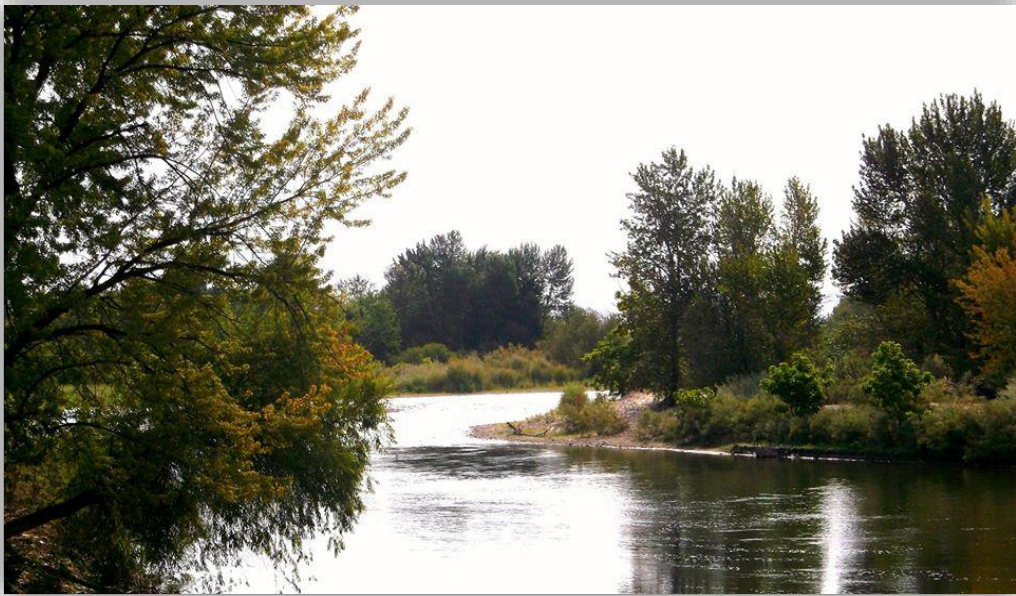


Gem Soil & Water Conservation District



FIVE-YEAR RESOURCE CONSERVATION

BUSINESS PLAN

JULY 1, 2023 – JUNE 30, 2027

1857 Highway 16, Suite B • Emmett, Idaho 83617

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Executive Summary

The Gem Soil and Water Conservation District is one of 50 Conservation Districts in Idaho. Idaho Soil and Water Conservation Districts are political subdivisions of state government but are not state agencies. Conservation Districts are charged with carrying out a program for the conservation, use and development of soil, water, and other natural resources.

Conservation Districts are the primary entities to provide assistance to private landowners and land users in the conservation, sustainment, improvement and enhancement of Idaho's natural resources. They are catalysts for coordinating and implementing conservation programs, channeling expertise from all levels of government into action at the local level. Programs are non-regulatory; science-based technical assistance, incentive-based financial programs and informational and educational programs at the local level.

Both by legislation and by agreement the USDA Natural Resources Conservation Service provides technical assistance to landowners and land users through Conservation Districts. Each Conservation District in Idaho has a signed Mutual Agreement with the Secretary of Agriculture and the Governor of Idaho that establishes a framework for cooperation.

This Annual Plan/Five-Year Resource Conservation Business Plan was developed not only to guide the Conservation District, but also to encourage cooperation among landowners, government agencies, private organizations, and elected officials. Through knowledge and cooperation, all concerned can ensure a sustainable natural resource base for present and future generations in them Gem Soil and Water Conservation District.

This document identifies the resource needs in the Conservation District and presents a resource conservation action plan for meeting these needs.

Certificate of Adoption

The Board of elected supervisors of the Gem Soil and Water Conservation District this 6th day of March 2023, do hereby approve the following document known as the Resource Conservation Business Plan. This Plan will be in effect for a five-year period ending June 30, 2026 during which time it will be updated annually and/or amended, as necessary.

As evidence of our adoption and final approval, we do hereby affix our signatures to this document.

_____ Kirk Vickery – Chairman

_____ Maggie Sisler – Vice Chairman

_____ James Hutchison – Treasurer

_____ Cliff Fivecoat – Secretary

_____ James McCann – Supervisor

_____ John Shane – Associate

Supporting Idaho Conservation Partners

_____ Natural Resources Conservation Service

_____ Idaho Soil and Water Conservation Commission

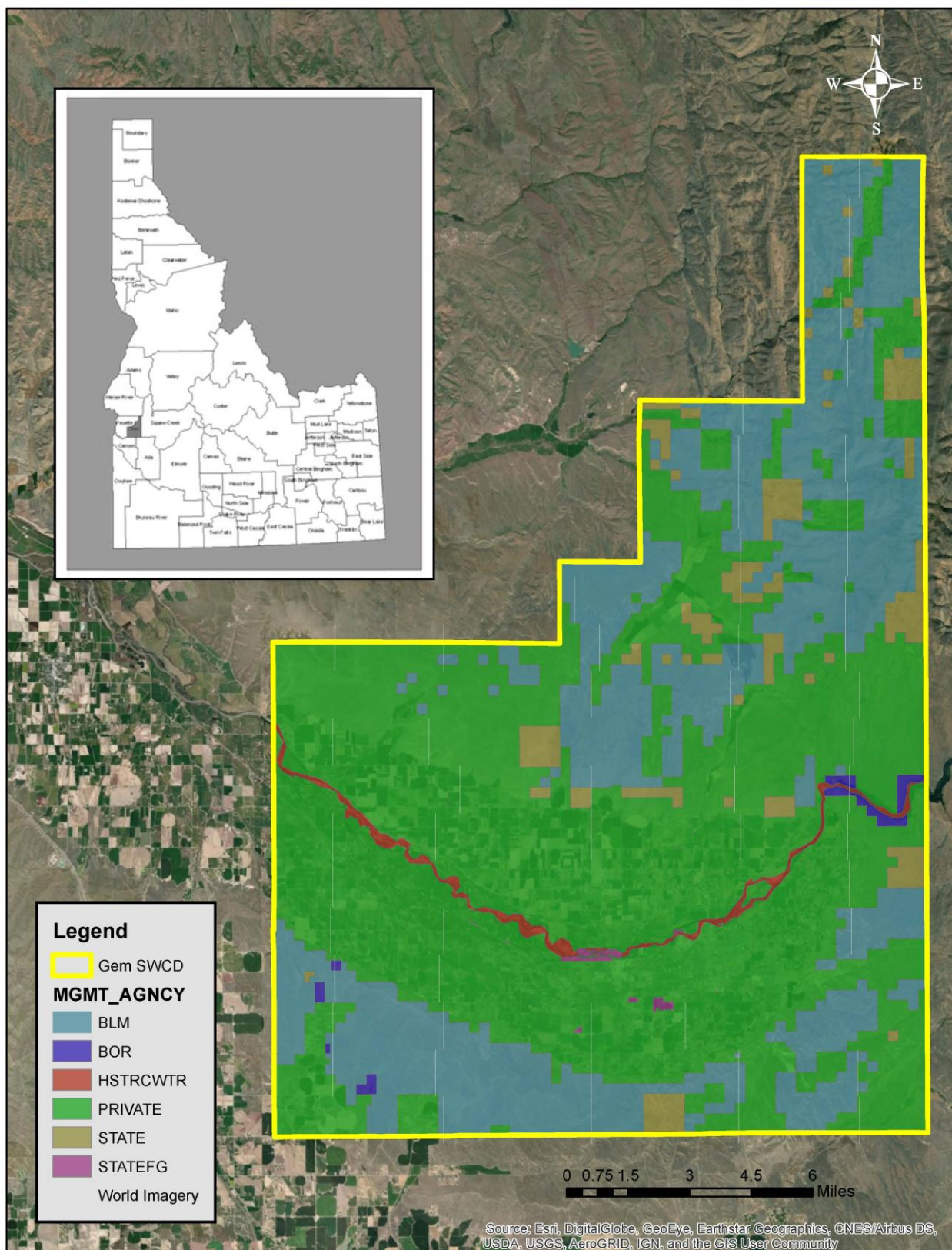
_____ Idaho Association of Soil Conservation Districts

Physical Characteristics

Gem County is in Southwestern Idaho, bordering Ada and Canyon Counties to the south, Payette and Washington Counties to the west, Adams and Valley Counties to the north, and Boise County to the east. The total approximate area for Gem County is 565 square miles.

Elevations range from approximately 2,300 feet in the west along the Payette River to approximately 7,200 feet in the mountains to the north. The major drainages in Gem County include the Payette River, which flows from east to west through the southern portion of the county and Squaw Creek, whose drainage area extends to the north in the panhandle of the county.

Gem SWCD encompasses the lower portion of Gem County in the Lower Payette River watershed. There are 153,865 acres in the Gem SWCD. The district's main agricultural producers are orchards, row crops, pasture and hay, dairies, and cattle. Emmett is the only city in the Gem SWCD, (population of 7,647), and Letha an unincorporated community.



Economic Conditions and Outlook

County population in July 2021: 19,792 (55% urban, 45% rural)

County owner-occupied houses and condos rate: 74.8%

Percentage of renters

Gem County: 25%

State: 30%

Land area: 560 sq. mi.

Water area: 3.2 sq. mi.

Population density: 34 people per square mile .

2022 cost of living index in Gem County: 99.4 (less than average, U.S. average is 100)

Agriculture in Gem County:

Average size of farms: 213 acres

Average value of agricultural products sold per farm: \$45,560

Average value of crops sold per acre for harvested cropland: \$366.22

The value of livestock, poultry, and their products as a percentage of the total market value of agricultural products sold: 67.82%

Average total farm production expenses per farm: \$55,032

Harvested cropland as a percentage of land in farms: 15%

Irrigated harvested cropland as a percentage of land in farms: 91.51%

Average market value of all machinery and equipment per farm: \$36,071

The percentage of farms operated by a family or individual: 93.64%

Average age of principal farm operators: 54 years

Average number of cattle and calves per 100 acres of all land in farms: 12.38

Milk cows as a percentage of all cattle and calves: 8.40%

Corn for grain: 1765 harvested acres

All wheat for grain: 1892 harvested acres

Vegetables: 24 harvested acres

Land in orchards: 591 acres



5-Year Resource Conservation Business Plan

July 1, 2023-June 30, 2027

Gem Soil & Water Conservation District

1857 Highway 16, Suite B, Emmett, ID 83617-9076 (208)963-4693

Organization of the Gem Soil & Water Conservation District

A political subdivision of the State of Idaho – authorities, powers and structure contained in Soil Conservation District Law, Title 22, Chapter 27, Idaho Code

- Organized in 1954 to provide voluntary land and water conservation technical and financial assistance to landowners and uses within the Gem SWCD boundary.
-

Function of the Gem Soil & Water Conservation District

To make available technical, financial, and educational resources, whatever their source, and focus or coordinate them so that they meet the needs of the local land manager with conservation of soil, water and related natural resources.

We Serve & Why

- The people and natural resources in the Gem SWCD, to conserve the natural resources for the beneficial and sustainable use by all.
-

Mission of the Gem Soil & Water Conservation District

- The Districts mission is to set high standards for conservation of soil, water and related natural resources and encourage cooperation among landowners, government agencies, private organizations and elected officials, through education, technical support and financial assistance.
-

Vision of the Gem Soil & Water Conservation District

- *To be recognized by landowners, agencies, organizations and the public as the district entity for the coordination of natural resource information in Gem SWCD.*
-

Values of the Gem Soil & Water Conservation District

- Sustainable use of natural resources
 - Support for agriculture activity that uses sustainable, economic feasible practices
 - Value and respect for the Idaho Conservation Partnership
 - Conservation education for adults and youth
-

Natural Resource Priorities and Goals:

- Water Quality / Animal Waste Management
- Irrigated Cropland
- Public Outreach / Information and Education
- *Rangeland*
- Urban

Priorities and Goals

1. Water Quality

- By April with assistance of Conservation Partners provide and/or determine nutrient management technical assistance needed by dairies and beef feeding operations.
- Attend Lower Payette River Watershed Advisory Group and administer financial funds for administrative assistance.

2. Irrigated Cropland

- By April evaluate irrigation systems in order to improve water management.

3. Public Outreach / Information & Education

- Semi-annually SWCD will provide current information to constituents through the District quarterly newsletter.
- By March develop and implement a Conservation Outreach Program.
- Annually conduct youth environmental education programs and increase participation in – speech contest, poster contest, seek and sponsor Envirothon Team.
- Participate with IASCD in the display at the capitol.
- Promote and facilitate pollinator education through outreach/educational opportunities and projects.
- Sponsor field day event for local fifth graders with focus on natural resource education.

4. Rangeland

- Annually assist landowners and operators to control animal waste.
- Continually work with the Nez Perce Biocontrol Center to introduce and manage biocontrol agents for Rush Skeleton Weed and Poison Hemlock and other biocontrol agents as available.
- By September reduce invasive and noxious weeds in Lower Payette Weed Management Area.
- By March, a work plan will be developed with Lower Payette Weed Management Partners leading to a 25% reduction in noxious weed species by the end of October.

5. Urban

- Work with Gem County and the City of Emmett to purchase and plant trees whereas needed in the community on a yearly basis for Arbor Day.

Information – Education Priorities and Goals:

- By April each year, all 5th grade students will have had the opportunity to participate in the conservation poster contest.
- By the end of April annually, give seedling tree and presentation on the importance of planting a tree to all third graders.
- By the end of May annually, district will host natural resource field day for 5th grade.
- By September distribute rules and other materials to district High School students for speech contest.
- Semi-annually all Conservation District cooperator addresses and files will be updated.

District Operations Priorities, Goals:

- New supervisors will have completed New Supervisor Training.
- Semi-annually complete effective and efficient operations including accounting, personnel management, training and development, annual planning and reporting.
- In cooperation with Conservation Districts develop and carry out an effective legislative outreach program to ensure 90% State matching funds for all Districts.
- Conduct Conservation District elections in November 2024 and 2026.

Trends Impacting Conservation in the Gem Soil & Water Conservation District

- Urban impact on agriculture production
- Poorly planned growth in agricultural areas
- Increasing small acreage farms, five acres or less
- Limited availability of State funds for conservation
- Focus on water quality compared to other conservation and environmental issues
- Increased paperwork to getting the job done
- Trend to regulate agriculture and ranching

Strategies to Address Trends

- More education but not the usual – more outreach instead of publications
- Determine opportunities to coordinate outreach activities with traditional and non-traditional partners.
- Raising awareness of conservation values with state legislature and elected officials – help decision makers be better informed
- Strengthen Locally Led efforts
- Supervisors become more informed on current issues impacting working lands, Farm Bill programs, Information from agencies instead of relying on NRCS District Conservationist
- Determine how to become involved with County Planning and Zoning issues impacting natural resources.
- Map noxious and invasive weeds to more effectively target weed control efforts
- Establish a data base to track resource conditions
- Host an open house to make public aware of goals
- Solicit input to improve Annual Plan/Five-Year Resource Conservation Business Plan
- Take a proactive approach to funding water delivery systems on irrigated cropland
- Identify the information methods to communicated with small landowners
- Sponsor project proposals with other districts
- Training for Conservation District Supervisors and staff

Staffing Needs

- Full-time Conservation District Administrative Assistant/Office Manager with benefits

Key Decision Makers

- Landowners in Conservation District
- Gem County Commissioners and Planning and Zoning – Mark Rekow, Bill Butticci and Kirk Wille, Matthew Humphrey

- State Legislators representing Conservation District – Senator C. Scott Grow, Representative Edward “Ted” Hill, Representative Josh Tanner
- U.S. Senators, Representatives – Senator Mike Crapo, Senator James Risch, Congressman Russ Fulcher, Congressman Mike Simpson
- Conservation District Supervisors – Chairman Kirk Vickery, Vice-Chair Maggie Sisler, Treasurer James Hutchison, Secretary Cliff Fivecoat, Supervisor James McCann, Associate John Shane

Priority Actions – 6 Months

- *Priority actions needed to start the 5-year plan of the Gem Soil & Water Conservation District based on the above information.*

Action	Begin Date	End Date
▪ Seek public comments on Annual Plan/Five-Year Resource Conservation Business Plan	3/1/23	8/30/23
▪ Board of Supervisor review of Annual Plan/Five-Year Resource Conservation Business Plan priorities, actions, and public comment	3/1/23	8/6/23
▪ Complete written update of Annual Plan/Five-Year Resource Conservation Plan	3/7/23	3/31/23
▪ Identify budget and staff needs	10/1/23	3/30/23
▪ Develop, adopt and submit annual budget	2/1/23	3/30/23
▪ Adopt and submit Annual Plan/Five-Year Resource Conservation Business Plan	3/6/23	3/31/23

Water Quality

Gem Soil & Water Conservation District addresses agricultural non-point source pollution as set forth in the 1987 Water Quality Act-Section 319, the Safe Drinking Water Act of 1986, and the Clean Water Act of 1972-Antidegradation Program. Gem SWCD accepts this responsibility to preserve a local voluntary approach for control and abatement of agricultural non-point source pollution to protect and enhance the quality and value of Idaho's water resources.

Idaho Department of Environmental Quality (DEQ) has collaborated with local Watershed Advisory Groups (WAG) to establish Total Maximum Daily Loads for streams listed impaired under CWA and WQA. An Agriculture Implementation Plan is then developed after the TMDL's are established for the pollutants listed. These implementation plans are developed by the Idaho Soil & Water Conservation Commission.

1999 Lower Payette River Subbasin Assessment and TMDL Summary

Fisheries studies conducted by the Idaho Department of Fish and Game in 1997 indicate many of the same species supported by the river in 1974 were also supported in 1997. Mountain Whitefish is the dominant cold water species. Warmwater species can be found throughout the river, with nongame species being dominant.

Sources of pollutants include both point sources and nonpoint sources. Point sources are limited mainly to municipal wastewater treatment plants and confined animal feeding operations. Nonpoint sources are associated with agricultural, urban, suburban, and rural areas.

Nutrients have not been shown to cause impairment to the beneficial uses in this water body at this time. While total phosphorus and nitrogen are at concentrations that could cause nuisance aquatic vegetation growth, data show they do not, most likely due to sufficient water flow. If it is determined that the lower Payette River is a significant source of nutrients to the lower Snake River (in the lower Snake River/Brownlee TMDL), reduction targets for the lower Payette River will be addressed at that time.

Summer water temperatures in the lower Payette River are warm and exceed water quality standards for both cold water biota and salmonid spawning. However, it was determined that other factors, including habitat modification and flow alteration, were also significant causes of beneficial use impairment. In addition, warm water temperatures that exceed water quality standards originate from Black Canyon Reservoir. Because of these conditions, a temperature TMDL was not developed during this original TMDL effort. TMDLs were also not written for flow alteration and habitat modification because these are not pollutants as described under Section 303(d) of the Clean Water Act.

Fecal coliform bacteria levels exceed the water quality standards for both primary and secondary contact recreation. Increasing levels are noted from Black Canyon Dam to the Snake River, with an exceedance of the water quality standards from river mile 25 to the confluence. Overall, a fecal coliform reduction of 84% will be required to achieve water quality standards. The load allocation will focus on nonpoint sources only. The overall contribution to the fecal coliform bacteria load from point sources (municipal wastewater treatment plants) is 0.005%. If the total elimination of bacteria from the point sources were to occur, a total load reduction of only 0.07% would be achieved. Therefore, any reduction from point sources would not impact the overall load to the lower Payette River.

2003 Bissel Creek Watershed Assessment and TMDL Summary

Bissel Creek is a 15.3-mile 2nd-order tributary to the lower Payette River in Gem County, Idaho. TMDLs for the rest of the Lower Payette River subbasin are addressed in a separate document. The confluence of Bissel Creek and the lower Payette River is located approximately 11 miles downstream and west of Emmett at Letha. Landownership within the Bissel Creek drainage includes both private and public lands. Much of the public land is managed for grazing by the Bureau of Land Management. The Bissel Creek watershed is approximately 25.5 square miles (16,297 acres).

In 1998, Bissel Creek was classified as water quality limited due to excessive sediment. In addition, recent bacteria data obtained for Bissel Creek indicate that primary contact recreation is not supported. Data indicate that below the North Side Canal, Bissel Creek contains excess total suspended solids during the irrigation season (April - September). The irrigation season total suspended solids average at two of the three established monitoring locations exceeds the 22 milligrams per liter target. A total suspended solids TMDL was developed in this document for the segment below the North Side Canal to reduce the amount of sediment in the water column.

The data also indicate that Bissel Creek contains excess *E. coli* bacteria below the North Side Canal. Estimated geometric mean concentrations for the month of July at all three established monitoring locations show that the *E. coli* concentration is more than five times the standard of 126 organisms per 100 milliliters of water. At one location, the concentration is more than seven times the standard. A TMDL was developed in this document to reduce the amount of *E. coli* bacteria in the stream.

TMDLs:

Lower Payette River	Bacteria
Bissel Creek	Sediment, bacteria

2021 Payette Subbasin E. Coli TMDLs

Three assessment units within the Payette subbasin were identified as not supporting primary or secondary contact recreation beneficial uses due to exceedances of numeric *E. coli* criteria. This document established bacteria (*E. coli*) TMDLs for three assessment units that are impacted by non-point sources pollution. The TMDL analysis established water quality targets, load capacities,

estimates of existing pollutants loads, and estimated load reduction needed to protect water quality standards.

2021 TMDL: Streams and Pollutants for Which TMDLs were Developed

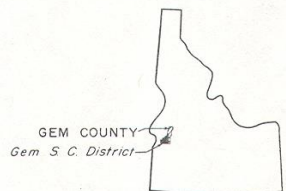
Stream	
Tributaries to Black Canyon Reservoir	E. coli
Dry Buck and Peterson, & Fleming Creeks 1st & 2nd order	E. coli
Sand Hollow – 3rd order	E. coli

Subbasin Document(s)

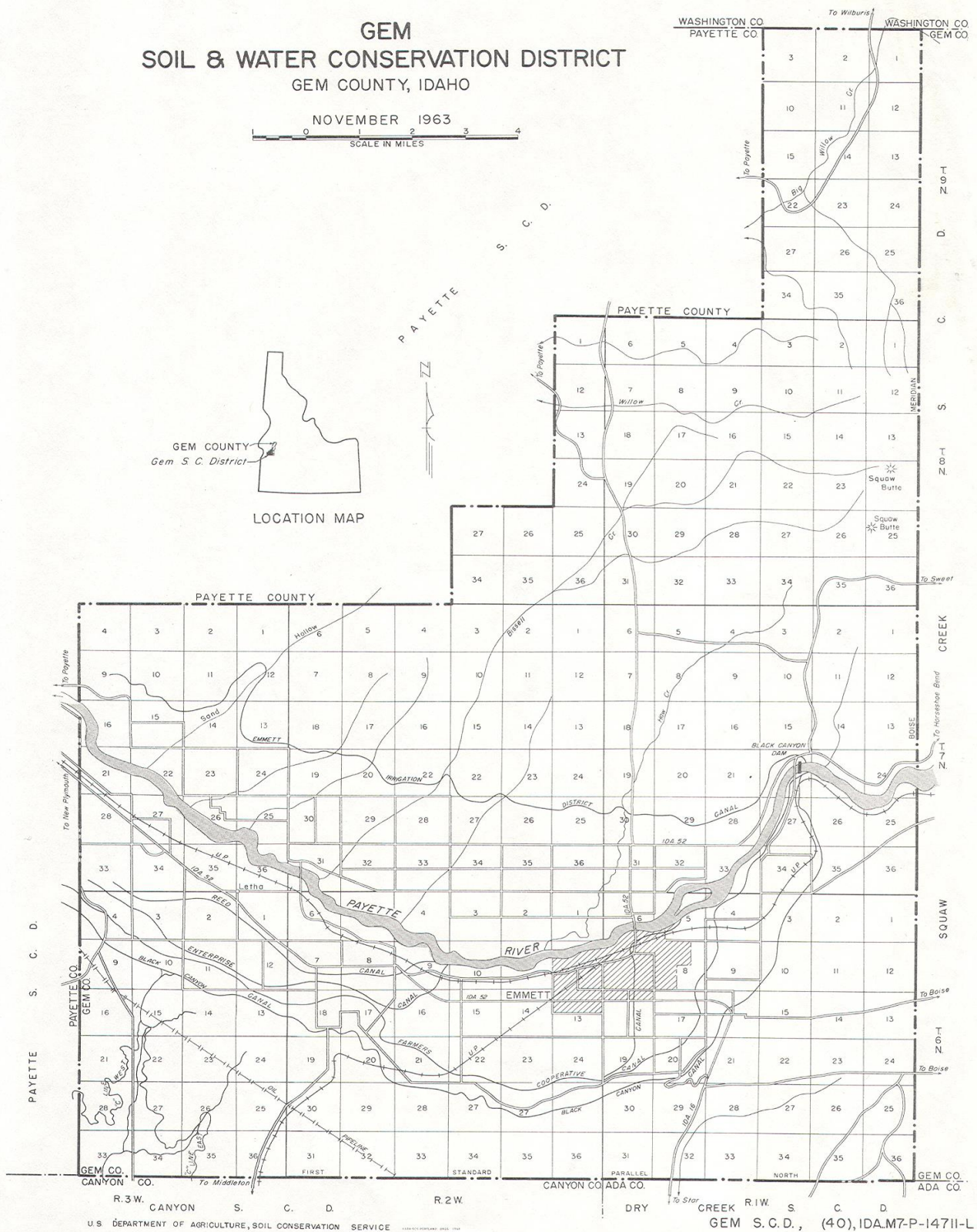
- [Lower Payette River Subbasin Assessment and Total Maximum Daily Load](#) (December 1999)
- [Bissel Creek Subbasin Assessment and Total Maximum Daily Load](#) (August 2003)
- [North Fork Payette River Subbasin Assessment and Total Maximum Daily Load](#) (July 2005)
- [North Fork Payette River Watershed TMDL Implementation Plan](#) (June 2007)
- [North Fork Payette River Watershed TMDL Five-Year Review](#) (July 2012)
- [Bissel Creek TMDL Implementation Plan](#) (April 2006; Revised 2014)
- [Lower Payette River TMDL Five-Year Review \(HUC 170150122\)](#) (February 2010)
- [Big Willow Creek Assessment and Temperature Total Maximum Daily Load: Addendum to the Lower Payette River Subbasin Assessment and TMDL](#) (May 2008)
- [Big Willow Creek Watershed \(17050122SW17\) Total Maximum Daily Load Implementation Plan for Agriculture](#) (August 2010)
- [Lower Payette River Subbasin Assessment and Total Maximum Daily Loads: 2013 Addendum](#) (October 2013)
- [Little Willow Creek Implementation Plan](#) (June 2014)
- [Payette Lower – Payette River Subbasin – Dry Buck Creek, Anderson Creek, and Sand Hollow E. coli TMDL](#) (September 2021)

GEM SOIL & WATER CONSERVATION DISTRICT GEM COUNTY, IDAHO

NOVEMBER 1963
SCALE IN MILES



LOCATION MAP



U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

GEM S. C. D., (40), IDAM7-P-147II-L

Idaho Conservation Districts assisting landowners and operators with their conservation choices.



WQPA pivot project near County Line Road, Emmett, Idaho.



Outdoor School at Black Canyon Dam for fifth grade students.

Paul Brusven, Nez Perce Biological Control releasing larvae for Poison Hemlock.



FY2023 (7/1/2022 – 6/30/2023) Annual Plan of Work Gem Soil and Water Conservation District

Conservation District Priority Number 1: Water Quality

Objective: Promote conservation of water by approved Best Management Practices

Goal(s): Protect water resources through proper use and treatment.

Actions	Target Date	Individual(s) Responsible
Encourage landowners in critical areas to implement BMP's, develop water resources for improved benefits and improve wetlands.	March/ September	Ron Brooks, Kirk Vickery
Apply for 319 Funds to assist with installation of BMP's, resulting in load reduction on the Lower Payette River TMDL	February	Leanne Buck
Coordinate with Irrigation Districts and Ditch Companies to improve water usage	March/ October	Kirk Vickery, Ron Brooks
Assist cooperators to improve and install BMP's and improve water management, also minimize loss of prime cropland	Annually	Kirk Vickery, Ron Brooks
Provide technical assistance to develop comprehensive nutrient management plan	Annually	Erin Morra, Rachel Hammer

Learn more about the process and educate landowners on oil and gas exploration	Continuously	Kirk Vickery, Ron Brooks, Leanne Buck
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Gem Soil and Water Conservation District assisting land managers with their conservation choices



FY2023 (7/1/2022 – 6/30/2023) Annual Plan of Work Gem Soil and Water Conservation District

Conservation District Priority Number 2: Irrigated Cropland

Objective: Provide economic stability by promoting improved technology for resource management

Improve irrigation and grazing management and improve yields of good quality forage

Goal(s): Protect cropland base through proper use and treatment (this includes irrigated and non-irrigated cropland)

Actions	Target Date	Individual(s) Responsible
Provide assistance in developing alternative crops and marketing strategies	September	Ron Brooks
Assist with evaluation of irrigation systems and improve water management	Spring	Erin Morra, Meghan Brooksher, Rachel Hammer
Promote soil quality and health to maintain soil fertility, favorable pH, structure, etc.	Annually	Ron Brooks
Treat highly erodible land by developing conservation compliance plans	Annually	Erin Morra



FY2023 (7/1/2022 – 6/30/2023) Annual Plan of Work Gem Soil and Water Conservation District

Conservation District Priority Number 3: Public Outreach / Information & Education

Objective: Maintain public awareness of conservation needs and programs for all natural resources, demonstrate and utilize effective new technology. Provide for a dynamic Board of Supervisors, maintain active cooperators with the District, & maintain an adequate financial base

Goal(s): Provide an information and education program, extend Outreach and promote Locally Led Conservation and maintain active viable Conservation District

Actions	Target Date	Individual(s) Responsible
Elect qualified Supervisors representing diversity within the District. Participate in annual Board/Supervisor training at monthly district meetings or attend workshop such as; ISWCC Partnership District Capacity Training	Annually or Semi-annually	Leanne Buck, Kirk Vickery
Distribute information through various avenues such as; district newsletter, local newspaper, press releases, county fair, Legislative display, etc.	Continuously	Leanne Buck
Provide cooperators with technical information on subjects such as; BMP's, Soil Quality, Riparian Improvement, Wetlands, Irrigation Improvements, etc.	Continuously	Leanne Buck
Work with Gem County Mosquito Abatement District in their efforts to reduce mosquito habitat	Continuously	Leanne Buck
Support IASCD efforts on carrying out natural resources programs by providing technical and cost-share assistance to the landowners	Annually	Kirk Vickery, Leanne Buck



FY2023 (7/1/2022 – 6/30/2023) Annual Plan of Work Gem Soil and Water Conservation District

Conservation District Priority Number 4: Rangeland

Objective: Establish quality rangelands within the District

Goal(s): Work with Landowners to maintain quality forage and water.

Actions	Target Date	Individual(s) Responsible
Provide cooperators researched and proven equipment such as the No-Till Drill.	Spring/Fall	Leanne Buck, Kirk Vickery
Encourage and provide technical assistance to establish adapted grasses where needed & feasible to improve quality forage.	Spring/Fall	Kirk Vickery, Maggie Sisler, Leanne Buck
Promote and encourage range plans with landowners and ranchers.	Annually	Kirk Vickery, Maggie Sisler, Leanne Buck



FY2023 (7/1/2022 – 6/30/2023) Annual Plan of Work Gem Soil and Water Conservation District

Conservation District Priority Number 5: Urban

Objective: Provide community awareness for proper development when urbanizing land.

Goal(s): To maintain quality development through technical assistance and education

Actions	Target Date	Individual(s) Responsible
Work with landowners to eliminate mosquito habitat, such as standing water, ultimately controlling mosquitoes.	Spring/ Summer	Leanne Buck
Work with County Agencies to encourage proper development to avoid erosion	Continuously	Leanne Buck, Kirk Vickery, Ron Brooks
Encourage proper use and application of fertilizers and pesticides	Spring/Fall	Ron Brooks, Erin Morra, Leanne Buck
Encourage the control of noxious weeds on all lands within the District	Spring/Fall	Leanne Buck, Ron Brooks
Improve irrigation systems to reduce irrigated-induced erosion	Annually	Ron Brooks, Erin Morra
Research needs and resources to alleviate drought/potential drought conditions	Annually	Ron Brooks, Leanne Buck, Erin Morra

Gem Soil and Water Conservation District assisting land managers with their conservation choices