COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street, Room 718
Denver, CO 80203

P (303) 866-3441
F (303) 866-4474

Jared Polis, Governor
Dan Gibbs, DNR Executive Director
Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Robert Viehl, Chief
Brandy Logan, Water Resource Specialist
Stream and Lake Protection Section

DATE: January 24, 2023

AGENDA ITEM: 19 b. ISF Recommendations on Cottonwood Creek, Monitor Creek, and Potter Creek, Water Division 4 (Informational Item)

Recommendation: This is an informational item and no Board action is required at this time.

Introduction

The Board's Instream Flow (ISF) Program provides for the preservation of the natural environment to a reasonable degree. In most cases, the natural environment preserved by ISF appropriations has been defined by the flow needs of aquatic species. These ISF flow rates provide some de facto protection of the riparian corridor. However, the scientific literature indicates that higher flows are needed to preserve certain riparian communities. In some instances, the Board has recognized the need for additional protection and appropriated all of the remaining unappropriated flow to address situations that required such riparian protection. This level of protection has been used on a limited basis. Examples include ISF appropriations on the Dead Horse Creek system, which forms Hanging Lake, to protect distinct assemblages or riparian vegetation and globally imperiled species; and on Big and Little Dominguez Creeks to protect not only fish populations but amphibians, aquatic insects and rare communities of cottonwood trees and other riparian vegetation.

In Water Division 4, the BLM determined that portions of Cottonwood Creek, Monitor Creek, and Potter Creek are suitable for Wild and Scenic River designation based on riparian vegetation communities deemed Outstandingly Remarkable Values (ORVs). As an alternative to a federal reserved water right that would be created if Congress designates these streams into the National Wild and Scenic Rivers System, the BLM proposed an approach that would use the ISF Program to provide flow protection for these ORVs. The CWCB was briefed on this proposal in May 2014 for discussion and input. Based on feedback from the Board, the BLM submitted formal recommendations for these streams in 2017. Staff will provide background on these recommendations, an overview of the proposed approach, and an update on efforts completed to date. Staff intends to bring these recommendations to the Board for consideration at the March board meeting.

Background

Section 37-92-102(3), C.R.S. vests the Board "with the exclusive authority, on behalf of the people of the state of Colorado, to appropriate …, such waters of natural streams and lakes as the board determines may be required for minimum stream flows or for natural surface water levels or volumes for natural lakes to preserve the natural environment to a reasonable degree." Since the ISF Program's inception in 1973, the Board has based ISF appropriations on aspects of the natural environment to be preserved that include not only the presence of aquatic species but also other natural features and life forms. These include various aquatic vertebrate and invertebrate species; riparian vegetation communities; terrestrial wildlife including birds, mammals, amphibians, and reptiles; and even processes such as sediment transport that is critical for maintaining biological habitats. Although quantification of the amount of water needed is typically tied to the requirements of aquatic species, in limited instances, the Board has appropriated flows quantified for other aspects of the natural environment.

The BLM found Cottonwood, Monitor, and Potter Creeks suitable for inclusion in the National Wild and Scenic Rivers System based in part on the presence of rare riparian communities that qualified as Outstandingly Remarkable Values[1]. This finding was informed by surveys conducted by the Colorado Natural Heritage Program (CNHP)[2] in the 1990s that determined these streams contained rare plant communities that warranted conservation. On Cottonwood Creek, CNHP identified vulnerable populations of Narrowleaf Cottonwood and Skunkbrush Sumac that are rarely found in the same habitat. Both Monitor Creek and Potter Creek support a Narrowleaf Cottonwood, Strapleaf Willow, and Silver Buffaloberry community, which is classified as vulnerable throughout its range by CNHP. Although BLM recognized that Cottonwood Creek and Potter Creek already have some ISF protection, the suitability determination specifically noted that the current lack of flow protection for globally significant riparian values was a significant factor driving BLM's suitability determination. The Final Resource Management Plan for BLM's Uncompahgre Field Office stated that if scientific studies conclude that alternative forms of flow protection are in place and are sufficient to fully protect the flow-related ORVs on Monitor and Potter Creeks, the BLM will determine it is unnecessary to quantify, assert, or adjudicate a federal reserved water right for these segments if they are ultimately designated into the National Wild and Scenic River System.

[1]The suitability determination for Cottonwood Creek was finalized as part of the Dominguez-Escalante National Conservation Area (NCA) Resource Management Plan in 2017. The suitability determinations for Monitor and Potter Creeks were finalized as part of the BLM's Uncompahgre Field Office Resource Management Plan in 2020.

[2]The Colorado Natural Heritage Program is Colorado's only comprehensive source of information on the status and location of Colorado's rarest and most threatened species and plant communities. It is administered by both Colorado State University and Colorado Parks and Wildlife. CNHP has been a valuable resource to the Basin Roundtables in helping to identify environmental attributes.

Proposed Structure of Riparian ISF Protection

At the request of the CWCB, BLM developed a concept to preserve the riparian communities of these streams using the ISF program. The proposed approach consists of two components - a base flow component (based on typical ISF quantification methods) and a riparian flow component. The riparian flow component would use ISF water rights to protect all flow in the creek from the point when bankfull flow (the level where streamflow starts to access riparian vegetation) is reached down to the base flow component level from April 1 through September 30. The riparian based ISF right would only be in effect if the bankfull threshold was reached, which may only occur every 3 to 5 years in these systems. The April 1 through September 30 timeframe was selected because it corresponds to the portions of the year when the riparian community is actively growing and reproducing. The expected duration of the riparian based ISF protection is short but variable, lasting as little as a few hours to as long as a month or two.

At the May 2014 CWCB meeting, staff and BLM presented the proposal to preserve the riparian communities of these streams using the ISF program. The Board provided guidance to continue to develop this approach which provides an alternative to potential federal reserved water rights. This approach also provides a means to protect riparian communities without an ISF water right that appropriates all remaining unappropriated flow.

Table 1. ISF Water Rights

Div	Stream	Watershed	County	Length (miles)	Upper Terminus	Lower Terminus
4	Cottonwood Creek	Lower Gunnison	Delta	23.3	Hawkins Ditch headgate	confluence Roubideau Creek
4	Monitor Creek	Lower Gunnison	Montrose	9.44	confluence Little Monitor Creek	confluence Potter Creek
4	Potter Creek	Lower Gunnison	Montrose	8.10	USFS property boundary	confluence Monitor Creek
4	Potter Creek	Lower Gunnison	Montrose	1.72	confluence Monitor Creek	confluence Roubideau Creek

Efforts Completed to Support the Recommendation

Based on Board guidance, BLM and CWCB staff have worked cooperatively to refine the proposed approach to protect riparian flows. This included additional research on the riparian communities and flow needs, modeling efforts to define flow rates, collecting streamflow data, and assessing water availability. Staff will provide a full presentation on these topics when the recommendations are formally brought to the Board for consideration. A brief summary is provided below:

- BLM completed a literature review to identify the flow regime needed to support the riparian species present in Cottonwood, Monitor, and Potter Creeks. This review concluded that the riparian communities present in these creeks depend on flow regimes that include high-flow events that create bare soil areas critical for trees to become

established, flows that recede at rates that allow plant roots to maintain access to water, and baseflows that support mature plants.

- BLM completed a number of site investigations and preliminary modeling efforts aimed at understanding the amount of flow necessary to protect the riparian community and estimating the magnitude of very high-flow events. CWCB then contracted with AECOM to collect larger survey datasets and develop a more advanced HEC-RAS model for reaches on Cottonwood, Monitor, and Potter Creek.

- CWCB staff installed a temporary gage on Monitor Creek in 2017 and processed temporary gage data collected by CPW on Cottonwood Creek and Potter Creek. Staff is completing an assessment of this data. However, the proposed approach will require the CWCB to modify the typical water availability analysis because by definition high-flow events will not be available at least 50% of the time.

- Unrelated to this appropriation, CPW has been working on these three creeks for nearly a decade to better understand the importance of these areas for the three species (Flannelmouth Suckers, Bluehead Suckers, and Roundtail Chub). This includes substantial efforts to monitor streamflow, track fish migration, sample fish populations, and install a weir on Cottonwood Creek and Roubideau Creek to limit hybridization.

Stakeholder Outreach

Since recommendations were formally submitted to the CWCB by the BLM in 2017, staff has been providing public notice in a variety of forums. Notices for these recommendations were sent to the ISF subscription mailing list in 2017, 2018, 2019, 2020, 2021, and 2022, notices were published in local newspapers in 2021 and 2022, presentations to County Commissioners were provided in 2017, 2019, and 2022, and landowners adjacent to the proposed ISF reaches were mailed letters.

Because the structure of the proposed ISF water right is new, meetings were held with the State Engineer and his staff to determine whether or not this water right would be administrable. Staff also held discussions with the Attorney General's office to ascertain if any legal issues would preclude a water right of this type from being decreed in water court.

Staff met with Colorado River Water Conservation District staff in 2020 to discuss the recommendations on Cottonwood, Monitor, and Potter Creeks. In subsequent meetings, the River District expressed concerns that when these riparian ISFs are in effect, it is akin to an appropriation for all unappropriated flow during that time. Their staff suggested a water development allowance (WDA) be created to protect the ability of future water users to appropriate and use water in these systems when the riparian ISFs are active. Future uses would not otherwise be precluded because the proposed ISFs would not protect high flows on a year-round basis and would not be in effect in all years.

CWCB staff contracted with SGM, Inc. to complete an assessment of the amount of water needed for reasonable future uses in these systems. This included an assessment of potential future uses on federal lands (US Forest Service and BLM), state lands (CPW), and private lands in the basins. A draft report was prepared in June of 2022 and presented to stakeholders. Subsequent conversations with stakeholders resulted in the need for additional refinements to the WDA to better define potential future water needs. SGM is currently working on these refinements and conversations with US Forest Service personnel and River District staff continue to address concerns and reach an agreement on the amount of water necessary for the WDA.

Conclusion

Staff continues to work on finalizing its analysis, and is in the process of drafting final reports with the intent to bring these recommendations to the Board for action at the March meeting. At that time, staff will provide a comprehensive presentation that provides detailed information about the riparian communities, the importance of preserving the riparian communities, the methods used to quantify the bankfull flow rates, the structure of the proposed ISF flow rates, water availability assessments, and an update on the WDA.