

**BIENNIAL PROGRESS REPORT  
INSTREAM FLOW WATER RIGHT CHANGES  
2022 & 2023**



## **EXECUTIVE SUMMARY**

Montana Fish, Wildlife & Parks (FWP) temporarily and in some cases permanently changes existing water rights to instream flow to benefit the fishery in streams and rivers across Montana. §85-2-436 MCA provides FWP with the authority to make these changes to instream flow.

Temporary changes to instream flow typically involve FWP leasing water rights from willing partners, while in some cases water rights owned by FWP are temporarily changed. Permanent changes to instream use only involve water rights owned in fee simple by FWP that are acquired by gift, purchase or in conjunction with a land purchase.

FWP's instream flow change activities include seeking approval of new water right leases and associated authorizations to change, renewals of leases and temporary changes to instream flow, monitoring existing changes and exploration of new instream flow projects. Program highlights for 2022 and 2023 include:

- FWP completed one new temporary change to instream flow on Deep Creek near Townsend.
- FWP completed one permanent change to instream flow on Bear and Pine Creeks at Jardine.
- Two temporary change renewals, one for Rock Creek near Garrison and one for Lazyman Creek south of Alder, were approved by DNRC.
- Two applications for a temporary change to instream flow are pending before DNRC; one for Rock Creek and one for Big Creek both near Emigrant in the Paradise Valley.
- One application for a permanent change for Nevada Spring Creek in the Blackfoot Valley, will be submitted in 2024.
- Applications for permanent changes to instream flow are being explored for Poindexter Slough (Beaverhead); Porcupine Creek (Gallatin); and English George, Nickerson, and Ruby creeks (upper Madison); and the Madison River East Channel (near Three Forks) for irrigation rights held by FWP.
- Water right ownership issues for Mill and Willow Creeks near Opportunity are being addressed and the rights continue to be evaluated for potential change to instream flow.

### **AUTHORITY TO LEASE AND CHANGE WATER TO INSTREAM FLOW**

The conversion of existing water rights to instream flow by FWP is governed by §85-2-436 MCA. The law authorizes FWP to change a water right to an instream flow purpose to protect, maintain or enhance stream flows to benefit the fishery resource by:

- o leasing and temporarily changing someone else's water right.
- o temporarily changing an FWP water right held in fee simple.
- o permanently changing a water right held by FWP in fee simple on up to 12 stream reaches.

The term “instream flow leasing” is often used to collectively refer to two distinct processes; the agreement to use another party’s water right (“lease”) and the water right change process (“change”). The leasing of the water right is the first step. There, FWP and a willing water right owner agree to the terms of the water use, such as limiting use when flow falls below a certain level or providing infrastructure to reduce water demand. The authority to approve the lease agreement lies with the Montana Fish and Wildlife Commission.

After approval of the lease agreement, FWP staff prepares and submits the application to temporarily change the water right(s) to instream flow to DNRC. DNRC processes the application using the same procedures used for all other changes in appropriation rights in Montana, which includes the opportunity for others to object. The change authorizations issued by DNRC include requirements for FWP to measure the flow and other conditions necessary to prevent adverse effects to other water users. Temporary changes may be for periods of up to 10 years, unless the lease involves the construction of water conservation or storage projects when the term may be up to 30 years, depending on the expected life of the project.

Renewals generally follow a similar two-part process where FWP negotiates the terms of the renewal with the water right owner and submits a Notice of Renewal to DNRC. The renewal process includes an opportunity for third parties to submit new evidence of adverse effects to their water rights. If this occurs, FWP must file a completely new change. Renewals of temporary changes are limited to a period of 10 years, but they can be renewed an indefinite number of times.

Permanent changes to instream flow of rights held in fee simple by FWP follow the same DNRC change process, including the opportunity for other parties to object.

The statute was originally approved in 1989 with a 10-year sunset. It was reauthorized in 1999, 2007 and most recently in 2019 with the enactment of SB 247. §85-2-436 MCA now sunsets on June 30, 2029.

### **CURRENT AND PENDING CHANGES TO INSTREAM FLOW**

The following table lists the number of stream reaches where FWP has active and pending changes to instream flow as well as changes that are still in the development phase. The map in Figure 1 shows the locations of the streams. Some streams have multiple water right changes and multiple water leases. The table appended to this report gives more details on the active and pending changes as well as those changes that were terminated or were not pursued to completion.

Active Instream Flow Changes	Stream Reaches
Temporary Changes of Water Rights Leased by FWP	16
Temporary Change of Water Rights Owned by FWP	1
Permanent Change of Water Rights Owned by FWP	2 <sup>a</sup>
<sup>a</sup> Cedar Creek includes both a temporary and permanent change to instream.	
Pending Instream Flow Changes	Stream Reaches
Temporary Change of Water Rights Leased by FWP	2
Permanent Change of Water Rights Owned by FWP	0
Instream Flow Changes in Development	Stream Reaches
Temporary Change of Water Rights to be Leased by FWP	2 <sup>b</sup>
Permanent Changes of Water Rights Owned by FWP	9
<sup>b</sup> Changes in development may include multiple water leases.	

Table 1. Current and Pending Instream Flow Changes

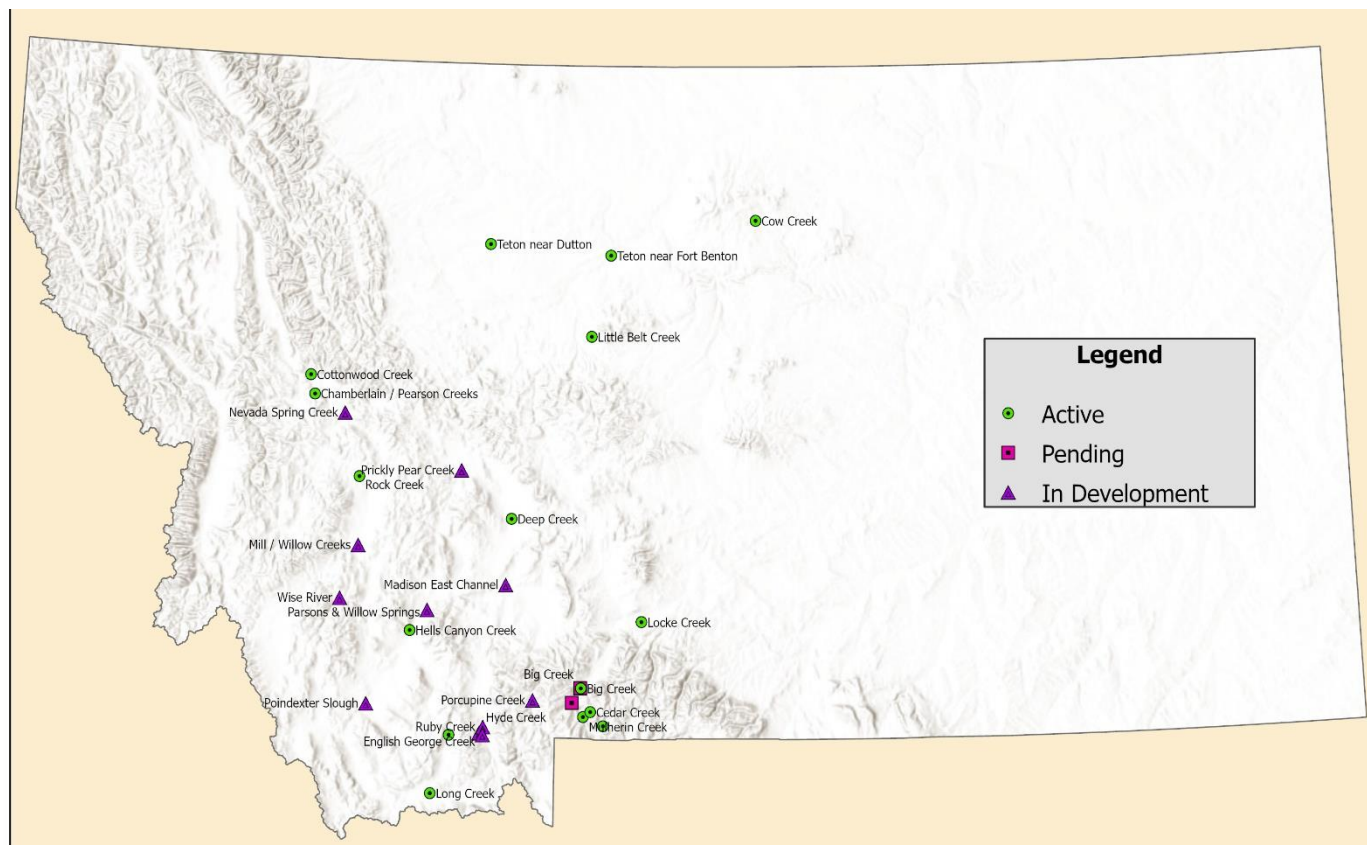


Figure 1. Locations of FWP instream flow projects.

## **GENERAL APPROACH**

After more than three decades of leasing water rights and making changes to instream flow, FWP has learned that successful water leases and changes to instream flow not only require the commitment of the party leasing water, but an understanding and general agreement amongst all water users on the source as to how the change to instream flow is to be administered. This necessitates making clear how much water is protected and where it is measured along with providing up-to-date measurements to the water users so that the stream can be managed to meet the instream flow requirements. FWP's most successful instream changes involve strong buy-in from all the water users on the stream.

Many of FWP's instream flow change activities focus on tributaries to larger rivers that provide important spawning habitat. Typically, these tributaries flow from the mountains onto the valley floor where they are tapped for irrigation. Some irrigation diversions cause seasonal or periodic dewatering between the diversion and the main stem river. These instream changes emphasize maintaining connectivity between the main stem and tributary to prevent dewatering and protect redds (fish spawning beds), maintain flow and habitat for emerging fry, and facilitate out-migration into the main stem river. Other changes to instream flow focus on habitat for the resident fishery.

Water conservation projects providing for instream flow are also a priority. These projects focus on improving irrigation efficiency, keeping the amount of irrigation unchanged while reducing the amount of water diverted for irrigation. The saved water is no longer diverted, thereby restoring stream flow. All changes identify specific stream reaches where the saved water is protected from being diverted by downstream users.

## **REPORTING REQUIREMENTS**

§85-2-436 MCA requires FWP to submit a biannual progress report to the Legislative Water Policy Interim Committee (WPIC), the Department of Natural Resources and Conservation (DNRC) and the Montana Fish and Wildlife Commission. In accordance with §§ 5-11-210 and 5-11-222, the report must be submitted on or before September 1 of each year preceding a regular legislative session. The biennial report must include a summary of all appropriation rights changed to an instream-flow purpose *in the last two years*. For each change, the report must include:

- o The length of the stream reach and how it is determined.
- o Streamflow or volume needed to enhance or preserve fisheries.
- o The amount of water available for instream flows as a result of the change in appropriation rights.
- o Contractual parameters, conditions, and other steps taken to ensure that each change in appropriation right does not harm other appropriators, particularly if the stream is one that experiences natural dewatering.
- o Methods and technical means used to monitor use of water under each change authorization.

## 2022-2023 ACTIVITY

### **Deep Creek near Townsend – New Temporary Change to Instream flow**

In 2017 FWP entered a water lease on Deep Creek, tributary to the Missouri River near Townsend. The focus of the lease is to provide adequate connectivity in lower Deep Creek to provide for the spawning and rearing of resident and migratory brown and rainbow trout. FWP submitted the change application to DNRC in January 2018 and it was approved in May 2022.

As compensation for this lease, FWP provides replacement irrigation water from the Broadwater-Missouri Canal owned by DNRC and operated by the Broadwater-Missouri Water Users' Association. FWP entered an agreement with the Association to transport the water. FWP also negotiated an agreement with DNRC to obtain water under contract from its Broadwater-Missouri Project.

### **Change in Appropriation Information:**

#### *The length of the stream reach and how it is determined:*

The temporary instream flow change restores and legally protects streamflow in Deep Creek for approximately 4 stream miles downstream from the historic irrigation point of diversion to the stream's confluence with the Missouri River. At the point of diversion supplying the Spill Ditch located just upstream of the Broadwater-Missouri Canal, Deep Creek was routinely dewatered creating a disconnection between the lower and upper creek. Just below the Broadwater-Missouri Canal, water was released from the Canal to supply downstream water users, but this water did not always provide connection to the Missouri River and was often warmer than desirable for the cold-water fishery of Deep Creek.

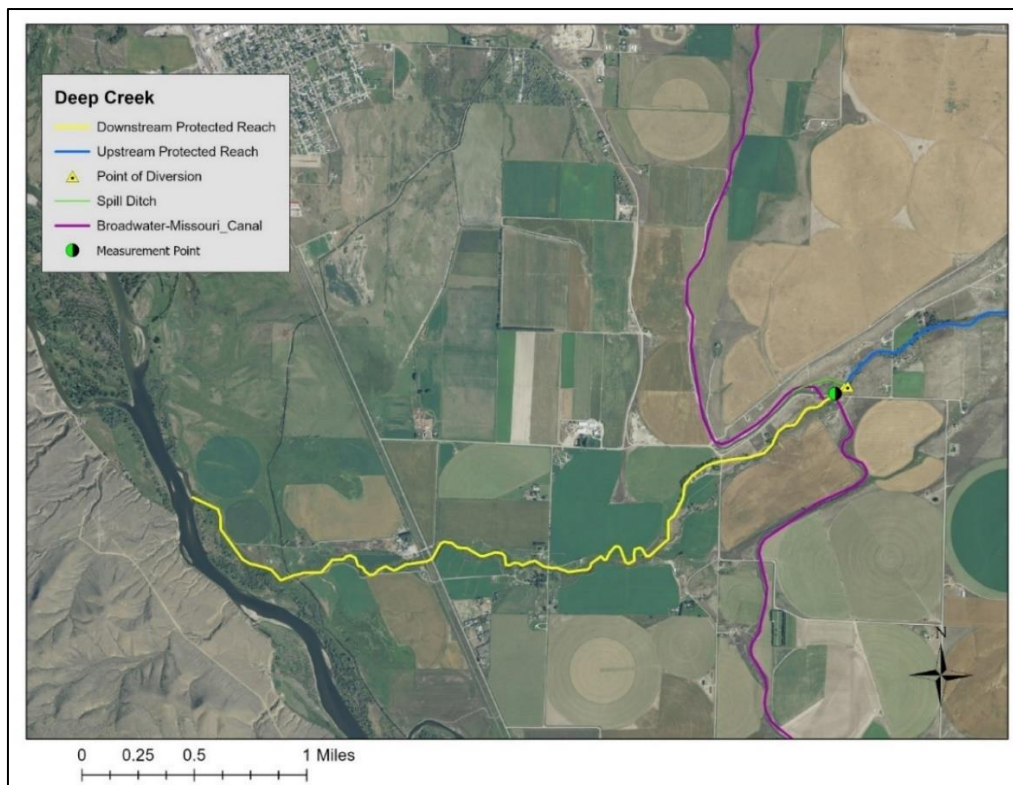


Figure 2. Measurement point and protected reach for Deep Creek near Townsend.

A project completed in 1991 restored connection in Deep Creek where it intersected the Montana Ditch near its confluence with the Missouri River. The Montana Ditch was routed through an inverted siphon under Deep Creek, which restored connection and allowed improved fish passage in Deep Creek. In addition to restoring connectivity just above the Broadwater-Missouri Canal, this instream flow change also helps achieve the objectives of that earlier project by providing more dependable flow in lower Deep Creek.

*The critical streamflow or volume needed to protect, maintain, or enhance streamflow to benefit the fishery resource:*

Extensive flow monitoring indicates that lowest streamflow occurs in August and early September and the quality of habitat for all aquatic life is compromised. Short term survival of fish in deeper pools may prevent visible fish kills but does not provide quality habitat for juvenile fish or other aquatic life. Also, this reduction in flow limits or prevents the ability for fish to move between pools and out-migrate to the Missouri River.

Brown trout suffer many of the same consequences of dewatering as rainbow trout. However, they spawn in the fall and low fall flow may not be sufficient to support spawning. The change to instream flow helps maintain connectivity and coverage of riffles throughout the length of Deep Creek, benefitting brown and rainbow trout along with all other aquatic species.

FWP holds a 9 cubic feet per second (cfs) instream flow water reservation on Deep Creek based on the fixed- percentage methodology. This methodology is ultimately rooted in the wetted perimeter method (see Figure 3). For Deep Creek the wetted perimeter method produced anomalous results and therefore the fixed-percentage method was used instead. Both the wetted perimeter and fixed percentage methods focus on riffle coverage and associated food production but also serves as a surrogate for available pool habitat as the depth of water at the head of riffles dictates the depth of water in upstream pools and slow water habitats. Further it provides an indicator of connectivity throughout the length of the stream.

Through long-term monitoring of Deep Creek, FWP determined that during the summer low-flow period a flow of 5 cfs in the most dewatered reaches provides adequate, but less than ideal conditions, to protect redds (fish nests), allow for emergence and outmigration of fry and provide habitat for resident fish populations. Under more extreme conditions, 3 cfs provides sufficient flow to allow the fishery to function, but at a suppressed level. Channel cross-section analyses confirm that most redd dewatering in lower Deep Creek is prevented with a flow of 5 cfs, and that fish movement between pools is sufficient with a flow of 3 cfs (Cawfield 1991).

Prior to the lease, flow in Deep Creek routinely did not meet the 5 cfs or 3 cfs objectives during August and September and in some years in July. Certain reaches dried up or flow became so low as to cause redds to dry up and reaches to become effectively disconnected. The change to instream flow increases the frequency in which the flow objectives are met.

### Wetted Perimeter Methodology

The wetted perimeter methodology is a recognized instream flow methodology for fisheries flow based on habitat for food production in the shallow, fast-moving water of a stream. The wetted perimeter is the distance across the bottom and sides of a stream channel, measured at a riffle area, that is in contact with the water. A graph of the wetted perimeter versus discharge generally yields two inflection points. The upper inflection point of the graph is the level above which large increases in discharge result in a small increase of the wetted perimeter. The lower inflection point of the graph is the level below which small decreases in discharge result in large decreases of the wetted perimeter.

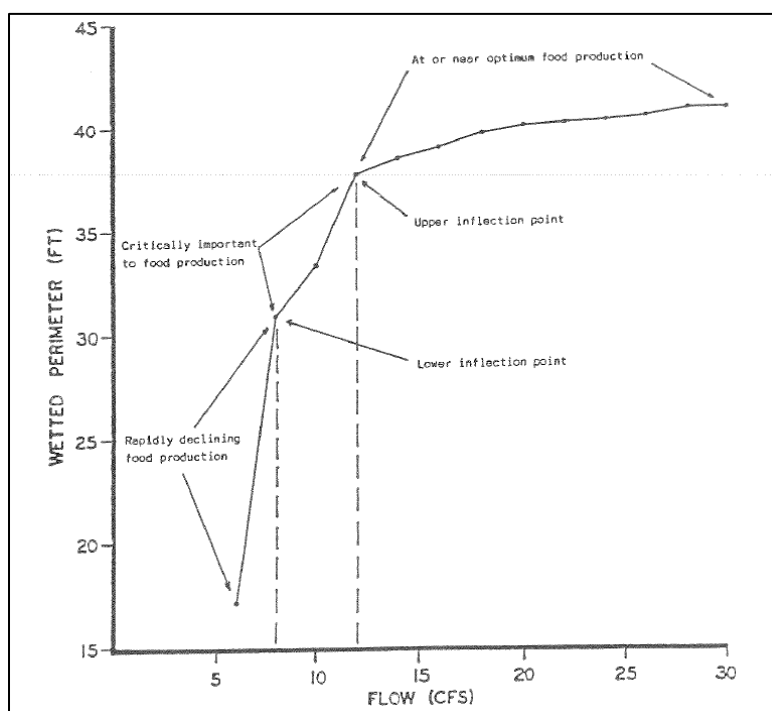


Figure 3. Explanation of Wetted Perimeter Methodology.

*The contractual parameters, conditions, and other steps taken to ensure that each change in appropriation right does not harm other appropriators, particularly if the stream is one that experiences natural dewatering:*

In addition to water measurement requirements, the amount of water protected instream down to the historic point of diversion is a total of 4.25 cfs between the three water rights being leased. However, below this point only 4.15 cfs is protected to account for the water diverted into the Spill Ditch but seeped back into Deep Creek where it was available to other water users.

In 2022, a water commissioner was appointed to administer water use on Deep Creek. FWP participated in this administration of water and paid its proportional share of costs based on water that was protected instream.

*The methods used to monitor use of water under each change in appropriation right:*

Streamflow is measured immediately downstream of the historic irrigation diversion, at the



location approved by DNRC. FWP entered into a memorandum of understanding with DNRC's Water Management Bureau to operate a real-time stream gage at this location. Information from this gage is available at: [Deep Creek near Townsend 41I 03500](#)



Figure 4. Gage 41I 03500 Deep Creek near Townsend during installation.

### **Bear & Pine Creeks at Jardine – New Permanent Change to Instream Flow**

Trout Unlimited offered to donate two water rights that were historically used for mining in Pine and Bear Creeks to FWP with the intent that FWP permanently change the water rights to instream flow. Pine Creek is a tributary to Bear Creek at Jardine and Bear Creek is a tributary to the Yellowstone River near Gardiner. Like other streams in the upper Yellowstone where FWP leases water, the permanent change to instream flow primarily benefits Yellowstone cutthroat trout. FWP completed an environmental assessment regarding the proposed acquisition and permanent change to instream flow in November 2017 and subsequently the Fish and Wildlife Commission accepted the donation of the water rights. FWP filed an application with DNRC to permanently change the water rights to instream flow in September 2018 and it was approved in November 2022.

Bear Creek provides important spawning and rearing habitat for Yellowstone cutthroat and rainbow trout migrating from the Yellowstone River. Rainbows migrate from the Yellowstone into Bear Creek in the spring on the rising limb of the hydrograph. They spawn with the eggs incubating until August when fry emerge. Some fry emigrate to the Yellowstone River while others remain and rear in Bear Creek. Yellowstone cutthroat migrate into Bear Creek somewhat later in the summer during the falling limb of the hydrograph, but the remainder of their life history is similar to rainbows. Bear

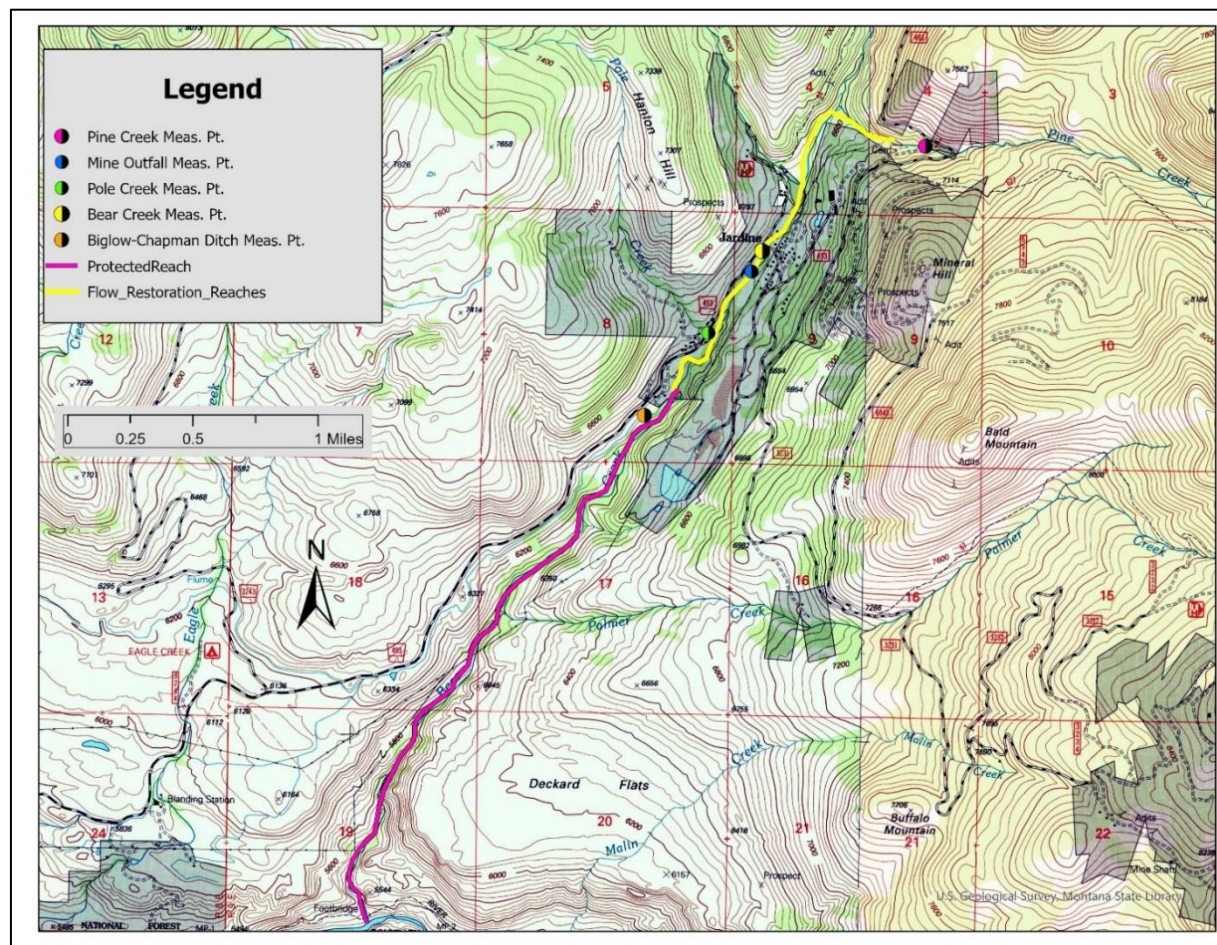
Creek also provides habitat for resident trout as well as mountain whitefish and other native aquatic species.

Trout Unlimited needed to reserve a small amount of water for mitigation of a depletion to the Yellowstone River associated with a different project. There a groundwater appropriation for irrigation replaced surface water diversion from Fridley Creek, another tributary of the Yellowstone River downstream from Bear Creek. 6.82 ac-ft of the Bear Creek rights were changed to mitigation to account for changes in return flow. The Fridley Creek irrigation rights have since been temporarily changed to instream flow by the owner of the rights.

### Change in Appropriation Information:

#### The length of the stream reach and how it is determined:

The permanent change to instream flow restores flow in approximately ½ mile of Pine Creek and 4 miles of Bear Creek as depicted by the yellow and pink lines in Figure 5. The pink line represents the protected reach below the most downstream historic diversion, the Biglow-Chapman Ditch, where most of the water was historically diverted for hydropower use that supplied electricity to the mine at Jardine. This is the location at which the 10.98 cfs (May 1 to Oct. 15) and 10.83 cfs (Oct. 16 to Apr. 30) instream flow rates protected by the change are defined and measured.



5. Measurement points and protected reach for Bear Creek at Jardine.

Figure

*The amount of water available for instream flows as a result of the change in appropriation rights:*

Instream flow reservations were granted to FWP for Bear Creek in the reach from the North Fork to the mouth based on monthly 50<sup>th</sup> percentile flows for May through September and 20<sup>th</sup> percentile flows for October through April based on the 1978 level of development (Water Reservation 43B 30017685). The flow measurements used to determine the percentile flows were taken above the Biglow-Chapman Ditch diversion at the bridge over Bear Creek at Jardine and did not reflect the vast majority of the depletion occurring under the changed rights as well as the diversion by other users of the Biglow-Chapman Ditch. The change to instream flow protects flow at levels closer to beneficial flow levels granted in the reservation, benefitting the fishery of Bear Creek.

The most comprehensive look at the Bear Creek fishery was undertaken by FWP in 1982. At this time the mining activity had been limited for several years and the fishery conditions found were consistent with a flow regime that would be expected under change providing for a healthy fishery.

*The contractual parameters, conditions, and other steps taken to ensure that each change in appropriation right does not harm other appropriators, particularly if the stream is one that experiences natural dewatering:*

In addition to water measurement requirements, the following limitations on requesting other water users to cease or reduce diversion (i.e. call on water) was proposed by FWP and adopted by DNRC.

THE APPLICANT SHALL IMPLEMENT THE FOLLOWING CALL PLAN. WATER RIGHT NO. 43B 194396-00 SHALL BE SUBJECT TO CALL ONLY ON 0.84 CFS. WHEN WATER RIGHT NO. 43B 194396-00 IS IN USE, THE PROTECTED LEVEL ON WHICH CALL ON OTHER RIGHTS IS BASED SHALL BE REDUCED BY 0.18 CFS. WATER RIGHT NO. 43B 26096-00 WILL NOT BE SUBJECT TO CALL IN JANUARY, FEBRUARY, OR MARCH.
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The two rights identified in the limitation above were developed after the large hydropower diversion under the right changed to instream had ceased. The rights arguably had a right to stream conditions that existed at the time they were developed. The condition prevents junior rights from being called by FWP under conditions that the rights would have been able to divert water at their time of development. This condition was proposed and adopted to prevent potential adverse effects to these water rights.

The following plan is used to determine if the amount of flow changed to instream flow is being met:

#### Measure discharge in Pine Creek

If discharge is less than protected flow rate, download water level water data so that shortfall can be determined and charged against Bear Creek protected volume.

#### Measure discharge in Bear Creek

If discharge is approaching, at or below combined Bear and Pine Creek protected flow, do the following:

- Obtain current mine outfall discharge data.
- Note if water rights 43B 194396-00 and 43B 31347-00 are in use.
- Observe Pole Creek at the Jardine Rd. and measure discharge if flowing.
- Measure discharge in Biglow-Chapman Ditch.

#### **Calculation of Flow in Protected Reach**

Protected Reach Q = Bear Cr. Q + Mine Outfall + Pole Cr. Q – 0.18 cfs {if 194396 in use}  
– 0.05 cfs {if 194396-00 in use} – Biglow-Chapman Ditch Q

If Protected Reach Q is less than authorized protected flow rate, determine if call on junior rights is appropriate or if any junior rights are in operation that could be called. Consideration must be given in making call to the more junior status of the Pine Creek right.

#### **The methods used to monitor use of water under each change in appropriation right:**

Streamflow gages have been established on Bear and Pine Creeks at the locations approved by DNRC. The gage on Bear Creek at Jardine was installed in July 2022 at a location where the mine had previously measured water. The gage on Pine Creek was installed in September 2023 once approval was granted by the U.S. Forest Service.

At both locations a stilling well housing an electronic water level recorder are in place. A water level – streamflow relationship is being developed based on streamflow measurements taken approximately monthly. Streamflow is measured by taking incremental measurements with a velocity meter across the stream following USGS protocol.

Figure 6 presents the relationship between the water level (stage) and flow (discharge) for Bear Creek at Jardine. This relationship is used with water level data recorded every half hour to develop a continuous flow record at the site. Streamflow measurements continue to be taken at least monthly to ensure the accuracy of the water level-streamflow relationship and adjust it as necessary.

A stage-discharge relationship has yet to be developed for the Pine Creek gage as it was only recently installed, and an insufficient number of streamflow measurements have been taken to establish the relationship.

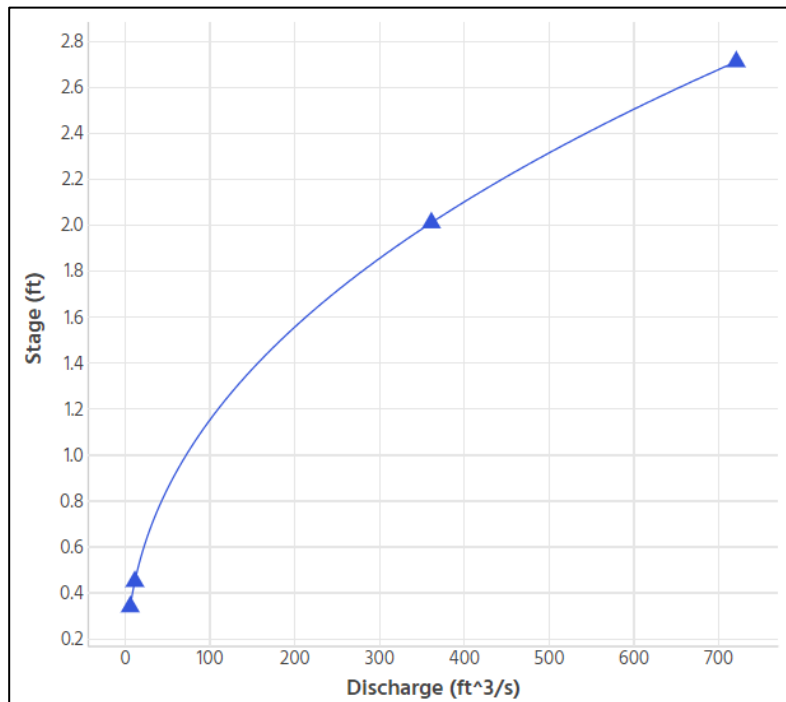


Figure 6. Bear Creek at Jardine stage-discharge relationship.

FWP partners with DNRC to make the streamflow data available on DNRC's [StAGE website](#). The streamflow data for the [Bear Creek gage](#) and [Pine Creek gage](#) is not available in real-time, but is updated approximately every 4-6 weeks when data is downloaded and processed. Streamflow data for most of FWP's other active instream flow changes is also available on the StAGE website.

### **RENEWALS COMPLETED**

**Rock Creek.** The existing 20-year water leases on Rock Creek, tributary to the Clark Fork River near Garrison, expired at the conclusion of the 2021 irrigation season. The project involved the installation of a fish screen, pipeline and sprinkler system to reduce the diversion from Rock Creek, improving flow in the lower mile and a half of the stream. FWP and the landowner negotiated terms for a ten-year lease renewal, and partnered with Montana's Natural Resource Damage Program to provide matching funding for the lease. FWP then submitted a renewal to DNRC which was approved on June 9, 2022.

**Lazyman Creek.** The original 10-year water lease on Lazyman Creek, tributary to the upper Ruby River, expired in the fall of 2021. The project involved the installation of an improved irrigation system to reduce the diversion from Lazyman Creek. This is the only irrigation on the creek. The project provides that a minimum of 1 cfs will be kept instream below the irrigation diversion and irrigation water use will be reduced or ceased when necessary to provide the 1 cfs instream flow. No additional funding is needed for this project as the original funding for the infrastructure improvement covers 20 years. FWP submitted the renewal to DNRC which was approved on May 18, 2022.

## **RENEWALS PENDING**

No renewals are currently pending.

## **CHANGE APPLICATIONS PENDING**

**Rock & Stoughten Creeks.** In June 2023 FWP entered a water lease for Rock and Stoughten Creeks. Rock Creek is a tributary to the Yellowstone River at Carbella in the Paradise Valley and Stoughten Creek is a tributary to Rock Creek. The rights being leased are the most senior rights on the streams which outside of these rights experience very limited diversion of water. Both streams provide habitat for resident native Yellowstone cutthroat trout and spawning habitat for trout that live in the Yellowstone River. The project would replace irrigation water diverted from Rock and Stoughten creeks with water diverted directly from the Yellowstone River. Irrigated production would not be reduced. The term of the lease is 30 years, the projected life of the water conservation infrastructure that will provide the water from the Yellowstone River. FWP submitted the change application to DNRC in June 2023 and it is currently being processed.

In 2011, FWP replaced a failing fish ladder and concrete culvert under an abandoned railroad at the mouth of Rock Creek with a series of step pools designed to restore fish passage from the Yellowstone River. Fish are now able to migrate upstream for spawning and fry can migrate back to Yellowstone River. However, streamflow data collected at the mouth of Rock Creek in 2013 and 2014 indicates streamflow dropped below levels necessary to keep the bed of Rock Creek fully covered in water from mid-July into the fall. With the exposure of parts of the stream bed, redds become dewatered which harms incubating fish eggs. Low flows also hamper the out-migration of fish to the Yellowstone River once fry emerge from the redds.

**Big Creek.** For nearly a quarter century, FWP has leased portions of water rights from several water users on Big Creek, an important spawning tributary of the Yellowstone River. These leases have been very successful. One current water right lessors has agreed to no longer irrigate at all from Big Creek and has leased the remainder of their water rights to FWP. The lessor holds a new water right permit from the Yellowstone River to irrigate the land formerly irrigated from Big Creek. FWP submitted the change application to DNRC in July 2022 and it is currently being processed.

## **INSTREAM CHANGES IN DEVELOPMENT**

**Parsons Slough and Willow Spring Creek.** Parsons Slough and Willow Spring Creek are spring-fed tributaries of the Jefferson River near Waterloo that cool the Jefferson River and provide cold-water refugia along with important spawning habitat for brown and rainbow trout. FWP is negotiating with the owner of the most senior and downstream irrigation water rights on Parson Slough (and the only irrigator on Willow Spring Creek) for a 30-year instream flow water lease. The project would involve a change in point of diversion to pump from the Jefferson River instead of diverting the cold water from Parsons Slough and Willow Spring Creek. Water conserved by the project would be leased by FWP.

**Wise River.** The Wise River, the largest tributary of the Big Hole River, contributes cold water to the Big Hole River and provides a cold-water refugia for fish when water temperature in the Big Hole River is very warm. During July and August when fishing restrictions are often implemented because of high water temperatures in the Big Hole River, water flowing in from the Wise River is 7-9°F cooler. FWP is working with landowners to investigate the possibility of diverting warmer water from the Big Hole River instead of from the cooler Wise River during times when water temperatures in the Big Hole River are too warm and threaten the fishery. Water conserved by the projects would be leased by FWP.

**Mill Creek and Willow Creek.** Under a 2008 settlement agreement, the State of Montana Department of Justice accepted full or partial ownership of twenty-seven Mill and Willow Creek water rights held by ARCO Environmental Remediation LLC. Historically, these rights diverted irrigation water from Mill and Willow creeks, both tributaries to the Clark Fork River near Anaconda, MT.

Montana Department of Justice's Natural Resources Damage Program (NRDP) transferred management of these water rights to FWP. The intended fate of these rights is the conversion from an irrigation purpose to an instream flow purpose.

FWP began an evaluation of those rights in February 2013. The evaluation revealed issues of overlapping and conflicting claims of ownership. FWP submitted requests for two Ownership Updates (Form 608) and twenty-five Ownership Updates/Severances (Form 642) to DNRC on November 4, 2022. Seven of the severance requests received objections from co-owners of the water rights. Distribution of the ownership of those rights will be addressed through objections when Basin 76G goes to preliminary decree. Following resolution of ownership issues and any changes made to the water rights during final decree, FWP will seek instream flow protections on water not required for maintenance of the constructed wetland complex and possible continued irrigation.

**Nevada Spring Creek.** FWP was offered (through donation) several water rights from Nevada Springs and Nevada Spring Creek. These water rights, for both irrigation and stock use, are located on a spring creek tributary to Nevada Creek in the Blackfoot Basin.

Public comment was collected in November and December 2012 as part of the "Nevada Spring Creek Water Right Acquisition Environmental Assessment". The Fish and Wildlife Commission authorized acceptance of the irrigation water rights in December 2012. In July 2013, the Fish and Wildlife Commission authorized acceptance of the associated stock water rights. In August 2013, the quit claim deed was recorded, and the Water Right Ownership Update was filed with DNRC.

The subject water rights were part of the Montana Water Court's ongoing Blackfoot River Basin Preliminary Decree (Basin 76F). Review of the claims revealed inaccuracies in the Nevada Spring Creek water rights. Therefore, FWP objected to those water rights in the adjudication proceedings. Through amendments and withdrawals, FWP has corrected the inaccuracies of those claims. The Water Master's report was finalized in July 2015. The Water Judge adopted the Master's Report in August 2015.

From 2016 through 2023 FWP collected operational, hydrologic, and historical use data. FWP intended to file the application with DNRC in December 2021 to permanently change these rights to instream flow. However, it was recently discovered that two of the water right claims had several discrepancies pertaining to the locations of the points of diversion. To address these discrepancies, FWP will be submitting a verified motion to amend these claims with the Water Court in the first quarter of 2024 and will then file a change application with DNRC.

**Irrigation Rights on FWP Lands in Upper Missouri River Basin.** FWP holds irrigation rights acquired with the purchase of several properties in the upper Missouri River basin, including Poindexter Slough Fishing Access Site, Wall Creek Wildlife Management Area, Gallatin Wildlife Management Area and Missouri Headwaters State Park. The water rights associated with Poindexter Slough have been evaluated while the rights associated with the other properties are in the evaluation stage. These rights are being considered for permanent changes to instream flow to benefit the fishery.

**Prickly Pear Creek.** This project involves a water right transfer that includes eight irrigation and five industrial water right claims on Prickly Pear Creek in Lewis and Clark County. The water rights are historically associated with the old ASARCO Smelter Site located in East Helena and are currently held by the Montana Environmental Custodial Trust (MECT).

Prickly Pear Creek is a perennial stream that flows from its headwaters in the Elkhorn Mountains of southwest Montana to Lake Helena, north of the city of Helena, MT. Upon entering the Helena Valley near East Helena, the waters of Prickly Pear Creek have historically been used for irrigating lands in the Helena Valley. Prickly Pear Creek suffered from chronic dewatering, and segments of Prickly Pear Creek in the Helena Valley were typically dry for much of the summer months, limiting agricultural use, adequate resident and migratory fisheries habitat, and recreational opportunities. In 2008, a rewatering project was initiated involving the Lewis and Clark Water Quality Protection District (WQPD), the Helena Valley Irrigation District (HVID), the Prickly Pear Creek Water Users Association (PPWU), and the US Bureau of Reclamation (BOR).

The proposed project would further secure flows in Prickly Pear Creek as FWP would acquire senior water rights, which when permanently converted to instream flow, have the potential to legally protect up to 10.5 cfs.

Public comment was collected in October and November 2023 as part of the “Acquisition of Montana Environmental Custodial Trust’s Prickly Pear Water Rights and Permanent Conversion to Instream Flow Environmental Assessment”. Once a Decision Notice is issued, this project will be submitted to the Fish and Wildlife Commission for consideration in the first quarter of 2023.

## **CONCLUSION**

There continues to be strong interest from water right owners in leasing water for temporary changes to instream flow. FWP will continue to administer its existing changes to instream flow and pursue new changes where opportunities arise. In 2024 and 2025, current projects involving both temporary and permanent changes to instream flow will continue to move forward, and new projects will likely be developed.



## **REFERENCES**

Cawfield, L. 1991. Draft report: field trip to deep creek to measure discharge, cross-sections, and select potential staff gage site. Montana Dept. of Natural Resources and Conservation Water Resources Division. Helena, Montana.

## FWP Instream Flow Change History as of November 2023

<b>Active Leases</b>																			
SOURCE	RIVER BASIN	STATUS	LESSOR	LEASE TERM/EXP.	PRIORITY OF RIGHT	QUANTITY LEASED	PERIOD OF USE												
Big Creek	Upper Yellowstone	Active Renewed	Land Trust	10 years April 15, 2030	March 12, 1883; June 30, 1901; May 31, 1909; May 15, 1910; May 15, 1910	1.0 – 16.0 cfs 2.0 (rights dedicated to a land trust in perpetuity)	April 15 - October 15												
Big Creek	Upper Yellowstone	Active Renewed	Private Party	10 years May 1, 2029	June 30, 1873 (1 <sup>st</sup> right on stream) right split between 2 parties	2.8 cfs	May 1 - November 1												
Big Creek	Upper Yellowstone	Active Renewed	Private Party	10 years May 1, 2024	June 30, 1873 (1 <sup>st</sup> right on stream) right split between 2 parties	7.5 cfs	May 1 - November 1												
Cedar Creek	Upper Yellowstone	Active Renewed	US Forest Service	10 years September 20, 2025	April 1, 1890; April 1, 1893; April 1898; April 1, 1904; April 7, 1972 (high-water rights only)	6.77 cfs May 1-July 15 6.39 cfs July 16-July 31 9.64 cfs August 1-August 31 6.39 cfs Sept 1 - October 15	May 1-October 15												
Locke Creek	Upper Yellowstone	Active	Private Party	30 years December 14, 2031	March 6, 1915	7.5 cfs	April 20 – October 24												
Mulherin Creek	Upper Yellowstone	Active Renewed	Private Party	10 years December 31, 2028	July 15, 1884; May 7, 1885; June 15, 1893; January 1, 1900; March 2, 1903; June 5, 1905; August 5, 1920; April 15, 1967	5.0 cfs to 27.0 cfs	April 15 - October 19												
Long Creek	Red Rock	Active	Private Party	December 31, 2026	October 7, 1915 – UT Long Creek - 41A 110697-00 October 15, 1888- Long Creek -41A 110699-00 October 15, 1888 – UT Long Creed - 41A110700-00 August 25, 1893 –Divide Creek- 41C110701-00	<table border="1" style="font-size: small;"> <thead> <tr> <th>Month</th> <th>To POD</th> <th>Blw POD</th> </tr> </thead> <tbody> <tr> <td>July</td> <td>7 cfs</td> <td>5.49 cfs</td> </tr> <tr> <td>Aug.</td> <td>cfs</td> <td>2.77 cfs</td> </tr> <tr> <td>Sept.</td> <td>3 cfs</td> <td>1.8</td> </tr> </tbody> </table>	Month	To POD	Blw POD	July	7 cfs	5.49 cfs	Aug.	cfs	2.77 cfs	Sept.	3 cfs	1.8	July 1 - September 15
Month	To POD	Blw POD																	
July	7 cfs	5.49 cfs																	
Aug.	cfs	2.77 cfs																	
Sept.	3 cfs	1.8																	
Lazyman Creek	Ruby	Active	Private Party	10 years November, 2031*	April 30, 1888 (only diversionary right on source)	Up to 1.0 cfs	May 15 – October 15												
Hells Canyon Creek	Jefferson	Active Renewed	Private Parties	10 years Apr. 1, 2029	December 31, 1884 (1 <sup>st</sup> right on stream), August 23, 1889; August 29, 1912	1.12 cfs (salvaged water)	April 1- November 4												
Little Belt Creek	Belt Creek	Active	Private Party	10 years: April 17, 2029	October 3, 1891; May 27, 1895 (senior rights on source)	1.0 cfs (trigger flow)	May 15 – October 15												
Cow Creek	Missouri	Active	Private Party	10 years December 31, 2031	March 28, 1889, May 1, 1889 (most senior rights on source)	0.21 cfs	April 1 to October 31												
Teton River (near Fort Benton)	Missouri	Active	Private Party	10 years January 31, 2031*	August 2, 1897; August 3, 1901	4.47 cfs / 4.23 cfs	May 20 – September 23												

## FWP Instream Flow Change History as of November 2023

Teton River (near Dutton)	Missouri	Pending	Private Party	10 years January 31, 2031*	October 20, 1890; February 13, 1901	5.9 cfs	May 4 – September 30
Chamberlain Creek	Blackfoot	Active Renewed	Private Party	10 years April 1, 2027	October 10, 1911	½ the flow up to 25 cfs	April 1 - October 31
Pearson Creek	Blackfoot	Active Renewed	Private Party	10 years April 1, 2027	October 10, 1911	Up to 8 cfs	April 1 - October 31
Cottonwood Creek	Blackfoot	Active Renewed	FWP – rights acquired with Wildlife Management Area	10 years October 18, 2026	May 1, 1884	14 cfs April, 37 cfs May 1-June 30, 32 cfs July, 9 cfs August, 6 cfs September, 9 cfs October 8 cfs November (Salvaged water)	April 1 - November 4
Rock Creek	Clark Fork	Active	Private Party	10 years October 31, 2031	March 23, 1881; May 15, 1881; June 1, 1892; May 1, 1898; September 29, 1904; May 10, 1907	5.0 - 27.22 cfs	April 15 - October 31
Deep Creek	Missouri	Active	Private Party	10 years May 17, 2023	May 1, 1868; March 1, 1870 (6 <sup>th</sup> and 8 <sup>th</sup> priority rights)	4.25 cfs	May 5 – September 23

\*DNRC did not include an expiration date on Change Authorization. This date is 10 years from the date of issuance.

### Permanent Changes to Instream Flow Completed

Cedar Creek	Upper Yellowstone	Active	FWP purchased right from private party – rights previously leased	Perpetuity	May 29, 1894 (4 <sup>th</sup> right on stream; other high-priority rights already leased by FWP);	3.25 cfs	April 1 – November 1
Bear & Pine Creeks	Upper Yellowstone	Active	Rights donated to FWP	Perpetuity	December 31, 1876; July 24, 1903 (includes most senior right)	10.83 – 10.98 cfs	January 1 – December 31

### Applications Pending Before DNRC

Rock & Stoughten Creeks	Upper Yellowstone	Pending	Private Party	30 years	July 10, 1895; May 29, 1902; October 26, 1904; April 24, 1906; May 5, 1909; June 1, 1909 (These are all the oldest rights on the streams)	2.56 cfs	May - October 10
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## FWP Instream Flow Change History as of November 2023

Big Creek	Upper Yellowstone	Pending	Private Party	5 years May 1, 2029**	June 30, 1873 (1 <sup>st</sup> right on stream) June 30, 1882 (2 <sup>nd</sup> right on stream)	1.58 cfs	May 1 - November 1
**Will expire at same time with other temporary change involving the same private party.							
<b>In-active leases/changes (terminated, not perfected or rescinded)</b>							
Mill Creek	Upper Yellowstone	Inactive	Mill Creek Water and Sewer District	Expired	95 rights with various priorities	41.4 cfs	48-60 hours in August Diversion shut off after 10-day notice from FWP
Mill Creek	Upper Yellowstone	Inactive	Private Party	Expired	June 30, 1880; June 1, 1903	2.0 cfs (1880) and 4.13 cfs (1903) (salvaged water)	May 1 -October 4
Mill Creek	Upper Yellowstone	Inactive	Private Party	Expired	June 1, 1891	2.64 cfs	May 1 – October 19
Blanchard Creek	Blackfoot	Inactive	Private Party	Lease rescinded	May 11, 1913 (first right on stream)	3.0 cfs	April 15 -October 15
Trail Creek	Clearwater	Inactive	Resort (and) Homeowners Association	Not perfected Lease rescinded	April 10, 1905 January 10, 1911	1.06 cfs 2.37 cfs plus, an additional 0.5 cfs during periods of low flow	April 1 - October 31.
Tin Cup Creek	Bitterroot	Inactive	Private Parties	Met statutory limit on renewals in place at that time.	August 1, 1883 (first right on stream)	2.28 cfs April 1-April 14 4.32 cfs April 15-April 30 4.72 cfs May 1-October 19	April 1- November 4
Hell Roaring Creek	Red Rock	Inactive	Private Party	Not perfected Lease rescinded – rights later withdrawn by owner.	May 26, 1900 October 25, 1901 September 24, 1915	8.0 cfs 4.0 cfs 6.0 cfs	May 1 – October 15 May 1 – October 15 May 1 – October 25
LaMarche Creek	Big Hole	Inactive	Private Party	Lease terminated at owner request due to conditions imposed by DNRC.	July 28, 1906; December 31, 1955	1.85 cfs / 2.0 cfs	May 15 – September 22
Deep Creek	Missouri	Inactive	City of Townsend	Lease terminated at request of owner.	April 1, 1866 April 2, 1866	1.88 cfs 0.16 cfs	April 1 – October 1