



Section 319 Grant - Project Proposal Form 8/14/13

FY2014 Project Proposals are due Friday July 26, 2013

Project Title Deep Creek Watershed Restoration Project

Project Sponsor Information

Name <u>Broadwater Conservation District</u>	Tax Identification Number <u>81-0362187</u>
Address <u>415 S Front St</u>	Website <u>N/A</u>
City <u>Townsend</u> State <u>Montana</u>	Zip Code <u>59644</u> County <u>Broadwater</u>
Primary Contact <u>Denise Thompson</u>	Signatory <u>Gary Flynn</u>
Title <u>District Administrator</u>	Title <u>Chairman of the Board</u>
Phone Number <u>406-266-3146 x 104</u>	Phone Number <u>406-266-4414</u>
Fax Number <u>406-266-5429</u>	Fax Number <u>N/A</u>
E-mail Address <u>Denise.Thompson@mt.nacdnet.net</u>	E-mail Address <u>N/A</u>
Signature _____	Signature _____

Project Funding

319 Funds Requested	<input type="text" value="\$207,000.00"/>
Matching Funds	
State Match	<input type="text" value="\$28,000.00"/>
State In-Kind Match	<input type="text" value="\$10,000.00"/>
Local Match	<input type="text" value="\$98,670.00"/>
Other Match	<input type="text"/>
Total Matching Funds	<input type="text" value="\$136,670.00"/>
Other Federal Funds	<input type="text" value="\$320,010.00"/>
Total Project Budget	<input type="text" value="\$663,680.00"/>
Administrative Fee	<input type="text" value="\$20,700.00"/>

Does the project sponsor have any open 319 contracts?

Project Title _____

DEQ Contract Number _____

319 Award _____

Projected Closing Date _____

Project Title _____

DEQ Contract Number _____

319 Award _____

Projected Closing Date _____

Nonpoint Source (NPS) Information

Functional Category	<input type="text" value="Watershed Management"/>
1st Pollution Category	<input type="text" value="Hydromodification (Channel Erosion/Inc"/>
2nd Pollution Category	<input type="text" value="Hydromodification (Flow Regulation/Mc"/>
3rd Pollution Category	<input type="text" value="Agriculture (Grazing Related Sources)"/>
Waterbody Type	<input type="text" value="River/Stream"/>

Project Location

Which WRP does this project implement?

What is the status of the WRP?

Does the project implement a TMDL?

Watershed Name or HUC # Deep Creek, 1003010108

(1) Waterbody Name from 2012 List of Impaired Waters
Deep Creek

(1) Probable Cause(s) of Impairment
Low Flow Alteration, Sedimentation

(2) Waterbody Name from 2012 List of Impaired Waters

(2) Probable Cause(s) of Impairment

Activity 1 Name CMZ and Overall Watershed Health Projects

Latitude (1) 46.315102 Longitude (1) 111.518158

Activity 2 Name Ed. Outreach * Partnership Task Compilation

Latitude (2) _____ Longitude (2) _____

Project Description

Methods: Please describe the specific activities of this project.

Riparian protection/enhancement at Deep Creek will be accomplished by defining the Channel Migration Zone, installing or repairing riparian fences at appropriate locations within the CMZ, encouraging new growth of woody species, improving education and outreach for managing a healthy floodplain along Deep Creek. Weed and beaver management incentives will be provided. Significant stream flow enhancement and water temperature reduction will be accomplished using methods to improve irrigation efficiency.

Objectives: Please describe the specific/measurable objectives that will ensure the achievement of the project goal(s).

1. Eroding stream banks will be reduced by 50% (based on 1992 estimates of pre-project erosion).
2. Summer streamflow will exceed 3 cfs at three monitoring locations (Stock's Bridge, Lower D.C. Road, and Hahn's near the mouth).
3. Water temperature will not exceed 73 degrees F at three locations (Clopton Lane, Lower D. C. Road, and Hahn's near the mouth).
4. Reduce weed distribution by 50% within stream corridor.
5. Evaluate sediment sources, watershed health actions & concerns, weeds & past studies within the upper watershed for future projects.
6. Every landowner and local school student will be exposed to the Deep Creek Restoration Project through various means.

Overview: Please provide a brief background of the proposed project.

In 1991, Broadwater CD lead an effort to begin addressing ongoing erosion problems at Deep Creek by conducting a stream assessment. This assessment resulted in a large scale TMDL implementation in 1996-97 when approximately 18,000 feet of streambank was revegetated using "soft techniques" (bank sloping, willow planting, and installing juniper revetments). This project reduced the area of eroding streambank by approximately 50% to reduce sediment delivery. Concurrently, riparian fence was installed and livestock management was improved on a large scale. Due to ongoing erosion and stream migration (particularly during the 2011 flood event), approximately 40% of the previously treated streambanks are in fair or poor condition and the riparian fence constructed in 1996-97 has been compromised in many locations. Although streamside vegetation has improved after the previous TMDL implementation, low streamflow (and associated high water temperature) was not sufficiently addressed in the previous TMDL implementation.

After the 2011 flood event, Broadwater CD lead efforts to return to Deep Creek and evaluate the status of this watershed. Reports from Skidmore and Boyd and a Riparian Survey by NRCS are the basis for a new approach at Deep Creek. As an alternative to proposing widespread repair and maintenance of streambank stabilization efforts, the current grant proposal uses a different mind-set of encouraging long term, gradual recovery of the health of Deep Creek. This 319 Grant proposal is intended to define and map the channel migration zone, install and repair fencing at approximately the CMZ boundary, provide incentives for weed, beaver, and vegetation management along the corridor, implement two specific stream restoration projects at two specific problem areas, and improve outreach/education efforts, and community awareness and involvement.

Additional tasks are proposed that were not included in the previous TMDL implementation in 1996/97: Significant streamflow improvement & water temperature reduction will be accomplished by modifying irrigation practices; an evaluation of upstream sources of disturbance in the headwaters (particularly related to MDT & the U.S.F.S. activities) will be conducted for the first time; weed management; and past & future project consolidation. This comprehensive approach will be an effective means to a healthy watershed.

Monitoring: Please briefly describe the monitoring component of this proposal.

Riparian health will be monitored using the NRCS riparian survey conducted in 2013 as a baseline./ Stream channel migration & erosion will be monitored using the Skidmore Report & air photos (2012) as a baseline./ Streamflow & water temperature will be monitored at a minimum of 3 locations./ Fisheries trends will be based on historic brown trout redd counts in approximately 5 miles of stream./ Peroid bentic invertebrate assessments will be conducted at locations previously completed in 1992 & 2001./ There will be a focus on developing volunteer monitoring programs./ Weed monitoring will be implemented to track progress.

Education and Outreach: Please briefly describe the education and outreach component of this proposal and the target audience.

Target audience will be students, local residents, landowners and other field tour enthusiasts from govt. and other counties. Focus will be on implementing volunteer projects (re-veg work, flow data, etc); BMP workshop focusing on stream work, contract work, homeowners, irrigators, livestock operators, and potentially touching on FS and Pvt. fire prevention/mitigation and benefit to watershed; weed control; installing informational project signs on Hwy 12E; explore a FS interpretive trail proposal; community engagement is key.

Collaborative Effort: Please briefly describe project partners. Include other agencies, organizations and private citizens and their role in this project.

Partner	Role
Fed - NRCS, FS, DEQ	NRCS- Watershed/ag cost share projects., FS- sediment eval, proj. expansion, DEQ-\$, help
State- FWP, MDT, DNRC	FWP-funding, assistance, in-kind, MDT-\$12 million proj-benefits WS, DNRC- state grant \$, help
Local - Landowners/ County/ Volunteers	proj. funding, project buy in & input/ weed mngmt & road crossings/ tree planting, flow data

Scope of Work - Outline

Task 1 Title Define the Channel Migration Zone corridor for the entire project area.

319 Funds	\$12,000.00
Non-Federal Match	\$3,000.00
Other Federal Funds	
Total Cost	\$15,000.00
Timeline	2014

Description
 A Channel Migration Zone corridor will be defined using the Skidmore/Boyd Report, 2012 aerial photos, and the NRCS Riparian Assessment. Detailed maps will be developed and used for future floodplain management. Residential, agriculture and natural resource management components will be addressed using the CMZ concept.

Task 2 Title Riparian Restoration

319 Funds	\$40,000.00
Non-Federal Match	\$27,570.00
Other Federal Funds	\$142,710.00
Total Cost	\$210,280.00
Timeline	2015, 2016

Description
 2.1 - Fence construction, repair and/or relocation of riparian fence further away from the active stream channel (preferably along the defined CMZ). Use of the 75% NRCS cost match will be an important component of the project, and wildlife-friendly wire fence or permanent electric fence will be required. Approximately 15 miles of fence is needed within the 20 mile project reach (79,200 ft at \$2.15/ft).
 2.2 - Ten off-stream livestock water projects will be installed to help distribute grazing pressure and replace problem water gap projects implemented in the past. Each project includes one tank (\$2000), winter pipeline installation (\$2.50/ft), and a pump (\$650).

Task 3 Title Monitoring

319 Funds	\$20,000.00
Non-Federal Match	\$5,000.00
Other Federal Funds	
Total Cost	\$25,000.00
Timeline	2015, 2016

Description
 Riparian health will be monitored using the NRCS riparian survey conducted in 2013 as a baseline./ Stream channel migration & erosion will be monitored using the Skidmore Report & air photos (2012) as a baseline./ Streamflow & water temperature will be monitored at a minimum of 3 locations./ Fisheries trends will be based on historic brown trout redd counts in approximately 5 miles of stream./ Periodbeatnik invertebrate assessments will be conducted at locations previously completed in 1992 & 2001./ There will be a focus on developing volunteer monitoring programs./ Weed monitoring will be implemented to track progress. (Jim Beck-time & mileage and FWP) Volunteer Ed.

Task 4 Title Beaver Management/ Incentive Program and Re-vegetation Projects

319 Funds	\$3,000.00
Non-Federal Match	\$1,000.00
Other Federal Funds	\$1,000.00
Total Cost	\$5,000.00
Timeline	2014, 2015, 2016

Description
 Beaver are tolerated in some reaches, and are completely unacceptable in others. BCD and FWP will continue to coordinate with landowners to improve management of beaver based on landowner tolerance (Task 4.1). In addition, we propose paying each landowner \$100 per active beaver dam (up to \$500) at the end of this project (December 2016) (Task 4.2). Tree/Shrub re-vegetation is needed in some areas to assist natural regeneration, using transplants and nursery stock (Task 4.3). Volunteer labor will be used whenever possible on this task.

Task 5 Title Reach Specific Channel Restoration

319 Funds	\$32,000.00
Non-Federal Match	\$6,500.00
Other Federal Funds	\$9,000.00
Total Cost	\$47,500.00
Timeline	2014, 2015, 2016

Description
 Skidmore's assessment identified 3 locations where passive channel recovery is unlikely without active channel work. Gravel deposition at the mouth of the canyon (reach 15) and at the grade break (reach 8/9) require active channel restoration to resolve flooding and erosion problems. In addition, reach 7 riparian/wetland restoration compliments channel modifications upstream reaches in Task 5.2.
 5.1 - Reach 15 (mouth of canyon)
 5.2 - Reach 8 & 9 (grade break and gravel deposition area)
 5.3 - Reach 7 Riparian and Wetland Enhancement Project

Task 6 Title Weed Management and Incentive Program

8/14/13

319 Funds	\$15,000.00	Description Weed invasion of the riparian corridor is a significant concern, and if the CMZ concept is fully implemented, noxious weed control is a high priority of the overall project. Approximately 200 acres of land will be located in the corridor of the project area, and participating landowners may receive one year of weed treatment through NRCS at \$101.50 per acre, while being required to implement weed control during the following two years. In addition, weed mapping within the CMZ will be used to implement a long term strategy for future weed treatment. 319 funds are requested for producing the weed distribution map for long term control efforts. Will include up stream pvt/fed lands.
Non-Federal Match	\$40,600.00	
Other Federal Funds	\$20,300.00	
Total Cost	\$75,900.00	
Timeline	2014, 2015, 2016	

Task 7 Title Stream Flow Enhancement/ Irrigation Diversion Consolidation Projects

319 Funds	\$40,000.00	Description Stream flow depletion and associated high water temperature impairments significantly impact Deep Creek. Fish loss to diversions is also a concern. Four proposed projects will significantly improve flow and temperature conditions. 7.1 - Gravity Pipeline Irrigation Project (move POD off Deep Creek to B-M canal) 7.2- Phase II Canal to Pump Conversion Project (Phase I completed w/o 319 funds in 2013) 7.3 - Portable Irrigation Pump Consolidation and BMP implementation Erosion at pump sites and channel disturbance to maintain sites will be improved and consolidated when possible. Flow measurement will be incorporated with participating landowners.
Non-Federal Match	\$47,000.00	
Other Federal Funds	\$145,000.00	
Total Cost	\$232,000.00	
Timeline	2014, 2015, 2016	

Task 8 Title Educational Outreach and Headwaters Partnership Project Coordination

319 Funds	\$45,000.00	Description 8.1-While engaging youth, landowners/ citizens in the mission of conservation, watershed health, & volunteerism, BCD will focus on providing a BMP educational workshop(s), at least 1 field tour, weed control, info. project signs), FS interpretive trail proposal, Annual Dinner, conservation incentives, student scholarship for work program, & a newsletter. 8.2- Significant studies/activities, already completed in the upper watershed (USFS, MDT, PVT), will be cataloged, mapped & quantified. 8.3- Project coordination, potentially under assistance of Big Sky Watershed Corp personnel or BCD administrator, will assist with Tasks 1-8.
Non-Federal Match	\$6,000.00	
Other Federal Funds	\$2,000.00	
Total Cost	\$53,000.00	
Timeline	2014, 2015, 2016 & ongoing	

Task 9 Title Contract Administration

319 Funds	\$20,700.00	Description Broadwater Conservation District contract administration of the 319 grant for the Deep Creek Watershed Restoration Project. Not to exceed 10% of the 319 grant request.
Non-Federal Match		
Other Federal Funds		
Total Cost	\$20,700.00	
Timeline	2014, 2015, 2016	

Comments: Please use the space provided for any additional information that may not have been captured by this application form.

The Deep Creek Landowner Advisory Group was appointed by Broadwater CD to help direct the Skidmore Evaluation during 2012. This Advisory Group provided input to the priorities outlined in the grant application. In addition, NRCS and Broadwater CD have identified Deep Creek as a priority watershed in the county. Subsequent to this designation, NRCS significantly increased project identification and implementation in the Deep Creek watershed. Combining 319 resources with the active NRCS program is very timely, and future NRCS participation is not likely to be as significant. Monitoring of streamflow is being conducted by an experienced volunteer (Jim Beck). The pre and post project evaluation of streamflow-related projects is an important priority of this project. And finally, the channel migration zone concepts being applied to Deep Creek represents a change from past responses to localized erosion. Significant outreach and education is key to the success of implementing this concept, as well as other proposed projects along Deep Creek. Introduction of incentives for landowners to participate in some aspects of this project are somewhat experimental. For example, offering payment for quantifiable beaver activity on a landowner's property is unconventional, but could raise awareness. Thank you for your thoughtful consideration of working with us on this new approach to restoring the Deep Creek Watershed in a comprehensive & effective manner.