

**Lower Clark Fork River Subbasin
17010213
Agricultural TMDL Implementation Plan**



Prepared by Mark Hogen with the Idaho Soil and Water Conservation Commission

In cooperation with the Bonner Soil and Water Conservation District

September 2014

INTRODUCTION	4
PURPOSE	4
GOALS AND OBJECTIVES	4
BACKGROUND	4
PROJECT SETTING	4
LAND OWNERSHIP AND LAND USE	4
ACCOMPLISHMENTS	5
PROBLEM STATEMENT	6
BENEFICIAL USE STATUS	6
POLLUTANTS OF CONCERN	6
IDENTIFIED PROBLEMS	7
WATER QUALITY MONITORING RESULTS	7
AGRICULTURAL WATER QUALITY INVENTORY AND EVALUATION	7
CRITICAL AREAS	11
ESTIMATED BMP IMPLEMENTATION COSTS	12
THREATENED AND ENDANGERED SPECIES	13
FUNDING	14
OUTREACH	15
MONITORING AND EVALUATION	16
FIELD LEVEL	16
WATERSHED LEVEL	16
REFERENCES	17

List of Tables and Figures

TABLE 1. LAND OWNERSHIP IN THE LOWER CLARK FORK SUBBASIN _____	5
TABLE 2. LAND USE IN THE LOWER CLARK FORK SUBBASIN _____	5
TABLE 3. COMPLETED AGRICULTURAL BMPs IN THE LOWER CLARK FORK RIVER SUBBASIN _____	6
TABLE 4. STREAMS AND POLLUTANTS FOR WHICH TMDLS WERE DEVELOPED _____	6
TABLE 5. STREAMS AND POLLUTANTS NEEDING A TMDL _____	7
TABLE 6. ESTIMATED BMP INSTALLATION FOR THE LOWER CLARK FORK RIVER SUBBASIN _____	12
TABLE 7. FEDERALLY-LISTED THREATENED AND ENDANGERED SPECIES OCCURRING IN BONNER COUNTY, IDAHO AS OF AUGUST, 2014 (U.S. FISH AND WILDLIFE SERVICE, 2014) _____	13

Introduction

Purpose

The Idaho Soil and Water Conservation Commission (ISWCC) is the designated management agency in Idaho for managing agricultural nonpoint source pollution and is therefore the lead in TMDL implementation activities on non-reservation agricultural land. Although the ISWCC does not have regulatory or licensing authority over water quality or pollution control, the mission of the ISWCC is to facilitate coordinated non-regulatory, voluntary, and locally-led conservation by federal, state, and local governments including Idaho's conservation districts and other partners to conserve, sustain, improve, and enhance soil, water, air, plant, and animal resources (ISWCC, 2013). The ISWCC works with the Bonner Soil and Water Conservation District (BSWCD), the Idaho Association of Soil Conservation Districts (IASCD), and the Natural Resource Conservation Service (NRCS) in a conservation partnership to reach common goals and successfully deliver conservation programs in Bonner County. The BSWCD's 5 year plan identifies water quality as one of their top priorities for Bonner County.

The purpose of this plan is to document observed agricultural uses and make recommendations that would improve the physical, chemical, and biological functions of impaired water bodies within the Lower Clark Fork River Subbasin.

Goals and Objectives

The overall goal of a TMDL implementation plan is to help restore beneficial uses on §303(d) listed water-bodies. The objectives of this plan are to identify critical agricultural areas and to recommend BMPs for reducing sediment and water temperature.

Background

Project Setting

The Lower Clark Fork Subbasin surrounds the city of Clark Fork in Northern Idaho. This area includes the Clark Fork River and its tributaries between the Montana/Idaho border and its mouth at Lake Pend Oreille. Cabinet Gorge dam and hydropower facility lies just downstream from the Montana/Idaho border. The Lightning Creek watershed is the largest tributary within this project setting. Both Lightning Creek and the main-stem Lower Clark Fork River are designated Idaho Special Resource Waters. For details on project setting, see pages xiv, xv (Location Map), 5, 6, and 7 (Figure 3- Lower Clark Fork River Watersheds Map) (IDEQ, 2007).

Land Ownership and Land Use

Table 1, below, summarizes land ownership within the Lower Clark Fork River Subbasin, as documented in the watershed assessment. Land ownership is primarily Forest Service and private with limited sections of Bureau of Land Management and State of Idaho.

Table 1. Land Ownership in the Lower Clark Fork Subbasin

Land Ownership	Acres	Percent of Total
U.S. FS	101,505	74
Private	31,653	23
State of Idaho	2,711	2
U.S. BLM	1,404	1
Total	137,273	100

Table 2, below, is the authors attempt to summarize land use within the subbasin. The agricultural lands were inventoried in the field and this information represents present day active agricultural use. Pockets of historic agricultural land do exist within the subbasin, but have not been included in this total.

Table 2. Land Use in the Lower Clark Fork Subbasin

Land Use	Acres	Percent of Total
Forest	132,967	97
Ag (Hay/Pasture/Nursery)	2,405	2
Water (Clark Fork River)	1,500	1
Urban/Suburban	250	Trace
Rock/Gravel Pits	115	Trace
Total	137,237	100

For a more detailed description of land use and ownership, see pages 19, 20 (Figure 5- Lower Clark Fork Subbasin Land Use and Roads), 21, and 22 (Figure 6- Land Ownership in the Lower Clark Fork Subbasin) (IDEQ, 2007).

Accomplishments

The conservation partnership has been active in soil and water conservation activities and public education efforts in Bonner County since the formation of the Bonner Soil and Water Conservation District in 1946. The partnership has developed individual conservation plans for local agricultural producers and has pursued funding sources to assist in implementing BMPs. The partnership has additionally restored wetland and riparian areas, stabilized stream banks, coordinated with other agencies and individuals in educational activities for youth, and made educational materials available to the public.

Funding sources utilized by the conservation partnership in Bonner County have included Farm Bill Programs such as Environmental Quality Incentives Program (EQIP), Wetland Reserve Program (WRP), Wildlife Habitat Incentive Program (WHIP); Conservation Reserve Program (CRP); Idaho's Water Quality Program for Agriculture (WQPA); and the Clean Water Act Section 319 Program. Accomplishments on agricultural land in the Lower Clark Fork River Subbasin occurring in the last five years (2009 – 2013) are summarized in Table 3 (Becker, 2014):

Table 3. Completed Agricultural BMPs in the Lower Clark Fork River Subbasin

BMP	Amount	Units	Project/Program
Forest Stand Improvement	75	Acres	EQIP (2010-2013)
Pasture and Hayland Planting	70	Acres	EQIP (2010 and 2012)
Fence	600	Feet	EQIP (2013)
Riparian Fence	2000	Feet	EQIP (2013)

Problem Statement

Beneficial Use Status

Idaho water quality standards require that surface waters be protected for beneficial uses, wherever attainable, in order to meet the requirements of the federal Clean Water Act. Lower Clark Fork River Subbasin was on the state of Idaho's 2002 Integrated Report of water quality impaired water bodies and was listed for sediment, temperature, metals, and total dissolved gas during TMDL development (IDEQ, 2007). Affected beneficial uses include cold water aquatic life, salmonid spawning, primary and secondary contact recreation, domestic water supply, and special resource water. For more details on the 303(d) listing and beneficial use status, see pages 24-33 (DEQ, 2007).

Pollutants of Concern

As stated in the Lower Clark Fork River Subbasin watershed assessment, the pollutants of concern are sediment, temperature, metals, and total dissolved gas. The 2010 Integrated Report-Category 4a lists impaired waters with an EPA approved TMDL. Table 4 summarizes these streams and pollutants for which TMDL's were developed within the Lower Clark Fork Subbasin. Included in Table 4 is an agricultural use column, which displays whether or not agriculture exists or is applicable within the listed TMDL subwatersheds. Agriculture does not impact metals or dissolved gas in the Lower Clark Fork River, and is listed not applicable. Agriculture does not impact sediment or temperature in Lightning Creek, and thus listed not applicable. Land ownership within the East Fork, Rattle, Salvage, and Wellington Creeks is USFS and thus no agriculture use exists in these subwatersheds (IDEQ, 2011).

Table 4. Streams and Pollutants for which TMDLs were developed

Stream	Pollutant(s)	Ag Use
Clark Fork River	Metals, Total Dissolved Gas	Not Applicable
Cascade Creek	Temperature	Yes
Dry Creek	Temperature	Yes
Mosquito Creek	Temperature	Yes
Twin Creek	Sediment, Temperature	Yes
East Fork Creek	Sediment, Temperature	No
Johnson Creek	Sediment, Temperature	Yes
Lightning Creek	Sediment, Temperature	Not Applicable
Rattle Creek	Sediment, Temperature	No
Salvage Creek	Sediment, Temperature	No
Wellington Creek	Sediment, Temperature	No

The 2010 Integrated Report-Category 5 lists impaired waters needing a TMDL. Table 5 summarizes streams and pollutants for which TMDL's need to be developed within the Lower Clark Fork River Subbasin. Agriculture does not impact temperature in the Lower Clark Fork River, and is listed not applicable (IDEQ, 2011).

Table 5. Streams and Pollutants needing a TMDL

Stream	Pollutant(s)	Ag Use
Clark Fork River	Temperature	Not Applicable
Spring Creek	Combined Biota/Habitat Bioassessments	Yes

Identified Problems

Sources of pollutants of concern are generally point or nonpoint in nature. There are two active and one inactive permitted point sources within the Lower Clark Fork River Subbasin. These include the Cabinet Gorge Hatchery, Cabinet Gorge Power Station, and Clark Fork Fish Hatchery. DEQ's pollutant source inventory specifies that nonpoint sources of pollution are the major contributor to impairment in the Subbasin. The inventory further states that pollution (excess sediment and high temperature) is the result of land use. Sedimentation is the result of historic timber harvest, fires and associated road building on highly unstable soils. The primary disturbance causing higher stream temperatures is the reduction in canopy and riparian function from silvicultural practices in general, and agricultural practices in the lower reaches of the southern tributaries. Sediment transport is episodic during the winter and spring when high flows and/or rain on snow events occur. DEQ correlates this sedimentation and deposition to higher stream temperatures because wider, shallower streams typically have more solar gain. This author agrees with DEQ's pollutant source assessment as summarized above (IDEQ, 2007).

Water Quality Monitoring Results

According to the CdA DEQ regional office, monitoring at the Idaho/Montana border has continued to date. For details on past monitoring efforts prior to the development of the TMDL in 2007, see pages 40-59 (IDEQ, 2007).

Agricultural Water Quality Inventory and Evaluation

The watershed assessment discusses the potential for agricultural impacts in regards to the southern tributaries to the Clark Fork River. The southern TMDL tributaries include Johnson Creek, Twin Creek, and Dry Creek. This inventory not only covered the southern tributaries, but also Spring Creek, Cascade Creek, and Mosquito Creek that enter Lightning Creek or Clark Fork River from the north side. Thus, this agricultural plan officially addresses the above mentioned tributaries in regards to sediment and/or temperature issues.

In order to assess agricultural impacts to surface water on TMDL listed streams, the first step is to inventory private agricultural land use that exists within the Lower Clark Fork River Subbasin. This researcher felt it was important to inventory the entire watershed for agricultural use as a service to DEQ and the Bonner SWCD, and also to fill potential agricultural data gaps that may

occur in the TMDL and watershed assessment. For this plan, agricultural land use was inventoried visually in the field, starting as far back as 2007 and updating through the spring of 2014 (Hogen, M., Brunner, J. 2007-2014). The main remaining agricultural uses found within the Lower Clark Fork River Subbasin are hay land and pasture land. The agricultural land use inventory conducted for the Lower Clark Fork River has been summarized on Figure 1. Hay lands within the subbasin total 1,820 acres, and are typically in good to excellent condition and lie on relatively flat slopes. In general, highly productive hay fields are fertilized, but at rates typically below recommended. In general, the perennial reaches of the TMDL tributaries are well vegetated and buffered from agricultural use. 575 acres of pasture land was inventoried within the subbasin. Livestock observed on these pasture areas included cattle and horses. Approximately 300 head of livestock (210 cows, 90 horses) was observed within the subbasin. Part of the agricultural inventory included documenting livestock access to the riparian areas of the tributaries.

Johnson Creek

Approximately $\frac{3}{4}$ of a mile of Johnson Creek flows through private land near its mouth. Johnson Creek joins Derr Creek which then flows into the Clark Fork River Delta area. Johnson Creek is mostly forested and no agricultural use was observed. No TMDL was developed for Derr Creek, so this author concludes that agriculture has no impact to water quality in this subwatershed.

Twin Creek

Approximately 3.75 miles of Twin Creek flows through private land near its mouth at the Clark Fork River. Historically, this lower private land within the Twin Creek/Delyle Creek subwatershed was a working hay and cattle ranch. The River Road basically splits the private land by land use. Agriculture was observed on about a mile of Twin Creek lying below River Road. Twin Creek above the River Road is mainly forested with no agricultural use observed for several years. Most of the private land surrounding Twin Creek is currently being managed by a forestry consulting firm.

Just above the River Road Bridge, an eroding bank was observed on Twin Creek. This particular eroding bank was about 4 feet high and 75 feet long and is presently unvegetated and unstable. No agricultural use was observed at the eroding site. Below the River Road Bridge, Twin Creek crosses mainly hay land and the riparian area is moderately vegetated with trees. More plantings along the creek would be beneficial for shading. No livestock grazing was seen accessing the creek or adjacent to the creek. There were some horses observed within this subwatershed.

Dry Creek

About 1.7 miles of Dry Creek flows through segments of private land at the lower end of the creek. According to maps Dry Creek ends just above River Road and thus not drain to the Clark Fork River. But a large culvert does exist under River Road so obviously at large runoff periods, water does flow through. This author is pretty sure that Dry Creek gets its name from being dry a large majority of the year. Dry Creek is predominantly forested and no agricultural use was observed. Dry Creek does flow through the USFS Dry Creek Tree Improvement Area.

An eroding culvert was observed where Dry Creek flows under Dry Creek Road. About 40 feet of bank erosion was inventoried just below the culvert outlet. No livestock grazing was seen

accessing the creek or adjacent to the creek. There were some horses observed within this subwatershed.

Other Southern Non-TMDL Tributaries

Three other southern drainages were inventoried: Derr Creek, Ruen Creek and Silta Draw.

Derr Creek lies between Johnson Creek and Ruen Creek subwatersheds. The headwaters are heavily forested down to the valley floor where the creek then goes subsurface. Derr Creek resurfaces about $\frac{3}{4}$ mile down and then flows about 2 miles through a semi-wet meadow and finally enters Johnson Creek. 30 cows and 5 horses were inventoried in this subwatershed. Another interesting observation within in this area is the return to dry cropland such as barley, wheat, and even canola. This could just be clean up crops prior to going back into hay land.

Ruen Creek lies between Twin Creek and Dry Creek subwatersheds. Ruen Creek subwatershed is small and steep in the upper forested area. Once Ruen Creek enters the valley floor above River Road it quickly disappears into the hay land and does not make it across River Road let alone the Clark Fork River. Hay land and pasture land does exist at the bottom of Ruen Creek. Due to the fact that Ruen Creek does not flow anywhere, this author feels that agriculture has no impact on surface water quality. Approximately 80 cows have been observed in this subwatershed.

Silta Draw lies near the Montana border on the southern side of the Clark Fork River. It originates in Idaho and is heavily forested in the upper reaches. Then it flows into Montana on the valley floor and then back into Idaho. Once back in Idaho it flows through about 1.5 miles on private land and then empties into the Clark Fork River. 40 cows and 10 horses were observed in this subwatershed. Cattle were also observed to be grazing the banks and accessing the drainage toward the mouth. Riparian fencing and off-channel watering would improve water quality being delivered to the Clark Fork River from Silta Draw.

Spring Creek

Spring Creek lies on the north side of the Clark Fork River and to the west of Lightning Creek. This creek is flow south and enters Lightning Creek just above the Highway 200 Bridge. The creek is predominately forested with a few pockets of hay and pasture land on flat terrain. This creek is used by the City of Clark Fork for domestic water purposes. Clark Fork State Fish Hatchery lies adjacent to Spring Creek but at present is not in operation.

The lower 5 miles of Spring Creek flows through private land. Approximately 3000 feet flows through hay land and pasture land on a ranchette scale. Livestock observed included about 10 cows and 10 horses. Livestock did appear to be able to access the creek on about 1200 feet. Filling in the gaps with riparian plants on the inventoried 3000 feet of Spring Creek would increase shading. 1200 feet of riparian fencing would exclude livestock from Spring Creek and allow new plants to establish.

The author noticed two non-agriculture impacts to Spring Creek. Spring Creek is checked up about 3 feet in order to capture domestic water for the City of Clark Fork. This appears to be a fish barrier from the road. If so, the idea of some fish ladder would be advantageous to fish

migration. The biggest impact observed to Spring Creek was the Spring Creek Road itself where it encroaches upon the creek. Significant road erosion was seen entering the creek on numerous drive-bys. One visit last spring, it was obvious that a vehicle had fallen off an unstable road edge and ended up in the creek. Road BMP's such as road spoils containment, road drainage, and road re-surfacing would greatly improve water quality in Spring Creek.

Cascade Creek

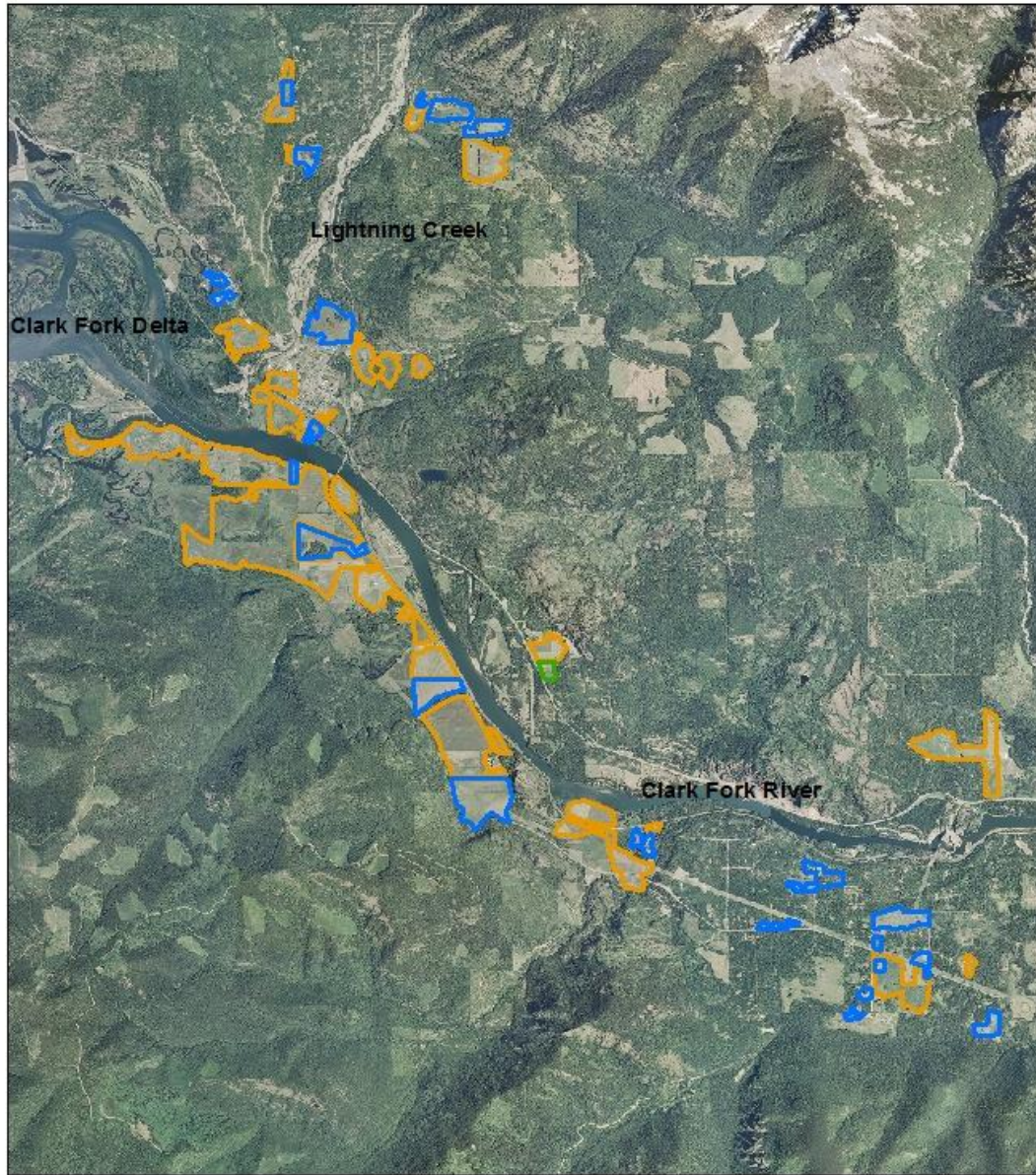
Cascade Creek lies on the north side of the Clark Fork River and enters Lightning Creek from the east. It flows under Lightning Creek Road through a large culvert just before entering Lightning Creek. Cascade Creek is mostly forested with pockets of agricultural land lower down near the mouth. Both hay land and pasture land was inventoried with livestock estimated at 30 cows and 10 horses. Livestock was not observed accessing Cascade Creek from the main roads. Approximately 1600 feet of Cascade Creek that lies adjacent to agricultural land lacks adequate shading. Riparian plantings and exclusion fencing (if needed) would provide more shading to the creek in this reach.

One non-agricultural impact was observed at the culvert under Lightning Creek Road. The outlet has a drop of about 4 feet which is certainly a fish barrier. After discussion about this issue with other agency folks, the author was told that this may be a benefit to fish management (??).

Mosquito Creek

Mosquito Creek lies on the north side of the Clark Fork River and enters the Clark Fork River just on the outskirts of the city of Clark Fork. Some haying was observed below the University of Idaho Clark Fork Field Campus, but this activity does not appear to be encroaching upon the creek. Approximately 10 horses were seen in the surrounding area, but once again were not impacting Mosquito Creek. The conclusion here is that agriculture is not impacting Mosquito Creek's surface water quality.

Figure 1: Lower Clark Fork River Agricultural Land Use Map



Legend

- Pasture Land- 575 Acres
- Nursery- 10 Acres
- Hay Land- 1820 Acres

0 1 2 4 Miles

Livestock Estimate
Cattle = 210
Horses = 90



Critical Areas

Agricultural areas that have the potential to contribute excess pollutants to waterways are defined as critical areas for BMP implementation. Critical areas prioritized for this plan were identified during field observations from 2007- 2014.

Agricultural critical areas within the Lower Clark Fork River Subbasin TMDL watershed include:

- Pasture land where livestock have direct access to streams and riparian areas.
- Hay land adjacent to perennial stream corridors that lack adequate riparian buffering.

In summary, approximately 5,675 feet of Twin, Spring, and Cascade Creeks have been identified as agricultural critical areas for possible treatment.

Other non-agricultural impacts to the subbasin were discussed in the inventory and evaluation section, but have not been included here as critical areas or for BMP implementation analysis.

Estimated BMP Implementation Costs

The proposed treatment for agricultural pollutant reduction will be to implement BMPs through conservation plans. Table 6 lists the recommended agricultural BMPs and estimated costs, to help restore beneficial uses to the Lower Clark Fork River Subbasin.

Table 6. Estimated BMP Installation for the Lower Clark Fork River Subbasin

BMPs	Amount (Units)	Subwatershed
Riparian Plantings	2,500 Feet	Twin Creek
Streambank Protection	75 Feet	Twin Creek
Riparian Plantings	1,500 Feet	Spring Creek
Riparian Fencing	1,200 Feet	Spring Creek
Riparian Plantings	1,600 Feet	Cascade Creek
Riparian Fencing	3,200 Feet	Cascade Creek

The recommended voluntary treatment process for private agricultural landowners within the Lower Clark Fork River Subbasin begins with contacting the local conservation district, the Bonner Soil and Water Conservation District. Contact information for the BSWCD is:

1224 Washington Ave., Suite 101
Sandpoint, Idaho 83864
Phone 208-263-5310, Ext.100
Linda.Ohare@id.nacdnet.net

The BSWCD works in partnership with the Natural Resources Conservation Service and the Idaho Soil and Water Conservation Commission, to provide free technical assistance to landowners wanting to improve their agricultural lands. The process begins with a thorough NRCS resources inventory of the farm or ranch (soil, water, air, plants, and animals), and

ultimately the development of a good conservation plan (for more insight on planning, go to www.oneplan.org). Once the planning process is complete, the BSWCD can assist the landowner in seeking grants or cost-sharing type programs, to help pay for needed BMP installation. A list of funding opportunities for private landowners has been included in the Funding Section below.

Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (ESA) requires federal agencies to determine how to use their authorities to further the purpose of the ESA to aid in recovering listed species and address existing and potential conservation issues. Section 7 (a)(2) further states that agencies shall consult with the U.S. Fish and Wildlife Service or NOAA Fisheries to ensure that any action they authorize, fund, or carry out “is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of (designated critical habitat).” As a federal agency, the NRCS is required to follow this mandate for all projects implemented with federal funding. NRCS policy also includes provisions to consider State species of concern in their conservation activities.

Impacts to T&E species and species of concern in the Lower Clark Fork River Subbasin will be taken into account in TMDL project implementation. If a proposed action is determined to be within close proximity to habitat used by a Threatened or Endangered (T&E) species or the known location of a T&E species, consultation will be initiated with the appropriate agency. Consultation involves describing the proposed project, assessing potential impacts, describing mitigation efforts for the project, and determining the effect of the project on the species of concern. The consultation process results in development of reasonable alternatives, and helps to minimize impacts of conservation practices to critical habitat.

Species listed as Threatened or Endangered under the ESA for Bonner County are summarized below in Table 7. Species of Concern are too numerous to list in this document. A detailed list for Species of Concern in northern Idaho Counties can be found under the USFWS County Species list at <http://www.fws.gov/idaho>.

Table 7. Federally-listed Threatened and Endangered Species occurring in Bonner County, Idaho as of August, 2014 (U.S. Fish and Wildlife Service, 2014)

Species by Category	Status*
Mammals	
Canada lynx (<i>Lynx canadensis</i>)	T
Selkirk Mountains Woodland Caribou (<i>Rangifer tarandus caribou</i>)	E
Grizzly Bear (<i>Ursus arctos horribilis</i>)	T
Fish	
Bull trout (<i>Salvelinus confluentus</i>)	T
Plants	
Whitebark Pine (<i>Pinus albicaulis</i>)	C

*T – Listed as Threatened, P – Listed as Proposed, C- Listed as Candidate

Funding

Financial and technical assistance for installation of BMPs may be needed to ensure success of this implementation plan. The Bonner Soil and Water Conservation District can assist interested landowners in actively pursuing potential funding sources to implement water quality improvements on private agricultural and grazing lands. The conservation partnership can provide free technical assistance to help farmers and ranchers identify and solve natural resource problems on their farms and ranches. This might come as advice and counsel, through the design and implementation of a practice or treatment, or as part of an active conservation plan. Many of the following programs can be used in combination with each other to implement BMPs. These sources include (but are not limited to):

CWA 319 –These are Environmental Protection Agency funds allocated to Tribal entities and the State of Idaho. The Idaho Department of Environmental Quality (DEQ) administers the Clean Water Act §319 Non-point Source Management Program for areas outside the Tribal Reservations. Funds focus on projects to improve water quality and are usually related to the TMDL process. Source: DEQ <http://www.deq.idaho.gov/>

Resource Conservation and Rangeland Development Program (RCRDP) –The RCRDP is a loan program administered by the ISWCC for implementation of agricultural and rangeland best management practices or loans to purchase equipment to increase conservation. Source: ISWCC <http://www.swc.idaho.gov/>

Conservation Reserve Program (CRP) –The CRP is a land retirement program for blocks of land or strips of land that protect the soil and water resources, such as buffers and grassed waterways. Source: NRCS <http://www.nrcs.usda.gov/>

Conservation Technical Assistance (CTA) –The CTA provides free technical assistance to help farmers and ranchers identify and solve natural resource problems on their farms and ranches. This might come as advice and counsel, through the design and implementation of a practice or treatment, or as part of an active conservation plan. Source: Bonner Soil and Water Conservation District and NRCS: <http://www.nrcs.usda.gov/>

Environmental Quality Incentives Program (EQIP): EQIP offers cost-share and incentive payments and technical help to assist eligible participants in installing or implementing structural and management practices on eligible agricultural land. Source: NRCS <http://www.nrcs.usda.gov/>

Conservation Security Program (CSP) –CSP is a voluntary program that rewards the Nation’s premier farm and ranch land conservationists who meet the highest standards of conservation environmental management. Source: NRCS <http://www.nrcs.usda.gov/>

Agricultural Conservation Easement Program (ACEP)- The Agricultural Conservation Easement Program provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits.. Under the Agricultural Land Easements component, NRCS helps Indian Tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the

Wetlands Reserve Easements component, NRCS helps to restore, protect and enhance enrolled wetlands. NRCS <http://www.nrcs.usda.gov/>

Regional Conservation Partnership Program (RCPP)- The Regional Conservation Partnership Program promotes coordination between NRCS and its partners to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements. NRCS <http://www.nrcs.usda.gov/>

State Revolving Loan Funds (SRF) –These funds are administered through the ISWCC. Source: ISWCC <http://www.swc.idaho.gov/>

HIP – This is an Idaho Department of Fish and Game program to provide technical and financial assistance to private landowners and public land managers who want to enhance upland game bird and waterfowl habitat. Funds are available for cost sharing on habitat projects in partnership with private landowners, non-profit organizations, and state and federal agencies. Source: IDFG <http://fishandgame.idaho.gov/>

Partners for Fish and Wildlife Program in Idaho – This is a U.S. Fish and Wildlife program providing funds for the restoration of degraded riparian areas along streams, and shallow wetland restoration. Source: USFWS <http://www.fws.gov/>

Outreach

Conservation partners in the Lower Clark Fork River Subbasin will use their combined resources to provide information about BMPs to agricultural landowners and operators to improve water quality. Newspaper articles, Bonner SWCD website, watershed and project tours, landowner meetings, and one-on-one personal contact may be used as outreach tools. Outreach efforts will be coordinated with the other TMDL designated agencies where possible.

Outreach efforts will:

- provide information about the TMDL process
- supply water quality monitoring results
- accelerate the development of conservation plans and program participation
- distribute progress reports
- enhance technology transfer related to BMP implementation
- increase public understanding of agriculture’s contribution to conserve and enhance natural resources
- improve public appreciation of agriculture’s commitment to meeting the TMDL challenge, and
- identify and encourage the use of BMPs for private land management and recreation activities

Applications for technical and financial assistance will be solicited with emphasis in the Lower Clark Fork River Subbasin, through cooperation of all conservation partners. As assistance is requested from this area, high priority will be given to these and other applicants in areas critical to TMDL implementation. Assistance requests resulting in field visits allow direct contact with land managers and observation of the land. One-on-one time will be utilized to dispense information on water quality, BMPs, and available resources. Treatment applicable to the needs of the Lower Clark Fork River Subbasin will be the focus of discussions with landowners in the vicinity.

Monitoring and Evaluation

Field Level

At the field level, annual status reviews will be conducted to insure that the contracts are on schedule and that BMPs are being installed according to standards and specifications. BMP effectiveness monitoring will be conducted on installed projects to determine installation adequacy, operation consistency and maintenance, and the relative effectiveness of implemented BMPs in reducing water quality impacts. This monitoring will also measure the effectiveness of BMPs in controlling agricultural nonpoint-source pollution. These BMP effectiveness evaluations will be conducted according to the protocols outlined in the Agriculture Pollution Abatement Plan and the ISWCC Field Guide for Evaluating BMP Effectiveness.

Watershed Level

At the watershed level, there are many governmental and private groups involved with water quality monitoring. The Idaho Department of Environmental Quality uses the Beneficial Use Reconnaissance Protocol (BURP) to collect and measure key water quality variables that aid in determining the beneficial use support status of Idaho's water bodies. The determination will tell if a water body is in compliance with water quality standards and criteria. In addition, IDEQ will be conducting five-year TMDL reviews.

Annual reviews for funded projects will be conducted to insure that TMDL implementation remains on schedule and on target. Monitoring BMPs and projects will be the key to a successful application of the adaptive watershed planning and implementation process.

References

- Becker, G. 2014. Personal communication on accomplishments. Natural Resources Conservation Service, Sandpoint field office, Sandpoint, ID.
- Hogen, M., Brunner, J., 2007-2014. Visual field inventory of observed agricultural land use. Idaho Soil and Water Conservation Commission and Idaho Association of Soil Conservation Districts. 7830 Meadowlark Way, Suite C1, Coeur d'Alene, ID 83815.
- IDEQ. 2011. Idaho's 2010 Integrated Report. Idaho Department of Environmental Quality, 1410 North Hilton, Boise, ID 83706
- IDEQ. 2009. Working Principles and Policies for the 2008 Integrated (303(d)/305(b)) Report. Idaho Department of Environmental Quality, 1410 North Hilton, Boise, ID 83706.
- IDEQ. 2007. Lower Clark Fork River Subbasin Assessment and Total Maximum Daily Loads. 2110 Ironwood Parkway Coeur d'Alene, Idaho 83814.
- ISWCC, 2013. FY 2014-2017 Strategic Plan. Idaho Soil and Water Conservation Commission, 650 W. State St, Rm 145, Boise, Idaho 83702.
- Larson, K. 2014. Personal communication on recent monitoring efforts. Idaho Department of Environmental Quality, 2110 Ironwood Parkway, Coeur d'Alene, Idaho 83814.

APPENDIX A (All photos taken 4/10/14- Early Spring)

Photo 1: Historic Agricultural Land



Photo 2: Semi-Wet Meadow



Photo 3: Typical Grass Hay Seeding



Photo 4: Typical Hay Land



Photo 5: Typical Hay Land



Photo 6: Typical Hay Land/ Late Season Pasture



Photo 7: Typical Hay land/ Late Season Pasture



Photo 8: Typical Pasture Land



Photo 9: Typical Pasture Land



Photo 10: Typical Pasture Land



Lower Clark Fork Subbasin Land Use/Land Cover

Legend

- Cities
-  Lower Clark Fork Subbasin

Land Use/ Land Cover

LAND_COVER_CLASS

-  Open Water
-  Developed, Open Space
-  Developed, Low Intensity
-  Developed, Medium Intensity
-  Developed, High Intensity
-  Barren Land
-  Deciduous Forest
-  Evergreen Forest
-  Mixed Forest
-  Shrub/Scrub
-  Herbaceous
-  Hay/Pasture
-  Cultivated Crops
-  Woody Wetlands
-  Emergent Herbaceous Wetlands

