

Payette River Subbasin – Dry Buck Creek, Anderson Creek, and Sand Hollow

(Hydrologic Unit Code: 17050122)

Agriculture TMDL Implementation Plan



Prepared by: Idaho Soil and Water Conservation Commission

In Cooperation with: Gem Soil and Water Conservation District and
Squaw Creek Soil Conservation District

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IDAHO SOIL & WATER
CONSERVATION COMMISSION

Original Plan: IDEQ. 2003. Lower Payette Total Maximum Daily Load Implementation Plan and Addendum to the Lower Payette River Subbasin Assessment and Total Maximum Daily Load. Boise, ID.

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INTRODUCTION

The Federal Clean Water Act, Section 303(d), requires that states develop Total Maximum Daily Loads (TMDLs) for impaired waters. An addendum to the Lower Payette River Subbasin Assessment (SBA) and TMDL was written by the Idaho Department of Environmental Quality (DEQ) in 2021 to include three additional assessment units for *Escherichia coli*:

- ID17050122SW 002_02 - Tributaries to Black Canyon Reservoir
- ID17050122SW 003_02a - Dry Buck, Peterson and Fleming Creeks
- ID17050122SW 016_03 – Sand Hollow

Pursuant to section 39-3601 et seq., Idaho Code, and IDAPA 58.01.02, Water Quality Standards, the Idaho Soil & Water Conservation Commission (SWCC) is the designated agency for management of nonpoint source pollution on grazing and agricultural land in Idaho and is therefore responsible to lead Total Maximum Daily Load (TMDL) implementation activities on grazing and agricultural land in the State. ISWCC is the agency responsible for preparing the implementation plan for agriculture. Agriculture is considered a non-point pollutant source; therefore, implementation efforts are completed on a voluntary basis.

Purpose

The purpose of this TMDL Implementation Plan for Agriculture is to provide a prioritization strategy for implementing conservation improvements on privately owned agricultural and grazing lands within the assessment units # ID17050122SW002_02, Anderson Creek (tributaries to Black Canyon Reservoir) in Gem County, ID17050122SW003_02a, Dry Buck, Peterson & Fleming Creeks in Boise County, and ID 17050122SW016_03, Sand Hollow Creek in Gem County.

The intent of this plan is to provide guidance and recommendations for the Gem SWCD and Squaw Creek SCD; partnering agencies such as the Natural Resource Conservation Service (NRCS); and agricultural producers in the implementation of Best Management Practices (BMPs) that will reduce bacteria loads where feasible.

Goals and Objectives

The overall goal of this Implementation Plan is to help restore beneficial uses in the Payette River Subbasin in the above listed impaired segments by providing a framework which local stakeholders can use to reach the goals established in the TMDL. This Plan provides details of the actions needed to achieve load reductions, outlines a schedule of these actions, and specifies monitoring needed to document actions and progress toward meeting water quality standards.

BACKGROUND

Project Setting

All three assessment units lie within the Payette River Subbasin in southwest Idaho with hydrologic Unit Code (HUC) of 17050122. The subbasin covers roughly 1,225 square miles or 783,702 acres beginning near Banks, Idaho and ending at the confluence of the Payette and Snake Rivers on the Oregon border. Climate

for the region is characterized by hot and dry summers with cool winters. For more information about the Payette River Subbasin see the Lower Payette River Subbasin Assessment and Total Maximum Daily Load (DEQ 1999) and the Payette Lower – Payette River Subbasin – Dry Buck Creek, Anderson Creek, and Sand Hollow E. coli TMDL (DEQ, 2021).

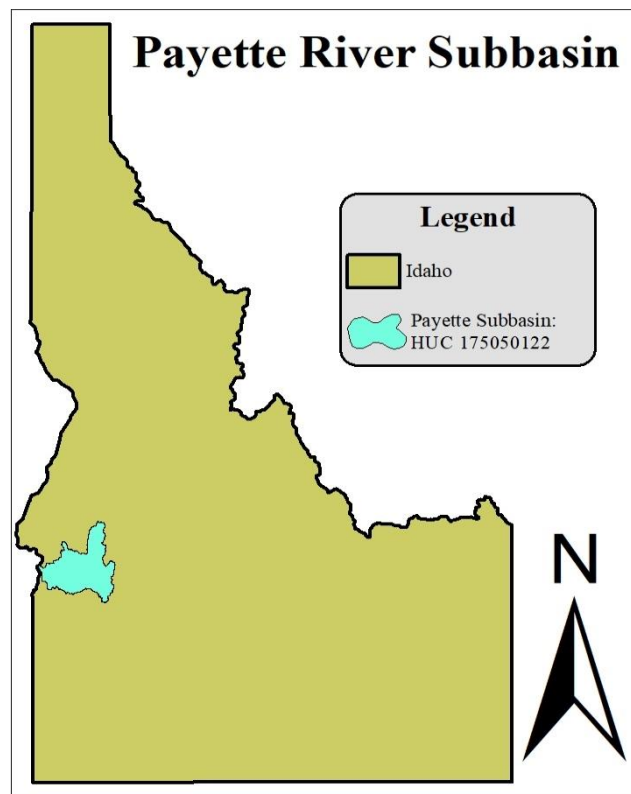


Figure 1 Location of Payette Subbasin within Idaho

This TMDL provides E. coli loading allocations for three AUs currently listed in Category 5 for bacteria impairment. Of the three AUs listed, all have relatively high current bacteria loads and require at least a 63% reduction in bacteria.

ID17050122SW 002_02 - Tributaries to Black Canyon Reservoir

The tributaries to Black Canyon Reservoir include Anderson Creek, Johnson Creek, Long Hollow Creek and Spring Creek. Of the four tributaries, only Anderson Creek was sampled by the DEQ BURP team in 2020. DEQ sites that Anderson Creek was sampled because of available flow and historical bacteria impairments. Anderson Creek is a second order 6.3-mile creek that flows south to north through mostly privately owned lands and drains into the south side of the Black Canyon Reservoir northeast of Emmett, Idaho. While the stream is classified as perennial, flows have been observed to stop in late July.

ID17050122SW 003_02 - Dry Buck, Peterson and Fleming Creeks

This assessment unit also contains multiple tributaries but only Dry Buck Creek was sampled by the DEQ BURP team in 2020. The headwaters of Dry Buck Creek begin at Dry Buck Mountain. Dry Buck Creek (Peterson and Fleming Creeks) has an assessment unit size of 29.38 miles and is located west of Banks, Idaho. It is a smaller assessment unit, with just less than 30 miles of stream in the AU. The headwaters begin in drier open range meadows nested below Dry Buck Mountain, and flow north to south experiencing significant elevation change in the last one and a half miles before flowing into the Payette; about 1,400 feet

in 1.5 miles. The watershed is very rural, with few inhabitants along the creek. Gravel/dirt roads travel beside much of the creek throughout the watershed.

ID17050122SW 016-03 – Sand Hollow

Sand Hollow is an intermittent stream located on the Emmett Bench northwest of the town of Letha. Sand Hollow is a 3rd order stream with the 303(d) listed segment spanning for 2.69 miles. The 3rd order of Sand Hollow Creek is located below the Emmett Irrigation District canal and flows entirely through privately owned irrigated agricultural land. Irrigation water returns to Sand Hollow during the irrigation season and Sand Hollow becomes an agricultural drain until it's outlet at the Lower Payette River.

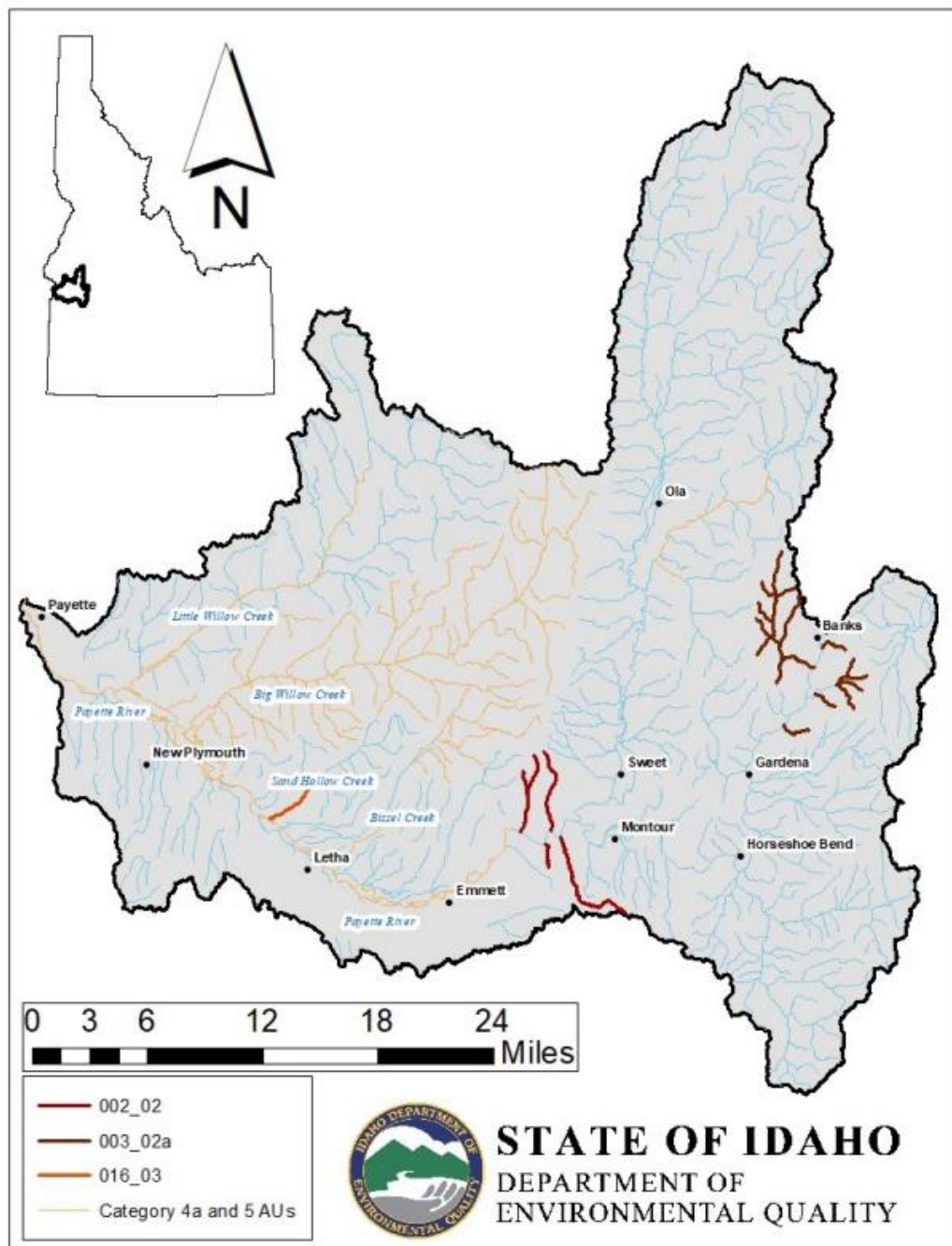


Figure 2 Location of assessment units (DEQ, 2021)

LAND CLASSIFICATION/OWNERSHIP

Landownership in the subbasin consists of private and public lands with private ownership making up just over half. Table 1 & 2 breaks down landownership, total acres, and percent of subbasin used by each.

Table 1 Land Classification

Classification	Acres	% of Subbasin
Forested	164,577	21%
Rangeland	619,125	79%
Total	783,702	100%

Table 2 Landownership

Landowner/ Manager	Acres	% of Subbasin
Private	462,384	59%
BLM	156,741	20%
USFS	109,718	14%
BOR, State & Other	54,859	7%
Total	783,702	100%

Accomplishments

The following tables summarize the implementation of Best Management Practices (BMPs) for each assessment unit for the years 2003-2024. The practices were implemented through the NRCS Environmental Quality Incentive Program (EQIP) and Conservation Technical Assistance (CTA).

Table 3 Tributaries to Black Canyon Reservoir BMPs

Assessment Unit - ID17050122SW 002_02 Tributaries to Black Canyon Reservoir					
Best Management Practice - Practice Code - Units	Crop	Pasture	Range	Land Unit Acres	Total
Fence – 382 - Ft	0	6,200	32,990	0	39,190.00
Watering Facility – 614 – N/A	0	6	2	0	8.00

Table 4 Dry Buck, Peterson, and Fleming Creek BMPs

Assessment Unit - ID17050122SW 003_02a Dry Buck, Peterson, and Fleming Creek					
Best Management Practice - Practice Code - Units	Crop	Pasture	Range	Land Unit Acres	Total
Fence – 382 - Ft	0	0	17,080	0	17,080.00
Watering Facility – 614 – N/A	0	0	2	0	2.00

Table 5 Sand Hollow BMPs

Assessment Unit - ID17050122SW 016_03 Sand Hollow					
Best Management Practice - Practice Code - Units	Crop	Pasture	Range	Land Unit Acres	Total
Nutrient Management – 590- Ac	138.9	14.60	0	0	153.5
Watering Facility – 614 – N/A	0	4	0	0	4.00

WATER QUALITY PROBLEMS

Beneficial Use Status

According to the Idaho DEQ beneficial use on creeks, rivers, lakes, and reservoirs, beneficial use is defined as any of the uses of water that are recognized in water quality standards, including, but not limited to aquatic life, recreation, water supply, wildlife habitat, and aesthetics. Data collected at Anderson Creek and Dry Buck Creek show that these two AU's do not fully support primary contact recreation (PCR) for which they are designated for. Sand Hollow does not fully support secondary contact recreation (SCR) for which it is a presumed use.

Past Water Quality Monitoring

AU# ID17050122SW002_02

Sampling at this location (Anderson Creek) began in 2004, with significant bacteria concentrations found. This resulted in the AU being 303 (d) listed for bacteria impairment. During the 2019 monitoring season

little to no flow was observed in the creek and resulted in samples not being taken. In 2020 streamflow had increased which resulted in samples being taken by DEQ.

AU# ID17050122SW003_02a

Sampling in this AU (Dry Buck Creek) occurred in 2015 through DEQs Beneficial Use Reconnaissance Program (BURP). A five-sample geomean was conducted and the AU was found to be impaired by bacteria and was 303 (d) listed. In 2020 additional sampling took place to update the TMDL. This AU has multiple tributaries, but only Dry Buck Creek was sampled in 2020.

AU# ID17050122SW016_03

In 2008 Idaho State Department of Agriculture (ISDA) took samples in the AU (Sand Hollow) to evaluate changes in the subbasin. Then in 2018 a collaboration between DEQ and ISWCC resulted in samples being taken again. Single sample threshold exceedances were observed in one of the nine samples collected. Samples collected in 2020 were collected at a separate location further upstream from those collected in 2018 (DEQ, 2021). 2020 sampling exceeded bacteria thresholds. Samples were once again collected in 2024 between the Gem SWCD and IDEQ, with results still being analyzed.

Pollutants of Concern

The Payette River subbasin has multiple pollutants that TMDLs were developed for, which include temperature, bacteria, and sedimentation/siltation. This report will only focus on bacteria as that is the pollutant of concern for these assessment units.

- AU# ID17050122SW002_02 (Anderson Creek) – Bacteria
- AU# ID17050122SW003_02a (Dry Buck Creek) – Bacteria
- AU# ID17050122SW016_03 (Sand Hollow) – Bacteria

Bacteria – Escherichia coli (E. coli)

Based on monitoring results collected in 2020 by Idaho DEQ, AUs listed above exceeded the Idaho Water Quality Standards of 126 cfu/mL. Geomeans for each creek are as follows: Anderson Creek 1925 cfu, Dry Buck Creek 336 cfu, and Sand Hollow 531 cfu. Percent of load reductions recommended for each AU are Anderson Creek 93%, Dry Buck Creek 63%, and Sand Hollow 76%. Summary of data can be found in the Payette River Subbasin - Dry Buck Creek, Anderson Creek, and Sand Hollow TMDL – 2021.

Identified Problems

Potential sources of bacteria in this subbasin are from nonpoint sources, as there are no permitted point sources of E. coli with potential discharges in the AUs analyzed as part of this TMDL (DEQ, 2021). Nonpoint sources include wildlife, irrigated and non-irrigated lands used for livestock grazing, improper application of manure on irrigated cropland, faulty septic systems, and recreation sites.

Treatment

Priorities

Implementation priority should focus on critical areas within the AU that will have the greatest potential for pollutant transport. Critical areas are selected based on their location relative to the water body of concern

and the areas' ability to convey pollutants. Critical areas in these AUs include pastureland and surface irrigated cropland.

Recommended BMPs

The Ag Plan defines a BMP as a practice, or combination of practices, determined to be the most effective, practicable means of reducing the amount of nonpoint source pollution generated by agricultural activities (ISWCC, 2013). BMPs for reducing bacteria pollutants include riparian fencing, off-site livestock watering systems, and nutrient management among other things. A site-specific conservation plan will help identify the most suitable BMP for the area. Not every BMP is appropriate for every situation, and each case should be evaluated individually. Idaho Code §39-3621 identifies the Idaho Soil and Water Conservation Commission (ISWCC) as the designated state agency for agricultural and grazing activities, and appropriate BMPs can be selected by ISWCC; along with collaborating agencies and landowners (DEQ, 2021). Table below shows BMP's and associated NRCS Practice Codes that moderately to substantially reduce bacteria, such as E. coli, in surface waters.

Table 6 NRCS BMPs and Practice Codes

• Vegetated Treatment Area – 635 • Nutrient Management - 590 • Riparian Forest Buffer – 391 • Alley Cropping – 311 • Fencing - 382	• Constructed Wetland – 656 • Filter Strip – 393 • Riparian Herbaceous Cover – 390 • Watering Facility – 614 • Use Exclusion - 472
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Funding

Funding sources are available to landowners to help implement the agriculture plan for voluntary BMPs on their private agriculture or grazing lands. Soil and Water Conservation Districts along with technical assistance from ISWCC and NRCS can help provide the means in applying for these funding sources. Some funding sources can be used in conjunction with one another to provide more savings and larger natural resource conservation projects. Potential funding sources include:

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.

<https://www.nrcs.usda.gov/programs-initiatives/acep-agricultural-conservation-easement-program>

Conservation Innovation Grants (CIG) –CIG is a voluntary program to stimulate the development and adoption of innovative conservation approaches and technologies for agricultural production.

<https://www.nrcs.usda.gov/programs-initiatives/cig-conservation-innovation-grants>

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.

<https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserveprogram/>

Conservation Stewardship 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.

<https://www.nrcs.usda.gov/programs-initiatives/csp-conservation-stewardship-program>

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.

<https://www.nrcs.usda.gov/getting-assistance/conservation-technical-assistance>

CWA 319 – Federal §319 Grants are Environmental Protection Agency (EPA) 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.

<https://www.deq.idaho.gov/water-quality/grants-and-loans/nonpoint-source-subgrants-in-idaho/>

Environmental Quality Incentives Program (EQIP): EQIP provides financial and technical assistance to agricultural producers 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.

<https://www.nrcs.usda.gov/programs-initiatives/eqip-environmental-quality-incentives>

General Fund - Agricultural BMP Grant - These are funds appropriated by the Idaho State Legislature from the Idaho general fund to the Idaho Department of Environmental Quality (DEQ) to implement agricultural best management practices (BMPs) within Idaho

<https://www.deq.idaho.gov/water-quality/grants-and-loans/nonpoint-source-subgrants-in-idaho/>

Habitat Improvement Program (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.

<https://idfg.idaho.gov/conservation/habitat/hip>

ID Parks & Recreation – The Idaho Department of Parks and Recreation provides a variety of funding programs and grants to government entities in Idaho for the provision of equipment and for the creation and renovation of outdoor recreational facilities.

<https://parksandrecreation.idaho.gov/>

National Fish and Wildlife Foundation – NFWF provides funding on a competitive basis to projects that sustain, restore, and enhance our nation's fish, wildlife, plants, and their habitats.

<http://www.nfwf.org/>

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.

<https://www.grazinglands.org/>

Partners Program in Idaho – This U.S. Fish and Wildlife program provides funding for the restoration of degraded riparian areas along streams, and shallow wetland restoration.
<https://www.fws.gov/project/idaho-partners-fish-and-wildlife-program>

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

Resource Conservation and Rangeland Development Program (RCRDP) –The RCRDP is a low-interest loan program administered by the Idaho Soil and Water Conservation Commission (ISWCC) for implementation of agricultural and rangeland best management practices or loans to purchase equipment to increase conservation.
<https://swc.idaho.gov/home-2/what-we-do/conservation-programs-2/conservation-loans-2/>

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

Source Water Protection Grants - Funding for projects to protect sources of public drinking water.
<https://www.deq.idaho.gov/water-quality/grants-and-loans/source-water-protection-grants/>

Sustainable Agriculture Research and Education Grants (SARE) - Since 1988, SARE has funded more than 5,000 projects with grants for farmers, ranchers, extension agents and educators, researchers, nonprofits, students, communities, and others. SARE's mission is to advance—to the whole of American agriculture—innovations that improve profitability, stewardship, and quality of life by investing in groundbreaking research and education.
<https://western.sare.org/grants/>

Water Quality Program for Agriculture (WQPA) – WQPA is administered by the Idaho Soil and Water Conservation Commission (ISWCC) and is coordinated with the TMDL process. Contact your local Soil and Water Conservation District or the ISWCC for more information.
<https://swc.idaho.gov/>

Monitoring and Evaluation

Monitoring and Evaluation of streams, lakes, and rivers in the subbasin are done through DEQ's beneficial use reconnaissance program (BURP). With the information reported in Integrated Reports, Subbasin Assessments, and TMDLs, Soil Conservation Districts can focus projects to have the greatest effect on water impairments. The objective of monitoring is to demonstrate long-term recovery, better understand natural variability, track project and BMP implementation, and track the effectiveness of TMDL implementation (DEQ, 2021).

Monitoring specific BMP implementation will depend on funding sources used along with their requirements. Monitoring for specific BMP implementation may include, but is not limited to, photo documentation throughout implementation, status reviews, conservation project tours, and grant reporting and documentation.

Evaluating the effectiveness of agricultural BMPs directly relates to the technical standard of the practice. Idaho Agriculture Best Management Practices- Field Guide for Evaluating BMP Effectiveness (ISWCC, 2013) gives more information and steps on how to properly evaluate the effectiveness of BMP implementation.

The Agricultural TMDL Implementation Plan will be reviewed during the 5-year review process where the effectiveness of the plan will be determined.

References

DEQ. (2021). *Payette Lower – Payette River Subbasin – Dry Buck Creek, Anderson Creek, and Sand Hollow E. coli TMDL*. State of Idaho, Department of Environmental Quality. Retrieved 2024, from <https://www2.deq.idaho.gov/admin/LEIA/api/document/download/16233>

DEQ. (2022). DEQ- 2022 Integrated Report. Retrieved 2024, from <https://www.deq.idaho.gov/water-quality/surface-water/monitoring-and-assessment/>

IDEQ. (2024) IDEQ – Payette River Subbasin. Retrieved 2024, from <https://www.deq.idaho.gov/water-quality/surface-water/total-maximum-daily-loads/payette-river-subbasin/>

ISWCC. (2013). Idaho Agricultural Best Management Practices: Field Guide for Evaluating BMP Effectiveness (Revised April 2013 ed.). (Resources Planning Unlimited, Inc., Ed.) Retrieved 2024, from https://swc.idaho.gov/wp-content/uploads/2019/08/bmp_april2013-sml.pdf