Western Resource Advocates®

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January 22, 2025

Mr. Robert Viehl
Colorado Water Conservation Board
1313 Sherman Street
Denver, CO 80203

Dear Mr. Viehl,
Western Resource Advocates (WRA) submits this preliminary instream flow recommendation for the upper Taylor River, located in Gunnison County, Water Division 4. WRA fights climate change to sustain the environment, economy, and people of the West. WRA has a vision to see rivers thriving in the face of climate change and a long-term and demonstrated interest in protecting Colorado's water resources.

The headwaters of the Taylor River originate on land managed by the United States Forest Service. The river then travels southeast towards Taylor Park Reservoir. The upper Taylor River has been designated as an outstanding water by the state of Colorado in recognition of its water quality and remarkable recreational values. It supports a diverse sport fishery dominated by brook and brown trout. It is an important recreational resource with numerous recreational opportunities and businesses reliant on the upper Taylor River and the Taylor Park Reservoir.

This proposal recommends instream flow enhancements on the middle segment of the upper Taylor River from the confluence of Eyre Creek and the Taylor River to the confluence of Italian Creek and the Taylor River.

Enclosed you will find a preliminary instream flow proposal and accompanying materials. If you have any questions regarding this recommendation, please feel free to contact Laura Belanger at laura.belanger@westernresources.org.

Sincerely,

Laura Belanger
Senior Policy Advisor

ENCLOSURE – PRELIMINARY INSTREAM FLOW RECOMMENDATIONS FOR UPPER TAYLOR RIVER

REGIONAL OFFICES

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Suite 100
Phoenix AZ 85004

2260 Baseline Road
Suite 200
Boulder CO 80302

Below is a description of the proposed instream flow. Additional details are provided in Attachments A - D.

Location

The Taylor River is located within the Upper Gunnison River Watershed in Gunnison County, Water Division 4 (HUC-12: 140200010202). The headwaters of the Taylor River originate between Taylor Peak, Crystal Creek, and Mt. Tilton. The upper Taylor River flows eastward and then turns southward, flowing southeast until it reaches the Taylor Park Reservoir. It can be found on two United States Geological Survey (USGS) 7.5 minute maps (Italian Creek and Pieplant Creek) (see Attachment A). The entire Upper Taylor River basin (above Taylor Park Reservoir) is approximately 128 square miles.

This proposed increase is for the Middle Upper Taylor River, the segment running from the confluence of Eyre Creek and the Taylor River downstream to the confluence of the Taylor River with Italian Creek. The stream segment identified for the proposed instream flow appropriation is approximately 7.4 miles long. The middle Taylor River watershed is entirely public lands managed by the US Forest Service.

Photo 1: Middle Taylor River above the confluence with Italian Creek.

Table 1. Land Status in the Upper Taylor River Watershed.1

Upper Terminus	Lower Terminus	Total Length (miles)	Land Ownership	
			Private (%)	Public (%)[1]
Confluence of Eyre Creek and Taylor River	Confluence of Italian Creek and Taylor River	7.4	Riparian Corridor 0%	Riparian Corridor 100%
			Watershed 0%	Watershed 100%

1. Land ownership data was estimated based on information from the Gunnison County Assessor's site.

Existing Instream Flow Rights

This segment has an existing 12 cubic feet per second (cfs) year-round instream flow water right decreed in Case Number 83CW205, Water Division 4 with a 07/07/1983 appropriation date.

Water Availability

PHYSICAL AVAILABILITY

WRA's analysis demonstrates that water is physically available for the proposed instream flow enhancements. There are several gages in the upper Taylor River watershed. The gage immediately above Taylor Park Reservoir has an extensive uninterrupted period of record (1987 - present). This gage measures streamflow for the entire 128 square mile Upper Taylor River watershed. The watershed area above the lower terminus for the proposed ISF has approximately 45.6 square miles. Attachment B has the raw gage data and the area apportioned data (35.16%) corresponding to the lower terminus. Monthly streamflow estimates from USGS StreamStats are also found in this attachment. StreamStats utilizes basin characteristic regression equations to generate mean monthly streamflows for ungaged basins. These measured and modeled flows were used to refine the preliminary instream flow recommendations and are discussed in the Preliminary Refinements Section.

Image 1: Location of gage (Taylor River 09107000) used in water availability assessment.

LEGAL AVAILABILITY

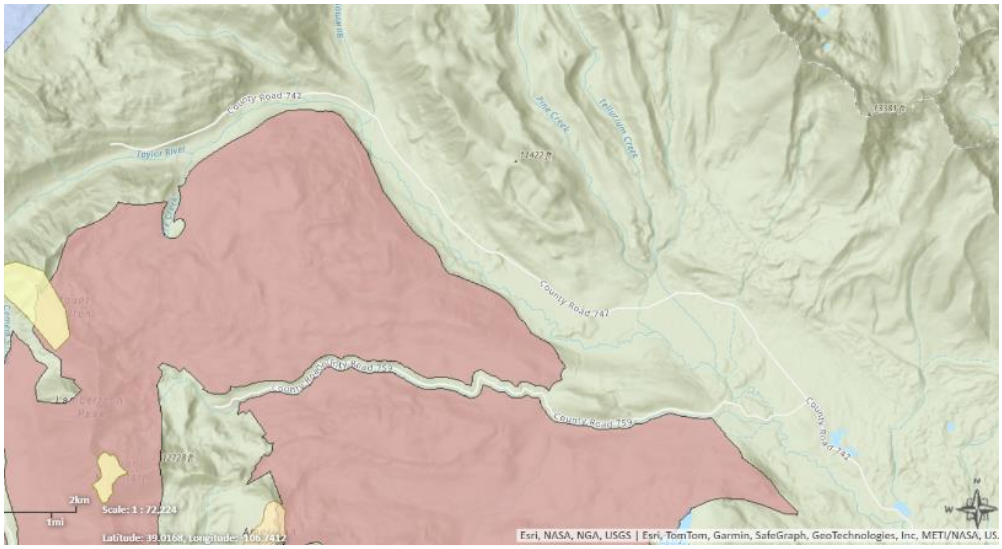
WRA recommends that the instream flow right extend from the confluence of Eyre Creek and the Taylor River to the confluence of the Taylor River and Italian Creek. There are no diversion structures on this reach. There is a water right for a small spring upslope of the river corridor. There is no anticipated impact from this spring on water availability.

Biological Summary - Natural Environment

In 2023, the Water Quality Control Commission upgraded the water quality designation on the Taylor River from Use-Protected to Outstanding Waters. This designation applies to the entire basin including its tributaries

and wetlands and the reach proposed here for protection. The western side of the stream segment is USFS roadless area and is managed as such. The red area on the map below displays this roadless area.

Image 2: Roadless area adjacent to the proposed ISF reach.



The Middle Upper Taylor River hosts a coldwater fishery with brook trout (Salvelinus frontinalis) and brown trout (Salmo trutta). Further downstream Colorado Parks and Wildlife (CPW) has also identified the presence of northern pike (Esox lucius) and rainbow trout (Oncorhynchus mykiss). While sampling the Taylor River WRA observed a diverse macroinvertebrate community. See Attachment C for a summary of the upper Taylor River's aquatic data (Source: CPW Aquatic Resources Section). There are also numerous beaver complexes off-channel and several beaver dams that span portions of the main channel of the Middle Taylor River.

Photo 2: Partial beaver dams on the middle Taylor River.

R2Cross Results

Table 2. Preliminary R2Cross Assessment Results[1].

Cross Section (Date)	Location	Measured Discharge (cfs)	Bankfull Top Width (ft)	Flow Recommendation to meet 2 of 3 Criteria (cfs)[2,3]	Flow Recommendation to meet 3 of 3 Criteria (cfs)[4]
Middle Taylor #24-1 (2024)	Above Italian Creek Road	20.2 cfs	46.6	N/A	15.7
Middle Taylor #24-2 (2024)	Above Italian Creek Road	20.2 cfs	27.8	N/A	22
Middle Taylor #24-3 (2024)	Above Italian Creek Road	20.2 cfs	44.2	N/A	16.7
Middle Taylor #24-4 (2024)	Below Tellurium Creek	26 cfs	31.9	N/A	11.3
Average:				N/A	16.4

1. WRA may complete additional R2Cross surveys in 2025.
2. This table rounds the R2Cross results based on CWCB guidance.
3. The recommendation that meets two of three criteria is typically applied as the winter flow rate.
4. The recommendation that meets three of three criteria is typically applied as the summer flow rate.

Rationale and Preliminary Refinements

WRA believes it is appropriate to utilize the R2Cross data sets both individually and in combination with one another to generate flow recommendations for the summer, high flow season. R2Cross results are included in Attachment D. We do this because the R2Cross results of cross section #4 are quite different from the results from cross sections 1, 2 and 3. Cross section #4 was collected at a point approximately 2 miles upstream of 1, 2 and 3; also, cross section #4 is in a more confined part of the segment (see the bankfull top width). Therefore, we propose:

- Using the results from cross section #2 for the majority of the high flow months (April through August). Cross section #2 alone forms the basis for the 22 cfs flow recommendation.
- For the fall shoulder flow of the ISF hydrograph, we propose using the average of the results for cross sections 1, 2 and 3, or 18 cfs for September and October to meet the flow needs for fall spawning Salmonids.
- And finally, we use the composite average of all four cross sections as a basis for the 16.4 cfs shoulder flow step in the spring and fall (March and the first half of November).

The R2Cross results were compared against the USGS gage and StreamStats. We believe that the gage data is by-far the most reliable source to determine seasonality for the ISF proposal. For this Middle Taylor River instream flow segment our data suggests a summer increase to a total of 22 cfs for the peak period (from April 1- August 31st). We recommend a tiered shoulder season of 16.4 cfs (Mar. 16th- Mar. 31st and Oct. 1- Oct. 15th) and 18 cfs (Sept. 1st - Oct. 15th) for spring and fall shoulder seasons. The existing instream flow rate of 12 cfs is protective of the natural environment from November through mid-March. Providing this shoulder season ISF rate may help protect critical life stages of aquatic life (e.g., spawning, incubation, fry emergence, and recruitment).

Table 3. Preliminary instream flow recommendations and associated seasons.

Winter Flow Recommendation	Spring Flow Recommendation	Summer Flow Recommendation	Early Fall Flow Recommendation	Late Fall Flow Recommendation[1]
12 cfs (existing) Nov. 1- Mar. 15	16.4 cfs Mar. 16- Mar. 31	22 cfs Apr.1- Aug. 31	18 cfs Sep. 1- Oct. 15	16.4 cfs Oct. 16- Oct. 31
No change	4.4 cfs enlargement	10 cfs enlargement	6 cfs enlargement	4.4 cfs enlargement

1. The instream flow rates and seasons will be refined following additional analysis of legal and physical water availability.

Middle Taylor Cross Section 24-1

Photo 24-1 a. Looking Downstream

Photo 24-1 b. Left Bank to Right Bank

Photo 24-1 c. Looking Upstream

Photo 24-1 d. Right Bank to Left Bank

Middle Taylor Cross Section 24-2

Photo 24-2 a. Looking Downstream

Photo 24-2 b. Left Bank to Right Bank

Photo 24-2 c. Looking Upstream

Photo 24-2 d. Right Bank to Left Bank

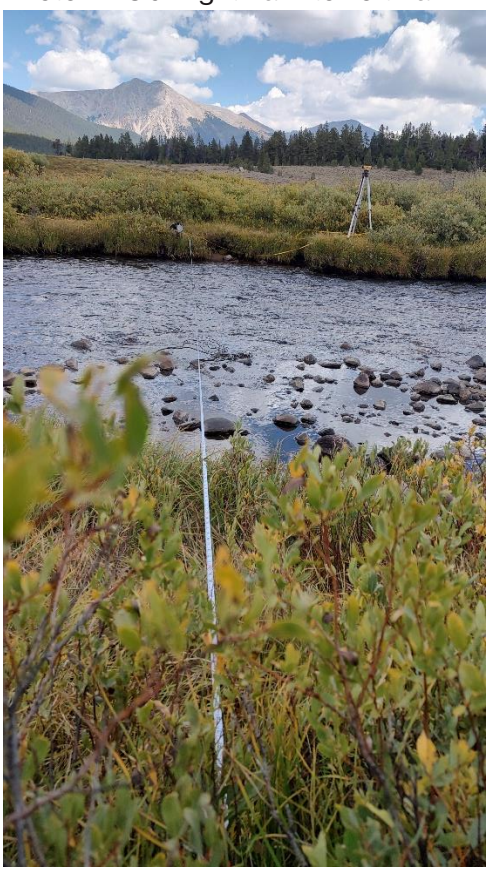
Middle Taylor above Italian Creek Cross Section 24-3

Photo 24-3 a. Looking Downstream

Photo 24-3 b. Left Bank to Right Bank

Photo 24-3 c. Looking Upstream

Photo 24-3 d. Right Bank to Left Bank



Middle Taylor Cross Section 24-4

Photo 24-4 a. Looking Downstream

Photo 24-4 b. Left Bank to Right Bank

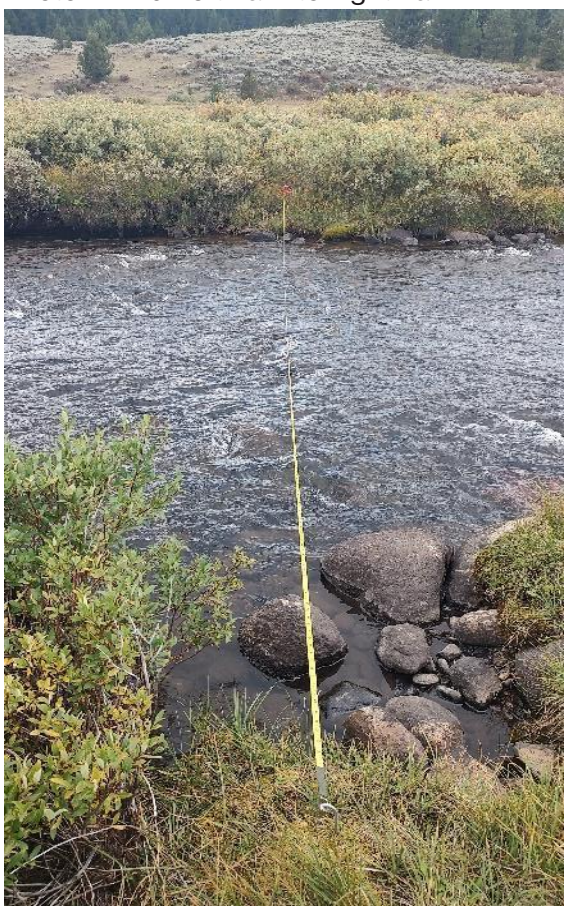


Photo 24-4 c. Looking Upstream

Photo 24-4 d. Right Bank to Left Bank

Relationship to Existing State Policy

WRA is proposing this instream flow to the CWCB in furtherance of the state of Colorado's policy "that the wildlife and their environment are to be protected, preserved, enhanced, and managed for the use, benefit, and enjoyment of the people of this state and its visitors... and that, to carry out such program and policy, there shall be a continuous operation of planning, acquisition, and development of wildlife habitats and facilities for wildlife-related opportunities." C.R.S. 33-1-101(1).

Attachments

Attachment A - USGS Topographic Quadrangle Maps
Attachment B - Relevant Gage Data & StreamStats Results
Attachment C - Upper Taylor River Aquatic Data
Attachment D - R2Cross Analysis