



TO: Colorado Water Conservation Board Members

FROM: Linda Bassi, Section Chief
Kaylea White, Senior Water Resource Specialist
Stream and Lake Protection Section

DATE: November 14-15, 2018 Board Meeting

AGENDA ITEM: 8. Colorado River Water Conservation District Lease of Ruedi Water for
Instream Flow Use - Additional Location of Use

At its July 18-19, 2018 meeting, the Board approved a lease from the Colorado River Water Conservation District ("District") of 3,500 acre-feet of water that the District holds in Ruedi Reservoir for instream flow ("ISF") use in the Fryingpan River below Ruedi Reservoir during the winter. The objective of the lease is to maintain Fryingpan River flows at a rate of 70 cfs to prevent the formation of anchor ice at times when temperatures and low flows could otherwise combine to create anchor ice during the time period of January 1 - March 31. Subsequent to the July CWCB meeting, staff coordinated with the District and the Roaring Fork Conservancy to explore potential uses of leased water remaining after this time period for other instream flow uses, particularly in the 15-Mile Reach of the Colorado River. At the September 19-20, 2018 CWCB meeting, staff presented a proposal from the District that starting on April 1, the balance of the leased water would be delivered to the 15-Mile Reach as needed to help meet or reduce shortfalls to the U.S. Fish and Wildlife Service's ("USFWS") flow recommendations for the endangered fish critical habitat in that reach. See Vicinity Map at **Attachment 1**. This is the second meeting of the two-meeting process required by ISF Rule 6 for considering water acquisitions.

Staff recommends that the Board:

1. Amend its approval of the Colorado River Water Conservation District lease of Ruedi water to include the additional use of the leased water in the 15-Mile Reach from April 1 - December 31, 2019, subject to the following conditions:
 - a. Releases of Ruedi water under the Water Lease Agreement shall not cause the releases out of Ruedi Reservoir to exceed 300 cfs and shall not cause flows in the Fryingpan River below Ruedi Reservoir to exceed 350 cfs. Staff and the U.S. Fish and Wildlife Service shall coordinate with the Bureau of Reclamation to ensure that these conditions are met.
 - b. CWCB staff shall consult and coordinate weekly with Colorado Parks and Wildlife staff on proposed releases to minimize impacts to the fishery on the Fryingpan River below Ruedi Reservoir.

Such amendment does not increase the amount of water leased and does not increase the expenditure of funds approved at the July Board meeting.



2. Conclude that the proposed use of the remaining leased water to be used from April 1 - December 31 is appropriate to preserve and improve the natural environment in the 15-Mile Reach of the Colorado River to a reasonable degree as follows:
 - a. From July 1 - September 30, preserve the natural environment by supplementing existing ISF water rights in the 15-Mile Reach, and improve the natural environment by providing water above the decreed ISF rates to help meet or reduce shortfalls to the USFWS flow recommendations for the endangered fish critical habitat; and
 - b. For the time periods of April 1 - June 30 and October 1 - December 31, preserve the natural environment by providing an incremental amount of water to help meet or reduce shortfalls to the USFWS flow recommendations.

1. The Board's Water Acquisition Procedures

ISF Rule 6. governs the Board's procedures for acquiring water for ISF use. Section 37-92-102(3), C.R.S. (2017) provides 120 days for the Board to determine what terms and conditions it will accept in an acquisition agreement for water, water rights, or interests in water to preserve or improve the natural environment. ISF Rule 6. requires a minimum of two Board meetings to allow for public input prior to taking final action on a proposed acquisition. The Board's initial consideration of this proposal at its September 2018 meeting initiated the 120-day time period for the Board to consider the terms and conditions of the proposed acquisition. Because no hearing was requested, the Board may take final action on the proposal at this Board meeting. ISF Rule 6e. requires the Board to evaluate the appropriateness of the acquisition and to determine how best to utilize the acquired water to preserve or improve the natural environment. ISF Rule 6. lists several factors the Board may consider in its evaluation of the acquisition that are addressed in this memo.

As required by statute, CWCB staff requested recommendations from the Colorado Division of Parks and Wildlife ("CPW"), the U.S. Department of Agriculture and the U.S. Department of Interior. Pursuant to ISF Rule 6m.(1), CWCB staff provided notice of the proposed acquisition to all persons on the appropriate ISF Subscription Mailing Lists, and provided notice to the State Engineer's Substitute Supply Plan Notification List for Water Division 5. See CPW's written recommendation at **Attachment 2**. Staff will present this lease proposal at a public meeting in Basalt on November 8, 2018.

2. Background

At the July 2018 CWCB meeting, the Board approved a lease from the District of 3,500 acre-feet of water that the District holds in Ruedi Reservoir for instream flow ("ISF") use in the Fryingpan River below Ruedi Reservoir during the winter ("Leased Water"). The Leased Water will be delivered pursuant to the District's Ruedi Reservoir Round II Water Sales Contract No. 079D6C0101 with the Bureau of Reclamation. This contract expressly provides that leased water may be used ". . . to supplement winter instream flows of the Fryingpan River" from January 1 - March 31.

In an effort to address Board concerns, Staff coordinated with the District and the Roaring Fork Conservancy ("RFC") on how to leverage use of the 3,500 acre-feet of Leased Water in the event that the CWCB does not use the full leased amount by March 31, 2019, resulting in this proposal to use the balance of the Leased Water, if any, in the 15-Mile Reach.

3. Water Proposed for Leased Acquisition

The District has proposed that after March 31, 2019, the remaining Leased Water would be delivered pursuant to the River District’s Ruedi Reservoir Round II Water Sales Contract No. 139D6C0101 with the Bureau of Reclamation (“Remaining Leased Water”). That contract authorizes municipal uses in the Colorado River Basin; the contract’s definition of “municipal uses” includes “use of water by . . . piscatorial users, including delivery of water to supplement streamflow . . .” Ruedi Reservoir is decreed for several types of use: irrigation, domestic, municipal, generation of electrical energy, stockwatering, industrial, piscatorial, recreation, and other beneficial uses.

4. Reach of Stream Proposed for Use of the Leased Rights

The reach of stream proposed for use of the Remaining Leased Water is the 15-Mile Reach of the Colorado River, described below and shown on the attached Vicinity Map.

5. Existing ISF Water Rights

The CWCB currently holds ISF water rights on the following reaches of the Colorado River on which the Remaining Leased Water would be used:

Case No.	Stream	Segment	Length (miles)	Amount	Approp. Date
5-92CW286	Colorado River (15 mile reach)	Tailrace of Grand Valley Pumping Plant to confl Gunnison River	Approx. 15 miles	581cfs (7/1-9/30)	3/5/1992
5-94CW330	Colorado River (15 mile reach)	27.5 Road Gage to confl Gunnison River	Approx. 2 miles	300 cfs (7/1-9/30)	11/4/1994

6. Natural Flow Regime

The Colorado River originates in the Rocky Mountains of Colorado over 2 miles above sea level, flows past Glenwood Springs and Grand Junction, running parallel to I-70, and flows west out of Colorado into Utah. The 15-Mile Reach includes the portion of the river from the Grand Valley Diversion (River Mile 185.1) to the confluence with the Gunnison River in Grand Junction. Streamflow is primarily from snowmelt and local precipitation. Peak flows typically occur in May and June, and drop off quickly in July-September most years. Tributaries include the Blue, Eagle, and Roaring Fork Rivers.

7. Existing Natural Environment

The 15-Mile Reach of the Colorado River provides critical habitat for four species of endangered fish: Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. This reach is sensitive to water depletions because of its location downstream of several large diversions. It provides spawning habitat for these endangered fish species as well as high-quality habitat for adult fish.

Due to development on the Colorado River, this reach has experienced declining flows and significant dewatering during the late summer months, and at times, there are shortages in the springtime. As a result, the USFWS has issued flow recommendations for the 15-Mile Reach since 1989 to protect instream habitat for the endangered fish.

8. Proposed Method of Acquisition

To implement this proposal, the CWCB and the District would include the Remaining Leased Water as part of the 3,500 acre-feet of Ruedi water that is the subject of the water lease agreement implementing the proposal approved by the Board at its July 2018 meeting. CWCB staff is working with the District on drafting the water lease agreement to meet both entities' contracting requirements. Any final lease agreement will become effective after approval by both the CWCB and the District's board of directors, and by the Department of Natural Resources Controller. Issues that the lease agreement would address include: (1) the lease term; (2) amount of water to be leased; (3) payments to the District for the leased water; (4) the potential for the Bureau of Reclamation to suspend releases when necessary to meet its legal and regulatory obligations; (5) timing of and coordination on releases and on ramping rates if circumstances require reservoir releases to be tapered off or discontinued; (6) acknowledgment by the CWCB and District that the lease agreement will be implemented in accordance with the Fryingpan-Arkansas Act and Operating Principles; (7) limitations on releases and resulting flow rates to address concerns of anglers on the Fryingpan River; and (8) any other provisions deemed necessary by the parties. The use of the water under the lease is authorized by the Ruedi Reservoir decrees, the District contracts with USBR, and the CWCB's findings and acceptance of the acquired water.

9. Proposed Use of the Acquired Water

From July 1 - September 30, the Remaining Leased Water would be used to supplement existing ISF water rights in the 15-Mile Reach to preserve the natural environment, and to provide water to help meet or reduce shortfalls to the USFWS flow recommendations for the endangered fish critical habitat. The CWCB's use of the Remaining Leased Water above the decreed ISF rates to meet the USFWS flow recommendations will improve the natural environment to a reasonable degree.

For the time periods of April 1 - June 30 and October 1 - December 31, the Remaining Leased Water would be used to provide an incremental amount of water to preserve the natural environment by helping meet or reduce shortfalls to the USFWS flow recommendations. CPW has reviewed this proposal and confirmed that the USFWS flow recommendations and related biological studies, developed in 1989, refined in 1995, and incorporated into the 1999 Programmatic Biological Opinion ("PBO") for the Upper Colorado River above its confluence with the Gunnison River, formed the basis for the ISF water rights held by the Board on the 15-Mile Reach of the Colorado River. Based upon the numerous actions of the State over the years supporting the Upper Colorado River Recovery Program and the PBO, and the ongoing need for water in the 15-Mile Reach, CPW recommends moving forward with this proposal.

The CWCB, CPW, USFWS, and USBR will coordinate on the timing and flow rates for use of the Remaining Leased Water.

10. Historical Use and Historical Return Flows

Because this is a release of stored water and does not involve a change of water right, or other mechanism through which return flows would be owed, the Board does not need to consider this factor.

11. Location of Other Water Rights

There are many other water rights located on the Fryingpan River and Colorado River; however, they will not be affected by this release of stored water for ISF use on the Fryingpan River and delivery to and use on the 15-Mile Reach.

12. Material Injury to Existing Rights

There will be no injury to existing rights. Under this lease, water previously stored in priority under the Ruedi Reservoir water rights would be released during times when temperature and flow conditions are conducive to the formation of anchor ice in the winter months, and when needed to supplement flows in the 15-Mile Reach.

13. Stacking Evaluation

When Remaining Leased Water is available under this lease for ISF use on the 15-Mile Reach, it can be used to supplement the Board's decreed ISF water rights and may be combined, or "stacked," with the existing ISF water right to achieve a greater level of protection for the natural environment and help meet the USFWS flow targets for the endangered fish.

14. Effect of Proposed Acquisition on Any Relevant Interstate Compact Issue

The proposed lease does not negatively affect any interstate compact.

15. Effect on Maximum Utilization of Waters of the State

This proposed lease will promote maximum utilization of waters of the State by generating hydropower at the Ruedi power plant, supporting the recovery of endangered fish within the Upper Colorado River Basin, and making water available to downstream users.

16. Availability for Downstream Use

Remaining Leased Water would be available for use downstream of the 15-Mile Reach of the Colorado River.

17. Administrability

Preliminary discussions with the Division 5 Division Engineer indicate that the release and delivery of Remaining Leased Water from Ruedi Reservoir to and through the 15-Mile Reach pursuant to a contract between the District and the CWCB will be administrable.

18. Potential Benefits of This Proposed Lease

During the duration of this short-term lease when Remaining Leased Water is available for ISF use, such water will remain in the Colorado River and be protected through the 15-Mile Reach, down to the confluence with the Gunnison River. The proposed acquisition would increase stream flows in the Colorado River and benefit the endangered fish critical habitat in the 15-Mile Reach.

19. Cost to Complete Transaction

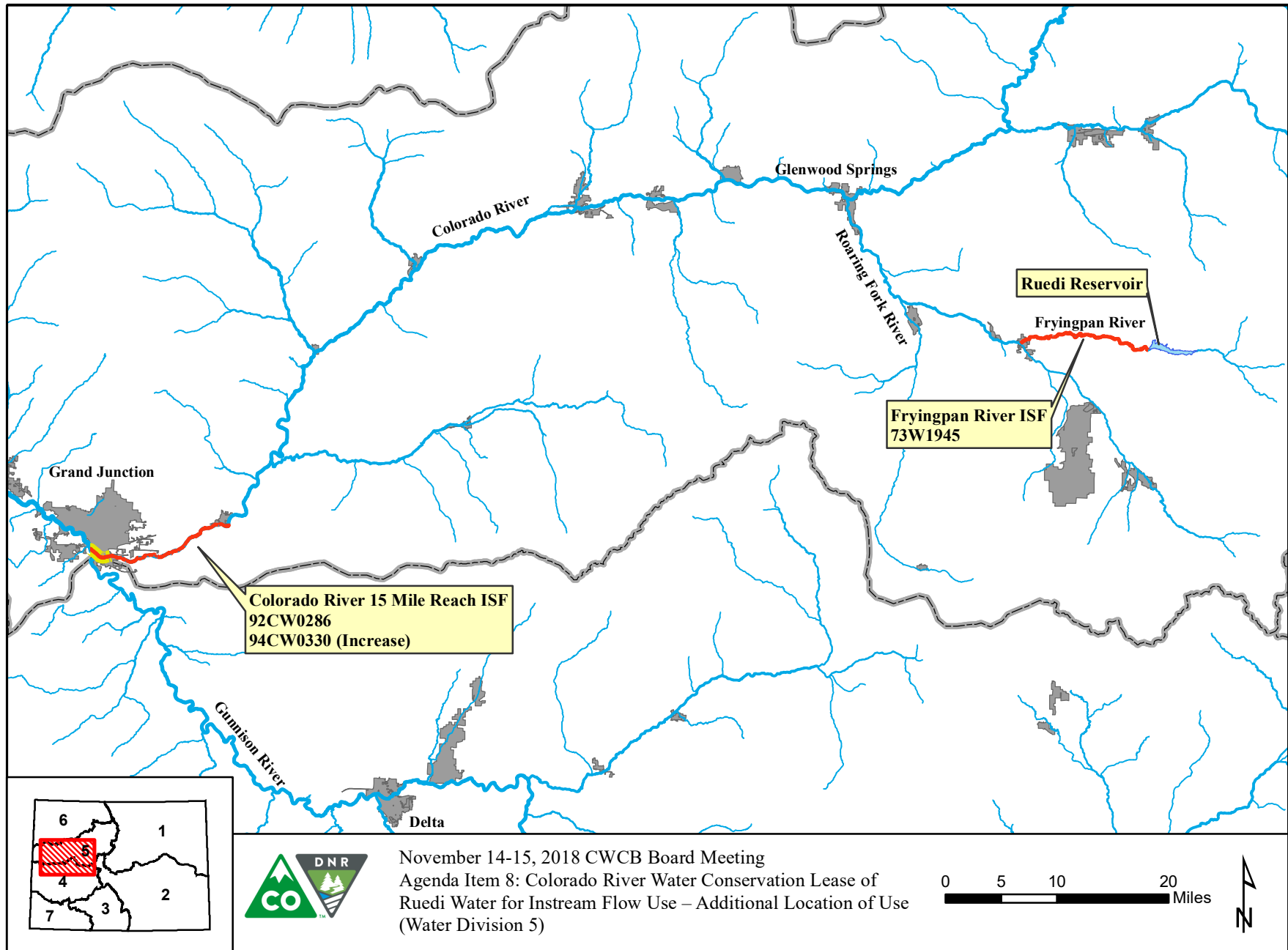
This proposal adds a source of water and an additional time period and place of use to an approved water lease agreement that is in the process of being drafted. The Remaining Leased Water is

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included in the price of the lease approved by the Board in July 2018. Consequently, there are no additional costs to complete this transaction.

Attachment 1: Vicinity Map

Attachment 2: CPW Letter dated November 1, 2018





COLORADO

Parks and Wildlife

Department of Natural Resources

Water Resources Section

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November 1, 2018

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SUBJECT: Colorado River Water Conservation District Lease of Ruedi Water for Instream Flow Use - Additional Location of Use

Linda and Kaylea:

At the July 2018 Colorado Water Conservation Board (CWCB) Meeting, Colorado Parks and Wildlife (CPW) recommended that the Board approve a lease from the Colorado River Water Conservation District (Colorado River District) of 3,500 acre-feet (AF) of water in Ruedi Reservoir to be used for instream flow use in the Fryingpan River during winter months. CPW recommended approval of the acquisition which would improve habitat conditions in the Fryingpan River below Ruedi Reservoir by maintaining flows of 70 cfs between January 1 and March 31. Specifically, we were of the opinion that the additional winter water would prevent anchor ice formation and increase available habitat for several life stages of brown trout and rainbow trout. At the July Board meeting, the Board approved the lease. The CWCB expressed some concern that the Colorado River District water must be leased and/or used in full (i.e. the lease would not be executed as an "up to" lease). In response to this concern over the possibility of not utilizing the full 3,500 AF of water, CWCB staff, the Roaring Fork Conservancy (RFC), CPW and other stakeholders began discussing alternatives should there be a remaining balance of water at the end of the March 31 lease period. Staff has concluded that the leased water could be used for other instream flow purposes, particularly in the 15-Mile Reach of the Colorado River.

CPW is responding to a request by the CWCB to review and analyze the proposal to amend the Board's July approval of the lease to add a new location and expand the time period for the leased water should there be a balance at the end of March. The proposal seeks to use the remainder of the 3,500 AF of water in Ruedi Reservoir for deliveries to incrementally meet the U.S. Fish and Wildlife Service's (USFWS) flow recommendations for endangered fish habitat in the 15-Mile Reach. If amended, this lease would make it possible to fully utilize the Ruedi Reservoir water available to supplement flows in the 15-Mile Reach from April 1 to December 31, 2019.



Flow recommendations for the 15-Mile Reach have been quantified by the U.S. Fish and Wildlife Service; these flow recommendations are well documented in several reports prepared by Osmundson and others (1989, 1991, 1995). Osmundson's 1995 study developed relationships between flow and habitat for the Colorado pikeminnow and razorback sucker in the 15-Mile Reach. The study recommends monthly flows (dependent on hydrological year type) and quantifies minimum occurrences of these flows that are critical to recovery of rare populations in the 15-Mile Reach. These flow recommendations were included in the Final Programmatic Biological Opinion for the 15-Mile Reach and are used to inform annual 10,825 releases and other coordinated reservoir operations in the basin above the critical habitat.

The USFWS reports confirm that there is a demonstrated need for supplemental releases should additional leased water exist in Ruedi Reservoir. Typically, 10,825 releases are focused on supplementing flows in the late-irrigation season. The USFWS has increasingly seen an additional need in April because of a low flow condition referred to as the "April Hole." Particularly in years following a dry year, storage levels in the Colorado River basin are below average and diversions to storage in April are more significant, causing low flow conditions in the 15-Mile Reach. Low flows in the month of April have proven to be problematic for fish - resulting in decreased habitat availability, increased vulnerability to avian and terrestrial predation, and increased sun damage. Below average flows in April also decrease riverine productivity and can cause declining abundance of macroinvertebrates in the 15-Mile Reach.

CPW is of the opinion that should there be a remaining balance from the Colorado River District lease of Ruedi water, this water could best be used to preserve and/or improve the natural environment in the 15-Mile Reach starting in April. Specifically:

- From July 1 - September 30, the water could be used to supplement the CWCB's decreed instream flow water right in the 15-Mile Reach to preserve the natural environment and contribute to meeting or reducing shortfalls to the published USFWS flow recommendations. The CWCB's use of water above the decreed ISF rates during this timeframe could improve the natural environment to a reasonable degree.
- Between the April 1 - June 30 and October 1 - December 31 time periods, the leased water would incrementally contribute towards preserving the natural environment by helping meet or reduce shortfalls to the published USFWS flow recommendations.

CPW therefore believes that CWCB should proceed with this amendment to the original lease while continuing to coordinate with USFWS and CPW throughout the winter. CPW looks forward to working with the Board's staff, RFC, USFWS, the Colorado River District, and others as this lease is implemented. CPW staff will be in attendance at the November 2018 CWCB meeting to answer any questions that the Board might have relating to this agenda item. Thank you for the opportunity to assist in this matter.

Sincerely,



Katie Birch
Jay Skinner
CPW Instream Flow Program Coordinators



CC: Corday, Graf, Bakich, Martin, Will, Romatski