



# FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

*All sections must be addressed, or the application will be considered invalid*



## I. APPLICANT INFORMATION

A. Applicant Name: Katelin Killoy

Mailing Address: 730 ½ N Montana St.

City: Dillon State: MT Zip: 59725

Telephone: 406-596-1999 E-mail: Katelin.killoy@mt.gov

B. Contact Person (if different than applicant): \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_ E-mail: \_\_\_\_\_

C. Landowner and/or Lessee Name (if different than applicant): Dick Hirschy Cattle Co.

Mailing Address: PO Box 206

City: Wisdom State: MT Zip: 59761

Telephone: 406-689-3137 E-mail: \_\_\_\_\_

## II. PROJECT INFORMATION

A. Project Name: Dick Hirschy Upper Big Hole Stock Water System

River, stream, or lake: Big Hole River and its tributaries: Ruby Creek, Moose Creek, Swamp Creek, and Big Lake Creek

Location: Township: 2, 3, 4 South Range: 16 West Section: 3, 13, 30

Latitude: 45.62938,  
45.60726,  
45.48990 Longitude: -113.61862, -  
113.56803, -  
113.52749 *Within project (decimal degrees)*

County: Beaverhead

B. Purpose of Project: *(high level, focus on why the project is important)* \_\_\_\_\_

The purpose of this project is to increase healthy riparian habitat along the Big Hole River within the Arctic Grayling Big Hole CCAA. This project will drill one well and install two stock tank systems to improve riparian health and instream flows.

These projects will treat the primary resource concern of aquatic habitat for fish and other organisms through developing watering systems fed by wells, thus reducing stock water right diversions and improving instream flows during base flow conditions in the Big Hole River and associated tributaries. In addition, offsite water developments will reduce livestock degradation along riparian areas.

Secondary resource concerns benefited by installation of the proposed projects include; Soil - Reduced bank erosion along streams or water conveyance channels; Water – Reduced surface water depletion; Plant – Enhanced plant productivity and health; Animal – Adequate livestock water; Entrainment – Reducing irrigation withdrawals reduces the risk of grayling entrainment.

The Objectives of the project include the following:

1. Improve grazing timing.
2. Improve grazing distribution
3. Improve bank stability.
3. Maintain or improve cover of deep rooting species.
4. Improve water quality and temperature.
5. Improve instream flows

C. Brief Project Description (attach additional information to end of application). Please include the anticipated construction schedule:

Dick Hirschy Cattle Company is enrolled in the Candidate Conservation Agreement with Assurances for Arctic Grayling in the upper Big Hole River Program (CCAA). In cooperation with the CCAA program, Dick Hirschy Cattle Company has agreed to manage and improve riparian corridors in compliance with their CCAA site-plan. In 2025, the enrolled landowner determined that current water sources are inadequate in upland pastures. Stock water systems will provide Dick Hirschy Cattle Company to graze longer in upland pastures which allows longer rest in riparian pastures. Following the stock water development, Dick Hirschy Cattle Company will be able to better manage grazing distribution so riparian areas become resilient to short, intense grazing periods during the fall and winter (streambanks stable) rather than continuous grazing. One well will be drilled for future stock water development (Ruby Stock Water System) and two stock water systems will be installed (tanks, pipeline, pump, and electrical hookup; Ajax and Gibbonsville Stock Water Systems).

Scope of Work:

- Drill one well
- Install two pumps and connect electric system for stock tank systems
- Install 4 stock tanks with 2,400 feet of pipeline

This project builds on a watershed scale restoration effort for Arctic Grayling in the Big Hole River through the Candidate Conservation Agreement with Assurances Program (CCAA). The CCAA works with private landowners to address threats and implement conservation measures that benefit Arctic grayling and other native fish species.

D. What was the cause of habitat degradation and how will the project correct the cause?

Through landowner visits upland pastures were identified without reliable stock water. These pastures either have to leave a ditch on to water cattle or gates have to be left open to riparian pastures. The stock water systems will allow the landowners to turn off ditches when they are not needed for irrigation, or close gates to riparian zones and decrease pressure on riparian areas.

- E. Length of stream or size of lake that will be treated (project extent): 10 stream miles  
Length/size of impact, if larger than project extent (e.g., stream miles opened): N/A

F. Project Budget Summary:

**Grant Request (Dollars):** \$ 56,375.00

Matching Dollars: \$ 51,830.00

Matching In-Kind Services:\* \$ 4,545.00

*\*salaries of government employees are not considered matching contributions*

Other Contributions (not used as match) \$

**Total Project Cost:** \$ 112,750.00

- G. Attach itemized (line item) budget – see *budget template*

H. Attach project location map(s) that include:

☐ Extent of the project, including context (relation to major landmark or town)

☐ Indication of public and private property

☐ Riparian buffer locations and widths (if applicable) and grazing locations

I. Attach project plans:

☐ Detailed sketches or plan views with the location and proposed restoration

☐ Pre-project photographs (GPS location strongly recommended)

☐ If water leasing or water salvage is involved, attach a supplemental questionnaire  
(<https://myfwp.mt.gov/getRepositoryFile?objectID=36110>)

- J. Attach support letters or statements of (e.g., landowner consent, community or public support). For FWP statement, attach provided template. List any other project partners:

**Biologist statement from Ryan Kreiner**

III. **MAINTENANCE AND MONITORING** (attach additional information to end of application):

- A. A 20-year maintenance commitment is required\*. Please confirm that you will ensure this protection and describe your approach. Attach any relevant maintenance plans.

Yes ☒ No ☐

*\*If it is a water leasing project, describe the length of the agreement.*

This project is part of each Landowner's Site-Specific Conservation Plan (SSP) through the Big Hole Arctic Grayling CCAA. The SSPs address threats to Arctic Grayling on the landowner's property including riparian health and instream flow. The SSP is a 10-year agreement that has been signed in 2025 for Dick Hirschy Cattle Company. The enrolled landowner has implemented numerous conservation projects for Arctic Grayling in good faith and successfully improved habitat, stream flows and connectivity that have benefited Arctic grayling and other native and sportfish. The landowner has signed both MFWP and USFWS landowner agreements (20 and 10-year agreements, respectively).

- B. Will grazing be part of or adjacent to the project? If so, describe or attach land management plans, including short term and long term grazing regimes. If the landowner is not the applicant, please describe their involvement in the project. *If you want assistance with grazing plan development, note your need.*

Dick Hirschy Cattle Company are enrolled in the Arctic Grayling Candidate Conservation Agreement with Assurances program in the Big Hole (CCAA). In cooperation with the CCAA program, the landowner has continually worked with FWP on grazing schedules in compliance with their SSP. The current grazing plan call for a short duration fall grazing in riparian pastures. The stock water systems will allow the landowners better manage their grazing schedules.

- C. Will the project be monitored to determine if goals were met? If so, what are the short-term and long-term plans to assess benefits and lessons learned? Were pre-project data collected? Will monitoring information be shared with FWP?

The project will be monitored every five years as a part of the CCAA program using NRCS Riparian Assessment Method (NRCS 2004). Additionally, FWP annually monitors grayling abundance and genetic diversity downstream of the project area (on the other side of the highway from the project area). Ongoing large-scale restoration efforts in the Big Hole River have positively influenced the overall grayling population and provides resilience to drought and other threats identified in the State of Montana's Upper Missouri River Arctic Grayling Conservation Strategy (2022). Lastly, this project is anticipated to maintain or improve adequate stream temperatures. There is a thermograph on Big Lake Creek to monitor water temperature in other locations along the stream.

#### IV. PROJECT BENEFITS (attach additional information to end of application):

- A. What species of fish will benefit from this project?

Arctic grayling (*Thymallus arcticus*), a designated Species of Concern by the State of Montana.

- B. How will the project protect or enhance wild fish habitat?

Improved riparian health along the Big Hole River enhances grayling habitat by increasing tree cover and reducing sediment inputs into the stream. Additionally, increased tree cover helps to maintain cold water in the Big Hole River.

- C. What is the expected improvement to fish populations, both short term and long term? How might the project translate to angler success?

Improved riparian health of the Big Hole River will benefit Arctic grayling by maintaining cold water in important conservation reaches. This provides the public an opportunity to appreciate and catch a unique Montana species.

- D. Will the project increase public fishing opportunity for wild fish and, if so, how? Is public fishing allowed onsite? Is it allowed by permission? If not, describe how the public would benefit.

This project will increase public opportunity of a quality fishing experience by improving conditions for Arctic grayling persistence in the Big Hole River.

- E. Aside from angling, what local or large-scale public benefits will be realized from this project?

This project is part of an ongoing, large-scale habitat improvement program in the Big Hole River which has positively influenced grayling population levels since its inception. Improved riparian health of Ruby Creek, Big Lake Creek, and Swamp Creek equates to improved spawning and rearing conditions for grayling that migrate large distances within the Big Hole River, and more opportunity for the public to appreciate and catch a unique Montana species. Additionally, a stable and healthy grayling population eliminates the need to protect Arctic Grayling under the ESA, which would place restrictions on land-use and angling.

- F. Will the project interfere with water or property rights of adjacent landowners? (explain):

No. Project will not interfere with any water rights or property rights.

- G. Will the project result in the development of commercial recreational use on the site (including paid access)? Explain:

No. The project is located on a working ranch. There will be no development of commercial recreational use.

- H. Is this project associated with the reclamation of past mining activity?

No.

**Each approved project applicant must enter into a written agreement with Montana Fish, Wildlife & Parks specifying terms and duration of the project. The applicant must obtain all applicable permits prior to project construction. A competitive bid process must be followed when using State funds.**

**V. AUTHORIZING STATEMENT**

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature: Katelin Killoy Date: 5/15/2025

**Submittal: Applications must be signed and received on or before November 15 and May 15 to be considered for the subsequent funding period.** Late or incomplete applications will be rejected.

<p>Mail to: FWP Future Fisheries Fish Habitat Bureau PO Box 200701 Helena, MT 59620-0701</p>	<p>Email: Future Fisheries Coordinator <a href="mailto:FWPFFIP@mt.gov">FWPFFIP@mt.gov</a> (electronic submissions must be signed) For files over 10MB, use <a href="https://transfer.mt.gov">https://transfer.mt.gov</a> and send to <a href="mailto:mmcgree@mt.gov">mmcgree@mt.gov</a></p>
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# BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

Both tables MUST be completed appropriately or the application will be invalid. Please see the example budget sheet for clarification.

PROJECT COSTS					GRANT REQUEST AND FUNDING			
Work Items (Itemize by Category)	Number of Units	Unit Description*	Cost/Unit	Total Cost	FUTURE FISHERIES REQUEST	Matching Contributions (Cash or In- Kind)***	Other Contributions (Funds not used as match)	Total Funding
<i>*Units = feet, hours, cubic yards, etc. Do not use lump sum unless necessary.</i>								
<b>Personnel</b>								
Survey				\$ -				\$ -
Design				\$ -				\$ -
Engineering				\$ -				\$ -
Permitting	1	cultural	\$4,545.00	\$ 4,545.00		4,545.00		\$ 4,545.00
Oversight				\$ -				\$ -
Maintenance**				\$ -				\$ -
		Sub-Total		\$ 4,545.00	\$ -	\$ 4,545.00	\$ -	\$ 4,545.00
<b>Travel</b>								
Mileage				\$ -				\$ -
Per diem				\$ -				\$ -
		Sub-Total		\$ -		\$ -	\$ -	\$ -
<b>Construction Materials</b>								
Stock tanks	4	tanks	\$1,000.00	\$ 4,000.00	2,000.00	2,000.00		\$ 4,000.00
Pipeline	2400	feet	\$10.00	\$ 24,000.00	12,000.00	12,000.00		\$ 24,000.00
Drill Ruby Well	300	feet	\$85.00	\$ 25,500.00	12,750.00	12,750.00		\$ 25,500.00
Pump	2	pump	\$4,625.00	\$ 9,250.00	4,625.00	4,625.00		\$ 9,250.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
		Sub-Total		\$ 62,750.00	\$ 31,375.00	\$ 31,375.00	\$ -	\$ 62,750.00
<b>Equipment, Labor, and Mobilization</b>								
Stock Tank labor and mobilization	2	systems	\$17,727.50	\$ 35,455.00	20,000.00	15,455.00		\$ 35,455.00
Electric labor	2	systems	\$5,000.00	\$ 10,000.00	5,000.00	5,000.00		\$ 10,000.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
		Sub-Total		\$ 45,455.00	\$ 25,000.00	\$ 20,455.00	\$ -	\$ 45,455.00

CCAA Upper Big Hole Dick Hirsch Stockwater  
BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

016-2025

<b>OVERALL TOTALS</b>	\$ 112,750.00	\$ 56,375.00	\$ 56,375.00	\$ -	\$ 112,750.00
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**OTHER REQUIREMENTS:**

\*\*For projects that include a maintenance request, it cannot exceed 10% of the total project cost.

\*\*\*Match can include in-kind materials or labor. Justification for in-kind labor (e.g. hourly rates used) can be noted below. Do not use government salaries as match.

**Additional budget detail:**

**APPLICATION MATCHING CONTRIBUTIONS**

Total should equal match listed above; do not include requested funds

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
FWS Cultural	\$ 4,545.00	\$ -	\$ 4,545.00	Y
FWS Partner Program	\$ -	\$ 5,000.00	\$ 5,000.00	Y
State Wildlife Grant	\$ -	\$ 41,830.00	\$ 41,830.00	Y
GGTU	\$ -	\$ 5,000.00	\$ 5,000.00	N
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
<b>TOTALS</b>	\$ 4,545.00	\$ 51,830.00	\$ 56,375.00	

**OTHER CONTRIBUTIONS**

Total should equal other contributions listed above; these are funds not specically matched to the Future Fisheries application

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
Partners Program funding from USFWS for cultural surveys	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
<b>TOTALS</b>	\$ -	\$ -	\$ -	



# MONTANA FISH, WILDLIFE & PARKS

## Future Fisheries Improvement Program

### *Appendix: FWP Statement*

Project Title: Dick Hirschy Upper Big Hole Stock Water System

Please describe the potential impact of the project, including the priorities of the Fisheries Division and the importance to Montana's anglers.

The installation of off-channel stock tanks in the Upper Big Hole River has proven to be an incredibly effective way to restore riparian habitat and maintain adequate streamflow in the river and its tributaries. This project will directly benefit grayling by reducing irrigation withdrawal in Swamp Creek and the Big Hole River. It will also concentrate grazing in off-channel areas which will allow continued recovery of deep-rooted riparian vegetation, thereby improving bank stability. Reduced withdrawals from other area tributaries will also benefit flows in this highly utilized area of the Big Hole River near Wisdom, MT.

The upper Big Hole River CCAA program has been highly successful at improving the grayling population by addressing four primary threats: 1) Reduced Streamflows, 2) Degrading and non-functioning habitat types, 3) Barriers to grayling movement, and 4) The potential for grayling entrainment in irrigation ditches. It has been so successful that the US Fish and Wildlife Service specifically called out the program as a primary reason in their 2020 finding that Upper Missouri River Arctic grayling were not warranted for protections under the Endangered Species Act. Specifically, they state that *Conservation actions associated with the Big Hole CCAA and Strategic Habitat Conservation Plan have reduced water temperatures in tributaries, increased instream flows in tributaries and the mainstem Big Hole River, decreased the duration of stressful or lethal water temperatures for Arctic grayling, connected almost all core habitat so Arctic grayling can access thermal refugia if water temperatures become too warm in parts of the Big Hole River system, and improved riparian health.* Further, they conclude that *It is now apparent that these threats are being effectively mitigated on private land (Big Hole River) by conservation actions under the Big Hole CCAA and do not appear to be present or acting at a level to warrant concern on most of the other populations.*

Name of FWP Biologist Ryan Kreiner Date: 5/11/2025

*Please attach to the FFIP application and materials and submit according to listed deadlines.*

## APPENDIX E. Riparian Management Plan

This riparian management plan is intended to provide an adaptive approach for improving riparian habitat conditions identified as being “At Risk” on the Participating Landowner Ranch within the 15-year timeline for sustainability. The agencies and Participating Landowner met during Spring of 2024 to discuss management alternatives for this riparian management plan. As identified in the conservation actions for Riparian Zone Conservation and Restoration of site-specific plan, the following “At Risk” riparian reaches require riparian management development to improve toward “Sustainable” conditions:

### *Proposed Action:*

Throughout the Ruby, Dudley, and Home units there is a presence of *Cirsium arvense* (thistle) that needs treatment.

### **Ruby Unit**

The riparian habitat along Governor Creek (Reach K), Swamp Creek (Reaches I1, I4, and I5), and Trail Creek (Reach Q) on the enrolled property were considered “Sustainable” in 2022. The riparian habitat along Ruby Creek (Reaches B, C, and R), Swamp Creek (Reaches I2 and I3), Moose Creek (Reach J), and Butler Creek (Reach L) rated “At Risk” in 2022 (Figure 11).

### *Swamp Creek:*

Reach I2 rated “At Risk” with a score of 60% due to human induced lateral erosion on the outside banks, high width-depth ratios, low cover of riparian/wetland vegetation, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*, and heavy browse on available trees and shrubs.

Riparian fence was installed in 2012 along Swamp Creek (Pastures 4 and 5) to provide the infrastructure necessary to implement a riparian grazing plan for this site-specific plan. The Agencies recommend grazing in this pasture to be deferred to September 1st or as late as possible. The Agencies recommend short duration grazing with at least 45-day rest following each grazing event with utilization not to exceed (50%). Gates into the enclosure will be left open, so when grazed, the riparian area will be grazed in conjunction with the larger pasture. Depending on weather conditions (i.e., precipitation) and forage availability, grazing duration may be less than 45 days. Additionally, a stockwater system was identified in pasture 7 across Gibbonsville Road to alleviate pressure on the streambank from cows watering.

### *North Fork Miner Creek*

Reach S rated “At Risk” with a score of 55% due to recovering human induced incision, lateral erosion on outside banks due to cattle trailing, high width to depth ratio, low cover

of riparian/wetland vegetation, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*, and low willow establishment.

Outside banks along Miner Creek will be identified for streambank restoration by sloping the bank to the appropriate dimension and planting mature *Salix* and native *Carex* sod mats to improve channel function, bank stability, and reduce sediment loss. Identification of banks to in need of streambank restoration is planned for 2025. After restoration the Agencies recommend willow enclosures to encourage establishment.

#### *Butler Creek:*

Reach L rated “At Risk” with a score of 73% due to legacy human induced incision, human induced lateral erosion primarily on the outside banks, high width to depth ratio, and high colonization of introduced graminoids. The Agencies recommend grazing in this pasture to be deferred to September 1st or as late as possible. The Agencies recommend short duration grazing with at least 45-day rest following each grazing event with utilization not to exceed (50%). If infrastructure such as fencing, stock tanks, or irrigation improvements is needed to allow fall grazing then infrastructure will be considered and prioritized as identified and agreed upon by the landowner and the Agencies.

#### *Moose Creek:*

Reach J rated “At Risk” with a score of 62% due to human induced lateral erosion, low cover of riparian/wetland vegetation, high colonization of introduced graminoids, and light browsing on available trees and shrubs. Infrastructure such as stock tanks or irrigation improvements may further improve these reach conditions. Infrastructure will be considered and prioritized as identified and agreed upon by the landowner and the Agencies. Additionally, the Agencies recommend willow staking along this reach.

#### *Ruby Creek*

Reach B rated “At Risk” with a score of 63% due to legacy human induced incision, lateral erosion due to cattle trailing, high width to depth ratio, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*, and light browsing on available trees and shrubs. This reach had a large decline from the last assessment due to cattle trailing. The Agencies recommend grazing in these riparian pastures to be deferred to September 1<sup>st</sup> or as late as possible. If it is not possible to defer grazing, then the Agencies recommend short duration grazing with a 45-day rest interval days rest following each grazing event with utilization not to exceed (50%). Additionally fencing out a stream crossing can reduce lateral erosion across the reach.

Reach C rated “At Risk” with a score of 78% due to human induced lateral erosion primarily on the outside bank, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*. The reach is primarily influenced by lateral erosion from cattle trailing to access water. Infrastructure such as stock tanks or irrigation improvements may further improve these reach conditions. Infrastructure will be

considered and prioritized as identified and agreed upon by the landowner and the Agencies.

Reach R rated “At Risk” with a score of 78% due to human induced lateral erosion primarily on the outside bank, high width to depth ratio causing an imbalance with the sediment and waters supplied, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*. Beaver dam notching may be implemented in this reach to facilitate sediment movement. Select areas along these reaches will likely benefit from willow plantings to improve bank stability and cover. This will be identified by the Agencies and agreed upon in selected areas with the landowner. If this reach does not improve then the Agencies suggest using streambank restoration by sloping the bank to the appropriate dimension and planting mature *Salix* and native *Carex* sod mats to improve channel function, bank stability, and reduce sediment loss

### **Dudley Unit**

The riparian habitat along Sumrum Creek (Reaches D, E1, and E3), Big Lake Creek (Reaches P and U), and the Big Hole River (Reaches G and H) rated “Sustainable” in 2022. The riparian habitat along the Sumrum Creek (E2, F1, and F2), Big Lake Creek (Reaches T and V) were all considered “At Risk” in 2022. Changes in grazing management along riparian areas in Pastures 9–14, along with increased noxious weed management have improved the riparian condition (Figure 12).

#### *Big Lake Creek*

Reach T rated “At Risk” with a score of 72% due to a high width to depth ratio, low cover of riparian/wetland vegetation, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*, and light browsing on available trees and shrubs from wildlife. The Agencies recommend grazing in these riparian pastures to be deferred to September 1<sup>st</sup> or as late as possible. If it is not possible to defer grazing, then the Agencies recommend short duration grazing with a 45-day rest interval days rest following each grazing event with utilization not to exceed (50%).

#### *Sumrum Creek:*

Reach E2 rated “At Risk” with a score of 58% due to human induced lateral erosion on both the outside and inside banks, high width to depth ratio, low cover of riparian/wetland vegetation, high colonization of introduced graminoids, and low willow establishment. The Agencies suggest willow staking along this reach and potential riparian fencing.

Reaches F1 and F2 of Sumrum Creek rated “At Risk” with a score of 72% and 77% respectively due to a high width to depth ratio, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*, and browsing on available trees and shrubs. These reaches have good grazing pressure and to bring these reaches to a “Sustainable” rating the Agencies suggest willow staking.

## Home Unit

The riparian habitat along Big Hole River (A1), Little Lake Creek (Reach M and N), Big Swamp Creek (Reach S), and North Fork of Miner Creek (Reach S) rated “Sustainable” in 2010. Riparian habitat along the Big Hole River (Reach A2), Miner Creek (Reach O), and North Fork of Miner Creek (Reach R) was considered “At Risk” in 2022 (Figure 13).

### *Miner Creek:*

Reach O of Miner Creek rated “At Risk” with a score of 73% due to a high width to depth ratio, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*, and low willow establishment. This reach is static which is likely due to a lack of willow establishment. The Agencies recommend willow staking along this reach.

### *Big Hole River:*

Reach A2 rated “At Risk” with a score of 65% due to human induced stream downcutting, human induced lateral erosion primarily on the outside banks, high width to depth ratio resulting in an imbalance of the water and sediment supplied, low cover of riparian/wetland vegetation, high colonization of introduced graminoids, low cover of the noxious weed *Cirsium arvense*. The construction of riparian fence, cattle crossing, and off-site stock water system was completed in 2007 and 2008, and the channel and riparian habitats were restored in 2007. A 1.5-mile section of riparian habitat on the Big Hole River was not grazed from 2007 to 2012 (Pasture 17; Figure 5). Under the terms and conditions of this site-specific plan and the CCAA (FWP and USFWS 2006), Participating Landowner have been able to graze the riparian habitat along the Big Hole River in the enclosed area in conjunction with the adjacent pasture starting September 1<sup>st</sup> every year since 2012.

## Woody Unit

The riparian habitat along Governor Creek (Reach K) rated “Sustainable” in 2022 (Figure 14). This is the only riparian reach on the Woody Unit. Because this reach rated “Sustainable” during the original assessment, grazing practices along this riparian area are at the discretion of Participating Landowner unless results of the 2027 and 2032 riparian assessments determine a decline in riparian habitat conditions (Pasture 18). If conditions have changed, results of the re-assessments will be used to develop a riparian grazing plan for this reach to be used as a guideline for grazing riparian habitats along Governor Creek for the remainder of this site-specific plan.

CCAA Upper Big Hole Dick Hirschy Stockwater 016-2025



Source: Esri, DigitalGlobe, GeoEye, Earthstar  
Geographics, CNES/Airbus DS, USDA, USGS,  
AeroGRID, IGN, and the GIS User Community

USGS Ajax Ranch MT  
T4S, R16W Sec. 12 & 13



















