

Lolo Creek Watershed Review Implementation Plan for Agriculture

Hydrologic Unit Code 17060306

July 2018



By Idaho Soil and Water Conservation Commission and
Lolo Creek Watershed Advisory Group

Original Plan: ISWCC (Idaho Soil and Water Conservation Commission). 2011. Lolo Creek Watershed Total Maximum Daily Load Implementation Plan for Agriculture. Boise, ID: ISWC in cooperation with Clearwater Soil and Water Conservation District.

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Introduction

The purpose of this plan is to address the Temperature TMDL Five-Year Review for the Lolo Creek Watershed with the goal to help restore designated beneficial uses.

“Pursuant to section 39-3601et seq., Idaho Code, and IDAPA 58.01.02, Water Quality Standards, the Idaho Soil & Water Conservation Commission (SWC) is the designated agency for management of nonpoint source pollution on grazing and agricultural lands in Idaho and is therefore responsible to lead TMDL Implementation activities on grazing and agricultural lands in the State.”

The objective of the plan is to outline a process of potential site-specific agricultural best management practices (BMPs) to help restore the designated beneficial uses by reducing pollutant loads in the Lolo Creek watershed.

According to the TMDL review document, the three temperature TMDL’s prepared in 2011 were for Eldorado Creek, Jim Brown Creek, and Musselshell Creek. Their 2017 analysis show them not yet meeting the temperature targets. (DEQ 2018)

Background

Lolo Creek is a sixth order tributary to the Clearwater River (hydrologic unit code 17060306). It forms the boundary between Clearwater county and Idaho county in north-central Idaho; flowing southwest from an elevation of 5,240 feet to 1,118 feet at the mouth where it enters the Clearwater River. It drains approximately 156,000 acres. Major tributaries to Lolo creek include Jim Brown Creek, which flows into Musselshell Creek, Eldorado Creek, Yakus Creek and Crocker Creek.

The Lolo Creek watershed is a sparsely populated area with no incorporated cities. The dominate land uses are forestry, grazing, mining and recreation. The upper watershed is public land, managed by the Nez Perce-Clearwter National Forest. The middle portion of the watershed is comprised of state endowment lands managed by the Idaho Department of Lands (IDL), private industrial lands managed by Potlatch Corporation and various non-industrial private ownership. The lower watershed is primarily managed gy the United States Bureau of Land Management (BLM), with small parcels owned by private non-industrial ownership. The lower four miles of Lolo Creek are located within the current boundary of the Nez Perce tribal reservation (Figure 1). (DEQ 2018)

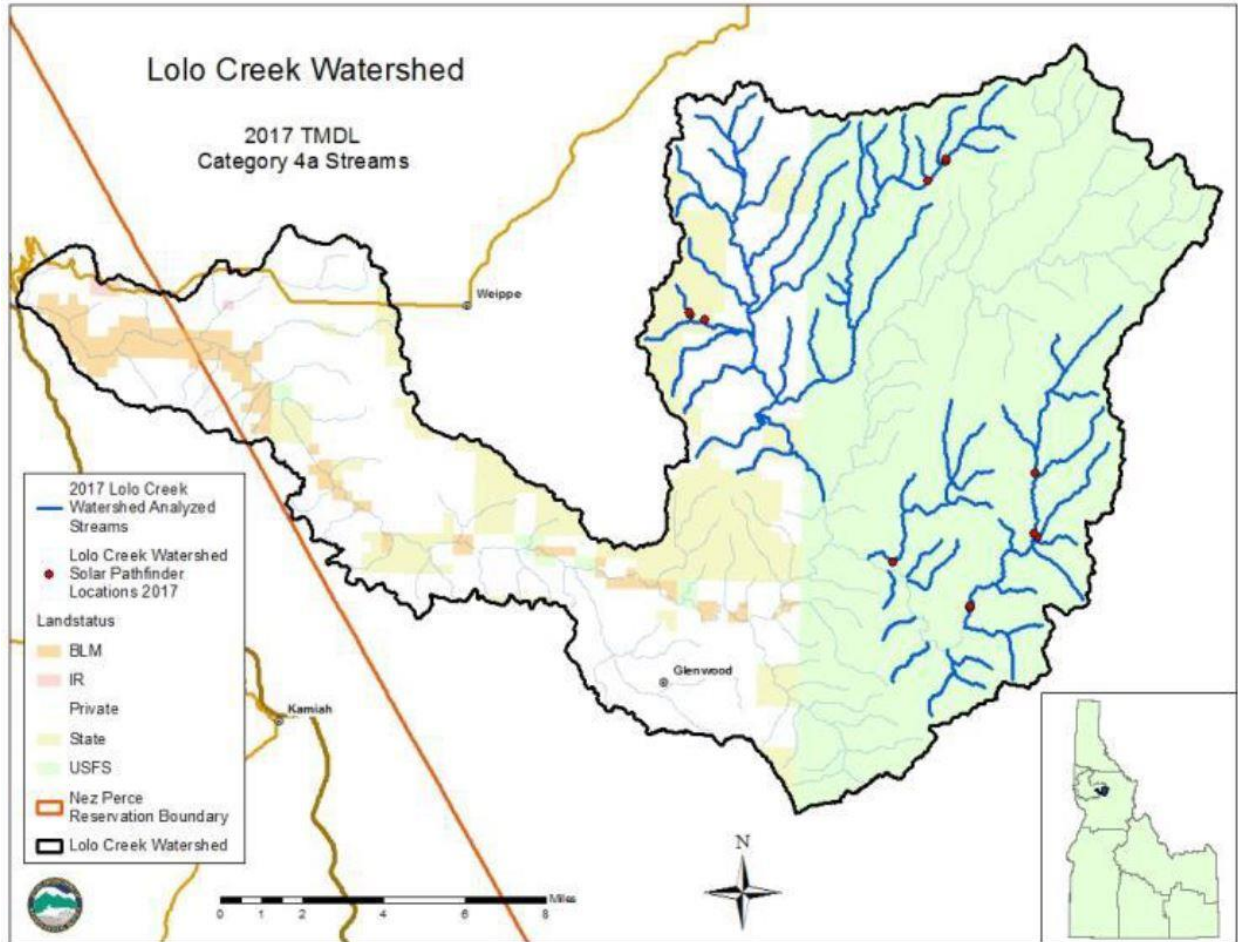


Figure 1. Lolo Creek Watershed (DEQ, 2018)

Past Implementations

The Clearwater and Idaho Soil and Water Conservation Districts have implemented numerous conservation programs in the Lolo Creek watershed (Table 1). Table 1 details the past implementations through spring of 2018. The IDL Landscape Restoration (LSR) Program will continue through 2020, with the bulk of the tree plantings being in spring 2019. Legislative funding was a one-time allocation from the Idaho Legislature, targeted at health and safety concerns due to the 2015 Wildfires in North-Central Idaho. A portion of the funding from the Legislature assisted in making needed repairs to the Carrot Ridge road in Lolo Creek. The Pacific Coast Salmon Recovery (PCSRF) project was a grant obtained by the Idaho Soil and Water conservation District targeting the Lolo Cutoff road after the 2015 Clearwater Complex fire that affected Lolo Creek. Clearwater Soil and Water Conservation District obtained two Snake River Basin Adjudication (SRBA) grants. Each of these grants focused on culvert and road repairs to decrease sediment and increase fish passage. Table 2 displays the installations using NRCS programs in Lolo Creek from 2011-2018. Table 3 displays the Nez Perce Tribe accomplishments in Lolo Creek.

Table 1. CSWCD and ISWCD Past Implementations (2011 to 2018)

Watershed	Program	Practice	amount	units	Year (Begin/End)
Lolo Creek	Legislative Funds	Road shaping, rocking, ditching	3	miles	2016/2017
		Culvert upgrades	2	each	2016/2017
	PCSRF	Road shaping, rocking, ditching	3	miles	2016/2017
		Culvert upgrades	5	each	2016/2017
		Road bank stabilization	1,000	feet	2016/2017
	IDL LSR	Tree Planting	107	acres	2018
Jim Brown Creek / Burcham Creek	SRBA	Culvert replacements	37	each	2014/2016
		Road reconstruction	3.8	miles	2014/2016
		Road abandonment	1	miles	2014/2016
Mussellshell Creek	SRBA	Culvert replacements	26	each	2012/2014
		Road rocking	5	miles	2012/2014
		Road abandonment	2	miles	2012/2014

Table 2. NRCS BMP installations 2011-2018

Access Control	11.70	acres
Conservation Cover	426.80	acres
Conservation Crop Rotation	168.70	acres
Critical Acre Planting	1.60	acres
Fence	13,815.00	feet
Forage and Biomass Planting	210.80	acres
Forest Management plan, written	5.00	each
Forest Stand Improvement	782.00	acres
Forest Wildlife Structures	110.00	acres
Heavy Use Protection	1.00	each
Integrated Pest Management	837.50	acres
Nutrient Management	145.30	acres
Prescribed Burning	26.30	acres
Prescribed Grazing	589.60	acres
Residue Management, No till	145.30	acres
Tree and Shrub Establishment	78.70	acres
Tree and Shrub Site Preparation	71.00	acres
Upland Wildlife Habitat Management	169.90	acres
Wildlife water	4.00	each
Woody Residue Treatment	117.30	acres

Table 3: Nez Perce Tribe Accomplishments in Lolo Creek

Practice	Amount	Units
Road decommissioning	114.6	miles
Fence Construction	22.4	miles
Bank Stabilization Projects	5	projects
Riparian Plantings	45,320	plantings
Barrier Replacements	41	each
Culvert removals	11	each
Log Wood Structures	6	each

Resource Concerns

The 2017 review of the Temperature TMDLs found several of the AU's not yet meeting their temperature targets (Table 4). According to the Lolo Creek Watershed TMDL 5-Year Review there has not been any significant changes to temperature. There are no point sources identified in the watershed. Table 5 displays the needed shade reductions.

Table 4. General Status of Lolo Creek watershed (DEQ 2018)

Approved TMDLs	Pollutants	Assessment Units Moving from Category 4a to 2
Eldorado Creek—Temperature Jim Brown Creek—Temperature Musselshell Creek—Temperature	Temperature	All AUs with TMDLs will remain in Category 4a

Table 5. Lolo Creek excess solar loads and percent reduction estimates (DEQ 2018)

Assessment Unit Name	Assessment Unit Number	Total Existing Load	Total Target Load	Excess Load (% Reduction)	Average Lack of Shade (%)
Eldorado Creek	ID17060306CL029_02	500,000	350,000	150,000 30	-17
Jim Brown Creek	ID17060306CL031_02	360,000	120,000	240,000 67	-32
Jim Brown Creek	ID17060306CL031_03	380,000	260,000	110,000 29	-26
Musselshell Creek	ID17060306CL032_02	350,000	230,000	120,000 34	-18
Musselshell Creek	ID17060306CL032_03	320,000	250,000	65,500 20	-16

Treatment

Key treatment areas are Eldorado Creek, Jim Brown Creek and Musselshell Creek. Priorities for implementation will be practices along the creeks that will increase shade with an emphasis on Jim Brown Creek as stated in the TMDL review. Table 6 displays the recommended practices to work toward the needed shade in the watersheds. Table 7 displays the planned project implementations by the Nez Perce Tribe.

Prior to project implementation, it is recommended to determine the existing shade for the site to gain accurate shade increases for the project. Figure 2 shows the reaches with a critical shade deficit from the 2017 review. A critical shade deficit was a reach with a deficit of more than 20% (-88 to -20 %). An intermediate shade deficit is a shade deficits between 0 and -20%.

Table 6. Suggested BMPs

Watershed	Practice	Amount	Units
Eldorado Creek	Riparian Planting	4	miles
	Fence	2	miles
	Heavy Use Protection	10	each
	Stream Stabilization	4	miles
Jim Brown Creek	Riparian Planting	10	miles
	Fence	4	miles
	Heavy Use Protection	25	each
	Stream Stabilization	10	miles
Musselshell Creek	Riparian Planting	5	miles
	Fence	2	miles
	Heavy Use Protection	10	each
	Stream Stabilization	5	miles

Table 7: Nez Perce Tribe Planned Projects in Lolo Creek

Year	Project
2018	Musselshell Beaver Dam Analogs
2019	100 road culvert replacements; approximately 10 miles road decommissioned
2020	Musselshell Beaver Dam Analogs; Road Improvements; Bank stabilization and stream restoration
2021	Yoosa Creek Acclamation Site passage improvement, Musselshell Meadow head-gate improvement, Road 5150 road improvement
2022	Alder Creek culvert replacement; Musselshell Beaver Dam Analogs

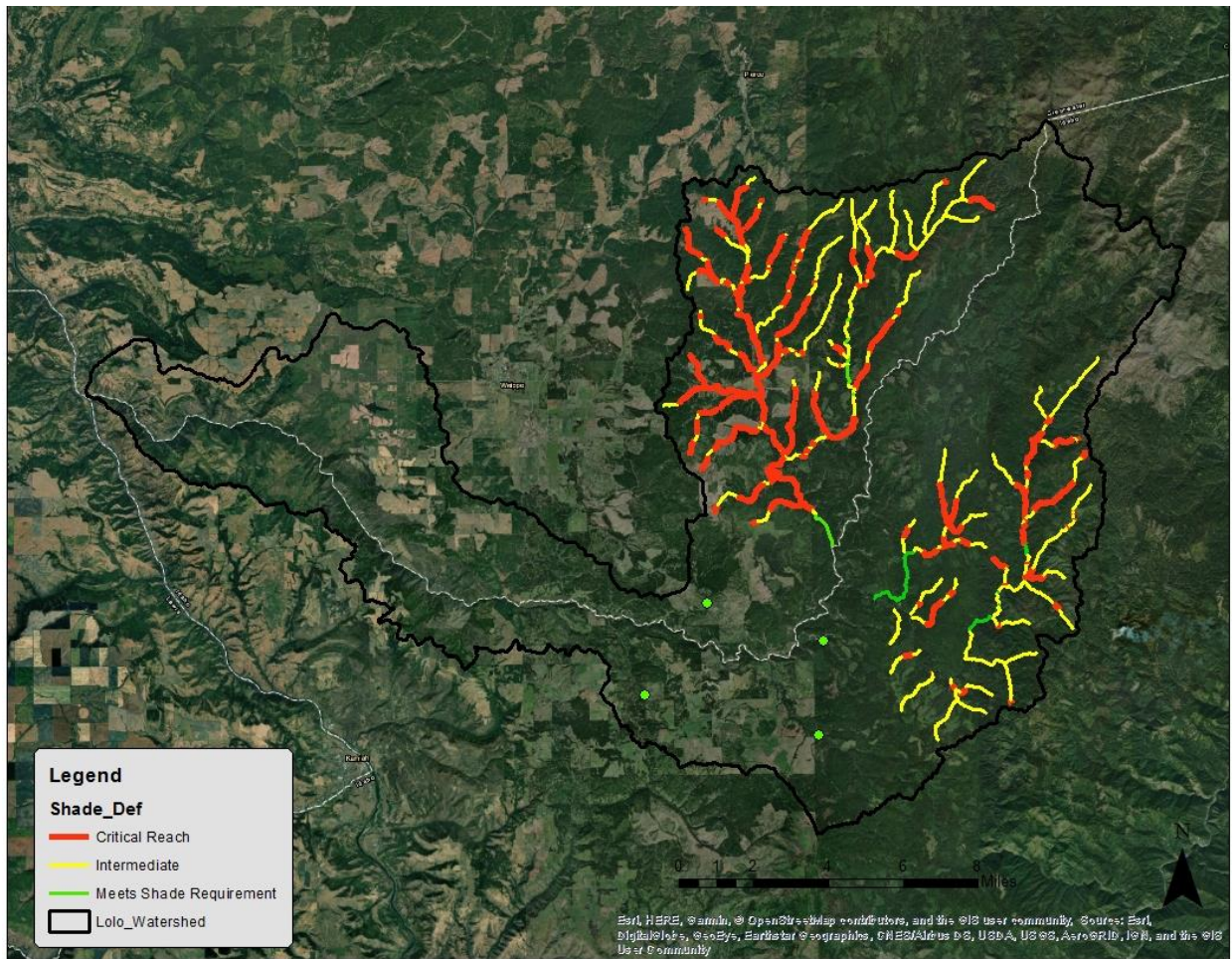


Figure 2: Critical Shade deficits for Eldorado, Jim Brown and Musselshell Creeks

Funding

Financial and technical assistance for installation of BMPs may be needed to ensure success of this implementation plan. The Clearwater and Idaho Soil and Water Conservation Districts can assist interested landowners in actively pursuing potential funding sources to implement water quality improvements on private agricultural and grazing lands. The SWC and NRCS can provide technical assistance when needed. Many of these 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.

http://www.deq.idaho.gov/water/prog_issues/surface_water/nonpoint.cfm#management

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.

<http://www.scc.state.id.us/programs.htm>

Pacific Coast Salmon Recovery Fund (PCSRF): PCSRF is a cost-share program administered through Office of Species Conservation (OSC). The program targets the restoration of anadromous fish habitat.

Environmental Quality Incentives Program (EQIP): EQIP provides financial and technical assistance to agricultural producers in order to address natural resource concerns and deliver environmental benefits such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation or improved or created wildlife habitat.

<http://www.nrcs.usda.gov/programs/eqip/>

Regional Conservation Partnership Program (RCPP) - RCPP 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.

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farmland/rcpp/>

The Agricultural Conservation Easement Program (ACEP) – ACEP 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.

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/easements/acep/>

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. <http://www.nrcs.usda.gov/programs/cta/>

National Grazing Lands Coalition (NatGLC) –The National Grazing Lands Coalition’ promotes ecologically and economically sound management of grazing lands. Grants are available that facilitate the following: (1) demonstration of how improved soil health affects grazing lands sustainability (2) establishment of conservation partnerships, leadership and outreach, (3) education of grazing land managers, professionals, youth and the public (4) enhancement of technical capabilities, and (5) improvement in the understanding of the values and multiple services that grazing lands provide. <http://www.glci.org/>

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 <http://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index>

Conservation Innovation Grants (CIG) –CIG is a voluntary program to stimulate the development and adoption of innovative conservation approaches and technologies for agricultural production.
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/cig/>

State Revolving Loan Funds (SRF) –These funds are administered through the IDEQ.
<https://www.deq.idaho.gov/water-quality/grants-loans/water-system-construction-loans.aspx>

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.
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/alphabetical/csp/>

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.
<http://fishandgame.idaho.gov/cms/wildlife/hip/default.cfm>

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. <http://www.fws.gov/partners/pdfs/ID-needs.pdf>

Idaho Transportation Department – Idaho transportation department has partially funded projects in the basins as part of their wetland mitigation program. <http://itd.idaho.gov/funding/>

Ecotrust – Ecotrust has provided matching funds on projects in the past that focus on restoration. <https://ecotrust.org/our-programs/water/>

Idaho Department of Lands – Forestry & Fire Grants – Includes the Landscape Scale Restoration Grants and the Western Fire Managers & Hazard Fuels Reduction Grants.
<https://www.idl.idaho.gov/grants/index.html>

Maintenance, Monitoring, Evaluation

DEQ will continue to monitor the watersheds as per Idaho Code 39-3611, using BURP protocol. The designated management agencies or the agency that funded the BMP installation will

perform additional monitoring of BMP's and the maintenance of installed BMP's. The Clearwater and Idaho Soil and Water Conservation District's monitor BMP installations to ensure proper maintenance of the practices. Typically, when a volunteer approaches the district for BMP assistance the district evaluates the current site-specific resource concerns. Individual conservation planning with willing landowners will determine the most appropriate BMPs to install on a case-by-case basis.

References Cited

DEQ (Idaho Department of Environmental Quality). 2018. Lolo Creek Watershed Temperature TMDL Five-Year Review. Idaho Department of Environmental Quality. Boise, ID: DEQ.

DEQ (Idaho Department of Environmental Quality). 2011. Lolo Creek Tributaries Subbasin Assessment and Total Maximum Daily Load. Idaho Department of Environmental Quality. Boise, ID: DEQ.

ISWCC (Idaho Soil and Water Conservation Commission). 2011. Lolo Creek Watershed Total Maximum Daily Load Implementation Plan for Agriculture. Boise, ID: ISWC in cooperation with Clearwater Soil and Water Conservation District.

