

BONNER SOIL & WATER CONSERVATION DISTRICT

**1224 Washington Avenue, Suite 101
Sandpoint, Idaho 83864**

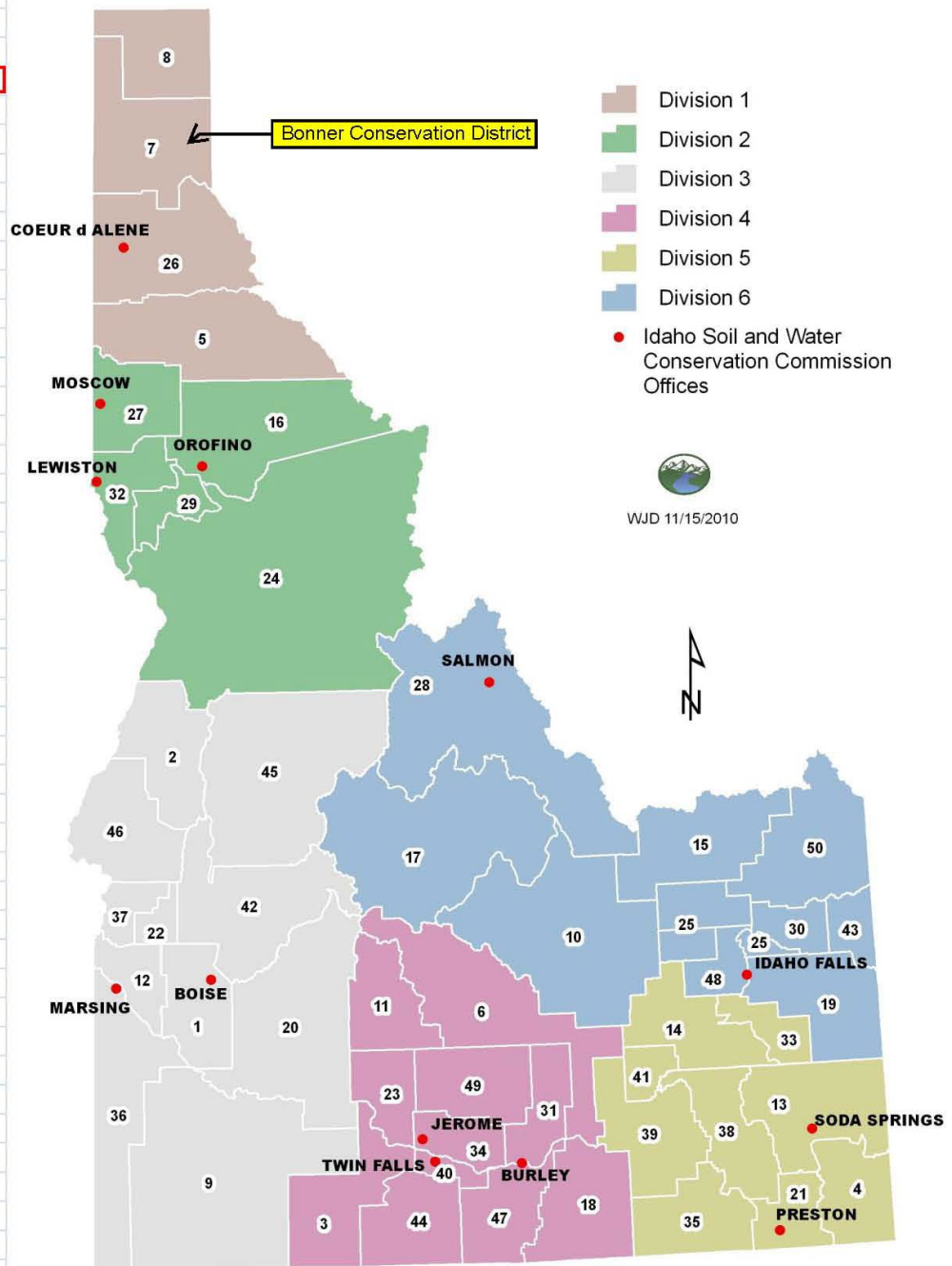
FIVE-YEAR RESOURCE CONSERVATION PLAN



Updated March 2023

1	Ada
2	Adams
3	Balanced Rock
4	Bear Lake
5	Benewah
6	Blaine
7	Bonner
8	Boundary
9	Bruneau River
10	Butte
11	Camas
12	Canyon
13	Caribou
14	Central Bingham
15	Clark
16	Clearwater
17	Custer
18	East Cassia
19	East Side
20	Elmore
21	Franklin
22	Gem
23	Gooding
24	Idaho
25	Jefferson
26	Kootenai-Shoshone
27	Latah
28	Lemhi
29	Lewis
30	Madison
31	Minidoka
32	Nez Perce
33	North Bingham
34	North Side
35	Oneida
36	Owyhee
37	Payette
38	Portneuf
39	Power
40	Snake River
41	South Bingham
42	Squaw Creek
43	Teton
44	Twin Falls
45	Valley
46	Weiser River
47	West Cassia
48	West Side
49	Wood River
50	Yellowstone

Districts by IASCD Divisions 2010



Executive Summary

The Bonner 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 and include 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 signed a 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 the Bonner 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 Bonner Soil and Water Conservation District do hereby approve the following document known as the Five-Year Resource Conservation Business Plan as of March 6, 2023. This Plan 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.

Dale Van Stone

Chairman

Harry Menser

Vice Chairman

Brad Bluemer

Treasurer

Rick Watt

Supervisor

Jeff Connolly

Supervisor



5-Year Resource Conservation Plan Business Plan (2023 to 2028) BONNER Soil & Water Conservation District

**For More Information Contact: Sarah Garcia, 208-263-5310,
sarah.garcia@id.nacdnet.net**



Organization of the Bonner Soil & Water Conservation District

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

- Organized on July 15, 1946, to provide voluntary land and water conservation, technical and financial assistance to landowners and uses within the Bonner SWCD boundary.
 - First District board members were M.A. Roberts, Chairman, Blanchard; Glen Reed, Vice Chairman, Sagle; H.L. King, Priest River; Sloan Crawford, Sandpoint; A.M. Derr, Sagle. Ed Nurmi was selected to fill the Soil Conservation Service position during this time.
 - Early district reports show an objective of the District was to aid the livestock grower in classifying the range land and conditions to select the most profitable grazing system. Other high priorities for the area were proper fertilization, residue management, woodland management, and proper hay seedings. Some areas in Bonner County needed education on draining practices and others were in need of help with irrigation. This shows the diversity of the District.
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Mission of the Bonner Soil & Water Conservation District

- To take available technical, financial, and educational resources whatever their source and focus and coordinate them to meet the needs of the landowners.
-

Who We Serve & Why

- We serve the people and natural resources in Bonner County for the purpose of conserving the natural resources for the beneficial and sustainable use by all.
-

Values of the Bonner 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
 - Coordination among agencies, municipalities, and people
-

Natural Resource Priorities and Goals:

- Information and Education/District Operations
- Timber and Woodland
- Fish, Wildlife, and Recreation
- Pasture and Hay land
- Water Resources – Water Quality and Riparian Buffers

Natural Resource Priorities and Goals continued:

1. Public Outreach & Education

- Annually conduct youth environmental education programs and increase participation in the Idaho State Forestry Contest and the Pend Oreille Water Festival
- Annually sponsor a booth at an event, Bonner County Fair, Earth Day, or Arbor Day
- Coordinate with USDA in developing noxious weed education strategy for north Idaho
- Support efforts of the Farm Tour
- Provide current in conjunction with University of Idaho, Farm Bureau, and local Co-op. Establish and develop educational materials and technical support.

2. Water Quality

- Provide stormwater information to landowners and municipalities in Bonner county through newsletters and public outreach.
- Assist landowners on Lake Pend Oreille, Priest Lake, and on the Pend Oreille and Clark Fork Rivers to inform them of the information available on the Lake Assist website, as well as distribute Lake Assist books.
- Maintain and increase Kootenai-Ponderay Willow Nursery for further stabilization projects
- Administer ISDA grant for three boat inspection stations in Bonner county to both educate boat owners as well as to prevent mussels from getting established in Bonner County
- Continue to look for opportunities to secure 319 DEQ grants for water quality.

3. Timber and Woodland

- Conduct an annual conservation tree sale program to encourage constituents to develop conservation and farmstead wind breaks.
- Coordinate with local agencies and landowners on fire prevention and healthy forest maintenance
- Develop website with fire prevention information, as well as evacuation procedures when wildfire nears.
- Partner with Bonfire program and local Fire Chiefs.

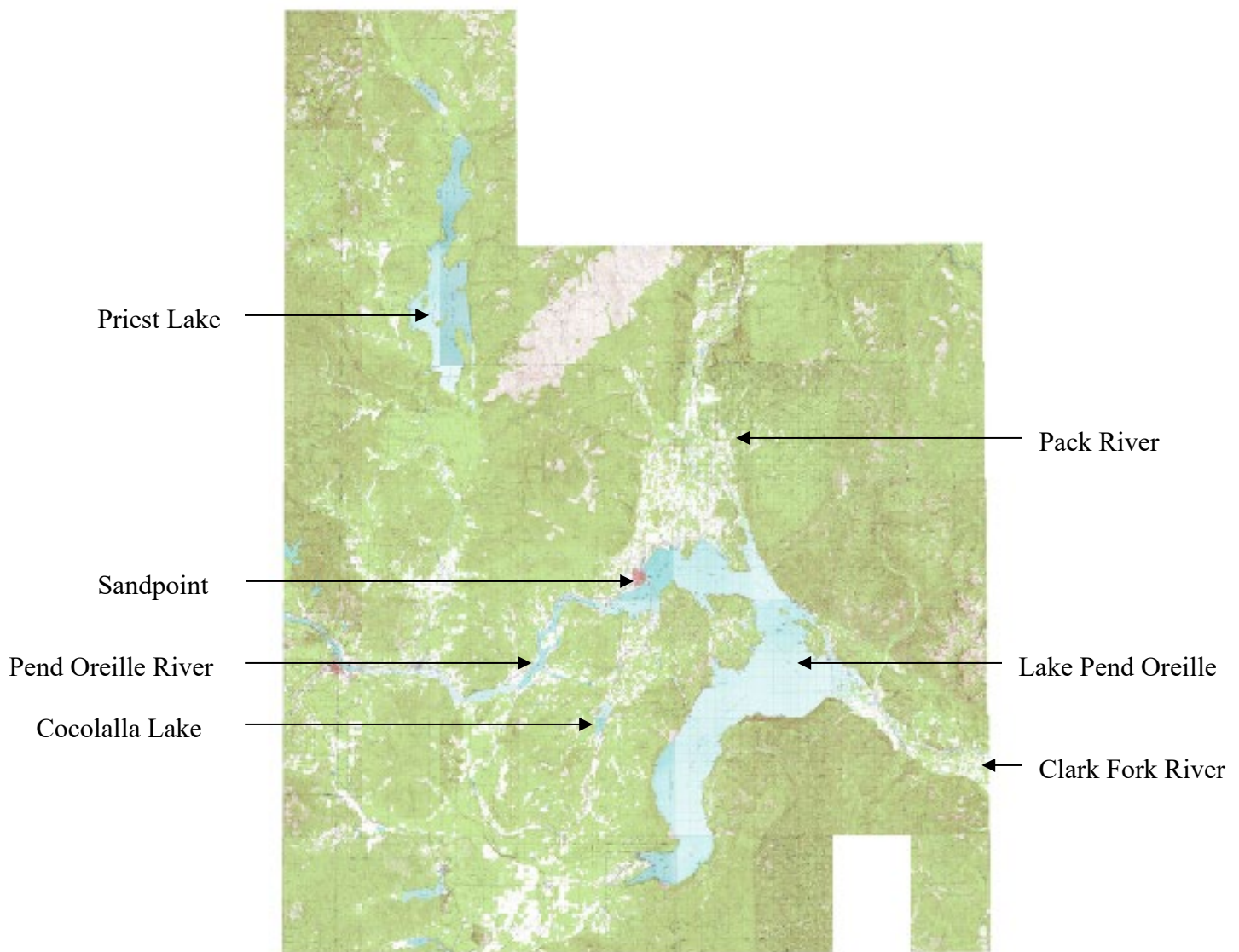
4. Fish, Wildlife and Recreation

- Public education regarding milfoil and other aquatic invasive weeds.
- Work with Aquatic Invasive Species local managers to control & evaluate aquatic invasive plants. Assist Bonner County in outreach education efforts to prevent new invaders, ie mussels and Asian Clam.
- Work with marina and boat owners and Bonner County on spill prevention and cleanup efforts, as well as education
- Partner with F&G, US FWS, Bonner County, and IDL on projects protecting or improving fish passage and fish & wildlife habitat.

5. Pasture and Hay land

- Work with Bonner County Weed Supervisor to implement noxious weed management practices.
- Direct landowners to NRCS for information and technical assistance on rotational intensive grazing
- Partner with Univ. of Idaho, NRCS, Co-op, county weed department to revitalize or maintain hay land.

Critical Geographic Areas: (attached map)



Critical areas for natural resource concerns in Bonner County include the shorelines of the major waterways which include three lakes, Pend Oreille, Priest, and Cocolalla, and three rivers, Clark Fork River leading into Lake Pend Oreille from Montana, Pend Oreille River leading out of Lake Pend Oreille to Washington, and the Pack River which leads into Lake Pend Oreille from the north. As Northern Idaho continues to grow, pressures on the natural resources of the area increase. Much of the new development is occurring along waterfront areas, adding pressure to the sensitive riparian areas and increasing the direct impact to lake water quality. Some issues that accompany shoreline development include habitat fragmentation, decrease in riparian buffers, wastewater disposal, increased stormwater runoff volume and velocity, and improper planning and/or installation of erosion and sediment control techniques. These can result in degradation of terrestrial and aquatic habitat, increased erosion, and increased pollutant delivery to waterways that can impact drinking water and increase the cost of community infrastructure (water treatment needs, clogged drainage ways, etc.).

Trends Impacting Conservation in the Bonner Soil & Water Conservation District

- Urban impact on agriculture production and stormwater issues
- Poorly planned growth in agricultural and forested areas
- Increasing number of small acreage farms, five acres or less
- Limited availability of State and Federal funds for conservation
- Focus on water quality compared to other conservation and environmental issues.
- Increased density of onsite subsurface sewage disposal
- Noxious weeds, both aquatic and terrestrial. Noxious weeds associate with subdivision of land. Toxins too close to the water from spraying noxious weeds.
- Impact of wetlands. Wetlands being filled and utilizing wetland credits.
- Drought
- Erosion

Strategies to Address Trends

- More education as outreach instead of publications.
- Determine opportunities to coordinate outreach activities with traditional and non-traditional partners.
- Raise 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, and supplement this with information from the NRCS District Conservationist
- Continue involvement with County Commissioners on issues impacting natural resources.
- Work with partner agencies to provide current information to constituents on the evolving Bonner County codes that affect stormwater and conservation, and the new Farm Bill Programs
- Work with partners to map terrestrial and aquatic noxious invasive weeds to more effectively target weed control efforts.
- Establish a data base to track resource conditions – BMP tracking – Resource Inventory
- Take a proactive approach to funding natural resource projects on non-ag land.
- Identify the information methods to communicate with small landowners.
- Sponsor project proposals with other districts and partners
- Public outreach events to take place 2 or 3 times a year to address wetlands, grasses, reseeding, weeds.

Working Budget
Bonner Soil & Water Cons. District
Working Budget : FY2023 Budget
July 2022 - June 2023

Income				
	County Appropriations		16,500.00	
	State Appropriation		40,950.00	
	Grant Funding		440,000.00	
	Interest		2,000.00	
	AIS Sticker Sales		85,000.00	
	Tree Seedling & Willow Sales		70,000.00	
	Water Festival		11,000.00	
	Forestry Contest		10,000.00	
	Panhandle Seedling Program		10,000.00	
	GROSS INCOME			685,450.00
Expense				
	Personnel		75,000.00	
	Audit		6,500.00	
	Donations		500.00	
	Dues		2,500.00	
	District Vehicle		1,200.00	
	Grant Funds Expended		416,500.00	
	AIS Sticker Sales		75,000.00	
	Tree Expense		38,000.00	
	Liability Insurance		2,500.00	
	Water Festival		10,000.00	
	Postage		350.00	
	Public Outreach/Projects		2,000.00	
	Storage Facility		2,200.00	
	Forestry Contest		10,000.00	
	Travel		10,000.00	
	Operating Expenses		23,200.00	
	Panhandle Seedling Expense		10,000.00	
	GROSS EXPENSE			685,450.00
	NET INCOME			0

Key Decision Makers

- Citizens in Conservation District
- County Commissioners:
- County Officials:
 - Bonner County Planning and Zoning Commission
 - Bonner County Public Works
 - County Weeds Supervisor
- City of Sandpoint Officials:
 - Mayor
 - Director of Public Works
- Legislators:
 -
- Conservation District Supervisors
 - Dale Van Stone
 - Harry Menser
 - Brad Bluemer
 - Rick Watt
 - Jeff Connolly
- Greater Sandpoint Chamber of Commerce:
- Priest River Chamber of Commerce
- Priest Lake Chamber of Commerce:
- Pend Oreille Basin (Lakes) Commission

Physical Characteristics of the District

Bonner County is in the northern Idaho Panhandle. The total area is 1920 square miles, with 9.6% being surface water, the most of any Idaho county. Bonner County's Lake Pend Oreille is Idaho's largest natural lake, covering 90,000 acres and reaching depths of about 1,200 feet. Priest Lake and Upper Priest Lake in the northwestern portion of the County are known for their exceptionally high-water quality and natural aesthetics. Lower Priest Lake is the third largest natural lake entirely within Idaho. The land area consists of rugged, forested mountainous or hilly terrain and of comparatively narrow valleys that open to the south – 84% of the land is forested. The glacially sculptured Selkirk Mountains are in the northern and western parts of the area, and the Cabinet Mountains are in the eastern part. Most prominent of the valleys is the Selle Lowland, which is an extension of the Purcell Trench north of Sandpoint. Other valleys include the Clark Fork Valley in the eastern part of the area, the Priest River Valley in the northwestern part, and Blanchard, Hoodoo, and Cocolalla Valleys in the southern part.

Sandpoint is the county seat of Bonner County and has a population of 9,003, reflecting 18% of Bonner county's population of 49,491. Its elevation at the north end of Lake Pend Oreille is about 2,100 feet. The highest elevations are in the northern part of the county where some mountain peaks are more than 7,000 feet high.

Soil, water, and timber are the most important natural resources in the area. Livestock, crops, and timber are marketable products derived from the soil. Millions of board feet of lumber are cut annually from ponderosa pine, lodgepole pine, western red cedar, western hemlock, and spruce. Boards, poles, posts, shingles, and shakes are among the main products of the forest industry. Some local timber is also used for veneer.

The abundant water resources include Pend Oreille and Priest Lakes, and the three major rivers are the Clark Fork, Pack, and Priest Rivers. Overall, water quality in the area is considered to be excellent. Large quantities of ground water and the principal recharge area for the Rathdrum aquifer are in the southern part

of the County. Wetlands are scattered throughout the area, but the major areas are adjacent to the Pend Oreille and Pack Rivers.

The boundaries of the District coincide with the boundaries of Bonner County, Idaho. The acreage of the District is as follows:

<u>Land Ownership</u>	<u>Acres</u>
Federal Land	492,593
BLM	11,162
Nat'l Forests	472,575
Other	8,856
State Land	170,053
Endowment Land	167,640
Fish & Game	1,415
Parks & Recreation	803
University of Idaho Land	195
Private Land	440,780
County Land	4,521
Municipal Land	4,117
Total Land Acreage	1,112,064

The above acreage figures were provided by the Idaho Department of Commerce website.
<http://www.idoc.state.id.us/idcomm/profiles/pdfs/Bonner.pdf>















*An interesting note: Total water acreage exceeds total croplands.

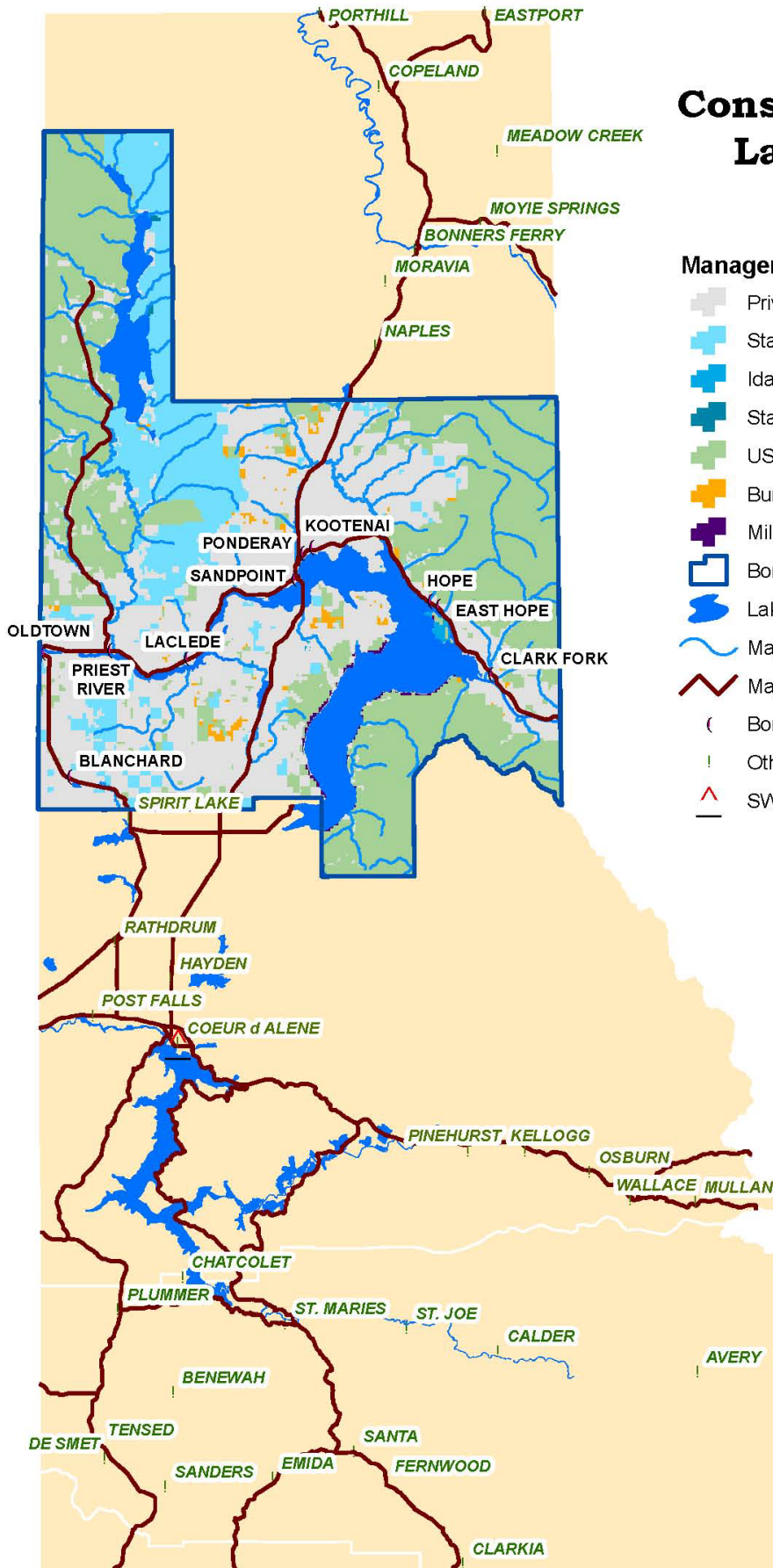
**Nearly one quarter of all Idaho surface water lies in Bonner County

Bonner Conservation District Land Status Map

Based on BLM data

Management

-  Privately Owned Lands (574,770 acres)
-  State of Idaho (166,480 acres)
-  Idaho Fish and Game (3,405 acres)
-  State Parks (815 acres)
-  US Forest Service (464,880 acres)
-  Bureau of Land Management (12,460 acres)
-  Military (4,030 acres)
-  Bonner SWCD Boundary
-  Lakes
-  Major Streams
-  Major Roads
-  Bonner SWCD Towns
-  Other towns
-  SWC Offices



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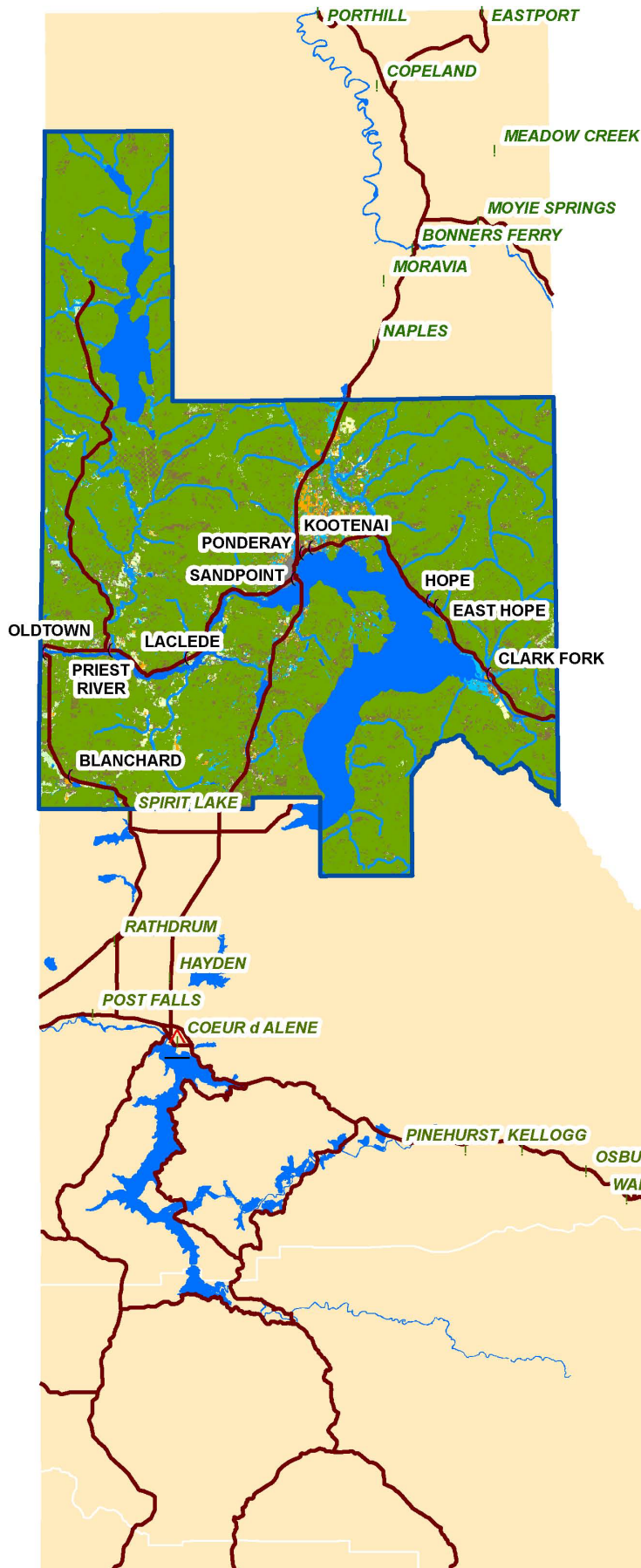
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Miles



WJD 1/6/2010

Bonner Conservation District Land Cover Map

Derived from National Land Cover
Data 2001 dataset



- Open Water (117,340 acres)
- Developed (14,795 acres)
- Barren Land (406 acres)
- Forest (937,695 acres)
- Shrub/Range (94,505 acres)
- Grassland (22,340 acres)
- Hay/Pasture (8,925 acres)
- Cropland (3,875 acres)
- Wetlands (27,000 acres)
- Bonner SWCD Boundary
- Lakes
- Major Streams
- Major Roads
- Bonner SWCD Towns
- Other towns
- SWC Offices

0 2 4 6 8 10
Miles

Private Lands estimated
cover type distribution :

1.Forest	338,260 acres
2.Shrub\Range	52,865 acres
3.Grasslands	19,130 acres
4.Hay\Pasture	8,740 acres
5.Wetlands	23,170 acres
6.Cropland	3,835 acres
7.Developed	14,310 acres
8.Open Water	115,104 acres
9.Barren Land	244 acres



WJD 1/6/2010

District Resources

<u>Land Use*</u>	<u>Acres</u>
Urban Land	3,400
Cropland	44,800
Pastureland	28,000
Forest	1,034,200
Water	110,700
Wetland	1,200
Total	1,222,300

*USGS land use/cover classification system. The water category and the rounding and estimating of satellite-based data usually results in slightly higher totals for land use.

The above data obtained from the Idaho Department of Commerce website and modified with 1997 National Resources Inventory data.

<http://www.idoc.state.id.us/idcomm/profiles/pdfs/Bonner.pdf>

Soil Resources

The greater part of the county is mountainous with narrow flat bottom stream valleys. Purcell Trench, a long comparatively narrow valley passes through the center of the county from North to South. The trench varies from 1 ½ miles wide at the north end near Elmira, to more than 8 miles at the north end of Lake Pend Oreille. Here the trench divides. The deepest branch is occupied by Lake Pend Oreille, and the other branch comprises Cocolalla Valley.

East of the trench are the Cabinet and Coeur d'Alene Mountains rising to 7,000 feet. They are separated by the Clark Fork River entering from the east. West of the trench are the high Selkirk Mountains rising to elevations exceeding 7,500 feet. Lake Pend Oreille River, which forms the outlet of Lake Pend Oreille, cuts across the Selkirk Mountains entering Washington to the west before turning north to the Columbia River in Canada. The larger tributaries forming the major agricultural valleys are Priest River, Pack River; Sand, Cocolalla, and Hoodoo Creeks.

The larger valleys are broken by scattered, poorly defined moraines and outcrops of bedrock. Outwash plains and terraces lie at various elevations. Terraces reach a maximum elevation of 2,600 feet above sea level. Lake Pend Oreille was stabilized at 2,062.5 feet by construction of Albeni Falls Dam in 1954. Sandpoint, situated on a delta or lake terrace at the north end of the lake is 2,100 feet in altitude.

Hoodoo Valley in the southwest portion of the county is a southward pre-glacial extension of Priest River Valley. West of the Hoodoo lies Blanchard Valley, extending from north to south along the Idaho-Washington border.

All of the agricultural soils in the District are of glacial origin. The mountains have residual soils from granite. Most of the agricultural soils are cutover type and are low in organic matter. The 1981 Bonner County Soil Survey breaks soils into the following broad map unit descriptions and percentages of land in the county.

Moderately steep to very steep, well drained soils on mountains	35%
Rolling to very steep, well drained soils on foothills and mountains	35%
Level to hilly, well drained soils on glacial moraines and terraces	15%
Level to hilly, poorly drained to excessively drained soils on alluvial fans, terraces, and dunes	9%
Level to nearly level, poorly drained to very poorly drained soils on low stream terraces, flood plains, and bottomlands	3%

Climatic conditions

The Bonner Soil Conservation District has a modified continental climate. Summers are comparatively short and cool, and extremes of cold winter temperatures are of short duration.

Comparatively little rain falls during the summer. July and August are the driest months of the year. The heaviest precipitation occurs from November to April, with much of the precipitation in the form of snow.

The following table shows the climate statistics from two cities in the county.

<u>Location</u>	<u>Elevation (ft.)</u>	<u>Average Low Temp.</u>	<u>Average High Temp.</u>	<u>Average Precip. inches</u>	<u>Average Snowfall inches</u>
Sandpoint	2,129	35°	82°	34	58
Priest River	2,185	33°	82°	31.46	71

Climatic data obtained from U.S. Climate data website.

<https://www.usclimatedata.com/climate/>

Due to the varied topography – as low as 2,000 feet to as high as 7,000 feet - weather patterns vary in temperature and precipitation.

Economic Condition and Outlook for the District

Population:

City	1980	1990	2002	2010	2015	2018	2021
Sandpoint	4,460	5,203	7,167	8,159	7,658	8,703	9,003
Bonner County	24,163	26,622	37,479	41,782	41,673	44,727	49,491

County Labor Force Data

Non-Farm Employment (2018) * Due to COVID this is the most updated info.

Total Non-Farm Employment	11,856
Food Products	283
Lumber & Wood Products	961
Chemicals	*
Metals	71
Machinery (exc. elect)	77
Electronics & Elec. Equip.	131
Other Manufacturing	284
Construction	816
Mining	75
Trans/Comm/Util	470
Wholesale and Retail Trade	3,505
Finance, Insurance, & Real Est	421
Services & Misc.	2,505
Government	2,257

* Indicates no employment or suppressed data

<u>Civilian Labor Force</u>	<u>2000</u>	<u>2010</u>	<u>2015</u>	<u>2018</u>
Total Labor Force	17,396	20,643	20,643	18,620
Total Employment	15,836	18,503		17,899
Total Unemployed	1,560	2,118		717
Percent Unemployed	9	10	5%	3.85%
Farm Employment	295			

Agricultural Economy

<u>Farms, Cropland, & Livestock</u>	<u>1987</u>	<u>1992</u>	<u>1997</u>	<u>2012</u>	<u>2018</u>
Total number, All Farms	516	476	501	686	1213
Total Acres in Farms	136,833	150,021	98,662	80,623	89,331
Avg. Farm Size (acres)	265	315	197	118	74
Total Farms in Crops	446	414	439	499	861
Total Acres in Crops	46,034	42,641	36,975	26,147	32,849
Cattle and Calves Inventory	14,129	13,828	9,210	4,336	4,100
Number of Irrigated Farms	85	81	86	103	181
Number of Irrigated Acres	4,984	2,617	1,962	1,176	1,191
<u>Farms by Size (Acres)</u>	<u>1987</u>	<u>1992</u>	<u>1997</u>	<u>2012</u>	<u>2017</u>
Under 10	26	34	37	88	302
10 to 49	121	118	180	262	574
50 to 179	190	157	144	178	205
180 to 499	125	122	96	135	93
500 to 999	33	27	26	14	32
1,000 & over	21	18	18	9	7

<u>Principal Occupation of Farm Operators</u>	<u>1987</u>	<u>1992</u>	<u>1997</u>	<u>2012</u>	<u>2018</u>
Farming	245	232	217	294	652
Other	271	244	284	392	1492

The above charts were obtained from the Idaho Department of Labor website. 2017 Agricultural information from NASS. https://www.nass.usda.gov/Quick_Stats/CDQT/chapter/2/table/1/state/ID/county/017

Wage statistics from www.census.gov/quickfacts/sandpointcityidaho

Shows the 2017 median household income in Bonner County at \$53,567, and November 2022 unemployment was at 3.6%.

Manufacturing is now the top revenue producing industry of the district. The primary agriculture income is received from timber management, small producers/farmers market operators. There are no large dairies in Bonner County, but there are a number of small all natural organic dairies with diversified livestock.

Increased demand for land to provide lakeshore home sites, summer home cabins, resorts, and recreation facilities is expected to continue in coming years. Several farms have already changed to suburban home development and recreation enterprises. Development of winter sports areas will provide year-round recreation and create greater demand for land to be used for home site development and recreation.

Many public and private campgrounds, resorts, and motels, provide excellent facilities for all types of water sports, picnicking, boating, and fishing.

Overall trends and conditions in water quality

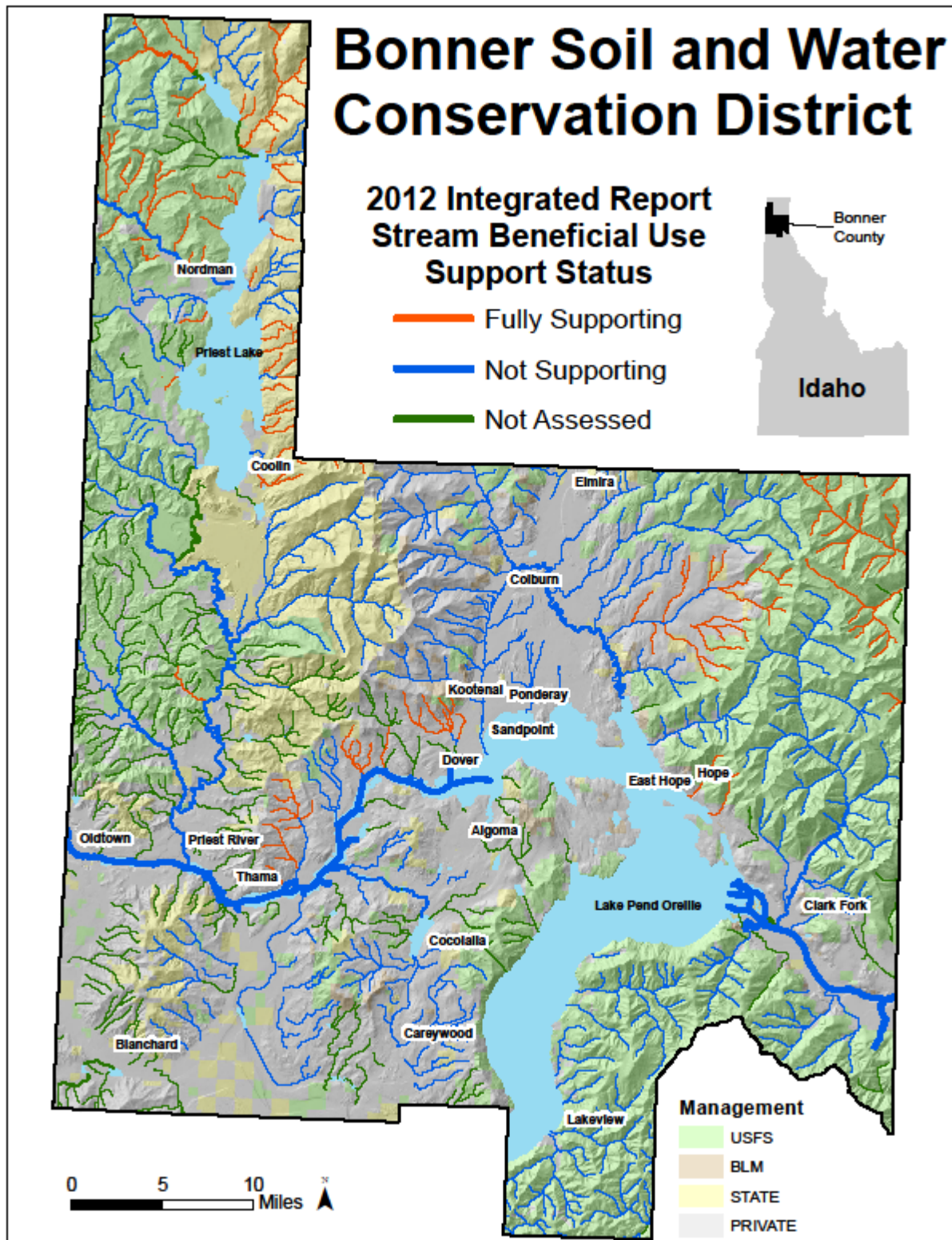
Less impact from timber and agriculture are expected, as the Forest Practices Act is implemented and there is less agricultural activity in the county. Conservation needs are increased education and implementation of the Forest Practices Act. Agriculture producers need to be involved in the initial phases of water quality improvement plans. Their involvement is needed in development of agricultural BMPs. There is also a need for development of Best Management Practices for wetland grazing.

More problems are expected from cultural eutrophication, recreation, urban runoff, building and development. Conservation needs include education and encouragement of erosion control methods and public awareness of how their activities may affect water quality.

Conservation needs to achieve desired surface water quality:

- Proper design, installation, and maintenance of all roads, road ditches, and culverts
- Proper sites for individual septic treatment facilities
- Technical assistance to farmers because farmland field ditches can deliver sediments, nutrients, and floodwaters at an increased rate to streams, rivers, and lakes
- Technical assistance to farmers for feedlot runoff from confined animal feeding operations
- Technical assistance for streambank erosion
- Educational programs for proper farmland and residential use of organic and inorganic fertilizers

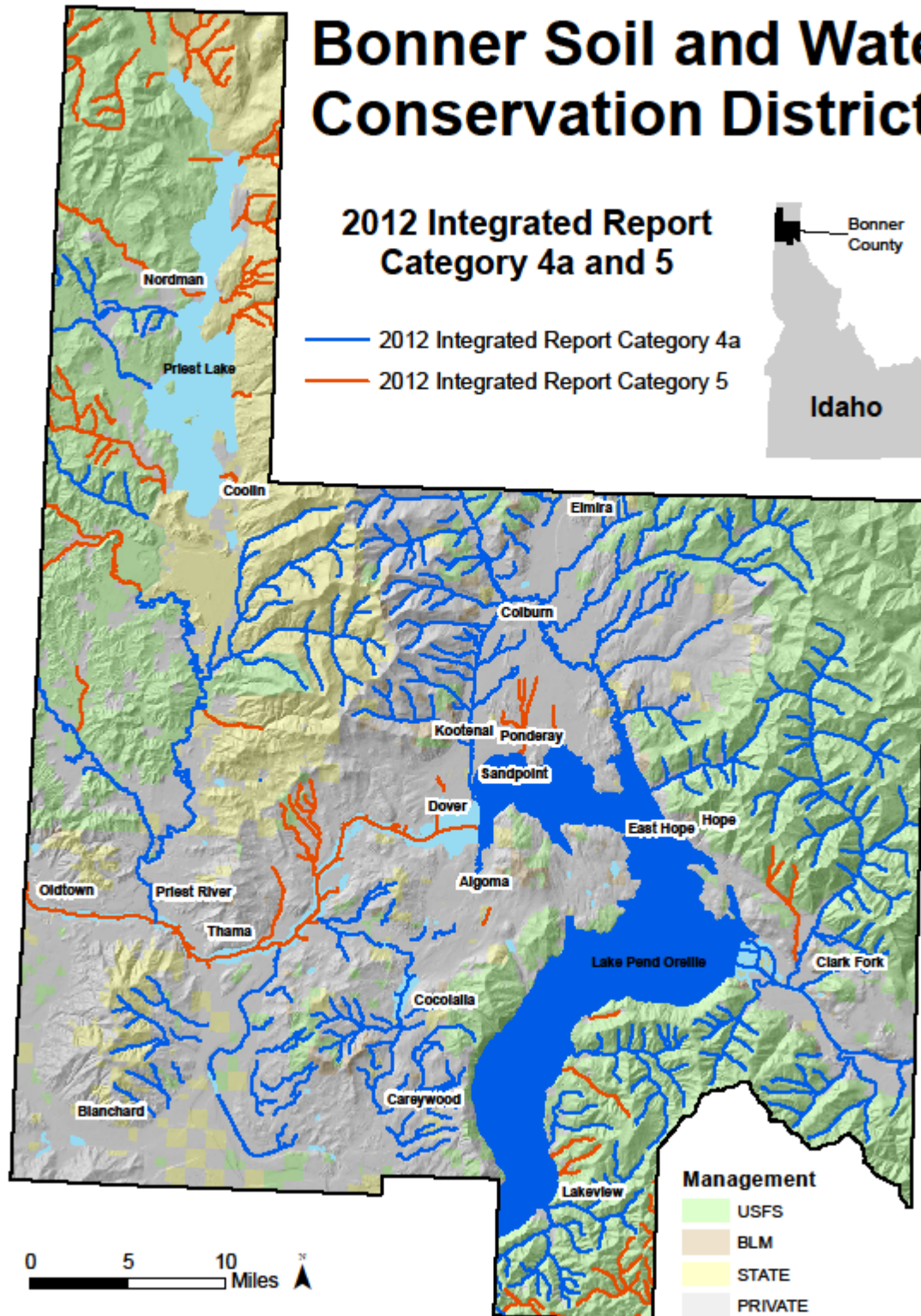
Department of Environment Quality Integrated Reports & TMDL Information:



Bonner Soil and Water Conservation District

2012 Integrated Report Category 4a and 5

- 2012 Integrated Report Category 4a
- 2012 Integrated Report Category 5



Water Quality Component

The summaries below were taken from DEQ website:

<http://www.deq.idaho.gov/water-quality/surface-water/tmdls/table-of-sbas-tmdls/>

Clark Fork River (Lower) Sub-basin

Sub-basin at a Glance

Hydrologic Unit Code	17010213
Size	247 square miles (158,080 acres)
Water Bodies with EPA- Approved TMDLs (Category 4a)	Cascade Creek, Clark Fork River, Dry Creek, East Fork Creek, Johnson Creek, Lightning Creek and tributaries, Mosquito Creek, Rattle Creek, Savage Creek, Twin Creek, Wellington Creek
Beneficial Uses Affected	Cold water aquatic life, salmonid spawning, primary and secondary contact recreation, domestic water supply
Major Land Uses	Forestry, agriculture, rural residential, recreation
Date Approved by EPA	October 2007 EPA Approval Letter
Dates Clark Fork-Pend Oreille TMDL Approved by EPA	April 2001 EPA Approval Letter September 2000 EPA Approval Letter

Sub-basin Characteristics

Primarily located in Montana, the 320-mile long Clark Fork River flows from near Butte, Montana, to Lake Pend Oreille in Idaho. The Clark Fork River drains approximately 22,000 square miles in western Montana and northern Idaho, 247 square miles of which comprise the Lower Clark Fork sub-basin in northern Idaho. The river drains into the 95,000-acre Lake Pend Oreille, and as the lake's largest tributary, the Clark Fork River contributes approximately 92% of the annual inflow to the lake and most of the annual suspended sediment load.

2007 Sub-basin Assessment and TMDL

This document addresses the lower-most 247 square miles of the sub-basin located in north Idaho. The Lower Clark Fork sub-basin includes 180 miles of perennial streams. The river itself flows from east to west. With approximately 75% of the sub-basin in public ownership, there is a diversity of recreational opportunities and wildlife. The river's main tributary, Lightning Creek, harbors a regionally significant Bull Trout population and supports many other native fish. Located just downstream from the Montana/Idaho border 10 miles before the river enters Lake Pend Oreille is AVISTA's Cabinet Gorge Dam. The Cabinet Gorge Reservoir has a storage capacity of 105,000 acre-feet at full pool.

Metals and total dissolved gas pollution are the pollutants of concern in the main stem Clark Fork River. Intensive mining around the headwaters of the Clark Fork River in Montana left residues of heavy metals behind, which still pose a risk to water quality throughout the basin. Total dissolved gas supersaturation caused by the entrainment of gas in the water when spill occurs at a hydroelectric facility can remain high for significant distances downstream from the facility. Cabinet Gorge Dam has a capacity of approximately 36,000 cubic feet per second. When river flows exceed this capacity, excess flow spills. Entrained gases from these spills can remain in the water column into Lake Pend Oreille and the Pend Oreille River.

Temperature is identified as a pollutant in the lower Clark Fork River below the Idaho/Montana border. However, the lower Clark Fork River on the Montana side of the border has not been found to violate Montana water quality standards for temperature.

Sediment and temperature are the pollutants of concern in the tributaries to the lower Clark Fork River. Thick glacial outwash sediments in steep drainages combined with timber harvest and road construction have created potential sediment problems in several of the tributaries to the Clark Fork River. Temperatures exceed water quality standards for salmonid spawning throughout the sub-basin. Fire and historic timber harvest have created a more open canopy and related stream warming compared to background conditions.

TMDLs were developed for each stream determined to not fully support beneficial uses in accordance with state of Idaho water quality standards. The TMDLs included in this document address in-stream sediment, metal, and temperature reduction goals to maintain or restore cold water aquatic life and salmonid spawning in the tributaries. The TMDLs help quantify needed improvements and target management actions to address water quality improvement measures and timelines.

2007 TMDL: Streams and Pollutants for Which TMDLs Were Developed

Clark Fork River (main stem in Idaho)	Metals, total dissolved gas
Cascade Creek	Temperature
Dry Creek	Temperature
Mosquito Creek	Temperature
Twin Creek	Sediment, Temperature
East Fork Creek	Sediment, Temperature
Johnson Creek	Sediment, Temperature
Lightning Creek	Sediment, Temperature
Rattle Creek	Sediment, Temperature
Savage Creek	Sediment, temperature
Wellington Creek	Sediment, Temperature

2001 Clark Fork-Pend Oreille Watershed Assessment and TMDL

This watershed spans two sub-basins and is summarized in the table below.

Hydrologic Unit Codes	17010213 (Lower Clark Fork Sub-basin) 17010214 (Pend Oreille Lake Sub-basin)
Size	25,000 square miles (16,000,000 acres) in Idaho and Montana
Beneficial Uses Affected	Cold water aquatic life, salmonid spawning, warm water biota, primary contact recreation, secondary contact recreation, agricultural water supply, industrial water supply, domestic water supply
Major Land Uses	Agriculture, grazing, roads, hydropower, mining, timber harvest, urban, recreation

* These water bodies are located in the Lower Clark Fork sub-basin (hydrologic unit code 17010213). They are analyzed in the 2007 Clark Fork/Pend Oreille sub-basin assessment document and are assigned TMDLs in the Lower Clark Fork River sub-basin assessment and total maximum daily loads discussed on this page.

The Clark Fork-Pend Oreille watershed lies in western Montana, northern Idaho, and northeastern Washington. The watershed is the source of the water that enters and leaves Lake Pend Oreille, the largest and deepest natural lake in Idaho. Inflow and outflow of the lake are regulated by hydroelectric facilities.

The Pend Oreille portion of this sub-basin assessment examined 11 streams, 1 major river, and 2 lakes. Of the 11 streams, 5 were water quality impaired and required load allocations, primarily for sediment. Both Lake Pend Oreille and the Pend Oreille River were found to fully support their beneficial uses and were recommended for delisting.

The Clark Fork portion of this sub-basin assessment was tabled until its scheduled assessment date in 2004. Insufficient time to complete the assessment and the prospect of more data available at that time drove this decision.

2001 TMDL: Streams and Pollutants for Which TMDLs Were Developed

Cocolalla Creek (lower)	Sediment
Cocolalla Creek (upper)	Sediment
North Fork Grouse Creek	Sediment
Hoodoo Creek	Sediment
Pack River	Sediment
Cocolalla Lake	Phosphorus

Pend Oreille Lake Sub-basin

Sub-basin at a Glance

Hydrologic Unit Code	17010214
Size	70 square miles (44,740 acres)
Water Bodies with EPA-Approved TMDLs (Category 4a)	Berry Creek, Caribou Creek, Cedar Creek, Cheer Creek, Chloride Creek, Chloride Gulch, Cocolalla Creek, Cocolalla Lake, Colburn Creek, Fish Creek, Gold Creek, Granite Creek, Grouse Creek, Hellroaring Creek, Hoodoo Creek, Jeru Creek, Little Sand Creek, McCormick Creek, North Fork Grouse Creek, Pend Oreille Lake, Rapid Lightning Creek, Sand Creek, Schweitzer Creek, Spring Jack Creek, Swede Creek, Trestle Creek, Trout Creek, Upper and Lower Pack River, West and North Gold Creeks
Beneficial Uses Affected	Water supply, recreation, salmonid spawning, cold water aquatic life, wildlife habitat, aesthetics
Major Land Uses	Forestry, urban, shrubland, wetland, pasture/cropland
Date Approved by EPA	October 2002 EPA Approval Letter
Dates Clark Fork-Pend Oreille TMDL Approved by EPA	April 2001 EPA Approval Letter September 2000 EPA Approval Letter
Date Temperature TMDL Addendum Approved by EPA	April 2008 EPA Approval Letter
Date Sediment TMDL Addendum Approved by EPA	January 2008 EPA Approval Letter

Sub-basin Characteristics

Lake Pend Oreille is part of the Clark Fork-Pend Oreille Basin, which lies in western Montana, northern Idaho, and northeastern Washington. The Clark Fork River begins near Butte, Montana, and drains an extensive area of western Montana before entering Lake Pend Oreille in Idaho at the lake's northeast corner. The lake is the source of the Pend Oreille River in northeastern Washington, which ultimately drains to the Columbia River.

2002 Sub-basin Assessment and TMDL

Lake Pend Oreille was placed on Idaho's 1994 §303(d) list as a "threatened" water body and retained on the 1996 and 1998 lists. Because of this listing, DEQ prepared a problem assessment for the lake, which recommended developing a TMDL for the nearshore waters of the lake to mitigate increasing eutrophication along the shoreline. This TMDL addresses this recommendation.

2002 TMDL: Streams and Pollutant for Which TMDLs Were Developed

Nearshore waters of Lake Pend Oreille

Total phosphorus

2007 Clark Fork - Pend Oreille Addendum: Nutrients

This document addresses streams in the Pack River watershed that have been placed on Idaho's §303(d) list. This document only addresses nutrient impairments for the Pack River watershed, which is located in the Pend Oreille Lake sub-basin in northern Idaho. The Pack River watershed encompasses approximately 185,600 acres.

The Pack River and its tributaries have been identified as impaired due to causes unknown. Stressor identification reports were completed for all assessment units impaired by causes unknown, and potential stressors/pollutants have been identified for each assessment unit. For each assessment unit the following stressors/pollutants were evaluated as possible contributors to impairment: low nutrients, altered flow regime, increased sediment, reduction in riparian habitat, increased metals concentrations, increased nutrients, and misuse of sampling protocol. Stressor identification reports shows sediment, temperature, and nutrients as the likely pollutants. During this addendum effort, DEQ developed nutrient TMDLs for four water bodies (ten assessment units).

2007 Addendum (Nutrients): Streams and Pollutants for Which TMDLs Were Developed

Sand Creek
Colburn Creek
Trout Creek
Pack River

Nutrients
Nutrients
Nutrients
Nutrients

2007 Clark Fork - Pend Oreille Addendum: Temperature

This addendum addresses 19 water bodies in the Pend Oreille Lake sub-basin placed on Idaho's §303(d) list for temperature impairment. Effective shade targets were established for these streams based on the concept of maximum shading under potential natural vegetation resulting in natural background temperature levels. Shade targets were derived from effective shade curves developed for similar vegetation types in the Northwest. Existing shade was determined from aerial photo interpretation field verified with a Solar Pathfinder.

Most streams examined in this TMDL had excess solar loads. Notably, the Pack River and several of its larger tributaries (Grouse Creek, Rapid Lightning Creek, McCormick Creek, and Hellroaring Creek) had high excess loads with reductions of 30% to 90% necessary to achieve target levels. Hoodoo Creek and upper Cocolalla Creek also had high excess loads; however, their necessary percent reductions were generally less than 30%. North Fork Grouse Creek and Granite Creek are recommended for delisting from the §303(d) list for temperature based on analysis performed while developing these TMDLs.

2007 Addendum (Temperature): Streams and Pollutants for Which TMDLs Were Developed

Hoodoo Creek	Temperature
Cocolalla Creek	Temperature
Fish Creek	Temperature
Granite Creek	Temperature
Grouse Creek	Temperature
Pack River	Temperature
Trestle Creek	Temperature
Cedar Creek	Temperature
South Gold Creek	Temperature
West Gold Creek	Temperature
Chloride Gulch Creek	Temperature
Hell roaring Creek	Temperature
Jeru Creek	Temperature
McCormick Creek	Temperature
North Fork Grouse Creek	Temperature
North Gold Creek	Temperature
Rapid Lightning Creek	Temperature
West Sand Creek	Temperature
Trout Creek	Temperature

2007 Clark Fork - Pend Oreille Addendum: Sediment

The overall purpose of this addendum is to characterize and document sediment pollutant loads for a select group of tributaries in the Pend Oreille Lake sub-basin. This report addresses five watersheds in the Pend Oreille Sub basin that include 11 assessment units identified in Idaho's 2002 Integrated Report as water quality limited by an unknown pollutant or excess sediment. These 6th-order watersheds are Upper Pack Creek, Gold Creek, North Gold Creek, Rapid Lightning Creek, and Sand Creek. The five watersheds addressed in this report comprise 121,927 acres, or approximately 190 square miles of the Pend Oreille Lake sub-basin, and include assessment units encompassing the Pack River, McCormick Creek, Hell Roaring Creek, Sand Creek, Schweitzer Creek, Gold Creek, Rapid Lightning Creek, and North Gold Creek. Sediment TMDLs were established for 14 assessment units to reduce nonpoint source sediment pollutant loads in the sub-basin.

2007 Addendum (Sediment): Streams and Pollutants for Which TMDLs Were Developed

Upper Pack River	Sediment
Hell roaring Creek	Sediment
Sand Creek	Sediment

Jack Creek
 Swede Creek
 Schweitzer Creek
 Little Sand Creek
 Gold Creek
 North Gold Creek

Sediment
 Sediment
 Sediment
 Sediment
 Sediment
 Sediment

Priest River Sub-basin

Sub-basin at a Glance

Hydrologic Unit Code	17010215
Size	981 square miles (627,840 acres)
Water Bodies with EPA-Approved TMDLs (Category 4a)	Binarch Creek, East River, Kalispell Creek, Lower Priest River, Lower West Branch Priest River, Middle Fork East River, North Fork East River, Reeder Creek
Beneficial Uses Affected	Cold water aquatic life, salmonid spawning
Major Land Uses	Forestry, agriculture, rural recreation
Date Approved by EPA	March 2002 EPA Approval Letter
Date Addendum Approved by EPA	June 2003

Sub-basin Characteristics

The Priest River sub-basin falls primarily within the northwest corner of the Idaho Panhandle in Bonner and Boundary Counties. The headwaters of upper Priest River originate within the Nelson Mountain Range of British Columbia; headwaters of major streams on the western side of the basin originate in northeast Washington.

2001 Sub-basin Assessment and TMDL

In 1994 and again in 1996, ten segments within the Priest River sub-basin were classified as water quality limited under §303(d) of the Clean Water Act. All Priest River sub-basin §303(d)-listed streams are listed for sediment (except Lower West Branch Priest River, which had no listed pollutants of concern, but sediment is implied). Nutrients are a listed pollutant for Tango Creek, and dissolved oxygen, temperature, and flow alteration are listed for East River. Habitat alteration is listed for Trapper Creek and Two Mouth Creek.

While habitat alteration and flow alteration may adversely affect beneficial uses, they are not pollutants as defined under §303(d) of the Clean Water Act; therefore, TMDLs were not developed to address habitat and flow alteration as pollutants.

2001 TMDL: Streams and Pollutants for Which TMDLs Were Developed

Kalispell Creek	Sediment
Lower West Branch Priest River	Sediment

2003 Addendum

In March 2002, EPA approved sediment TMDLs for two water bodies: Kalispell Creek and Lower West Branch Priest River. Action on other segments was delayed at DEQ's request to allow for further data collection and analysis. An addendum addressing these other water bodies was submitted to EPA for review in February 2003 and approved in June 2003.

2003 Addendum: Streams and Pollutants for Which TMDLs Were Developed

Reeder Creek	Sediment
Binarch Creek	Sediment
East River	Sediment, Temperature
Middle Fork East River	Temperature
North Fork East River	Temperature
Lower Priest River	Sediment



FY2024 (7/1/2023 – 6/30/2024) Annual Plan of Work Bonner Soil & Water Conservation District



Conservation District Priority Number 1: District Operations, Information/Marketing & Education

Objective: Conduct operations in accordance with soil conservation district law for effective local natural resource conservation

Goal(s): Administer County, state, federal and grant funds efficiently for effective conservation. Increase public awareness of the District and provide strong leadership in adult & youth conservation information programs.

Actions	Target Date	Individual(s) Responsible
•Maintain accurate financial records, conduct annual audit, meet annually with County Commissioners & keep them informed, submit budget reports to the legislature.	Monthly	DA, Board,
•Update Conservation District Policy and Procedures manual, conduct semi- annual elections, complete SWC reports, provide admin assistance to NRCS, supervisors attend IASCD state conference and Division I meetings	6/30/24	Board, DA
• Division I report & minutes to legislators. Keep websites updated for Bonner SWCD	Quarterly and Monthly	DA, Board,
•Support Water Festival, Forestry Contest, and community Arbor Day events. Support Fair, Water life Discovery Center programs as well as small food producers/ farmers market	Ongoing	All Staff and Board
•Provide technical resources for landowners.	Ongoing	DA, NRCS
•Develop a marketing/public education plan to educate public on Natural Resource concerns and resources in our community	6/30/24	Board, DA, NRCS
*Apply for NACD Urban/Community Ag development grant		DA, Board,

Bonner Soil & Water Conservation District assisting land managers with their conservation choices.



FY2024 (7/1/2023 – 6/30/2024) Annual Plan of Work **Bonner Soil & Water Conservation District**



Conservation District Priority Number 2: Water Quality / Riparian

Objective: Meet rules, regulations of 1) 1972 Clean Water Act,

2) 1986 Safe Drink Water Act, and

3) Idaho's Anti-degradation Plan for Agriculture

Goal(s): Fulfill responsibilities for meeting TMDL deadlines and implementation plans.

Prevent further degradation of all streams, rivers, lakes, and wetlands in Bonner County

Actions	Target Date	Individual(s) Responsible
•Continue execution of Pack River Watershed Management Plan via Ag TMDL Implementation Plan and work with project review team for Pack River. Coordinate Pack River Watershed Council,	6/30/24	PRWC, Board, DA
•Participate in Pend Oreille Lake Nearshore TMDL Implementation Plan Committee. Fund program with Bonner SWCD funds and IDEQ. Educate on nonpoint source pollution to our water.	6/30/24	Board, NRCS, DA, IDEQ, POBC
•Keep current on 319 grant BAG meetings and TMDL priorities (Pend Oreille River WAG, Priest River WAG, Clark Fork River WAG).	6/30/24	Board, DA, NRCS
*DEQ Source Water Protection grant implementation outreach and education	6/30/24	Board, NRCS, DA, IDEQ,
• Utilize any available public drinking water sources of funding for outreach and education.	6/30/24	Board, DA
•Work with developers & landscapers to maintain shoreline and streambank vegetation & stabilization through education and Stormwater Erosion & Education Program (SEEP)	6/30/24	Board, POBC
•Continue to coordinate with Kootenai-Ponderay Sewer District to monitor and utilize willow and dogwood nursery at the Land Application site for water treatment. Publicize availability of willows in newsletter and with tree buyers. Research options to expand to include native plants (Up to 10,000 available)	6/30/24	NRCS, Board, DA,
•Administer grant with ISDA for 3 boat inspection stations. Prepare and publish pertinent information regarding the boat stations and AIS.	6/30/24	Board, DA, Staff
•Help coordinate and participate in Sandpoint Earth Day Events	6/30/24	POBC, DA
•Develop a guide to develop land responsibly in Bonner County.	Ongoing	DC, Board, DA
•Stay current on Idaho Pollutant Discharge Elimination System	Ongoing	Board, DA



FY2024 (7/1/2023 – 6/30/2024) Annual Plan of Work Bonner Soil & Water Conservation District



Blister Rust Resistant
White Pine Nursery

Conservation District Priority Number 3: Timber & Woodland

Objective: Strengthen Forestry Resources in the District

Goal(s): Work with landowners to increase productivity of private woodlands, while promoting sound forestry

Actions	Target Date	Individual(s) Responsible
•Promote& grow tree seedling program. Promote use of genetically improved stock including Blister-rust Resistant White Pine. Keep information on NRCS cost-share programs on order form.	6/30/24	DA, Board, NRCS,
•Educate landowners about proper forest practices via newsletter, forestry contest, brochures, and conservation programs; Display Forest Practices Act BMPs in district office; Promote IDL Forest Legacy Program and other conservation easement programs in district newsletter and through conservation programs	6/30/24	NRCS, Board, DA,
•Continue sponsorship of Idaho State Forestry Contest.	Ongoing	DA, Board, NRCS,
•Assist Extension with Forestry Short Course and Stewardship for Small Acreage courses	6/30/24	DC, Board, DA
•Continue supporting cost-sharing practices for private forests through EQIP. Create & distribute Field Office brochure suggested at Local Work Group with information on Riparian Forest & Pasture Management.	6/30/24	DC, Board, DA,
•Promote planned integrated grazing for pastureland and grazed forest – 500 acres annually, includes thinning, planting and fire protection	6/30/24	DC, Board, DA

Bonner Soil & Water Conservation District assisting land managers with their conservation choices.



FY2023 (7/1/2023 – 6/30/2024) Annual Plan of Work Bonner Soil & Water Conservation District



Lightning Creek in the Clark Fork Watershed

Conservation District Priority Number 4: Fish, Wildlife & Recreation

Objective: Improve fish & wildlife habitat & increase native trout populations from a locally based, voluntary and cost-effective approach

Improve recreational use of water bodies through coordinated water level management

Goal(s): Enhance fish & wildlife habitat & recreation areas where practical and possible

Support efforts aimed at endangered species recovery

Prevent aquatic & animal species invaders through education (includes mussels)

Actions	Target Date	Individual(s) Responsible
•Work with F&G to promote HIP	Ongoing	DC, Board
•Include articles in newsletters, newspaper, Co-op newsletter, and website annually about wildlife, fish-habitat, and AIS.	Ongoing	PRWC, POBC, DA
•Work with Aquatic Invasive Species local managers to control, educate & evaluate aquatic invasive plants. Assist Bonner County in outreach education efforts to prevent new invaders, i.e. mussels.	Ongoing	Board, POBC, DA
•Work with our partners to identify priority projects within our county Ongoing	Ongoing	DC, Board,
•Marina and boat owner outreach (brochures, LAS, AIS & Recreation chapters, bottom barriers, dock monitors), spill prevention & cleanup efforts.	Ongoing	POBC, Board
•Pursue yearly grant with Dept of Ag to manage boat wash stations	Ongoing	DA, Board, POBC, DC
•Support Waterlife Discovery Center and other fish, wildlife and recreation resources.	Ongoing	POBC, Board, DC, DA
•Coordinate & teach about Bull Trout & Water Quality including at the Pend Oreille Water Festival for all 5 th graders in Bonner County.	Ongoing	DA, POBC, Board, NRCS, PRWC
•Continue to partner with Fish & Game on Clark Fork Delta projects	Ongoing	DC, Board, POBC
•Distribute 2016 Priest Lake maps & Lake Pend Oreille Boater Guides.	Ongoing	POBC, Board, DA
•Support expanding access to Lake Pend Oreille in winter for safety and recreation	Ongoing	POBC
•Support fish & wildlife habitat	Ongoing	POBC, PRWC
•Support coordination with federal and state entities controlling water	Ongoing	POBC
•Support educating the public on how water levels are managed	Ongoing	POBC



FY2023 (7/1/2023 – 6/30/2024) Annual Plan of Work Bonner Soil & Water Conservation District



Conservation District Priority Number 5: Traditional Ag, Grazing & Cropland

Objective: Find alternative crops with better economic returns and improve yield of existing crops and pastures

Goal(s): Improve the viability and economic return to farm operators.

Actions	Target Date	Individual(s) Responsible
•Work with Bonner County Weed Supervisor to implement noxious weed management practices, provide SCWMA weed brochure to landowners, support EQIP cost-share for weed management plans, participate in meetings for Selkirk Cooperative Weed Management Area	Ongoing	DC, Board
•Direct landowners to NRCS to provide information and technical assistance on rotational intensive grazing and reseeding fields through individual site visits and cost share programs, Stewardship for Small Acreages Class and newsletter. Distribute Lake Assist Chapter on Grazing.	Ongoing	DC, Board, DA,
•Assist livestock producers with Nutrient Management Plans, update grazing pamphlet	Ongoing	DC, Board
•Promote planned prescribed grazing for pastureland and grazed forest – 2000 acres, includes thinning, planting and fire protection. Support 1 CSP contract for Forestry for 1500 acres, and 1 WRE contract for 80 acres. Promote hoop (green) house initiative.	Ongoing	DC, Board, DA
•Support local fresh producers including farmers market producers, and local nonprofit entrepreneurial kitchen producers	Ongoing	DA, Board, POBC,
•Support efforts establishing Ag Tourism in Bonner County	Ongoing	Board, DC, DA

Bonner Soil & Water Conservation District assisting land managers with their conservation choices