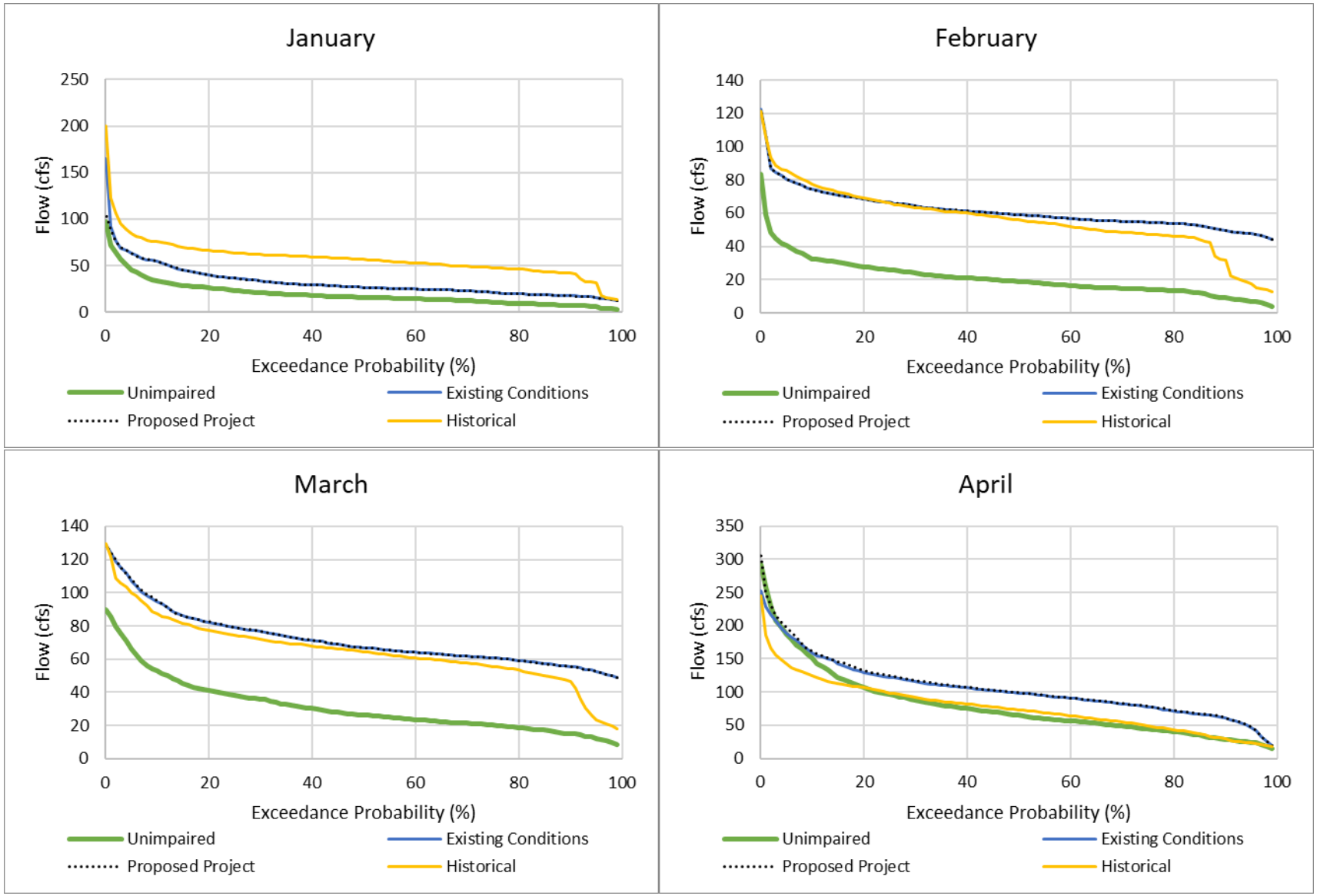


Figure AQ 2-41. Rush Creek below Silver Lake daily average flow exceedance by month (January-April).

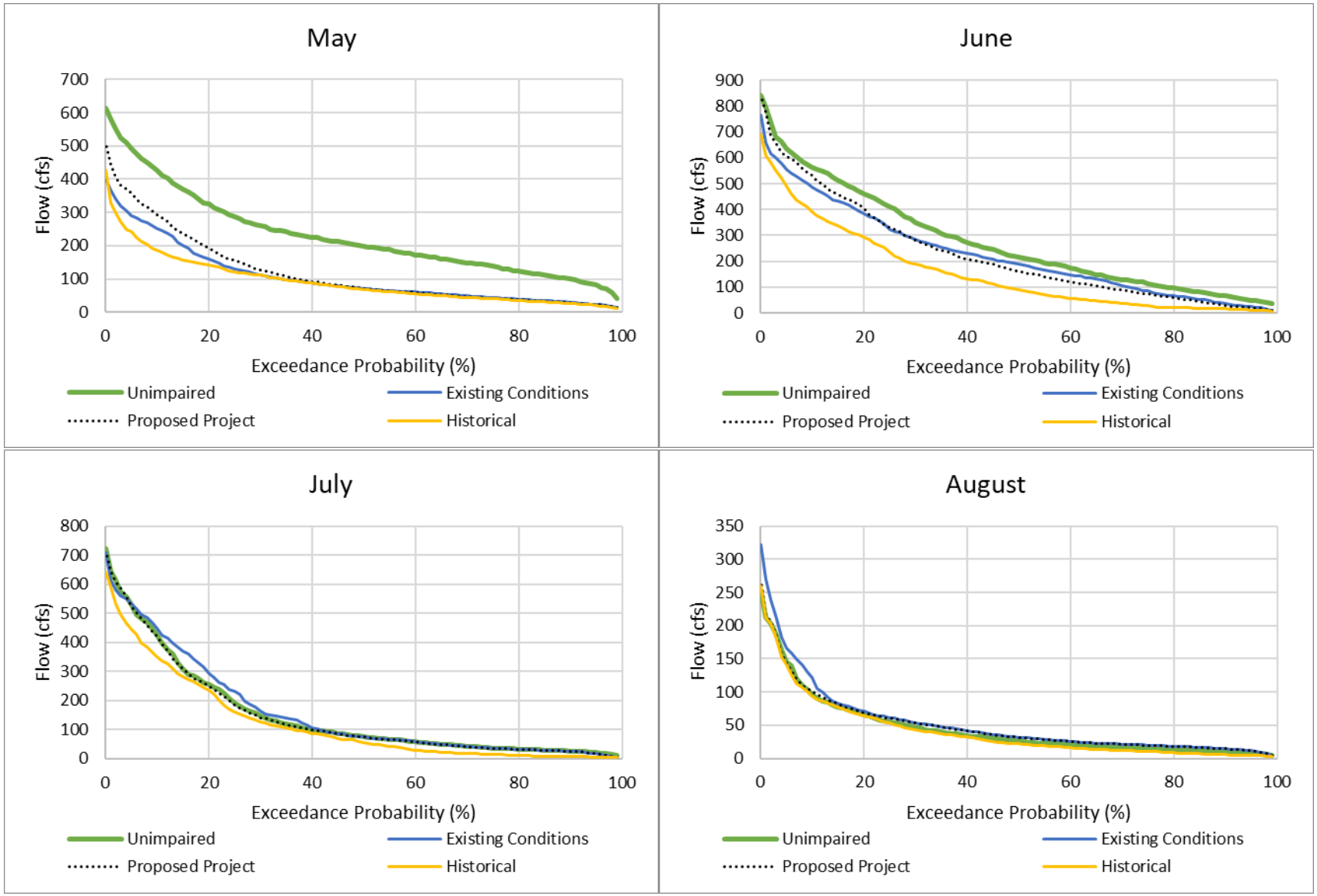


Figure AQ 2-42. Rush Creek below Silver Lake daily average flow exceedance by month (May-August).

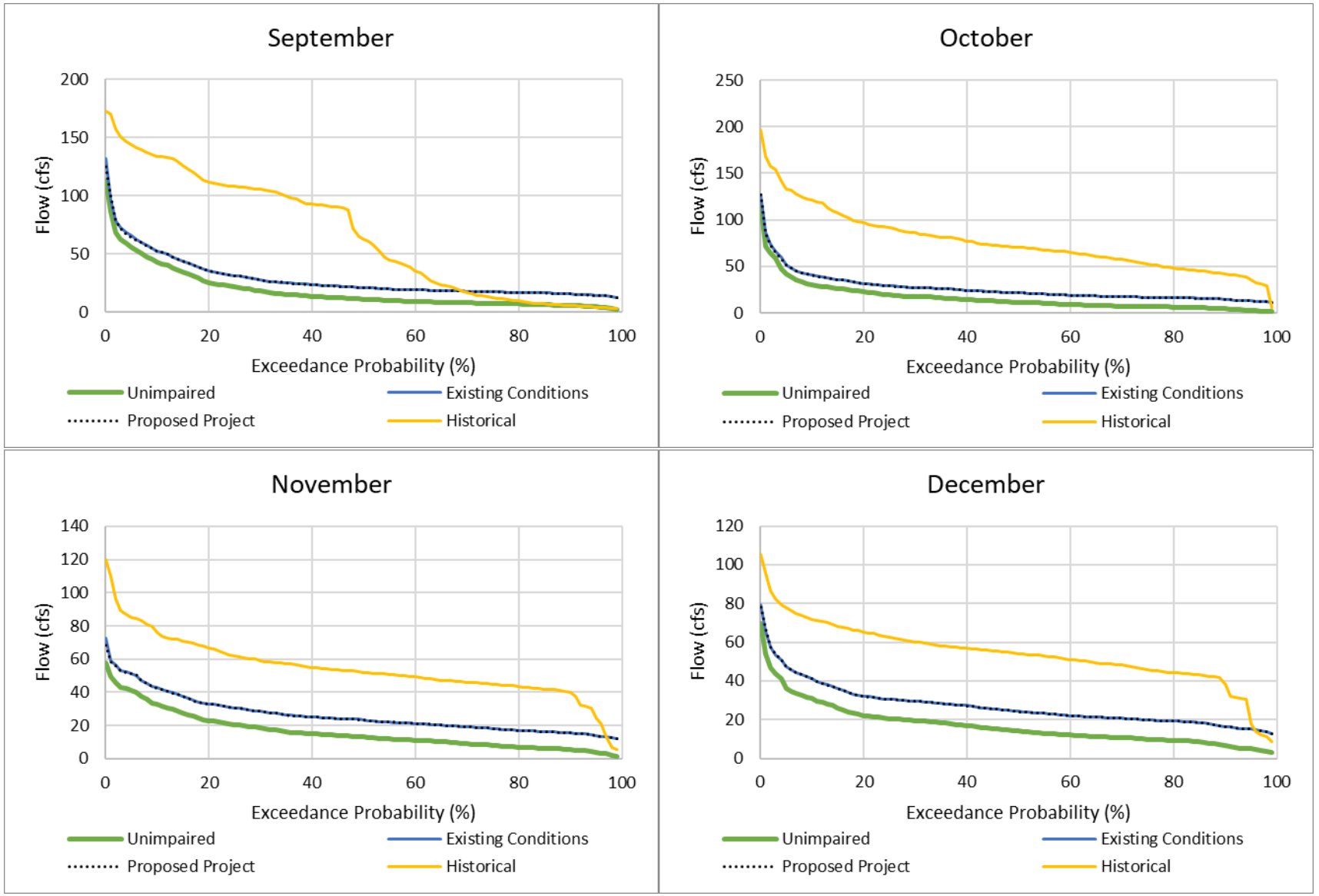


Figure AQ 2-43. Rush Creek below Silver Lake daily average flow exceedance by month (September-December).

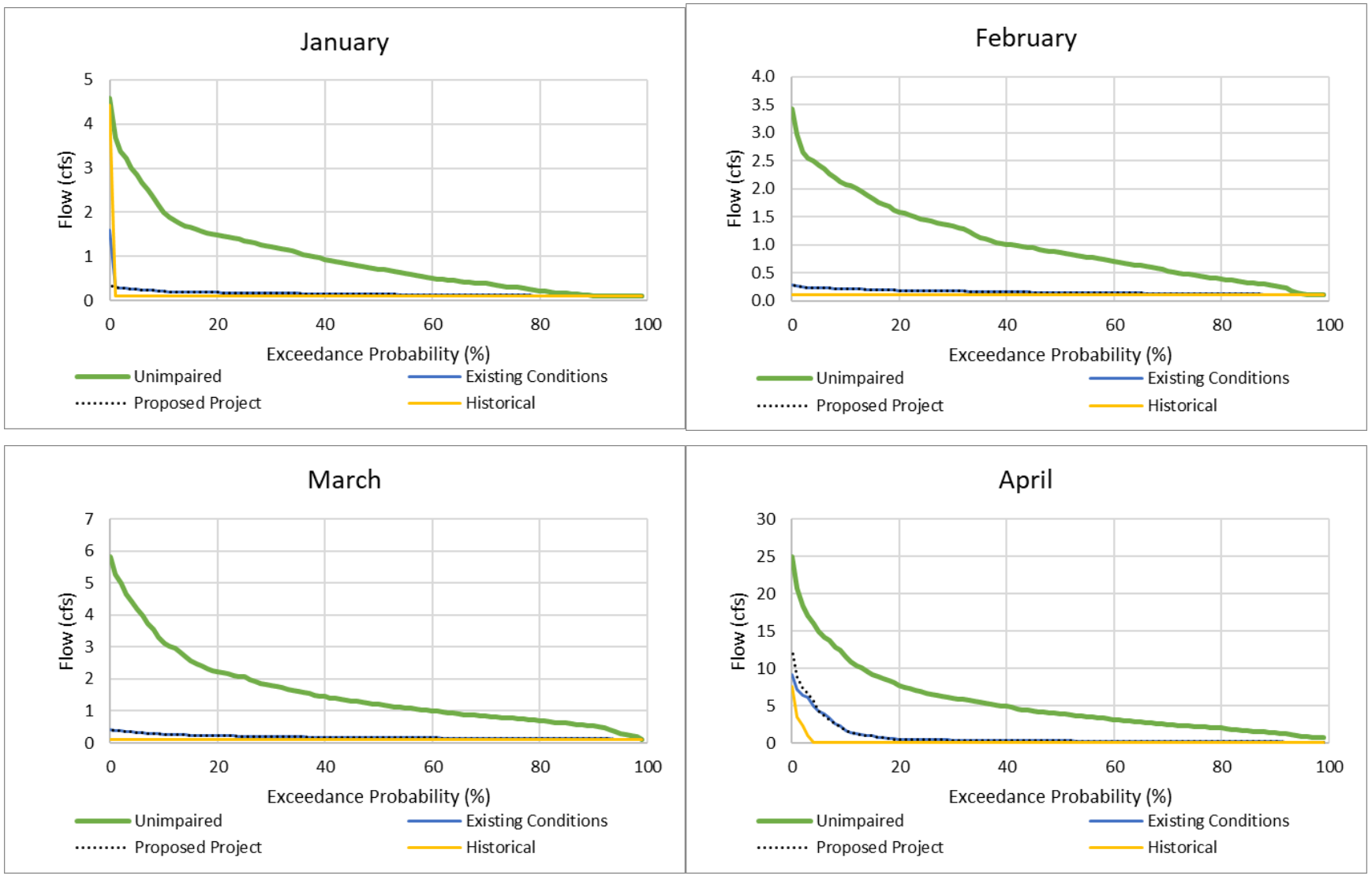


Figure AQ 2-44. South Rush Creek daily average flow exceedance by month (January-April).

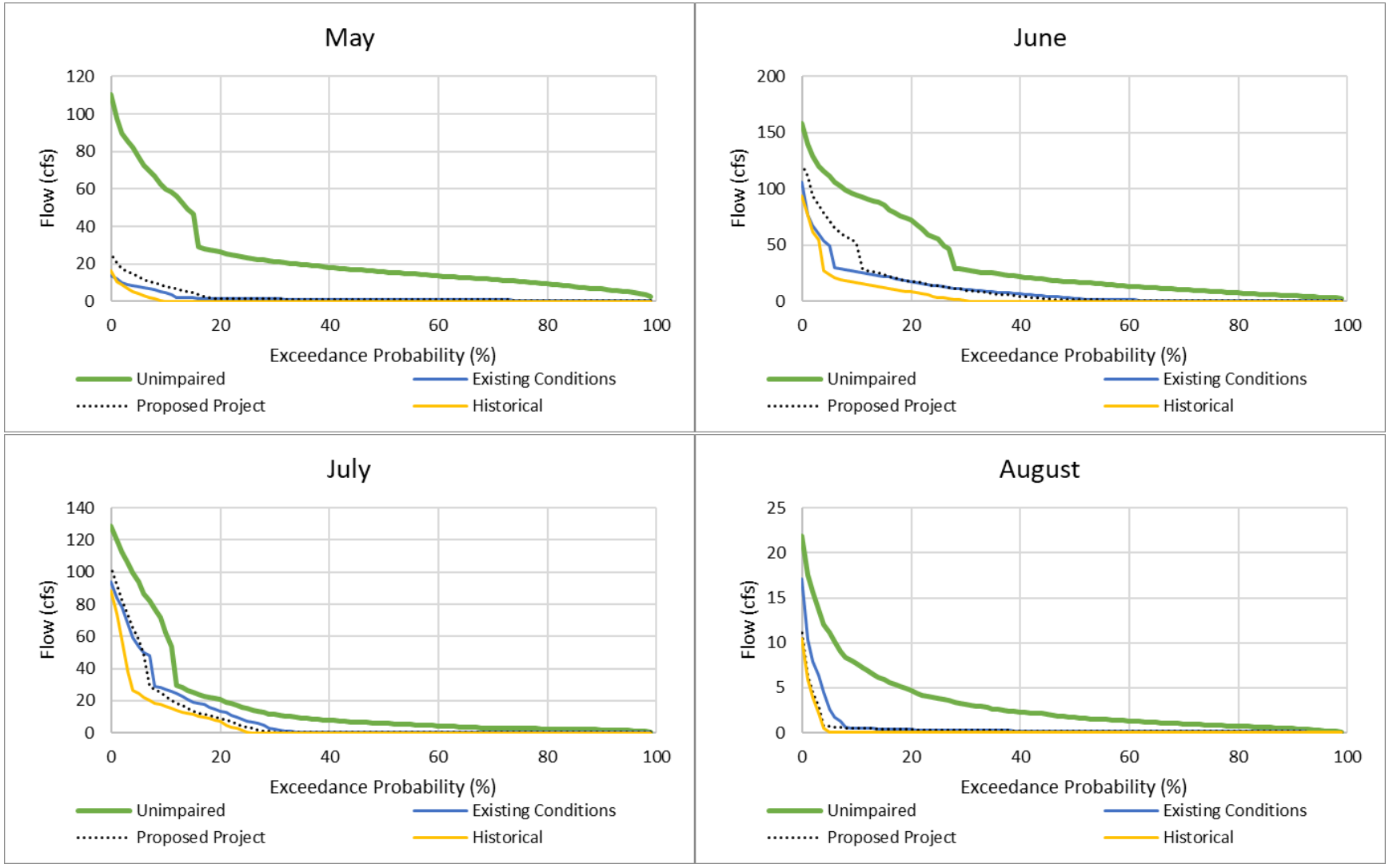


Figure AQ 2-45. South Rush Creek daily average flow exceedance by month (May-August).

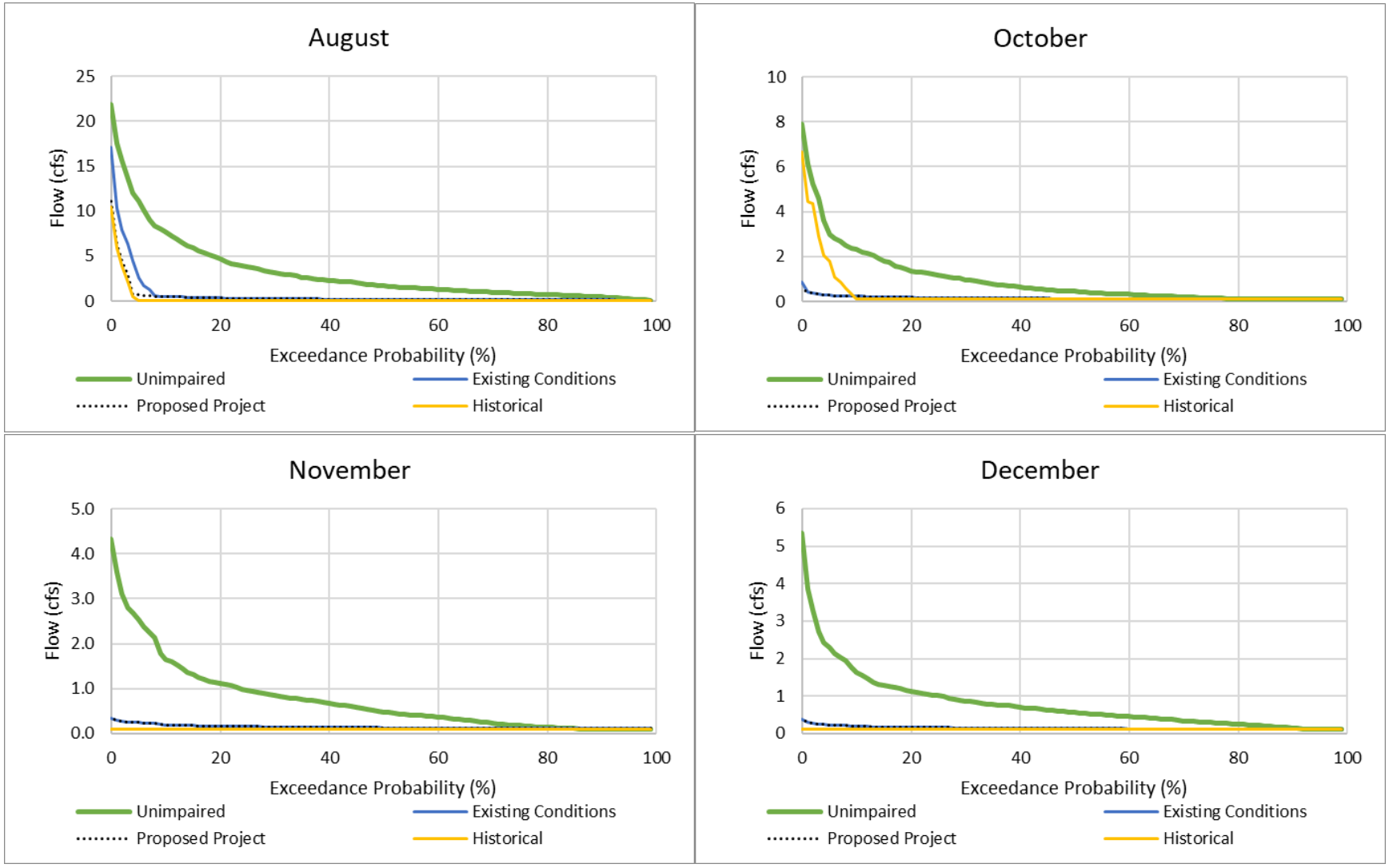


Figure AQ 2-46. South Rush Creek daily average flow exceedance by month (September-December).

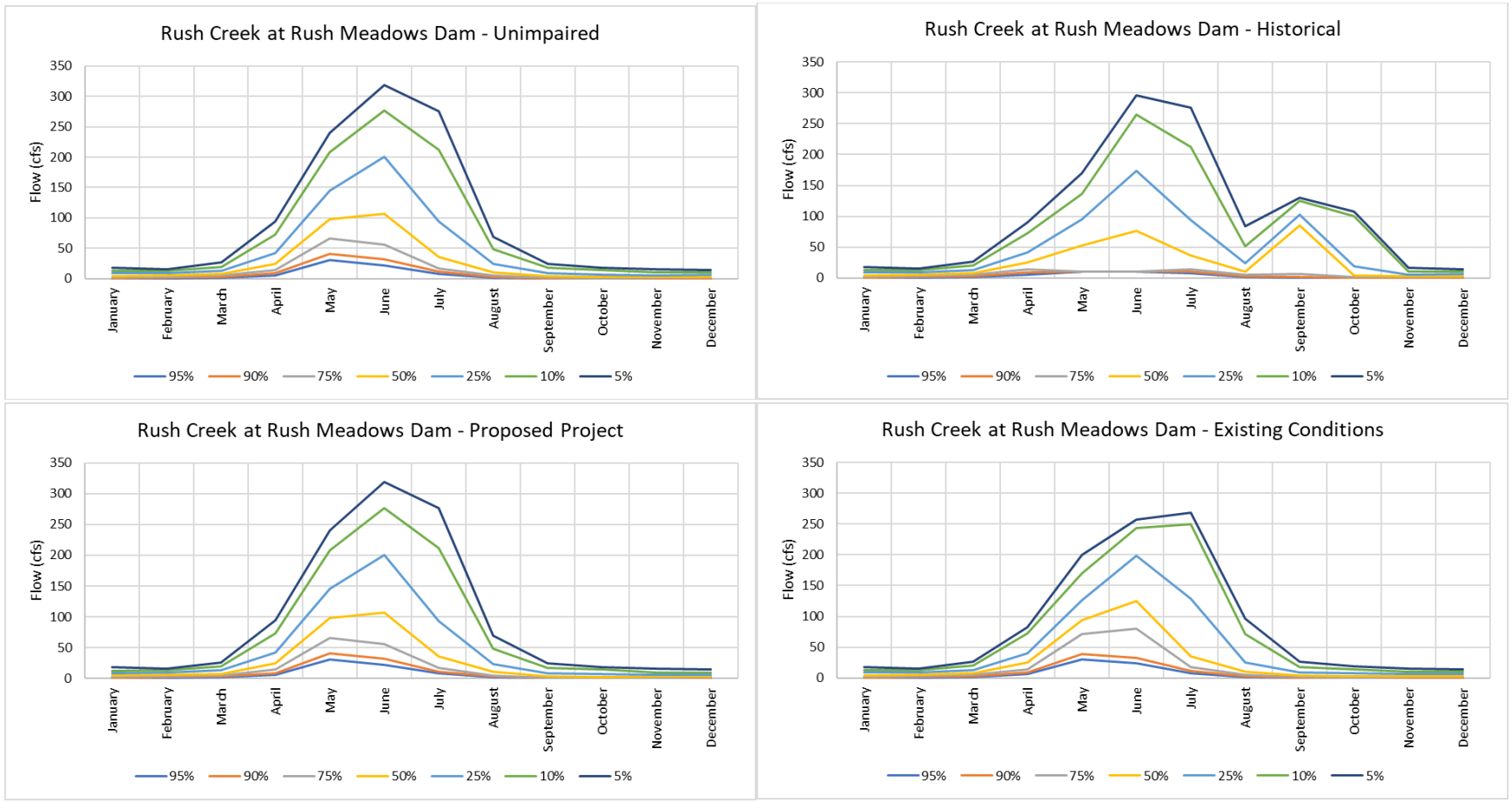


Figure AQ 2-47. January to December annual monthly flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance for Rush Creek at Rush Meadows Dam.

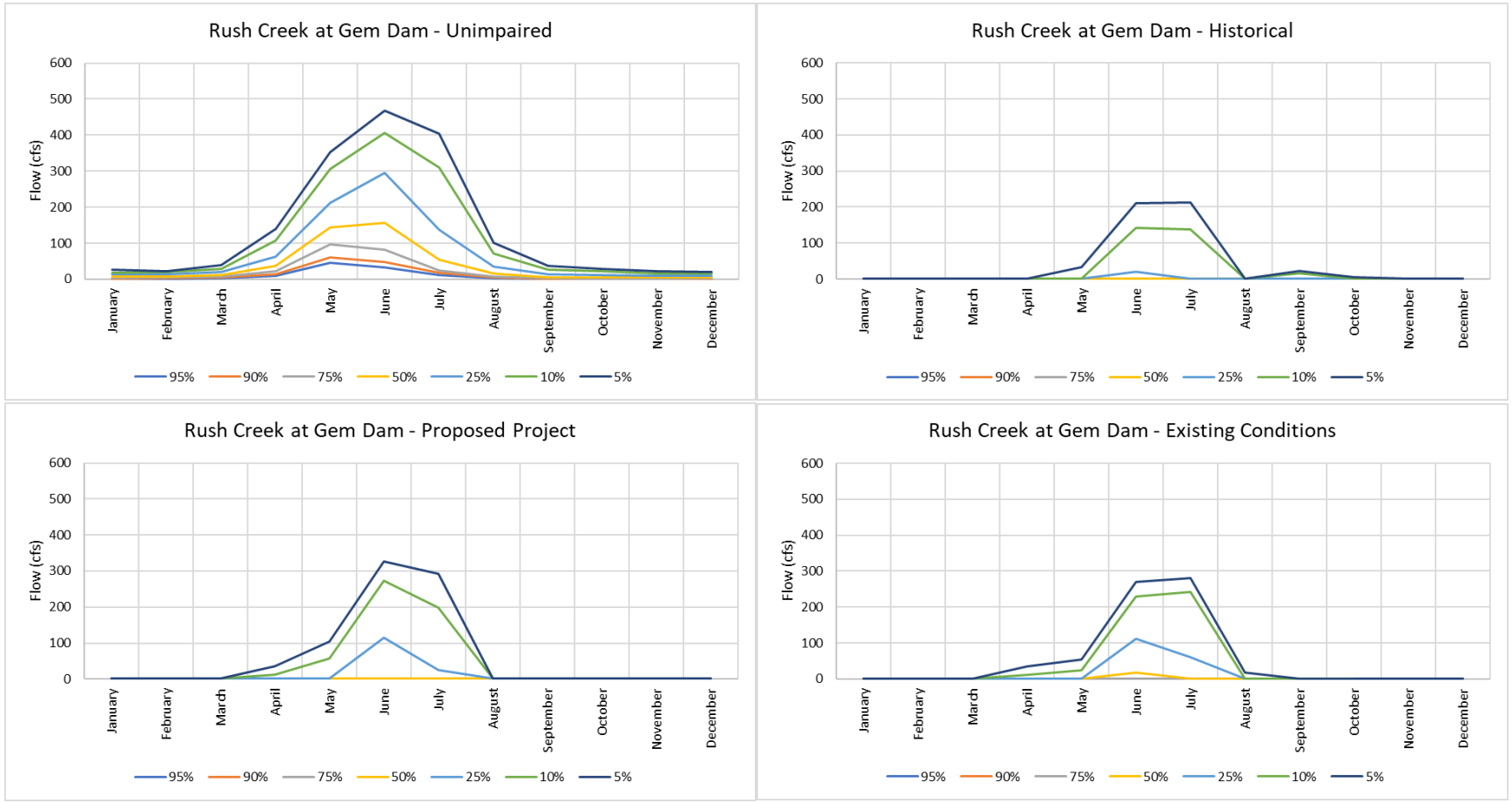


Figure AQ 2-48. January to December annual monthly flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance for Rush Creek at Gem Dam.

Figure AQ 2-49. January to December annual monthly flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance for Rush Creek below Agnew Dam.

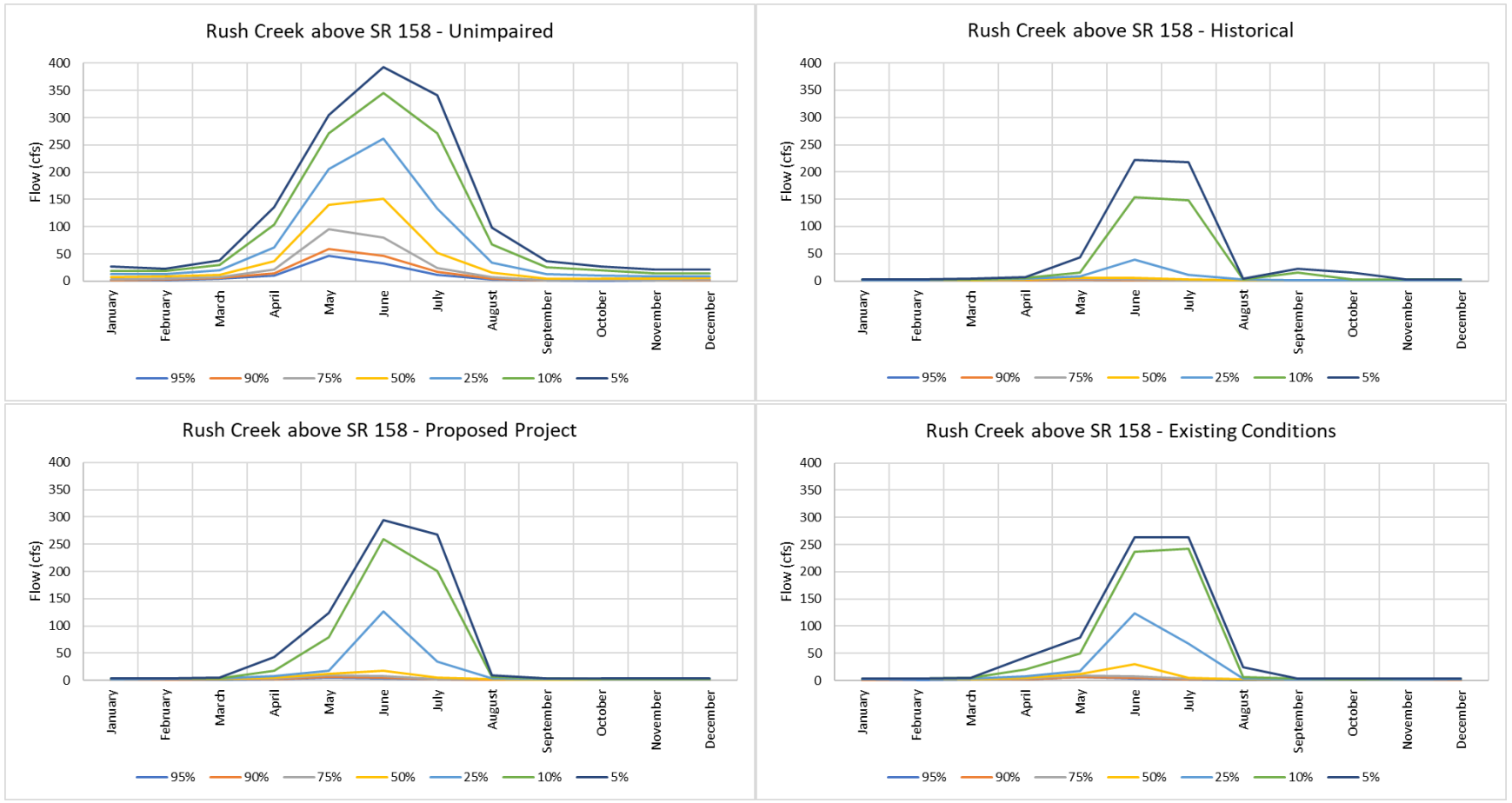


Figure AQ 2-50. January to December annual monthly flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance for Rush Creek above SR 158.

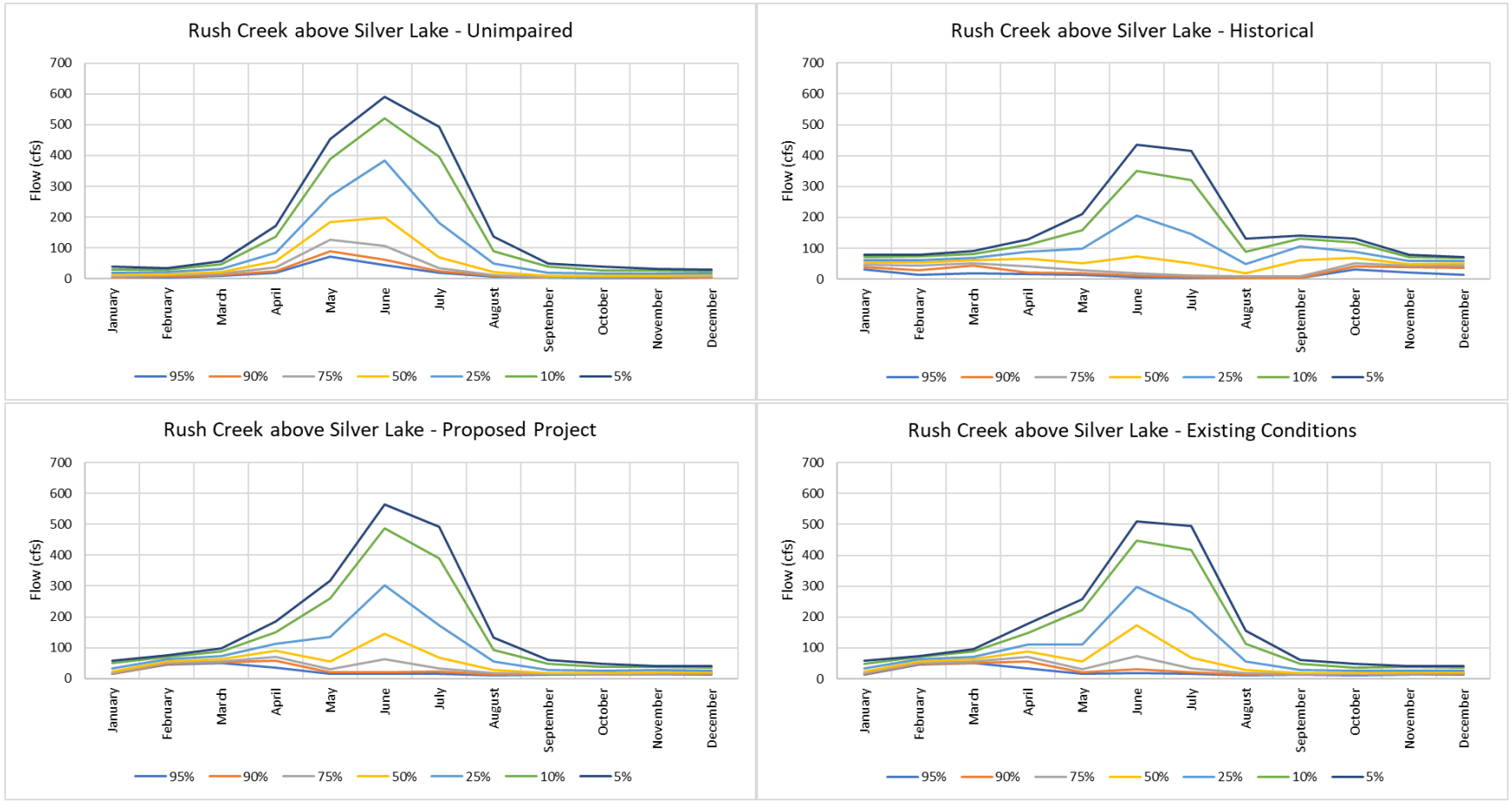


Figure AQ 2-51. January to December annual monthly flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance for Rush Creek above Silver Lake.

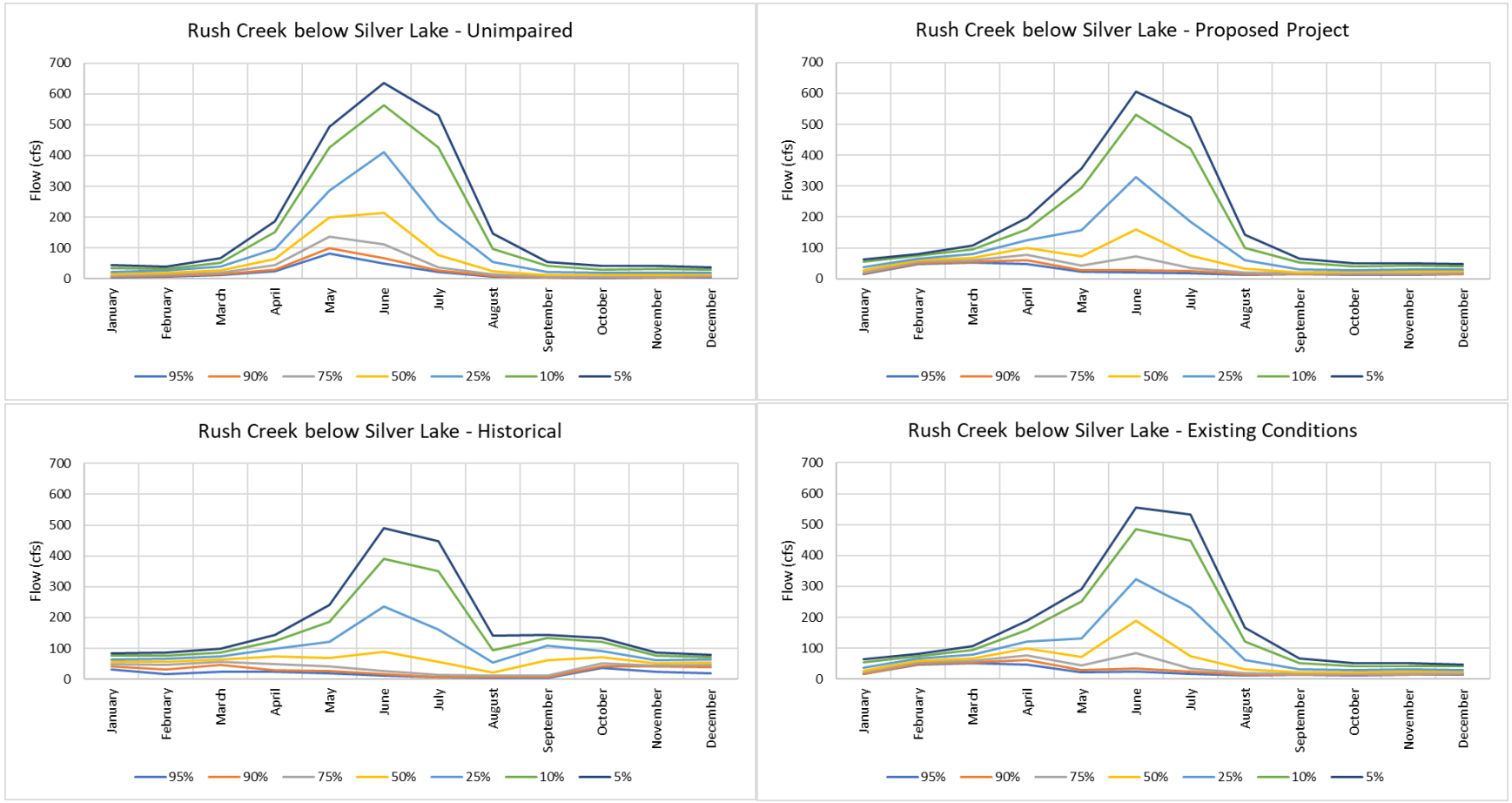


Figure AQ 2-52. January to December annual monthly flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance for Rush Creek below Silver Lake.

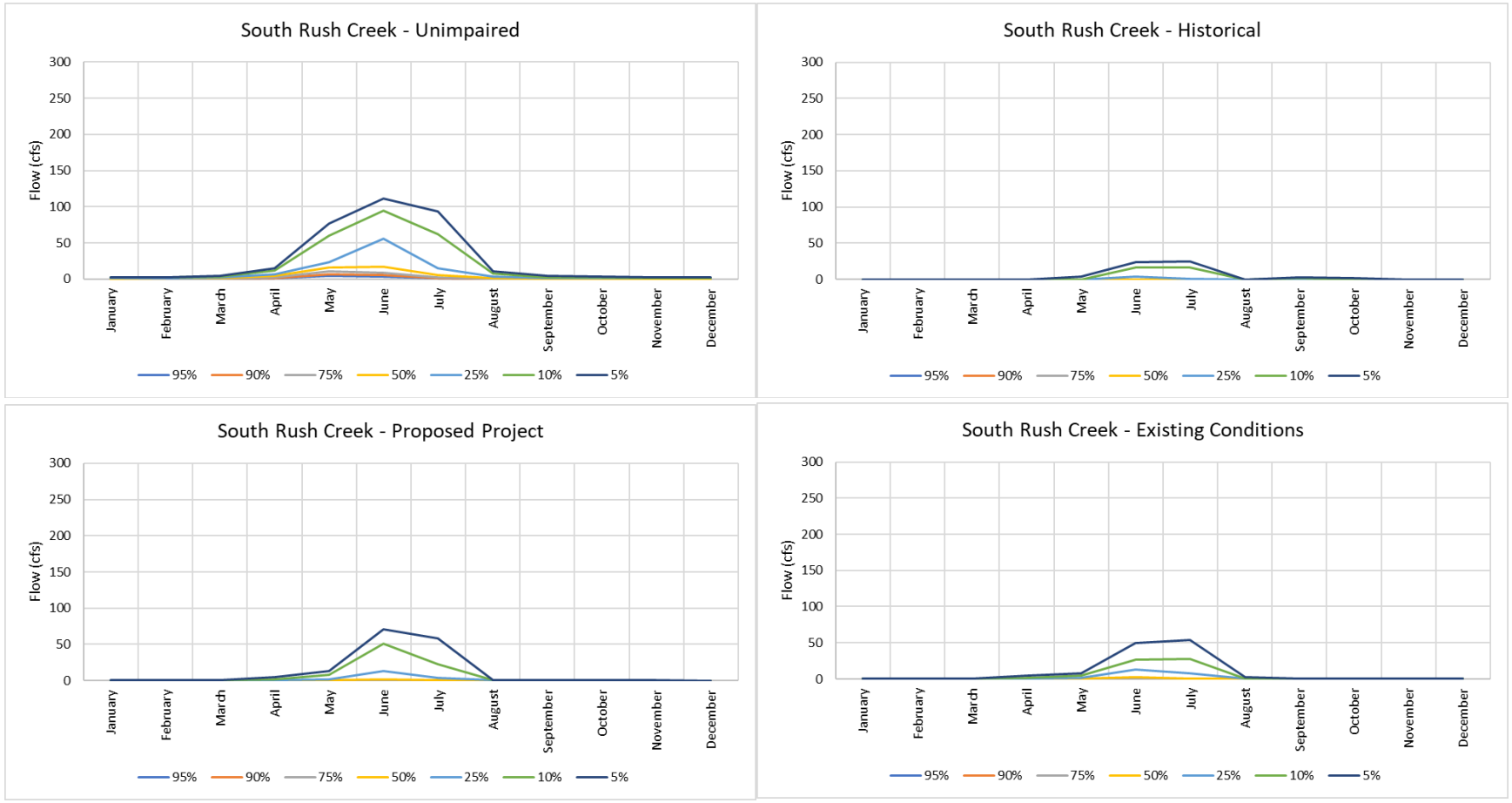


Figure AQ 2-53. January to December annual monthly flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance for South Rush Creek.

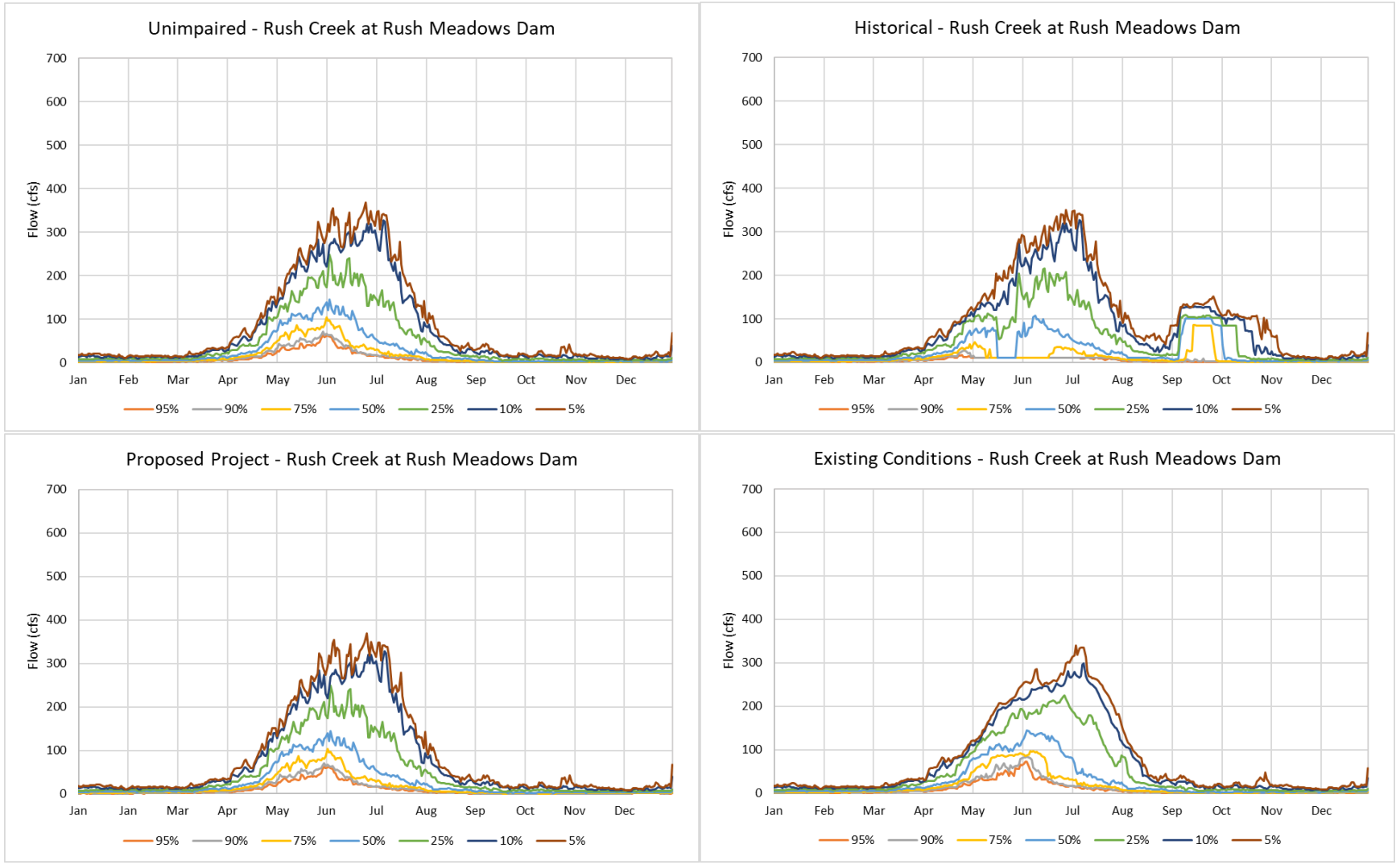


Figure AQ 2-54. January to December annual daily flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance Rush Creek at Rush Meadows Dam.

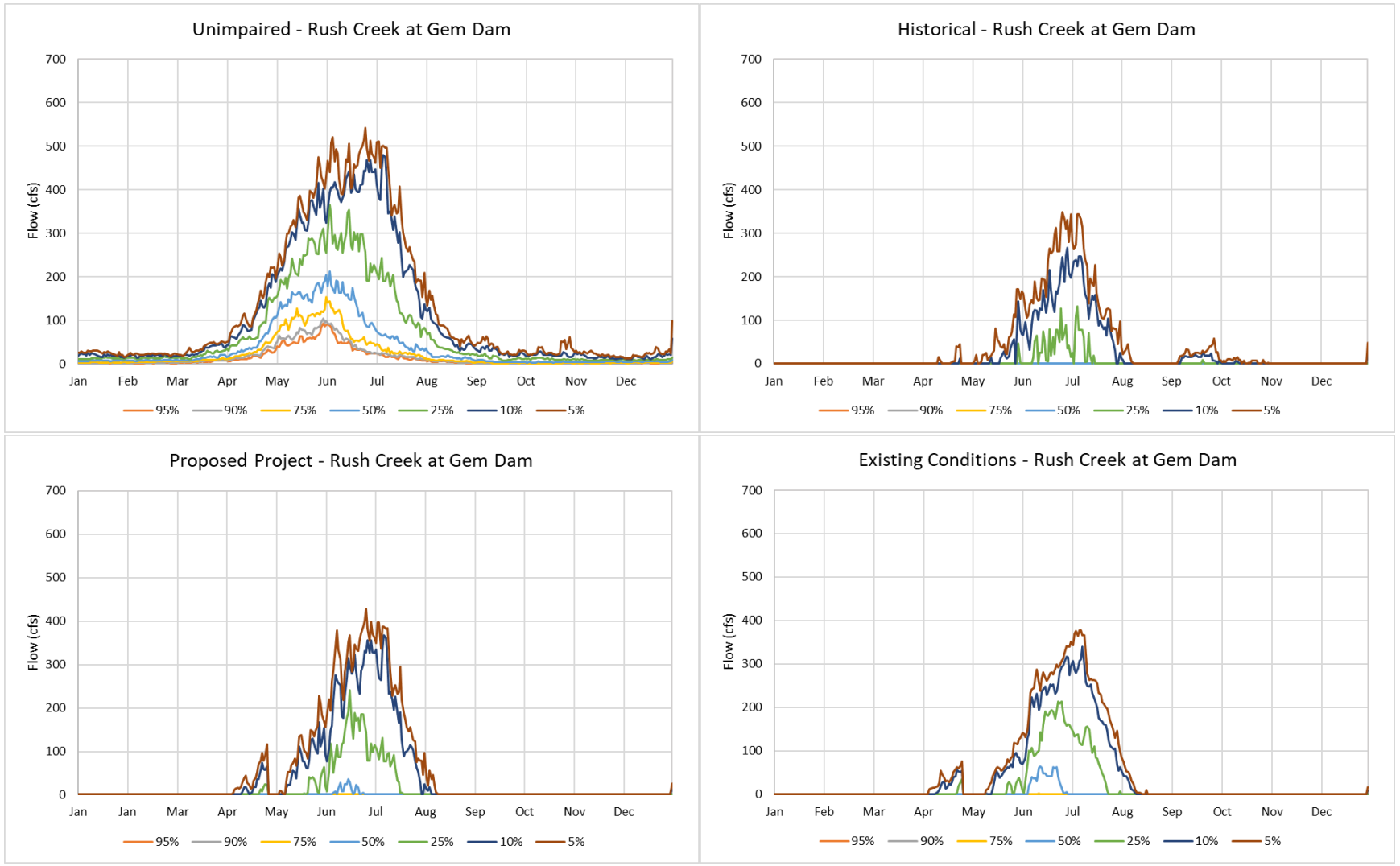


Figure AQ 2-55. January to December annual daily flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance Rush Creek at Gem Dam.

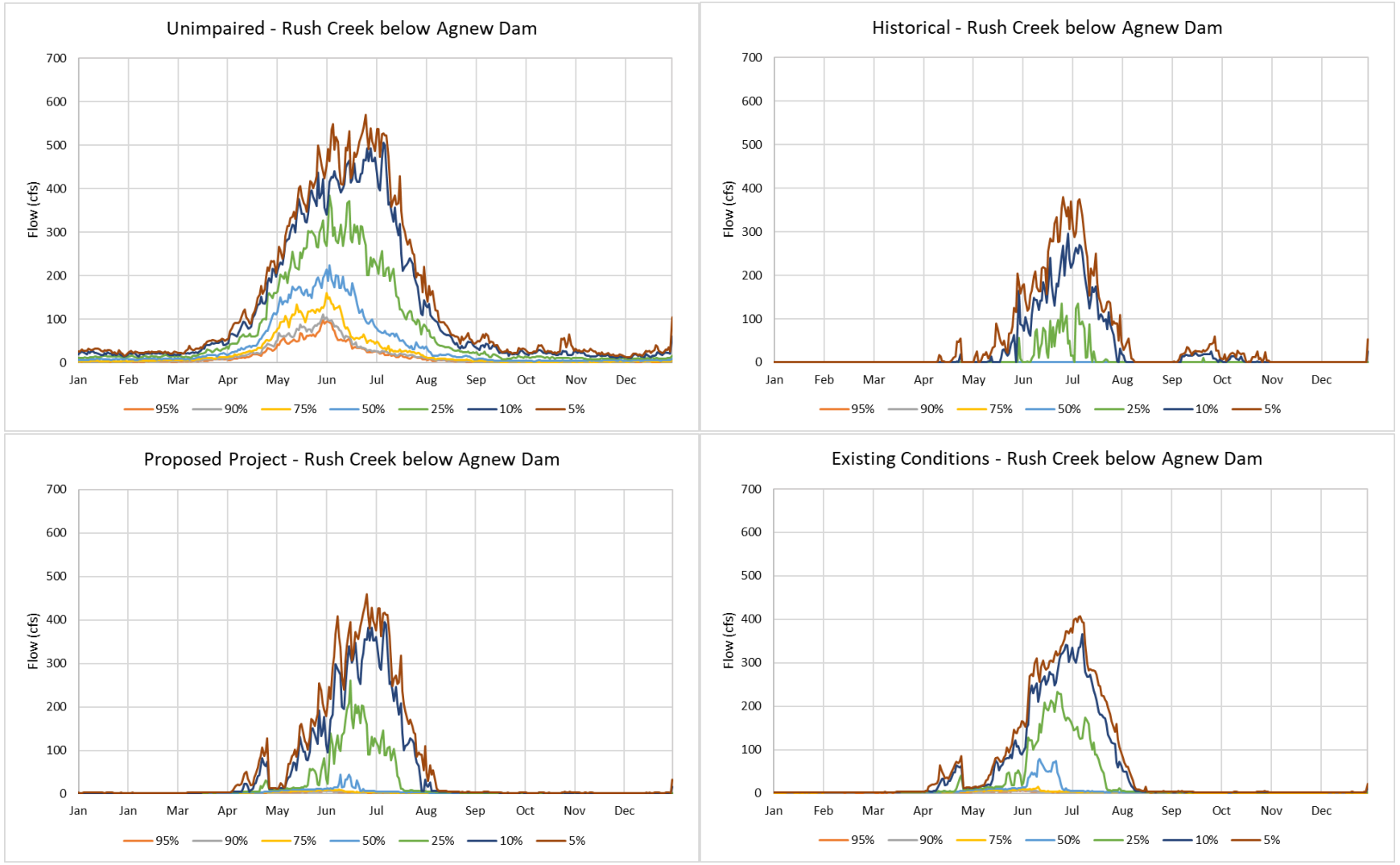


Figure AQ 2-56. January to December annual daily flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance Rush Creek below Agnew Dam.

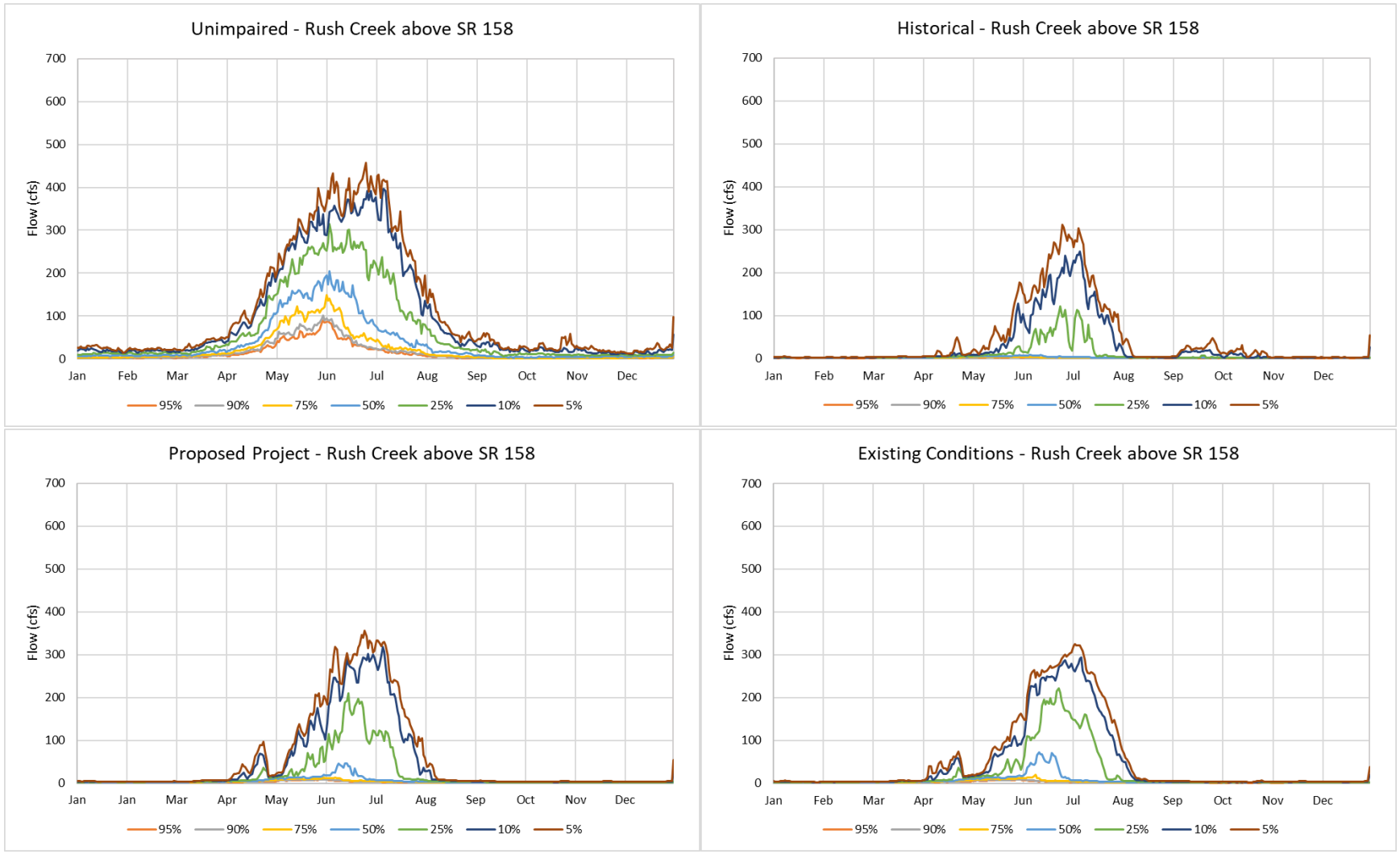


Figure AQ 2-57. January to December annual daily flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance Rush Creek above SR 158.

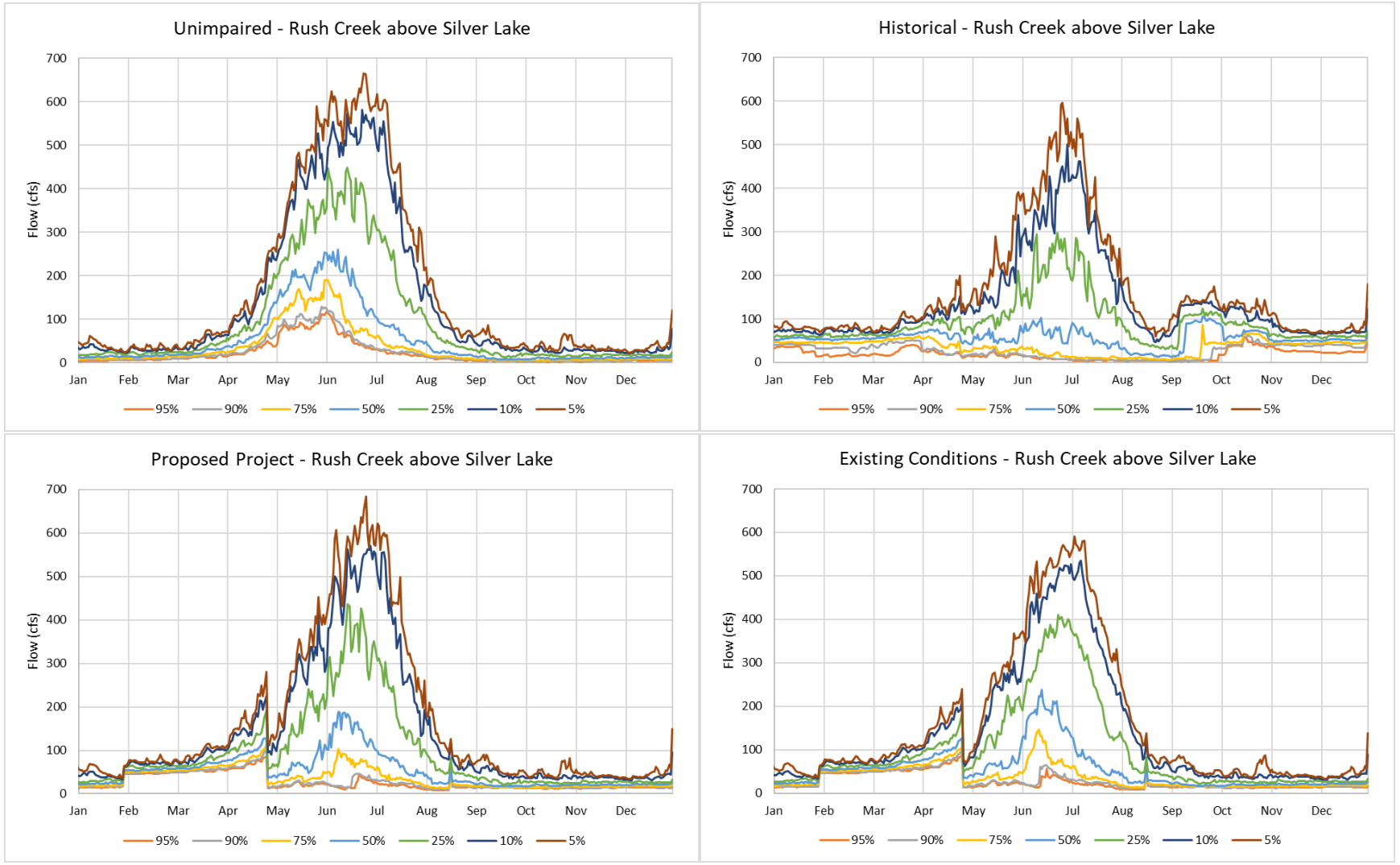


Figure AQ 2-58. January to December annual daily flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance Rush Creek above Silver Lake.

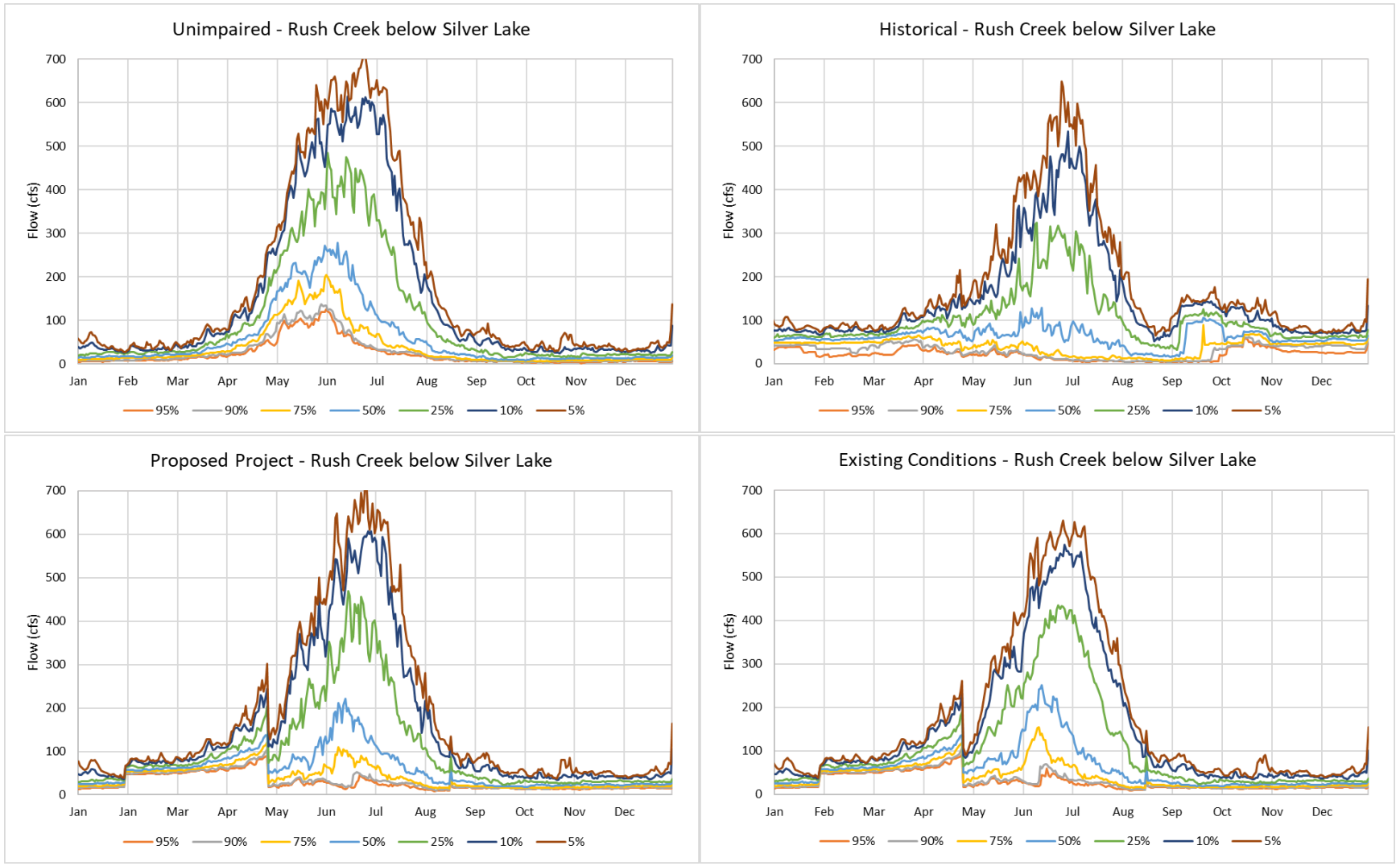


Figure AQ 2-59. January to December annual daily flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance Rush Creek below Silver Lake.

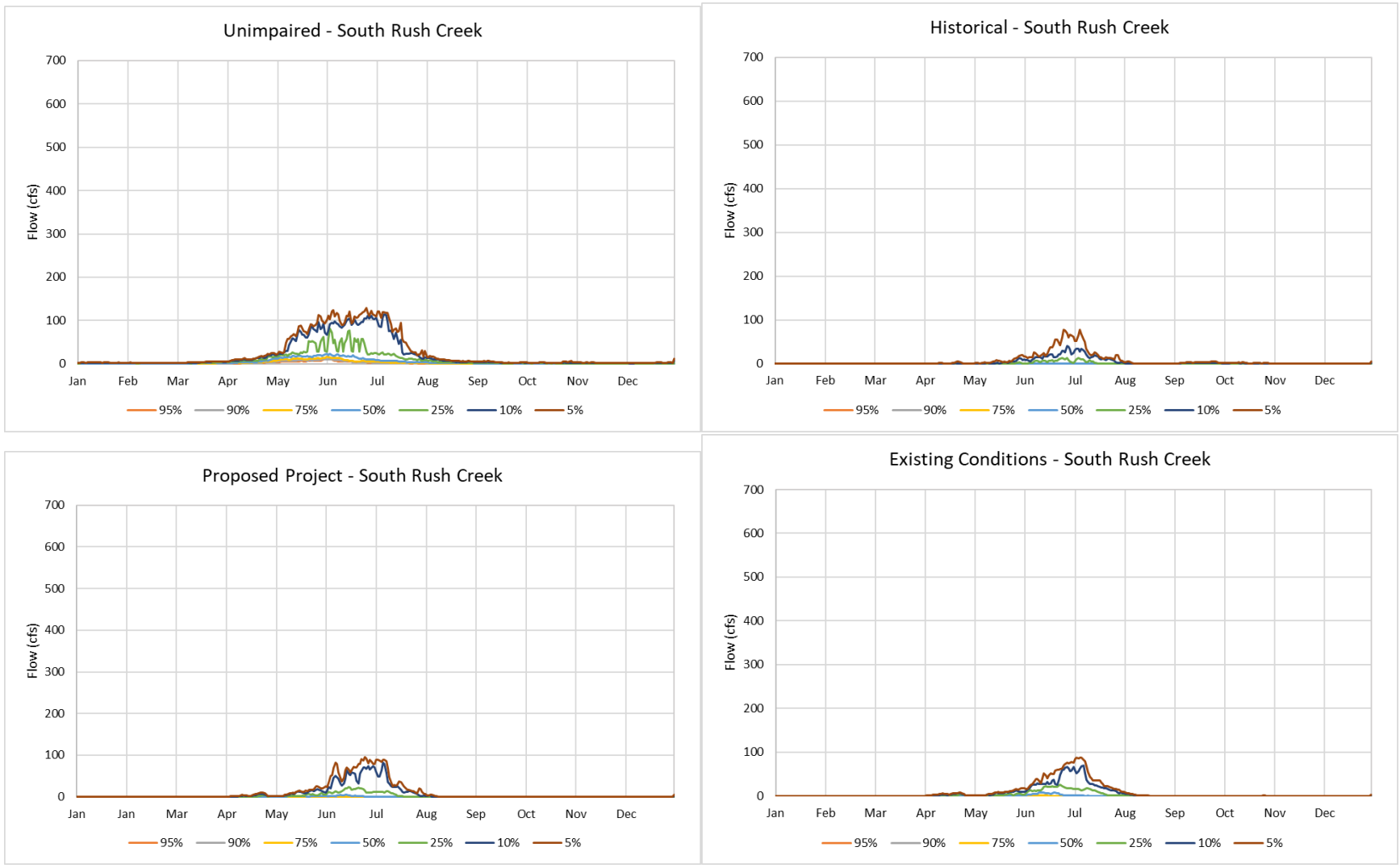


Figure AQ 2-60. January to December annual daily flow exceedance plots 95%, 90%, 75%, 50% (median), 25%, 10%, and 5% exceedance South Rush Creek.

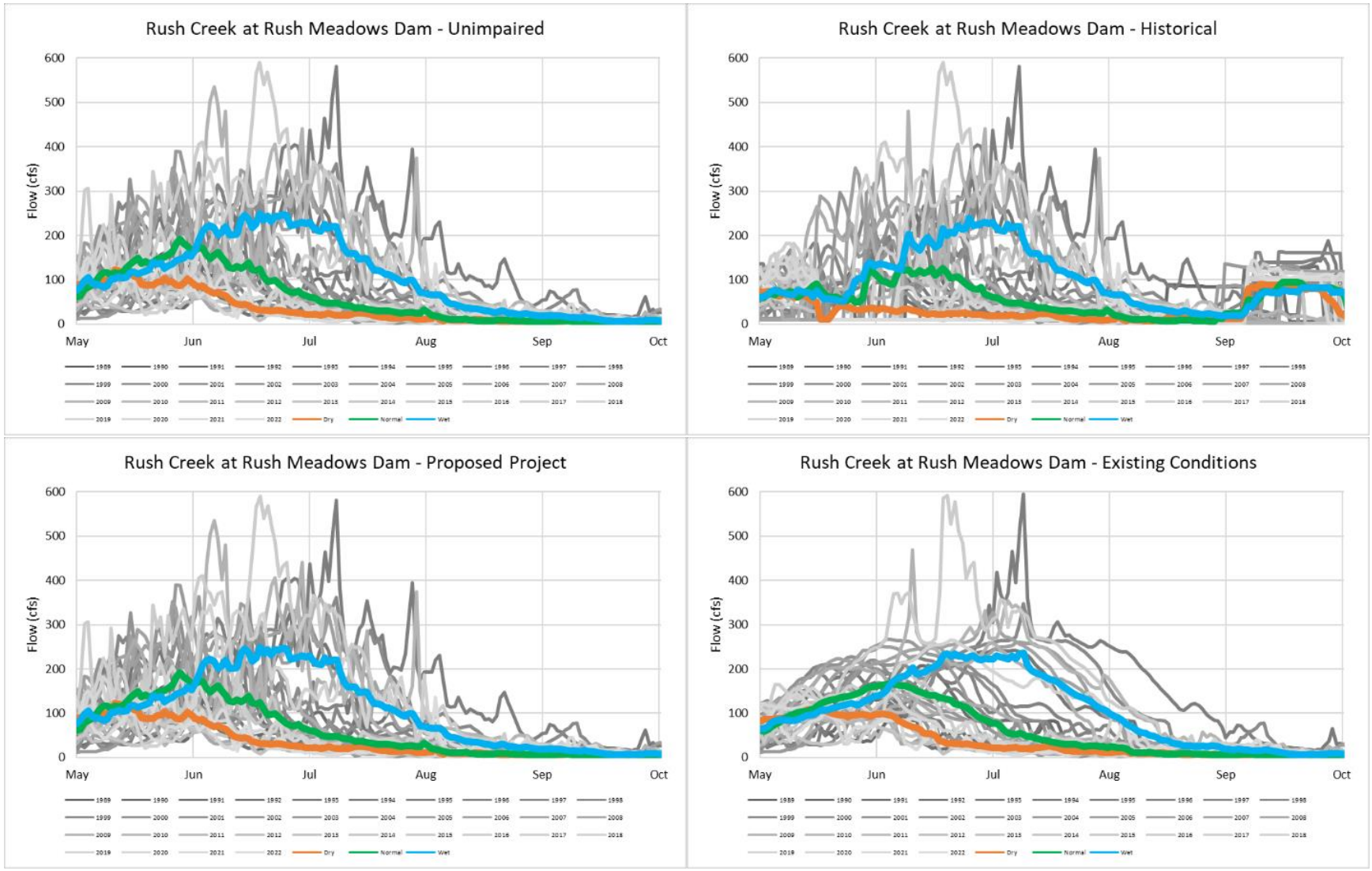


Figure AQ 2-61. Rush Creek at Rush Meadows Dam spring flow hydrographs (average daily flow) for wet (blue), normal (green) and dry (orange) year types.

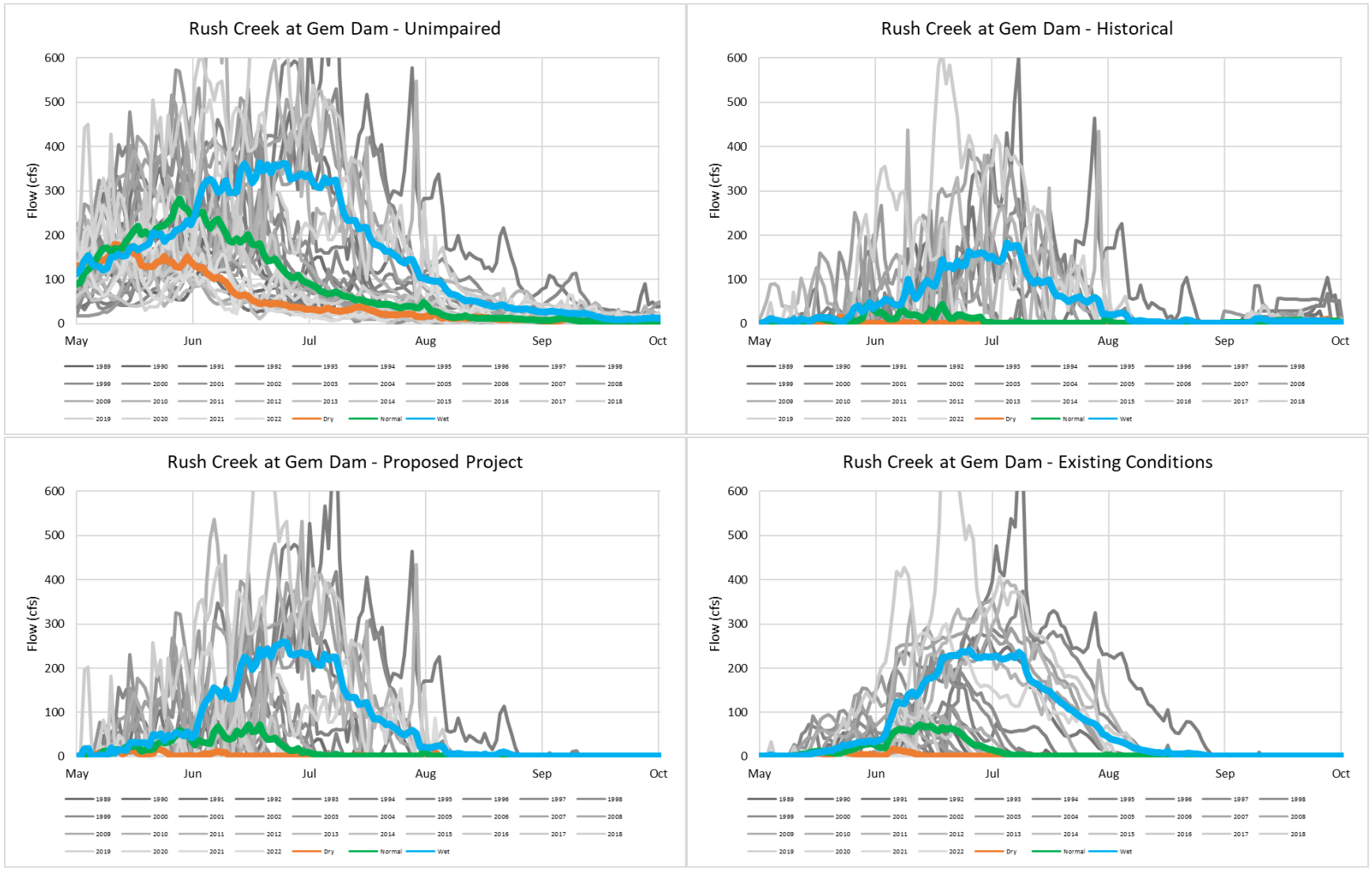


Figure AQ 2-62. Rush Creek at Gem Dam spring flow hydrographs (average daily flow) for wet (blue), normal (green) and dry (orange) year types.

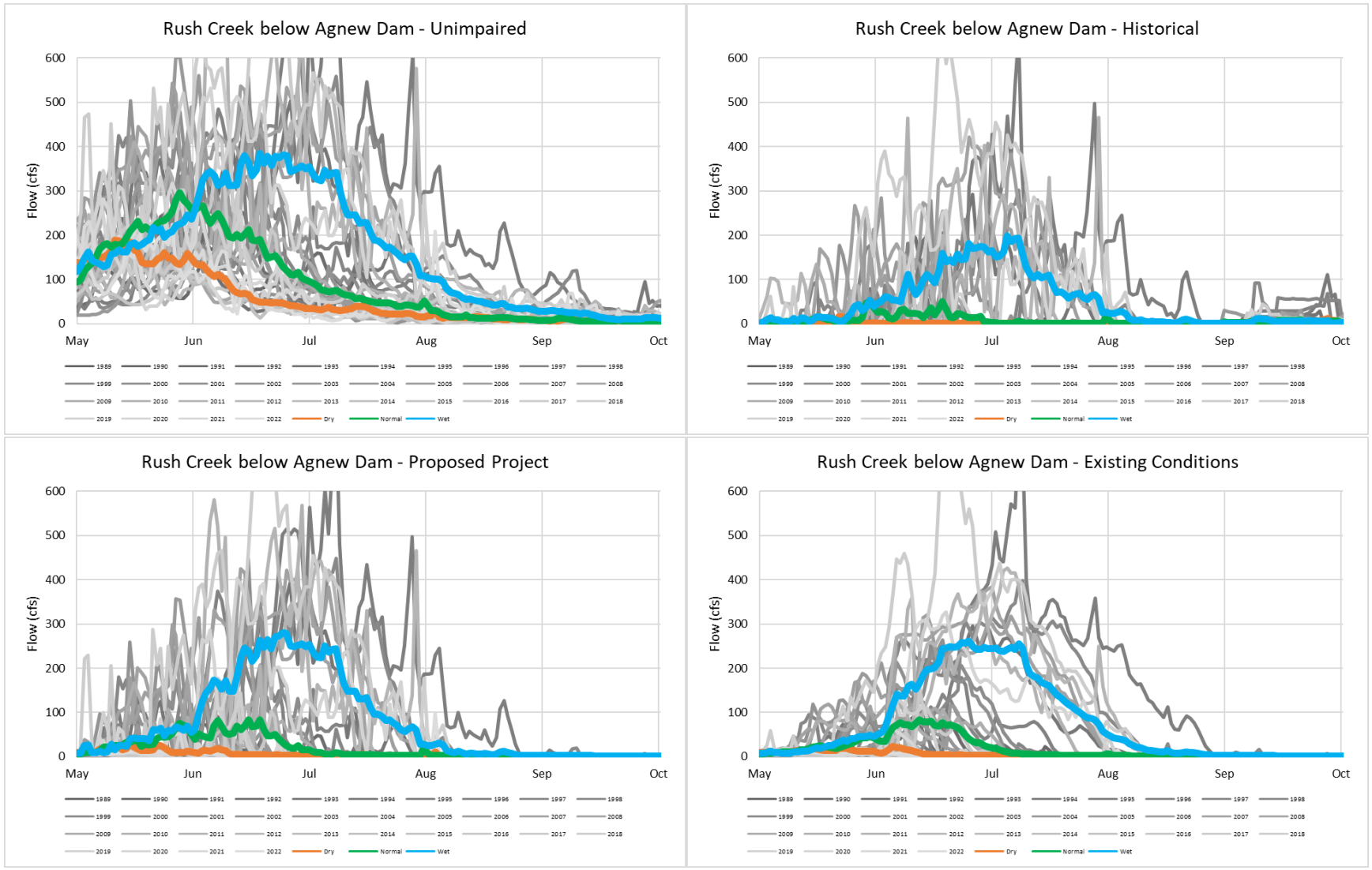


Figure AQ 2-63. Rush Creek below Agnew Dam spring flow hydrographs (average daily flow) for wet (blue), normal (green) and dry (orange) year types.

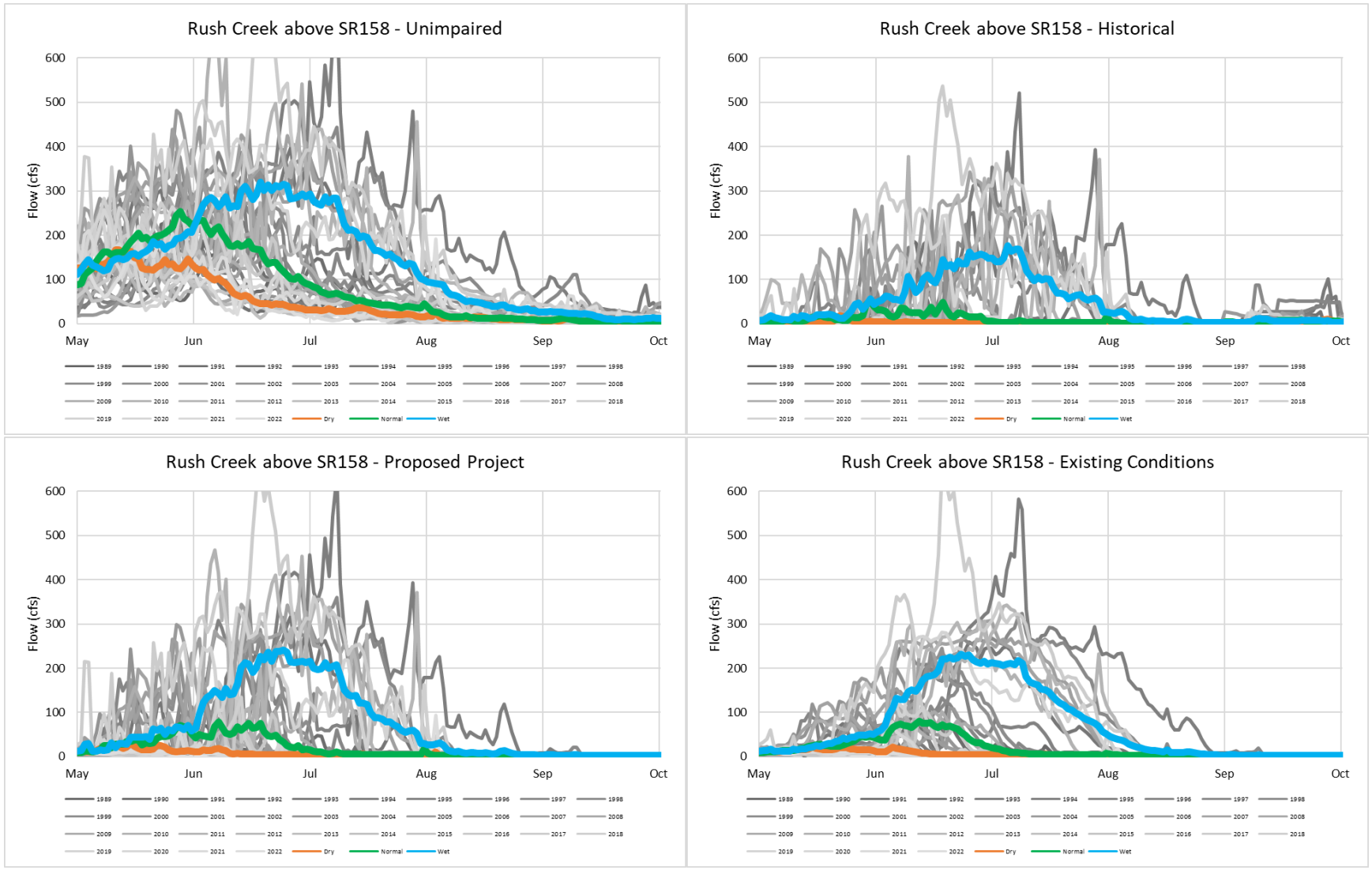


Figure AQ 2-64. Rush Creek above SR158 spring flow hydrographs (average daily flow) for wet (blue), normal (green) and dry (orange) year types.

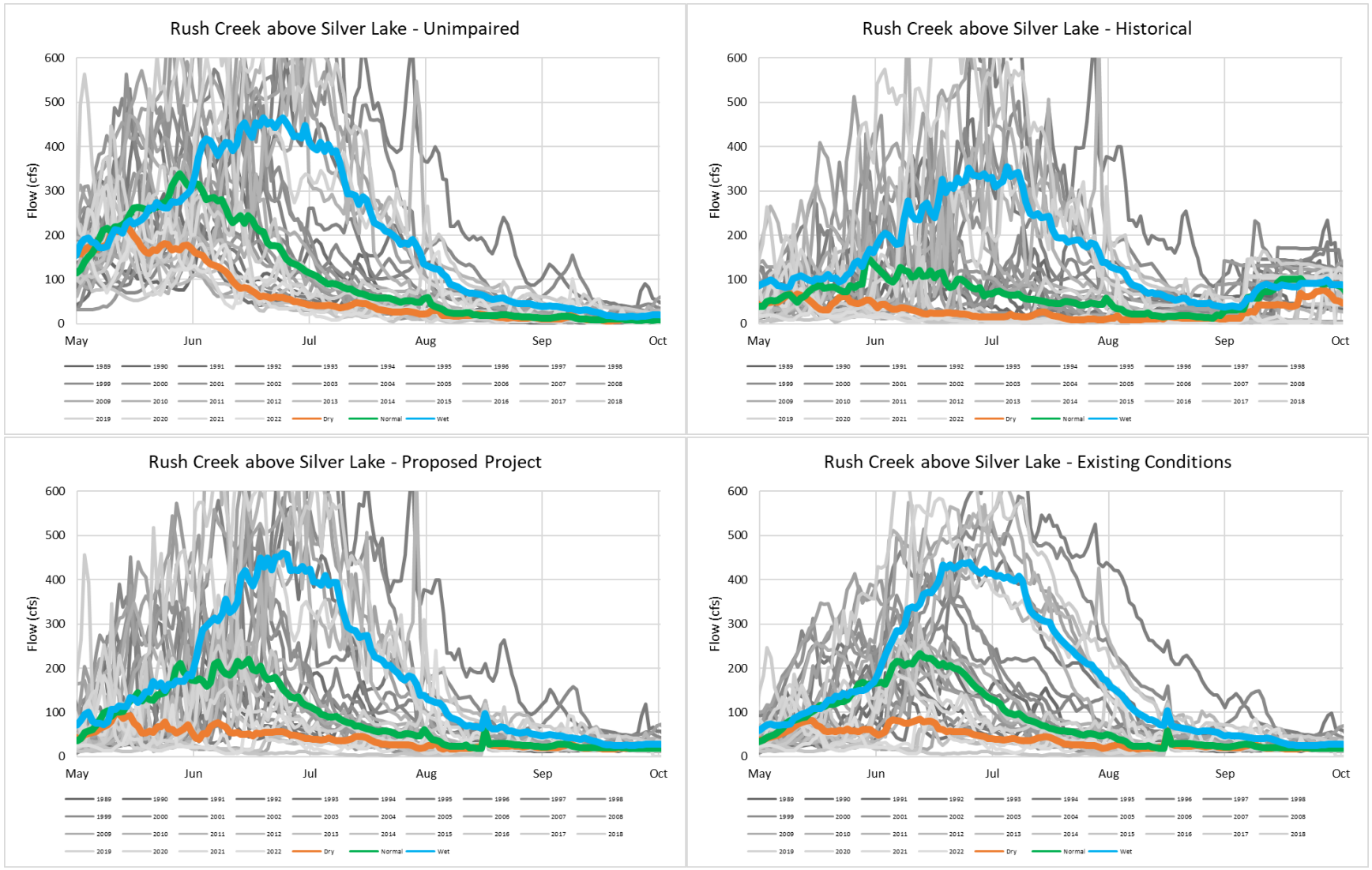


Figure AQ 2-65. Rush Creek above Silver Lake spring flow hydrographs (average daily flow) for wet (blue), normal (green) and dry (orange) year types.

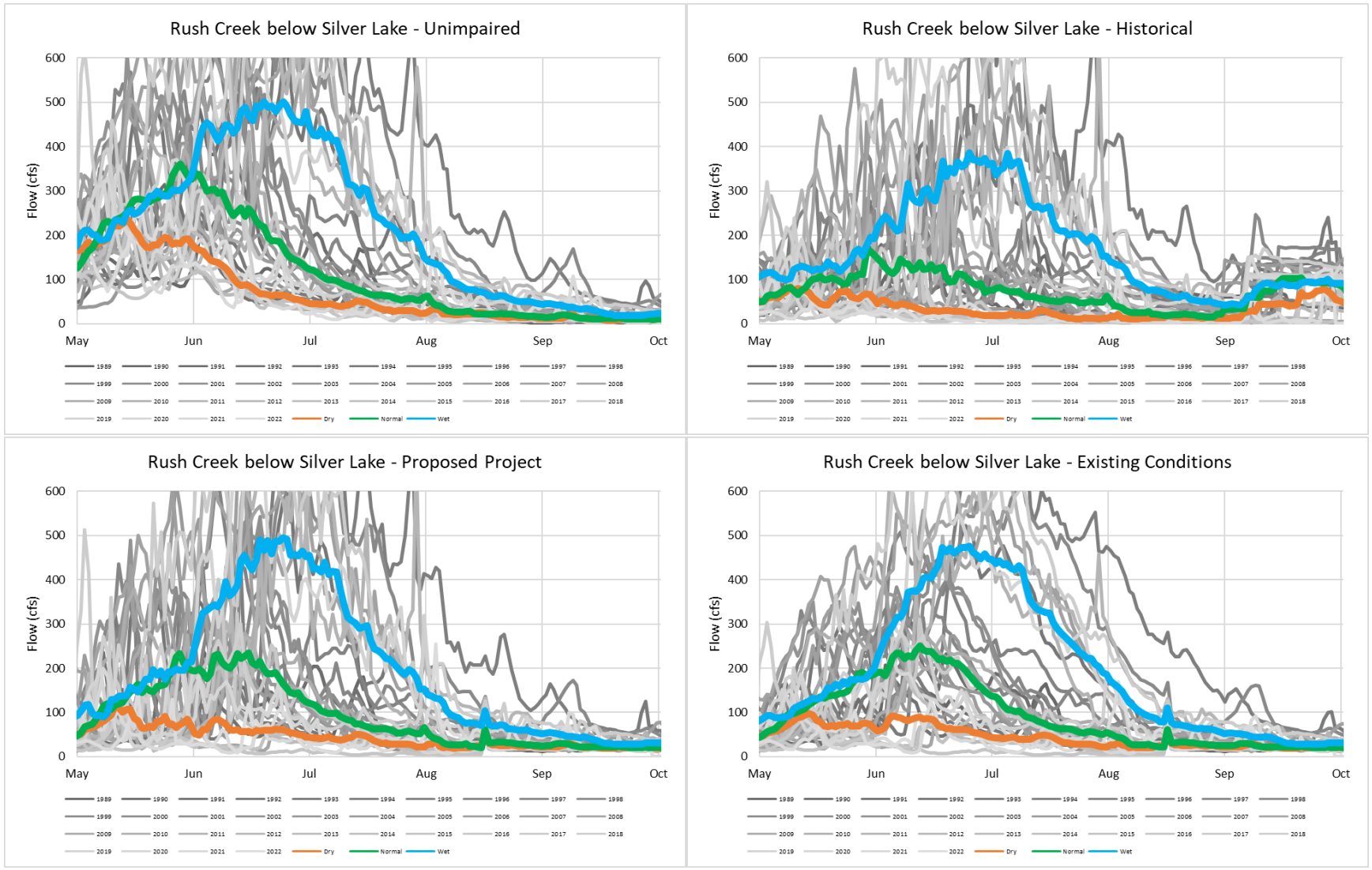


Figure AQ 2-66. Rush Creek below Silver Lake spring flow hydrographs (average daily flow) for wet (blue), normal (green) and dry (orange) year types.

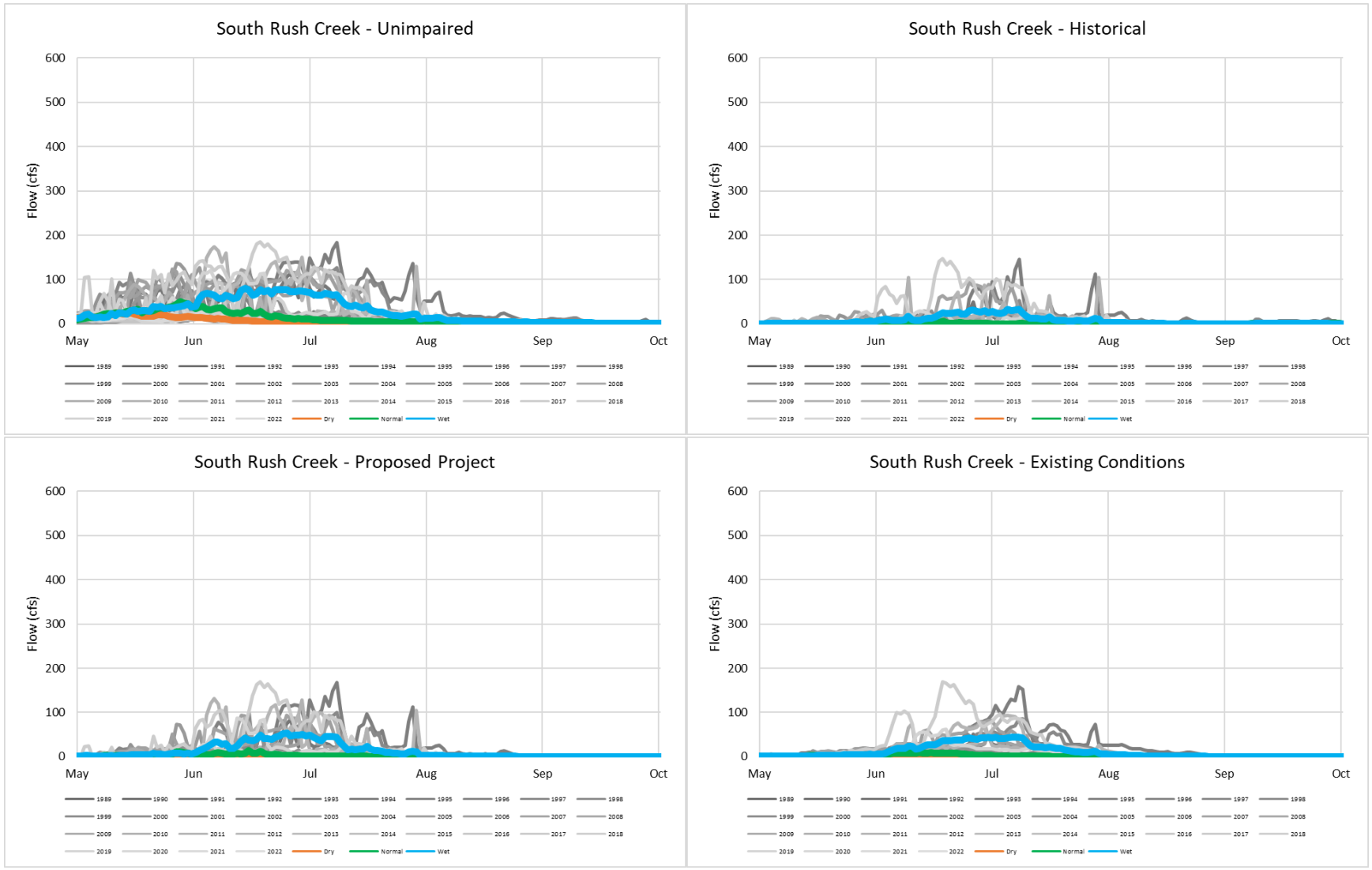


Figure AQ 2-67. South Rush Creek spring flow hydrographs (average daily flow) for wet (blue), normal (green) and dry (orange) year types.

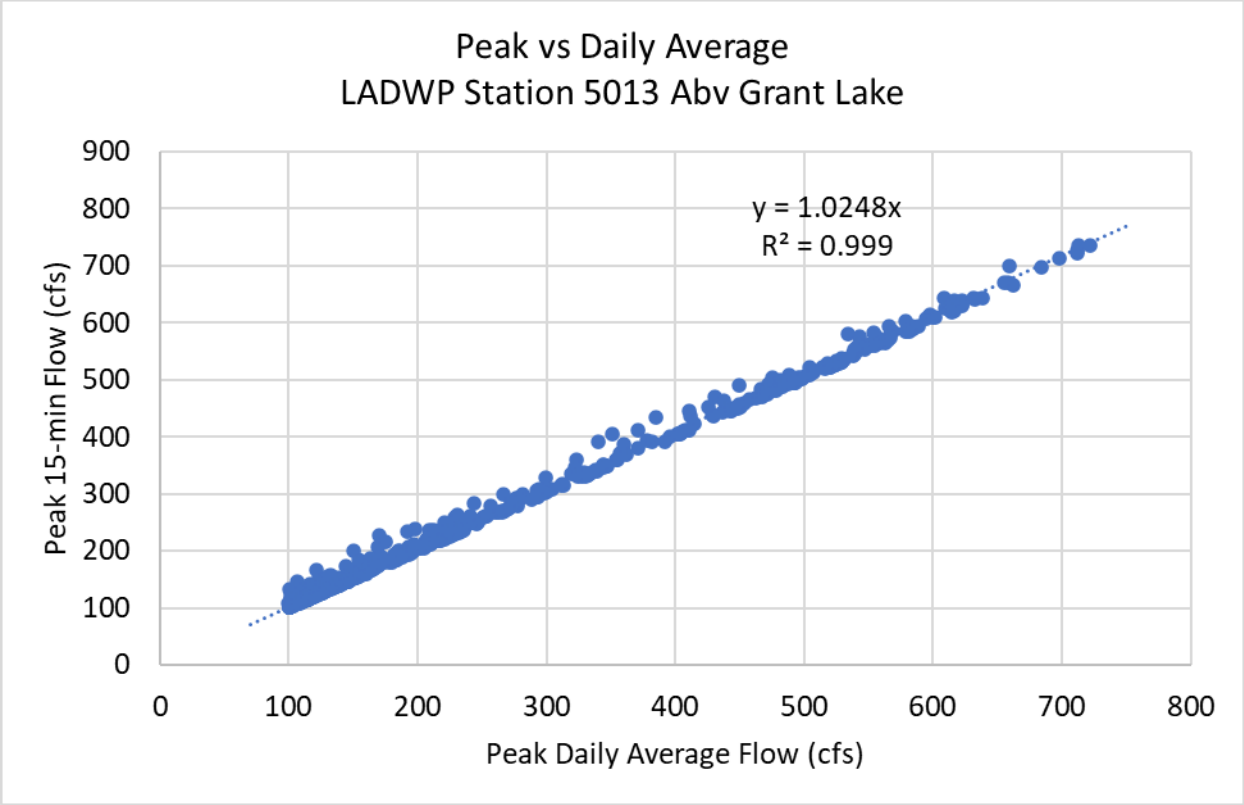


Figure AQ 2-68. Comparison of peak daily average and peak 15-min flows at the flow gage upstream of Grant Lake.

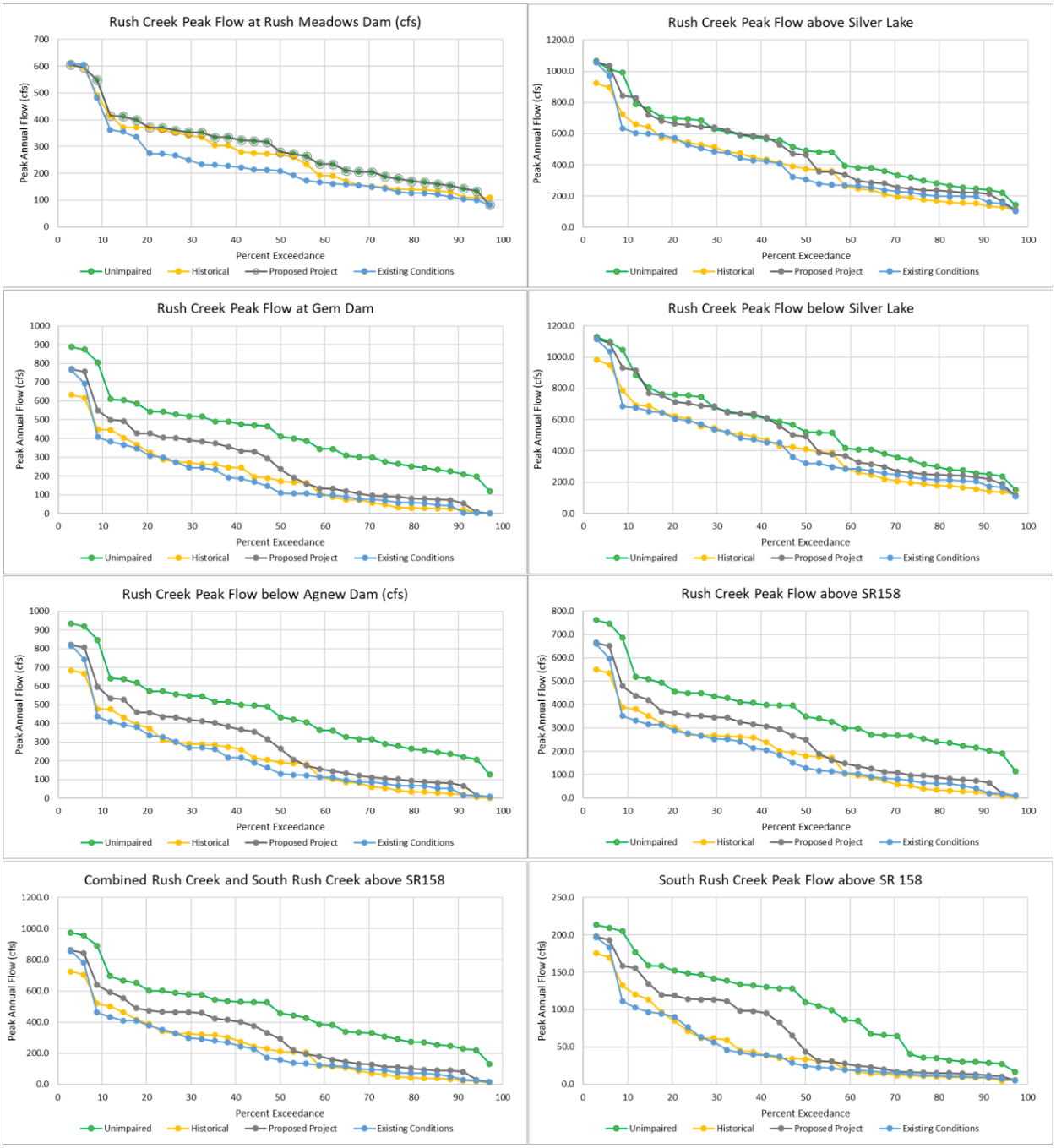
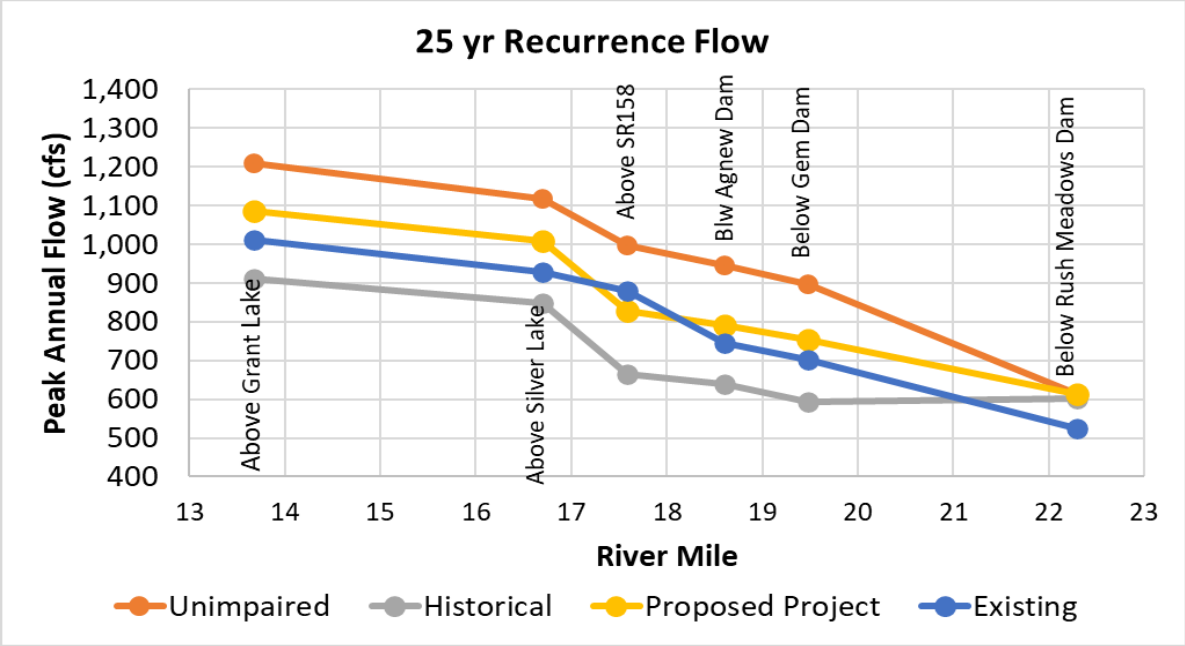


Figure AQ2-69. Exceedance plot of adjusted annual flow events (1990-2021) used in the flood frequency analysis for each scenario (unimpaired, historical, Proposed Project, and existing), at each location along Rush Creek.



Note: Crossing values at the above SR158 site for Proposed and Existing flow conditions due to idiosyncrasies with implementing peak flow analyses on impaired data with multiple years of low flow values. The unimpaired hydrology estimates are the most appropriate values to use for peak flow analysis.

Figure AQ 2-70. Comparison of 25-year annual recurrence flow events for each of the scenarios (unimpaired, historical, Proposed Project, and existing) for different locations along Rush Creek (see labels).

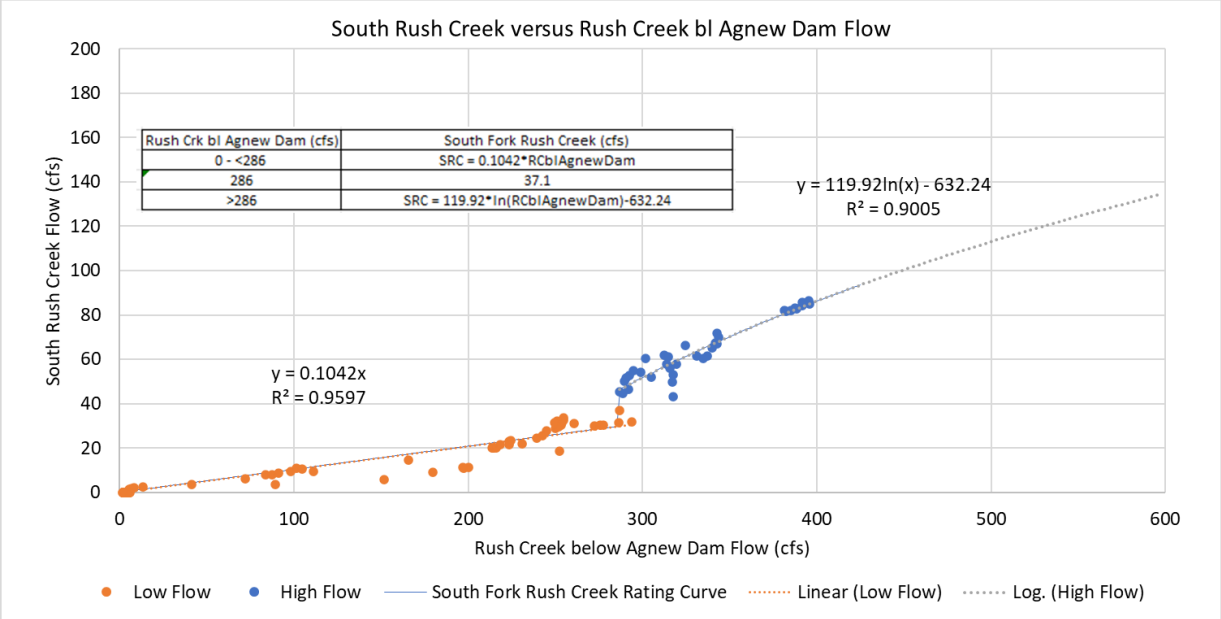


Figure AQ 2-71. Flow split for South Rush Creek based on the flow in Rush Creek below Agnew Dam. Flow in Rush Creek below the flow split location equals Rush Creek below Agnew Dam minus South Rush Creek.

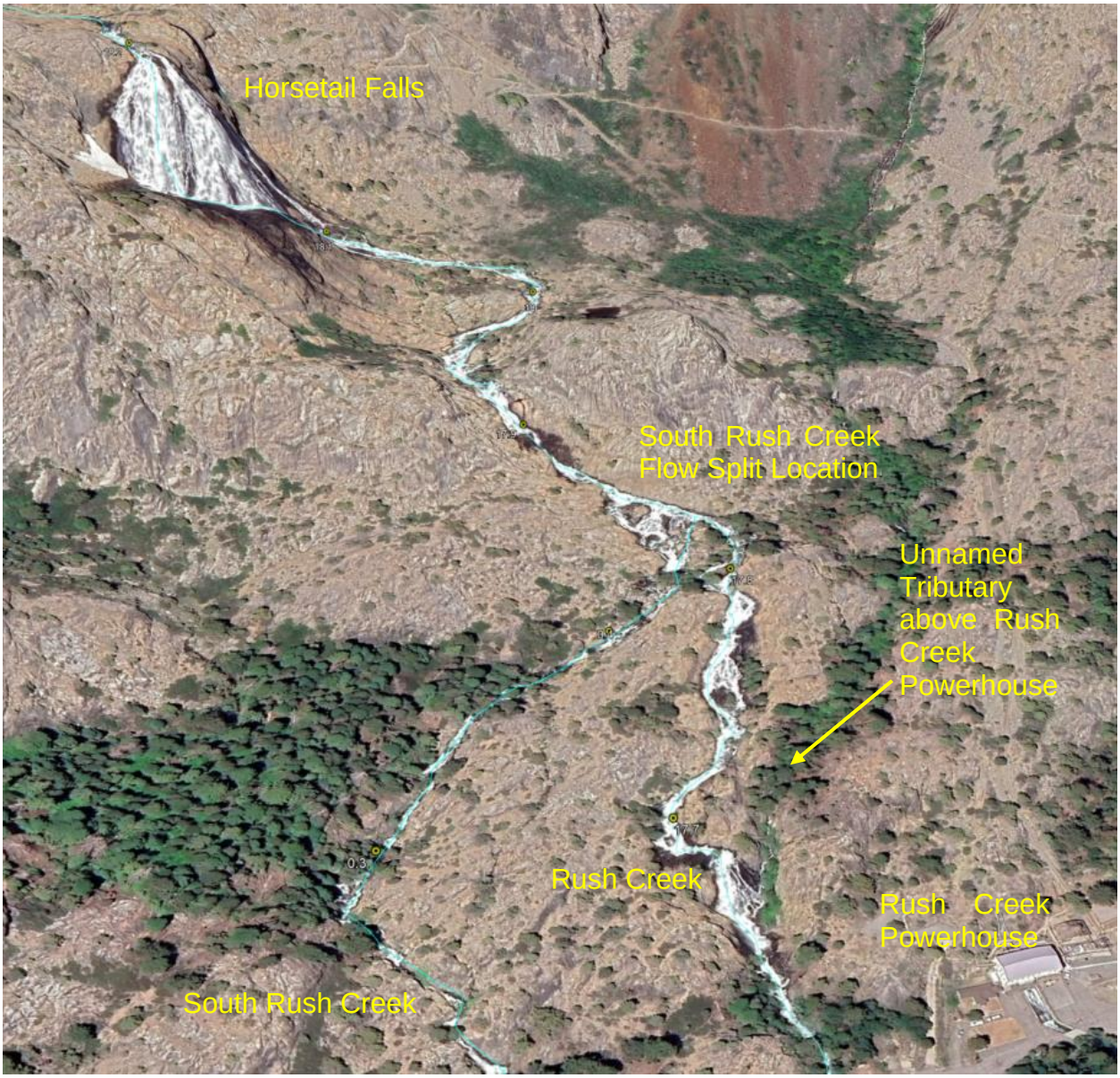


Figure AQ 2-72. Google Earth image of the South Rush Creek flow split location, Horsetail Falls, and Rush Creek Powerhouse on July 13, 2023 when flow in Rush Creek below Agnew Dam was 385 cfs.

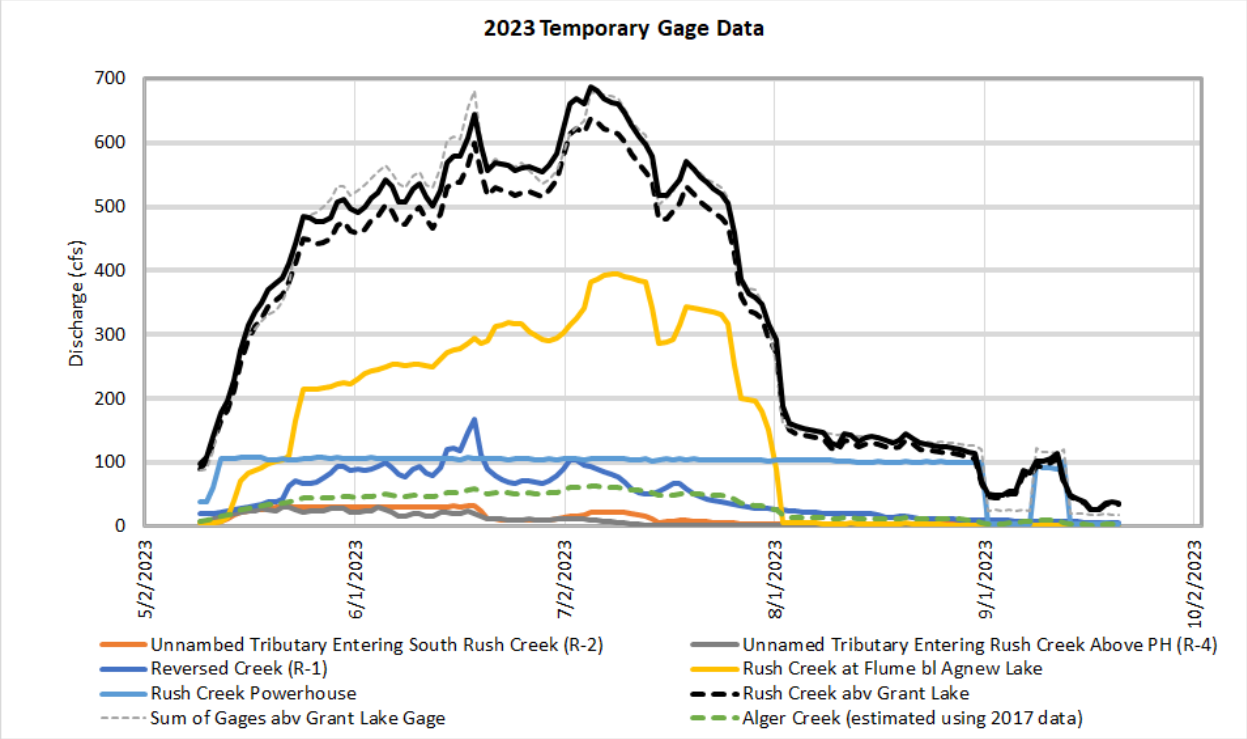


Figure AQ 2-73. Temporary and other gages during 2023.

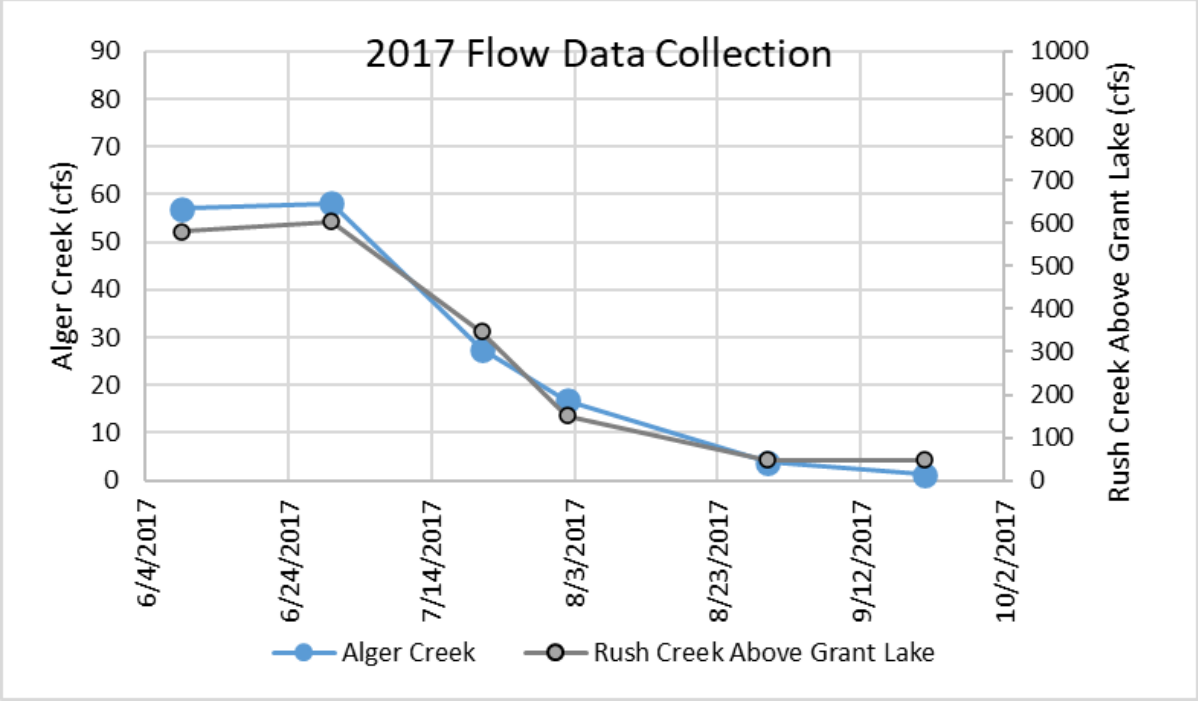


Figure AQ 2-74. Empirical flow data collected at Alger Creek in 2017 (left axis) compared to the Rush Creek above Grant Lake LADWP gage (right axis).

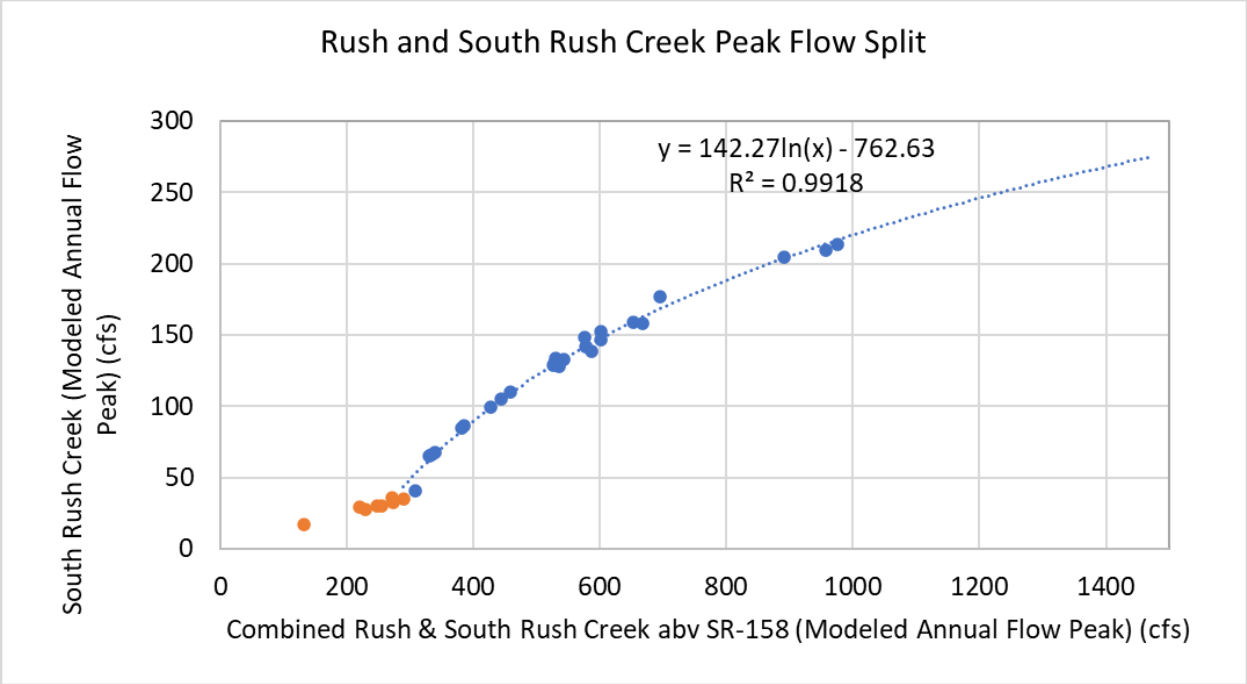


Figure AQ 2-75. Relationship between modeled peak annual flows at California State Route 158 for Rush Creek and South Rush Creek.

MAPS

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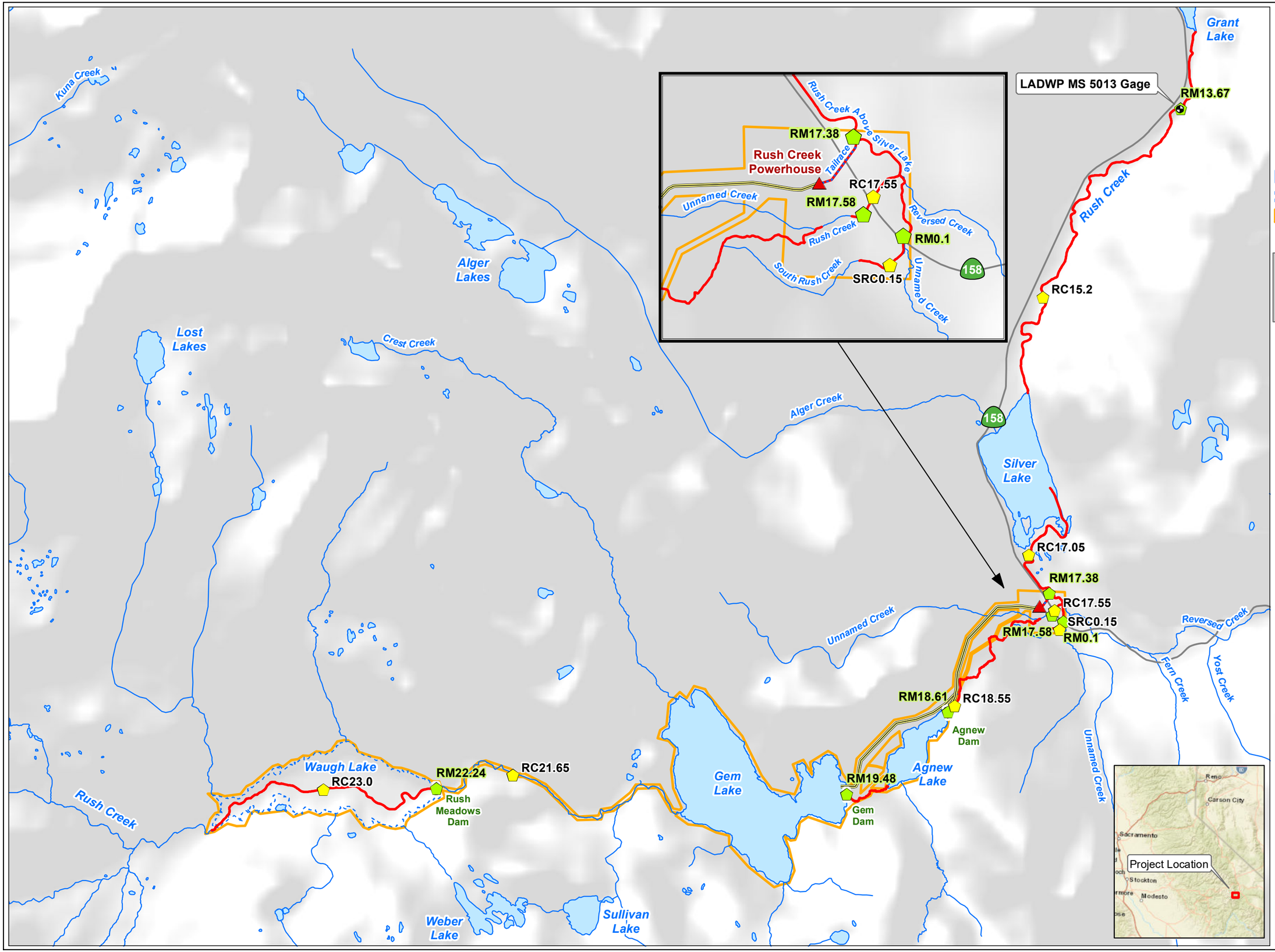

SCE Facilities
- Dam
- Powerhouse
- Flowline / Penstock
- Tailrace

Other Features
- Highway
- River/Stream
- Lake/Reservoir
- Dry Lake/Reservoir
- FERC Boundary

Study Locations and Reaches
- Hydrology Analysis Location
- Geomorphology Survey Location
- Instream Flow Modeling Reaches

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Rush Creek Project (FERC 1389)

Map AQ 2-1

Analysis and Survey Locations

0 0.25 0.5 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 5/5/2024

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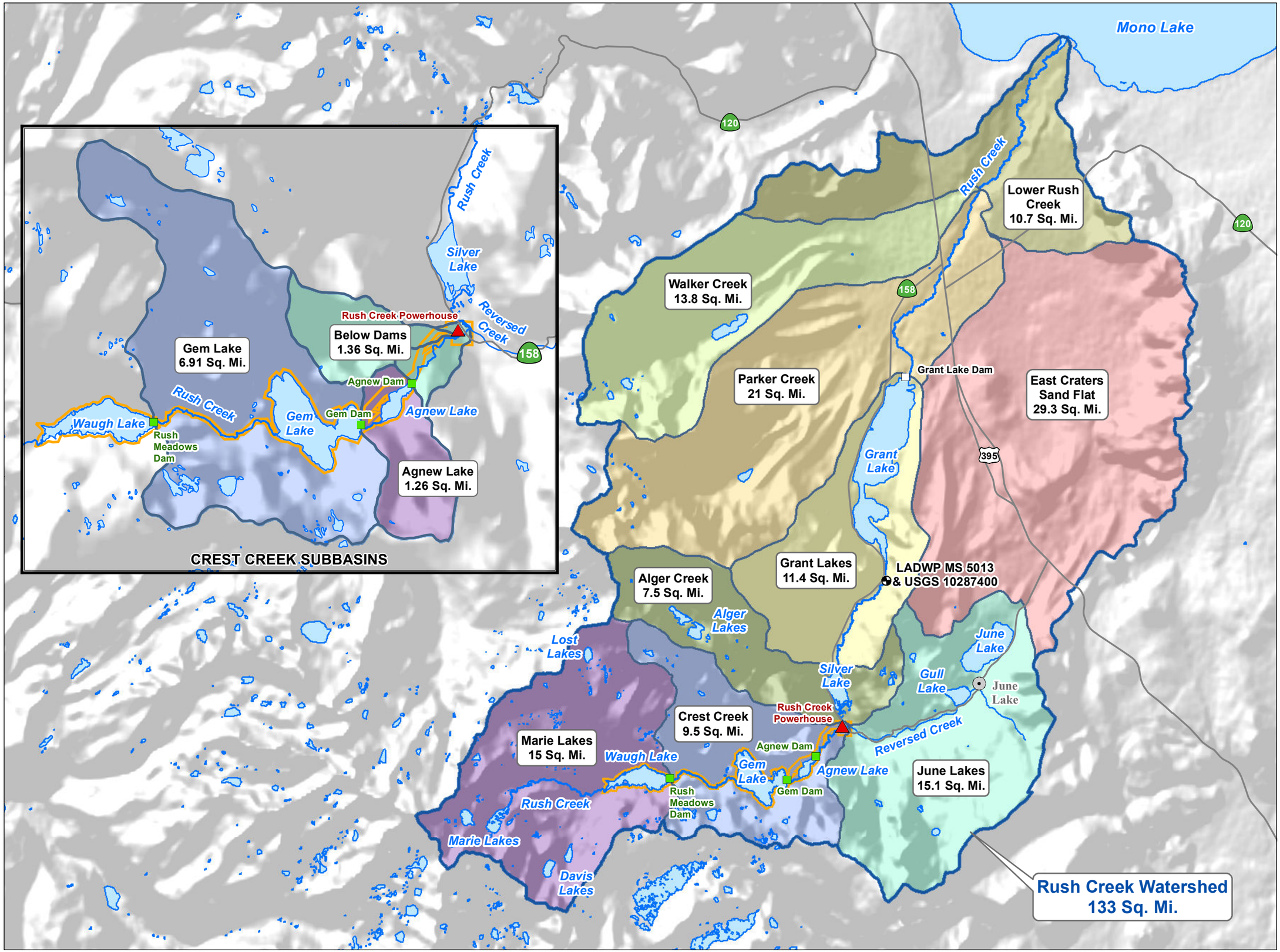

SCE Facilities

- Dam
- Powerhouse
- FERC Boundary

Other Features

- Other Dam
- City/Town
- Highway
- River/Stream
- Lake

Watershed / Subbasin Boundaries*

- Alger Creek
- Crest Creek
- East Craters Sand Flat
- Grant Lakes
- June Lakes
- Lower Rush Creek
- Marie Lakes
- Parker Creek
- Walker Creek

*** DATA SOURCE: Calwater, 2.21**
Some minor modifications made based on high-resolution aerial imagery

Operations Modeling

- Model Node (Gage used to scale unimpaired inflows to the upper reservoirs)

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Rush Creek Project (FERC 1389)

Map AQ 2-2

Rush Creek Basin and Subbasins

0 0.5 1 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 4/10/2024

C:\GIS\237800343\map\Rush Creek\HydroMaps\SCE_RUSH_CREEK_Wshed_Subbasins_17i11i_04.mxd

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APPENDIX A

Tables of High and Low Flow Conditions by Month and January to December Annual Exceedance Flows

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Table of Contents

List of Tables

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1 INTRODUCTION

This appendix includes tables showing the magnitude and timing of annual high flow (1-day, 3-day, 7-day, monthly) conditions in Tables AQ 2-A1 through AQ 2-A29 and low flow conditions (1-day, 3-day, 7-day, monthly) in Tables AQ 2-30 through AQ 2-57. Tables AQ 2-A60 through AQ 2-A84 show January to December annual exceedance flows (95%, 90%, 75%, 50% median, 25%, 10%, and 5%).

Table AQ 2-A1. Rush Creek at Rush Meadows Dam daily peak flows.

Rush Creek Peak Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	130.8	107.2	130.8	101.1
1991	257.6	254.2	257.6	207.5
1992	200.4	130.3	200.4	151.6
1993	326.2	326.2	326.2	244.2
1994	229.5	187.7	229.5	146.0
1995	581.1	581.1	581.1	595.1
1996	313.6	269.2	313.6	226.0
1997	402.4	264.1	402.4	208.6
1998	361.9	361.9	361.9	347.0
1999	361.1	361.1	361.1	216.9
2000	315.7	297.2	315.7	221.6
2001	326.3	296.7	326.3	227.6
2002	228.9	228.9	228.9	168.5
2003	390.2	362.6	390.2	267.7
2004	183.6	147.7	183.6	140.3
2005	351.8	351.8	351.8	260.2
2006	345.2	345.2	345.2	328.0
2007	161.9	126.7	161.9	97.9
2008	199.4	167.0	199.4	157.2
2009	266.0	266.0	266.0	204.0
2010	535.3	479.4	535.3	469.3
2011	405.6	405.6	405.6	353.9
2012	175.9	136.8	175.9	123.4
2013	167.1	136.8	167.1	126.6
2014	139.6	107.0	139.6	109.2
2015	79.3	106.5	79.3	79.1
2016	273.3	273.3	273.3	186.8
2017	590.6	590.6	590.6	591.8
2018	309.7	186.7	309.7	163.5
2019	344.2	332.4	344.2	265.8
2020	206.0	152.0	206.0	154.8
2021	149.6	143.9	149.6	118.0
2022	155.2	135.4	155.2	123.4

Table AQ 2-A2. Rush Creek at Gem Dam daily peak flows.

Rush Creek Peak Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	191.9	20.4	78.7	40.7
1991	378.0	184.7	130.9	86.7
1992	294.1	28.1	51.9	43.8
1993	478.6	264.6	365.4	267.9
1994	336.8	105.1	129.1	72.6
1995	852.7	601.6	737.8	676.3
1996	460.2	168.8	347.1	238.6
1997	590.5	255.0	486.8	187.7
1998	531.1	281.5	417.6	373.5
1999	529.9	255.2	416.5	227.8
2000	463.3	161.8	323.1	239.3
2001	478.8	161.1	231.2	104.1
2002	335.9	72.1	90.3	67.5
2003	572.6	267.3	324.7	181.1
2004	269.4	4.1	104.7	95.9
2005	516.3	357.5	395.8	291.7
2006	506.5	393.2	393.2	357.5
2007	237.6	26.6	8.9	4.8
2008	292.6	55.8	116.8	96.1
2009	390.4	238.5	154.8	107.3
2010	785.6	438.0	536.7	338.5
2011	595.2	434.5	481.5	397.7
2012	258.1	85.9	186.3	103.8
2013	245.1	25.1	76.4	56.7
2014	204.9	46.3	72.6	55.9
2015	116.4	30.5	1.0	1.0
2016	401.0	316.3	287.1	142.9
2017	866.7	617.4	751.7	746.4
2018	454.4	190.3	381.7	164.5
2019	505.1	240.2	374.6	299.9
2020	302.3	29.3	70.4	75.1
2021	219.5	69.6	92.9	54.2
2022	227.7	1.0	86.7	2.5

Table AQ 2-A3. Rush Creek below Agnew Dam daily peak flows.

Rush Creek Peak Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	202.0	23.8	89.6	51.6
1991	397.9	200.4	152.6	93.0
1992	309.6	28.4	64.3	50.8
1993	503.8	292.0	392.8	295.3
1994	354.5	110.2	140.5	84.1
1995	897.6	650.4	786.6	725.1
1996	484.5	182.6	373.5	263.7
1997	621.6	280.7	520.6	213.4
1998	559.0	302.2	448.0	398.6
1999	557.8	277.3	446.8	254.8
2000	487.7	186.7	348.1	264.3
2001	504.0	177.1	258.6	127.8
2002	353.6	83.7	108.2	76.1
2003	602.8	283.8	357.5	211.6
2004	283.6	5.9	117.1	108.3
2005	543.5	384.5	425.0	320.3
2006	533.2	422.2	422.2	383.1
2007	250.1	41.0	14.6	14.6
2008	308.0	59.0	129.9	109.2
2009	411.0	253.7	170.1	122.1
2010	826.9	464.2	581.6	371.5
2011	626.5	465.9	515.5	425.9
2012	271.7	98.6	201.1	118.6
2013	258.0	33.5	84.8	65.2
2014	215.7	53.1	80.8	64.1
2015	122.6	18.8	7.7	7.7
2016	422.1	363.7	309.4	158.7
2017	912.4	667.0	801.4	796.0
2018	478.3	210.4	407.7	184.5
2019	531.7	268.2	402.5	327.2
2020	318.2	31.7	78.5	83.2
2021	231.0	79.0	102.3	63.7
2022	239.7	1.0	98.1	14.0

Table AQ 2-A4. Rush Creek above SR158 daily peak flows.

Rush Creek Peak Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	186.4	23.7	84.5	50.4
1991	264.3	189.1	143.8	88.7
1992	246.7	26.0	63.2	50.0
1993	276.1	245.5	262.0	259.2
1994	255.7	100.7	131.1	80.4
1995	486.9	345.7	419.3	384.6
1996	274.2	171.5	248.8	246.0
1997	340.4	257.1	297.8	207.2
1998	300.9	255.4	265.6	264.9
1999	295.1	255.2	258.2	235.0
2000	273.5	175.2	264.0	244.8
2001	279.1	169.2	243.0	124.1
2002	256.8	83.1	105.1	72.9
2003	322.1	264.7	248.6	199.9
2004	261.7	8.9	108.0	100.1
2005	300.8	257.7	268.4	264.4
2006	291.4	257.1	264.0	263.3
2007	230.6	37.4	19.2	19.2
2008	262.3	54.9	121.0	102.5
2009	259.9	232.8	158.0	113.7
2010	444.8	272.8	315.2	265.1
2011	329.5	264.9	282.6	270.9
2012	248.2	92.8	184.7	110.7
2013	234.9	32.7	78.8	61.2
2014	196.7	51.0	74.6	59.6
2015	112.6	17.2	9.5	9.5
2016	254.9	240.7	239.6	146.2
2017	497.8	355.5	429.5	426.3
2018	275.7	195.5	257.6	179.0
2019	291.7	260.8	260.8	264.9
2020	257.5	29.3	71.7	77.9
2021	211.3	73.2	94.1	59.4
2022	218.5	4.9	92.1	16.5

Table AQ 2-A5. Rush Creek above Silver Lake daily peak flows.

Rush Creek Peak Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	215.9	152.6	231.9	193.9
1991	471.1	381.2	328.2	272.3
1992	324.9	155.5	216.8	195.1
1993	598.1	462.6	563.5	472.3
1994	371.8	234.4	288.8	232.4
1995	967.0	873.7	1009.8	948.3
1996	575.2	351.4	578.9	464.7
1997	770.0	546.9	810.1	494.1
1998	681.3	501.3	647.1	589.5
1999	551.8	435.9	605.4	417.1
2000	546.9	355.4	516.8	433.0
2001	564.1	365.3	451.9	315.1
2002	384.7	255.2	279.8	223.7
2003	688.1	470.3	573.3	398.1
2004	310.4	124.2	250.1	249.1
2005	676.4	560.2	626.1	515.3
2006	613.9	627.2	627.2	557.6
2007	247.4	171.3	161.9	149.5
2008	369.5	184.7	274.3	257.8
2009	470.6	402.6	347.0	264.1
2010	989.0	706.1	823.4	575.3
2011	737.7	644.0	703.9	618.7
2012	291.2	241.8	344.3	261.9
2013	275.0	164.6	216.0	202.7
2014	234.9	189.4	207.4	192.7
2015	138.6	132.4	106.7	101.0
2016	478.9	515.4	461.2	298.3
2017	1039.2	901.5	1035.8	1030.4
2018	503.4	422.9	639.3	413.4
2019	669.1	531.4	665.7	584.5
2020	351.2	149.0	222.5	218.3
2021	258.9	207.3	230.6	191.9
2022	241.2	105.2	239.5	155.3

Table AQ 2-A6. Rush Creek below Silver Lake daily peak flows.

Rush Creek Peak Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	230.8	162.9	246.4	208.4
1991	503.5	413.5	368.3	312.4
1992	350.6	172.0	236.0	210.5
1993	636.8	494.5	595.3	523.1
1994	399.2	240.5	318.3	249.7
1995	1019.0	925.7	1061.8	1009.3
1996	623.9	378.2	622.6	508.4
1997	861.6	629.6	892.8	576.8
1998	726.0	542.1	687.9	630.3
1999	573.8	458.0	627.5	441.9
2000	592.5	382.2	543.5	459.7
2001	609.5	401.1	490.0	350.9
2002	408.0	283.2	307.8	240.9
2003	736.7	505.2	621.9	441.2
2004	334.7	137.5	260.3	263.8
2005	745.7	590.2	667.8	557.1
2006	660.2	670.8	670.8	590.9
2007	268.8	183.4	183.3	163.1
2008	399.1	191.5	289.8	277.4
2009	507.5	420.2	379.6	290.9
2010	1072.9	766.8	907.3	636.0
2011	785.5	675.1	749.9	659.5
2012	306.1	256.7	359.3	276.8
2013	291.5	174.0	226.3	216.0
2014	244.3	201.2	215.5	203.4
2015	149.1	133.6	111.7	106.0
2016	504.2	534.3	480.1	311.5
2017	1102.1	958.6	1093.0	1087.6
2018	552.8	478.8	695.2	469.3
2019	739.6	606.7	736.3	668.2
2020	370.9	152.1	240.4	229.5
2021	272.7	215.2	238.6	199.9
2022	251.4	119.3	253.6	169.4

Table AQ 2-A7. South Rush Creek above SR158 daily peak flows.

South Rush Creek Peak Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	27.9	8.4	15.0	11.4
1991	167.6	33.6	29.6	23.9
1992	83.2	10.6	14.4	12.0
1993	246.7	67.4	164.9	71.1
1994	132.5	13.7	23.8	15.6
1995	446.5	340.6	403.1	376.3
1996	240.4	29.5	154.8	44.2
1997	338.1	59.8	279.8	54.4
1998	286.2	84.0	213.5	172.3
1999	278.0	37.3	205.0	35.9
2000	240.1	29.9	124.8	38.3
2001	251.1	32.6	41.9	27.6
2002	130.4	19.9	22.4	14.7
2003	314.2	43.2	142.4	37.5
2004	39.1	11.5	16.1	16.8
2005	285.8	158.8	196.5	97.2
2006	271.8	195.1	195.1	152.2
2007	34.2	9.2	10.1	10.1
2008	83.0	14.0	19.6	18.6
2009	181.7	33.0	30.1	21.1
2010	421.8	233.2	306.1	151.9
2011	321.7	222.4	257.6	194.1
2012	33.8	16.1	26.6	18.2
2013	31.1	9.3	12.9	11.8
2014	26.5	10.2	11.6	10.3
2015	16.2	4.7	5.3	5.3
2016	191.8	136.0	82.9	21.6
2017	454.0	351.0	411.3	409.1
2018	241.1	42.2	188.6	41.2
2019	270.4	57.0	190.3	114.6
2020	91.7	8.1	14.7	13.0
2021	29.2	11.3	13.7	9.7
2022	29.2	5.8	15.7	7.1

Table AQ 2-A8. Rush Creek at Rush Meadows Dam 3-day peak flows.

Rush Creek Peak Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditionsa
1990	119.1	97.0	119.1	99.3
1991	249.2	240.7	249.2	205.6
1992	178.1	129.2	178.1	151.2
1993	301.1	301.1	301.1	243.1
1994	214.9	170.5	214.9	142.5
1995	496.2	496.2	496.2	503.4
1996	297.3	235.8	297.3	224.8
1997	278.4	252.7	278.4	207.7
1998	347.5	347.5	347.5	320.5
1999	283.5	283.5	283.5	214.3
2000	296.5	279.4	296.5	218.3
2001	276.8	276.8	276.8	226.0
2002	215.8	215.8	215.8	167.2
2003	377.1	324.6	377.1	266.9
2004	176.9	125.0	176.9	138.5
2005	325.6	325.6	325.6	259.2
2006	335.6	335.6	335.6	318.3
2007	112.4	126.7	112.4	93.5
2008	191.6	158.0	191.6	156.5
2009	254.4	254.4	254.4	202.6
2010	511.3	366.0	511.3	356.5
2011	379.1	379.1	379.1	345.5
2012	150.2	132.9	150.2	120.6
2013	152.0	135.9	152.0	124.7
2014	133.7	106.9	133.7	105.0
2015	75.0	106.5	75.0	74.4
2016	250.9	235.9	250.9	182.2
2017	565.9	565.9	565.9	567.9
2018	242.0	177.3	242.0	162.0
2019	333.5	326.2	333.5	263.4
2020	196.9	143.7	196.9	152.7
2021	141.9	134.8	141.9	116.4
2022	137.0	92.7	137.0	119.2

Table AQ 2-A9. Rush Creek at Gem Dam 3-day peak flows.

Rush Creek Peak Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	174.7	11.6	58.7	37.4
1991	365.7	165.0	118.7	74.9
1992	261.3	22.7	42.1	35.5
1993	441.9	228.0	328.8	254.7
1994	315.3	79.9	92.7	64.2
1995	728.2	477.7	613.8	618.5
1996	436.3	121.4	323.3	235.0
1997	408.6	198.8	305.7	162.7
1998	509.9	260.4	396.5	350.5
1999	416.0	141.7	303.1	214.5
2000	435.1	135.8	297.1	224.1
2001	406.2	132.0	159.0	100.6
2002	316.6	52.9	75.0	65.3
2003	553.4	211.8	305.5	163.0
2004	259.7	2.0	66.6	91.0
2005	477.7	321.6	364.5	283.0
2006	492.5	379.2	379.2	352.0
2007	164.9	22.7	3.6	2.3
2008	281.2	36.9	101.6	92.4
2009	373.3	202.9	126.2	92.4
2010	750.3	272.4	501.6	294.9
2011	556.3	291.5	442.7	391.3
2012	220.5	73.7	148.8	85.5
2013	223.0	21.5	65.5	54.2
2014	196.2	38.0	65.4	53.3
2015	110.1	10.8	1.0	1.0
2016	368.1	210.9	190.3	114.6
2017	830.5	581.3	715.6	717.6
2018	355.1	177.6	282.8	159.2
2019	489.4	231.2	357.9	287.5
2020	289.0	11.9	46.4	61.1
2021	208.3	34.9	43.5	40.3
2022	201.0	1.0	29.6	1.5

Table AQ 2-A10. Rush Creek below Agnew Dam 3-day peak flows.

Rush Creek Peak Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	183.9	13.8	68.5	46.9
1991	385.0	179.6	139.7	86.3
1992	275.1	23.0	48.6	42.0
1993	465.1	253.3	354.1	279.6
1994	331.9	83.7	102.1	73.6
1995	766.5	519.4	655.5	659.7
1996	459.2	135.0	348.2	259.7
1997	430.1	222.2	329.1	186.1
1998	536.7	280.0	425.7	378.6
1999	437.9	159.6	326.9	236.5
2000	458.0	159.2	320.6	247.5
2001	427.6	146.4	182.3	123.8
2002	333.3	63.4	88.0	74.2
2003	582.5	225.1	337.2	190.0
2004	273.3	2.6	78.3	102.7
2005	502.9	346.4	391.9	310.1
2006	518.4	407.4	407.4	378.4
2007	173.6	41.0	10.4	10.4
2008	296.0	37.3	113.9	104.8
2009	392.9	216.1	147.6	103.7
2010	789.8	289.1	544.5	324.2
2011	585.6	309.3	474.6	420.3
2012	232.1	84.5	161.4	98.1
2013	234.8	29.3	73.3	62.0
2014	206.5	44.8	73.2	61.1
2015	115.9	6.9	7.3	7.3
2016	387.5	252.2	206.6	125.6
2017	874.2	628.9	763.2	765.2
2018	373.7	197.9	303.1	179.5
2019	515.2	258.6	384.9	313.2
2020	304.2	13.0	58.9	69.1
2021	219.2	41.5	50.1	46.3
2022	211.6	1.0	36.0	12.5

Table AQ 2-A11. Rush Creek above SR158 3-day peak flows.

Rush Creek Peak Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	169.3	15.6	65.5	45.3
1991	252.5	168.1	134.3	84.9
1992	238.0	21.1	47.4	41.5
1993	267.9	229.7	252.4	249.2
1994	241.0	76.7	95.3	69.8
1995	412.5	298.6	354.5	354.0
1996	266.4	129.2	246.6	242.9
1997	263.9	210.2	212.2	177.8
1998	292.5	251.1	257.8	263.2
1999	262.2	150.3	250.4	219.9
2000	262.1	150.1	251.3	229.4
2001	259.3	138.9	171.1	118.7
2002	242.0	62.5	84.6	70.9
2003	309.7	214.3	244.8	180.7
2004	249.8	8.2	73.3	95.2
2005	284.9	244.2	258.5	257.5
2006	283.4	251.7	251.9	259.7
2007	161.8	37.4	15.3	15.3
2008	251.3	35.7	106.4	98.6
2009	251.8	198.9	141.6	96.5
2010	424.7	229.1	301.9	251.3
2011	315.4	249.2	273.9	264.4
2012	212.8	80.7	149.3	92.5
2013	215.5	28.7	68.3	58.1
2014	188.1	43.3	67.8	56.9
2015	107.0	6.6	9.5	9.5
2016	250.7	171.0	162.0	116.4
2017	472.1	335.6	405.9	406.3
2018	257.3	187.7	229.9	171.2
2019	288.3	252.1	258.2	258.2
2020	240.2	12.5	58.3	65.2
2021	200.6	39.3	47.1	43.6
2022	192.9	4.6	35.9	14.2

Table AQ 2-A12. Rush Creek above Silver Lake 3-day peak flows.

Rush Creek Peak Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	210.2	144.1	209.9	184.3
1991	454.2	356.2	318.6	264.5
1992	311.1	145.8	188.6	182.0
1993	548.3	448.5	549.3	469.8
1994	364.1	207.1	244.9	212.6
1995	893.4	748.9	885.0	896.5
1996	555.8	323.9	549.0	451.7
1997	620.9	462.6	573.1	404.1
1998	635.9	482.0	627.8	575.7
1999	497.6	324.2	491.5	404.9
2000	528.3	324.8	486.1	413.1
2001	502.0	314.4	359.1	297.9
2002	379.6	216.9	247.7	217.9
2003	666.9	428.9	524.9	390.2
2004	296.6	120.4	212.1	236.5
2005	634.9	526.9	588.6	500.3
2006	595.4	593.7	593.7	549.3
2007	221.3	163.9	136.5	127.3
2008	355.1	164.6	256.9	250.3
2009	463.0	364.1	327.9	252.4
2010	939.4	492.4	803.7	527.1
2011	687.2	526.9	692.1	605.2
2012	265.5	232.5	306.0	242.7
2013	253.6	158.5	204.9	193.3
2014	218.0	179.7	200.9	187.9
2015	134.9	93.5	99.6	96.5
2016	460.6	395.0	340.7	263.9
2017	998.3	856.2	990.5	981.5
2018	476.7	385.3	490.5	366.9
2019	656.5	521.1	636.7	580.4
2020	346.9	129.9	211.2	204.7
2021	240.9	168.6	177.3	172.9
2022	235.5	94.7	144.2	128.2

Table AQ 2-A13. Rush Creek below Silver Lake 3-day peak flows.

Rush Creek Peak Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	223.8	155.4	224.4	197.9
1991	489.4	387.7	351.6	301.9
1992	330.9	162.4	203.1	195.4
1993	587.3	487.5	588.4	509.8
1994	386.0	212.8	266.9	225.6
1995	948.3	806.1	942.2	954.8
1996	598.3	390.0	590.6	493.4
1997	684.9	526.7	637.1	483.3
1998	678.1	524.2	669.9	615.6
1999	524.0	349.1	516.4	431.5
2000	561.7	350.0	511.4	438.3
2001	536.0	345.8	393.2	339.6
2002	405.3	236.5	273.5	233.1
2003	712.3	471.9	568.1	433.3
2004	319.0	133.3	222.7	247.1
2005	698.6	559.1	628.4	543.3
2006	636.1	628.6	628.6	578.3
2007	240.6	174.2	148.5	139.3
2008	384.0	182.5	271.7	267.0
2009	495.1	381.3	360.1	283.2
2010	1022.8	540.9	887.2	585.2
2011	736.6	576.3	741.5	644.8
2012	280.3	249.7	321.6	258.3
2013	270.4	168.1	214.5	203.1
2014	227.7	190.7	210.8	197.2
2015	145.1	95.0	104.2	101.1
2016	494.7	409.7	360.6	276.6
2017	1053.0	912.8	1047.1	1030.3
2018	519.6	420.7	525.9	402.3
2019	726.7	591.3	701.9	658.7
2020	366.1	138.9	230.4	216.1
2021	254.2	176.1	184.8	180.2
2022	246.0	97.7	157.1	136.6

Table AQ 2-A14. South Rush Creek above SR158 3-day peak flows.

South Rush Creek Peak Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	24.8	23.7	84.5	50.4
1991	159.8	189.1	143.8	88.7
1992	50.8	26.0	63.2	50.0
1993	224.1	245.5	262.0	259.2
1994	106.1	100.7	131.1	80.4
1995	391.8	345.7	419.3	384.6
1996	221.5	171.5	248.8	246.0
1997	205.0	257.1	297.8	207.2
1998	273.3	255.4	265.6	264.9
1999	193.6	255.2	258.2	235.0
2000	212.1	175.2	264.0	244.8
2001	191.5	169.2	243.0	124.1
2002	107.3	83.1	105.1	72.9
2003	297.3	264.7	248.6	199.9
2004	35.4	8.9	108.0	100.1
2005	254.4	257.7	268.4	264.4
2006	259.0	257.1	264.0	263.3
2007	26.2	37.4	19.2	19.2
2008	67.1	54.9	121.0	102.5
2009	166.6	232.8	158.0	113.7
2010	408.9	272.8	315.2	265.1
2011	304.2	264.9	282.6	270.9
2012	30.0	92.8	184.7	110.7
2013	30.8	32.7	78.8	61.2
2014	25.0	51.0	74.6	59.6
2015	16.0	17.2	9.5	9.5
2016	161.0	240.7	239.6	146.2
2017	438.0	355.5	429.5	426.3
2018	141.0	195.5	257.6	179.0
2019	264.0	260.8	260.8	264.9
2020	77.2	29.3	71.7	77.9
2021	27.8	73.2	94.1	59.4
2022	25.8	4.9	92.1	16.5

Table AQ 2-A15. Rush Creek at Rush Meadows Dam 7-day peak flows.

Rush Creek Peak Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	115.3	87.3	115.3	95.4
1991	224.5	197.0	224.5	200.2
1992	165.6	128.1	165.6	148.9
1993	276.0	276.0	276.0	241.8
1994	159.1	152.7	159.1	130.4
1995	436.3	436.3	436.3	438.0
1996	282.8	213.8	282.8	221.8
1997	243.4	216.3	243.4	204.2
1998	309.7	309.7	309.7	292.1
1999	261.2	261.2	261.2	210.8
2000	263.9	250.4	263.9	214.2
2001	239.2	225.7	239.2	220.3
2002	185.9	184.0	185.9	166.3
2003	344.7	300.2	344.7	264.9
2004	147.6	118.4	147.6	133.7
2005	289.4	289.4	289.4	257.4
2006	324.9	324.9	324.9	305.4
2007	97.3	126.7	97.3	90.4
2008	176.2	147.3	176.2	152.3
2009	234.8	234.8	234.8	202.2
2010	445.4	304.6	445.4	301.2
2011	340.2	340.2	340.2	329.6
2012	128.3	120.5	128.3	114.4
2013	136.9	121.9	136.9	119.4
2014	111.9	105.0	111.9	99.0
2015	69.5	104.6	69.5	69.4
2016	202.4	173.7	202.4	173.7
2017	535.1	535.1	535.1	526.0
2018	170.1	157.3	170.1	161.5
2019	298.7	298.7	298.7	259.0
2020	169.6	130.6	169.6	147.1
2021	122.1	118.7	122.1	114.1
2022	123.1	79.6	123.1	115.6

Table AQ 2-A16. Rush Creek at Gem Dam 7-day peak flows.

Rush Creek Peak Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	169.2	5.5	54.8	31.7
1991	329.5	104.2	82.7	51.5
1992	242.9	19.8	34.1	32.5
1993	405.0	191.3	292.2	249.6
1994	233.4	59.2	59.1	49.5
1995	640.2	390.2	526.3	528.0
1996	415.1	132.0	269.8	220.8
1997	357.2	152.3	180.1	131.7
1998	454.4	205.2	341.3	320.1
1999	383.3	109.2	270.5	205.4
2000	387.2	102.0	254.7	204.9
2001	351.1	67.6	104.2	80.6
2002	272.9	23.2	52.9	54.9
2003	505.8	180.0	258.2	154.3
2004	216.6	1.4	32.8	66.5
2005	424.7	279.3	311.7	269.6
2006	476.8	363.6	363.6	336.6
2007	142.8	16.0	2.1	1.5
2008	258.6	16.4	93.1	89.7
2009	344.6	164.3	97.7	77.1
2010	653.6	182.7	405.3	262.1
2011	499.2	234.7	385.9	368.7
2012	188.2	40.6	87.8	51.8
2013	200.9	11.1	51.4	39.8
2014	164.1	27.5	48.5	46.1
2015	102.0	5.2	1.0	1.0
2016	297.0	96.3	82.1	85.8
2017	785.3	536.3	670.6	652.5
2018	249.6	121.8	172.3	132.5
2019	438.3	191.0	325.0	278.9
2020	248.9	5.7	22.6	46.0
2021	179.2	15.5	19.3	19.2
2022	180.7	1.0	13.2	1.2

Table AQ 2-A17. Rush Creek below Agnew Dam 7-day peak flows.

Rush Creek Peak Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	178.1	6.5	64.5	41.4
1991	346.8	115.7	101.5	69.5
1992	255.7	20.0	40.2	38.5
1993	426.4	214.5	315.4	272.5
1994	245.7	61.8	66.6	56.5
1995	673.9	426.8	562.9	564.7
1996	436.9	147.6	292.2	242.3
1997	376.0	167.9	196.2	143.9
1998	478.3	222.1	367.3	345.8
1999	403.4	127.7	292.4	226.4
2000	407.6	114.4	275.8	225.2
2001	369.6	79.2	124.2	100.5
2002	287.2	28.8	60.0	63.4
2003	532.4	198.7	287.1	182.0
2004	228.0	1.7	43.6	75.4
2005	447.0	301.8	336.0	293.6
2006	501.9	390.9	390.9	363.0
2007	150.3	41.0	9.2	9.2
2008	272.2	16.6	104.9	101.4
2009	362.7	175.3	117.4	86.7
2010	688.0	194.3	442.7	287.0
2011	525.5	255.0	414.5	397.0
2012	198.1	47.0	97.8	61.7
2013	211.5	15.5	58.5	47.2
2014	172.8	34.1	55.4	52.8
2015	107.3	3.5	6.8	6.8
2016	312.6	121.0	91.5	94.6
2017	826.6	581.3	715.6	696.8
2018	262.8	135.8	186.3	145.6
2019	461.4	216.1	350.1	303.9
2020	262.0	6.1	36.9	53.3
2021	188.6	19.3	24.4	24.3
2022	190.2	1.0	17.8	11.3

Table AQ 2-A18. Rush Creek above SR158 7-day peak flows.

Rush Creek Peak Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	163.7	9.6	61.6	40.9
1991	246.5	109.9	99.6	69.8
1992	228.4	18.5	39.2	37.8
1993	255.7	195.7	238.3	242.1
1994	200.1	56.9	63.7	54.2
1995	366.3	279.7	316.6	315.4
1996	260.4	145.9	233.8	227.6
1997	251.7	160.7	147.7	135.3
1998	273.5	205.2	254.0	254.5
1999	256.1	122.0	234.7	210.5
2000	255.4	111.3	229.7	210.1
2001	250.4	80.3	121.2	99.5
2002	232.9	31.9	56.9	60.9
2003	291.6	188.6	232.7	173.8
2004	209.6	6.0	42.5	70.5
2005	271.2	241.8	253.3	252.9
2006	276.9	249.1	249.4	258.6
2007	137.7	37.3	12.3	12.3
2008	240.9	18.5	98.5	95.5
2009	248.2	161.9	114.3	81.0
2010	377.3	167.9	270.6	244.7
2011	291.4	235.4	260.2	254.2
2012	181.9	47.0	92.6	60.3
2013	192.9	17.4	55.5	45.6
2014	158.4	33.2	51.8	49.1
2015	99.0	3.7	8.8	8.8
2016	243.6	87.6	88.1	87.9
2017	443.1	314.6	379.9	369.0
2018	229.0	131.6	154.5	137.2
2019	276.7	214.5	256.8	256.2
2020	220.1	6.5	37.8	50.9
2021	172.8	19.0	23.7	23.6
2022	173.4	4.2	18.2	12.9

Table AQ 2-A19. Rush Creek above Silver Lake 7-day peak flows.

Rush Creek Peak Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	204.0	113.4	204.2	181.1
1991	411.4	272.7	277.1	243.3
1992	294.7	134.8	175.4	173.8
1993	486.1	383.3	484.1	443.0
1994	302.2	183.9	207.6	194.7
1995	823.0	677.7	813.8	815.5
1996	523.5	360.0	483.3	431.8
1997	456.3	366.3	406.3	342.5
1998	562.2	417.4	562.6	544.1
1999	469.1	296.6	461.8	392.2
2000	487.1	294.1	455.5	400.4
2001	445.2	253.9	308.6	282.6
2002	335.7	168.6	199.7	204.5
2003	618.9	386.9	481.8	376.1
2004	261.9	113.9	174.0	208.0
2005	579.2	473.8	525.2	482.8
2006	577.3	572.6	572.6	537.7
2007	178.2	155.8	109.3	107.3
2008	326.5	149.9	249.2	248.1
2009	431.4	320.5	296.3	246.0
2010	842.6	386.9	708.0	511.3
2011	629.1	460.0	626.6	582.2
2012	227.0	189.4	244.0	205.8
2013	231.2	137.8	192.6	181.0
2014	197.4	164.6	183.3	177.4
2015	127.1	90.0	90.5	89.2
2016	389.8	264.6	247.4	228.6
2017	927.7	798.1	932.4	898.8
2018	344.0	320.6	371.1	319.1
2019	620.1	483.2	614.8	565.1
2020	297.3	115.3	163.5	187.3
2021	213.4	143.3	147.6	146.6
2022	210.8	86.6	115.3	115.8

Table AQ 2-A20. Rush Creek below Silver Lake 7-day peak flows.

Rush Creek Peak Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	217.8	123.4	217.5	194.4
1991	441.6	294.0	307.1	273.3
1992	312.9	149.9	186.7	185.0
1993	521.0	420.9	521.7	480.6
1994	325.3	189.1	221.5	207.4
1995	887.8	742.5	878.6	880.3
1996	565.7	406.9	521.4	468.6
1997	493.2	412.2	452.2	388.4
1998	601.2	456.4	601.7	584.6
1999	496.1	323.6	488.9	417.6
2000	524.5	326.9	488.2	431.9
2001	480.5	284.5	343.3	316.6
2002	357.0	188.6	222.8	218.5
2003	660.8	422.7	520.6	414.8
2004	279.1	125.3	186.0	218.1
2005	638.6	502.0	561.4	519.0
2006	611.4	607.0	607.0	570.6
2007	193.8	157.5	114.8	113.0
2008	352.2	162.6	264.7	264.9
2009	462.8	336.4	327.7	276.8
2010	914.1	443.0	779.5	574.9
2011	677.6	506.2	675.2	620.9
2012	241.7	206.4	260.9	222.7
2013	242.0	147.9	203.4	191.7
2014	208.9	173.6	191.4	184.5
2015	136.3	91.4	93.5	92.7
2016	421.8	283.1	279.4	241.3
2017	982.0	847.1	981.4	941.0
2018	376.8	354.9	405.3	353.3
2019	691.6	555.6	686.0	636.3
2020	313.9	117.0	180.1	197.9
2021	225.7	149.4	153.7	152.6
2022	219.8	89.7	119.5	120.0

Table AQ 2-A21. South Rush Creek above SR158 7-day peak flows.

South Rush Creek Peak Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	23.7	15.6	65.5	45.3
1991	123.1	168.1	134.3	84.9
1992	39.8	21.1	47.4	41.5
1993	187.3	229.7	252.4	249.2
1994	61.6	76.7	95.3	69.8
1995	352.3	298.6	354.5	354.0
1996	204.7	129.2	246.6	242.9
1997	151.7	210.2	212.2	177.8
1998	231.7	251.1	257.8	263.2
1999	167.6	150.3	250.4	219.9
2000	177.5	150.1	251.3	229.4
2001	144.0	138.9	171.1	118.7
2002	71.1	62.5	84.6	70.9
2003	267.5	214.3	244.8	180.7
2004	30.3	8.2	73.3	95.2
2005	214.9	244.2	258.5	257.5
2006	246.0	251.7	251.9	259.7
2007	20.9	37.4	15.3	15.3
2008	49.6	35.7	106.4	98.6
2009	139.1	198.9	141.6	96.5
2010	360.0	229.1	301.9	251.3
2011	265.9	249.2	273.9	264.4
2012	26.3	80.7	149.3	92.5
2013	26.1	28.7	68.3	58.1
2014	22.3	43.3	67.8	56.9
2015	14.8	6.6	9.5	9.5
2016	91.0	171.0	162.0	116.4
2017	417.2	335.6	405.9	406.3
2018	78.0	187.7	229.9	171.2
2019	234.6	252.1	258.2	258.2
2020	53.3	12.5	58.3	65.2
2021	24.3	39.3	47.1	43.6
2022	23.3	4.6	35.9	14.2

Table AQ 2-A22. Rush Creek at Rush Meadows Dam monthly peak flows.

Rush Creek Peak Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	68.1	51.0	68.1	68.1
1991	144.2	81.3	144.2	154.9
1992	122.3	88.9	122.3	119.7
1993	197.7	197.7	197.7	180.4
1994	101.0	90.8	101.0	90.5
1995	313.8	313.8	313.8	320.2
1996	185.7	119.3	185.7	184.2
1997	173.7	138.3	173.7	157.1
1998	235.7	235.7	235.7	261.2
1999	175.7	175.7	175.7	184.7
2000	180.9	180.9	180.9	198.7
2001	194.8	111.1	194.8	169.9
2002	111.1	111.1	111.1	126.1
2003	177.1	177.1	177.1	215.6
2004	108.4	86.0	108.4	103.6
2005	233.0	233.0	233.0	237.3
2006	273.3	273.3	273.3	244.9
2007	81.2	80.5	81.2	79.1
2008	115.9	97.5	115.9	119.7
2009	172.2	153.7	172.2	147.9
2010	258.0	174.2	258.0	216.9
2011	226.5	213.4	226.5	247.5
2012	93.3	73.9	93.3	101.1
2013	105.7	78.8	105.7	107.3
2014	86.6	79.4	86.6	80.0
2015	47.2	52.2	47.2	46.6
2016	126.1	90.4	126.1	131.6
2017	378.5	378.5	378.5	364.7
2018	139.5	95.9	139.5	130.8
2019	239.2	176.3	239.2	210.6
2020	124.3	86.0	124.3	118.5
2021	92.0	75.2	92.0	93.6
2022	90.8	90.0	90.8	84.9

Table AQ 2-A23. Rush Creek at Gem Dam monthly peak flows.

Rush Creek Peak Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	99.9	2.1	13.8	10.0
1991	211.6	25.1	33.0	29.4
1992	179.5	12.4	10.9	9.8
1993	290.1	96.0	162.8	137.3
1994	148.2	20.0	14.9	13.4
1995	460.5	243.7	347.4	353.8
1996	272.6	34.6	144.6	146.6
1997	254.9	44.3	69.7	84.7
1998	345.9	127.6	236.1	258.7
1999	257.9	31.5	117.4	109.3
2000	265.5	54.6	123.0	146.6
2001	285.8	16.0	57.2	38.5
2002	163.0	4.2	17.5	20.2
2003	259.9	55.3	64.6	91.5
2004	159.0	1.1	13.6	23.8
2005	341.9	141.7	173.4	197.0
2006	401.1	198.9	258.8	228.2
2007	119.2	10.2	1.3	1.1
2008	170.0	4.6	38.8	45.4
2009	252.7	77.0	48.7	53.4
2010	378.6	75.3	196.4	161.2
2011	332.3	134.7	200.7	234.7
2012	136.9	10.2	21.3	12.8
2013	155.1	3.3	13.3	10.5
2014	127.1	7.2	14.0	14.1
2015	69.2	2.0	1.0	1.0
2016	185.0	22.1	30.3	35.6
2017	555.5	322.5	411.6	398.2
2018	204.6	40.8	63.3	52.0
2019	351.1	82.0	189.0	175.5
2020	182.4	2.1	6.6	12.3
2021	135.0	4.4	5.7	5.2
2022	133.3	1.6	3.8	1.0

Table AQ 2-A24. Rush Creek below Agnew Dam monthly peak flows.

Rush Creek Peak Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	183.9	2.3	19.5	15.7
1991	385.0	27.8	45.1	41.6
1992	275.1	12.5	15.1	14.1
1993	465.1	106.8	179.4	149.7
1994	331.9	20.5	18.0	16.6
1995	766.5	270.1	373.7	380.2
1996	459.2	40.4	160.2	162.2
1997	430.1	48.6	81.3	96.3
1998	536.7	144.1	255.9	278.6
1999	437.9	38.2	132.2	124.0
2000	458.0	65.9	138.2	161.8
2001	427.6	18.7	73.6	54.8
2002	333.3	5.4	26.8	29.5
2003	582.5	62.7	79.5	106.4
2004	273.3	1.2	21.4	31.6
2005	502.9	156.6	193.0	213.0
2006	518.4	220.4	281.8	251.2
2007	173.6	17.9	7.8	7.8
2008	296.0	4.6	48.5	55.1
2009	392.9	82.3	58.8	63.5
2010	789.8	77.8	218.1	182.8
2011	585.6	149.7	218.6	252.7
2012	232.1	11.7	25.4	17.0
2013	234.8	4.4	18.0	15.2
2014	206.5	9.0	17.8	17.8
2015	115.9	1.6	5.0	5.0
2016	387.5	27.6	40.9	46.2
2017	874.2	352.1	443.4	430.0
2018	373.7	46.3	71.1	59.8
2019	515.2	94.3	209.1	195.6
2020	304.2	2.2	17.0	18.6
2021	219.2	5.3	9.0	8.7
2022	211.6	1.8	8.6	8.6

Table AQ 2-A25. Rush Creek above SR158 monthly peak flows.

Rush Creek Peak Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	97.6	5.2	20.7	17.2
1991	177.4	30.6	46.2	42.9
1992	172.7	11.7	16.5	15.6
1993	219.2	104.1	157.1	139.3
1994	138.4	19.2	18.9	17.0
1995	290.0	210.4	255.5	265.4
1996	214.2	44.9	143.3	154.2
1997	215.2	48.9	78.7	92.1
1998	240.8	137.8	206.1	231.2
1999	213.6	40.1	116.2	117.2
2000	223.6	66.5	125.3	152.7
2001	228.4	25.2	74.5	57.6
2002	153.1	8.4	27.6	30.1
2003	197.8	62.0	75.5	101.3
2004	154.2	4.8	22.5	31.6
2005	246.7	138.4	170.2	190.0
2006	258.3	178.8	224.4	218.3
2007	115.6	16.5	10.0	10.0
2008	165.0	8.5	47.8	53.8
2009	214.3	77.8	56.7	61.0
2010	262.5	75.2	163.6	170.2
2011	232.2	135.1	166.7	200.9
2012	131.9	12.8	25.1	17.5
2013	149.3	6.2	18.4	15.9
2014	122.8	9.9	17.8	17.8
2015	67.2	2.7	6.2	6.2
2016	168.1	20.3	41.6	46.3
2017	326.7	234.8	273.7	273.5
2018	187.5	45.6	62.7	57.8
2019	247.4	98.7	178.1	178.7
2020	171.4	4.5	18.9	18.9
2021	130.2	5.8	10.5	10.5
2022	128.3	3.2	10.1	10.1

Table AQ 2-A26. Rush Creek above Silver Lake monthly peak flows.

Rush Creek Peak Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	129.4	75.7	116.6	119.9
1991	269.3	122.4	181.3	190.0
1992	223.2	99.4	117.6	111.9
1993	375.0	267.5	333.4	309.7
1994	189.5	100.4	106.3	104.3
1995	590.9	484.7	588.4	594.8
1996	356.6	176.5	327.6	332.2
1997	331.0	179.1	234.0	250.5
1998	444.0	326.0	437.7	463.1
1999	320.5	152.5	264.2	271.8
2000	341.3	223.2	305.4	329.0
2001	365.1	130.8	230.8	205.8
2002	202.9	85.2	148.4	163.1
2003	322.1	178.5	225.0	261.1
2004	197.4	93.5	143.0	153.3
2005	439.1	313.7	378.6	380.8
2006	510.0	419.7	481.2	450.6
2007	148.4	96.6	90.6	89.2
2008	213.1	70.0	171.1	175.5
2009	315.8	202.3	185.3	202.0
2010	499.5	255.5	416.5	378.6
2011	427.2	308.2	380.8	414.9
2012	164.8	91.3	110.1	101.1
2013	185.4	96.9	126.0	118.5
2014	153.2	97.6	112.7	112.0
2015	86.2	65.4	73.1	73.1
2016	235.6	117.8	177.8	185.1
2017	680.4	556.1	647.3	633.9
2018	243.5	167.3	197.1	187.0
2019	477.9	281.3	419.4	401.6
2020	220.8	87.7	108.7	128.2
2021	164.0	75.8	93.7	91.8
2022	157.9	60.2	98.5	98.5

Table AQ 2-A27. Rush Creek below Silver Lake monthly peak flows.

Rush Creek Peak Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	140.5	86.8	127.7	131.0
1991	289.2	142.3	201.2	209.9
1992	238.9	101.3	128.0	122.2
1993	406.9	299.3	365.2	341.5
1994	205.3	103.1	113.6	111.7
1995	639.0	532.7	636.4	642.8
1996	386.8	206.8	357.9	362.5
1997	360.4	197.6	254.0	270.6
1998	478.1	360.0	471.8	497.2
1999	341.1	173.1	284.8	292.4
2000	367.4	249.3	331.5	355.1
2001	394.8	160.5	260.5	235.5
2002	215.8	97.8	161.0	175.8
2003	342.3	198.8	245.2	281.3
2004	211.4	95.3	154.4	164.7
2005	474.5	335.7	414.0	416.2
2006	551.0	460.7	522.1	491.5
2007	159.0	106.8	97.2	95.8
2008	228.3	81.7	186.3	190.6
2009	339.3	216.3	208.7	216.0
2010	544.2	300.1	461.1	423.3
2011	464.3	332.0	412.8	438.6
2012	173.7	99.4	118.2	109.2
2013	195.2	104.9	134.0	126.5
2014	162.5	104.0	119.1	118.4
2015	92.5	67.8	76.3	76.3
2016	252.8	122.3	195.1	202.3
2017	723.4	599.2	690.4	677.0
2018	257.2	181.8	211.5	201.4
2019	527.2	330.5	468.7	450.9
2020	233.5	89.0	116.4	135.9
2021	173.4	79.5	97.5	95.6
2022	166.1	63.8	102.2	102.1

Table AQ 2-A28. South Rush Creek above SR158 monthly peak flows.

South Rush Creek Peak Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	15.3	9.6	61.6	40.9
1991	59.0	109.9	99.6	69.8
1992	27.1	18.5	39.2	37.8
1993	108.1	195.7	238.3	242.1
1994	28.5	56.9	63.7	54.2
1995	227.8	279.7	316.6	315.4
1996	93.6	145.9	233.8	227.6
1997	73.3	160.7	147.7	135.3
1998	146.8	205.2	254.0	254.5
1999	72.0	122.0	234.7	210.5
2000	73.8	111.3	229.7	210.1
2001	92.9	80.3	121.2	99.5
2002	30.0	31.9	56.9	60.9
2003	89.7	188.6	232.7	173.8
2004	22.8	6.0	42.5	70.5
2005	137.6	241.8	253.3	252.9
2006	192.1	249.1	249.4	258.6
2007	17.1	37.3	12.3	12.3
2008	25.6	18.5	98.5	95.5
2009	67.8	161.9	114.3	81.0
2010	166.7	167.9	270.6	244.7
2011	154.2	235.4	260.2	254.2
2012	18.3	47.0	92.6	60.3
2013	20.6	17.4	55.5	45.6
2014	17.5	33.2	51.8	49.1
2015	10.0	3.7	8.8	8.8
2016	38.5	87.6	88.1	87.9
2017	287.6	314.6	379.9	369.0
2018	37.4	131.6	154.5	137.2
2019	156.1	214.5	256.8	256.2
2020	29.2	6.5	37.8	50.9
2021	18.4	19.0	23.7	23.6
2022	17.7	4.2	18.2	12.9

Table AQ 2-A29. Rush Creek at Rush Meadows Dam daily low flows.

Rush Creek Low Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.6	0.6	0.6	0.6
1991	0.6	0.6	0.6	0.6
1992	0.6	0.6	0.6	0.6
1993	0.6	0.6	0.6	0.6
1994	0.6	0.6	0.6	0.6
1995	0.6	0.6	0.6	0.6
1996	0.6	0.6	0.6	0.6
1997	0.7	0.7	0.7	0.8
1998	0.6	0.6	0.6	0.6
1999	0.6	0.6	0.6	0.6
2000	0.6	0.6	0.6	0.6
2001	0.6	0.6	0.6	0.6
2002	0.4	0.4	0.4	0.5
2003	0.6	0.6	0.6	0.6
2004	0.6	0.6	0.6	0.6
2005	0.6	0.6	0.6	0.6
2006	0.6	0.6	0.6	0.6
2007	0.6	0.6	0.6	0.6
2008	0.6	0.6	0.6	0.6
2009	0.6	0.6	0.6	0.6
2010	0.6	0.6	0.6	0.6
2011	0.6	0.6	0.6	0.7
2012	0.6	0.6	0.6	0.6
2013	0.6	0.6	0.6	0.7
2014	0.6	0.6	0.6	0.6
2015	0.6	0.6	0.6	0.6
2016	0.6	0.6	0.6	0.6
2017	0.8	0.8	0.8	0.8
2018	0.8	0.8	0.8	0.8
2019	0.6	0.6	0.6	0.7
2020	0.6	0.6	0.6	0.6
2021	0.6	0.6	0.6	0.7
2022	2.0	2.0	2.0	2.6

Table AQ 2-A30. Rush Creek at Gem Dam daily low flows.

Rush Creek Low Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.0	1.0
1991	1.0	1.0	1.0	1.0
1992	1.0	1.0	1.0	1.0
1993	1.0	1.0	1.0	1.0
1994	1.0	1.0	1.0	1.0
1995	1.0	1.0	1.0	1.0
1996	1.0	1.0	1.0	1.0
1997	1.0	1.0	1.0	1.0
1998	1.0	1.0	1.0	1.0
1999	1.0	1.0	1.0	1.0
2000	1.0	1.0	1.0	1.0
2001	1.0	1.0	1.0	1.0
2002	0.6	1.0	1.0	1.0
2003	1.0	1.0	1.0	1.0
2004	1.0	1.0	1.0	1.0
2005	1.0	1.0	1.0	1.0
2006	1.0	1.0	1.0	1.0
2007	1.0	1.0	1.0	1.0
2008	1.0	1.0	1.0	1.0
2009	1.0	1.0	1.0	1.0
2010	1.0	1.0	1.0	1.0
2011	1.0	1.0	1.0	1.0
2012	1.0	1.0	1.0	1.0
2013	1.0	1.0	1.0	1.0
2014	1.0	1.0	1.0	1.0
2015	1.0	1.0	1.0	1.0
2016	1.0	1.0	1.0	1.0
2017	1.2	1.0	1.0	1.0
2018	1.1	1.0	1.0	1.0
2019	1.0	1.0	1.0	1.0
2020	1.0	1.0	1.0	1.0
2021	1.0	1.0	1.0	1.0
2022	3.0	1.0	1.0	1.0

Table AQ 2-A31. Rush Creek below Agnew Dam daily low flows.

Rush Creek Low Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.1	1.1
1991	1.0	1.0	1.1	1.1
1992	1.0	1.0	1.1	1.1
1993	1.0	1.0	1.1	1.1
1994	1.0	1.0	1.1	1.1
1995	1.0	1.0	1.1	1.1
1996	1.0	1.0	1.1	1.1
1997	1.0	1.0	1.1	1.1
1998	1.0	1.0	1.1	1.1
1999	1.0	1.0	1.1	1.1
2000	1.0	1.0	1.1	1.1
2001	1.0	1.0	1.1	1.1
2002	0.6	1.0	1.0	1.0
2003	1.0	1.0	1.1	1.1
2004	1.0	1.0	1.1	1.1
2005	1.0	1.0	1.1	1.1
2006	1.0	1.0	1.1	1.1
2007	1.0	1.0	1.1	1.1
2008	1.0	1.0	1.1	1.1
2009	1.0	1.0	1.1	1.1
2010	1.0	1.0	1.1	1.1
2011	1.0	1.0	1.1	1.1
2012	1.0	1.0	1.1	1.1
2013	1.0	1.0	1.1	1.1
2014	1.0	1.0	1.1	1.1
2015	1.0	1.0	1.1	1.1
2016	1.0	1.0	1.1	1.1
2017	1.3	1.0	1.1	1.1
2018	1.2	1.0	1.1	1.1
2019	1.0	1.0	1.1	1.1
2020	1.0	1.0	1.1	1.1
2021	1.0	1.0	1.1	1.1
2022	3.2	1.0	1.2	1.2

Table AQ 2-A32. Rush Creek above SR158 daily low flows.

Rush Creek Low Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.9	0.9	1.0	1.0
1991	1.0	0.9	1.0	1.0
1992	1.1	1.1	1.1	1.1
1993	1.3	1.3	1.3	1.3
1994	1.4	1.1	1.2	1.2
1995	1.4	1.2	1.4	1.4
1996	1.0	0.9	1.0	1.0
1997	2.9	1.1	1.7	1.7
1998	1.4	1.0	1.4	1.4
1999	1.4	1.1	1.2	1.2
2000	1.0	1.0	1.1	1.1
2001	1.0	1.0	1.1	1.1
2002	1.0	1.2	1.3	1.3
2003	1.2	1.0	1.3	1.3
2004	1.2	1.0	1.2	1.2
2005	1.0	1.0	1.0	1.0
2006	1.0	1.0	1.0	1.0
2007	1.1	1.0	1.1	1.1
2008	1.3	1.1	1.3	1.3
2009	1.0	1.0	1.0	1.0
2010	1.9	1.0	1.3	1.3
2011	1.5	1.1	1.4	1.4
2012	1.6	1.0	1.1	1.1
2013	1.1	1.0	1.1	1.1
2014	1.1	1.0	1.1	1.1
2015	1.1	1.0	1.2	1.2
2016	1.6	1.0	1.6	1.6
2017	2.2	1.0	2.0	2.0
2018	1.5	1.3	1.4	1.4
2019	0.9	0.9	1.0	1.0
2020	0.9	0.9	1.0	1.0
2021	1.0	0.9	1.0	1.0
2022	3.8	1.0	1.3	1.3

Table AQ 2-A33. Rush Creek above Silver Lake daily low flows.

Rush Creek Low Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.8	8.2	11.4	11.5
1991	1.3	5.2	11.3	11.3
1992	1.6	5.4	12.4	12.4
1993	3.3	23.9	13.9	13.9
1994	2.8	3.5	8.8	8.8
1995	4.5	25.1	15.3	15.3
1996	1.5	9.3	12.0	12.0
1997	11.5	17.6	21.1	21.2
1998	3.7	23.4	14.8	14.8
1999	2.6	8.4	7.7	7.7
2000	1.5	15.2	11.9	12.0
2001	1.9	4.7	11.6	11.7
2002	3.4	4.0	10.9	10.9
2003	3.5	4.4	11.7	11.8
2004	2.4	7.1	9.1	9.2
2005	1.7	1.7	11.8	11.9
2006	1.0	9.6	11.6	11.7
2007	2.4	2.1	6.3	6.4
2008	5.0	5.2	9.0	9.1
2009	1.7	1.8	11.9	11.9
2010	6.0	6.9	16.1	16.1
2011	4.7	21.1	15.5	15.5
2012	3.2	2.5	8.3	8.4
2013	2.2	2.6	7.6	7.6
2014	2.8	1.9	8.3	8.6
2015	3.5	2.0	2.7	2.7
2016	5.8	5.6	10.2	11.1
2017	9.5	23.7	19.5	19.5
2018	4.6	7.7	14.7	14.7
2019	1.1	12.2	11.3	11.3
2020	1.0	2.3	7.1	7.1
2021	1.5	2.0	6.0	6.1
2022	7.1	1.8	6.6	7.8

Table AQ 2-A34. Rush Creek below Silver Lake daily low flows.

Rush Creek Low Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	11.3	11.6	11.6
1991	1.5	7.0	11.4	11.4
1992	2.3	7.5	13.0	13.0
1993	4.6	27.6	15.2	15.2
1994	4.1	4.4	11.1	11.1
1995	5.6	36.3	16.8	16.9
1996	2.0	12.9	12.2	12.2
1997	12.9	18.7	22.5	22.7
1998	5.4	31.1	16.4	16.4
1999	3.2	10.0	9.9	9.9
2000	2.1	18.6	12.3	12.4
2001	2.5	6.5	12.6	12.6
2002	4.9	5.5	12.4	12.5
2003	4.7	5.3	14.5	14.6
2004	3.8	7.9	12.1	12.2
2005	2.1	2.0	12.1	12.2
2006	1.4	10.2	11.8	11.8
2007	3.1	2.6	7.3	7.3
2008	7.0	7.1	10.9	11.0
2009	2.1	2.1	12.2	12.2
2010	6.6	9.1	16.6	16.6
2011	6.7	23.4	17.5	17.5
2012	3.8	2.9	10.3	10.4
2013	2.8	3.3	8.7	8.7
2014	3.5	2.3	8.8	9.2
2015	5.0	2.4	3.2	3.2
2016	7.4	7.1	13.4	14.3
2017	13.3	34.1	23.2	23.2
2018	6.2	9.3	16.3	16.3
2019	1.3	16.4	11.4	11.4
2020	1.2	2.6	8.8	8.8
2021	2.0	2.3	6.9	7.0
2022	7.5	2.2	8.0	8.2

Table AQ 2-A35. South Rush Creek above SR158 daily low flows.

South Rush Creek Low Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.2	0.2	0.2	0.2
1991	0.1	0.1	0.1	0.1
1992	0.3	0.3	0.4	0.4
1993	0.6	0.6	0.6	0.6
1994	0.5	0.4	0.5	0.5
1995	0.8	0.5	0.5	0.5
1996	0.2	0.2	0.2	0.2
1997	1.4	0.4	0.5	0.5
1998	0.8	0.2	0.3	0.3
1999	0.4	0.3	0.4	0.4
2000	0.3	0.3	0.3	0.3
2001	0.3	0.3	0.3	0.3
2002	0.7	0.6	0.6	0.6
2003	0.6	0.3	0.3	0.3
2004	0.5	0.2	0.4	0.4
2005	0.2	0.2	0.2	0.2
2006	0.2	0.2	0.1	0.1
2007	0.4	0.3	0.4	0.4
2008	0.7	0.4	0.4	0.4
2009	0.2	0.2	0.3	0.3
2010	0.7	0.3	0.3	0.3
2011	0.9	0.3	0.4	0.4
2012	0.4	0.2	0.2	0.2
2013	0.3	0.2	0.2	0.2
2014	0.4	0.3	0.4	0.4
2015	0.4	0.2	0.3	0.3
2016	1.0	0.3	0.5	0.5
2017	1.7	0.3	0.4	0.4
2018	0.8	0.6	0.7	0.7
2019	0.1	0.1	0.1	0.1
2020	0.1	0.1	0.1	0.1
2021	0.2	0.2	0.2	0.2
2022	0.8	0.2	0.3	0.3

Table AQ 2-A36. Rush Creek at Rush Meadows Dam 3-day low flows.

Rush Creek Low Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.6	0.6	0.6	0.6
1991	0.6	0.6	0.6	0.6
1992	0.6	0.6	0.6	0.6
1993	0.6	0.6	0.6	0.6
1994	0.6	0.6	0.6	0.6
1995	0.6	0.6	0.6	0.6
1996	0.6	0.6	0.6	0.6
1997	1.0	1.0	1.0	1.1
1998	0.6	0.6	0.6	0.6
1999	0.6	0.6	0.6	0.6
2000	0.6	0.6	0.6	0.6
2001	0.6	0.6	0.6	0.6
2002	0.6	0.6	0.6	0.6
2003	0.6	0.6	0.6	0.6
2004	0.6	0.6	0.6	0.6
2005	0.6	0.6	0.6	0.6
2006	0.6	0.6	0.6	0.6
2007	0.6	0.6	0.6	0.6
2008	0.6	0.6	0.6	0.6
2009	0.6	0.6	0.6	0.6
2010	0.6	0.6	0.6	0.6
2011	0.6	0.6	0.6	0.7
2012	0.6	0.6	0.6	0.6
2013	0.7	0.7	0.7	0.7
2014	0.6	0.6	0.6	0.6
2015	0.6	0.6	0.6	0.6
2016	0.6	0.6	0.6	0.6
2017	0.9	0.9	0.9	0.9
2018	0.8	0.8	0.8	0.8
2019	0.7	0.7	0.7	0.7
2020	0.6	0.6	0.6	0.6
2021	0.7	0.7	0.7	0.7
2022	4.2	4.2	4.2	4.2

Table AQ 2-A37. Rush Creek at Gem Dam 3-day low flows.

Rush Creek Low Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.0	1.0
1991	1.0	1.0	1.0	1.0
1992	1.0	1.0	1.0	1.0
1993	1.0	1.0	1.0	1.0
1994	1.0	1.0	1.0	1.0
1995	1.0	1.0	1.0	1.0
1996	1.0	1.0	1.0	1.0
1997	1.5	1.0	1.0	1.0
1998	1.0	1.0	1.0	1.0
1999	1.0	1.0	1.0	1.0
2000	1.0	1.0	1.0	1.0
2001	1.0	1.0	1.0	1.0
2002	1.0	1.0	1.0	1.0
2003	1.0	1.0	1.0	1.0
2004	1.0	1.0	1.0	1.0
2005	1.0	1.0	1.0	1.0
2006	1.0	1.0	1.0	1.0
2007	1.0	1.0	1.0	1.0
2008	1.0	1.0	1.0	1.0
2009	1.0	1.0	1.0	1.0
2010	1.0	1.0	1.0	1.0
2011	1.0	1.0	1.0	1.0
2012	1.0	1.0	1.0	1.0
2013	1.0	1.0	1.0	1.0
2014	1.0	1.0	1.0	1.0
2015	1.0	1.0	1.0	1.0
2016	1.0	1.0	1.0	1.0
2017	1.3	1.0	1.0	1.0
2018	1.2	1.0	1.0	1.0
2019	1.0	1.0	1.0	1.0
2020	1.0	1.0	1.0	1.0
2021	1.0	1.0	1.0	1.0
2022	6.2	1.0	1.0	1.0

Table AQ 2-A38. Rush Creek below Agnew Dam 3-day low flows.

Rush Creek Low Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.1	1.1
1991	1.0	1.0	1.1	1.1
1992	1.0	1.0	1.1	1.1
1993	1.0	1.0	1.1	1.1
1994	1.0	1.0	1.1	1.1
1995	1.0	1.0	1.1	1.1
1996	1.0	1.0	1.1	1.1
1997	1.6	1.0	1.1	1.1
1998	1.0	1.0	1.1	1.1
1999	1.0	1.0	1.1	1.1
2000	1.0	1.0	1.1	1.1
2001	1.0	1.0	1.1	1.1
2002	1.0	1.0	1.1	1.1
2003	1.0	1.0	1.1	1.1
2004	1.0	1.0	1.1	1.1
2005	1.0	1.0	1.1	1.1
2006	1.0	1.0	1.1	1.1
2007	1.0	1.0	1.1	1.1
2008	1.0	1.0	1.1	1.1
2009	1.0	1.0	1.1	1.1
2010	1.0	1.0	1.1	1.1
2011	1.0	1.0	1.1	1.1
2012	1.0	1.0	1.1	1.1
2013	1.0	1.0	1.1	1.1
2014	1.0	1.0	1.1	1.1
2015	1.0	1.0	1.1	1.1
2016	1.0	1.0	1.1	1.1
2017	1.4	1.0	1.1	1.1
2018	1.3	1.0	1.1	1.1
2019	1.1	1.0	1.1	1.1
2020	1.0	1.0	1.1	1.1
2021	1.1	1.0	1.1	1.1
2022	6.5	1.0	1.4	1.4

Table AQ 2-A39. Rush Creek above SR158 3-day low flows.

Rush Creek Low Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.0	1.0
1991	1.4	1.0	1.1	1.1
1992	1.1	1.1	1.2	1.2
1993	1.3	1.3	1.3	1.3
1994	1.4	1.1	1.2	1.2
1995	1.5	1.2	1.4	1.4
1996	1.1	0.9	1.1	1.1
1997	3.5	1.1	1.7	1.7
1998	1.7	1.1	1.5	1.5
1999	1.4	1.1	1.3	1.3
2000	1.1	1.1	1.1	1.1
2001	1.0	1.0	1.1	1.1
2002	1.3	1.3	1.4	1.4
2003	1.3	1.1	1.3	1.3
2004	1.2	1.1	1.3	1.3
2005	1.7	1.1	1.2	1.2
2006	1.3	1.0	1.0	1.0
2007	1.1	1.1	1.1	1.1
2008	1.4	1.2	1.4	1.4
2009	1.0	1.0	1.1	1.1
2010	1.9	1.0	1.3	1.3
2011	1.6	1.1	1.4	1.4
2012	1.7	1.0	1.1	1.1
2013	1.1	1.0	1.1	1.1
2014	1.2	1.0	1.2	1.2
2015	1.2	1.0	1.2	1.2
2016	1.6	1.1	1.6	1.6
2017	2.3	1.0	2.0	2.0
2018	1.6	1.3	1.4	1.4
2019	1.0	0.9	1.0	1.0
2020	1.0	0.9	1.0	1.0
2021	1.2	0.9	1.0	1.0
2022	6.0	1.0	1.3	1.3

Table AQ 2-A40. Rush Creek above Silver Lake 3-day low flows.

Rush Creek Low Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.4	8.5	11.6	11.7
1991	1.4	5.4	12.3	12.3
1992	2.2	6.6	12.7	12.7
1993	3.7	25.9	14.0	14.0
1994	3.6	3.8	10.6	10.6
1995	5.2	27.3	15.3	15.3
1996	1.7	10.5	12.2	12.2
1997	12.2	20.4	22.2	22.2
1998	4.5	25.1	15.3	15.3
1999	4.5	9.2	8.7	8.7
2000	2.3	16.3	12.4	12.5
2001	2.0	4.9	12.2	12.2
2002	4.3	4.7	11.3	11.3
2003	3.7	6.9	12.3	12.4
2004	3.1	9.5	9.5	9.6
2005	2.8	3.9	14.0	14.1
2006	1.4	11.8	11.8	11.9
2007	2.5	2.2	6.7	6.7
2008	5.1	5.4	9.9	9.9
2009	1.7	1.8	11.9	11.9
2010	6.1	7.3	16.2	16.2
2011	5.9	23.2	16.6	16.7
2012	3.3	2.5	9.1	9.2
2013	2.3	2.6	7.7	7.7
2014	2.9	2.0	10.1	10.5
2015	3.7	2.0	2.9	2.9
2016	5.9	5.8	14.3	15.2
2017	9.6	38.4	19.6	19.6
2018	4.7	7.8	14.8	14.8
2019	1.3	13.1	11.4	11.4
2020	1.2	2.3	7.8	7.9
2021	2.1	2.3	7.0	7.1
2022	7.5	1.9	8.9	8.9

Table AQ 2-A41. Rush Creek below Silver Lake 3-day low flows.

Rush Creek Low Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.7	11.8	11.9	11.9
1991	1.8	7.4	12.6	12.6
1992	2.9	8.9	13.4	13.4
1993	5.1	29.4	15.4	15.4
1994	4.6	4.7	11.7	11.7
1995	7.1	38.4	17.3	17.3
1996	2.0	14.3	12.7	12.7
1997	13.3	21.5	23.3	23.3
1998	6.3	32.9	17.0	17.1
1999	5.7	10.9	11.5	11.5
2000	2.9	19.5	13.0	13.0
2001	2.6	6.7	12.7	12.7
2002	5.9	6.1	12.9	12.9
2003	5.0	7.9	15.1	15.1
2004	4.4	12.0	12.5	12.6
2005	3.6	4.8	14.9	14.9
2006	1.7	12.5	12.0	12.0
2007	3.2	2.7	7.6	7.7
2008	7.0	7.3	11.7	11.8
2009	2.1	2.2	12.3	12.3
2010	6.6	9.6	16.7	16.7
2011	7.9	25.5	18.3	18.3
2012	3.9	3.0	11.3	11.4
2013	2.8	3.3	8.8	8.8
2014	3.5	2.5	11.3	11.4
2015	5.0	2.5	3.4	3.4
2016	7.9	7.2	17.5	18.3
2017	13.3	50.0	23.4	23.4
2018	6.3	9.4	16.4	16.4
2019	1.4	18.4	11.5	11.5
2020	1.3	2.6	9.6	9.5
2021	2.5	2.8	7.9	8.0
2022	7.9	2.3	9.3	9.4

Table AQ 2-A42. South Rush Creek above SR158 3-day low flows.

South Rush Creek Low Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.2	0.9	1.0	1.0
1991	0.3	0.9	1.0	1.0
1992	0.4	1.1	1.1	1.1
1993	0.7	1.3	1.3	1.3
1994	0.6	1.1	1.2	1.2
1995	0.9	1.2	1.4	1.4
1996	0.3	0.9	1.0	1.0
1997	1.4	1.1	1.7	1.7
1998	0.9	1.0	1.4	1.4
1999	0.6	1.1	1.2	1.2
2000	0.3	1.0	1.1	1.1
2001	0.3	1.0	1.1	1.1
2002	0.7	1.2	1.3	1.3
2003	0.6	1.0	1.3	1.3
2004	0.6	1.0	1.2	1.2
2005	0.6	1.0	1.0	1.0
2006	0.2	1.0	1.0	1.0
2007	0.4	1.0	1.1	1.1
2008	0.8	1.1	1.3	1.3
2009	0.3	1.0	1.0	1.0
2010	0.7	1.0	1.3	1.3
2011	0.9	1.1	1.4	1.4
2012	0.4	1.0	1.1	1.1
2013	0.3	1.0	1.1	1.1
2014	0.4	1.0	1.1	1.1
2015	0.5	1.0	1.2	1.2
2016	1.0	1.0	1.6	1.6
2017	1.7	1.0	2.0	2.0
2018	0.8	1.3	1.4	1.4
2019	0.1	0.9	1.0	1.0
2020	0.2	0.9	1.0	1.0
2021	0.3	0.9	1.0	1.0
2022	0.8	1.0	1.3	1.3

Table AQ 2-A43. Rush Creek at Rush Meadows Dam 7-day low flows.

Rush Creek Low Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.6	0.6	0.6	0.6
1991	0.6	0.6	0.6	0.6
1992	0.6	0.6	0.6	0.6
1993	0.6	0.6	0.6	0.6
1994	0.6	0.6	0.6	0.6
1995	0.6	0.6	0.6	0.6
1996	0.6	0.6	0.6	0.6
1997	3.2	3.2	3.2	3.2
1998	0.6	0.7	0.6	0.7
1999	0.6	0.6	0.6	0.6
2000	0.6	0.6	0.6	0.6
2001	0.6	0.6	0.6	0.6
2002	0.6	0.6	0.6	0.6
2003	0.6	0.6	0.6	0.6
2004	0.6	0.6	0.6	0.6
2005	0.6	0.6	0.6	0.6
2006	0.6	0.6	0.6	0.6
2007	0.6	0.6	0.6	0.6
2008	0.6	0.6	0.6	0.6
2009	0.6	0.6	0.6	0.6
2010	0.8	0.8	0.8	0.8
2011	1.3	1.3	1.3	1.3
2012	0.6	0.6	0.6	0.6
2013	0.8	0.8	0.8	0.8
2014	0.7	0.7	0.7	0.7
2015	0.6	0.6	0.6	0.7
2016	0.6	0.7	0.6	0.6
2017	1.1	1.1	1.1	1.1
2018	0.9	0.9	0.9	0.9
2019	0.7	0.7	0.7	0.7
2020	0.7	0.7	0.7	0.7
2021	0.8	0.8	0.8	0.8
2022	4.5	4.5	4.5	4.5

Table AQ 2-A44. Rush Creek at Gem Dam 7-day low flows.

Rush Creek Low Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.0	1.0
1991	1.0	1.0	1.0	1.0
1992	1.0	1.0	1.0	1.0
1993	1.0	1.0	1.0	1.0
1994	1.0	1.0	1.0	1.0
1995	1.0	1.0	1.0	1.0
1996	1.0	1.0	1.0	1.0
1997	4.7	1.0	1.0	1.0
1998	1.0	1.0	1.0	1.0
1999	1.0	1.0	1.0	1.0
2000	1.0	1.0	1.0	1.0
2001	1.0	1.0	1.0	1.0
2002	1.0	1.0	1.0	1.0
2003	1.0	1.0	1.0	1.0
2004	1.0	1.0	1.0	1.0
2005	1.0	1.0	1.0	1.0
2006	1.0	1.0	1.0	1.0
2007	1.0	1.0	1.0	1.0
2008	1.0	1.0	1.0	1.0
2009	1.0	1.0	1.0	1.0
2010	1.2	1.0	1.0	1.0
2011	2.0	1.0	1.0	1.0
2012	1.0	1.0	1.0	1.0
2013	1.1	1.0	1.0	1.0
2014	1.0	1.0	1.0	1.0
2015	1.0	1.0	1.0	1.0
2016	1.0	1.0	1.0	1.0
2017	1.6	1.0	1.0	1.0
2018	1.3	1.0	1.0	1.0
2019	1.0	1.0	1.0	1.0
2020	1.0	1.0	1.0	1.0
2021	1.2	1.0	1.0	1.0
2022	6.6	1.0	1.0	1.0

Table AQ 2-A45. Rush Creek below Agnew Dam 7-day low flows.

Rush Creek Low Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.1	1.1
1991	1.0	1.0	1.1	1.1
1992	1.0	1.0	1.1	1.1
1993	1.0	1.0	1.1	1.1
1994	1.0	1.0	1.1	1.1
1995	1.0	1.0	1.1	1.1
1996	1.0	1.0	1.1	1.1
1997	4.9	1.0	1.3	1.3
1998	1.0	1.0	1.1	1.1
1999	1.0	1.0	1.1	1.1
2000	1.0	1.0	1.1	1.1
2001	1.0	1.0	1.1	1.1
2002	1.0	1.0	1.1	1.1
2003	1.0	1.0	1.1	1.1
2004	1.0	1.0	1.1	1.1
2005	1.0	1.0	1.1	1.1
2006	1.0	1.0	1.1	1.1
2007	1.0	1.0	1.1	1.1
2008	1.0	1.0	1.1	1.1
2009	1.0	1.0	1.1	1.1
2010	1.2	1.0	1.1	1.1
2011	2.1	1.0	1.1	1.1
2012	1.0	1.0	1.1	1.1
2013	1.2	1.0	1.1	1.1
2014	1.0	1.0	1.1	1.1
2015	1.0	1.0	1.1	1.1
2016	1.0	1.0	1.1	1.1
2017	1.7	1.0	1.1	1.1
2018	1.4	1.0	1.1	1.1
2019	1.1	1.0	1.1	1.1
2020	1.1	1.0	1.1	1.1
2021	1.2	1.0	1.1	1.1
2022	6.9	1.0	1.4	1.4

Table AQ 2-A46. Rush Creek above SR158 7-day low flows.

Rush Creek Low Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.1	1.0	1.1	1.1
1991	1.4	1.0	1.1	1.1
1992	1.2	1.2	1.2	1.2
1993	1.4	1.4	1.4	1.4
1994	1.4	1.2	1.3	1.3
1995	1.5	1.4	1.5	1.5
1996	1.1	1.0	1.1	1.1
1997	6.5	1.2	1.7	1.7
1998	2.1	1.2	1.6	1.6
1999	1.5	1.1	1.4	1.4
2000	1.3	1.2	1.3	1.3
2001	1.1	1.1	1.1	1.1
2002	1.5	1.3	1.5	1.5
2003	1.3	1.3	1.4	1.4
2004	1.2	1.1	1.3	1.3
2005	1.9	1.3	1.7	1.7
2006	1.7	1.0	1.1	1.1
2007	1.1	1.1	1.2	1.2
2008	1.4	1.3	1.4	1.4
2009	1.0	1.0	1.1	1.1
2010	2.1	1.2	1.4	1.4
2011	2.7	1.2	1.4	1.4
2012	1.7	1.0	1.2	1.2
2013	1.2	1.0	1.1	1.1
2014	1.2	1.0	1.2	1.2
2015	1.3	1.0	1.3	1.3
2016	1.7	1.2	1.6	1.6
2017	2.6	1.1	2.0	2.0
2018	1.7	1.3	1.4	1.4
2019	1.0	0.9	1.0	1.0
2020	1.0	0.9	1.0	1.0
2021	1.2	0.9	1.1	1.1
2022	6.3	1.0	1.4	1.4

Table AQ 2-A47. Rush Creek above Silver Lake 7-day low flows.

Rush Creek Low Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	2.0	9.0	12.1	12.1
1991	3.7	5.8	13.7	13.8
1992	3.1	8.2	13.3	13.3
1993	4.7	30.6	14.7	14.8
1994	4.2	4.1	10.9	10.9
1995	5.3	36.7	15.4	15.4
1996	2.2	13.8	12.5	12.5
1997	12.5	21.2	22.5	22.6
1998	7.4	28.9	18.0	17.9
1999	5.0	13.3	10.7	10.7
2000	3.9	18.0	13.8	13.8
2001	2.4	5.1	12.6	12.6
2002	5.1	6.1	11.8	11.8
2003	4.3	11.4	13.1	13.1
2004	3.4	10.9	10.9	11.0
2005	8.3	10.6	17.8	17.9
2006	2.7	17.0	12.6	12.7
2007	2.6	2.7	7.9	7.9
2008	5.1	5.9	11.2	11.2
2009	2.0	2.0	12.1	12.1
2010	7.0	7.8	17.2	17.2
2011	7.0	27.2	17.0	17.0
2012	3.5	2.6	11.0	11.1
2013	2.5	2.7	8.3	8.3
2014	3.0	2.5	11.8	13.0
2015	3.9	2.8	3.4	3.4
2016	6.1	6.1	16.5	16.5
2017	9.9	49.1	19.9	19.9
2018	4.8	7.9	14.8	14.8
2019	1.3	20.1	11.4	11.4
2020	1.5	2.5	10.2	10.3
2021	2.1	2.7	9.7	10.2
2022	8.0	2.5	12.0	12.0

Table AQ 2-A48. Rush Creek below Silver Lake 7-day low flows.

Rush Creek Low Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	2.4	12.4	12.6	12.6
1991	4.1	7.9	14.1	14.1
1992	4.1	10.4	14.3	14.3
1993	6.5	34.5	16.4	16.5
1994	5.1	5.1	12.2	12.2
1995	7.4	46.1	17.5	17.5
1996	2.7	17.8	13.1	13.1
1997	13.6	22.5	23.6	23.6
1998	10.3	37.1	20.9	20.9
1999	7.0	15.6	14.2	14.2
2000	5.0	21.3	14.9	14.9
2001	3.1	6.9	13.3	13.3
2002	6.9	7.6	13.7	13.7
2003	5.8	12.8	15.8	15.8
2004	4.5	14.1	14.1	14.2
2005	11.5	12.8	20.2	20.3
2006	3.0	18.9	12.9	12.9
2007	3.4	3.4	8.7	8.7
2008	7.0	7.7	12.9	13.0
2009	2.5	2.5	12.6	12.6
2010	8.0	10.2	18.2	18.2
2011	8.9	29.7	18.6	18.6
2012	4.1	3.2	13.4	13.5
2013	3.1	3.4	9.4	9.4
2014	3.7	3.2	13.7	13.7
2015	5.1	3.6	4.4	4.4
2016	8.2	7.6	18.7	18.7
2017	13.7	52.8	23.6	23.6
2018	6.4	9.4	16.4	16.4
2019	1.4	27.8	11.6	11.6
2020	1.8	2.9	11.6	11.6
2021	2.5	3.4	12.1	12.3
2022	8.4	3.2	12.7	12.7

Table AQ 2-A49. South Rush Creek above SR158 7-day low flows.

South Rush Creek Low Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.3	1.0	1.0	1.0
1991	0.4	1.0	1.1	1.1
1992	0.5	1.1	1.2	1.2
1993	0.8	1.3	1.3	1.3
1994	0.6	1.1	1.2	1.2
1995	0.9	1.2	1.4	1.4
1996	0.4	0.9	1.1	1.1
1997	1.5	1.1	1.7	1.7
1998	1.3	1.1	1.5	1.5
1999	0.9	1.1	1.3	1.3
2000	0.6	1.1	1.1	1.1
2001	0.4	1.0	1.1	1.1
2002	0.9	1.3	1.4	1.4
2003	0.7	1.1	1.3	1.3
2004	0.6	1.1	1.3	1.3
2005	1.2	1.1	1.2	1.2
2006	0.3	1.0	1.0	1.0
2007	0.4	1.1	1.1	1.1
2008	0.8	1.2	1.4	1.4
2009	0.3	1.0	1.1	1.1
2010	0.9	1.0	1.3	1.3
2011	0.9	1.1	1.4	1.4
2012	0.4	1.0	1.1	1.1
2013	0.4	1.0	1.1	1.1
2014	0.4	1.0	1.2	1.2
2015	0.6	1.0	1.2	1.2
2016	1.1	1.1	1.6	1.6
2017	1.7	1.0	2.0	2.0
2018	0.8	1.3	1.4	1.4
2019	0.2	0.9	1.0	1.0
2020	0.2	0.9	1.0	1.0
2021	0.3	0.9	1.0	1.0
2022	0.9	1.0	1.3	1.3

Table AQ 2-A50. Rush Creek at Rush Meadows Dam monthly low flows.

Rush Creek Low Flow at Rush Meadows Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.7	0.7	0.7	0.7
1991	0.7	0.7	0.7	0.7
1992	1.5	1.8	1.5	1.5
1993	0.7	0.7	0.7	0.7
1994	0.7	0.7	0.7	0.7
1995	1.4	1.4	1.4	1.4
1996	3.1	3.1	3.1	3.1
1997	6.6	6.6	6.6	6.6
1998	3.5	5.0	3.5	3.6
1999	0.9	2.3	0.9	0.9
2000	2.0	2.0	2.0	2.0
2001	1.0	1.6	1.0	1.0
2002	0.8	1.6	0.8	0.8
2003	1.1	1.1	1.1	1.1
2004	3.3	3.3	3.3	3.3
2005	5.6	5.6	5.6	5.5
2006	1.6	1.6	1.6	1.6
2007	0.7	1.2	0.7	0.7
2008	4.2	4.2	4.2	4.2
2009	3.3	3.3	3.3	3.3
2010	3.8	3.8	3.8	3.8
2011	3.5	3.5	3.5	3.5
2012	1.4	1.4	1.4	1.4
2013	1.7	1.7	1.7	1.7
2014	1.0	1.0	1.0	1.0
2015	2.7	2.7	2.7	2.7
2016	0.7	4.2	0.7	0.7
2017	3.1	3.1	3.1	3.1
2018	1.8	1.8	1.8	1.8
2019	0.9	2.6	0.9	0.9
2020	1.2	1.2	1.2	1.2
2021	2.8	2.8	2.8	2.8
2022	8.1	8.1	8.1	8.1

Table AQ 2-A51. Rush Creek at Gem Dam monthly low flows.

Rush Creek Low Flow at Gem Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.0	1.0
1991	1.1	1.0	1.0	1.0
1992	2.2	1.0	1.0	1.0
1993	1.0	1.0	1.0	1.0
1994	1.0	1.0	1.0	1.0
1995	2.0	1.0	1.0	1.0
1996	4.6	1.0	1.0	1.0
1997	9.7	1.0	1.0	1.0
1998	5.2	1.0	1.0	1.0
1999	1.4	1.0	1.0	1.0
2000	3.0	1.0	1.0	1.0
2001	1.4	1.0	1.0	1.0
2002	1.2	1.0	1.0	1.0
2003	1.7	1.0	1.0	1.0
2004	4.8	1.0	1.0	1.0
2005	8.2	1.0	1.0	1.0
2006	2.3	1.0	1.0	1.0
2007	1.0	1.0	1.0	1.0
2008	6.2	1.0	1.0	1.0
2009	4.8	1.0	1.0	1.0
2010	5.6	1.0	1.0	1.0
2011	5.1	1.0	1.0	1.0
2012	2.1	1.0	1.0	1.0
2013	2.4	1.0	1.0	1.0
2014	1.4	1.0	1.0	1.0
2015	3.9	1.0	1.0	1.0
2016	1.0	1.0	1.0	1.0
2017	4.5	1.0	1.0	1.0
2018	2.6	1.0	1.0	1.0
2019	1.3	1.0	1.0	1.0
2020	1.8	1.0	1.0	1.0
2021	4.1	1.0	1.0	1.0
2022	11.8	1.0	1.0	1.0

Table AQ 2-A52. Rush Creek below Agnew Dam monthly low flows.

Rush Creek Low Flow below Agnew Dam (cfs)				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.0	1.0	1.1	1.1
1991	1.0	1.0	1.1	1.1
1992	1.0	1.0	1.1	1.1
1993	1.0	1.0	1.1	1.1
1994	1.0	1.0	1.1	1.1
1995	1.0	1.0	1.1	1.1
1996	1.0	1.0	1.3	1.3
1997	1.6	1.0	1.6	1.6
1998	1.0	1.0	1.3	1.3
1999	1.0	1.0	1.1	1.1
2000	1.0	1.0	1.2	1.2
2001	1.0	1.0	1.1	1.1
2002	1.0	1.0	1.1	1.1
2003	1.0	1.0	1.1	1.1
2004	1.0	1.0	1.3	1.3
2005	1.0	1.0	1.5	1.5
2006	1.0	1.0	1.1	1.1
2007	1.0	1.0	1.1	1.1
2008	1.0	1.0	1.4	1.4
2009	1.0	1.0	1.3	1.3
2010	1.0	1.0	1.3	1.3
2011	1.0	1.0	1.3	1.3
2012	1.0	1.0	1.1	1.1
2013	1.0	1.0	1.1	1.1
2014	1.0	1.0	1.1	1.1
2015	1.0	1.0	1.2	1.2
2016	1.0	1.0	1.1	1.1
2017	1.4	1.0	1.3	1.3
2018	1.3	1.0	1.1	1.1
2019	1.1	1.0	1.1	1.1
2020	1.0	1.0	1.1	1.1
2021	1.1	1.0	1.2	1.2
2022	6.5	1.0	1.7	1.7

Table AQ 2-A53. Rush Creek above SR158 monthly low flows.

Rush Creek Low Flow above SR158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	1.4	1.2	1.3	1.3
1991	1.6	1.5	1.5	1.5
1992	2.7	1.3	1.5	1.5
1993	1.6	1.6	1.6	1.6
1994	1.7	1.3	1.6	1.6
1995	2.7	1.7	1.8	1.8
1996	5.0	1.4	1.7	1.7
1997	9.7	1.4	1.9	1.9
1998	6.4	1.4	2.1	2.1
1999	2.2	1.3	1.7	1.7
2000	3.5	1.4	1.8	1.8
2001	1.8	1.4	1.4	1.4
2002	1.8	1.4	1.6	1.6
2003	2.0	1.3	1.4	1.4
2004	5.8	1.6	1.7	1.7
2005	8.6	1.8	2.2	2.2
2006	2.8	1.5	1.6	1.6
2007	1.5	1.2	1.4	1.4
2008	6.7	1.4	1.7	1.7
2009	4.9	1.3	1.5	1.5
2010	6.0	1.6	1.9	1.9
2011	5.3	1.3	1.6	1.6
2012	3.0	1.1	1.3	1.3
2013	2.5	1.1	1.2	1.2
2014	1.7	1.2	1.3	1.3
2015	4.0	1.2	1.4	1.4
2016	1.9	1.5	1.9	1.9
2017	5.4	2.1	2.3	2.3
2018	2.9	1.3	1.5	1.5
2019	1.3	1.0	1.0	1.0
2020	1.8	1.0	1.1	1.1
2021	4.0	1.0	1.2	1.2
2022	11.6	1.3	1.9	1.9

Table AQ 2-A54. Rush Creek above Silver Lake monthly low flows.

Rush Creek Low Flow above Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	4.5	29.7	14.6	14.6
1991	5.4	8.0	17.4	17.4
1992	6.3	17.6	16.2	16.2
1993	6.4	47.7	16.4	16.4
1994	6.8	9.3	14.8	14.8
1995	8.2	44.5	18.1	18.1
1996	9.2	48.5	19.1	19.1
1997	14.3	49.5	24.4	24.4
1998	16.8	58.7	26.8	26.9
1999	8.0	31.1	18.0	18.0
2000	8.6	33.1	18.6	18.6
2001	5.0	14.8	15.1	15.1
2002	6.7	11.0	16.5	16.5
2003	5.1	19.8	15.2	15.2
2004	10.6	22.7	20.6	20.6
2005	14.9	50.6	25.4	25.4
2006	7.0	51.1	16.9	16.9
2007	4.7	5.0	14.8	14.8
2008	11.0	10.7	16.6	16.6
2009	8.1	7.8	17.8	17.9
2010	10.6	14.5	21.3	21.2
2011	9.4	39.7	18.9	18.9
2012	7.2	6.6	16.9	16.9
2013	4.0	4.2	14.1	14.1
2014	3.7	3.9	15.8	15.8
2015	6.8	3.6	5.7	5.7
2016	8.2	16.4	18.3	18.3
2017	14.1	53.1	23.9	23.9
2018	6.1	45.7	16.4	16.4
2019	1.9	44.8	11.9	11.9
2020	2.6	3.7	12.8	12.8
2021	5.2	4.5	19.1	19.1
2022	16.0	5.2	20.0	20.0

Table AQ 2-A55. Rush Creek below Silver Lake monthly low flows.

Rush Creek Low Flow below Silver Lake				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	6.1	31.3	16.2	16.2
1991	7.3	11.0	19.3	19.3
1992	7.8	20.8	17.7	17.7
1993	8.8	51.2	18.9	18.9
1994	9.5	10.6	16.2	16.2
1995	10.9	48.5	20.8	20.8
1996	11.0	55.0	20.9	21.0
1997	16.1	54.8	26.2	26.2
1998	18.7	61.8	30.9	30.9
1999	10.6	35.4	20.5	20.5
2000	11.1	36.7	21.2	21.2
2001	6.6	16.6	16.7	16.7
2002	9.3	12.8	18.3	18.4
2003	6.7	22.3	16.8	16.8
2004	12.4	25.6	22.4	22.4
2005	18.0	53.7	28.5	28.5
2006	9.0	54.2	18.9	18.9
2007	6.4	6.5	16.4	16.4
2008	12.8	12.5	18.4	18.4
2009	9.3	9.0	19.1	19.1
2010	13.1	17.0	23.7	23.7
2011	11.0	43.4	20.5	20.5
2012	7.8	9.0	17.4	17.5
2013	4.7	5.4	14.7	14.7
2014	4.7	5.2	16.8	16.8
2015	8.1	4.7	7.4	7.4
2016	11.5	19.8	21.6	21.6
2017	18.3	57.4	28.1	28.1
2018	7.7	47.8	18.1	18.0
2019	2.1	45.3	12.2	12.2
2020	2.9	4.7	13.1	13.1
2021	5.5	5.9	19.7	19.7
2022	17.4	6.9	21.7	21.7

Table AQ 2-A56. South Rush Creek above SR158 monthly low flows.

South Rush Creek Low Flow above SR 158				
Year	Unimpaired	Historical	Proposed Project	Existing Conditions
1990	0.7	1.0	1.1	1.1
1991	0.9	1.0	1.1	1.1
1992	0.9	1.2	1.2	1.2
1993	1.1	1.4	1.4	1.4
1994	1.2	1.2	1.3	1.3
1995	1.3	1.4	1.5	1.5
1996	1.3	1.0	1.1	1.1
1997	1.8	1.2	1.7	1.7
1998	2.1	1.2	1.6	1.6
1999	1.2	1.1	1.4	1.4
2000	1.3	1.2	1.3	1.3
2001	0.8	1.1	1.1	1.1
2002	1.2	1.3	1.5	1.5
2003	0.8	1.3	1.4	1.4
2004	1.4	1.1	1.3	1.3
2005	2.1	1.3	1.7	1.7
2006	1.1	1.0	1.1	1.1
2007	0.8	1.1	1.2	1.2
2008	1.4	1.3	1.4	1.4
2009	1.0	1.0	1.1	1.1
2010	1.6	1.2	1.4	1.4
2011	1.2	1.2	1.4	1.4
2012	0.8	1.0	1.2	1.2
2013	0.5	1.0	1.1	1.1
2014	0.6	1.0	1.2	1.2
2015	0.9	1.0	1.3	1.3
2016	1.4	1.2	1.6	1.6
2017	2.2	1.1	2.0	2.0
2018	1.0	1.3	1.4	1.4
2019	0.2	0.9	1.0	1.0
2020	0.3	0.9	1.0	1.0
2021	0.6	0.9	1.1	1.1
2022	1.8	1.0	1.4	1.4

Table AQ 2-A57. Unimpaired conditions at Rush Creek at Rush Meadows Dam monthly exceedance flows.

Exceedance	Daily Flow (cfs)											
	January	February	March	April	May	June	July	August	September	October	November	December
95%	0.6	0.8	1.9	6.0	30.8	22.2	8.4	1.7	0.6	0.6	0.6	0.7
90%	0.7	1.7	3.4	8.9	41.0	32.2	11.6	2.9	0.6	0.6	0.6	0.9
75%	1.9	2.9	4.9	14.3	66.3	56.1	17.2	5.2	1.2	0.9	1.1	1.8
50%	4.5	5.4	7.6	25.0	98.6	107.0	36.3	10.5	3.5	2.8	3.0	3.5
25%	8.6	9.2	13.1	42.7	145.1	200.7	93.8	23.8	9.1	7.2	6.0	6.3
10%	12.6	13.2	19.8	73.1	207.8	276.5	211.8	48.1	17.9	14.3	10.3	10.2
5%	18.0	15.4	26.5	94.8	240.0	318.9	275.9	69.1	24.9	18.7	15.7	14.2

Table AQ 2-A58. Historical conditions at Rush Creek at Rush Meadows Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	January	February	March	April	May	June	July	August	September	October	November	December
95%	0.6	0.8	1.9	6.0	10.0	10.0	8.4	1.8	0.7	0.6	0.6	0.7
90%	0.7	1.7	3.4	8.9	10.0	10.0	10.0	3.1	1.9	0.6	0.6	0.9
75%	1.9	2.9	4.9	14.2	10.0	10.0	14.6	5.5	6.9	1.5	1.1	1.8
50%	4.5	5.4	7.6	24.9	52.6	76.5	36.0	10.0	84.9	4.6	3.0	3.5
25%	8.6	9.2	13.1	41.6	94.7	174.2	93.8	24.7	102.2	19.4	6.0	6.3
10%	12.6	13.2	19.8	72.6	136.5	264.2	211.8	51.5	125.4	99.9	10.8	10.2
5%	18.0	15.4	26.5	89.7	170.5	296.3	275.9	83.5	129.5	107.6	16.5	14.2

Table AQ 2-A59. Proposed project conditions at Rush Creek at Rush Meadows Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	0.6	0.8	1.9	6.0	30.8	22.2	8.4	1.7	0.6	0.6	0.6	0.7
90%	0.7	1.7	3.4	8.9	41.0	32.2	11.6	2.9	0.6	0.6	0.6	0.9
75%	1.9	2.9	4.9	14.3	66.3	56.1	17.2	5.2	1.2	0.9	1.1	1.8
50%	4.5	5.4	7.6	25.0	98.6	107.0	36.3	10.5	3.5	2.8	3.0	3.5
25%	8.6	9.2	13.1	42.7	145.1	200.7	93.8	23.8	9.1	7.2	6.0	6.3
10%	12.6	13.2	19.8	73.1	207.8	276.5	211.8	48.1	17.9	14.3	10.3	10.2
5%	18.0	15.4	26.5	94.8	240.0	318.9	275.9	69.1	24.9	18.7	15.7	14.2

Table AQ 2-A60. Existing conditions at Rush Creek at Rush Meadows Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	0.6	0.8	2.0	6.1	30.7	24.7	8.4	1.8	0.6	0.6	0.6	0.7
90%	0.7	1.7	3.4	8.9	38.7	32.3	11.7	3.0	0.6	0.6	0.7	0.9
75%	1.9	2.9	4.9	14.3	70.9	80.5	17.3	5.2	1.3	1.0	1.1	1.8
50%	4.5	5.4	7.6	25.5	93.8	125.4	35.3	10.5	3.5	2.7	3.0	3.5
25%	8.6	9.2	13.0	40.4	126.1	198.3	128.3	24.8	9.2	7.3	6.0	6.3
10%	12.8	13.2	19.7	72.9	170.4	243.5	250.2	71.9	17.6	14.2	10.2	10.2
5%	17.8	15.2	26.4	82.7	200.0	257.0	268.1	95.8	26.1	19.1	15.8	14.1

Table AQ 2-A61. Unimpaired conditions at Rush Creek at Gem Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.0	1.1	2.8	8.8	45.2	32.6	12.3	2.5	1.0	1.0	1.0	1.0
90%	1.1	2.5	5.0	13.1	60.1	47.2	17.0	4.3	1.0	1.0	1.0	1.3
75%	2.8	4.3	7.2	20.9	97.3	82.3	25.2	7.6	1.8	1.4	1.7	2.7
50%	6.6	8.0	11.2	36.7	144.7	157.0	53.3	15.3	5.2	4.1	4.4	5.1
25%	12.6	13.4	19.2	62.7	213.0	294.5	137.6	35.0	13.4	10.6	8.8	9.2
10%	18.5	19.3	29.0	107.3	304.9	405.7	310.8	70.5	26.2	21.0	15.1	15.0
5%	26.5	22.6	38.8	139.1	352.3	467.9	404.9	101.4	36.5	27.4	23.1	20.8

Table AQ 2-A62. Historical conditions at Rush Creek at Gem Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
50%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
25%	1.0	1.0	1.0	1.0	1.0	21.5	1.0	1.0	1.0	1.0	1.0	1.0
10%	1.0	1.0	1.0	1.0	1.0	143.0	138.7	1.0	16.0	1.0	1.0	1.0
5%	1.0	1.0	1.0	1.0	32.9	210.9	212.4	1.0	22.7	6.5	1.0	1.0

Table AQ 2-A63. Proposed project conditions at Rush Creek at Gem Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
50%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
25%	1.0	1.0	1.0	1.0	1.0	115.0	26.0	1.0	1.0	1.0	1.0	1.0
10%	1.0	1.0	1.0	11.5	58.2	273.8	198.4	1.0	1.0	1.0	1.0	1.0
5%	1.0	1.0	1.0	36.6	105.3	326.5	292.1	1.0	1.0	1.0	1.0	1.0

Table AQ 2-A64. Existing conditions at Rush Creek at Gem Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
50%	1.0	1.0	1.0	1.0	1.0	17.5	1.0	1.0	1.0	1.0	1.0	1.0
25%	1.0	1.0	1.0	1.0	1.0	110.8	61.3	1.0	1.0	1.0	1.0	1.0
10%	1.0	1.0	1.0	11.4	23.7	228.2	243.0	1.0	1.0	1.0	1.0	1.0
5%	1.0	1.0	1.0	35.8	55.1	269.7	281.4	18.0	1.0	1.0	1.0	1.0

Table AQ 2-A65. Unimpaired condition at Rush Creek below Agnew Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.0	1.2	3.0	9.2	47.6	34.3	13.0	2.6	1.0	1.0	1.0	1.0
90%	1.1	2.6	5.2	13.8	63.3	49.7	17.9	4.6	1.0	1.0	1.0	1.4
75%	3.0	4.5	7.6	22.1	102.4	86.6	26.5	8.0	1.9	1.5	1.7	2.8
50%	7.0	8.4	11.8	38.7	152.3	165.3	56.1	16.1	5.4	4.3	4.6	5.4
25%	13.3	14.1	20.2	66.0	224.2	310.0	144.9	36.8	14.1	11.2	9.2	9.7
10%	19.5	20.3	30.5	112.9	320.9	427.0	327.2	74.2	27.6	22.1	15.9	15.7
5%	27.9	23.8	40.9	146.4	370.8	492.5	426.2	106.8	38.4	28.9	24.3	21.9

Table AQ 2-A66. Historical conditions at Rush Creek below Agnew Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
90%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
50%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
25%	1.0	1.0	1.0	1.0	1.0	33.3	1.8	1.0	1.0	1.0	1.0	1.0
10%	1.0	1.0	1.0	1.0	1.0	158.1	154.0	1.0	16.0	1.0	1.0	1.0
5%	1.0	1.0	1.0	1.0	39.8	237.7	235.1	1.0	23.6	16.0	1.0	1.0

Table AQ 2-A67. Proposed project conditions at Rush Creek below Agnew Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.1	1.1	1.2	1.5	3.6	2.9	1.7	1.1	1.1	1.1	1.1	1.1
90%	1.1	1.1	1.3	1.7	4.4	3.7	2.0	1.2	1.1	1.1	1.1	1.1
75%	1.2	1.2	1.4	2.2	6.6	5.7	2.4	1.4	1.1	1.1	1.1	1.2
50%	1.4	1.5	1.6	3.1	9.3	13.5	4.0	1.9	1.3	1.2	1.3	1.3
25%	1.7	1.8	2.1	4.6	13.2	130.9	33.9	3.0	1.8	1.6	1.5	1.5
10%	2.1	2.1	2.7	16.3	75.6	296.4	216.2	5.0	2.5	2.2	1.9	1.9
5%	2.5	2.3	3.2	42.8	125.5	352.0	315.2	6.8	3.1	2.6	2.3	2.2

Table AQ 2-A68 Existing conditions at Rush Creek below Agnew Dam monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.1	1.1	1.2	1.5	3.6	2.9	1.7	1.1	1.1	1.1	1.1	1.1
90%	1.1	1.1	1.3	1.7	4.4	3.7	2.0	1.2	1.1	1.1	1.1	1.1
75%	1.2	1.2	1.4	2.2	6.6	5.9	2.4	1.4	1.1	1.1	1.1	1.2
50%	1.4	1.5	1.6	3.1	9.3	26.9	4.1	1.9	1.3	1.2	1.3	1.3
25%	1.7	1.8	2.1	4.6	13.2	128.6	70.3	3.0	1.8	1.6	1.5	1.5
10%	2.1	2.1	2.7	17.0	44.2	251.1	261.6	5.1	2.5	2.2	1.9	1.9
5%	2.5	2.3	3.2	42.4	76.0	293.1	303.6	22.9	3.1	2.6	2.3	2.2

Table AQ 2-A69. Unimpaired conditions at Rush Creek above SR158 monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.5	2.1	4.2	10.4	46.3	32.1	12.4	3.0	1.4	1.1	1.3	1.5
90%	1.7	3.1	5.9	13.8	59.3	46.2	16.7	4.6	1.5	1.3	1.5	1.9
75%	3.4	4.9	8.0	21.8	95.2	80.5	24.6	7.7	2.2	1.9	2.0	3.1
50%	7.2	8.5	11.8	37.2	139.9	152.3	52.0	15.3	5.3	4.4	5.0	5.7
25%	12.7	13.7	19.5	62.0	206.0	244.0	133.6	34.8	13.4	10.6	9.4	9.5
10%	18.6	19.4	29.7	103.9	245.6	260.3	244.7	68.2	25.9	20.6	15.0	15.2
5%	26.5	22.7	38.8	136.7	250.7	275.9	257.6	99.2	36.5	27.0	22.2	20.9

Table AQ 2-A70. Historical conditions at Rush Creek above SR158 monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.1	1.1	1.2	1.5	2.5	1.7	1.3	1.1	1.0	1.0	1.0	1.0
90%	1.2	1.3	1.3	1.8	2.8	2.1	1.4	1.2	1.1	1.1	1.1	1.1
75%	1.4	1.5	1.8	2.4	3.7	2.9	1.7	1.4	1.3	1.3	1.3	1.4
50%	1.7	1.8	2.1	3.2	5.2	5.2	2.5	1.7	1.5	1.4	1.6	1.6
25%	2.0	2.0	2.6	4.3	8.0	38.1	10.7	2.4	2.1	1.9	1.8	2.0
10%	2.3	2.4	3.5	5.7	15.1	153.1	147.4	3.3	14.9	2.7	2.3	2.3
5%	2.9	2.9	4.0	7.1	44.0	224.4	217.4	4.4	21.9	14.9	3.0	2.8

Table AQ 2-A71. Proposed project conditions at Rush Creek above SR158 monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.3	1.4	1.6	2.5	5.8	3.7	2.2	1.4	1.2	1.1	1.2	1.2
90%	1.5	1.6	2.0	2.9	6.9	4.7	2.5	1.5	1.3	1.2	1.3	1.4
75%	1.7	2.0	2.4	3.9	9.1	7.4	3.0	1.9	1.4	1.4	1.5	1.6
50%	2.1	2.2	2.8	5.2	12.4	17.3	5.2	2.5	1.7	1.7	1.8	1.9
25%	2.5	2.6	3.6	7.4	17.8	125.8	33.9	4.2	2.2	2.3	2.3	2.4
10%	3.2	3.2	4.4	17.9	78.3	245.2	199.8	6.4	3.7	2.8	3.1	3.0
5%	3.9	3.7	5.7	41.4	123.5	249.4	245.8	9.5	4.2	3.5	3.8	3.6

Table AQ 2-A72. Existing conditions at Rush Creek above SR158 monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	1.3	1.4	1.6	2.5	5.8	3.7	2.2	1.4	1.2	1.1	1.2	1.2
90%	1.5	1.6	2.0	2.9	6.9	4.7	2.5	1.5	1.3	1.2	1.3	1.4
75%	1.7	2.0	2.4	3.9	9.1	7.6	3.0	1.9	1.4	1.4	1.5	1.6
50%	2.1	2.2	2.8	5.2	12.4	31.0	5.2	2.5	1.7	1.7	1.8	1.9
25%	2.5	2.6	3.6	7.5	17.9	123.2	67.2	4.2	2.2	2.3	2.3	2.4
10%	3.2	3.2	4.4	20.0	48.4	235.7	239.4	6.5	3.7	2.8	3.1	3.0
5%	3.9	3.7	5.7	41.5	78.0	248.5	246.6	22.6	4.2	3.5	3.8	3.6

Table AQ 2-A73. Unimpaired conditions at Rush Creek above Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	4.5	5.5	10.1	19.3	71.3	45.7	18.7	6.6	3.6	2.1	3.0	4.0
90%	5.6	7.6	12.1	24.2	88.3	61.4	24.0	8.6	4.5	3.5	4.3	5.1
75%	8.3	11.0	16.2	37.7	126.1	106.4	33.5	12.8	5.9	5.3	6.2	7.9
50%	13.0	15.5	21.7	56.4	184.9	200.3	70.6	22.7	9.2	9.1	10.4	11.4
25%	19.8	22.2	31.6	85.6	267.8	383.0	181.5	49.7	19.5	16.7	17.0	17.2
10%	29.1	28.8	46.3	136.5	388.1	521.0	394.9	88.3	38.6	27.7	28.2	25.6
5%	39.2	34.3	57.5	172.8	454.2	590.5	494.2	136.1	50.5	38.4	31.8	30.0

Table AQ 2-A74. Historical conditions at Rush Creek above Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	30.2	14.4	18.7	17.6	14.1	7.7	4.0	3.4	3.3	32.5	21.8	14.5
90%	39.8	29.8	43.0	21.3	18.7	11.4	5.5	4.1	4.3	40.8	38.2	37.1
75%	45.5	44.8	52.1	40.2	29.1	19.7	10.6	8.3	9.8	50.7	43.3	43.9
50%	53.8	53.0	60.3	66.5	52.2	73.0	50.2	18.4	60.8	69.4	49.7	50.9
25%	60.3	62.4	68.0	89.7	98.4	206.0	145.5	47.8	106.6	88.8	59.3	59.2
10%	72.0	72.8	81.1	112.2	158.8	349.6	321.4	87.7	131.5	118.1	70.9	68.6
5%	78.9	79.5	91.8	128.6	210.9	434.1	414.3	131.3	141.2	130.9	78.6	71.6

Table AQ 2-A75. Proposed project conditions at Rush Creek above Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	14.9	46.0	50.5	36.2	17.0	15.6	14.9	10.1	13.6	12.3	13.2	14.1
90%	15.8	47.9	52.4	57.0	21.8	21.0	22.4	12.7	14.6	13.6	14.4	15.1
75%	18.8	51.4	56.6	71.7	30.7	63.5	32.6	17.8	15.9	15.3	16.2	17.8
50%	23.9	55.7	62.6	89.8	54.7	146.6	68.4	28.7	19.1	19.2	20.6	21.6
25%	33.1	62.8	72.3	114.1	134.6	303.3	174.0	55.2	29.2	26.3	27.6	26.9
10%	49.7	70.1	88.1	149.7	259.2	486.4	389.7	93.9	48.0	37.3	38.4	36.0
5%	58.4	74.8	98.5	185.5	316.3	563.3	491.6	132.3	59.8	47.2	41.7	41.3

Table AQ 2-A76. Existing conditions at Rush Creek above Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	14.9	46.0	50.6	34.3	17.1	18.0	15.2	10.3	13.7	12.4	13.2	14.1
90%	15.8	47.8	52.4	55.8	22.0	30.6	22.6	12.7	14.6	13.6	14.4	15.1
75%	18.8	51.4	56.6	70.7	32.4	74.7	32.7	17.9	15.9	15.3	16.2	17.8
50%	23.8	55.8	62.6	89.6	55.9	173.3	68.5	28.7	19.1	19.2	20.6	21.7
25%	33.1	62.7	72.4	111.4	110.8	297.2	215.8	56.6	29.3	26.4	27.5	27.0
10%	49.7	70.0	88.1	149.0	222.8	447.5	417.0	114.4	48.2	37.1	38.4	36.2
5%	58.3	74.8	97.1	178.2	257.1	509.7	494.2	155.8	60.9	47.8	41.9	41.1

Table AQ 2-A77. Unimpaired conditions at Rush Creek below Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	5.8	7.1	12.0	24.2	81.6	49.6	21.1	7.9	4.6	2.6	3.7	4.9
90%	7.2	9.2	14.9	28.5	99.5	66.0	26.3	10.0	5.7	4.4	5.4	6.4
75%	10.6	14.2	20.1	44.5	137.7	112.7	36.5	14.8	7.4	6.8	8.1	9.9
50%	15.8	18.8	26.3	65.2	198.9	214.7	76.2	25.1	11.2	11.4	12.9	14.0
25%	23.3	26.0	38.4	95.9	287.2	410.3	192.5	54.9	22.0	19.7	20.4	20.6
10%	33.8	32.6	53.2	151.9	426.1	563.4	425.3	97.0	42.8	30.5	32.6	30.8
5%	45.8	40.6	66.0	186.3	492.4	635.7	530.6	146.1	55.5	42.1	41.0	36.0

Table AQ 2-A78. Historical conditions at Rush Creek below Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	32.0	17.6	23.5	23.4	20.1	10.8	5.3	4.4	4.2	35.5	24.6	17.8
90%	41.9	31.5	46.2	29.7	26.4	15.6	7.3	5.3	5.7	41.9	40.2	38.3
75%	47.8	47.4	55.6	49.0	40.3	27.1	14.4	10.4	12.5	52.1	44.9	45.7
50%	56.7	56.0	64.5	72.9	67.9	88.8	55.5	21.6	62.5	70.7	51.8	54.2
25%	63.9	66.0	74.5	98.7	121.2	235.7	161.7	53.3	108.3	91.7	62.0	62.6
10%	75.8	77.2	87.4	124.7	186.4	390.1	349.3	93.4	133.9	121.0	76.2	71.8
5%	84.4	85.5	99.8	142.7	241.2	490.3	446.8	140.9	143.8	133.1	85.3	77.7

Table AQ 2-A79. Proposed project conditions at Rush Creek below Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	15.9	47.5	52.5	48.0	22.6	20.8	17.8	11.8	14.5	12.8	13.8	15.0
90%	17.3	49.5	55.5	61.1	28.7	27.3	25.3	14.4	15.6	14.7	15.4	16.5
75%	21.0	54.5	60.6	78.3	41.8	73.3	35.4	19.7	17.4	16.8	18.1	19.8
50%	26.7	59.0	66.8	98.8	71.8	160.2	74.0	31.8	21.1	21.6	23.3	24.2
25%	36.8	66.4	79.1	124.1	156.2	330.3	184.3	60.7	31.5	29.0	30.7	30.6
10%	54.4	74.3	94.9	161.0	294.5	530.6	422.3	100.7	52.5	40.7	42.4	41.3
5%	63.5	80.5	108.2	197.5	358.0	606.3	523.1	143.2	64.3	51.3	51.4	47.3

Table AQ 2-A80. Existing conditions at Rush Creek below Silver Lake monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	16.0	47.6	52.5	46.4	23.1	23.9	17.8	12.0	14.6	12.8	13.8	15.0
90%	17.3	49.5	55.5	60.8	29.3	35.6	25.4	14.4	15.6	14.7	15.4	16.5
75%	21.1	54.5	60.5	77.9	44.1	84.6	35.6	19.8	17.4	16.8	18.1	19.9
50%	26.6	59.1	66.8	98.5	71.9	188.1	74.1	31.9	21.1	21.6	23.3	24.2
25%	36.8	66.5	79.1	122.2	130.9	324.0	231.9	61.5	31.5	29.1	30.6	30.5
10%	54.3	74.2	94.3	159.0	251.6	486.5	447.7	121.3	52.8	40.7	42.6	41.3
5%	63.4	80.6	106.9	188.7	290.3	554.3	531.9	166.9	65.7	51.9	51.4	47.3

Table AQ 2-A81. Unimpaired conditions at South Rush Creek monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	0.1	0.1	0.3	0.9	4.9	3.5	1.3	0.3	0.1	0.1	0.1	0.1
90%	0.1	0.3	0.5	1.4	6.5	5.1	1.8	0.5	0.1	0.1	0.1	0.1
75%	0.3	0.5	0.8	2.3	10.5	8.8	2.7	0.8	0.2	0.1	0.2	0.3
50%	0.7	0.9	1.2	4.0	15.6	16.9	5.7	1.7	0.6	0.4	0.5	0.6
25%	1.4	1.4	2.1	6.7	22.9	75.9	14.8	3.8	1.4	1.1	0.9	1.0
10%	2.0	2.1	3.1	11.5	87.2	181.2	93.6	7.6	2.8	2.3	1.6	1.6
5%	2.8	2.4	4.2	15.0	134.7	228.1	180.5	10.9	3.9	2.9	2.5	2.2

Table AQ 2-A82. Historical conditions at South Rush Creek monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
90%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
75%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
50%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25%	0.1	0.1	0.1	0.1	0.1	3.4	0.2	0.1	0.1	0.1	0.1	0.1
10%	0.1	0.1	0.1	0.1	0.1	16.2	15.7	0.1	1.6	0.1	0.1	0.1
5%	0.1	0.1	0.1	0.1	4.1	24.3	24.0	0.1	2.4	1.6	0.1	0.1

Table AQ 2-A83. Proposed project conditions at South Rush Creek monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1
90%	0.1	0.1	0.1	0.2	0.5	0.4	0.2	0.1	0.1	0.1	0.1	0.1
75%	0.1	0.1	0.1	0.2	0.7	0.6	0.2	0.1	0.1	0.1	0.1	0.1
50%	0.1	0.1	0.2	0.3	0.9	1.4	0.4	0.2	0.1	0.1	0.1	0.1
25%	0.2	0.2	0.2	0.5	1.3	13.4	3.5	0.3	0.2	0.2	0.2	0.2
10%	0.2	0.2	0.3	1.7	7.7	61.1	22.1	0.5	0.3	0.2	0.2	0.2
5%	0.3	0.2	0.3	4.4	12.8	117.6	81.4	0.7	0.3	0.3	0.2	0.2

Table AQ 2-A84. Existing conditions at South Rush Creek monthly exceedance flows.

	Daily Flow (cfs)											
Exceedance	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
95%	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1
90%	0.1	0.1	0.1	0.2	0.5	0.4	0.2	0.1	0.1	0.1	0.1	0.1
75%	0.1	0.1	0.1	0.2	0.7	0.6	0.2	0.1	0.1	0.1	0.1	0.1
50%	0.1	0.1	0.2	0.3	0.9	2.8	0.4	0.2	0.1	0.1	0.1	0.1
25%	0.2	0.2	0.2	0.5	1.3	13.1	7.2	0.3	0.2	0.2	0.2	0.2
10%	0.2	0.2	0.3	1.7	4.5	25.7	26.7	0.5	0.3	0.2	0.2	0.2
5%	0.3	0.2	0.3	4.3	7.8	57.4	69.0	2.3	0.3	0.3	0.2	0.2

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