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*Application for funding from Bureau of Reclamation's  
WaterSMART: Cooperative Watershed Management Program  
Grants for FY 2016.*

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# A PROPOSAL TO FURTHER DEVELOP THE BEAVERHEAD WATERSHED COMMITTEE

Building Partnerships Upstream in the Headwaters of the Missouri River

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## Acronyms and Abbreviations

BLM	Bureau of Land Management
BWC	Beaverhead Watershed Committee
CCAA	Candidate Conservation Agreement with Assurances
CCWSC	Clark Canyon Water Supply Company
cfs	cubic feet per second
CWMP	Cooperative Watershed Management Program
DEQ	Montana Department of Environmental Quality
DNRC	Montana Department of Natural Resources & Conservation
EBID	East Bench Irrigation District
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FWP	Montana Fish, Wildlife and Parks
HUC	Hydrologic Unit Code
NGO	Non-government organization
NRCS	Natural Resources Conservation Service
TMDL	Total Maximum Daily Load
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WRP	Watershed Restoration Plan
WUIC	Water Users Irrigation Company

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## Executive Summary

The Beaverhead Watershed Committee (BWC) is an existing watershed group in the headwaters of the Upper Missouri Basin. It is based out of the City of Dillon in Beaverhead County, Montana. BWC submits this application for Phase I of Reclamation's 2016 Cooperative Watershed Management Program (CWMP) under Task B – Further Development of an Existing Watershed Group. BWC would like to further develop partnerships with communities and stakeholders above Clark Canyon Dam, including in the Red Rock and Horse Prairie watersheds. Recent BWC stakeholder strategic planning meetings identified the need for the group to engage in the following CWMP Phase I Eligible Activities: (Activity 1) further development of a watershed group; (Activity 3) development of watershed management project concepts; and (Activity 4) development of a watershed restoration plan (WRP). Critical watershed needs which BWC stakeholders would like to address by engaging in CWMP Phase I activities include assessing causes of recent algal blooms in Reclamation's Clark Canyon Reservoir and the Beaverhead River, and developing algal bloom mitigation and response strategies; addressing water quality impairments over a larger landscape through the total maximum daily load (TMDL) process; protecting Montana Fish Species of Concern such as Arctic grayling and Westslope Cutthroat Trout; supporting the improvement of water rights administration in the Red Rock watershed; and improving economic and environmental resilience to drought. CWMP project funds will be used to cover BWC staff time; travel costs; development and delivery of outreach materials and activities; organization of stakeholder meetings; coordination with Federal agencies and state and local government; support for data collection, research, and project planning; obtaining mapping and other technical services; and paying staff, facilitators and consultants to assist with development of the WRP. The proposed work is estimated to be completed no later than September 2018.

## Background Data

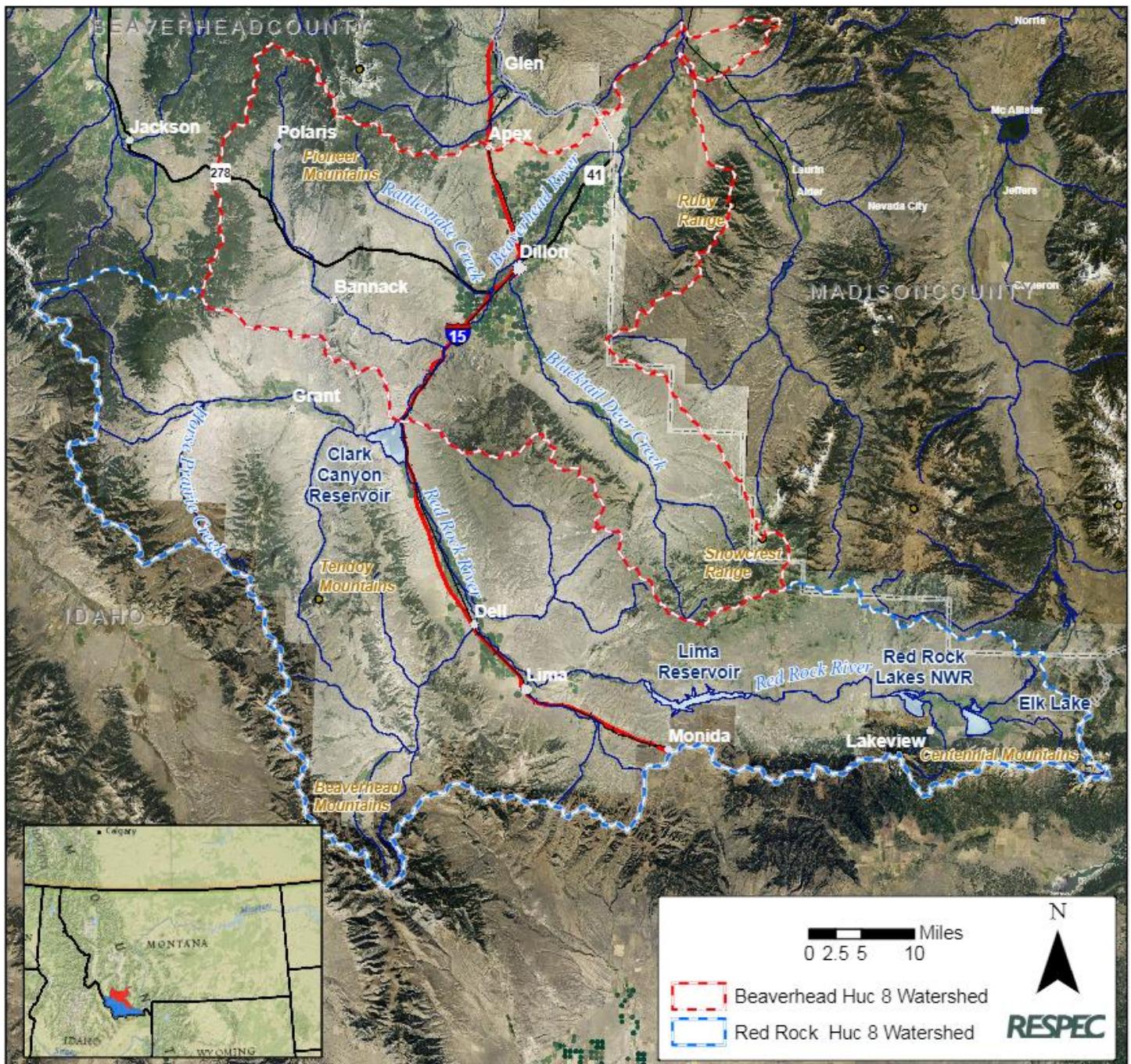
### Overview

BWC currently serves the Beaverhead Watershed (HUC 10020002) which has a drainage area of approximately 1460 square miles. The source of the Beaverhead River is Reclamation's Clark Canyon Dam. Clark Canyon Reservoir impounds inflows from Horse Prairie Creek and the Red Rock River (which together make up HUC 10020001), which have a total drainage area of approximately 2330 square miles. BWC would like to further develop its outreach, planning, and restoration activities by building partnerships with upstream stakeholders in the Red Rock and Horse Prairie watersheds where no watershed groups are currently active.

### Watershed Geography

The Beaverhead Watershed and its headwaters are located in southwestern Montana, mostly within Beaverhead County with small portions in Madison County. It is a snowmelt-driven system situated on the eastern boundary of the Continental Divide at the headwaters of the Missouri River. Elevations range from around 4,600 feet along the Beaverhead River to over 11,000 feet in the Pioneer Mountains. The Beaverhead River can trace its

highest source to Hell Roaring Creek, which is the highest source of the Missouri River. Hell Roaring Creek flows into Red Rock Creek, which is the primary source of the Red Rock Lakes National Wildlife Refuge in the Centennial Valley. The Refuge is the largest wetland complex in the Greater Yellowstone Ecosystem, and the Centennial Valley is a significant source water supply region for the Beaverhead River. The Red Rock River flows west out of the Red Rock Lakes and is impounded by Lima Dam before it exits the Centennial Valley. Below Lima Dam, the Red Rock River flows 57 miles northwest past the towns of Lima and Dell and is supplemented by tributaries Little Sheep Creek and Big Sheep Creek from the west, and Sage Creek from the east. Reclamation's Clark Canyon Dam impounds flows from the Red Rock River and Horse Prairie Creek. Clark Canyon Dam marks the beginning of the Beaverhead River, which meanders 79 miles northeast past the City of Dillon until it's confluence with the Big Hole River near the town of Twin Bridges, at which point it becomes the Jefferson River. The Jefferson River flows northeast for 83 miles until it joins the Gallatin and Madison Rivers near the town of Three Forks to from the Missouri River. Notable tributaries of the Beaverhead River include Grasshopper Creek and Rattlesnake Creek from the west, and Blacktail Deer Creek and the Ruby River from the east.

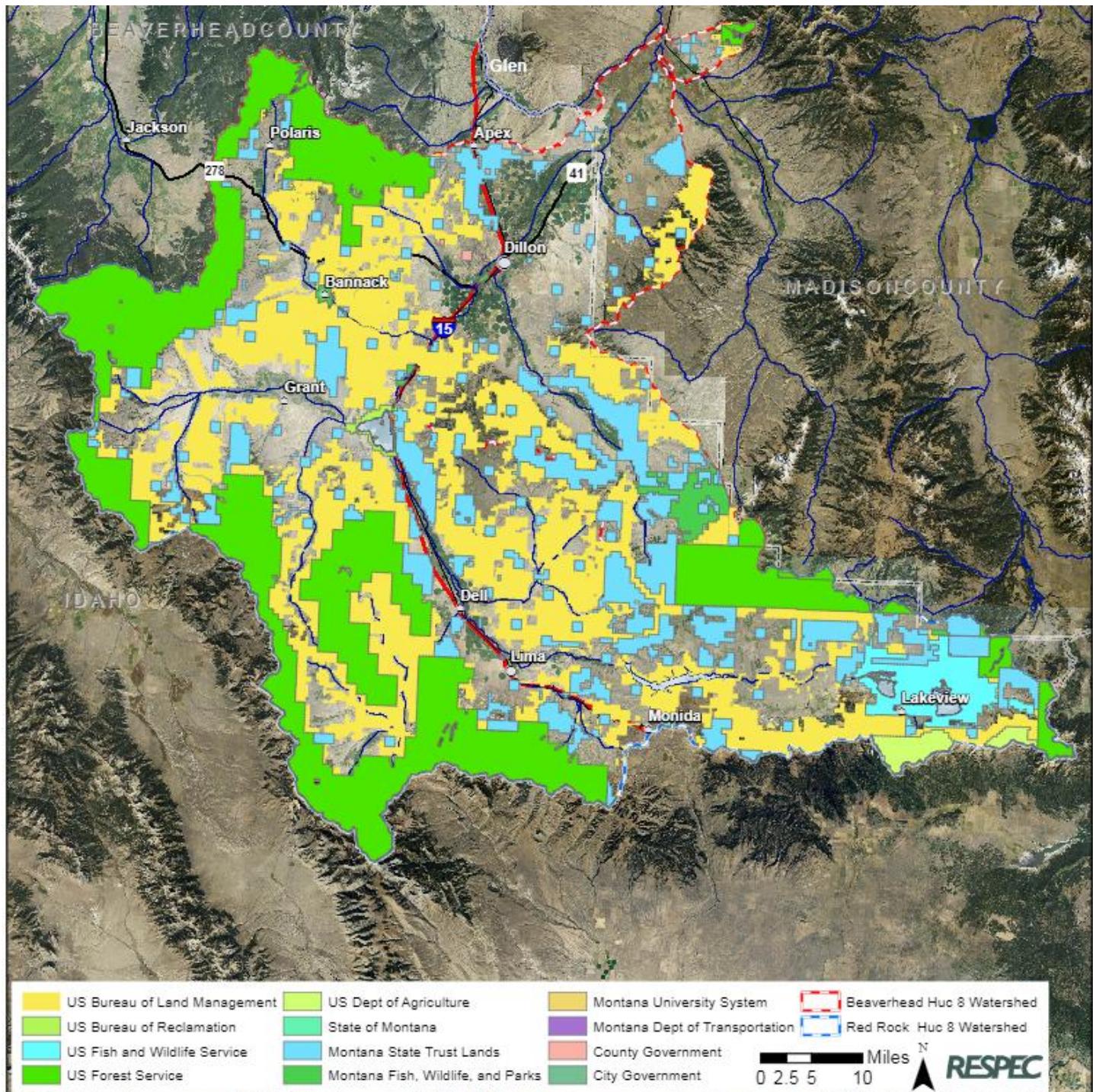


**Figure 1. Beaverhead (red outline) and Red Rock (blue outline) watersheds in southwest Montana.**

## Land Use

Beaverhead County's 3.55 million acres are comprised of 59% federal land (USFS, BLM, Reclamation, USFWS), 10% state land (DNRC, FWP), and 31% private land. Of the county's 9,341 residents (US Census, 2013), about 20% rely upon agriculture and forestry for their livelihood. According to the Montana Department of Agriculture, Beaverhead County was the top beef producing county in Montana and the third highest sheep producing county in 2013. Approximately 80% of the 97,200 acres harvested in Beaverhead County in 2012 were feed crops such as alfalfa and hay, while the other 20% consisted primarily of spring wheat, barley, and

seed potatoes. Most, if not all of these acres are irrigated. There are more than two million acres of range providing excellent summer and fall forage for cattle and sheep. Therefore, many producers cycle their livestock between their private pasture lands in the winter and spring, and public land grazing allotments during the summer and fall. The agricultural economy in Beaverhead County suffers disruptions when drought conditions limit available water supplies for irrigation, and inhibit forage production on the landscape.



**Figure 2. Land ownership in the Beaverhead and Red Rock watersheds.**

The Beaverhead River is a blue ribbon trout fishery that is renowned for the abundance and size of brown trout in its waters. The Beaverhead Watershed and its headwaters also support other fish species such as rainbow trout, brook trout, Westslope Cutthroat Trout, Arctic grayling, mountain whitefish, burbot, common carp, longnose dace, longnose sucker, Rocky Mountain sculpin, and white sucker. Therefore, angling recreation and tourism is another vital component of the local economy. The most common impacts to this industry due to drought are low stream flows and high stream temperatures, which can stress and kill fish, impair water quality, trigger angling restrictions, and discourage recreation and tourism. This not only affects local outfitting businesses, but also local hotels, restaurants, and other businesses.

## Infrastructure

Irrigation methods in the Beaverhead Watershed and its headwaters include flood, hand-line, wheel-line, and center pivot. The watershed is in the midst of a decades-long transition process from older methods like flood and hand-line to the less labor intensive systems of wheel-line and center pivot. This transition is changing the timing and amount of return flows throughout the basin due to increased irrigation efficiency. Flood irrigation is a more common method in source watersheds like Big Sheep Creek, Sage Creek, Grasshopper Creek, Blacktail Deer Creek, and the Centennial Valley. The Beaverhead and Red Rock Rivers have the most developed irrigation infrastructure and largely consist of sprinkler irrigation, though much flood irrigation still exists in their floodplain areas.

Lima Dam, which impounds the Red Rock River, was originally constructed in the early twentieth century and has a storage capacity of 75,180 acre feet. Below Lima Dam is land irrigated by the Water Users Irrigation Company (WUIC), which privately owns and operates Lima Dam and utilizes the Red Rock River as its principal conveyance feature. The Red Rock River flows into Reclamation's Clark Canyon Reservoir from the south.

The East Bench Unit of the Pick-Sloan Missouri Basin Program is along the Beaverhead River. The unit provides supplemental irrigation service to 24,848 acres and 3,156 acres which receive no additional water because early priority water rights provide an adequate supply. Principal features include Clark Canyon Reservoir, Barretts Diversion Dam, East Bench Irrigation District (EBID) and Clark Canyon Water Supply Company (CCWSC). Clark Canyon Reservoir has a total capacity of 257,152 acre-feet which includes an active capacity of 126,117 acre-feet, a joint use capacity of 50,436 acre-feet, and an exclusive flood control capacity of 79,090 acre-feet as well as dead storage and inactive storage capacities. The reservoir surface area is 5,903 acres.

Clark Canyon Dam was completed at the head of the Beaverhead River in 1964 to impound surplus flows of Horse Prairie Creek and the Red Rock River, which join to form the Beaverhead River. Water stored at Clark Canyon Reservoir is released into the Beaverhead River for downstream irrigation. Barretts Diversion Dam, located 11 miles downstream from Clark Canyon Dam, diverts water from the Beaverhead River into the East Bench Canal and the Canyon Canal. The East Bench Canal is 53 miles in length and has a full capacity of about 440 cfs. In 2004 the East Bench Canal and EBID did not receive any water due to drought conditions. As a result, several private domestic wells on the East Bench experienced disruptions, and the East Bench Canal lost the seal that is created by water seepage into the subsurface and subsequent freezing during winter. According to EBID, the seal on the Canal has still not recovered to the pre-2004 level of integrity. CCWSC operates the

West Side Canal which is 21 miles in length and diverts water at Dillon to irrigate roughly 6,855 acres on the west side of the Beaverhead River. The West Side Canal has a capacity of about 160 cfs.

There is a proposal to install hydropower facilities at Clark Canyon Dam by 2017. The hydropower facilities will operate under run-of-the-river conditions, and there will be no storage or use rights for hydropower. The principal investor in the facilities is Clark Canyon Hydro, LLC, whose parent company is headquartered in Toronto, Ontario. The electricity generated will be transmitted to Idaho for use by Idaho Power Company's grid system. The hydropower facilities will operate during the irrigation season when Clark Canyon Dam releases are highest. Operation of the hydropower facilities will require a minimum of 80 cfs releases from Clark Canyon Dam, and therefore they will not have sufficient flows to operate during most winters.

## Beaverhead Water Rights

The Beaverhead Watershed, along with the rest of the Upper Missouri River Basin, was closed to all new surface water right appropriations in 1993 because the basin was deemed by the Montana Department of Natural Resources & Conservation (DNRC) to be over-allocated. DNRC's Water Adjudication Bureau is currently assisting the Montana Water Court in the adjudication of all claims to pre July 1, 1973 water rights. Preliminary decrees have been issued for the Beaverhead and Red Rock river basins. It is unknown exactly when the statewide adjudication process will be complete, but it is anticipated to be sometime between 2017 and 2020.

The water right claims for Clark Canyon Reservoir are for 257,152 acre feet of water for irrigation, flood control, fish and wildlife, recreation, municipal and industrial, and other uses. The water right claims have February 21, 1961 priority dates. Historically, there were insufficient flows in the Beaverhead River after snowmelt runoff to satisfy the irrigation demands in the basin prior to construction of the reservoir. This is evidenced by the fact that there is an existing old decree in the basin. Clark Canyon Reservoir was constructed to store water during periods of excess flow, normally spring snowmelt runoff, then release water to the Beaverhead River to provide water to EBID. EBID water rights are enforced by a district court-appointed water commissioner. Reclamation also entered into a contract with water users who had decreed water rights prior to construction of Clark Canyon Reservoir. This group of existing water users formed the CCWSC and entered into a contract for supplemental water from the reservoir. CCWSC is generally guaranteed 4 acre feet of water per acre by contract, which includes the amount of water diverted under their direct flow water rights. Water can be stored under this right any time that downstream senior rights are satisfied.

The blue ribbon tail water trout fishery on the Beaverhead River does not have an instream flow water right. However, releases are made to maintain the fishery in the Beaverhead River so long as they do not jeopardize the irrigation water supply. There is a minimum flow requirement of 25 cfs at the low point of the river, regardless of where that low point is.

## Red Rock Water Rights

The Red Rock decree, case 576, is the result of a suit filed in 1896. It names the owners of every operating ditch on the reach of the river from one mile east of Lima to the plaintiff's ditch about 4 miles below Dell as defendants. The decree was issued August 21, 1899. There were 49 decreed separate rights issued, all still in use

today. The total quantification required 7,870 miner inches (196.75 cfs) to fill all this decree. The WUIC water right for storage in Lima Dam is not decreed, it is based on an appropriation for 1,000,000 miner inches. The WUIC right is junior to all of the Red Rock decreed rights.

There is another decree on the Red Rock extending from the lower end of the 576 decree to CCR. This is the remnant of the 828 Beaverhead Decree left after the completion of Reclamation's Clark Canyon Dam in 1964. There are 15 ditches involved here requiring a total of 5,184 miner inches (129.6 cfs). In the past the return flow waters have more than supplied their needs.

The decreed rights apply only to the natural flow of the river defined as the flow absent any water from storage. Inflows into Lima Dam are not measured, but can be calculated from outflows and changes in storage. The natural river flow includes inflow to the dam plus accretions from tributaries and returns from irrigation.

The nature of the Red Rock River divides it into two reaches, one from Lima Dam to the Red Butte near Dell, the other from Dell to Clark Canyon Reservoir. The irrigated lands of the upper reach are light and porous and require constant and heavy applications of flood water. Records indicate as much as 6 to 8 acre feet per season. Much of this water percolates down into the underground aquifer and reappears as springs and running streams about four to six weeks later. These return flows have been estimated at as much as 250 cfs. In the mid 1930's, state engineers completed a study of stream flow on the Red Rock and concluded that the return flow near Armstead (which was submerged with the construction of Clark Canyon Reservoir) was 50% of the original flow. These waters played a large role in the management of the resource. Since about the year 2000 the increase in the use of sprinkler irrigation has brought on a marked decrease in return flow volume. This, along with the uncertainty associated with the outcome of the State of Montana's ongoing re-adjudication efforts in the area present challenges that will require WUIC to adapt their water management practices.

<b>Stream</b>	<b>Number of Claims</b>	<b>Earliest Private Priority Date</b>	<b>Latest Private Priority Date</b>	<b>Earliest Public Priority Date</b>	<b>Latest Public Priority Date</b>
Beaverhead River	963	1865	1998	1858 (BLM)	1985 (FWP)
Grasshopper Creek	171	1860	1967	1858 (BLM)	1985 (FWP)
Blacktail Deer Creek	338	1864	1973	1858 (BLM)	1985 (BLM)
Rattlesnake Creek	188	1865	1979	1865 (City of Dillon)	1906 (USFS)
Red Rock River	620	1870	1997	1858 (BLM)	2002 (BLM)
Little Sheep Creek	79	1885	1971	1906 (USFS)	1932 (State of MT)
Big Sheep Creek	65	1883	1982	1858 (BLM)	1985 (BLM, FWP)
Sage Creek	89	1883	1973	1858 (BLM)	1973 (State of MT)
Red Rock Creek	26	1900	1930	1888 (USFWS)	1999 (USFWS)
Horse Prairie Creek	295	1865	1973	1858 (BLM)	1985 (FWP)
Medicine Lodge Creek	70	1871	1970	1858 (BLM)	1985 (BLM)
Bloody Dick Creek	68	1865	1929	1906 (USFS)	1985 (FWP)

## Current Water Uses

Current surface water uses in the Beaverhead, Red Rock, and Horse Prairie watersheds include flood and sprinkler irrigation; storage; on-stream and off-stream stock water; mining; industrial; instream flows; fisheries and wildlife habitat; and recreation. Current groundwater uses include a few permitted irrigation wells; upland

stock water wells; municipal and domestic water supplies; industrial; firefighting; and pollution abatement. The City of Dillon and the Town of Lima both get their municipal water supplies from groundwater. Almost all homes not on municipal water systems have private domestic groundwater wells. Currently no water is used to generate hydropower. However, the Federal Energy Regulatory Commission (FERC) is reviewing a permit application to install hydropower facilities on Clark Canyon Dam, so this may become an additional use in the near future.

## Watershed Issues

Key watershed issues that the BWC would like to address using Reclamation's CWMP funding include:

- Recent unprecedeted algal blooms in Reclamation's Clark Canyon Reservoir and the Beaverhead River which have negatively affected the local recreation and tourism economy, and caused problems for irrigation infrastructure.
- TMDLs and water quality impairments related to sediment, temperature, nutrients, and metals.
- Preservation of Montana Fish of Special Concern such as adfluvial Arctic grayling and Westslope Cutthroat Trout.
- Water rights administration challenges in the Red Rock River system immediately upstream from Reclamation's Clark Canyon Reservoir.
- Building drought resiliency and drought early warning systems.

These watershed issues are described in more detail in *Evaluation Criterion B: Addressing Critical Watershed Issues and Needs*, and *Evaluation Criterion D: Building Drought Resilience*.

## Technical Proposal

### Description of Applicant

BWC is a grassroots, non-regulatory entity that was established in 2001 to be the local point of contact for the TMDL planning process. Its fiscal agent is the Beaverhead Conservation District, which is a local government entity. BWC's mission is to seek an understanding of the Beaverhead Watershed – how it functions and supports the human communities dependent upon it – and to build agreement on watershed-related planning issues among stakeholders with diverse viewpoints. It's steering committee is comprised of local stakeholders who represent irrigated agricultural production, livestock grazing, angling recreation and tourism businesses, and private property owners. The steering committee makes decisions on a consensus basis, as defined by the bylaws of the watershed group, and in consultation with local, state, and Federal agencies. BWC has demonstrated that it is capable of addressing water availability and quality issues in the Beaverhead Watershed through its participation the National Drought Resilience Partnership; implementation of TMDL projects established in the previous iteration of its WRP; and fisheries improvement projects such as the Poindexter Slough restoration.

## **Eligibility of Applicant**

BWC is eligible to receive an award to fund activities under Task B because it is a grassroots, non-regulatory entity; and it is under fiscal supervision Beaverhead Conservation District in Dillon, Montana, which is a local government entity. Since 2001, BWC has demonstrated that it is capable of promoting the sustainable use of water resources through successful collaboration on and implementation of numerous water management projects throughout the Beaverhead Watershed. A description of BWC's past accomplishments can be found in *Sub-Criterion No. B2. Watershed Group Contributions that Address Watershed Needs or Issues*.

## **Goals**

BWC is seeking funding to perform Task B – Further Developing an Existing Watershed Group. The primary objectives of this funding application are to (1) support BWC's efforts to build partnerships with stakeholders in the Red Rock and Horse Prairie watersheds (HUC 10020001) upstream of Reclamation's Clark Canyon Reservoir; (2) work with stakeholders and agencies to develop watershed management project concepts to address water availability and water quality issues across a larger landscape; and (3) develop a new Watershed Restoration Plan which supports the implementation of these watershed management projects.

The previous iteration of the Beaverhead Watershed Restoration Plan was developed in 2013 and implementation of the projects in that Plan was completed in 2015. The 2013 Beaverhead WRP only covered the Beaverhead Watershed (HUC 10020002). Stakeholder input to BWC has identified several goals for an updated WRP, including planning and implementing watershed management and restoration projects in the Red Rock and Horse Prairie watersheds (HUC 10020001); assessing causes of recent algal blooms in Reclamation's Clark Canyon Reservoir and the Beaverhead River, and developing mitigation and response strategies; protecting aquatic species habitat; and incorporating drought resiliency concepts.

## **Approaches to the Four CWMP Activities**

The following is a description of how BWC will approach each of the four required activities of Reclamation's CWMP, along with approximate timelines and completion dates provided in parentheses.

### Activity 1: Further Development of BWC

- BWC representatives including its watershed coordinator, staff, steering committee members, and hired facilitators/consultants will travel to the Red Rock and Horse Prairie watersheds twice per week on average to gather input about critical watershed issues and needs from landowners, water users, and stakeholder groups through meetings, workshops, and site visits. (*October 2016 – September 2018*)
- BWC will submit an application to host an AmeriCorps – Big Sky Watershed Corps member to support further development of the watershed group. Big Sky Watershed Corps is offered through a partnership with the Montana Association of Conservation Districts, Montana Conservation Corps, and the Montana Watershed Coordination Council. The program is designed to assist Montana's watershed communities to make a measurable difference in local conservation efforts while strengthening the experience of young professionals. Participants focus on watershed research, planning and project implementation,

watershed education and outreach, and community engagement. (*AmeriCorps – Big Sky Watershed Corps members will serve from January through mid-November of 2017 and 2018*)

- BWC will work to build trust with upstream stakeholders by familiarizing them with its mission, membership, watershed management strategies, and past accomplishments. This effort will require further development and dissemination of brochures, ads, videos, and website materials to ensure ample access to information for new stakeholder partners. (*October 2016 – September 2018*)
- BWC will seek a local watershed stakeholder from the Red Rock or Horse Prairie watersheds to serve on its steering committee, represent their community's perspective on watershed issues, and support outreach activities. (*October 2016 – September 2018*)

#### Activity 2: Mission Statement

- Because BWC is an existing watershed group, it has already developed a mission statement. BWC's mission is to seek an understanding of the Beaverhead Watershed – how it functions and supports the human communities dependent upon it – and to build agreement on watershed-related planning issues among stakeholders with diverse viewpoints.
- BWC's approaches to further development of the watershed group, development of watershed management project concepts, and development of the WRP will be guided by its mission statement.
- BWC will remain open to input from new stakeholder participants about its existing mission statement, and may make adjustments to it if the steering committee deems necessary.

#### Activity 3: Development of Watershed Management Project Concepts

- BWC held strategic planning workshops in March 2016 which invited stakeholders in the Beaverhead Watershed to identify priority watershed areas and issues. These workshops were well attended by stakeholders with diverse viewpoints. Many stakeholders identified the need to assess upstream watershed issues in the Red Rock and Horse Prairie watersheds, which is one reason for the submission of this grant proposal.
- BWC will need to hold additional meetings and workshops that offer stakeholders in the Red Rock and Horse Prairie watersheds opportunities to contribute their perspectives and input on water availability, quality, and management issues and strategies in their watersheds. (*October 2016 – April 2018*)
- BWC will familiarize new stakeholder participants with watershed management concepts that it has applied in past projects including culvert replacement, riparian revegetation, stream channel and bank restoration, fish habitat improvement, stock water fencing, and off-stream stock water. BWC will gather input from new stakeholders about ideas for where these project concepts may be applicable in the Red Rock and Horse Prairie watersheds. (*October 2016 – April 2018*)
- BWC will continue to work closely with agencies such as Reclamation, FWP, DEQ, DNRC, NRCS, BLM, USFS, and USFWS to incorporate their input into the development of watershed management strategies. These activities will include:
  - Continuing to work with Reclamation, FWP, and DEQ to assess contributing factors to the algae bloom problems in Clark Canyon Reservoir and the Beaverhead River, develop mitigation strategy options, and keep stakeholders informed. (*Ongoing*)
  - Continuing to support DEQ's TMDL sampling for sediment, nutrients, metals, and temperature throughout the watershed by contacting landowners and seeking their permission for DEQ

- samplers to access sampling sites on private lands. The Red Rock and Horse Prairie watersheds are next on DEQ's sampling schedule. (*Ongoing*)
- Consulting with land management agencies including BLM, USFS, USFWS, and DNRC about watershed management recommendations and project concepts on public lands. Watershed assessments and resource management plans developed by these agencies often provide useful information and recommendations for developing watershed management project concepts. These activities will be imperative given that a large percentage of the Beaverhead, Red Rock, and Horse Prairie watersheds are comprised of public lands. (*October 2016 – September 2018*)
  - In 2015, the NRCS Dillon Field Office conducted a survey of irrigation measurement and diversion infrastructure in the Red Rock watershed at the request of WUIC. NRCS also offers technical assistance with stock water development and irrigation water management. BWC will support the incorporation of this information and these services into the development of watershed management project concepts and the WRP as directed by stakeholder input. (*October 2016 – September 2018*)
  - Supporting FWP and USFWS as needed as these agencies work with landowners in the Centennial Valley to develop and implement a Cooperative Conservation Agreement with Assurances to protect Arctic grayling. (*October 2016 – September 2018*)
  - BWC will continue the momentum of the National Drought Resilience Partnership, through which BWC developed the Beaverhead Watershed Drought Resiliency Plan with extensive input from agencies and stakeholders. BWC will share the drought resiliency project concepts that have been developed, solicit additional input, and seek to implement projects which improve economic and ecological resilience to drought. (*October 2016 – September 2018*)
  - BWC will submit an application to host an AmeriCorps – Big Sky Watershed Corps member to assist with development of watershed management project concepts through data collection, stakeholder engagement and community outreach. (*AmeriCorps – Big Sky Watershed Corps members will serve from January through mid-November of 2017 and 2018*)
  - BWC will hire a consultant as needed to provide technical services related to water quantity and quality data collection, mapping, and modeling. (*October 2016 – September 2018*)
  - BWC will hire a facilitator as needed to assist with stakeholder engagement, strategic planning, and development of watershed management project concepts. (*October 2016 – September 2018*)

#### Activity 4: Development of the Watershed Restoration Plan

- BWC will pay staff and hire a consultant to assist with the development of the WRP. The WRP will be based on the watershed management project concepts developed through input from stakeholders and agencies. (*March 2017 – September 2018*)
- The WRP will address TMDLs by including EPA's nine key elements for watershed plans:
  - (1) Identify causes and sources of pollution
  - (2) Estimate pollutant loading into the watershed and expected load reductions
  - (3) Describe management measures to achieve load reductions in targeted critical areas
  - (4) Estimate the required technical and financial assistance and the relevant authorities needed to implement the plan
  - (5) Develop an information/education component
  - (6) Develop a project schedule

- (7) Develop interim measurable milestones
  - (8) Identify indicators to measure progress
  - (9) Develop monitoring component
- The WRP will contain a description of its development process. This description will document meeting dates, locations, and purposes; agency and stakeholder group participants; a stakeholder outreach summary; stakeholder input summaries; and relevant data, mapping, and modeling. The WRP will serve as its own final report which demonstrates BWC's successful completion of watershed group development; mission statement review; development of watershed management project concepts; and WRP development. BWC recognizes that the WRP will be made available on Reclamation's website. (*October 2016 – September 2018*)
- BWC will aim to incorporate watershed management project concepts into its WRP (*completed by September 2018*) which:
  - Have buy-in from affected landowners, water users, and agencies.
  - Mitigate algal blooms in Clark Canyon Reservoir and the Beaverhead River.
  - Mitigate water quality impairments throughout the watershed through the TDML process.
  - Improve aquatic species habitat throughout the watershed.
  - Improve economic and environmental resiliency to drought throughout the watershed.
- After completion of Phase I activities of Reclamation's CWMP (*September 2018*), BWC will seek to fund implementation of the projects contained in the WRP through grant opportunities such as:
  - Reclamation's CWMP Phase II activities
  - EPA/DEQ Clean Water Act Section 319 grant programs
  - FWP Future Fisheries Grants
  - DNRC Renewable Resource Grant and Loan Program
  - Matching and in-kind contributions from private stakeholders, agencies, and conservation NGOs.

## Evaluation Criteria

### Evaluation Criterion A: Watershed Group Diversity and Geographic Scope

#### *Sub-criterion No. A1. Watershed Group Diversity*

BWC's steering committee is very well representative of affected stakeholders within the Beaverhead Watershed. It consists of:

- The chairman is a farmer/rancher whose family has been operating in the Beaverhead Watershed since 1903. His family owns several hundred head of cattle and irrigates thousands of acres of small grains and feed crops. Their property includes riparian land along the Beaverhead River, as well as a tributary to the Beaverhead. The chairman is also a supervisor on the Beaverhead Conservation District, and he has demonstrated a willingness to implement conservation projects on his family's land.

- A Dillon angling and outfitting business owner whose shop has been open for over 35 years. His shop has about a dozen employees and his decades of knowledge about the Beaverhead Watershed make him a very well-qualified representative of stakeholders in the local recreation- and tourism-based economy.
- A retired cattle producer who wears several other hats in the community including Beaverhead County Commissioner, chairman of the Joint Board for EBID and CCWSC, and Beaverhead Conservation District associate supervisor.
- A retired engineer who owns land and a home along the Beaverhead River corridor. The Beaverhead Watershed is an attractive place for retirees and second homeowners because of its scenic beauty and ample recreational opportunities. This committee member has demonstrated an interest in restoring fish and wildlife habitat on his property.

BWC also has a strong track record of working closely with several other local, state, and Federal agencies, as well as other conservation NGOs including:

FWP	Beaverhead Conservation District
DNRC	EBID
DEQ	CCWSC
Reclamation	The Nature Conservancy
BLM	Trout Unlimited
USFS	Pheasants Forever

BWC hopes to build partnerships with additional landowners, water users, stakeholder groups, and agencies active in the Red Rock and Horse Prairie watersheds including:

- WUIC – This group of irrigators is located immediately upstream of Reclamation's Clark Canyon Reservoir. WUIC privately owns Lima Reservoir and conveyance infrastructure. They irrigate forage crops for livestock and there is no cash-crop farming.
- Centennial Valley Association – CVA is a grassroots local landowner group whose mission is to preserve traditional ranching as a way of life in the Centennial Valley, and to maintain quality open space, wildlife habitat, water quality and wildlife migration corridors as they exist today for future generations. This group does not consider itself to be a watershed group, and in preliminary conversations with BWC, its representatives have stated that they have no desire or intention to become a watershed group. Nonetheless, BWC regards CVA as a valuable partner for developing and implementing watershed management project concepts.
- USFWS – USFWS manages Red Rock Lakes National Wildlife Refuge which is part of the Greater Yellowstone Ecosystem in the Centennial Valley. It contains habitat for adfluvial Arctic grayling, Westslope Cutthroat Trout, Trumpeter Swans, long-billed curlew, grizzly bear, and many other species.
- Potential hydropower stakeholders – There is a proposal to install hydropower facilities on Reclamation's Clark Canyon Dam. Clark Canyon Hydro LLC is currently awaiting permit approval from FERC. If this permit is approved, BWC will seek to incorporate stakeholder perspectives on this new water use into the development of watershed management project concepts and the WRP.
- Potential oil & gas development stakeholders – There is a proposal to drill an oil well on BLM land in the Big Sheep Creek drainage of the Red Rock watershed. It will be important to ensure that potential

sediment issues associated with increased use of dirt roads along streams in the area are monitored and mitigated. BWC will seek to incorporate stakeholder perspectives on this new land use and the associated impacts to water resources into the development of watershed management project concepts and the WRP.

BWC will undertake these partnership-building efforts by traveling to these watersheds and meeting with stakeholders individually and collectively to familiarize them with BWC's history and watershed improvement strategies; solicit input from additional stakeholders about watershed issues of concern/interest; and facilitate a dialogue between stakeholders upstream and downstream of Reclamation's Clark Canyon Reservoir. BWC may also search for upstream stakeholders that are willing and able to serve on its steering committee.

#### *Sub-criterion No. A2. Geographic Scope*

To date, BWC has only been active within the Beaverhead Watershed (HUC 10020002) below Reclamation's Clark Canyon Reservoir. Stakeholders in the Beaverhead Watershed have identified the need for greater collaboration and coordination with stakeholders above Clark Canyon Reservoir in the Red Rock and Horse Prairie watersheds (HUC 10020001) because these areas are inextricably linked to water availability and water quality in the Beaverhead Watershed. Currently there are no watershed groups that are active in this area, which includes the highest source of the Missouri River. The current lack of watershed group activity in this area is due in part to the sparse population (less than 500 residents in an area of 2330 square miles). BWC will expand its outreach activities in the Red Rock and Horse Prairie watersheds in an effort to solicit stakeholder input and develop watershed management concepts that improve water availability, water quality, aquatic habitat, and drought resilience throughout a larger landscape.

### Evaluation Criterion B: Addressing Critical Watershed Needs

#### *Sub-criterion No. B1. Critical Watershed Needs or Issues*

##### Algal Blooms in Clark Canyon Reservoir and the Beaverhead River

Algal blooms in Reclamation's Clark Canyon Reservoir and the Beaverhead River have caused significant problems for stakeholders the past two years. The blooms came on later in the summer in 2014, and midsummer in 2015. With these blooms being unprecedented, it is particularly concerning to stakeholders that they have been consecutive, increasing in magnitude, and increasingly early.

There is a high level of urgency among agencies and stakeholders to determine the contributing factors and to develop strategies to mitigate them. Hypotheses about the contributing factors that have been discussed to date by Reclamation, DEQ, FWP, and BWC include:

1. Beaverhead River turbidity was caused primarily or exclusively by destratification. The organic component was caused by increased algal blooms and die offs associated with internal nutrient

loading following destratification. The inorganic component was caused by wind driven mixing following destratification at ambient reservoir elevations (given the ubiquitous reservoir-wide plume of turbidity).

2. Beaverhead River turbidity was caused primarily or partly by sediment filling the dead pool and becoming mobilized and entrained by underwater currents throughout the reservoir as a result of “suction” at the dam outlet.
3. Input nutrient loads in Horse Prairie Creek and the Red Rock River have been relatively constant through time.
4. Input nutrient loads in Horse Prairie Creek and the Red Rock River are of primarily natural origin.

These hypotheses need to be tested. Since the problem has been unprecedented, there is insufficient existing data to test the hypotheses and more data will need to be collected.

This watershed issue is a priority because it affects the entire county. One Dillon outfitting business owner estimated that his shop lost around 60 client fishing trips in 2015. Those trips represent at least twice as many people visiting Beaverhead County and spending money on lodging, food, equipment, licenses, and other activities. With several other local outfitting businesses suffering similar numbers of canceled trips, this business owner estimated that Dillon’s economy lost millions of dollars’ worth of revenue. Given the small populations of roughly 4,300 in Dillon, and roughly 9,300 in Beaverhead County, these losses are significant. Whether algae blooms occur again in the future or not, they may continue to cause long-term revenue losses for the local economy if a damaged recreational reputation causes a decline in local tourism. In addition to the recreation and tourism economy, irrigated agriculture is also being negatively affected. Irrigation storage and conveyance infrastructure such as Clark Canyon Dam, diversions, canals, ditches, head gates, pumps, screens, flumes, and weirs have required additional maintenance expenditures as a result of the algae blooms.

CWMP funding would enable BWC to address the algae bloom issue by supporting data collection, gathering stakeholder input, developing watershed management project concepts, and developing its WRP. BWC needs to complete these steps in order to access project implementation funding for algae bloom mitigation projects.

### Water Quality and TMDLs

Common water quality impairments in Montana include sediment, temperature, nutrients, and metals. Common contributing factors to sediment impairments include stream bank erosion, roads, wildfire burn areas, agricultural fields, and other sources. Common contributing factors to temperature impairments include warm weather, drought-induced low flows, lack of riparian vegetation and shading, and lack of hydrologic connection to floodplains and shallow aquifers. Common contributing factors to nutrient impairments include natural sources, agricultural fields, and septic systems. Common contributing factors to metals impairments include mining and natural sources.

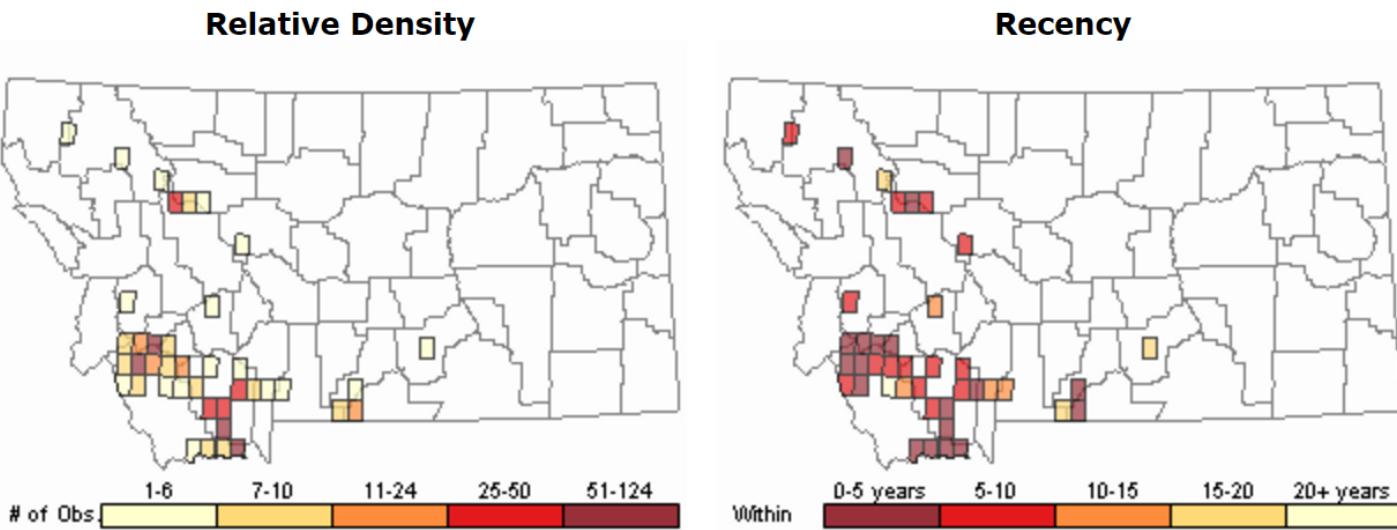
Water quality impairments can negatively impact aquatic species and habitat, recreation and tourism, drinking water supplies, and water storage and distribution infrastructure. Critical watershed issues in the Beaverhead, Red Rock, and Horse Prairie watersheds such as the algal blooms in Reclamation’s Clark Canyon Reservoir and the Beaverhead River, Arctic grayling and Westslope Cutthroat Trout species protection, and economic and environmental resilience to drought are highly influenced by water quality impairments.

DEQ's Watershed Management Section (TMDL program) identifies sources of pollution to streams, rivers, and lakes within Montana and determines how much pollution those waters can sustain and still fully support stakeholder needs. DEQ then writes plans that outline how to reduce pollution to those waters and can assist local communities with finding solutions to restore and maintain clean water. DEQ's goal is for all of Montana's waters to be healthy enough to fully support fish and other aquatic life, to provide clean drinking water for people and livestock, and to allow for swimming and fishing. DEQ has been monitoring water quality and developing TMDLs in the Beaverhead Watershed since 2001. Last year DEQ sampled for metals in the Beaverhead River, as well as several of its tributaries such as Rattlesnake Creek, Spring Creek, and Stone Creek. DEQ also did temperature and shade monitoring on Blacktail Deer Creek in 2015. DEQ will collect water quality data in the Red Rock and Horse Prairie watersheds over the course of the next few years to develop TMDLs for those areas. DEQ TMDLs provided guidance for development and implementation of the previous iteration of the Beaverhead WRP, and will continue to provide guidance for the development of the next iteration.

### Arctic grayling and Westslope Cutthroat Trout Preservation

The Arctic grayling is a species native to northern North America. The only populations native to the lower 48 states were in Michigan and Montana, and the Michigan population is now extinct. Consequently, the fluvial or river-dwelling population in the upper Big Hole River are the last remnants of this native Fish of Special Concern. Originally, the fluvial Arctic Grayling was widespread throughout the upper Missouri river drainage as far downstream as Great Falls. Lewis and Clark made note of these "new kind of white or silvery trout" in 1805. Adfluvial Arctic grayling spend the majority of their lives inhabiting lakes and use inlet or outlet streams for spawning. Native adfluvial populations in Montana were limited to the Red Rock Lakes, and a few lakes in the Big Hole drainage. Historically, the Red Rock population spawned in numerous tributaries to Upper and Lower Red Rock lakes in the Centennial Valley. Currently, only Red Rock and Odell Creeks appear to support spawning by endemic adfluvial Arctic grayling. Declines in this population are attributed to habitat alteration, drought conditions, reduced stream flows, elevated stream temperatures, siltation, and predation or competition from non-native fish species.

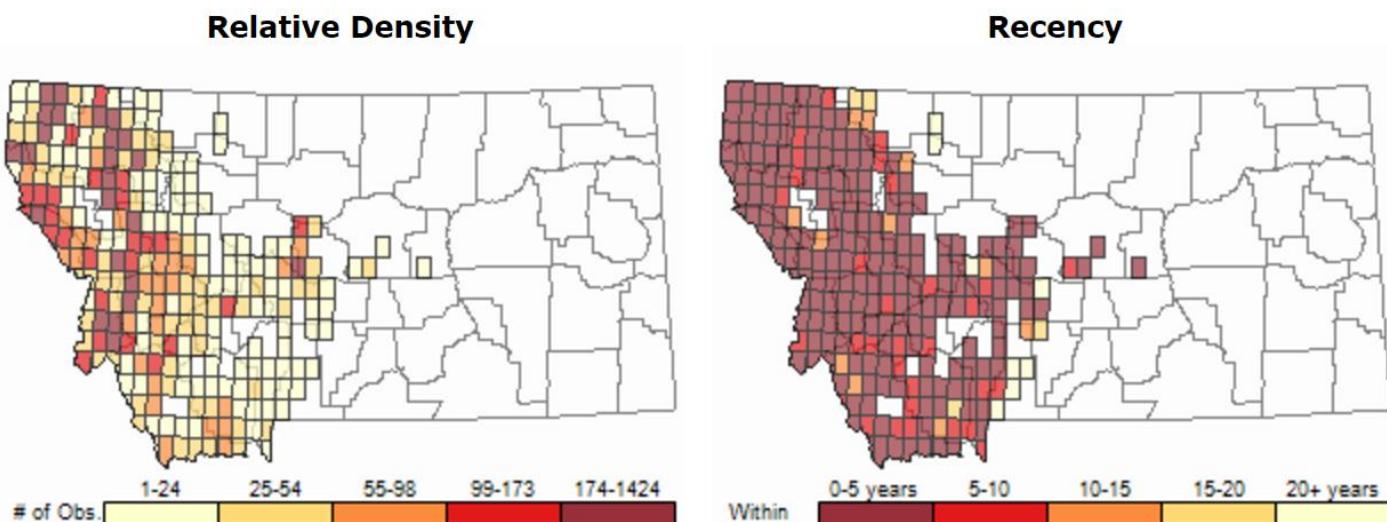
The Candidate Conservation Agreement with Assurances (CCAA) program to protect fluvial Arctic grayling populations in the Big Hole watershed was successful in preventing the listing of the species under the Endangered Species Act. Given the success of this program, USFWS, FWP, and local landowners and water users in the Centennial Valley are working to develop a CCAA program to protect adfluvial populations in that area. By further developing the watershed group, BWC hopes to be in a position to assist as needed with the implementation of this adfluvial Arctic grayling CCAA.



**Figure 3. Montana Arctic grayling population maps show key habitat areas in the Centennial Valley in southwest Montana.**

(<http://fieldguide.mt.gov/speciesDetail.aspx?elcode=AFCHA07010>)

The Westslope Cutthroat Trout is one of two subspecies of native cutthroat found in Montana. Together, they have been designated Montana's state fish. The Westslope Cutthroat Trout's historical range was all of Montana west of the Continental Divide as well as the Upper Missouri River drainage. This fish has been seriously reduced in its range by two primary factors: hybridization with Rainbow and/or Yellowstone Cutthroat Trout, and habitat loss and degradation. Since the Westslope is recognized as a very important part of our native fish fauna it has been designated a Fish of Special Concern in Montana. Headwaters streams in the Beaverhead, Red Rock and Horse Prairie watersheds remain some of the best habitat areas for Westslope Cutthroat Trout in the Upper Missouri Basin, with the highest population densities found in the Centennial Valley, Big Sheep drainage, upper Blacktail drainage, and upper Horse Prairie drainage.



**Figure 4. Montana Westslope Cutthroat Trout population maps show key habitat areas exist in the Beaverhead, Red Rock, and Horse Prairie watersheds in southwest Montana.**

(<http://fieldguide.mt.gov/speciesDetail.aspx?elcode=AFCHA02088>)

Management of this species involves protecting the population strongholds and making tough decisions on restoration priorities for the depressed populations. The State of Montana has altered fishing regulations to reduce fishing mortality. Montana has also developed a Conservation Agreement signed by nine government agencies and conservation groups. This agreement prioritizes protecting genetically pure populations first, then slightly introgressed populations. Recovering depressed populations will involve habitat restoration and removing non-native species. It will be especially challenging to recover migratory life forms. Governmental agencies will need to work together to share expertise, pool financial resources and monitor progress toward restoration of this species

Because Arctic grayling and Westslope Cutthroat Trout are two highly sensitive fish species that inhabit the Beaverhead, Red Rock, and Horse Prairie watersheds, there is a critical need for BWC to have the capacity to work effectively with the appropriate agencies and stakeholders to improve water quality and drought resiliency in these habitat areas so that these species can be preserved. Funding this CWMP grant proposal will ensure that BWC has adequate capacity to help protect these species.

### Red Rock Water Rights Administration

There are several factors that make water rights administration a challenge on the Red Rock River. First, there is a complex mix of decreed and stored rights. Second, changes in irrigation techniques from flood to sprinkler have changed the timing and amount of return flows over the past several decades. Third, there is a complex network of conveyance infrastructure with multiple water right holders sharing ditches. Fourth, many measurement devices need to be added, reset, or replaced to ensure accurate water rights administration. Fifth, the statewide water rights adjudication process is ongoing and water right holders are uncertain whether to expect changes as a result of the completion of this process.

Dick Gosman of Lima is a very valuable source of local knowledge about the Red Rock River system and users. He wrote that “A major issue with the management of the water resource by WUIC has been the fair and equitable delivery of storage water from Lima Reservoir to the members. After the construction of Clark Canyon Reservoir, WUIC amended the by-laws to provide that the delivery point of storage waters is to be at the outlet gates at the dam, and not the point of diversion of the river. The decreed rights were managed by a court appointed water commissioner. WUIC deliveries were managed by a water master, who had no legal authority to regulate a head gate. Attempts to deliver a given quantity downstream past numerous other users has been a challenge.”

As previously mentioned, several features of WUIC’s irrigation conveyance and measurement infrastructure are in need of repair or replacement. In 2015, engineers from the NRCS Dillon Area Office surveyed this infrastructure and recommended replacement or resetting of 29 flumes, and identified 20 diversion points in need of maintenance. This trip report is on file at the NRCS Dillon Area Office. Improvement of these features would enhance WUIC’s ability to accurately administer water rights. BWC will work with stakeholders in the Red Rock watershed to determine if this information should be incorporated into the development of watershed management project concepts.

### *Sub-criterion No. B2. Watershed Group Contributions that Address Watershed Needs or Issues*

BWC will work to address critical watershed issues including algae blooms in Reclamation's Clark Canyon Reservoir and the Beaverhead River; water rights administration in the Red Rock watershed; water quality and TMDLs; aquatic species habitat protection; and economic and environmental resilience to drought. BWC will address these critical watershed issues by further developing partnerships with stakeholders in the Beaverhead, Red Rock, and Horse Prairie watersheds; incorporating stakeholder input into the development of watershed management project concepts; and development of the WRP. BWC will further develop these partnerships and gather input from stakeholders on critical watershed issues by holding stakeholder meetings and workshops; visiting sites; expanding capacity for outreach; developing and delivering outreach materials and activities; and supporting data collection, research, and project planning activities. Many of the project concepts that BWC has helped to implement in the past may be useful for addressing the current critical issues in the watershed.

#### Past Contributions

- *Poindexter Slough restoration project (2015-2016)* – BWC worked with FWP and local landowners to restore fish habitat and enhance recreation. Irrigation conversion from flood to sprinkler systems had depleted ground water accretions in Poindexter, leaving it over-widened and unable to efficiently transport sediment. Work included head gate replacement, channel narrowing, sediment dredging, placing gravels in the stream bed, riparian revegetation, and irrigation diversion adjustments.
- *Culvert replacements on Dyce Creek (2015)* – BWC worked with BLM and FWP to plan and fund replacement of multiple culverts on Dyce Creek which contains Westslope Cutthroat Trout habitat. Undersized culverts needed to be replaced to reduce sediment loading and to improve fish habitat and passage.
- *Stock water fencing and off-stream stock water on Spring Creek (2014-2015)* – BWC worked with a local producer to raise funds to fence his cattle off the stream and provide them with an off-stream stock water source. The cattle had been watering directly from the stream creating water quality issues.
- *Clark Canyon Flushing Flows Agreement (2014)* – Clark Canyon Creek is one of the first tributaries of the Beaverhead River below Clark Canyon Dam. Rain-on-snow events in that drainage cause heavy sediment loading in the Beaverhead River and cause problems for water quality, fisheries, and recreation. BWC worked with Reclamation, FWP, and EBID/CCWSC to develop an agreement to store 2,000 acre feet of water in Clark Canyon Reservoir each winter that could be released during heavy sediment events to flush loads downstream and protect water quality.
- *BWC Willow Planting Workshop (2014)* – BWC organized and delivered a willow planting workshop to train stakeholders how to most effectively establish, regenerate, and maintain willows in riparian areas. Willow planting improves riparian vegetation, aquatic habitat, and water quality. The workshop was attended by over 100 people and BWC is currently producing a 2014 Willow Workshop Video to post on its website.
- *Thermal refugia and cold water spawning habitat* – BWC helped to develop and implement projects on to enhance thermal refugia for fish in Darnutzer Slough and improve cold water spawning habitat for Westslope Cutthroat Trout in upper Stone Creek (2010).

## Evaluation Criterion C: Implementation and Results

### *Sub-criterion No. C1. Understanding of and Ability to Meet Program Requirements*

The table below depicts the schedule for BWC's proposed work under each of the required activities. More detail about the approaches to these activities is provided in the Technical Proposal.

<b><u>Activity 1: Further Development of BWC</u></b>	FY 17 Q1	FY 17 Q2	FY 17 Q3	FY 17 Q4	FY 18 Q1	FY 18 Q2	FY 18 Q3	FY 18 Q4
Travel, BWC sponsored meetings, site visits	x	x	x	x	x	x	x	x
AmeriCorps host site		x	x	x		x	x	x
Develop and deliver outreach activities and materials	x	x	x	x	x	x	x	x
<b><u>Activity 3: Developing Watershed Management Concepts</u></b>	FY 17 Q1	FY 17 Q2	FY 17 Q3	FY 17 Q4	FY 18 Q1	FY 18 Q2	FY 18 Q3	FY 18 Q4
Organized stakeholder strategic planning workshops		x				x		
Agency Coordination	x	x	x	x	x	x	x	x
Hire facilitator/consultants as needed	x	x	x	x	x	x	x	x
Support for data collection, research, project planning	x	x	x	x	x	x	x	x
<b><u>Activity 4: Developing the WRP</u></b>	FY 17 Q1	FY 17 Q2	FY 17 Q3	FY 17 Q4	FY 18 Q1	FY 18 Q2	FY 18 Q3	FY 18 Q4
Hire consultant as needed	x	x	x	x	x	x	x	x
Develop the WRP					x	x	x	x

There are no problems or major difficulties anticipated in performing or accomplishing the work. Previous activities that will assist BWC with the implementation of the proposed work include:

- March 2016 BWC strategic planning meeting.
- Monthly BWC meetings with guest speakers and presentations on special topics.
- BWC participation in National Drought Resilience Partnership and drought resiliency plan development.
- Implementation of projects in the previous iteration of the Beaverhead WRP.
- Previous and ongoing agency resource assessments and interagency planning efforts.

### *Sub-criterion No. C2. Building on Relevant Federal, State, or Regional Planning Efforts*

The proposed activities for which BWC is seeking funding will compliment and meet the goals of many agency resource management plans. The following is a description of how BWC has used or will use existing plans to conduct new activities as part of this proposal.

BWC will develop watershed management project concepts which improve water quality in the Beaverhead, Red Rock, and Horse Prairie watersheds through:

- EPA/DEQ TMDL assessment and planning process (ongoing)
- Development of the next iteration of the Beaverhead WRP (2018)

BWC will review and incorporate recommendations from agency Environmental Assessments into the development of watershed management project concepts and the WRP. These recommendations may be related to water quality improvement and aquatic species habitat protection. Existing agency Environmental Assessment documents that have been consulted or will be consulted include:

- BLM Watershed Assessments for:
  - Blacktail (2007)
  - Beaverhead West (2008)
  - Red Rock/Lima (2008)
  - East Bench (2009)
  - Medicine Lodge (2012)
  - East Grasshopper (2012)
  - Centennial Valley (2015)
  - Sage Creek (2016)
  - Big Sheep Creek (2016)
- USFS Beaverhead-Deerlodge National Forest Plan (2009)
- Red Rock Lakes National Wildlife Refuge Comprehensive Conservation Plan (2009)
- FWP and USFWS CCAA for adfluvial Arctic grayling in the Centennial Valley (ongoing)

BWC will work to improve water conservation and water rights administration by incorporating into its WRP recommendations made by:

- NRCS Red Rock Trip Report (2015)
- Montana State Water Plan (2015)
- Upper Missouri Basin Advisory Council Report (2014)
- EBID/CCWSC Repayment Contract (2006)
- EBID and CCWSC Water Conservation Plans (2004)

BWC will continue to facilitate development of watershed management project concepts which build resilience to drought in the Beaverhead, Red Rock, and Horse Prairie watersheds. Previous efforts and plans with drought resilience goals and recommendations include the following:

- National Drought Resilience Partnership Upper Missouri Demonstration Project (ongoing)
- Reclamation's Upper Missouri Basin Climate Impacts Assessment (ongoing)
- Beaverhead Watershed Drought Resiliency Plan (2016)
- Upper Missouri Drought Resilience Work Plan (2015)
- Western Governors' Association Drought Forum Report (2015)
- Montana State Water Plan (2015)

- Upper Missouri Basin Advisory Council Report (2014)
- National Drought Forum Report (2012)
- Beaverhead County Pre-Disaster Mitigation Plan (2009)

Portions of the Reclamation CWMP funding for BWC will go toward building the capacity of the local watershed group, which is a goal articulated by:

- Montana State Water Plan (2015)
- Upper Missouri Drought Resilience Work Plan (2015)

## Evaluation Criterion D: Building Resilience to Drought

### How BWC is Building Drought Resilience

Drought is a prominent threat to communities and stakeholders in the Beaverhead, Red Rock, and Horse Prairie watersheds. The local economy is highly dependent upon irrigated agriculture, and recreation and tourism. Common drought impacts in these watersheds include reduced irrigation water supplies, reduced crop and rangeland production, reduced stream flows, elevated stream temperatures, degraded water quality, stress to aquatic species, angling restrictions and stream closures. These impacts cause a great deal of economic disruption to local communities, particularly when they are severe and long-lasting as they were from 2001-2005.

Given these high levels of economic and environmental vulnerability to drought, BWC has been a participant in the National Drought Resilience Partnership demonstration project that has been taking place in the Upper Missouri Basin since January 2015. Through this effort, BWC has developed the Beaverhead Watershed Drought Resiliency Plan. The development of this plan was motivated by Reclamation's WaterSMART Drought Contingency Planning Grant announcement in 2015, although it was developed without funding. The plan contains Reclamation's six required elements for drought contingency plans: operational and administrative framework; drought monitoring; vulnerability assessment; mitigation actions; response actions; and plan update process. The Plan identifies monitoring needs to improve water supply forecasting, drought early warning, and water management; factors influencing sustainability and resiliency of fisheries; and recommendations and efforts by agencies and stakeholder groups for improving drought resiliency.

The Beaverhead Watershed Drought Resiliency plan acknowledges that WRPs play a role in improving resilience to drought by providing access to funding for projects which mitigate water quality impairments and improve aquatic species habitat. Historically, projects in BWC's WRP have been funded mainly through CWA Section 319. BWC is interested in incorporating drought resiliency project concepts for the Beaverhead, Red Rock, and Horse Prairie watersheds into the next iteration of its WRP which can be funded through Phase II of Reclamation's CWMP grants. Not only would this expand efforts to build drought resiliency over a larger landscape, but it would help translate the assessment and planning momentum BWC continues to build through its participation in the National Drought Resilience Partnership into project implementation.

Drought resilience project concepts that may be incorporated into the development of the WRP include:

- Improving thermal refugia for aquatic species through enhancement of riparian vegetation, access to deep pools that stay cool, habitat connectivity, groundwater-surface water exchange, and floodplain restoration.
- Addressing water quality impairments related to sediment, temperature, nutrients, and metals which may become exacerbated during drought conditions. Strategies may involve road maintenance, culvert replacement, stream bank restoration, stock water fencing, and off-stream stock water development.
- Stream channel, bed, and bank restoration projects which improve aquatic species habitat quality and connectivity, and improve water quality.
- Improving water conveyance and measurement infrastructure.

### History of Drought

According to the U.S. Drought Monitor (USDM), portions of the Beaverhead, Red Rock, and Horse Prairie watersheds suffered from “D1 Moderate Drought” conditions for 48 consecutive weeks between 4/14/2015 and 3/8/2016. According to the NRCS Montana Snow Survey, the primary driver of these drought conditions was the record low snowpack in the Centennial Valley in 2015 as measured by the Lakeview Ridge SNOTEL site and Lakeview Canyon snow course site. These drought conditions likely would have become even more severe were it not for above average spring rains in the months of May and July of 2015.

According to USDM, Beaverhead County experienced 250 consecutive weeks with at least “D1 Moderate Drought” conditions from February 2001 through November 2005. This period included 94 consecutive weeks of “D4 Exceptional Drought” conditions between July 2003 and May 2005. This drought event resulted in EBID not receiving any water for the 2004 irrigation season. This not only caused significant losses for producers and the local economy, but it also disrupted the water supply of private domestic wells on the East Bench that derive their drinking water supply from the groundwater aquifer that is replenished by seepage from the East Bench Canal.

The Beaverhead Watershed and its headwaters suffered catastrophic drought during the Dust Bowl which put many farmers and ranchers out of business. Since then, the most significant drought events in the Beaverhead Watershed and its headwaters have occurred in 1966, 1974, 1988, 2001-2005, and 2012.

### Future Outlook of Drought

According to the Beaverhead Watershed Drought Resilience Plan, delta analyses of CMIP5 model output data for the Beaverhead Watershed and its headwaters show average annual temperatures rising 1-3° F by 2025, 1.25-6° F by 2035, and 1.5-8° F by 2050. The models were mixed as to whether and to what extent annual average precipitation may increase or decrease. A seasonal delta analysis for 2035 suggests the potential for wetter and warmer winters and springs, along with drier and warmer summers.

According to the USDA’s 2014 Climate Change Adaptation Plan, American agriculture may experience a variety of interrelated climate stressors in the future whose net effect is difficult to predict. Potential impacts to crops include shifts in crop production areas, increased crop water-demand, longer growing seasons, increased

efficiency of plant respiration, increased weed pressure, and more variable water availability. USDA's Plan states that livestock production will likely be affected in four primary ways: (1) feed-grain production, availability and price; (2) pastures and forage crop production and quality; (3) animal health, growth and reproduction; and (4) disease and pest distributions. Wildlife in southwest Montana such as deer, elk, antelope, and moose figure to be affected in many of the same ways which may present greater wildlife management challenges agencies and stakeholders.

Forested lands may experience altered disturbance regimes including wildfire, insect infestations, erosion, flooding, and drought-induced tree mortality. These changes are likely to have mixed impacts on the structure, composition, function, and distribution of flora and fauna communities, with habitat areas for many species moving to higher elevations and/or higher latitudes. This may create noticeable changes in ecosystem services.

Hydrologically, USDA, USGS, and NOAA expect that average annual snowpack in the western U.S. will decrease, a greater proportion of average annual precipitation will fall as rain, runoff will peak earlier and lower on average, average air and water temperatures will rise, and there will be greater demands on soil moisture on average. Evidence of some of these predicted changes was observed during the 2014-2015 water year when the Centennial Valley experienced record low snowpack, and several major rivers in Montana experienced record low flows.

## BUDGET PROPOSAL TO FURTHER DEVELOP THE BEAVERHEAD WATERSHED COMMITTEE

Table 1 – Summary of Non-Federal and Federal Funding Sources

Funding Source	Funding Amount
Non – Federal Entities	
1. Montana Department of Natural Resources	\$17,500*
Non-Federal Subtotal	\$17,500
Requested Reclamation Funding	\$100,000
Total Project Budget	\$117,500

\*\$12,500 of this funding is secured for updating the Beaverhead Watershed Committee's existing Watershed Restoration Plan. An additional \$5,000 is pending to host an AmeriCorps member in 2017.

Table 2 – Budget Proposal Detail

Budget Item Description	Computation		Quantity Type	Total Cost
	\$/unit	Quantity		
<b>Salaries and Wages</b>				
Staff *	\$15.5	2,129	Hours	\$33,000
<b>Fringe Benefits</b>				
Staff*	\$4.5	2,129	Hours	\$9,500
<b>Travel</b>				
Mileage *	\$0.54	21,300	Miles	\$11,500
<b>Supplies</b>				
Printed Materials	\$0.50	4,000	Pages	\$2,000
<b>Contractual</b>				
AmeriCorps	\$5,000	1	Person	\$5,000
Consultant*	\$34,000	1	Person	\$34,000
Indirect Cost	\$5,000	1	Administrative	\$5,000
<b>Total Costs</b>				<b>\$100,000</b>
<ul style="list-style-type: none"> <li>• Staff and Fringe Benefits based on an average of 20 hours per week for the 2 years (104 weeks).</li> <li>• Mileage based on an average of 2 trips per week to the various locations throughout the watershed. Average trip is approximately 100 miles round trip.</li> <li>• Consultants will be hired as needed to provide technical services related to water quantity and quality data collection, mapping, and modeling. Consultants will also be hired to assist with stakeholder engagement, strategic planning, and development of watershed management project concepts. Average consultant fee is \$100/hour @340 hours is approximately 14 hours a month of outside professional assistance.</li> </ul>				

## Budget Narrative

### **Salaries and Wages \$39,000**

Currently the Beaverhead Conservation District has one-part time staff member hired as the Watershed Coordinator (Katie Tackett) for the Beaverhead Watershed Committee. If this funding is secured the BCD would look at either increasing the hours of the current coordinator or hiring additional staff personnel to assist with coordination of this project. Current rates for the Watershed Coordinator are \$15.50 per hour. We estimate to complete this work in the two-year time frame 20 hours/week would be necessary. Tasks for the watershed coordinator include:

- Meetings, workshops, and site visits with landowners, water users, and stakeholder groups throughout the Red Rock and Horse Prairie watersheds.
- Time to develop outreach materials such as brochures, ads, videos, and website materials to ensure ample access to information for new stakeholder partners.
- Time to develop a new Watershed Restoration Plan.

### **Fringe Benefits \$9,500**

Fringe Benefits are based off the hours for the wages of the Watershed Coordinator. Current hourly rate for the Coordinator is \$15.50/hour. The actual cost to the district including benefits is \$20/hour. This includes social security (0.620%), Medicare (0.0145%), Workers Compensation (0.08%), Annual/Sick Leave (1.04%) and Holiday Pay (0.385%).

### **Travel \$11,500**

Travel for this project will be all local travel. Tasks includes trips to meetings, workshops, and site visits with landowners, water users, and stakeholder groups throughout the Red Rock and Horse Prairie watersheds. Average round trip mileage from Dillon is 100 miles. The current Montana mileage reimbursement rate is \$0.54/mile. Travel expenses were calculated based off an average of two trips per week for the 2-year timeframe.

	One-way mileage from Dillon
Clark Canyon Reservoir	19.7
Grant	32
Dell	40.6
Lima	49.3
Monida	63.8
Lakeview	90.4

### **Materials and Supplies \$2,000**

While conducting meetings, workshops, and site visits with landowners, water users, and stakeholder groups throughout the Red Rock and Horse Prairie watersheds it will be necessary to have printed materials available to distribute. These materials will include items such as meeting agendas, maps, and informational brochures. This estimate of supplies was based off of past printing experience. On average if 25 stakeholders attend a meeting and there is a five-page color handout for each participant cost for materials is \$125.

### **Contractual \$34,000**

Consultants will be hired as needed to provide technical services related to water quantity and quality data collection, mapping, and modeling. Consultants will also be hired to assist with stakeholder engagement, strategic planning, and development of watershed management project concepts. Average consultant fee is \$100/hour. This estimate would provide for 340 hours approximately or 14 hours a month of outside professional assistance.

AmeriCorps – Big Sky Watershed Corps is offered through a partnership with the Montana Association of Conservation Districts, Montana Conservation Corps, and the Montana Watershed Coordination Council. The program is designed to assist Montana's watershed communities to make a measurable difference in local conservation efforts while strengthening the experience of young professionals. Participants focus on watershed research, planning and project implementation, watershed education and outreach, and community engagement. The AmeriCorps – Big Sky Watershed Corps host site fee is \$10,000 per year.

### **Indirect Cost \$5,000**

The Beaverhead Conservation District administrative fee rate to 5% for this funding opportunity. Indirect Cost include the staff time and materials to complete grant reporting and budgeting.

### **In-Kind \$17,500**

The in-kind contribution (\$12,500) has been partially secured and an additional \$5,000 is pending from the Montana Department of Natural Resources. The funds were secured to update the existing Beaverhead Watershed Restoration Plan; this only includes the areas below the Clark Canyon Reservoir. The pending funding would partially pay for the host site fee for an AmeriCorps member in 2017.

### **Total Cost \$117,500**

The total cost for the project is \$117,500. The in-kind contribution has been partially (\$12,500) secured and an additional \$5,000 is pending from the Montana Department of Natural Resources. These funds were secured to update the existing Beaverhead Watershed Restoration Plan; this only includes the areas below the Clark Canyon Reservoir. The pending funding would partially pay for the host site fee for an AmeriCorps member in 2017. The funds

applied for in this funding opportunity (\$100,000) would help with the planning efforts above Clark Canyon Reservoir in the Red Rock and Horse Prairie Watersheds. These areas do not have an established watershed group. This means that stakeholder relationships and data collection are underdeveloped. Therefore, full funding under CWMP is essential for initiating the locally led planning efforts to address critical watershed issues.



# Montana Fish, Wildlife & Parks

Dillon Field Office Fisheries Management 730 ½ N. Montana Dillon, MT 59725  
Phone: (406) 683-9310 Fax: (406) 683-4126 email: [mattjaeger@mt.gov](mailto:mattjaeger@mt.gov)

27 April 2016

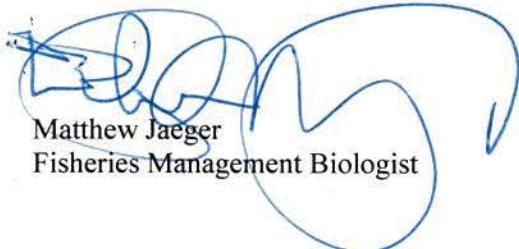
Dear Selection Panel,

This letter is intended to provide support and justification for the project submitted for funding by the Beaverhead Conservation District and Watershed Committee (BWC) for the Bureau of Reclamation's Cooperative Watershed Management Program Phase I grant. The BWC has been and continues to be an integral partner and facilitator in addressing diverse watershed issues and impairments. They have a strong track record of working with Reclamation, Montana Fish, Wildlife & Parks (FWP), irrigators, the angling community, and other stakeholders to resolve complex issues such as sediment management, water conservation, drought resiliency, and TMDL impairments. BWC's role has included problem identification, project development, fundraising, and ultimately on-the-ground solutions, thereby demonstrating a track record of proficiency in actually solving complex issues.

This grant will provide support essential for BWC to continue in and expand their role as collaborative watershed stewards. BWC is at a critical crossroads as they begin to revisit their watershed restoration goals and potentially expand the scope of their work. This grant will provide them with the capacity essential to adequately plan and implement work on an ambitious suite of issues that need attention. For example, as part of the National Drought Resiliency Partnership BWC, Reclamation and FWP begin preliminary conceptual work on several approaches to buffer the watershed and its users against drought and maintain critical instream flows for fish. However, without the capacity to engage in further planning and project development much of the work Reclamation, FWP and BWC have invested in will likely be lost simply because of the lack of dedicated time and focus this grant would bring. Similarly, pressing water quality issues have emerged upstream of and in Reclamation's Clark Canyon Reservoir and, resultantly, in the downstream Beaverhead River. This grant is needed to provide BWC with the capacity and resources necessary to partner with Reclamation and state agencies to comprehensively work through these issues.

As a partner that works frequently and directly with BWC and Reclamation, FWP views this grant as being essential to maintain progress on the issues we've already heavily invested in together. FWP is strongly supportive of BWC's proposal and is committed as a partner to ensure that realized benefits are maximized to achieve watershed restoration throughout the Beaverhead watershed.

Sincerely,



Matthew Jaeger  
Fisheries Management Biologist

April 22, 2016

Bureau of Reclamation  
Financial Assistance Operations Section  
Attn: Mr. Darren Olson  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, Colorado 80225

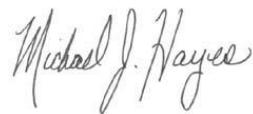
Dear Mr. Olson;

I am writing this letter of support to enthusiastically endorse the proposal the Beaverhead Watershed Committee (BWC) is submitting within Phase I of the Bureau of Reclamation's Cooperative Watershed Management Program. The BWC's past experiences in stakeholder engagement processes and current activities in water quality and quantity issues make it a perfect recipient to receive funding through this program.

As the Director of the National Drought Mitigation Center (NDMC) located at the University of Nebraska-Lincoln, I bring a more national perspective within this letter of support. Drought planning has been a core theme of the NDMC's mission for more than 20 years now. I have been able to both observe and participate within recent activities involving the BWC, and I have seen the commitment the BWC has relating to water resources management. It is also great to observe the support and trust that the BWC has from a wide variety of its stakeholders. In these regards, the BWC is definitely one of the leaders in the nation.

The BWC has also been a key participant in a pilot project for the National Drought Resilience Partnership (NDRP), which is a multi-agency effort of local, state, and national partners to address drought resilience and drought early warning within the Missouri Headwaters Basin. Because of the NDRP, significant national attention is focused on the basin and the BWC's leadership has been recognized as a key contributor in these activities. It is an excellent illustration of the BWC's reputation and experience!

Sincerely,



Michael J. Hayes, Ph.D.  
Professor, School of Natural Resources  
Director, National Drought Mitigation Center



Protecting nature. Preserving life.™

**The Nature Conservancy of  
Montana**  
32 South Ewing Street  
Helena, MT 59601

Tel (406) 443-0303  
Fax (406) 443-8311

**nature.org**

Bureau of Reclamation  
Financial Assistance Operations Section  
Attn: Mr. Darren Olson  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, Colorado 80225

April 25, 2016

Dear Mr. Olson,

I am pleased to submit this letter in support of the Beaverhead Watershed Committee's (BWC) proposal for Cooperative Watershed Management Program (CWMP) funding. The Nature Conservancy's mission is to preserve the lands and waters upon which all life depends. A key approach for fulfilling this mission in the headwaters of the Missouri is supporting community-based conservation led by Montana's local watershed groups and conservation districts. Watershed groups like BWC are on the front lines of watershed stewardship, but often operate with limited staff and small budgets. This funding would be well spent if awarded to BWC, because they have demonstrated effective community leadership on critical water conservation issues and have the critical community engagement to achieve lasting results.

BWC's participation in the National Drought Resilience Partnership has been exemplary, and we hope to see the momentum from that initiative be sustained with the help of the CWMP. The Conservancy recognizes that drought is a central threat to nature and people in southwest Montana, and climate change is exasperating the challenges posed by drought. TNC has identified Blacktail Deer, Medicine Lodge, Big Sheep, and Centennial watersheds as priority tributaries for maintaining resiliency of aquatic, wetland, and riparian ecosystems. High-elevation, north-facing slopes in these headwaters store snowpack and sustain cool, late-season flows for the Beaverhead River and the aquatic species, water users, and communities that depend on the river.

We are excited the Bureau of Reclamation is investing in local watershed groups through the CWMP, and we enthusiastically support the BWC proposal. Conditions are ripe for successful watershed restoration and basin-wide conservation in the Beaverhead, and the Bureau is an important local partner. Thank you for your consideration.

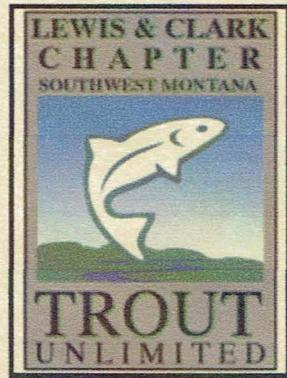
Sincerely,

A handwritten signature in black ink, appearing to read "Nathan Korb".

Nathan Korb  
High Divide Science Director

April 21, 2016

Bureau of Reclamation  
Financial Assistance Operations Section  
Attn: Mr. Darren Olson  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, Colorado 80225



Dear Mr. Olson,

I am pleased to offer my support for the Beaverhead Watershed Committee in their application for funding in order to further the Committee itself and to develop partnerships in the headwaters of the Missouri River.

Representing an organization committed to the protection and preservation of our coldwater resources, I fully understand the value of partnerships and good working relationships between stakeholders in resource health. The Beaverhead Watershed Committee has been supportive of our chapter efforts to clean up the Beaverhead River, members of which personally joined us in picking up trash on over 70 miles of river just weeks ago.

Many of us, as guides/outfitters, irrigators, and business owners make our living on or by these rivers and are both physically and fiscally dependent on their health. The Beaverhead Watershed Committee has proven successful in developing relationships among disparate groups and navigating the varied interests of folks who care deeply about the health of our local watershed. The Committee has also proven adept in the implementation and execution of projects which benefit our communities here in Beaverhead County, through willow restoration, culvert replacement, the rehabilitation of Poindexter Slough, and improving local economic & environmental resilience to drought.

As such, on behalf of the Lewis & Clark Chapter 656 of Trout Unlimited, I enthusiastically support both the efforts of the Watershed Committee and this funding request.

Sincerely,

A handwritten signature in black ink that reads "Brian A. Wheeler".

Brian Wheeler  
Vice-President  
Lewis & Clark Chapter 656: Trout Unlimited



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Montana Partners for Fish & Wildlife  
420 Barrett St.  
Dillon, Montana 59725



April 20, 2016

Mr. Darren Olsen  
Bureau of Reclamation  
Financial Assistance Services  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, CO 80225

Dear Mr. Olsen,

Please accept this letter of support for the Beaverhead Watershed Committee (BWC) application for the Reclamation's 2016 Cooperative Watershed Management Program (CWMP) Grant. I have worked on water conservation efforts for native fishes in southwest Montana for over 20 years and understand the importance of developing partnerships and working with communities for successful conservation. I am currently working with private landowners in the Red Rock drainage on conservation of native Arctic grayling and west slope cutthroat trout. The BWC's strategic plan is to expand their effort to a landscape scale which includes bringing in the Red Rock and Horse Prairie drainages. This grant will support landscape water conservation that will benefit native fish conservation by assisting the Beaverhead Watershed Committee (BWC) to build partnerships and by engaging the community to develop watershed management projects and a watershed restoration plan.

The BWC is a member of the National Drought Resilience Partnership demonstration project in the Upper Missouri Basin. This is a proactive Partnership that is working with stakeholders and water users to mitigate drought impacts. The BWC has completed numerous projects to mitigate drought, improve water quality, riparian areas, sediment transport, instream habitat, irrigation efficiency and stream temperatures. This grant provides a great opportunity for the BWC to build upon those efforts and develop proactive management and projects to conserve water and mitigate drought impact in the Beaverhead watershed in southwest Montana. Thank You for considering the BWC for this opportunity.

Sincerely,

Jim Magee  
USFWS  
Fish and Wildlife Biologist

## Water Users Irrigation Company

P.O. Box 1046

Dillon, MT 59725

April 20, 2016

Bureau of Reclamation  
Financial Assistance Operations Section  
Attn: Mr. Darren Olson  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, CO 80225

Dear Mr. Olson,

Water Users Irrigation Company (WUIC) would like to express its support for the Beaverhead Watershed Committee's proposal to build partnerships in the Red Rock watershed as part of the Cooperative Watershed Management Program. WUIC privately owns and operates Lima Reservoir in the Centennial Valley, as well as the irrigation conveyance system in the Red Rock River valley. WUIC is familiar with the Beaverhead Watershed Committee and is open to working with them to develop watershed management project concepts.

WUIC is in the midst of improving its means of distributing water to its members. In 2015, NRCS engineers surveyed many of our measuring devices and diversion points. They recommended maintenance or replacement of forty-nine features of our system. We need to be able to accurately measure the flow throughout the river and each individual user needs to have an accurate method of water measurement. This Cooperative Watershed Management Grant may offer WUIC the opportunity to accomplish this goal by developing a project to be included in a Watershed Restoration Plan which describes the necessary improvements. The Beaverhead Watershed Committee has demonstrated a willingness to work together with WUIC in an effort to accomplish this goal. Given that WUIC is directly upstream of the Bureau of Reclamation's Clark Canyon Reservoir, we believe that this potential partnership also offers a direct benefit to the Bureau and downstream water users.

WUIC highly recommends that the Bureau fund the Beaverhead Watershed Committee's proposal to engage in Phase 1 activities of this program. We hope that this first step will lead to subsequent phases of the program which will help improve WUIC's ability to manage water.

Cordially,



Allen C. Martinell, President



Beaverhead Conservation District  
420 Barrett Street  
Dillon, MT 59725  
April 21, 2016

Bureau of Reclamation  
Financial Assistance Operations Section  
Attn: Mr. Darren Olsen  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, Colorado 80225

Dear Mr. Olsen:

Please accept this resolution which has been adopted by a unanimous vote of the Beaverhead Conservation District's board of supervisors as of this date April 21, 2016 in support of the proposal to further develop the Beaverhead Watershed Committee (BWC) through the Bureau of Reclamation's Cooperative Watershed Management Program (CWMP) Phase I. As the fiscal agent for the BWC, the Beaverhead Conservation District has the legal authority to enter into all financial and legal obligations associated with receipt of a CWMP award.

The Beaverhead Conservation District is a unit of local government with jurisdiction over Beaverhead County that is designed to help citizens conserve their soil, water, and other renewable natural resources. The District believes that further developing BWC to include the Red Rock and Horse Prairie drainages will promote local conservation efforts, and address water availability, water quality, and aquatic habitat issues through local stakeholder partnerships. The District and BWC will work with Reclamation to meet established deadlines for entering into a financial assistance agreement.

The District strongly recommends that Reclamation fund this proposal because of the benefits that it will yield for the Bureau, the citizens of Beaverhead County, and all stakeholders in the Missouri River Basin.

Thank you,

Byron Martinell  
Chairman, Beaverhead Conservation District



# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
Dillon Field Office  
1005 Selway Drive  
Dillon, Montana 59725-8449  
[www.blm.gov/mt](http://www.blm.gov/mt)

In Reply Refer To:

1200 (MTB050)

April 22, 2016

VIA EMAIL

Darren Olson  
Grants Management Specialist  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, Colorado 80225

RE: Beaverhead Watershed Committee

Dear Mr. Olson:

This letter is in support of the Beaverhead Watershed Committee and their intent to increase the organization's capacity and expand their watershed restoration efforts upstream of Clark Canyon Reservoir, the source of the Beaverhead River. The Dillon Field Office, of the Bureau of Land Management (BLM) manages nearly 500,000 acres within watersheds upstream of Clark Canyon Reservoir. Over 1 million acres upstream of Clark Canyon Reservoir is managed by other entities including State, other federal agencies, and private landowners, who own a significant portion (acres) of the mainstem tributaries, on the valley bottoms. It is crucial for the BLM, other agencies, and private landowners to have an entity, such as the Beaverhead Watershed Committee, as a partner to accomplish the mission to restore and maintain riparian and wetland resources upstream of Clark Canyon Reservoir. The Beaverhead Watershed Committee serves as a means to facilitate an "all-lands" "all-hands" approach to watershed management and restoration, and effectively engages all land managers and land owners to proactively promote watershed stewardship.

The Beaverhead Watershed Committee has demonstrated their ability to effectively plan and complete projects, by not only developing the Beaverhead Watershed Restoration Plan in 2013, but by successfully completing all identified projects by 2015. The Dillon Field Office feels the Committee has taken necessary steps by engaging with stakeholders to strategically plan where the watershed issues remain. Their focus in the headwaters of the Beaverhead River is an appropriate direction given the issues identified by stakeholders during the Committees strategic action plan meeting in March of 2016.

The Dillon Field Office has fully supported and will continue to support the Beaverhead Watershed Committee's efforts, as they will play an important role by engaging landowners and managers to assist in the development of a mitigation strategy to address water quality and water quantity issues in the Red Rock and Horse Prairie watersheds.

Sincerely,

*Cornelia H. Hudson*  
Cornelia H. Hudson  
Field Manager



## Beaverhead County Commissioners

2 South Pacific St., Ste. #4  
Dillon, MT 59725-4000  
Phone: (406)683-3750 Fax: (406)683-3772  
[trice@beaverheadcounty.org](mailto:trice@beaverheadcounty.org)  
[ghaugland@beaverheadcounty.org](mailto:ghaugland@beaverheadcounty.org)  
[mmcginley@beaverheadcounty.org](mailto:mmcginley@beaverheadcounty.org)

April 19, 2016

Department of Interior  
Bureau of Reclamation  
Policy and Administration  
Denver, Colorado

To Whom It May Concern:

The Beaverhead County Commissioners have supported the Beaverhead Watershed Committee (BWC) since they organized.

The BWC is a grassroots, non-regulatory entity represented by various local stakeholders who support outreach (education), improved conservation practices, resource concerns and the need to be able to involve other citizens.

The BWC has a proven track record working effectively with Federal/State agencies and private landowners on Watershed Management projects.

The Beaverhead County Commissioners urge the Bureau of Reclamation to award a Cooperative Watershed Management Program, Phase #1 Grant to the Beaverhead Watershed Committee.

Thank you for the opportunity to comment.

Sincerely,

C. Thomas Rice  
Commissioner

Michael J. McGinley  
Chairman

Garth L. Haugland  
Commissioner

:cfd



**Centennial Valley Association**  
Dell, MT 59724

PO Box 240077

715-681-0795

April 22, 2016

Bureau of Reclamation  
Financial Assistance Operations Section  
Attn: Mr. Darren Olson  
PO BOX 25007  
Denver, CO 80225

RE: Cooperative Watershed Management Program-Phase I

Dear Mr. Olson,

The Centennial Valley Association (CVA) is a small, non-profit landowner organization in the Centennial Valley of Montana. CVA is comprised of ranchers, outfitters, loggers, and supporters, such as The Nature Conservancy and Red Rock Lakes National Wildlife Refuge, all working together to preserve the integrity of the Centennial Valley. We are writing to you today in support of the Beaverhead Watershed Committee's (BWC) proposal to build partnerships and sustain local livelihoods in the Red Rock watershed.

In the Centennial, our water sources support many different functions. It provides the agricultural community a place to water their cows on the range, it is used recreationally, is a reliable water source for the community, and the water sources support the iconic fish and wildlife communities, such as the grizzly bear, moose, and Arctic grayling. However, over the years, change in land use has impaired streams and floodplains; a change in annual precipitation patterns has made it difficult to maintain water within the natural system and for future human use and the technology available to publicly track snowpack and groundwater has become unavailable on the valley floor. All of these factors affecting the Centennial's water sources have made it challenging for the community to monitor and improve hydrologic resilience, in the long-term, in case of drought.

Our community needs assistance. Being the utmost source of the Missouri River, we feel that we have an obligation to keep the community involved in water resource issues. The Centennial Valley Association strives to bring the community together and make aware of any resource issue pertaining to the Centennial through outreach, monitoring, and community involvement. However, we are limited by the tools available to the community and by the lack of capacity to build momentum for community involvement.

We believe that the Beaverhead Watershed Committee can assist us by filling the gap for us through the Cooperative Management Grant. Having worked with the BWC at their willow workshop and in the National Drought Resiliency Partnership, we trust that they can provide technical support, engage and empower stakeholders, and implement and manage project concepts that will bring improvements to infrastructure, restore riparian areas, and increase landowner awareness and participation on water resource issues.

Please consider the Beaverhead Watershed Committee's proposal to initiate in Phase I activities of this program. We believe this first step will lead to increased local group, landowner and community awareness and participation in managing water for the future. Thank you for your time and attention.

Sincerely,

Yvonne Martinell  
Chairwoman  
Centennial Valley Association



April 21, 2016

Dear Mr. Darren Olsen,

The Montana Department of Environmental Quality (DEQ) fully supports the Beaverhead Watershed Committee (BWC)'s application for Cooperative Watershed Management Program funding. DEQ's mission is to protect, sustain, and improve a clean and healthful environment to benefit present and future generations. DEQ's Watershed Improvement Section is charged with implementing the Montana Nonpoint Source Management Plan to reduce and prevent impacts to state waters from nonpoint sources of pollution. This is a daunting task, given Montana's large geographical area, sparse population, and diverse natural landscapes. Without the support and individual efforts of local watershed groups, the task would be impossible.

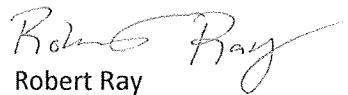
DEQ has a long history of partnering with the Beaverhead Watershed Committee (BWC) to monitor, evaluate, and address water quality issues. DEQ's Monitoring and Assessment Section, Watershed Management Section (TMDL program), and the Watershed Improvement Section (which I supervise) rely upon the local support, involvement, and leadership provided by the BWC.

DEQ has identified multiple streams in the Red Rock and Horse Prairie watersheds (focus watersheds for the BWC's Cooperative Watershed Management Program application) for which beneficial uses are impaired and TMDLs must be developed: DEQ's Monitoring and Assessment Section is in the process of collecting additional water quality data to support TMDL development in these watersheds. Further development of the BWC organization through the activities described in their application will enhance BWC's ability to partner with DEQ, provide effective local leadership, and ultimately gather broad-based local support for implementing projects to improve water quality.

DEQ's Watershed Improvement Section has provided financial and technical assistance in support of BWC's watershed restoration planning efforts, educational events, and on-the-ground watershed improvement projects. We are currently developing a Clean Water Act Section 319 grant contract with BWC to help fund a sediment pollution reduction project and provide technical support for their volunteer water quality monitoring program. We have found BWC to be a reliable partner, and hope to continue working with them long into the future.

I urge you to support the BWC's efforts by fully funding the request made in their Cooperative Watershed Management Program grant application. Your support of these activities would provide BWC with the planning tools and organizational growth necessary to expand their efforts to implement recommendations in DEQ's TMDLs and the Montana Nonpoint Source Management Plan. Thank you for your consideration of BWC application.

Sincerely,



Robert Ray  
Watershed Improvement Section Supervisor  
Water Protection Bureau  
Montana Department of Environmental Quality

# DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION



STEVE BULLOCK, GOVERNOR

1625 ELEVENTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE: (406) 444-2074  
FAX: (406) 444-2684

PO BOX 201601  
HELENA, MONTANA 59620-1601

Bureau of Reclamation Financial Assistance Operations Section  
Attn: Mr. Darren Olson  
Mail Code: 84-27852  
P.O. Box 25007 Denver, CO 80225

April 27, 2016

Re: Cooperative Watershed Management Grant Application  
**Beaverhead Watershed Committee**

Mr. Olson and the Grant Review Committee:

As the Montana DNRC Water Resources Planner in the Upper Missouri Basin, I have been working very closely with the Beaverhead Conservation District and Beaverhead Watershed Committee on water planning in their watershed. As part of President Obama's Climate Action Plan, in the fall of 2014, we launched the MT Drought Resilience Partnership (MT DRP) Demonstration Project in the Missouri Headwaters Basin. This nationally recognized project has catalyzed many federal, state and local partners to demonstrate how to coordinate and work with the local watershed communities to build drought resilience from the ground up. The Bureau of Reclamation has been a very active and important partner in this project development, particularly in the Beaverhead watershed.

The national spotlight on the demonstration project has helped build momentum for coordinated drought planning in the region, and this funding proposal would provide the much needed capacity dollars to sustain the momentum. The Beaverhead Watershed Committee has built the community trust and provides the forum for convening local stakeholders in coordinated watershed planning, and these operational capacity dollars are critical to long term success. This program is vital to supporting the great foundation they have built thus far and I urge the review committee to fully support this proposal.

I would be happy to discuss the project in more detail if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann Schwend".

Ann Schwend  
DNRC Upper Missouri Basin Water Planner  
[aschwend@mt.gov](mailto:aschwend@mt.gov)  
406-444-1806

**From:** Frontier Anglers <[frontieranglers@gmail.com](mailto:frontieranglers@gmail.com)>  
**Date:** April 26, 2016 at 5:10:14 AM MDT  
**To:** Beaverhead Chris <[beaverheadcd.bswc@gmail.com](mailto:beaverheadcd.bswc@gmail.com)>  
**Subject:** Re: Watershed Committee support letter

Hi Chris,

We definitely need to study this issue to its fullest potential. The Beaverhead river is a world class stream that attracts thousands of visitors each year from around the globe to fish its famous waters. The last two years we've seen some discharge from Clark Canyon that has caused a major decrease from visiting anglers. The look of the water is a grayish/green and visibility is diminished greatly. In the last two years, our fly shop alone has lost over 100 guided fishing trips due to this issue.

We need funding to further study the water quality as if this continues the town of Dillon and surrounding area businesses stand top loose a great deal of revenue.

Thank you,

Tim Tollett  
Owner, Frontier Anglers

Dillon, MT



United States  
Department of  
Agriculture

Forest  
Service

Beaverhead-Deerlodge  
National Forest

420 Barrett Street  
Dillon, MT 59725  
406 683-3900

To: Darren Olson

I wanted to send this letter of support along in response to the Bureau of Reclamation's Cooperative Watershed Management grant program proposal for watershed planning work in the Beaverhead and Red Rock watersheds.

The Forest Service has been a long term partner with the Beaverhead Watershed Committee and worked cooperatively on past projects. We look forward to continued involvement with focus areas identified in Reclamation's watershed management grant especially Westslope and grayling management which is currently a focus for our program with a number of projects on the horizon where future collaboration will be critical. Water quality and TMDL implementation is also an important area where our efforts could be collaborated in the near future. We fully support the continued effort and look forward to being active partners now and in the future.

Kevin Weinner

Forest Hydrologist

Beaverhead-Deerlodge National Forest



Caring for the Land and Serving People

Printed on Recycled Paper



## **Water Users Irrigation Company**

P.O. Box 1046

Dillon, MT 59725

April 20, 2016

Bureau of Reclamation

Financial Assistance Operations Section

Attn: Mr. Darren Olson

Mail Code: 84-27852

P.O. Box 25007

Denver, CO 80225

Dear Mr. Olson,

Water Users Irrigation Company (WUIC) would like to express its support for the Beaverhead Watershed Committee's proposal to build partnerships in the Red Rock watershed as part of the Cooperative Watershed Management Program. WUIC privately owns and operates Lima Reservoir in the Centennial Valley, as well as the irrigation conveyance system in the Red Rock River valley. WUIC is familiar with the Beaverhead Watershed Committee and is open to working with them to develop watershed management project concepts.

WUIC is in the midst of improving its means of distributing water to its members. In 2015, NRCS engineers surveyed many of our measuring devices and diversion points. They recommended maintenance or replacement of forty-nine features of our system. We need to be able to accurately measure the flow throughout the river and each individual user needs to have an accurate method of water measurement. This Cooperative Watershed Management Grant may offer WUIC the opportunity to accomplish this goal by developing a project to be included in a Watershed Restoration Plan which describes the necessary improvements. The Beaverhead Watershed Committee has demonstrated a willingness to work together with WUIC in an effort to accomplish this goal. Given that WUIC is directly upstream of the Bureau of Reclamation's Clark Canyon Reservoir, we believe that this potential partnership also offers a direct benefit to the Bureau and downstream water users.

WUIC highly recommends that the Bureau fund the Beaverhead Watershed Committee's proposal to engage in Phase 1 activities of this program. We hope that this first step will lead to subsequent phases of the program which will help improve WUIC's ability to manage water.

Cordially,



Allen C. Martinell, President



# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
Dillon Field Office  
1005 Selway Drive  
Dillon, Montana 59725-8449  
[www.blm.gov/mt](http://www.blm.gov/mt)

In Reply Refer To:

1200 (MTB050)

April 22, 2016

VIA EMAIL

Darren Olson  
Grants Management Specialist  
Mail Code: 84-27852  
P.O. Box 25007  
Denver, Colorado 80225

RE: Beaverhead Watershed Committee

Dear Mr. Olson:

This letter is in support of the Beaverhead Watershed Committee and their intent to increase the organization's capacity and expand their watershed restoration efforts upstream of Clark Canyon Reservoir, the source of the Beaverhead River. The Dillon Field Office, of the Bureau of Land Management (BLM) manages nearly 500,000 acres within watersheds upstream of Clark Canyon Reservoir. Over 1 million acres upstream of Clark Canyon Reservoir is managed by other entities including State, other federal agencies, and private landowners, who own a significant portion (acres) of the mainstem tributaries, on the valley bottoms. It is crucial for the BLM, other agencies, and private landowners to have an entity, such as the Beaverhead Watershed Committee, as a partner to accomplish the mission to restore and maintain riparian and wetland resources upstream of Clark Canyon Reservoir. The Beaverhead Watershed Committee serves as a means to facilitate an "all-lands" "all-hands" approach to watershed management and restoration, and effectively engages all land managers and land owners to proactively promote watershed stewardship.

The Beaverhead Watershed Committee has demonstrated their ability to effectively plan and complete projects, by not only developing the Beaverhead Watershed Restoration Plan in 2013, but by successfully completing all identified projects by 2015. The Dillon Field Office feels the Committee has taken necessary steps by engaging with stakeholders to strategically plan where the watershed issues remain. Their focus in the headwaters of the Beaverhead River is an appropriate direction given the issues identified by stakeholders during the Committees strategic action plan meeting in March of 2016.

The Dillon Field Office has fully supported and will continue to support the Beaverhead Watershed Committee's efforts, as they will play an important role by engaging landowners and managers to assist in the development of a mitigation strategy to address water quality and water quantity issues in the Red Rock and Horse Prairie watersheds.

Sincerely,

Cornelia H. Hudson  
Field Manager