

Annual Monitoring Report

2024

Prepared in accordance with the
Upper Colorado River Wild & Scenic Stakeholders
Management Plan
FINAL – October 27, 2025



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ABBREVIATIONS AND ACRONYMS

303(d)	Colorado's Section 303(d) list of impaired waters per Regulation 93
AF	Acre-Feet
A&R SG Plan	Amended and Restated Stakeholder Group Plan
BLM	U.S. Bureau of Land Management
CDPHE	Colorado Department of Public Health and Environment
CMF	Channel Maintenance Flows
CWCB	Colorado Water Conservation Board
CPW	Colorado Parks and Wildlife
CPUE	Catch Per Unit Effort
CROS	Coordinated Reservoir Operations
CFS	Cubic Feet per Second
DM	Daily Maximum
HUP	Historic User's Pool
MWAT	Maximum Weekly Average Temperature
M&E	Monitoring and Evaluation list per Colorado's Regulation 93
MMI	Multi-Metric Index
ORV(s)	Outstandingly Remarkable Value(s)
SG	Upper Colorado River Wild and Scenic Stakeholder Group
SG Plan	Upper Colorado River Wild and Scenic Stakeholder Group Management Plan January 2012
TIV	Tolerance Indicator Value
TFE	Total Fishing Effort
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
WQCC	Water Quality Control Commission
WQCD	Water Quality Control Division
W&S	Colorado River Wild and Scenic
W&S Year	Wild and Scenic water year begins on April 1 and ends on March 31

Executive Summary

The Upper Colorado River Wild and Scenic Stakeholder Group (SG) monitors and protects Outstandingly Remarkable Values (ORVs) on BLM-defined Segments 4 through 7 of the Colorado River from Kremmling, Colorado to approximately 2 miles east of Glenwood Springs. The Upper Colorado River Wild & Scenic Stakeholder Group Management Plan (SG Plan) provides the operating framework for the SG to protect the streamflow influenced ORVs through long-term protection measures, cooperative measures, and monitoring of ORV Indicators and Resource Guides. The purpose of the SG Plan is to “balance permanent protection of the ORVs, certainty for the stakeholders, water project yield, and flexibility for water users.” The year 2020 marked the transition from the provisional period defined by the 2012 SG Plan to implementation of the 2020 Amended and Restated SG Plan (A&R SG Plan), which was approved by the USFS and BLM in June of 2020.

The purpose of this report is to provide a summary of monitoring activities and cooperative measures conducted by the SG during W&S water year (W&S Year) 2024, from April 1, 2024 to March 31, 2025. These monitoring activities support evaluation of the ORV Indicators and review of Resource Guides for Recreational Floatboating and Recreational Fishing. Monitoring also includes assessment of the W&S year type (year type). The 2024 year type for Segments 4-6 and Segment 7 was Wettest.

During 2024, the Cooperative Measures Committee monitored streamflow and temperature in Segments 4-7 and participated in Historic User’s Pool (HUP) calls as well as Learning by Doing operational calls to provide input on operations being discussed on the Colorado River. E-mails summarizing activities on the Colorado River including forecasted flows, current stream temperature, flow gage data, and water rights administration were circulated to the Cooperative Measures Committee and Executive Committee regularly throughout the summer. The Cooperative Measures Committee continues researching and discussing the potential for and feasibility of an SG-funded pool of water to be utilized in the W&S segments.

ORV Indicators

The A&R SG Plan evaluates the Recreational Floatboating ORV in Segments 5, 6, and 7 based on the “Not Likely to Return” ORV Indicator. The ORV Indicator percentage values are to be defined for each segment based on the year type. In 2024, the percentage of people not likely to return in Segments 5, 6, and 7 did not exceed the percentage values.

The 2020 A&R SG Plan only identifies threshold values for the Quality Trout and Biomass indicators at the Radium biosurvey reach. However, CPW has since completed the minimum number of biosurveys (6) at the other two biosurvey reaches (State Bridge and Catamount). Thus, Quality Trout and Biomass indicators have been established at all three biosurvey reaches. In 2024, CPW’s biosurveys were limited to State Bridge (Segment 6), and the results indicate that both Quality Trout and Biomass exceeded the identified thresholds. The 2024 intercept survey data collected by RRC indicates that CPUE at Radium was below the threshold for the second time in five years (2022 was also below the

threshold). As of 2024, a sufficient number of valid intercept surveys have now been completed at State Bridge and Catamount, and CPUE thresholds have been established at both of these locations. In 2024, CPUE was also below the newly-established threshold at State Bridge. The Monitoring Committee is undecided about whether to count a divergence at State Bridge in the year that threshold was locked.

The 2024 monitoring results in relation to Recreational Fishing ORV indicators are summarized in Table 1, below.

Table 1. Summary of ORV Indicators in 2024.

ORV Indicator	Measure/Metric	2024 Status
Recreational Floatboating	Not likely to return	Met in all segments
Recreational Fishing	Biomass	Met at State Bridge
	Quality Trout	Met at State Bridge
	CPUE	Met (divergences at Radium in 2022+2024), potential divergence at State Bridge in 2024*)

*Monitoring Committee is undecided about whether to count a divergence at State Bridge in the year that the threshold was locked

Resource Guides

- Flows were within range for floatboating days on all segments and at all Opportunity ranges. There were 47 early-season boatable days, the maximum possible.
- The 2024 5-year rolling average seasonal flows was above the mid-point seasonal flow range for Seasons 1, 2, and 3. For Season 4, the 5-year rolling average was below that mid-point.
- The flushing flow resource guide was met for the 10-year period as it occurred in six of the last ten years. In 2024, streamflow exceeded 2,500 cfs and the instantaneous peak of 5,750 cfs occurred on June 12, 2024.
- SG members completed the observational notes and photo points as part of Channel Maintenance Flow Monitoring. No other monitoring was required in 2024.
- The Water Quality Control Commission updated Regulation 33 in 2024, but there were no changes to the W&S segments or the listings.
- No macroinvertebrate sampling was completed in 2024, the next scheduled sampling will occur in fall of 2025.
- Daily Maximum water temperature was below the threshold for all sites during 2024. All sites downstream from Catamount exceeded the chronic (MWAT) temperature standards in 2024. Regulatory-level assessment of additional criteria

for warming events or other excursions may result in these exceedances being disqualified or excused.¹

Table 2. Summary of ORV Resource Guides in 2024.

ORV Resource Guides	Measure/Metric	2024 Status
Recreational Floatboating	Boatable Days	Within range for all Opportunities in all segments
Recreational Floatboating	Early-Season Boatable Days	Within or above range for both time periods
Recreational Fishing	Desired Species	Desired fish observed
Recreational Fishing	Seasonal Flows	The 5-year rolling average was above the mid-point for seasons 1, 2, and 3, but below the mid-point for season 4.
Recreational Fishing	Flushing Flows	Flushing flows occurred in 2024 and were met based on a 10-year average
Recreational Fishing	Channel Maintenance Monitoring	Observational Monitoring and Photo points were conducted.
Water Quality ²	Water Quality Control Commission water quality standards	Temperature listed on the 303(d) list E. coli listed on the M&E list
Macroinvertebrates	Water Quality Control Commission aquatic life water quality standards	No monitoring completed in 2024
Water Temperature	Daily Maximum (DM) Maximum Weekly Average Temperature (MWAT)	No exceedances. Exceedances of the temperature threshold at Catamount, Red Dirt, Dotsero and Glenwood Springs.

Introduction

The 2012 SG Plan was adopted by the U.S. Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) as a Wild and Scenic (W&S) management alternative to protect the ORVs identified in the Eligibility Reports for BLM Segments 4 through 7 (USFS Segments 1 through 2), which includes over 80 miles of the upper Colorado River (See Appendix A: Project Area Map). The purpose of the SG Plan is to *“balance permanent protection of the ORVs, certainty for the Upper Colorado River Wild & Scenic Stakeholders (SG or “stakeholders”), water project yield, and flexibility for water users.”* The SG Plan includes provisions for protection of the ORVs and monitoring of the ORV Indicators and Resource Guides to assist

¹ Colorado Department of Public Health and Environment, Water Quality Control Commission 5 CCR 1002-33, 12/31/2019. Segment-specific standards for Whitefish Spawning also apply to the W&S reach (COUCUC03), as specified in Regulation 33 sections 33.6(3)(7) and 33.6(4).

²Colorado Department of Public Health and Environment, Water Quality Control Commission 5 CCR 1002-93, March 3, 2020.

in implementation of the SG Plan. In June of 2020, the A&R SG Plan was approved by the USFS and BLM, marking the end of the provisional period and the formal adoption of final ORV Indicators and Resource Guides.

Protection of the ORVs

The A&R SG Plan is intended to protect all ORVs identified in the Wild & Scenic Eligibility Reports for Segments 4 through 7, while focusing on the primary streamflow-influenced Recreational Fishing ORVs in Segments 4 through 6, and Recreational Floatboating ORVs in Segments 4 through 7.

Long-Term Protection Measures are defined in the A&R SG Plan and include appropriation of Colorado Water Conservation Board (CWCB) instream flows, continued delivery of water to downstream demands, continued delivery to downstream senior water rights, and ongoing existing water deliveries to the 15-Mile Reach for the endangered fish species under the Upper Colorado River Endangered Fish Recovery Program³. The A&R SG Plan contains provisions for addressing any material change in circumstances that undermines the value of these long-term protection measures.

Cooperative Measures are voluntary strategies that are used by the SG to maintain or enhance the ORVs. Opportunities for cooperative measures are considered annually and are based on hydrologic conditions, consideration of the ORV Indicators and Resource Guides, and availability of voluntary cooperative measures that do not impair the ability of water providers to meet their water supply commitments using prudent operational constraints.

Monitoring Plan

"The SG Plan aims to protect all ORVs while focusing on Recreational Fishing (in Segments 4 through 6) and Recreational Floatboating (in Segments 4 through 7). The SG Plan uses two distinct tools – 'ORV Indicators...' and 'Resources Guides...'" (A&R SG Plan, page 4). ORV Indicators, which describe conditions that characterize the ORVs, are monitored to gauge whether the ORVs are being protected under the A&R SG Plan. ORV Indicators for Recreational Floatboating and Recreational Fishing became final with adoption of the A&R SG Plan in June 2020. "*Failure to meet the criteria related to the ORV Indicators would be cause for potential mediation and SG Plan termination pursuant to Section VI.J.*" (A&R SG Plan, Section III.A.1.).

Resource Guides include resource conditions that may affect the ORVs, and include flows, temperature, macroinvertebrates, and water quality. The Resource Guides are used as a source of information to inform SG discussions under the A&R SG Plan. "*Resource Guides are not intended to be used as a test for A&R SG Plan success, nor for use by permitting agencies or other entities as criteria for evaluating a project's effects on the ORVs.*" (A&R SG Plan, Section III.A.2.).

³ Garrison, M., V. Lee, J. La, 2019. 2017 COLORADO RIVER RECOVERY PROGRAM FY 2010 ANNUAL REPORT COORDINATED RESERVOIR OPERATIONS (CROS) AND INFORMATION AND EDUCATION (I&E).

Purpose

The purpose of this report is to provide a summary of monitoring activities and cooperative measures conducted by the SG during the 2024 monitoring year. Monitoring activities include evaluation of the ORV Indicators and Resource Guides, evaluation of additional data collected by the SG, and review of information collected by other entities that is pertinent to the ORVs. Based on the A&R SG Plan, the 2024 monitoring year began on April 1, 2024, and ended March 31, 2025.

Hydrology

The SG monitors streamflow on the Colorado River to: 1) gain a general understanding of the hydrology within Segments 4 through 7; 2) identify opportunities for data collection, such as conducting additional visitor surveys during low flows; 3) identify potential issues that might benefit from cooperative measures, if available; 4) determine the year type which is associated with the Floatboating ORV Indicator and Resource Guides; and 5) evaluate Fishing Resource Guides.

Data for three streamflow gages were available in the W&S segments in 2024 (Table 3). The A&R SG Plan uses the U.S. Geological Survey (USGS) Kremmling (USGS 09058000) and Dotsero (USGS 09070500) gages to monitor flows in Segments 4 through 7. In addition, the SG spearheaded the installation of the Catamount gage (USGS 09060799) in October of 2016 at the Catamount Bridge in Segment 6. This gage is operational for 8 months each year, from March 15 through November 15. In July 2021, the Catamount Bridge station was expanded, and it now measures 8 parameters: streamflow, gage height, water temperature, air temperature, specific conductance, dissolved oxygen, pH, and turbidity. Figure 1, Figure 2, and Figure 3 display the average daily streamflow from all gages during the 2024 W&S Year.

All three hydrographs and all subsequent analyses use USGS data available as of May 11, 2025.

Table 3. USGS gages operated in Segments 4, 6, and 7 in 2024.

Number	Gage Name	Parameters	W&S Segment
09058000	Colorado River near Kremmling	Streamflow, gage height, water temperature, and precipitation	4
09060799	Colorado River at Catamount	Streamflow, gage height, water temperature, air temperature, specific conductance, dissolved oxygen, pH, and turbidity	6
09070500	Colorado River near Dotsero	Streamflow, gage height, water temperature, specific conductance, dissolved oxygen, pH, and turbidity	7

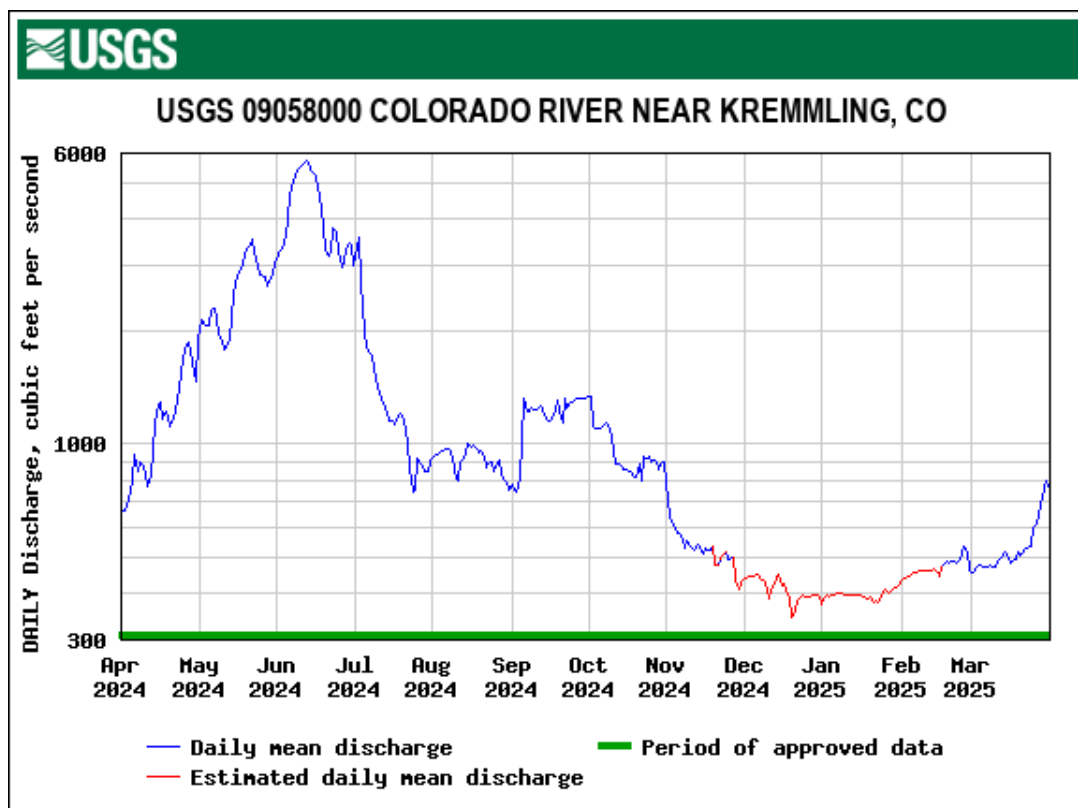


Figure 1. Mean daily streamflow in 2024 at the Colorado River near Kremmling, CO gage (USGS 09058000).

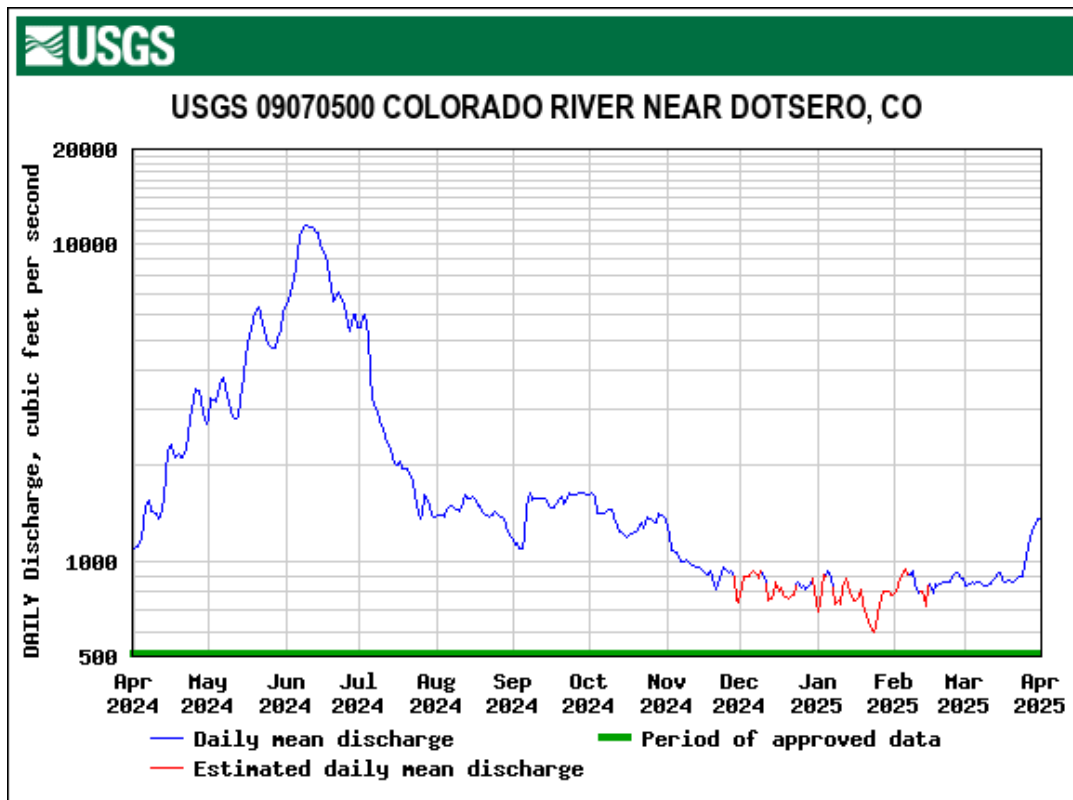


Figure 2. Mean daily streamflow in 2024 at the Colorado River near Dotsero, CO gage (USGS 09070500).

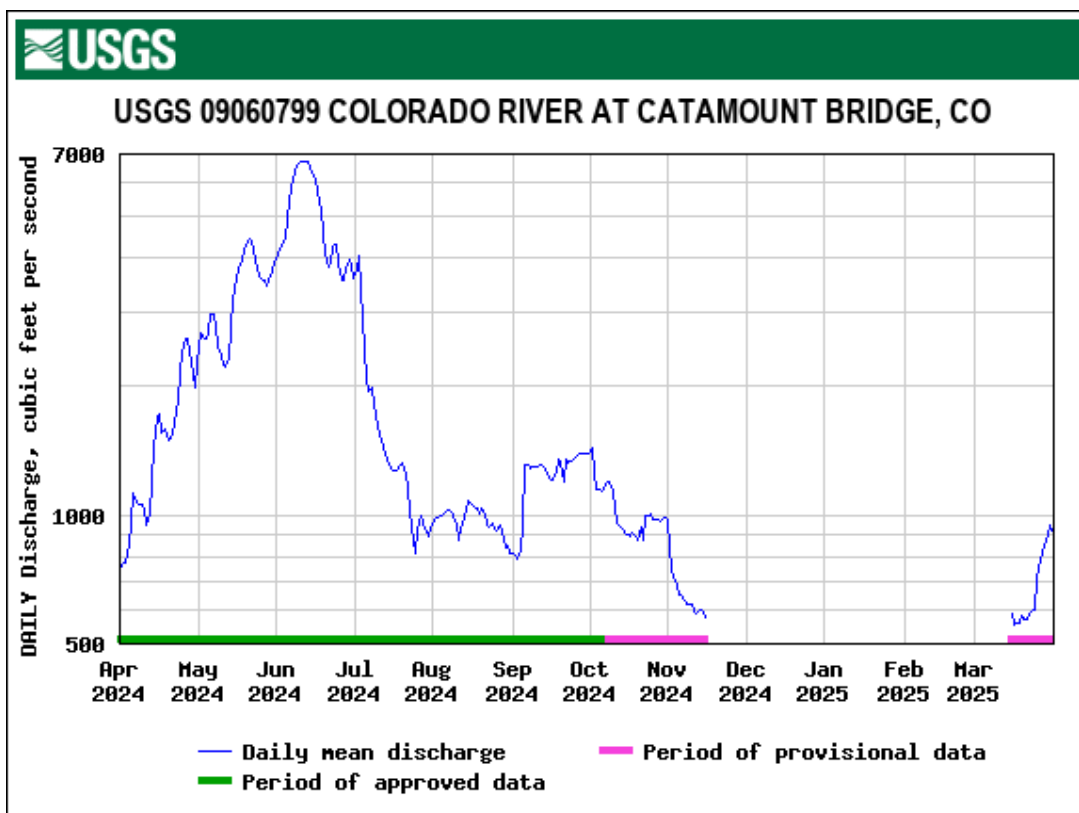


Figure 3. Mean daily streamflow in 2024 at the Colorado River at Catamount Bridge, CO gage (USGS 09060799).

Year Type Determination

The A&R SG Plan calls for evaluating and categorizing annual flow volumes by year type (Table 4). The actual year type is based on total annual flow volumes measured at the Kremmling (USGS 09058000) and Dotsero (USGS 09070500) gages from April 1 through March 31. In addition, the SG evaluates the predicted year type based on the Colorado Basin River Forecast Center's April 1 Water Supply Forecast (Table 5). The April 1 prediction is based on undepleted forecasted flow volumes from April to July. The April 1 prediction in 2024 estimated that the undepleted flows would be 870,000 acre-feet (AF) for Kremmling and 1,400,000 AF at Dotsero (Table 6). Based on these volumes the predicted flows at both Kremmling and Dotsero were classified as a "Wet Typical" year type.

For the W&S Year 2024, the total calculated annual flow volume at the Kremmling gage was 890,227 AF which ranks in the "Wettest 25%" category and the total volume at the Dotsero gage is 1,556,847 AF which also ranks in the "Wettest 25%" category. These volumes were calculated based on USGS approved data released in May 2025. It is worth noting that 7 of 10 years since 2014 have been classified as "Wettest 25%" or "Wet Typical" for Segments 4-6. This is partly due to the year type classification, which is based on simulated future modeled hydrology, which includes water projects that have not yet been fully constructed.

Table 4. A&R SG Plan year type classification for Segments 4-6 and Segment 7. This table is based on data from Denver Water’s PACSM future modeled hydrology for 1947-1991.

Year Type	Segment 4-6 Kremmling Gage (AF)	Segment 7 Dotsero Gage (AF)
Wettest 25%	>769,500	>1,519,500
Wet Typical	525,500 - 769,500	1,234,000 - 1,519,500
Dry Typical	454,500 - 525,500	1,029,500 - 1,234,000
Driest 25%	<454,000	<1,029,500

Table 5. April 1 forecast predicted year type classifications for Segments 4-6 and Segment 7.

Year Type	Segment 4-6 Kremmling Gage (AF)	Segment 7 Dotsero Gage (AF)
Wettest 25%	>1,007,000	>1,757,500
Wet Typical	812,500 - 1,007,000	1,362,500 - 1,757,500
Dry Typical	607,000 - 812,500	1,007,000 - 1,362,500
Driest 25%	<607,000	<1,007,000

Table 6. Summary of April 1 flow predictions, actual flow volumes, and actual year type for all segments. *

Year	Segment 4-6 Kremmling Gage			Segment 7 Dotsero Gage		
	April 1 Prediction	Actual AF	Actual Type	April 1 Prediction	Actual AF	Actual Type
2015	Dry Typical	1,074,067	Wettest 25%	Dry Typical	1,744,893	Wettest 25%
2016	Wet Typical	855,910	Wettest 25%	Dry Typical	1,565,583	Wettest 25%
2017	Wet Typical	790,942	Wettest 25%	Wet Typical	1,439,400	Wet Typical
2018	Dry Typical	511,023	Dry Typical	Dry Typical	947,581	Driest 25%
2019	Wet Typical	878,157	Wettest 25%	Wet Typical	1,803,323	Wettest 25%
2020	Wet Typical	605,620	Wet Typical	Wet Typical	1,116,528	Dry Typical
2021	Driest 25%	448,309	Driest 25%	Driest 25%	845,594	Driest 25%
2022	Dry Typical	507,724	Dry Typical	Dry Typical	1,043,813	Dry Typical
2023	Wet Typical	828,768	Wettest 25%	Wet Typical	1,580,167	Wettest 25%
2024	Wet Typical	890,227	Wettest 25%	Wet Typical	1,556,847	Wettest 25%

*W&S Year values in Table 6 may not match a given year’s Annual Monitoring Report because these values have been updated based on the final approved USGS data.

2024 Cooperative Measures

During 2024, the Cooperative Measures Committee continued to maintain web-based tools to aid in discussions on Resource Guides and potential cooperative efforts on the Colorado River. The floatboating boatable day tool, which is populated by preliminary streamflow data at the Kremmling and Dotsero gages was published on the Upper Colorado W&S website during the floatboating season. The tool provides a graphical representation and

an automated summary of the number of boatable days for each opportunity category defined in the A&R SG Plan.

Representatives from the Cooperative Measures Committee participated in State of the River/Historic User Pool (HUP) weekly calls between March and October as well as Learning by Doing operational calls to provide input on operations being discussed on the Colorado River. Those representatives provided updates to the Cooperative Measures Committee, summarizing information from these calls, forecasts, streamflow and stream temperature graphs and river administration. This information was also discussed at numerous Cooperative Measures Committee meetings.

As described above, the 2024 W&S Year is in the “Wettest 25%” category at both the Kremmling gage and the Dotsero gage. Flows in 2024 allowed for Coordinated Reservoir Operations (CROS) to occur in June. The Shoshone Power Plant was off-line for a portion of the 2024 W&S Year and therefore the Shoshone Outage Protocol (ShOP) was implemented from August 11, 2023, through April 2, 2024. ShOP was again in place from April 6, 2024, through April 9, 2024, and then from July 30, 2024, through August 8, 2024. A Shoshone call was placed on August 9, 2024, and remained on through the end of the 2024 W&S Year (March 31, 2025).

Stream temperatures in 2024 were relatively low and remained below acute standards at Kremmling, Catamount, and Dotsero. However, as described in the Water Temperature section below, all sites from Catamount downstream exceeded the chronic (MWAT) temperature standards for extended periods in early August 2024. The Cooperative Measures Committee continued to meet remotely during the summer of 2024 as necessary to monitor conditions in the Wild & Scenic segments. Various other events and W&S Stakeholder actions occurred in 2024, as described below.

- The Colorado-Big Thompson System (C-BT System, Willow Creek and Granby Reservoirs) spilled during runoff in 2024 and therefore no excess Middle Park Water Conservancy District Windy Gap contract water was available for Grand County's use beginning in August 2024.
- Green Mountain Reservoir achieved a physical fill, and 2024 was not a substitution year.
- Denver Water conducted a Voluntary Pilot Project (“VPP”) study during the summer of 2024 on Ranch Creek, during which additional water was bypassed from their collection system to determine whether the increased streamflow may result in the reduction of stream temperature. For days during which the parameters for a VPP release of additional bypass flows were met (July 30 to August 1, 2024), data demonstrated that there is a statistically significant relationship between increased streamflow and downstream stream temperature immediately below the bypass location. This information, along with additional data review on the mainstem could help inform future Cooperative Measures, particularly regarding releases from a potential future SG-funded pool of water.

- The release of 5412 Water began on July 25 at 35 cfs. This was maintained through August to keep 75 cfs at the gage below Lake Granby. 5412 water reached a maximum of 40 cfs from September 21 to September 30, before decreasing to 0 cfs on October 1. All 5412 water was released out of Lake Granby.

In response to recommendations in the September 2021 BLM and USFS Annual Effectiveness Review, the Cooperative Measures Committee continues researching and discussing the potential for and feasibility of an SG-funded pool of water to be utilized in the W&S segments. A lease from Green Mountain Reservoir is likely the preferred option, but additional research regarding the mechanics of acquiring and funding such a program needs to be completed. The Cooperative Measures Committee has discussed potential impacts and benefits of releasing water at various times of the year and will be reviewing how water could be shepherded through the W&S segments. The Committee also began researching other potential smaller pools of water and mechanisms to provide streamflow in the W&S reaches when needed, as well as synergies with releases benefitting the 15-Mile Reach lower on the Colorado River.

American Whitewater’s annual Gore Canyon Festival, including the Gore Fest event, took place on August 24-25, 2024, with SG sponsorship of \$5,000. No specific cooperative measures related to the festival were required.

2024 Monitoring Results

The Monitoring Committee assembled or collected information to evaluate the ORV Indicators and review the Resource Guides. During 2024, the SG conducted the following activities:

- Evaluated CPW biosurvey data.
- Funded boating and fishing intercept data collection.
- Determined Recreational Floatboating boatable and early season boatable days.
- Evaluated Recreational Fishing seasonal flows and flushing flows.
- Evaluated and funded temperature readings at nine sites operated by USGS, BLM, and the SG.
- Funded a displacement survey and assessment of traffic counter data
- Completed photo point and observational monitoring as part of the Channel Maintenance Flow Observational Monitoring plan.

Recreational Floatboating

ORV Indicator for Recreational Floatboating

The A&R SG Plan evaluates the Recreational Floatboating ORV in Segments 5, 6, and 7 based on the “Not Likely to Return” ORV Indicator. This indicator uses visitor intercept survey responses to the question “Based on your experience today, how likely would you be to return to this section of river.” Responses of “0% - will not return” and “25% - unlikely” are combined to determine the percent of people that are not likely to return. The Not Likely to Return percentage values for the ORV Indicator are based on the upper 95%

confidence interval for floatboating survey responses (Table 7). Divergences occur when annual percentage values are greater than the ORV Indicator percentage values shown in Table 7 below.

Failure to meet the ORV Indicator occurs when divergences exist in any three of the last five consecutive years. Divergences in one or more segments during a given year will be treated as a single year toward the three-out-of-five-year frequency criteria. The A&R SG Plan (Section III.B.2) provides details on the Recreational Floatboating ORV Indicator metric. The SG Memo titled, “Recommendation for on “Not Likely to Return” Floatboating ORV Indicator” contains additional information about the metric and the “Intercept Survey Protocol” specifies the procedures used in this work.

Table 7. Recreational Floatboating ORV Indicator percentage values for Not Likely to Return for each year type. Indicator percentage values are based on the upper 95% confidence interval for floatboating survey responses that indicate “will not” or “unlikely” to return.⁴

Segment	Driest	Dry Typical	Wet Typical	Wettest
5	4.9%	6.1%	-	3.1%
6	2.2%	2.4%	-	1.6%
7	4.0%	2.7%	-	3.2%

At the time the Plan was approved, there was not sufficient data to fill in the percentage values for all segments and year types. The requisite survey data to fill in missing percentage values for each year type requires a minimum survey effort per segment as described in the Intercept Survey Protocol, which may be amended and adopted by the SG independent of the SG Plan, or other survey methods as approved by the SG. Table 7 will continue to be filled in as sufficient data is collected for year types and segments.

2024 Floatboating ORV Indicator and Survey Response Information

In 2024, the SG retained RRC Associates to conduct user intercept surveys at seven locations (Table 8) resulting in 1,572 total survey responses (including both Floating and Angler surveys). RRC collected and processed survey responses to evaluate the percentage values for the Not Likely to Return ORV Indicator. In 2024, the year type was in the Wettest category for all segments. Table 7The annual percentage values were lower than the ORV Indicator threshold values, as defined in the Intercept Survey Protocol, for all segments; therefore, there are no divergences in 2024. While the ORV Indicator was not approved until 2020, there have not been any divergences as of 2024 utilizing all the data collected since 2013 (

⁴ Not all values in this table were set using the 380-sample size or the 95% confidence interval. Please refer to “Process to Deliberate and Address Failure to Reach Consensus – Floatboating ORV Indicator” memo from March 23, 2023.

Table 9).

Table 8. Number of completed user intercept surveys by location in 2024.

Segment	Location	Number of Boater Surveys
5	Radium	362
	State Bridge	250
	Total	612
6	Catamount	115
	Two Bridges	107
	Cottonwood	6
	Horse Creek	-
	Dotsero	164
	Total	392
7	Grizzly Creek	144
	Two Rivers	256
	Total	400

Table 9. Summary of the Recreational Floatboating Indicator percentage values.

Year	Segment	Year type	ORV Indicator % Value by year type	Annual % Values	Number of surveys	Divergence?
2019	5	Wettest	3.1	1.7	367	None
2019	6	Wettest	1.6	1.0	306	None
2019	7	Wettest	3.2	2.3	263	None
2021	5	Driest	4.9	3.6	760	None
2021	6	Driest	2.2	1.2	495	None
2021	7	Driest	4.0	0.9	215	None
2022	5	Dry Typical	6.1	2.8	546	None
2022	6	Dry Typical	2.7	0.0	279	None
2022	7	Dry typical	4.0	1.1	385	None
2023	5	Wettest	3.1	2.3	394	None
2023	6	Wettest	1.6	0.5	411	None
2023	7	Wettest	3.2	0.6	329	None

2024	5	Wettest	3.1	1.2	610	None
2024	6	Wettest	1.6	0.5	392	None
2024	7	Wettest	3.2	1.5	409	None

Visitor Displacement

The A&R SG Plan (Section III.B.2.) identifies the need to structure the collection of visitor data on the Not Likely to Return ORV Indicator to avoid potential survey methodology problems with “visitor displacement.” Visitor displacement occurs when some visitors do not return because they are dissatisfied with the quality and range of the recreational experience, and then those users are replaced by newcomers who have different expectations and are satisfied with the lower quality experience. To avoid “displacement” bias, the SG, at its discretion and subject to budgetary limitations, may gather displacement information to further explain intercept survey findings.

The adopted Displacement Survey Protocol identifies the surveying effort would be conducted once every three years. The SG elected to conduct a web-based Displacement Survey using all available emails previously collected through Intercept Surveys. The Displacement Survey measures multiple descriptive statistics as reported by past Colorado River visitors including “likelihood to return to the river.” Visitor Displacement surveys were conducted in 2024 and resulted in 210 completed responses. This represented stronger participation than in 2018 or 2021 when the survey was last conducted; at that time about 182 completed surveys were obtained. In general, responses from the 2024 Displacement Survey are very similar to previous years.

Resource Guides for Recreational Floatboating

Resource Guides for Recreational Floatboating are based on assessing the number of boatable days at different opportunity levels based on the year type as compared to Table 10. Early-season boatable days identified on Segments 4-6 are applicable across all year types.

W&S Segments 4-6

The Floatboating Resource Guides for boatable days in Segments 4-6 are shown in Table 11. In 2024, there were 171 total boatable days in these segments during the floatboating season (April 1 to September 30), which was within the Resource Guide range for boatable days in a Wettest year type. The number of boatable days for each opportunity category was within the range (Table 11). Figure 4 illustrates mean daily streamflow and the range of floatboating opportunities in these segments during the 2024 floatboating season.

Table 10. Floatboating Resource Guide for number of boatable days in Segments 4-6, minimum (median) maximum.

Year Type	Total Boatable Days	Opportunities (700-1,300 cfs)	Opportunities (1,300-4,000 cfs)	Opportunities (4,000-7,000 cfs)
Wettest 25%	115 (161) 180	38 (74) 121	39 (72) 79	4 (22) 28
Wet Typical	120 (153) 169	68 (108) 119	19 (57) 79	0 (0) 5
Dry Typical	74 (115) 141	69 (106) 127	0 (14) 33	0 (0) 0
Driest 25%	62 (80) 96	53 (73) 87	0 (1) 25	0 (0) 0

Table 11. Summary of boatable days in Segments 4-6.

Year	Year Type	Total Boatable Days	Opportunities (700-1,300 cfs)	Opportunities (1,300-4,000 cfs)	Opportunities (4,000-7,000 cfs)
2015	Wettest 25%	179	95	58	26
2016	Wettest 25%	170	101	57	12
2017	Wettest 25%	179	70	106	3*
2018	Dry Typical	136	93	43	0
2019	Wettest 25%	174	70	92	12
2020	Wet Typical	175	121	54	0
2021	Driest 25%	104	104	0	0
2022	Dry Typical	142	130	12	0
2023	Wettest 25%	171	80	85	6
2024	Wettest 25%	180	91	76	13

* Indicates that this number of boatable days was below the Resource Guide range.

2024 Kremmling Boating Opportunities

Upper Colorado Wild & Scenic Alternative Management Plan
(provided to inform potential cooperative measures)

#	Flow Range	Days
1	Unclassified High	0
2	4,000-7,400 cfs	13
3	1,300-4,000 cfs	76
4	700-1,300 cfs	91
5	Unclassified Low	3

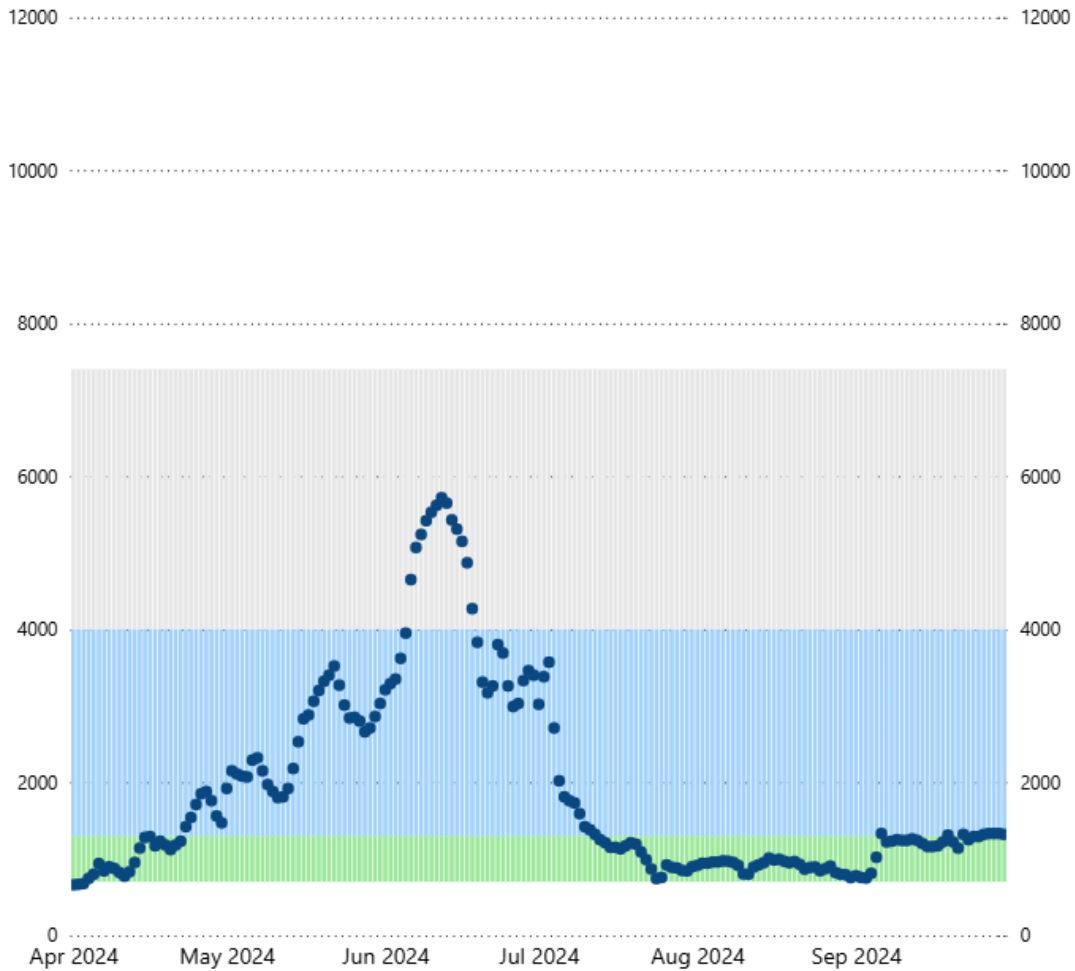


Figure 4. Hydrograph from the Colorado River near Kremmling, CO gage (USGS 0905800) demonstrating the floatboating opportunities in Segments 4-6.

The Resource Guide for early season boatable days is shown in Table 12. During 2024, the number of early season boatable days was within range for May 15-31 and above the range for June 1-30 for Segments 4-6.

Table 12. Floatboating Resource Guide for number of early-season boatable days in Segments 4-6, minimum (median) maximum and number of early-season boatable days.

Early Season Boatable Days		
Early-Season Periods	May 15-31	June 1-30
Boatable Day above 860 cfs	0 (4) 10	0 (9) 17
2020	17	30
2021	0	0
2022	8	20
2023	17	30
2024	17	30

W&S Segment 7

The Resource Guides for Segment 7 are shown in Table 13. In 2024, there were 159 total boatable days in this segment during the floatboating season (April 1 to September 30), which was within the range in the Wettest year type. All opportunity categories were within the range for the 2024 year type (Table 14). Figure 5 illustrates mean daily streamflow and the range of floatboating opportunities in this segment during the 2024 floatboating season.

Table 13. Floatboating Resource Guide for number of boatable days in Segment 7, minimum (median) maximum.

Year Type	Total Boatable Days	Opportunities (1,250-1,800 cfs)	Opportunities (1,800-5,500 cfs)	Opportunities (5,500-8,600 cfs)
Wettest 25%	114 (154) 167	27 (57) 81	49 (68) 77	21 (29) 42
Wet Typical	111 (160) 170	43 (62) 99	39 (75) 110	1 (13) 33
Dry Typical	127 (151) 171	64 (78) 111	40 (61) 91	0 (2) 11
Driest 25%	128 (150) 170	80 (118) 130	10 (32) 63	0 (0) 6

Table 14. Summary of boatable days in Segment 7.

Year	Year Type	Total Boatable Days	Opportunities (1,250 - 1,800 cfs)	Opportunities (1,800-5,500 cfs)	Opportunities (5,500-8,600 cfs)
2015	Wettest 25%	159	69	79	11*
2016	Wettest 25%	165	86	54	25
2017	Wet Typical	179	64	97	18
2018	Driest 25%	156	93	63	0
2019	Wettest 25%	152	49	81	22
2020	Dry Typical	152	79	63	10
2021	Driest 25%	157	130	27	0
2022	Dry Typical	170	108	62	0
2023	Wettest 25%	173	70	52	51
2024	Wettest 25%	159	72	63	24

* Indicates that this number of days was below the Resource Guide range.



2024 Dotsero Boating Opportunities

Upper Colorado Wild & Scenic Alternative Management Plan
(provided to inform potential cooperative measures)

#	Flow Range	Days
1	Unclassified High	12
2	5,500-8,600 cfs	24
3	1,800-5,500 cfs	63
5	1,250-1,800 cfs	72
5	Unclassified Low	12

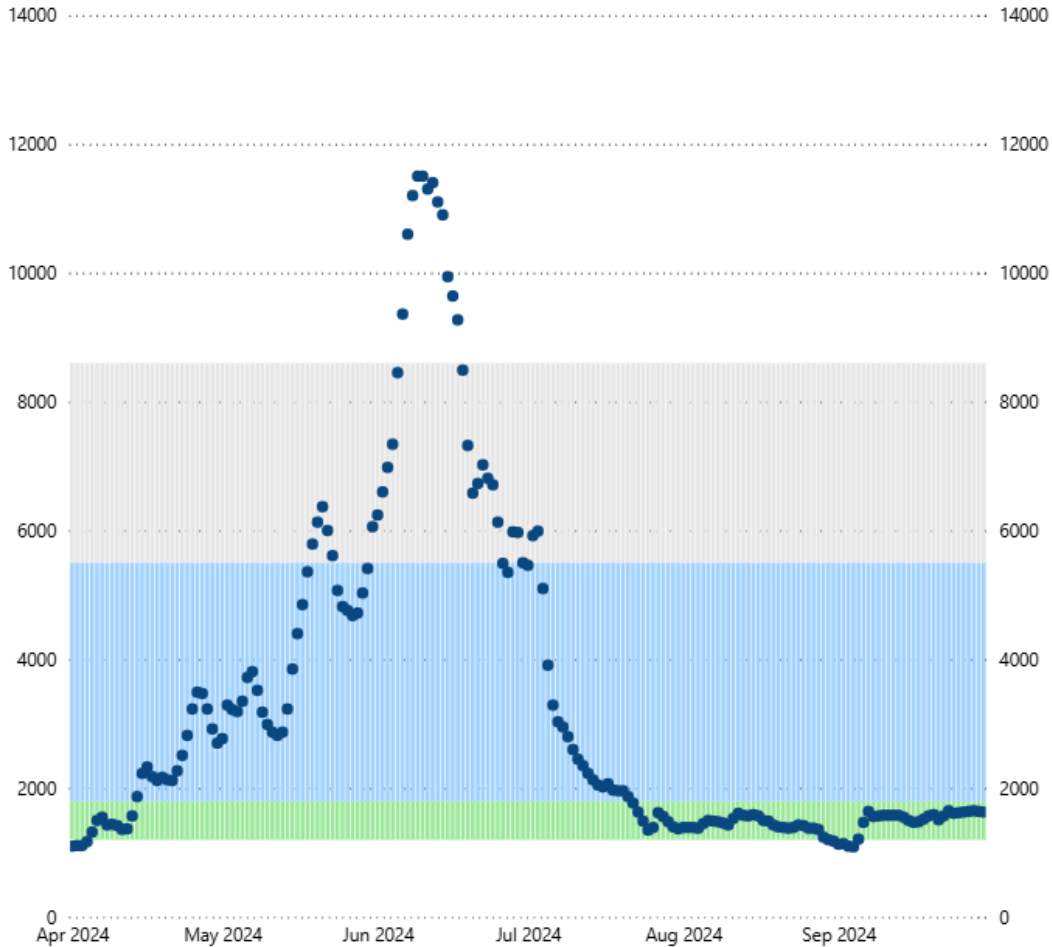


Figure 5. Hydrograph from the Colorado River near Dotsero, CO gage (USGS 09070500) demonstrating the floatboating opportunities in Segment 7.

RECREATIONAL FISHING

ORV Indicators for Recreational Fishing

The A&R SG Plan evaluates the Recreational Fishing ORV in Segments 5 and 6 between Gore Canyon and Red Dirt Creek based on three indicators: Quality Trout, Biomass and Catch-Per-Unit Effort (CPUE). Although Recreational Fishing is an identified ORV in Segment 4, because CPW is not able to conduct biosurveys in Gore Canyon, ORV Indicators have not been established for W&S Segment 4.

The A&R SG Plan (Section II.B.1) provides details on the Recreational Fishing ORV Indicator metrics and thresholds for Quality Trout and Biomass. A metric for Quality Trout identifies the abundance of trout 14 inches or longer per surface acre of water that characterize an angler's recreational fishing experience in Segments 5 and 6. Trout Biomass (pounds of trout >6 inches per acre), is a gage for both productivity and recruitment that supports a healthy and resilient fishery. Quality Trout and Biomass are evaluated by CPW during their annual fish monitoring surveys (biosurveys) between Glenwood Canyon and Gore Canyon; CPW has been conducting biosurveys at the Radium, State Bridge, and Catamount reaches on alternating years (dependent on conditions and priorities) each spring since 2010. As discussed below, Quality Trout and Biomass indicators were established after CPW completed six qualifying biosurveys at each biosurvey reach.

CPUE equates to the number of fish caught by each angler (calculated on an hourly basis) and helps evaluate the user experience. RRC calculates CPUE based on individual angler responses to W&S intercept surveys.

Quality Trout and Biomass

Quality Trout abundance and trout Biomass varies naturally in rivers and can be influenced by a variety of factors inherent to river systems. ORV Indicator thresholds established during the baseline monitoring period allow for expected natural variability in the trout populations at different monitoring reaches.

Per the Recreational Fishing ORV Indicator, both Quality Trout and Biomass should be equal to or greater than the threshold values identified in the 2020 A&R SG Plan. If a single biosurvey indicates that either value falls below said threshold at a given location, these ORV Indicators will be deemed to not have been met at that location. Of note, the 2020 A&R SG Plan did not establish threshold values for Quality Trout or Biomass at the State Bridge and Catamount biosurvey reaches, since the minimum number of six (6) biosurveys that were necessary to establish baseline conditions had not been completed. In 2021, however, CPW completed the required number of biosurveys to establish thresholds at all three Recreational Fishing ORV biomonitoring reaches (Radium, State Bridge, and Catamount).

CPW's 2024 biosurveys were limited to State Bridge. In Table 15, established Fishing ORV Indicator thresholds for each of the three biosurvey reaches in W&S Segments 5 and 6 are compared to the results of 2024 biosurveys. As indicated in Table 15, in 2024 the ORV Indicators for Quality Trout and Biomass at State Bridge were met (i.e., above the established thresholds).

Table 15. Monitoring Results Compared to Quality Trout and Biomass Thresholds.

Biosurvey Reach	Quality Trout (QT) Threshold (#>14" per acre)	Biomass (BM) Threshold (Pounds per acre)	2024 Monitoring Results (QT / BM)
Radium (Segment 5)	43	125	N/A
State Bridge (Segment 6)	22	63	33 / 76
Catamount (Segment 6)	14	43	N/A

The abundance of larger quality-sized trout (14-inches or greater) is highest in the upstream monitoring reach (Radium) and decreases moving downstream due to changes in habitat diversity and river conditions between the reaches in Segments 5 and 6. Within the monitoring reaches, annual trends in Quality Trout abundance differ during the monitoring period (Figure 6). Annual CPW biosurveys indicate a steady increase in Quality Trout in the State Bridge monitoring reach between 2015 and 2018, and slight decrease in 2018, and relative consistent (increasing) numbers through 2024. Quality Trout numbers remain well-above the ORV indicator (22). CPW will continue to monitor this trend to determine if extraneous events (e.g. increased fine sediment loading related to upstream wildfires in previous years) are potentially impacting the fishery.

Trout Biomass estimates vary annually within each monitoring reach (Figure 6) and do not always correspond to trends documented in Quality Trout abundance. 2024 Biomass estimates at State Bridge exceeded the threshold. Annual variability in both Quality Trout and Biomass do not clearly identify population trends. Notwithstanding, State Bridge exceeded the established threshold (Table 15) as Quality Trout and Biomass estimates fell within the normal range of natural variability expected at these monitoring reaches. Overall, the thresholds established for both Quality Trout and Biomass during the baseline monitoring period provide metrics that encompass the natural variability of the populations at the three diverse monitoring locations. In Figures 6 and Figure 7, the results of CPW's biosurveys at Radium, State Bridge and Catamount can be reviewed back to 2010.

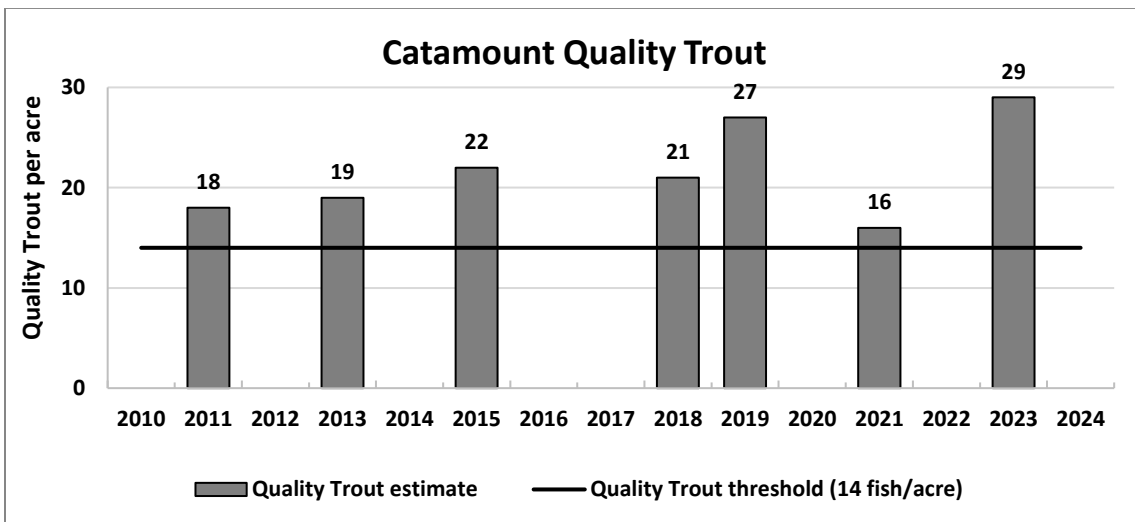
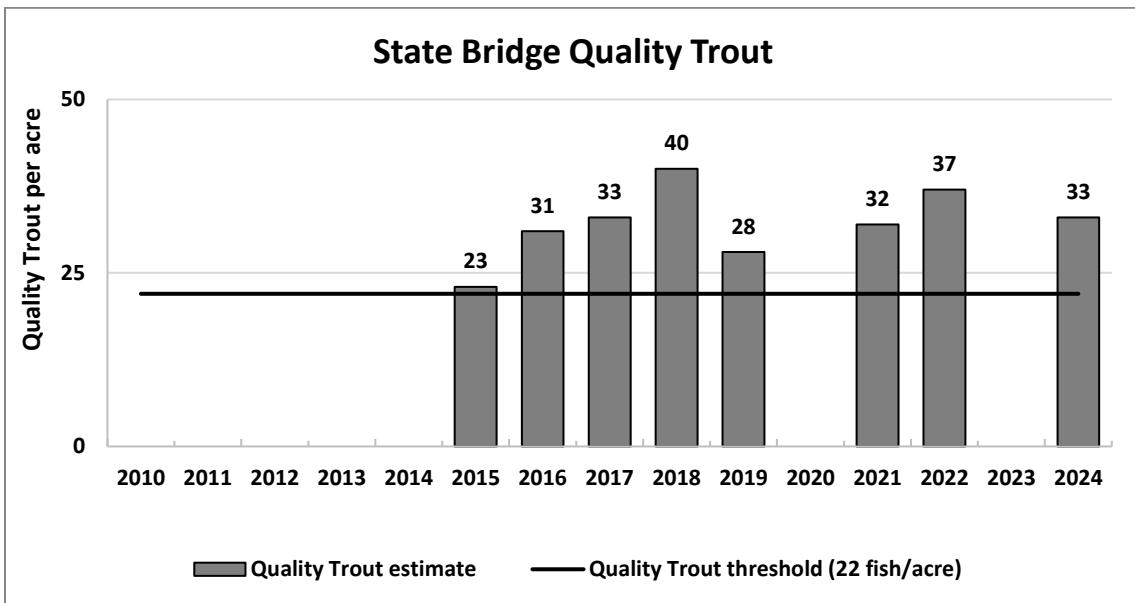
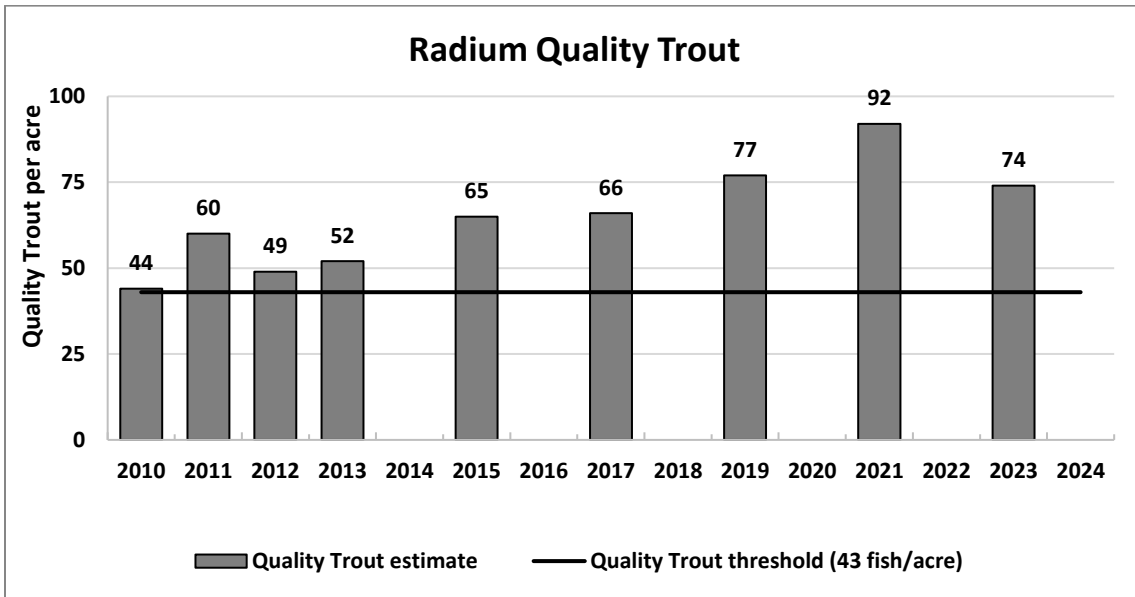


Figure 6: Quality Trout abundance (QT/acre) estimated during CPW surveys at Radium, State Bridge, and Catamount in the Colorado River below Gore Canyon.

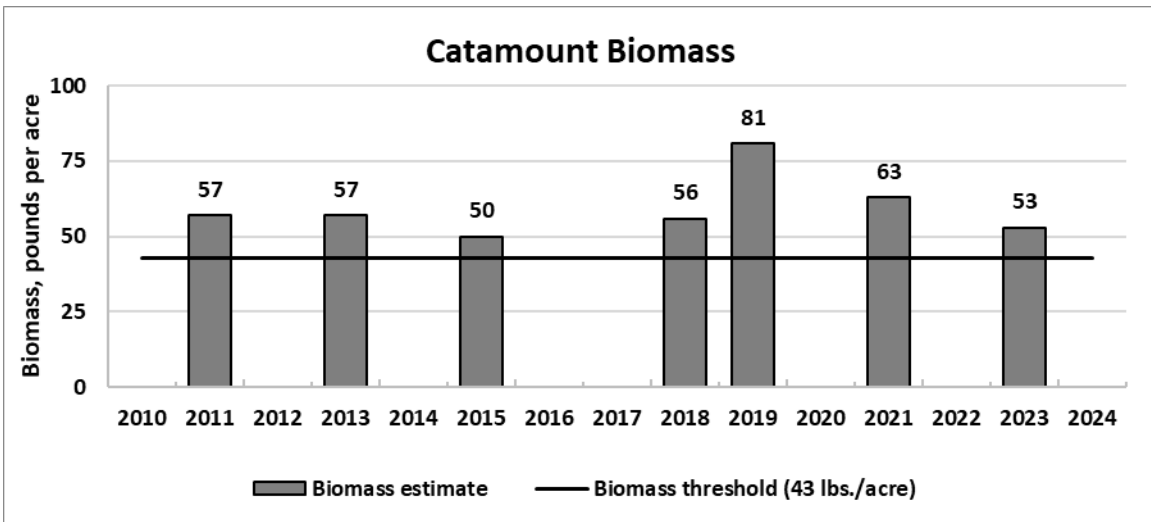
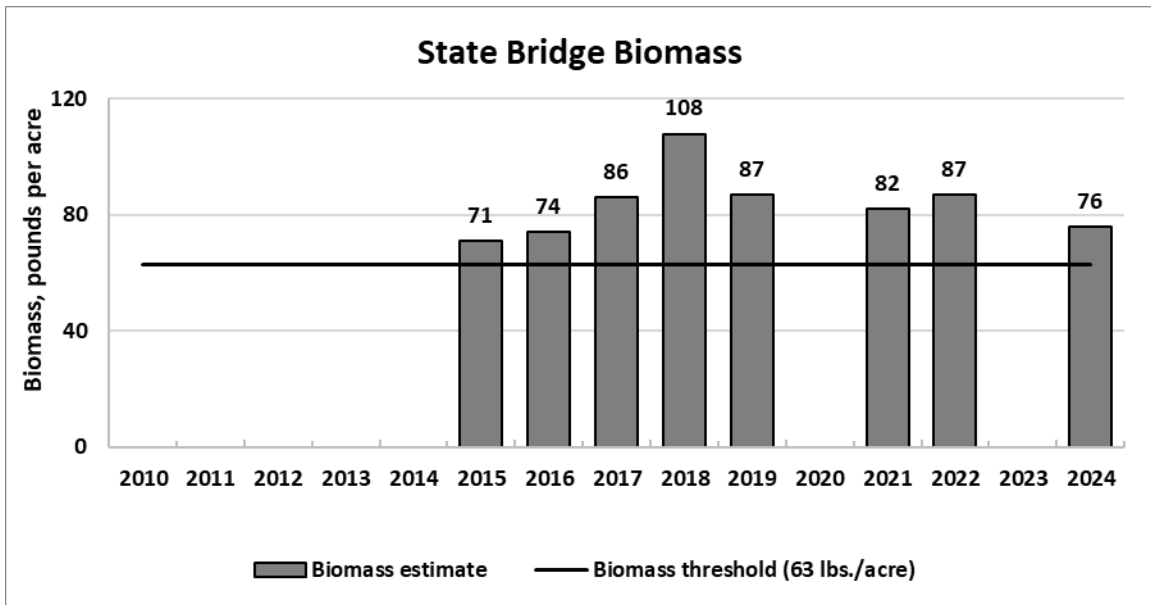
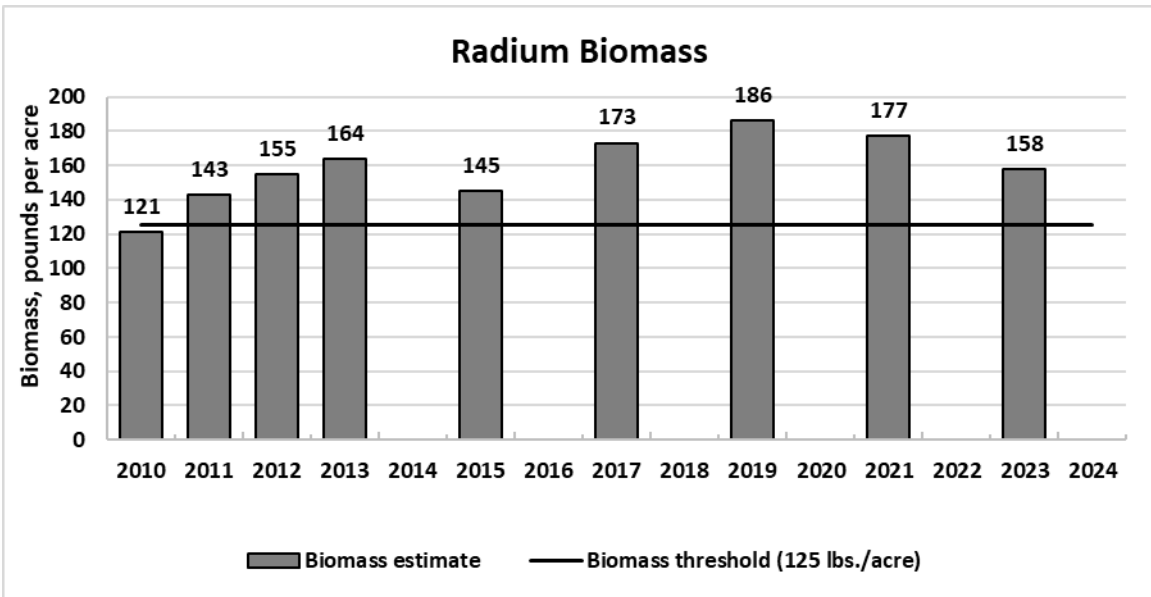


Figure 7: Pounds of trout per acre, Biomass (lbs/acre), estimated during CPW surveys at Radium, State Bridge, and Catamount in the Colorado River below Gore Canyon.

Catch Per Unit Effort (CPUE) Evaluation

Per the Recreational Fishing ORV Indicator, the Fishing ORV will be deemed to be protected at a specific location if angler surveys indicate that CPUE values are equal to or greater than the established threshold values for each monitoring location. Per the SG Plan: *“If surveys indicate that the value falls below said threshold at a given location in any three out of five years (emphasis added), this ORV Indicator will be deemed to not have been met at that location.”* In addition, Failure Criteria for CPUE state that *“Falling short of the CPUE threshold in any survey reach based on the results of angler intercept surveys in any three of the past five years.”*

As of 2023, a CPUE threshold had only been established at Radium. 2024 marked the first year that a sufficient number of valid intercept surveys were completed at State Bridge and Catamount, and CPUE thresholds were locked at these locations. Refer to Table 17 to compare CPUE data across the three survey reaches between 2021 and 2024.

RRC collected a sufficient number of angler surveys (40) at each location to evaluate the annual CPUE (Table 16). 2024 represents the second instance (in addition to 2022) that the CPUE at Radium fell below the established threshold. Because another divergence at Radium in either 2025 or 2026 would constitute a failure to protect the ORV Indicator, the Monitoring Committee is exploring potential explanations; however it should be noted that CPW’s biosurveys indicate healthy numbers of both Quality Trout and Biomass at Radium in 2023. There is a potential divergence at State Bridge depending on whether CPUE values may be compared to thresholds in the same year the threshold was locked. The SG will continue discussions to try to resolve this issue.

Table 16: Number of anglers represented by angler surveys by location.

Segment	Location	Number of Anglers in 2024
5	Radium	92
	State Bridge	88
	Total	180
6	Two Bridges	0
	Catamount	143
	Horse Creek	0
	Dotsero	8
	Total	151

Table 17. Catch-Per-Unit-Effort: Monitoring Results.

Year	Location	Segment	CPUE Threshold	Annual Values	Divergence?
2021	Radium	5	0.70	0.74	None
2021	State Bridge	5	Not locked	1.01	N/A
2021	Catamount	6	Not locked	0.59	N/A
2022	Radium	5	0.70	0.53	Yes
2022	State Bridge	5	Not locked	0.70	N/A
2022	Catamount	6	Not locked	1.01	N/A
2023	Radium	5	0.70	0.76	None
2023	State Bridge	5	Not Locked	0.51	N/A
2023	Catamount	6	Not Locked	1.05	N/A
2024	Radium	5	0.70	0.64	Yes
2024	State Bridge	5	0.62	0.57	TBD ⁵
2024	Catamount	6	0.87	0.94	TBD ⁵

Resource Guides for Recreational Fishing

Seasonal Flows

The Resource Guides shown in Table 18 represent the seasonal ranges of flow for the Recreational Fishing ORV in Segments 4, 5 and 6. Since the effective date of the A&R SG Plan, the SG has agreed to use the mid-point value as a reference flow and compare it to the 5-year rolling average each season.⁶

Table 18. Seasonal flow Resource Guide for Recreational Fishing in Segments 4-6.

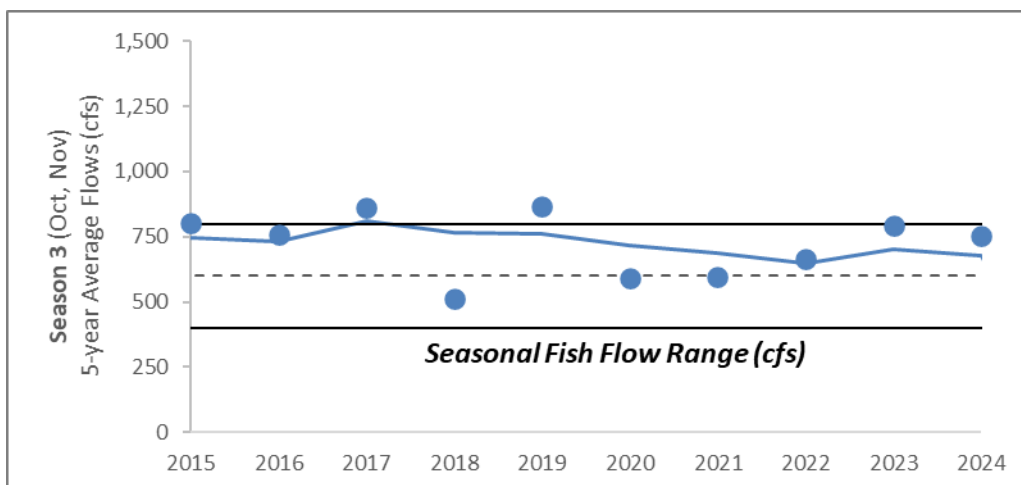
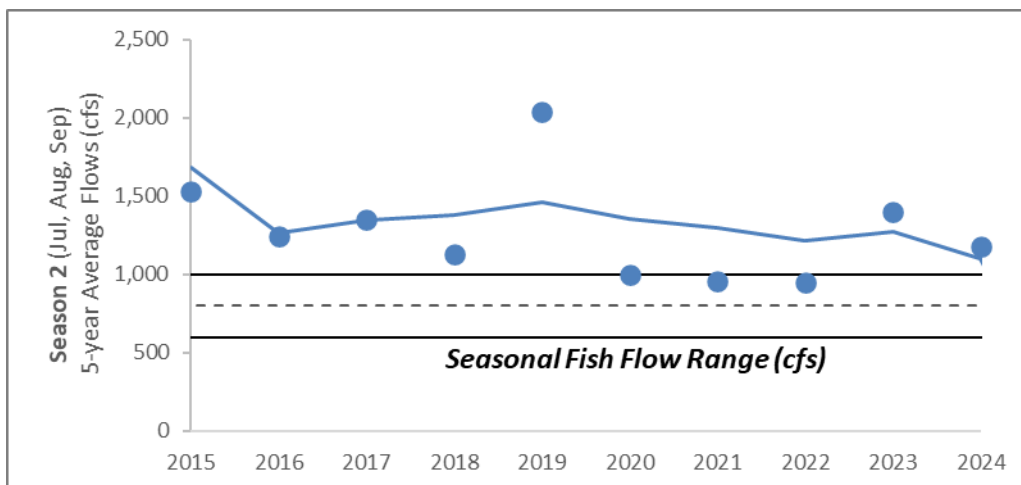
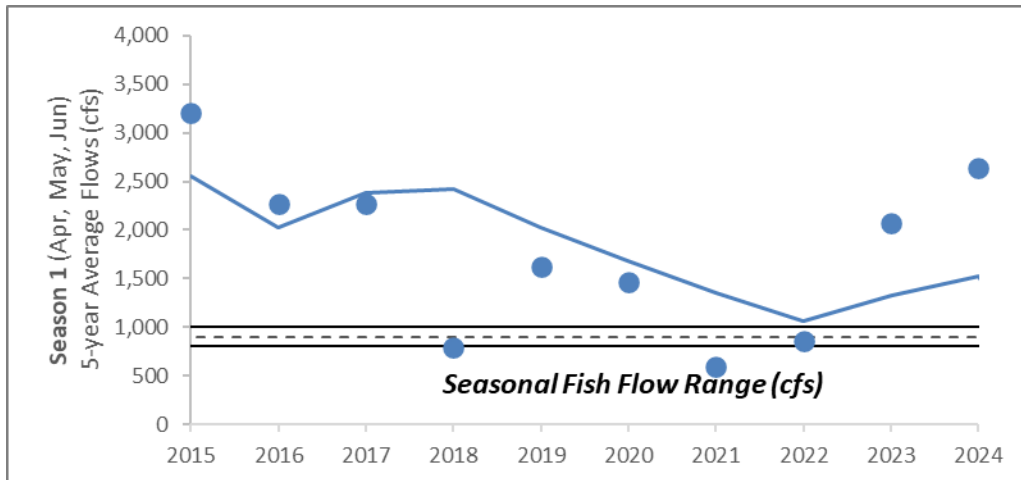
Season	Number of Days	Months	Seasonal Fish Flow Range, low to high cfs	Midpoint, cfs
1	91	April, May, June	800-1,000	900
2	92	July, August, September	600-1,000	80
3	61	October, November	400-800	600
4	121	December, January, February, March	400-600	500

Calculations of the seasonal average flow and rolling 5-year average flows are based on daily mean discharge data from April 1, 2019 to March 31, 2025 at the Kremmling gage (USGS 09058000).

⁵ The SG currently disagrees whether a divergence should count in the same year a threshold value is locked.

⁶ The 5-year rolling average includes data from the previous 4 years.

Figure 8 provides a comparison of 5-year average seasonal flows and annual average seasonal flows at the Kremmling gage for the Resource Guides between monitoring years 2015 and 2024. The 2024 5-year rolling average is above the mid-point Seasonal Flow range for Seasons 1, 2, and 3. For Season 4, the 5-year rolling average is below that mid-point. The 5-year-rolling average has been below the mid-point for Season 4 consistently since 2017.



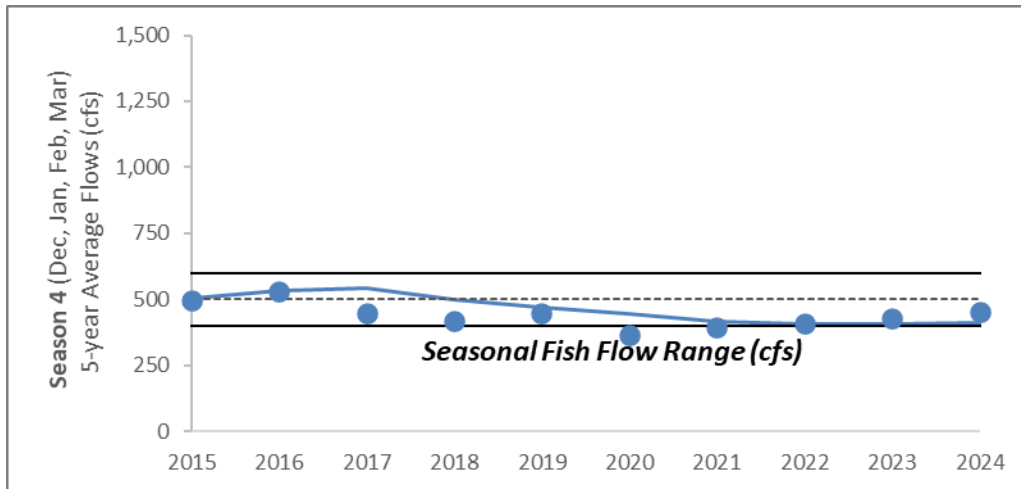


Figure 8: Annual (dots) and five-year rolling average (blue line) for 2015-2024 compared to the Seasonal Flow Resource Guide (black lines indicate upper and lower, dashed grey line shows the midpoint). Note that y-axis changes on graphs.

Flushing Flows

In addition to seasonal flows, the A&R SG Plan includes “Flushing Flows” as a Resource Guide for the Fishing ORV. The SG has negotiated the following Resource Guide for a periodic high flow: *“A daily average flow at or above 2,500 cfs at the Kremmling gage maintained for a minimum of three consecutive days in 50% of the years over a 10-year rolling period, beginning with the period April 1, 2011 through March 31, 2021”* (A&R SG Plan page 24). Table 19 summarizes peak streamflows, or “Flushing Flows” from 2015 through 2024 based on the Colorado River near Kremmling, CO gage (USGS 09058000). In 2024, streamflow exceeded 2,500 cfs. The instantaneous peak of 5,750 cfs occurred on June 12, 2024. The flushing flow streamflow and duration occurred in 60% of years based on a 10-year rolling average between 4/1/2014 and 3/31/2025.

Table 19. Peak streamflow and flushing flow metrics based on the Colorado River near Kremmling gage (USGS 09058000).

Year	Year Type	Instantaneous Peak Streamflow, cfs	Maximum Daily Mean Streamflow, cfs	2,500 cfs for 3 consecutive days	Number of days above 2,500 cfs
2015	Wettest 25%	7,860	7,820	Yes	62
2016	Wettest 25%	4,830	4,770	Yes	46
2017	Wettest 25%	4,380	4,280	Yes	21
2018	Dry Typical	1,650	1,610	No	0
2019	Wettest 25%	4,990	4,960	Yes	39
2020	Wet Typical	3,530	3,450	Yes	5
2021	Driest 25%	1,320	1,290	No	0
2022	Dry Typical	1,650	1,590	No	0
2023	Wettest 25%	5,300	5,170	Yes	41
2024	Wettest 25%	5,750	5,720	Yes	51

Desired Species

The A&R SG Plan includes eight “Desired Species” of fish as a Resource Guide. These species are tracked at Radium, State Bridge, and Catamount through annual CPW biosurveys. CPW reports them as either “present” or “absent”. Note: CPW acknowledges that bluehead suckers, flannelmouth suckers, and Colorado River cutthroat trout are rare and are not anticipated to be captured in every survey each year. As of 2023, research into the taxonomy of sculpins in North American freshwaters was being conducted. This is shedding new light on the diversity of sculpin in western North America and will likely result in new species descriptions for the sculpin inhabiting the W&S segments. For the time being, these fish are no longer being referred to as “mottled sculpin”. Instead, the simpler identifier “sculpin” should be used.

Table 20: Desired Species present (x) in fish biosurveys at Radium, State Bridge, and Catamount sampling locations.

	Brown Trout	Rainbow Trout	Mountain Whitefish	Speckled Dace	Flannelmouth Sucker	Bluehead Sucker	Sculpin	CO River Cutthroat Trout
2013	x	x	x	x	x	x	x	x
2015	x	x	x	x		x	x	
2016	x	x	x	x			x	
2017	x	x	x	x	x	x	x	
2018	x	x	x	x		x	x	
2019	x	x	x				x	x
2021	x	x	x	x			x	
2022	x	x	x				x	
2023	X	X	X	X			X	X
2024	x	x	x	x			x	

*No data was collected in 2014 due to unusually high flows.

Channel Maintenance Flows

The [Channel Maintenance Flow Observational Monitoring Plan](#) was developed in 2021 and approved at the January 2022 SG meeting. After refining the channel maintenance flows procedures throughout 2022, 2023 marked the first year of data collection. In accordance with the monitoring plan, the SG collected General Observer Notes and Repeated Photo Points in 2024 (see Table 21) after the flushing flow trigger occurred– defined as a daily average flow is at or above 2,500 cfs at the Kremmling gage (USGS 09058000) for a minimum of three consecutive days during the calendar year.

Table 21: 2024 Channel maintenance flows monitoring activities.

Activity	Data collection entity	Last Data collection date	Next planned data collection year
1. Cross-sectional Channel Surveys	Ecological Resource Consultants, Inc.	November 2023	~2028. Coordinate data collection with macroinvertebrates monitoring and flushing flows occurrence.
2. Substrate Measures	Ecological Resource Consultants, Inc.	November 2023	~2028. Coordinate data collection with macroinvertebrates monitoring and flushing flows occurrence.
3. Drone-Based Aerial Imagery/ Photogrammetry (includes lidar):	Matrix Design Group	October 2023	~2033 with some flexibility to adjust depending on recent peak flows. Coordinate data collection with macroinvertebrates monitoring.
4. General Observer Notes	Stakeholder group	October – November 2024	2026 or earlier if flushing flows are met (daily average flow is at or above 2,500 cfs at the Kremmling gage (USGS 09058000) for a minimum of three consecutive days during the calendar year.
5. Repeated Photo Points	Stakeholder group	October – November 2024	2026 or earlier if flushing flows are met (daily average flow is at or above 2,500 cfs at the Kremmling gage (USGS 09058000) for a minimum of three consecutive days during the calendar year.

Table 22: 2024 Channel maintenance flows monitoring sites and activities.

Station ID	Station Description	Lat	Long	Feature	Cross-section	Substrate	Drone	Observer Notes	Photo Points
CR-PH	Colorado River at Pumphouse	39.98471	-106.514	Run, riffle, gravel bar				x	x
CR-SHE	Colorado River at Sheephorn Creek	39.9546	-106.5498	Delta					x
CR-RDB	Colorado River at Radium Bridge	39.9521	-106.5572	Gravel bar					x
CR-Rad	Colorado River at Radium	39.9499	-106.558	Run, bar				x	x
CR-RAN	Colorado River at Rancho del Rio	39.8954	-106.6098	Mid channel bars					x
CR-YAR	Colorado River at Yarmony bridge	39.8907	-106.6167	Run, riffle mid channel bar				x	x
CR-SB	Colorado River at State bridge	39.9124	-106.785	Riffle				x	x
CR-aC	Colorado River upstream of Catamount	39.8583	-106.9209	Run, riffle, mid channel bar				x	x
CR-DER	Colorado River downstream of Derby Creek	39.8429	-106.9391	Mid channel gravel bar				x	x
CR-PIN	Colorado River at Pinball Recreation Area	39.8024	-106.9748	Mid channel bar, gravel bar					x
CR-RED	Colorado River at Red Dirt Creek Recreation Area	39.7594	-107.0119	Delta				x	x
CR-HOR	Colorado River at Horse Creek Recreation Area	39.7120	-107.0447	Delta					x
CR-COT	Colorado River at Cottonwood Recreation Area	39.70996	-107.047	Bar				x	x
CR-bSW	Colorado River at downstream of Sweetwater	39.6995	-107.0704	Run					x
CR-LYO	Colorado River at Lyons Gulch	39.6538	-107.0642	Bars					x
CR-DOT	Colorado River upstream of Dotsero	39.9847	-106.514	Run					x

General observer notes and repeated photo points data collection manuals and instructions can be found [here](#).

Data collection report links:

- [General Observer Notes and Repeated Photo Points](#)

Water Quality

The A&R SG Plan adopted the Colorado Water Quality Control Commission’s (WQCC) water quality standards as Resource Guides for Segments 4 - 7:

“The Resource Guides for water quality are the Colorado Water Quality Control Commission water quality standards. These standards are defined in 5 CCR 1002-33 and are subject to change pursuant to the Water Quality Control Commission’s rulemaking process for “Cold Water Aquatic Life 1” and recreation uses for the portion of the stream segment that CDPHE has designated COUCUC03 (Mainstem of the Colorado River from the outlet of Granby Reservoir to the confluence with the Roaring Fork River).”⁷

Colorado’s Section 303(d) List of Impaired Waters and Monitoring and Evaluation List (Regulation #93 – 5 CCR 1002-93), effective September 14, 2023, lists Segments COUCUC03_C (578 Road Bridge to Gore Canyon), COUCUC03_D (Gore Canyon to Derby Creek), and COUCUC03_E (Derby Creek to the confluence with the Roaring Fork River) are identified as impaired for temperature (From 578 Road Bridge to the confluence with the Roaring Fork River; W&S Segments 4 – 7) with a high priority designation. Segment COUCUC03_E is on the Monitoring & Evaluation list for E. coli. Appendix A shows the locations of the relevant W&S segments.

The WQCD describes the 303(d) assessment process as follows: " The assessment process is intended to provide continuity with similar assessments done to support the standards review process as well as to efficiently utilize division resources. The division uses a rotating basin approach, approved by EPA, for periodic standards review and coordinates water quality monitoring and assessment to support the review" (WQCD 2026 303(d) Listing Methodology). The upcoming Colorado River Basin review is scheduled for Fall 2027, covering data from 2022 to 2026. This data will inform the 303(d) listing process in May 2029.

Table 23. Segments listed for impairment in Colorado's WQCC Regulation #93 - 5 CCR 1002-93.

Listed Portion	Description	Affected Use	Parameter	Category/List	Segment
COUCUC03_C	Colorado River from 578 Road	Aquatic Life	Temperature	5. – 303(d)	4

- ⁷ The Colorado Water Quality Control Commission updated Regulation 33 in 2024 with the new rule effective 12/31/2024. These regulations did not change the required temperature or water quality standards for any of the W&S reaches (WWQCC Segment COUCUC003).

	Bridge to Gore Canyon				
COUCUC03_D	Colorado River from Gore Canyon to Derby Creek	Aquatic Life	Temperature	5. - 303(d)	4, 5, 6
COUCUC03_E	Colorado River from Derby Creek to the confluence with the Roaring Fork River	Aquatic Life	Temperature	5. - 303(d)	6, 7
COUCUC03_E	Colorado River from Derby Creek to the confluence with the Roaring Fork River	Recreational Use	E. coli	3b. - M&E List	6,7

Water Temperature

The Resource Guides for water temperature are the WQCC’s stream temperature water quality standards. These standards are defined in 5 CCR 1002-33 and are subject to change pursuant to the WQCC’s rulemaking process for Daily Maximum (DM) and Maximum Weekly Average Temperature (MWAT) for the portion of the stream segment that the Colorado Department of Public Health and Environment (CDPHE) has designated COUCUC03.⁸ mainstem of the Colorado River from the outlet of Lake Granby to the confluence with Roaring Fork River. Regulations provide both numeric and narrative guidance, stating that “temperature shall maintain a normal pattern of diurnal and seasonal fluctuations with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deemed deleterious to the resident aquatic life.”⁹

Table 24 shows the currently adopted numeric temperature standards for the Segment COUCUCO3 for Cold Stream Tier II temperature standards, with a site specific standard providing additional shoulder season criteria due to the presence of Mountain Whitefish spawning and early life stages. The Blue River above Colorado River Confluence (BL-abvCOR) temperature monitoring site is located in a Cold Stream Tier I standard segment.

Attainment of chronic temperature standards is based on a MWAT, which is defined by taking the maximum value of a seven-day moving average of observations. Attainment of the acute temperature standard is based on a DM, which is defined as the highest two-hour average water temperature in each 24-hour period. Temperature data are evaluated against numerical standards for chronic (MWAT) and acute (DM) seasonal maxima.

⁸ Colorado Department of Public Health and Environment, Water Quality Control Commission 5 CCR 1002-31, 12/31/2024.

⁹ Colorado Department of Public Health and Environment, Water Quality Control Commission 5 CCR 1002-33, 12/31/2024.

Table 24. CDPHE numeric temperature standards for Colorado River Segment COUCUC03, covering the Wild and Scenic management reaches.

Standards Tier	Applicable Months	MWAT (Celsius)	DM (Celsius)
Cold Stream Tier II, CS-2	June 1 – Sept 30	18.3	24.3
	Nov 1 – Mar 31	9.0	13.0
	Apr 1 – May 31 & Oct 1 – Oct 31	16.9	21.2
Cold Stream Tier I, CS-1 (applies to BL-abvCOR only)	June 1 – Sept	17.0	21.7
	Oct – May	9.0	13.0

In 2024 the Monitoring Committee compiled time-series water temperature data throughout Segments 4-7 from three SG sponsored sites, three temperature sites at USGS gage stations, and three BLM temperature sites (Table 25 and Figure 9). Important to note, data for the Blue River logger is not reported this season due to recurring issues with theft/vandalism or drying out, therefore no 2024 data was reported.

Table 25. Temperature stations, responsible agencies, and locations.

Site ID	Description	Segme	Latitude	Longitude	Operator
BL-abvCOR	Blue River above Colorado Confluence	NA	40.0333	-106.3924	BLM
09058000	Colorado River near Kremmling, CO	4	40.0366	-106.4400	USGS
COR-Pumphouse	Colorado River at Pumphouse	5	39.9899	-106.5084	BLM
COR-Rad	Colorado River at Radium	5	39.95467	-106.55	BLM
UPCO-SB	Upper Colorado River upstream of	6	39.8555	-106.6445	WSSG
09060799	Colorado River at Catamount	6	39.8911	-106.8317	USGS
UPCO-RD	Upper Colorado River downstream of Red Dirt Creek	6	39.8005	-106.9740	WSSG
UPCO-DOT	Upper Colorado River upstream of	6	39.6479	-107.0629	WSSG
09070500	Colorado River Near Dotsero, CO	7	39.61164	-107.078	USGS
09071750	Colorado River above Glenwood	7	39.5588	-107.2909	USGS

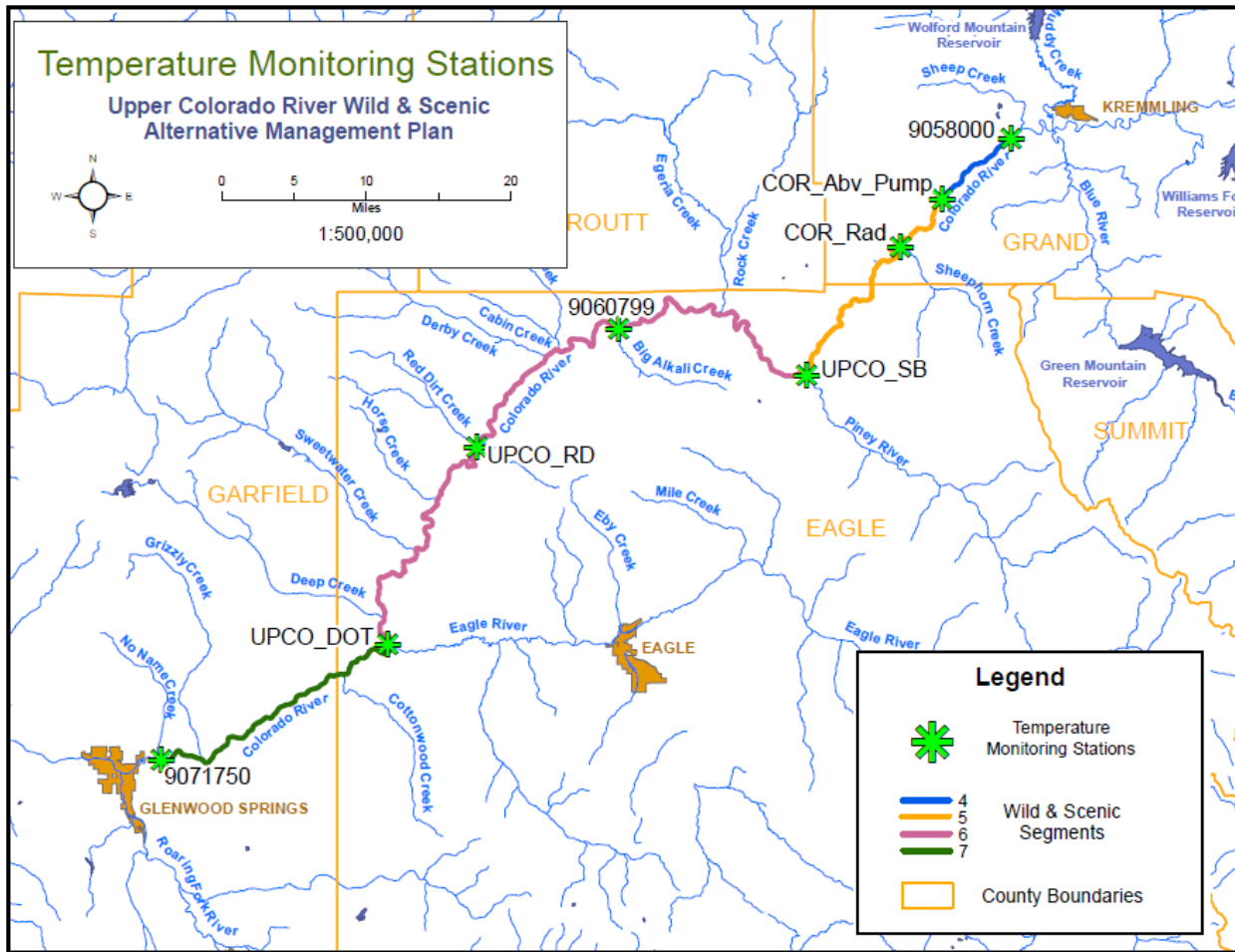


Figure 9. 2024 Time-series temperature monitoring station locations.

The Monitoring Committee has been collecting and reviewing water temperature data within the W&S segments since 2012. Data availability at each site in the years from 2015 to 2024 is shown in Table 26. Data sponsored by the W&S SG and BLM is archived through the [Grand County Water Information Network](#) on the Colorado Data Sharing Network’s Ambient Water Quality Monitoring System (AWQMS) database. USGS data can be obtained from <https://dashboard.waterdata.usgs.gov/app/nwd/en/>. A summary of these, and other relevant time-series water temperature data were prepared for the SG and Northwest Colorado Council of Governments in the “Wild and Scenic Group Water Temperature Data Inventory and Evaluation” report completed by Lotic Hydrological in December 2024.

Table 26. Time-series water temperature data availability in Segments 4 – 7 (in downstream order).

Site ID	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
09058000	X	X	X	X	X	X	X	X	X	X
COR-Pump	X	X	X		X	X	X	X	X	X
COR-Rad	X	X	X	X	X	X	X	X	X	X
UPCO_SB	X	X			X	X	X	X	X	X
09060799		X	X	X	X	X	X	X	X	X
UPCO_RD	X	X		X		X	X	X	X	X
UPCO_DOT	X	X				X	X	X		X
09070500							X	X	X	X
09071750	X	X	X	X	X	X	X	X	X	X

Water temperature in the Upper Colorado River is strongly influenced by intra-annual seasonal climate cycles as well as region-specific patterns and anomalies. Overall precipitation for the Upper Colorado region was average or very slightly above average in 2024 by the time of peak SWE content in April. The Colorado State Climate Center ranked 2024 summer air temperatures for Grand County between the 20th and 10th warmest on record ([CSU Climate Report](#)). October temperatures in the region were the highest on record for some areas.

After a cool May delaying snowmelt, the Upper Colorado River had above average flows during core runoff period in June, with a period of 10th percentile peak flows in mid-June. The peak flow for the season of a little over 5,700 cfs occurred mid-June. July flows at the Kremmling gage quickly transitioned to below average flows during August and September until downstream water calls produced a bump for September and October.

In 2024 water temperature data was analyzed by Lotic Hydrological ([Lotic Report](#)). The 2024 temperature data show the typical natural downstream warming trend between Kremmling and Glenwood Springs (Figure 10 and Figure 11). During peak runoff periods, a smaller differential between the most upstream and downstream sites is observable than later in the summer. Temperature increases between Gore Canyon and Glenwood Springs during late summer and early fall periods.

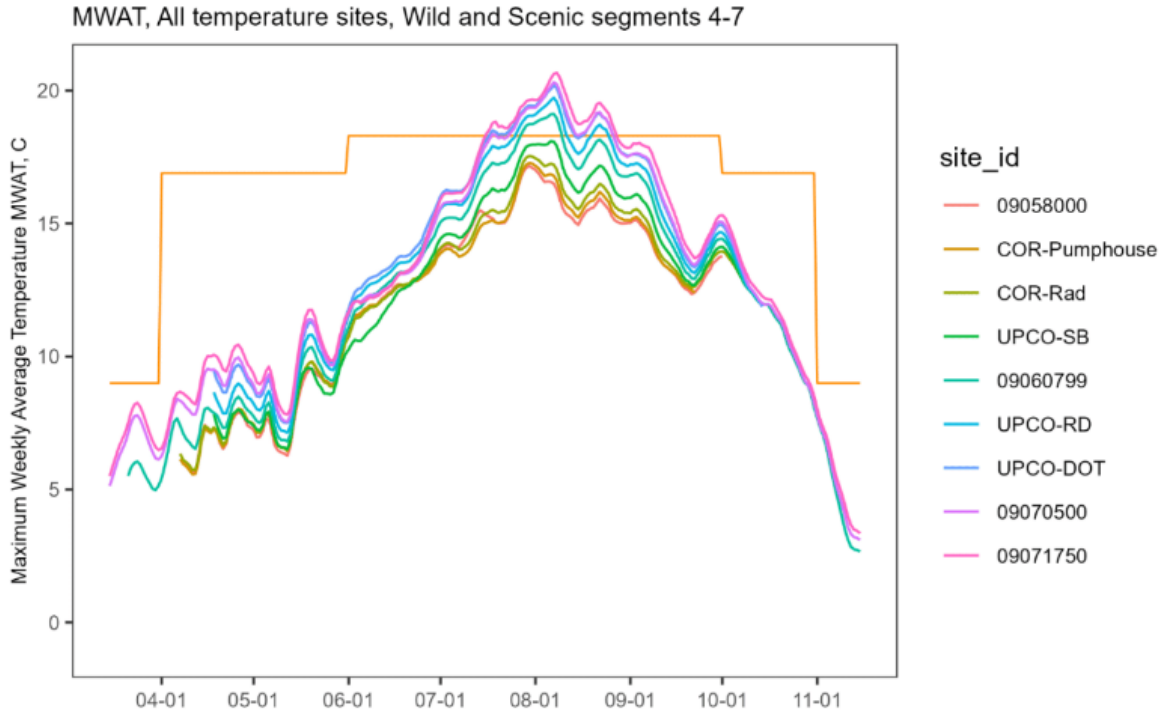


Figure 10. Weekly average temperatures (WAT) in 2024 and the applicable WQCC summer, shoulder, and winter season Maximum Weekly Average Temperature (MWAT) standards.

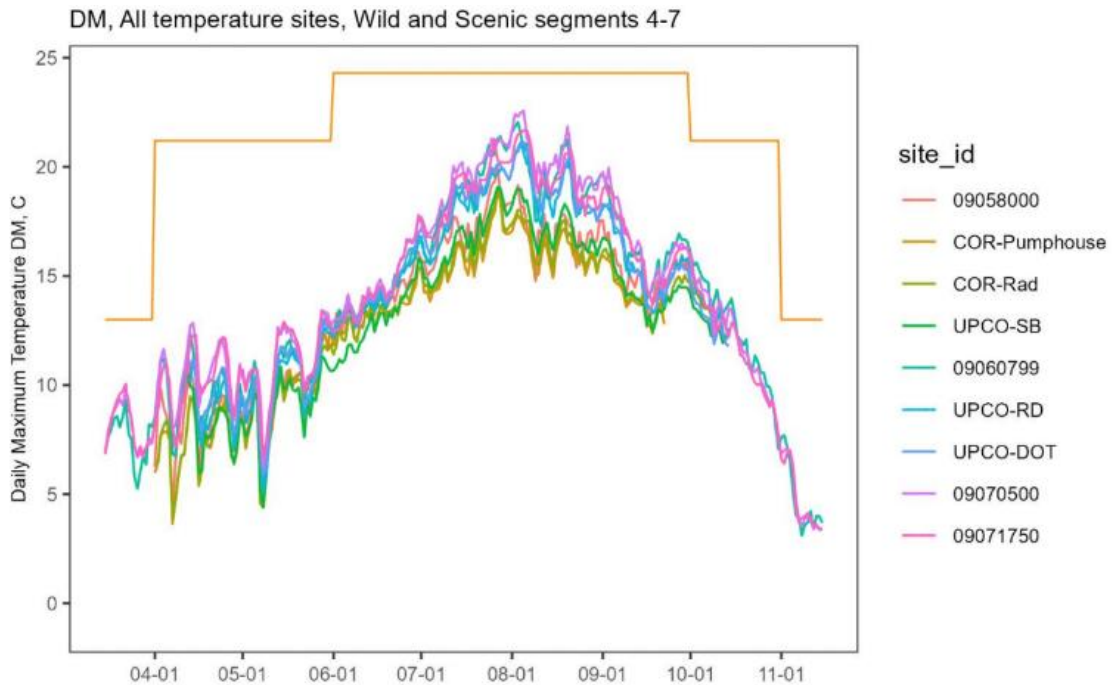


Figure 11. Daily maximum (DM) temperatures in 2024 and applicable WQCC summer, shoulder, and winter season DM standards.

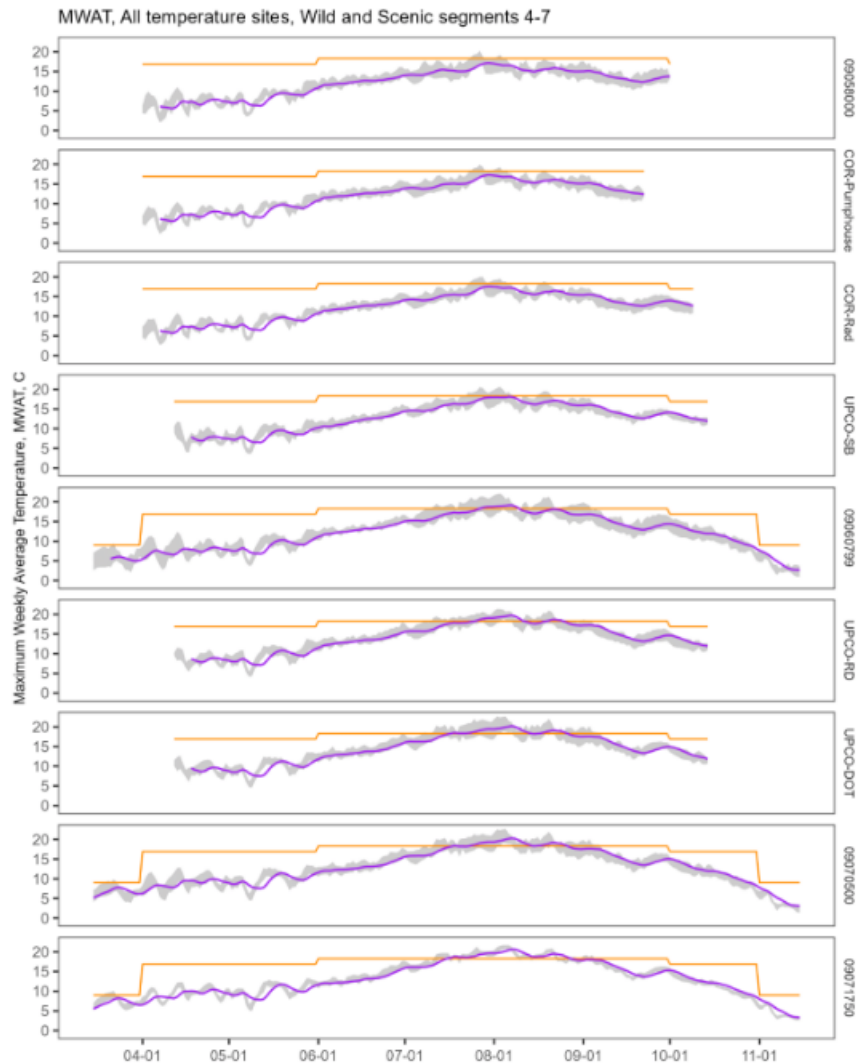


Figure 12. Maximum Weekly Average Temperatures (MWAT) temperatures in 2024 and applicable WQCC standards at all sites.

Based on comparison to State standards all sites from Catamount downstream exceeded the chronic (MWAT) temperature standards for extended periods in early August 2024 (Figure 12).¹⁰ All sites were below the Daily Maximum (DM) values in 2024.

An official regulatory analysis per WQCD’s 2023 Section 303(d) listing methodology and Policy Statement 06-1, which tallies exceedances using only non-overlapping 7-day periods and may exclude exceedances based on exceptions for air temperature, low flow, or

¹⁰ Colorado Department of Public Health and Environment, Water Quality Control Commission 5 CCR 1002-33, 12/31/2024. Segment-specific standards for Whitefish Spawning also apply to the W&S reach (COUCUC03), as specified in Regulation 33 sections 33.6(3)(8) and 33.6(4)(a)

shoulder-season excursions has not been conducted. However, MWAT potential exceedance summaries by site for 2015-2024 are shown in Table 27 below.

Table 27. MWAT potential exceedances at W&S temperature sites.

Site	Segment	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
09058000	4	n	n	y	n	n	n	y	y	n	n
COR-Pump	4/5	n	n	n	*	n	n	y	y	n	n
COR-Rad	5	n	n	n	n	n	n	y	y	n	n
UPCO_SB	5/6	n	n	nd	n	n	n	y	y	n	n
09060799	6	nd	nd	y	y	n	n	y	y	n	n
UPCO_RD	6	y	y	nd	y	n	y	y	y	n	y
UPCO_DOT	6	*	y	nd	nd	n	y	y	y	nd	y
09070500	6	nd	nd	nd	nd	nd	nd	y	y	y	y
09071750	7	y	y	y	y	n	y	y	y	y	y

**Not reported due to data issues such as incomplete record or QAQC concerns.*

nd: No data collected or reported for this year at this location.

y: Yes, an exceedance occurred.

n: No, an exceedance did not occur.

Macroinvertebrates

Aquatic macroinvertebrates vary in sensitivity to environmental perturbations, which cause measurable responses in their production, diversity, and relative abundance in aquatic communities. Macroinvertebrate biomonitoring is therefore widely used to assess overall aquatic ecosystem health. A variety of bioassessment metrics can be calculated in biomonitoring, which also vary in response to different environmental stressors. Through biomonitoring with application of strategically selected metrics, and monitoring of physical habitat and water quality parameters, it is possible in some cases to identify specific factors or types of factors that are likely driving observed changes in aquatic communities.

No macroinvertebrate data was collected in 2024. The next scheduled sampling event will be in fall of 2025.

Fishing and Floatboating Additional Use Data

In addition to the intercept surveys conducted for Floatboating and Fishing, the SG retained RRC to collect additional data to test other survey methods, better understand use patterns, and assist in determining whether divergences are outside of SG control. Additional data collection efforts included user group surveys, and displacement surveys as well as processing the BLM's commercial data logs and vehicle counts. These other survey research techniques are all identified in Section III.B.2.a, page 22 of the A&R SG plan as methods to collect relevant experiential and use data to understand the intercept survey results. While these data are not used in calculating the percentage values defined in the ORV Indicator, they provide valuable context for the SG to analyze the factors that potentially affect likelihood to return. Additional details are available in the report prepared by RRC included in the appendix.

User Group Surveys

User group surveys were conducted in 2024. RRC has recommended these surveys be distributed every other year.

Vehicle Counters Program

The BLM Kremmling and Colorado River Field Offices maintained vehicle counters at 12 sites during the 2024 season. RRC compiled and analyzed the results provided by BLM from 2024 and graphs showing use at selected sites is included in Appendix D. Vehicle counters were monitored and downloaded by BLM periodically from May through October. The 2024 vehicle count information was incorporated into the master file and is available on a daily as well as hourly basis for the period during which counters were in place.

The vehicle counters provide a source of information that can support additional analysis describing visitation patterns and relative volumes of visitors, year over year and by day of week. These data, and the associated analyses, have taken on greater importance as a result of additional language that was added to the A&R SG Plan. The A&R SG Plan includes the statement: "Subject to budgetary constraints, the committee will annually consider available user-day data for both commercial and private use. The committee will gain an understanding of floatboating use on each segment and changes in use between segments."

The Vehicle Counts by day show a decline in vehicular activity at both Radium (down 5% from 2023) and State Bridge (down 3%) in 2024. However, vehicular activity increased by 5% at Pumphouse in 2024. These results suggest significant changes in river activity from the high levels that were recorded in 2022 when average daily vehicles peaked at both Pumphouse and Radium.

Discontinued Data Collection

Commercial Log Data

RRC tabulated 2022 commercial data as reported by outfitters to the Kremmling and Colorado River BLM offices and USFS. Commercial outfitters typically report their river use daily to the agencies. Starting in 2013, these reports were obtained and RRC has aggregated the available data into a master file that permits analysis of both floatboating and angling commercial user groups by date, party size, craft type, and location of launch and takeout. RRC's tabulation of Commercial Log Data was discontinued in 2023.

River Ranger Data

The USFS River Rangers collect limited recreational survey data in Segment 7 during summer months typically Thursday to Sunday between roughly 9 am and 4 pm. This data includes 1) number of people in the party 2) number of boats and 3) type of craft. RRC historically obtained this data from the USFS for storage but it was not part of RRC's typical presentation on survey data. Starting in 2024, RRC's collection of this data from the USFS was discontinued. In 2024, as in prior years, USFS and participating outfitters supported interviews of river users in Segment 7 by USFS River Rangers. 2023 data was received from USFS and participating outfitters but is very limited.

Data Management and W&S SG Support

RRC conducted other activities including warehousing and management of W&S SG data, maintaining data in Tableau dashboard format, and analysis and visualization. RRC also continued participation in SG and Committee work as requested.

RRC prepared an updated [Tableau Dashboard](#) that provides user-friendly access to the historic data that has been collected through the ongoing river research since the project inception in 2023.

2025 Monitoring Plan

The SG approved its fiscal year 2025/2026 Monitoring Plan at the March 2025 SG meeting. The 2025 Monitoring Plan is attached as Appendix E. This year's monitoring plan includes provisions for intercept surveys, monitoring for water temperature, streamflows, macroinvertebrates, and assessment of data collected by others.

Appendices

Appendix A: Project Area Map

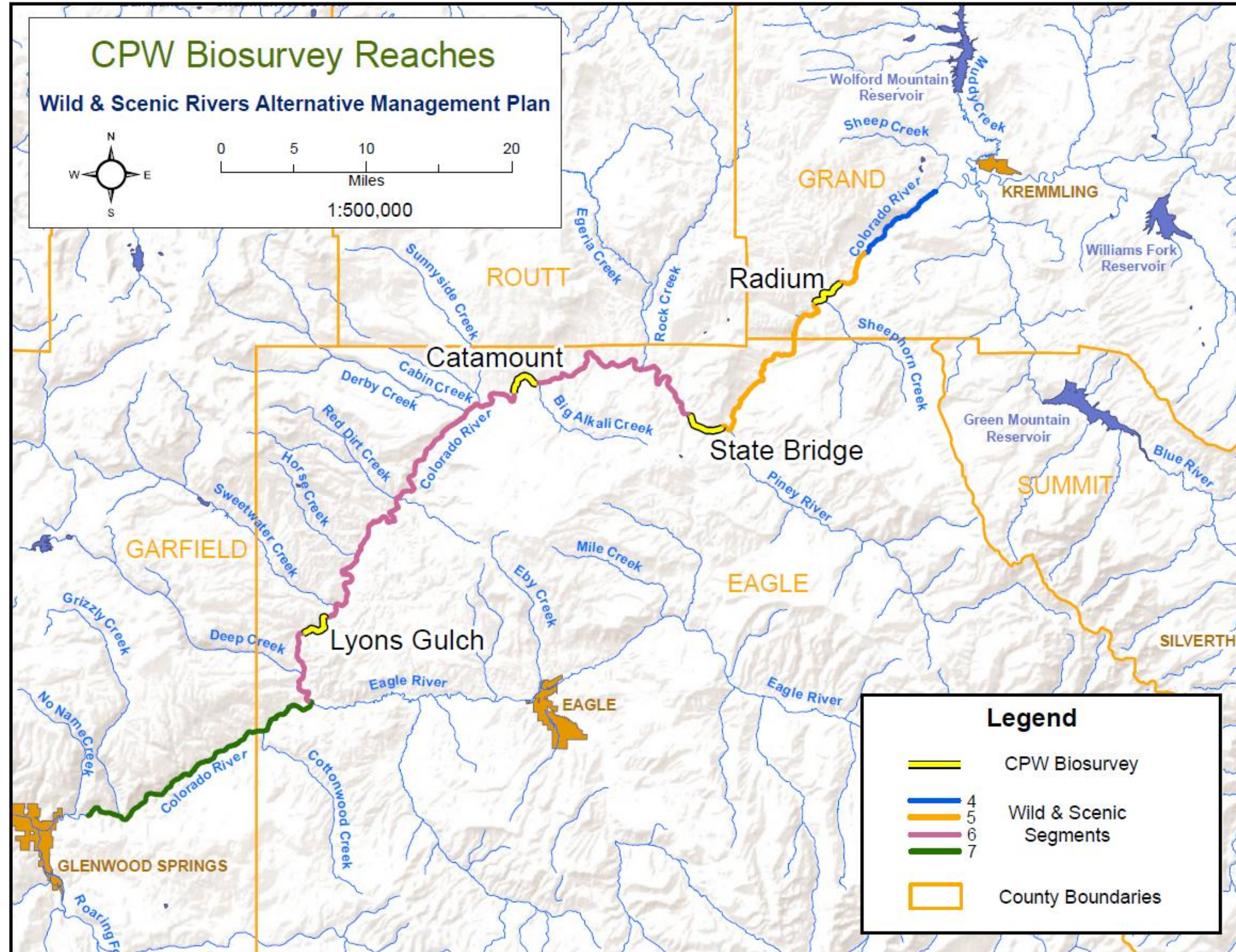
Appendix B: CPW Biosurvey Sample Sites

Appendix C: Monitoring by Other Entities

Appendix D: RRC Selected Summary Graphs

Appendix E: 2025 Monitoring Plan

APPENDIX B: CPW Biosurvey Sample Sites



APPENDIX C: Monitoring by Other Entities

U.S. Bureau of Land Management

The U.S. Bureau of Land Management (BLM) conducts various monitoring activities on the segments. Currently, the BLM supports three water temperature monitoring locations, collects additional vehicle counter data at select locations, and has paid for operating and maintenance costs of the Catamount gage. In addition, the BLM conducts monitoring to support other non-flow related ORVs such as bald eagles, river otters, riparian vegetation, and noxious weeds.

Colorado Parks and Wildlife

In addition to their annual biosurveys, CPW is also conducting research on Giant Stonefly (*Pteronarcys californica*) and Mottled Sculpin (*Cottus bairdii*) sampling methods at the Pumphouse Recreation Site. The SG is monitoring progress on these efforts and may include results or parameters from these and/or other studies in future reports.

Colorado Department of Public Health and Environment (CDPHE)

Colorado Department of Public Health and Environment's (CDPHE) Environmental Data Unit endeavors to collect scientifically sound water quality monitoring data on behalf of the Division's Clean Water Program. CDPHE maintains a system of statewide stream water quality monitoring sites for collecting chemical, physical and biological data. Each year sites are added in a specific focus basin to collect additional data in support of future basin wide rulemaking hearings conducted by the Water Quality Control Commission. CDPHE's data and information is chiefly used in the development and revisions of standards and criteria or performing assessments that determine attainment of Colorado's water quality standards and criteria, including reporting the status of water quality across Colorado. The SG relies on CDPHE's monitoring and assessment efforts to evaluate the provisional Water Quality Resource Guide for Segments 4-7.

APPENDIX D: RRC Selected Summary Graphs

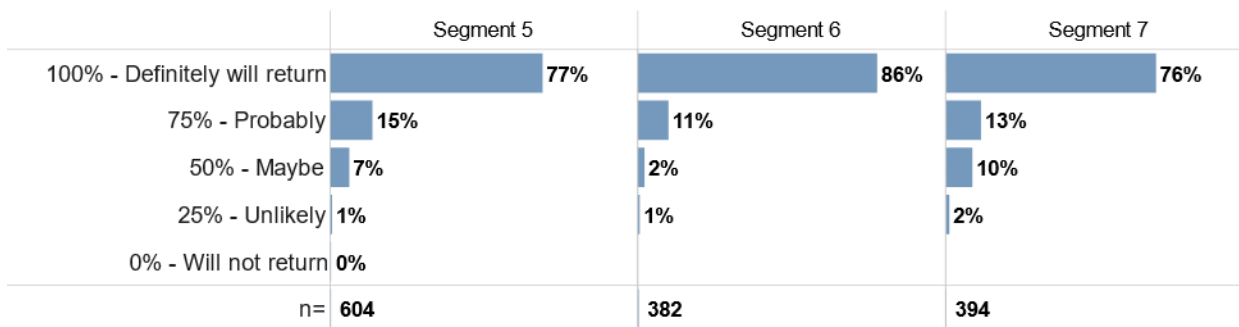
Intercept Survey Overview

Likelihood to Return – Boater Survey ORV

2024 survey days and locations

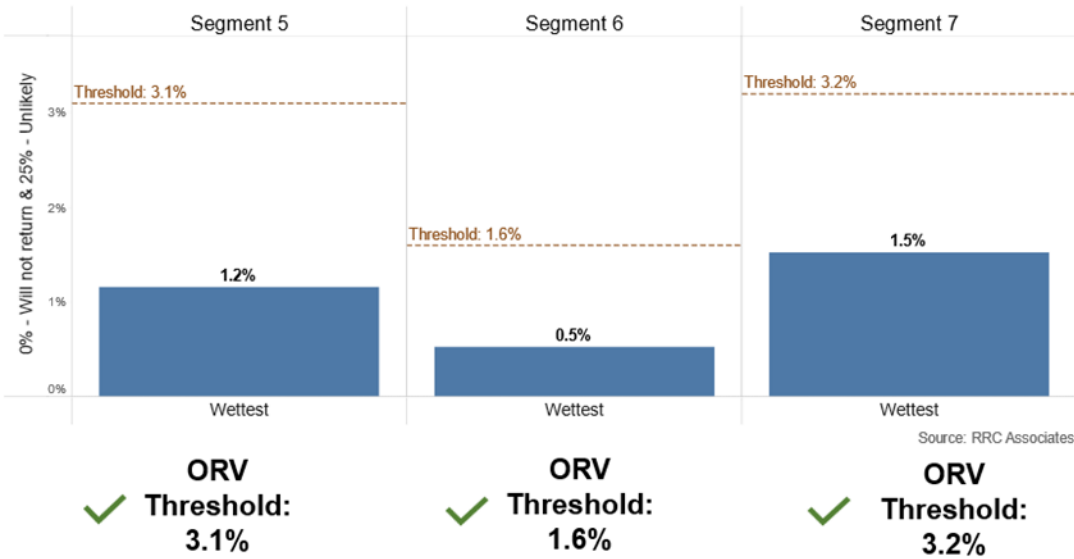
	2024	Radium	St.Bridge	2 Bridges	Catamnt.	Horse Crk	Cottonw ood	Lyons Glch.	Dotsero	Grizzly	2 Rivers
Sat.	18-May	1	1		1				1		1
Sat.	25-May	2			1				1	1	
Sun.	26-May		1	1	1					1	1
Wed.	5-Jun	2	1		1					1	1
Sat.	15-Jun	1	1	1	1				1	1	
Sat.	29-Jun	1		1	1				1		1
Tues.	6-Jul	1	1		1				1	1	
Friday	12-Jul	2	1		1		1		1		1
Sat.	20-Jul	1	1		1		1				1
Wed.	7-Aug	2		1	1	1			1	1	
Fri.	16-Aug	1	1		1				1		1
Sat.	24-Aug	1	1		1					1	
Sun.	1-Sep	2	1		1				1		
Sat.	7-Sep	1	1		1				1		1
Sun.	29-Sep	2	2		1				1	1	

Q 8: Based on your experience today, how likely are you to return to this section of river?



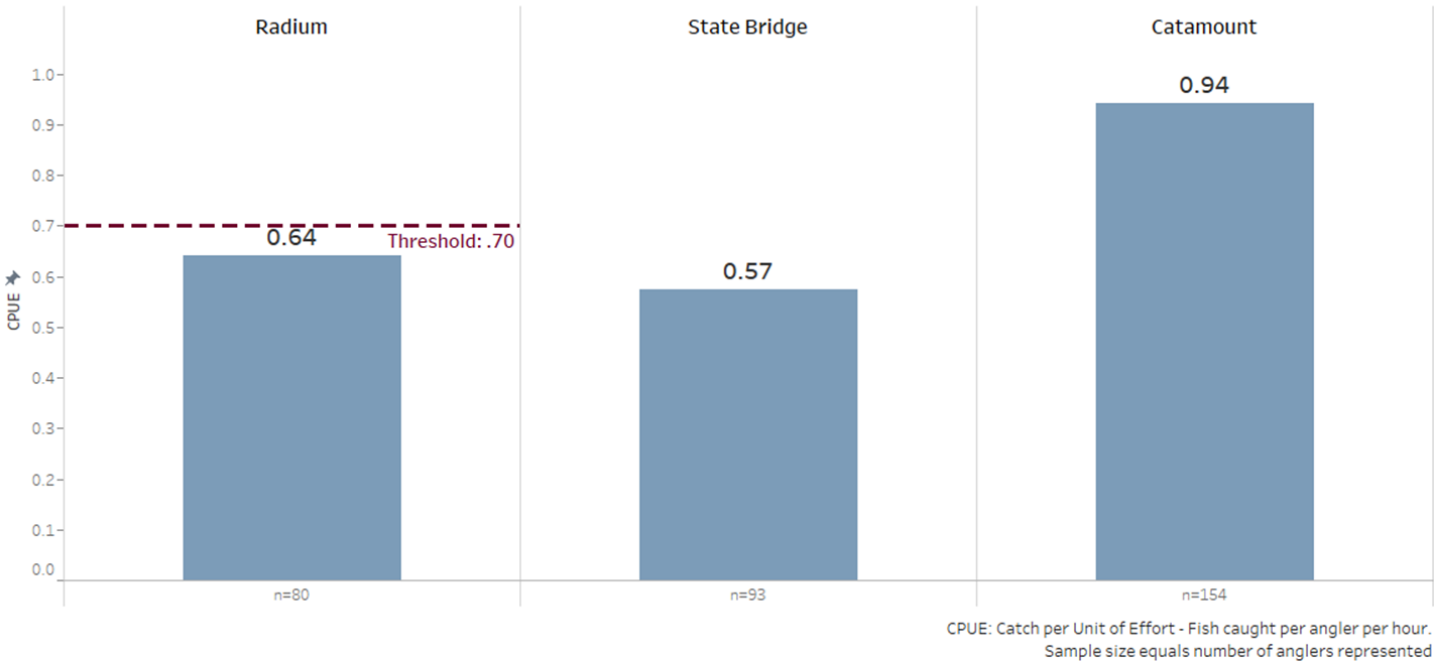
Source: RRC Associates

Q 8: Based on your experience today, how likely are you to return to this section of river?
 -Percent Responding "0% - Will not return" and "25% - Unlikely"



Catch Per Unit Effort – Angler Survey ORV

2024 CPUE



Thresholds

Radium (Segment 5)
 State Bridge (Segment 5)
 Catamount (Segment 6)

Catch Per Unit Effort (CPUE)

0.70
 0.62
 0.87

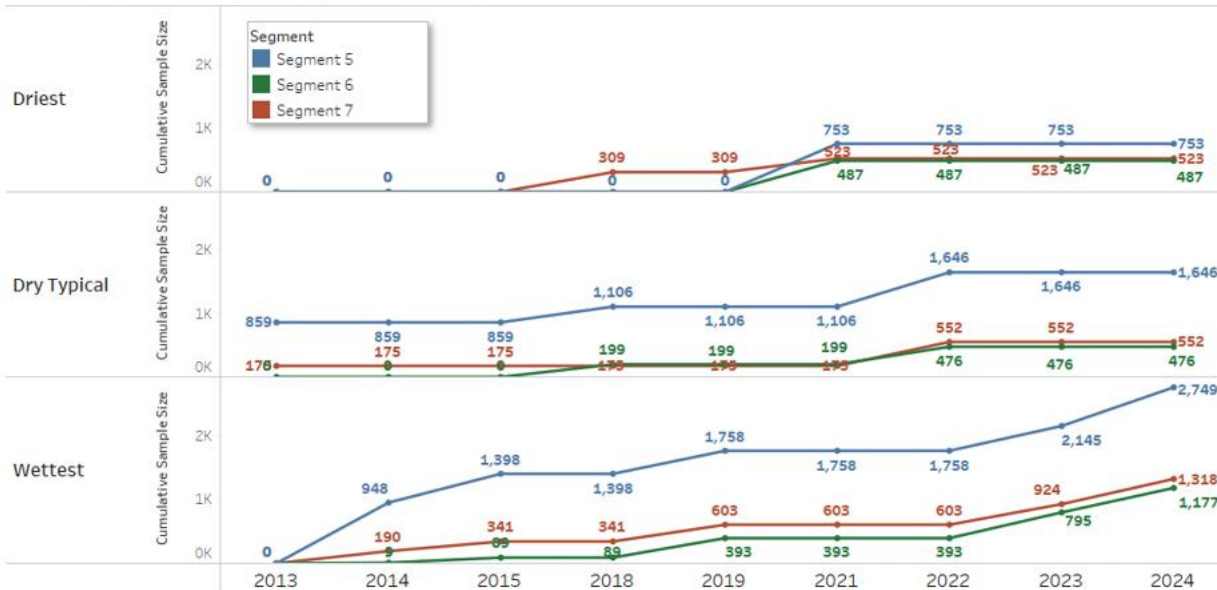
Confidence Interval

95%

*updated after 2024

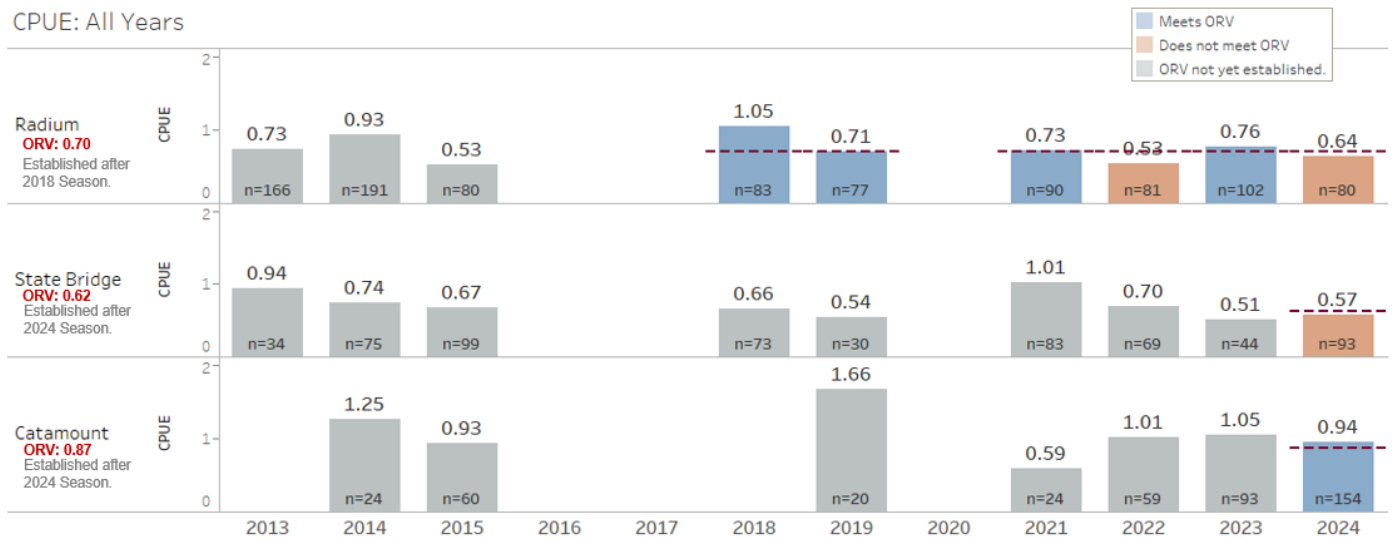
Likelihood to Return

Running Sum of Sample Size by Year/Water Year Type



Note: Surveys have not been conducted under wet typical conditions. Surveys were not conducted in 2017 (wet typical segment 7) or in 2020 (wet typical segment 4-6).

CPUE: All Years

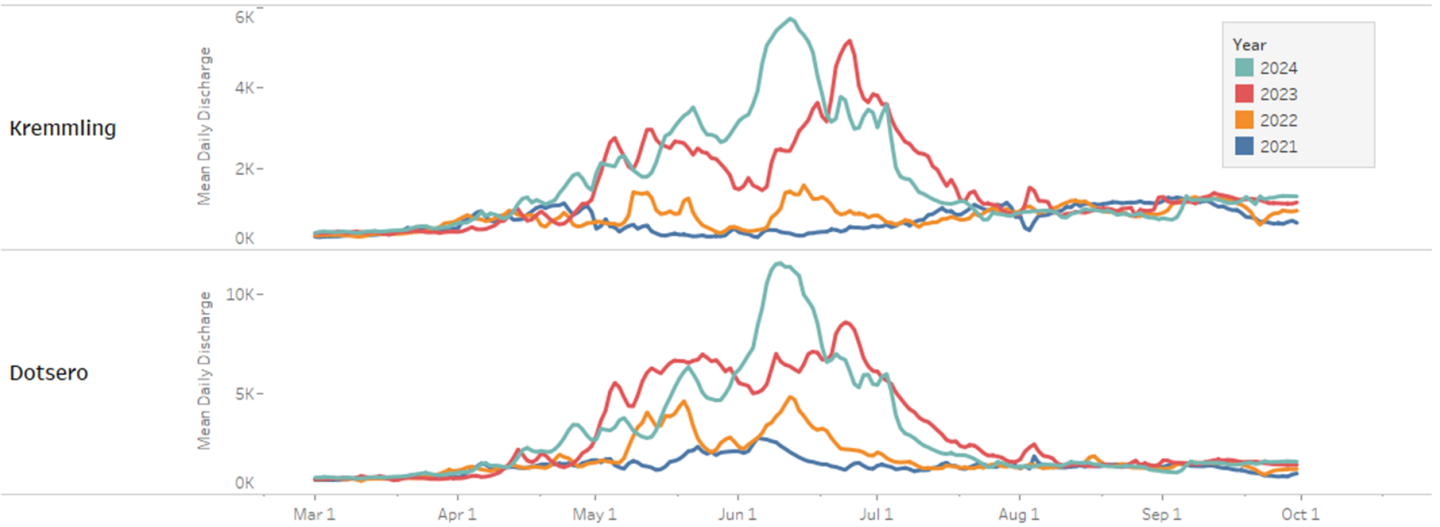


CPUE: Catch per Unit of Effort - Fish caught per angler per hour. Sample size equals number of anglers represented.

The SG currently disagrees whether a divergence should count in the same year a threshold value is locked. This may affect whether divergences at State Bridge and Catamount should count in 2024.

Mean Daily Discharge (CFS), 2021 - 2024

March 1 - September 31



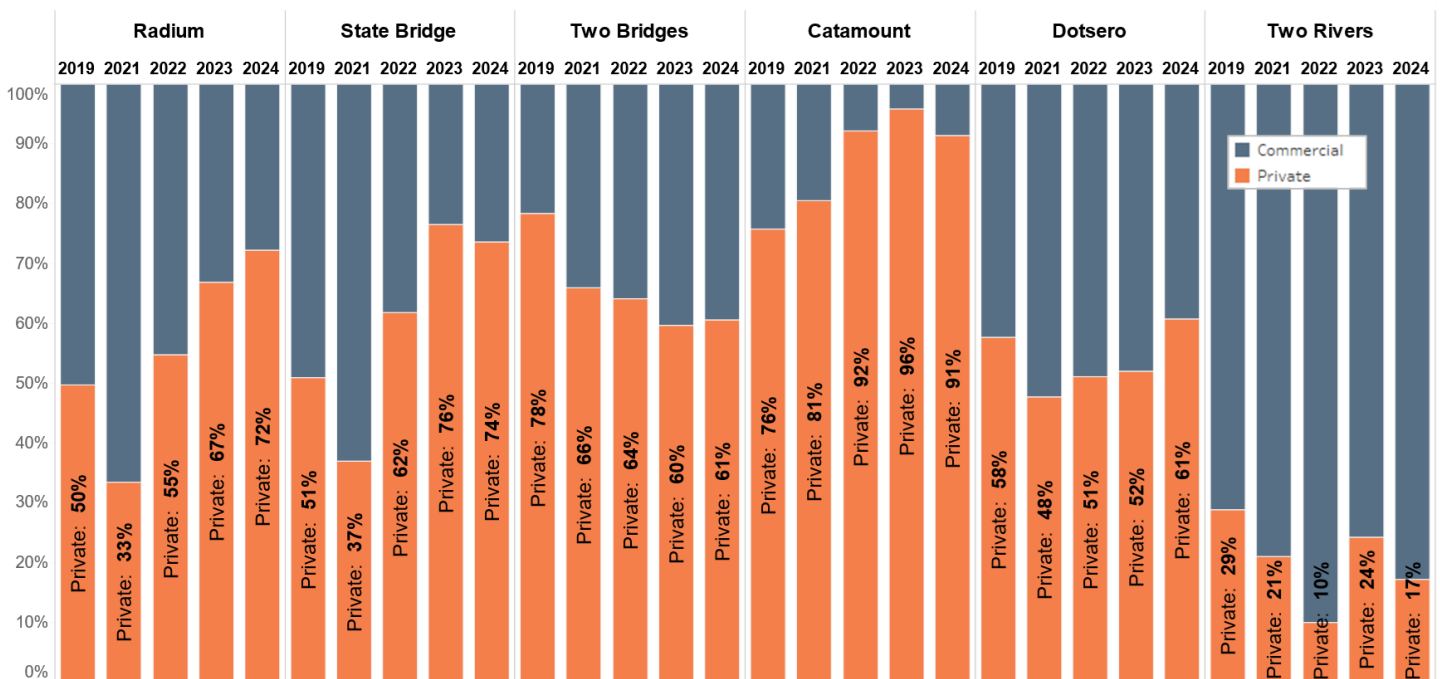
*Figure Contains Provisional Data

Commercial vs. Private

Q 1: Were you boating with a commercial company, outfitter or guide today?

	Overall	2024 - Wettest	2023 - Wettest	2022 - Dry Typical	2021 - Driest	2019 - Wettest	2018 - Dry Typical (Seg. 4-6)	2018 - Driest (Seg. 7)	2015 - Wettest	2014 - Wettest	2013 - Dry Typical
No	57%	69%	67%	50%	45%	61%	59%	66%	54%	55%	48%
Yes	43%	31%	33%	50%	55%	39%	41%	34%	46%	45%	52%
n=	9,903	1,404	1,134	1,210	1,488	975	468	317	698	1,175	1,034

Source: RRC Associates



Prior Use – Boater Survey

Q 4: Prior to today, how many times have you floated this section of river?

	Overall	2024 - Wettest	2023 - Wettest	2022 - Dry Typical	2021 - Driest	2019 - Wettest	2018 - Dry Typical (Seg. 4-6)	2018 - Driest (Seg. 7)	2015 - Wettest	2014 - Wettest	2013 - Dry Typical
This was my first time	42%	32%	36%	47%	52%	41%	41%	32%	42%	38%	55%
1 time before	9%	9%	7%	9%	8%	9%	7%	8%	9%	10%	9%
2 - 5	14%	16%	15%	13%	12%	14%	13%	16%	13%	15%	10%
6 or more	35%	44%	42%	30%	28%	36%	39%	43%	36%	37%	26%
n=	9,882	1,393	1,128	1,202	1,481	972	471	318	698	1,184	1,035

Source: RRC Associates

Boating Skill Level – Boater Survey

Q 7: Please rate your boating skill level on the type of craft you were in today?
Boating Survey

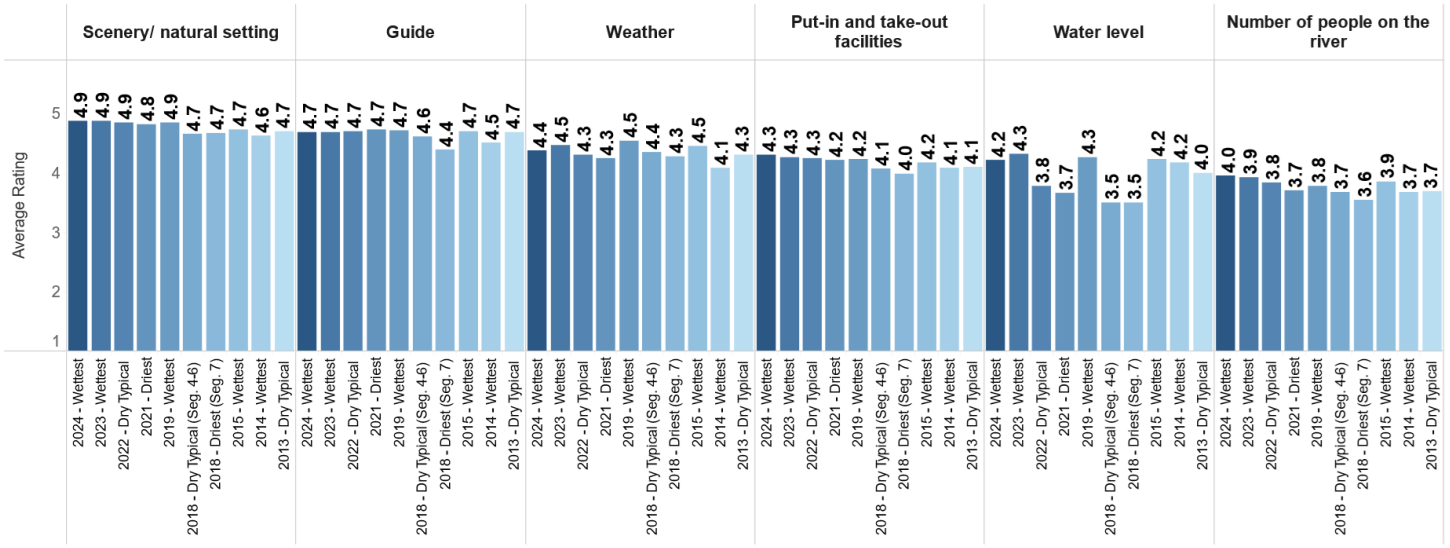
	Overall	2024 - Wettest	2023 - Wettest	2022 - Dry Typical	2021 - Driest	2019 - Wettest	2018 - Dry Typical (Seg. 4-6)	2018 - Driest (Seg. 7)	2015 - Wettest	2014 - Wettest	2013 - Dry Typical
Beginner	34%	27%	29%	37%	40%	29%	29%	24%	38%	34%	44%
Intermediate	34%	32%	34%	36%	35%	37%	33%	40%	29%	35%	31%
Advanced	20%	28%	26%	17%	16%	21%	24%	24%	21%	17%	14%
Expert	12%	13%	11%	9%	9%	13%	13%	12%	13%	14%	11%
n=	9,850	1,394	1,128	1,195	1,474	969	472	316	694	1,173	1,035

Source: RRC Associates

Ratings

Q 10: How did the following affect your experience today?
Boating Survey

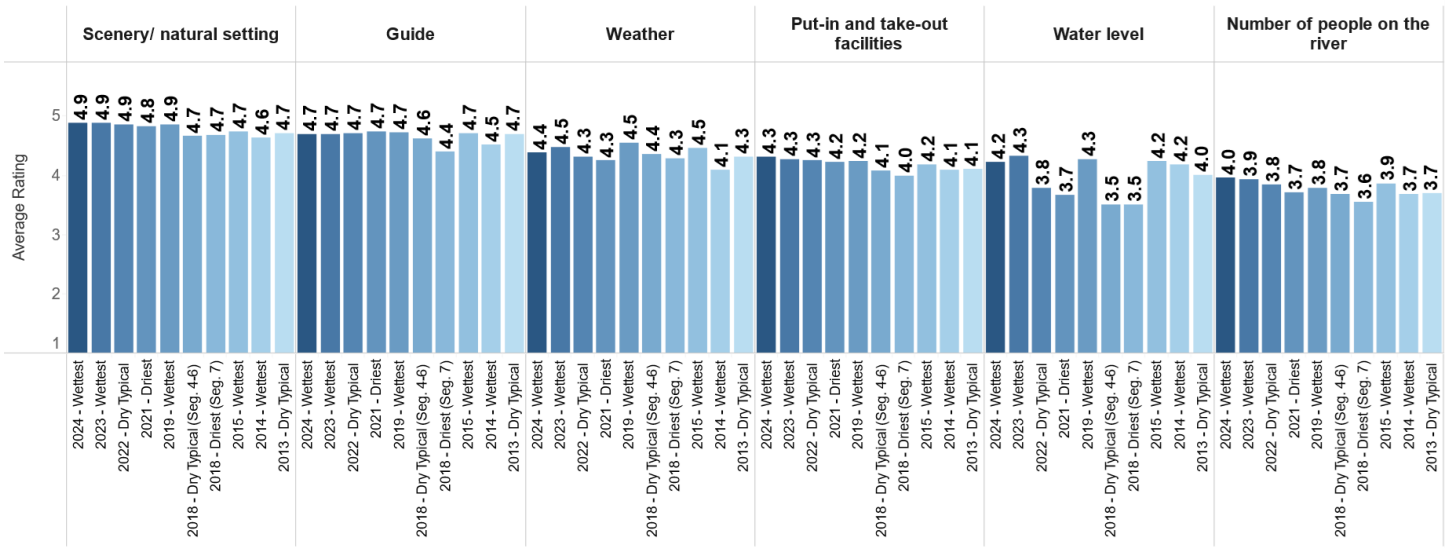
1 = Greatly reduced my experience today
5 = Greatly enhanced my experience today



Source: RRC Associates

Q 10: How did the following affect your experience today?
Boating Survey

1 = Greatly reduced my experience today
5 = Greatly enhanced my experience today

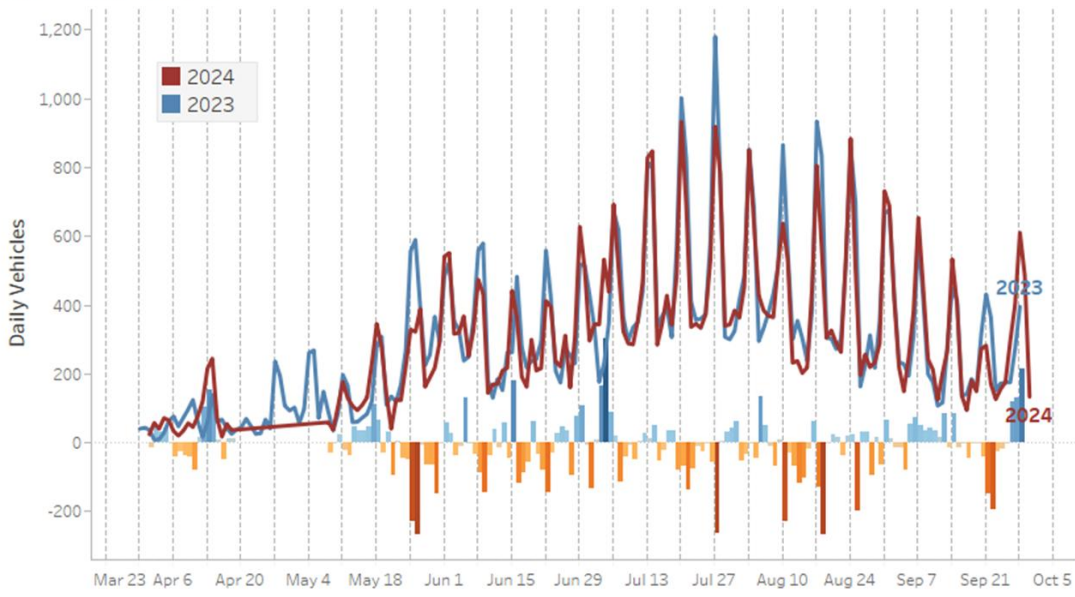


Source: RRC Associates

Vehicle Counter Data

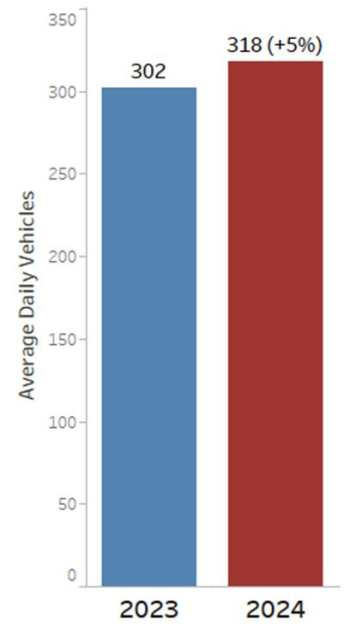
Pumphouse Vehicle Counts by Day, 2024 vs. 2023

April 1 - September 30



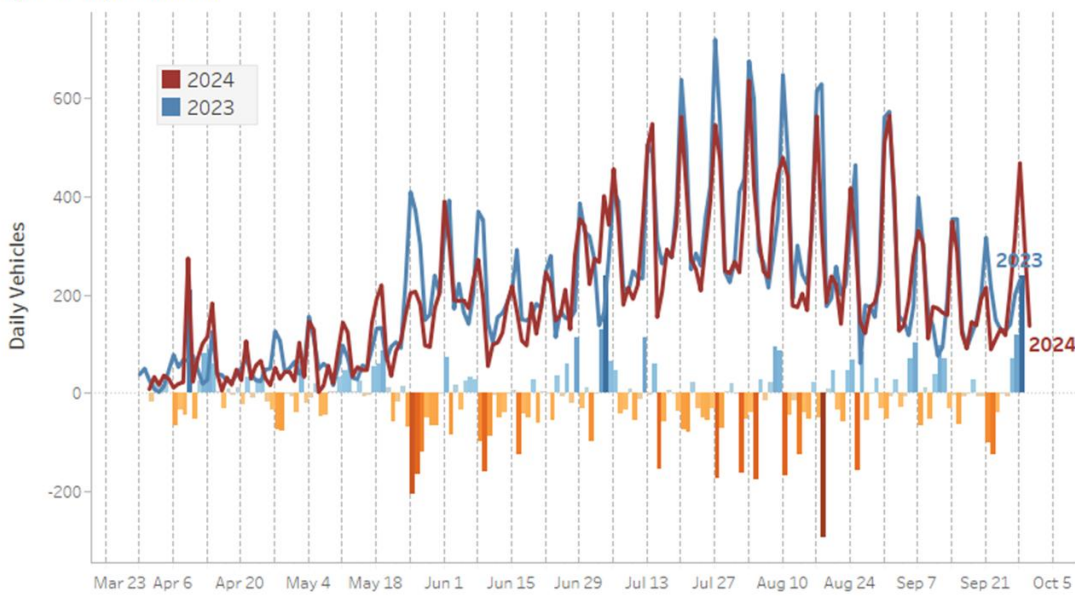
*Historic dates aligned by 2024 day of week. Gray dashed lines indicate Saturdays.

Average Daily Vehicles



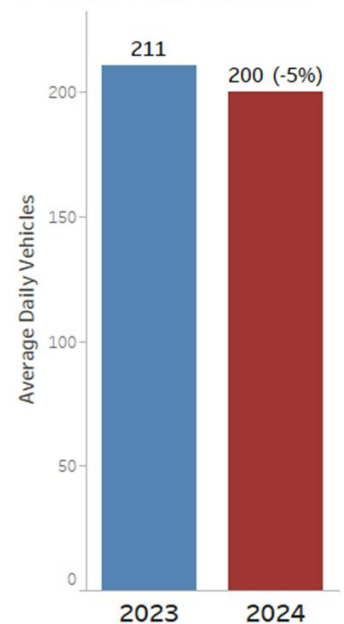
Radium Vehicle Counts by Day, 2024 vs. 2023

April 1 - September 30



*Historic dates aligned by 2024 day of week. Gray dashed lines indicate Saturdays.

Average Daily Vehicles



APPENDIX E: 2025 Monitoring Plan 2025 Monitoring Plan Proposal

The Wild & Scenic Monitoring Committee has developed this proposal for 2025 monitoring based on the long-term monitoring plan and input from committee members and consultants, and in conjunction with the Fishing and Floatboating Recommendations Committee. The proposal covers boating and fishing user intercept surveys, stream temperature monitoring, macroinvertebrate monitoring, channel maintenance flow monitoring, and in-kind contributions.

Recreation Monitoring

For 2025, RRC Associates submitted a \$57,000 work plan that builds on previous efforts, continues support for the Stakeholder Group (SG) and committees, and refines methods for warehousing and accessing data. Based on anticipated data needs, this plan includes the Angling and Floatboating Intercept surveys and processing the BLM's vehicle counts. The Committee worked with RRC, the SG's committees and agency representatives to develop RRC's final scope of work for 2025. Details of the proposed RRC program are shown in Table 1, below.

Table 28: Summary of 2025 RRC Program

	2023 (Completed)	2024 (Completed)	2025 (Proposed)
Data Collection			
Intercept Surveys / Observational Data Collection	\$40,250	\$43,500	\$43,000
Displacement Surveys (once every 3 years , last completed in 2021)	N/A	\$4,000	N/A
User Group Surveys (once every 3 years, last completed in 2021)	N/A	\$5,000	N/A
Vehicle Counters*	\$1,000	\$1,000	\$1,000

Data Processing, Consolidation, and Management**			
Database Management	\$3,450	\$6,000	\$6,000
Warehousing of SG Data	\$2,300	Included in above	Included in above
Stakeholder Support**			
Committee Participation & Attendance	\$6,700	\$7,000	\$7,000
TOTAL:	\$53,700	\$66,500	\$57,000

*Assumes BLM Field Offices take primary responsibility for data collection.

**These categories will be billed hourly to a “not to exceed” budget as shown.

Temperature Monitoring

The Monitoring Committee is proposing to continue the W&S-sponsored time-series temperature monitoring program through 2025, which includes three time-series temperature loggers deployed at established study sites (highlighted in orange in Table 2, below). The W&S SG is a dues-paying member of GCWIN and will contract with GCWIN to administer the three W&S temperature sites during 2025. GCWIN has been maintaining W&S temperature data in its database for several years. In 2025, GCWIN will also conduct a mid-season check to prevent data loss.

In addition to the W&S temperature sites, time-series temperature data will be collected at three BLM temperature sites (COR-abvPump, COR-Rad, BL-abvCOR). Additional time-series temperature data will continue to be collected at three USGS sites located within W&S segments, as shown in Table 2, below.

Upon recommendation of the Monitoring Committee, the SG approved weekly evaluation of stream temperature data, to be conducted by the Monitoring Committee. The objectives for these weekly evaluations are to identify periods of thermal stress on W&S segments; provide the Monitoring Committee and Stakeholder Group with timely data to make informed decisions; and assess stream temperatures against Colorado’s stream temperature standard thresholds, using the computational averaging methods that were intended to accompany such assessments. Weekly evaluations will access data from the two USGS sites with telemetry (09058000 Colorado River at Kremmling and 09060799 Colorado River at Catamount). Data from the two sites will be downloaded, processed, plotted, and distributed to the Committee on a weekly basis from June – September.

The Monitoring Committee anticipates continued contracting with Lotic Hydrological to generate end-of-season thermographs and temperature standards analyses for all nine W&S sites of interest shown in Table 2.

Table 29: Stream temperature locations for 2025

Site ID	Station Description	Collecting / Data Storage Agencies	Latitude	Longitude
UPCO_DOT	Upper Colorado River above Dotsero	W&S/GCWIN	39.647917	-107.062861
UPCO_RD	Upper Colorado River below Red Dirt Creek	W&S/GCWIN	39.800583	-106.974028
UPCO_SB	Upper Colorado River above State Bridge	W&S/GCWIN	39.855556	-106.644528
9058000	Colorado River near Kremmling, CO	USGS/USGS	40.037	-106.439
9060799	Colorado River at Catamount Bridge, CO	USGS/USGS	39.891	-106.832
9071750	Colorado River at Catamount Bridge, CO	USGS/USGS	39.559	-107.29
COR-abvPump	Colorado River above Pumphouse	BLM/GCWIN	39.99	-106.508
COR-Rad	Colorado River at Radium	BLM/GCWIN	39.954	-106.55

Blue-abvCOR	Blue River above Colorado River Confluence	BLM/GCWIN	40.041	-106.394
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Macroinvertebrate Monitoring

The SG has approved a [long-term plan](#) to conduct macroinvertebrate monitoring on a biennial basis. This year, LRE Water will conduct macroinvertebrate monitoring. Their scope of work includes an optional task of converting data from MMI v4 to MMI v5, if needed.

Channel Maintenance Flow (CMF) Monitoring Plan Implementation

In 2028, the Monitoring Committee is slated to comprehensively review and analyze the data gathered in 2023 in accordance with the [Channel Maintenance Flow Observational Monitoring Plan](#). General observer notes and repeated photo points may be collected in 2025 if the daily average flow rate is at or above 2,500 cfs at the Kremmling gage (USGS 09058000) for a minimum of three consecutive days during the calendar year. Three game cameras will be deployed at Rancho del Rio (39.89351965336894, -106.60826293316086), Red Dirt (39.8031914911143, -106.97491070651887), and Lyon’s Gulch (39.70072091725016, -107.06670396046212) again with new locks.

Streamflow Monitoring (see Table 5)

The River District and the U.S. Geological Survey (USGS) cover operations and maintenance (O&M) costs for the USGS stream gage 09058000 Colorado River near Kremmling. The Kremmling gage operates year-round. The Bureau of Land Management (BLM), White River National Forest, and USGS cover O&M costs for the USGS stream gage 09060799 Colorado River at Catamount Bridge. The Catamount gage operates for eight months annually (March 15th – November 15th).

Other Monitoring Efforts

As per the SG Plan, the Monitoring Committee is charged with gathering data collected by others. Starting during the Pre-Provisional Period, the Monitoring Committee has maintained collaborative relationships with a host of entities who are actively monitoring parameters of interest to the SG. Some of these agencies (and the data they collect) include: USGS (Hydrology, Temperature, Water Quality (above Glenwood)), CPW (Biosurveys, Research Projects), BLM (User Data, Commercial logs, Traffic counters, Temperature), and USFS (User Data, Commercial Logs). Because these data serve an important role in the Monitoring Committee’s ability to help inform SG decisions, the Monitoring Committee intends to maintain and expand relationships with other organizations collecting data in the Wild & Scenic segments. In addition, a number of new

data collection activities have started in areas that overlap with W&S efforts. Due to the Grizzly Creek fire, the USGS started collecting additional water quality parameters at a number of sites. The Upper Colorado River and Gunnison Rivers were also selected for the USGS Next Generation Water Observing System (NGWOS) which will intensively monitor a broad range of metrics over the next 10 years. Both of these endeavors may result in additional data that is of interest to the W&S SG.

2025 Monitoring Plan – Cost Summary

The proposed monitoring plan for 2025 will cost \$82,828.13. The breakdown for each element is shown in Table 3, below. In-kind contributions related to stream temperature and hydrology and flow-related monitoring are shown in Table 4, below.

Table 30: Monitoring budget for 2025

Category	2025 Cost
Recreation Monitoring (RRC Associates)	\$57,000.00
Stream Temperature	
- Data analysis at 9 sites (Lotic Hydrological)	\$925.00
- Monitoring of 3 W&S temp sites (GCWIN)	\$4,088.13
- GCWIN membership dues	\$615.00
Macroinvertebrate Monitoring	\$20,100.00
Channel Maintenance Flows	
- CMF Monitoring Plan Implementation	\$100.00
TOTAL:	\$82,828.13

Category	In-Kind
Stream Temperature	
- USGS stream temperature gage at Kremmling (River District)	\$2,359.00
- BLM stream temperature gages (3 sites)	Donated staff time

- Grand County stream temperature weekly analysis	Donated staff time
Hydrology & Flow-Related Monitoring	
- USGS stream gage at Catamount (USFS & BLM)	\$17,742.00
TOTAL:	\$20,101.00

Table 4: Monitoring in-kind contributions for 2025/2026.