

Leading Idaho Initiative

Mica Creek Agricultural Sediment Reduction & Improvement Project Phase #2

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**Mica Creek Watershed Agricultural Sediment
Reduction & Improvement Project Phase #2**

Project Code: S723-00

Project Start Date: March 2022

Project End Date: September 2023



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Executive Summary

Landowner Larry Mundt, continues work on Mica Creek

We as landowners have been working on water quality projects as funding becomes available since 2001. We have installed 1.5 miles of riparian exclusion fencing on the stream banks and no livestock have been allowed in these areas since that time. The stream bank erosion has continued from the collapse of the existing vegetation, primarily Alder and Ninebark into the water channel. During high water events this vegetation creates dams, collects floating debris, and forces high water into the opposing bank and/or deepens the channel. This vegetation collapsing into the stream also occurs during an early snow before the leaves have fallen. The Stream Bank Protection portion (140 feet in two areas) is to repair the areas damaged by this stream diversion. The 1600-foot vegetation management portion (in three areas) is intended to prevent further collapse.

Project Location and Description

The Project site is located 1.5 miles upstream from Coeur d'Alene Lake (Mica Bay). There are three segments to this project. Two (2) of the segments are located on the North Fork of Mica Creek, upstream of US 95 and one (1) segment located on the South Fork of Mica Creek that parallels north bound US 95. This project is supplemental to other watershed restoration work done through various 319, AG BMP, ISWCC, & NRCS stabilization and restoration projects. see 2022 S685-00 (CLAC) Site Map

Project Goals

The goal of this project was to rebuild the eroding creek bank and to prevent sediment from running downstream into Mica Bay as well as to prevent any possible further erosion to the creek banks. To do this, the banks must be stabilized with vegetative management, rock armor and planting of willows and alders.

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Objectives and Activities

Activities consisted of completed vegetation management with cleanup. Of 1600'. Cut overhanging, collapsed and decadent alders. Winch and lift woody material out of the creek. This was completed in the Fall 2023. Also completed bank armoring of 140' and willow plantings/re-vegetation with cleanup. Construction included shaped banks, trench toes, and place armor. This was also completed in Fall of 2023. These activities were all completed using best management practices such as the planting of alders and willows, the use of rock armor and mulching.

Monitoring Plan

Long-term monitoring will be done with regular photo monitoring, which can be seen at the end of this report. The photos taken are of the selected project areas.

The monitoring was recorded by the landowner (Larry Mundt) who worked on the project as well as the Kootenai Shoshone Soil & Water Conservation District. The Kootenai Shoshone Soil & Water Conservation District had the primary responsibility in monitoring and the Idaho Soil & Water Conservation Commission assisted the district as needed with final inspections.

The project was funded through The Leading Idaho Initiative Program Grant.

Best Management Practices Applied or Developed

BMP Effectiveness- revegetated planting and mulching, willows and alders staying in place. Turbidity control-cofferdam installation and removal worked well. Livestock fence management, some fencing had to be placed back differently than the original because of the erosion that took place before the start of this project. The vegetative management and mulching are settling into the new streambank effectively.

There are noticeable surface and ground water improvements, the water is clear and clean and free of debris. Water can run through without any blockages. There will be no sediment loss and the banks will be stabilized.

Below are the tasks:

Task 1: Permitting – April 2022 -August 2022

In coordinating work from the engineer on the project, the permit was submitted and approved by the Idaho Department of Water Resources (IDWR) in April 2022.

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Task 2: Administration- March 2022 – March 2024

To start, an MOU was approved and executed with Leading Idaho - DEQ on March 2022. KSSWCD has set up accounting sheets to track budget items within the project. KSSWCD also produce and executed a landowner access agreement in September 2022. KSSWCD will monitor the progress of the project and have a final inspection and sign off once the project is completed. Once the final inspection is completed, KSSWCD will submit for final reimbursement.

Task 3: Vegetation Management – April 2022 – November 2023

Completed 1600' of vegetation management with cleanup/maintenance in November 2022. Winch dead collapsed and overhanging Alder. Debris removal and disposal -hauled to a burn /slash pile.

Task 4: Bank Stabilization – April 2022 -November 2023

Completed 140' of bank armoring and willow planting/revegetation with cleanup/maintenance. Construction includes rock purchase and hauled locally.

Leading Idaho Money Totals:- \$42,024.00 Match-\$28,016.00 Total- \$70,040.00

Landowner provided 40% of the entire \$70,040.00 cost of the project.

Vegetation management 1600' – Leading Idaho \$29,760.00 Match \$19,840.00

Bank Stabilization of 140' – Leading Idaho \$12,264.00 Match \$8,176.00

Project Outcomes-Load Reduction Estimate

In 2001 the landowner and KSSWCD developed and implemented a plan to address the TMDL on Mica Creek through an ISWCC program. Between 2001 and 2007, approximately three miles of riparian exclusion fencing was installed as well as livestock/equipment passage bridge, one hardened crossing, and five off-stream watering stations. In 2004, 250 feet of eroding streambank was stabilized. In 2008 another 560 feet of eroding streambank and 400 feet of tributary channel were stabilized. Subsequent work in 2007-2023 stabilized and additional 2480 feet of streambank.

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The existing alder has collapsed into the stream. This creates a dam that collects debris and forces the water into the streambank, eroding it and carrying sediment to Mica Bay. This project is intended to remove the collapsed vegetation, armor the banks and replant willows to prevent further erosion, protecting the existing fencing and water quality of Lake Coeur d'Alene.

This is a multi-step process:

1. The livestock grazing here must be removed or temporary fencing installed.
2. The existing riparian exclusion fencing is removed for access to the bank repair site.
3. Vegetation management is an essential step to bank stabilization. Vegetation management is done to remove the collapsed vegetation at the work site and trim overhanging and decadent alders that threaten bank stability upstream and below to prevent further collapse. the vegetation winched out of the creek, loaded onto a truck, hauled to an upland site and burned at a designated burn site.
4. A cofferdam is installed around the area to be excavated.
5. Bank shaping and toe excavation is done, and the materials are removed to the uplands.
6. Rock armor installed.
Willows are planted at the site.
8. Riparian exclusion fencing is replaced.

We have completed several sediment-reduction projects on various reaches of Mica Creek over the last 10+ years. This proposal is for of 140' feet of stabilization and 1600' feet of vegetation management. This proposal will continue with the work started with the 2017 agriculture appropriated funds.

Mica Creek is listed as a top priority for the Conservations District's Five-Year Plan. KSSWCD is committed to improving the quality of Mica Creek to the greatest extent possible.

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Vegetation Management: Vegetation management is a necessary step in bank stabilization, the collapse of the existing vegetation is a root cause of erosion to the lower portions of Mica Creek. Vegetation management is essential for the work to be completed and prevent further incidents.

Streambank Protection: DEQ estimated that \$49,000.00 would reduce phosphorus by an initial amount of 50 lbs. per year, declining linearly to 0 lbs. per year over 10 years, yielding 275 lbs. per 10 years (one-time) for a cost benefit ratio of \$180.00/ per lb. per 10 years.

Total sediment reduction for both vegetation management and bank armoring will be 65 tons annually.

Difficult Aspects of Project

Due to high fire hazards, work had to be completed early in the morning and stopped during midday.

Future Activity Recommendations

Future activity recommendations are to continue with the same work for the rest of Mica Creek. The work done thus far has shown to be effective. In order to prevent any other possible erosion or sediment loss it would be a good recommendation to complete this same type of work on the entire creek.

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Figure 3: Site 1 Before



Figure 4: Site 1 After

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Figure 5: Site 2 Before



Figure 6: Site 2 After

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Figure 7: Site 3 Before



Figure 8: Site 3 After

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Figure 9: Slash Pile



Figure 10. Slash pile

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