United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215-7210

In Reply Refer To:
7250 (CO-932)

December 8, 2020

Ms. Linda Bassi
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, Colorado 80203

Dear Ms. Bassi:

The Bureau of Land Management (BLM) is writing this letter to formally communicate its recommendation for an instream flow water right on Watson Creek, located in Water Division 6.

Location and Land Status. Watson Creek originates at Heart Lake on the east side of the Flattops Mountains, approximately 7.0 miles southwest of the community of Yampa. Watson Creek flows into the Yampa River approximately two miles downstream from Yampa. This recommendation addresses the portion of Watson Creek that starts at the confluence with Moody Creek and extends downstream to the headgate of the Hardscrabble Ditch, a distance of approximately 6.5 miles. The BLM manages 0.3 miles of this reach, while approximately 5.2 miles are in private ownership.

Biological Summary. Watson Creek is a cool water, low to moderate gradient stream. The reach that is the subject of this recommendation flows through shallow valley that ranges from ¼ to ½ mile in width. The reach flows through agricultural lands primarily used for livestock grazing. Substrate is generally from small to medium in size, ranging from sands and gravels to four-inch cobbles. Water quality is acceptable for supporting cool water fish species, but the creek does appear to be affected by nutrient loading.

Fish surveys have documented self-supporting populations of longnose suckers, whitehead suckers, and creek chub. Spot surveys have indicated populations of mayfly, caddisfly, and other macroinvertebrate species that tolerate cool to warm water habitats.

The creek supports a riparian community of willow, sedges, and rush species, which are more abundant in areas that are fenced off from grazing. Bank stability appears to be good, except in areas of high livestock usage.

R2Cross Analysis. The BLM collected the following R2Cross data from Watson Creek:

Cross Section Date	Discharge Rate	Top Width	Winter Flow Recommendation (meets 2 of 3 hydraulic criteria)	Summer Flow Recommendation (meets 3 of 3 hydraulic criteria)
08/2/2017 #1	2.52 cfs	12.77 feet	1.10 cfs	2.27 cfs
08/2/2017 #2	2.57 cfs	10.19 feet	Out of range	1.57 cfs
		Averages:	1.10 cfs	1.92 cfs

The BLM's analysis of this data indicates that the following flows are needed to protect the natural environment to a reasonable degree.

> 1.90 cubic feet per second is recommended during the snowmelt runoff period, from April 1 to June 21. This recommendation is driven by the average depth criteria and wetted perimeter criteria. During the early irrigation season, which typically begins in May, maintaining this flow rate in the creek would provide adequate habitat for maintaining fish species while irrigation diversions occur. This flow rate will maintain sufficient physical habitat in the creek for the fish population to complete important parts of their life cycle while physical habitat is abundant due to higher flows.
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> An instream flow water right is not recommended for the peak irrigation season, from June 22 through August 15. Several ditches in the recommended reach regularly sweep the stream, leaving short stretches that are completely dried up. Colorado Water Conservation Board regulations require that water be available throughout the entire reach to make an instream flow appropriation. However, the stream receives substantial return flows from irrigation downstream from the short stretches that are dried up. BLM believes the self-sustaining nature of the fish community provides evidence that these fishes migrate to portions of the creek where return flows accrue, allowing them to survive during high diversion periods.
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> 1.10 cubic feet per second is recommended during late summer, fall, and winter, from August 16 through March 31. This recommendation is driven by the average velocity criteria. This flow rate should provide adequate habitat during late summer and fall for the fish populations to complete important parts of their life cycle after habitat is restricted during the annual period of high irrigation diversions. This flow rate should also prevent complete icing of the numerous pools in this reach, allowing the fish populations to overwinter.

Water Availability. The BLM recommends using a variety of data sources to confirm water availability, because the BLM is not aware of any historical gage data on this creek. Use of Streamstats can provide an estimate of natural hydrology, but this estimate may have to be modified by adjusting for irrigation diversions and return flows. One nearby gage may provide an estimate of the seasonality of flows, because it is located on a watershed with similar characteristics. USGS Gage 09238000, on Oak Creek near the

community of Oak Creek, is located on a smaller watershed but appears to be relatively unaffected by diversion and storage operations. Analysis of diversion records and installation of a pressure transducer would also assist in analyzing the impact of diversions on stream flows, while recognizing that return flows from irrigation accrue to the channel quickly because of the narrow width of the stream valley.

The BLM is aware of the following water rights within the proposed instream flow reach:

Powell Ditch 1 – 1.0 cfs
Powell Ditch 2 – 2.0 cfs
Laramore Ditch – 5.0 cfs
Ferguson Ditch – 15.0 cfs

The BLM is aware of the following water upstream from the recommended reach:

Moody Ditch – 5.0 cfs
Bijou Ditch – 5.0 cfs
Mohr Ditch – 0.66 cfs
Hill Ditch – 4.52 cfs
Homer Buttricks Ditch – 3.0 cfs
Patton Ditch – 4.0 cfs
Heart Lake Reservoir – 283 acre-feet

Relationship to Land Management Plans. The BLM's management plan calls for improvement and recovery of current and historic fisheries as a means of increasing native fish populations. In addition, the BLM plan calls for making instream flow recommendations to the Colorado Water Conservation Board to meet minimum instream flow requirements to maintain native fisheries. Finally, the plan calls for maintaining and improving the function of riparian areas to achieve advanced ecological stage for the riparian community, and it also calls for protecting riparian and wetland systems from further sources of degradation. Establishing an instream flow water right would assist in meeting these objectives.

Data sheets, R2Cross output, fishery survey information, and photographs of the cross section were included with BLM's draft recommendation in February 2018. The BLM thanks both Colorado Parks and Wildlife and the Colorado Water Conservation Board for their cooperation in this effort.

If you have any questions regarding our instream flow recommendation, please contact Roy Smith at 303-239-3940.

Sincerely,

ALAN BITTNER

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Date: 2020.12.14 09:53:10 -08'00'

Alan Bittner
Deputy State Director, Resources

cc: Bruce Sillitoe, Little Snake Field Office
Eric Scherff, Little Snake Field Office
Cathy Cook, Northwest District Manager