

Bitterroot Conservation District Long Range Plan 2021-2025



Blodgett Creek – photo courtesy of Julie Ralston

To conserve and enhance the soil and water resources
in Ravalli County for people and the environment

Bitterroot Conservation District Office

Address: 1709 N. 1st Street, Hamilton, MT 59840

Phone: (406) 361-6181

E-mail: bcd@qwestoffice.net

Web site: bitterrootconservationdistrict.net

Board of Supervisors (as of October 2020)

Tommy Dobberstein

Dan Kerslake

Jeff Mark

Kent Myers

Bob Nelson

Paul Rosenberg

Chad Sutherlin

Associate Supervisors

Howard Eldredge

Mike Hansen

Monthly Meetings

Board Meetings are held at 7:00 PM on the second and last Tuesday of each month. The public is invited to attend.

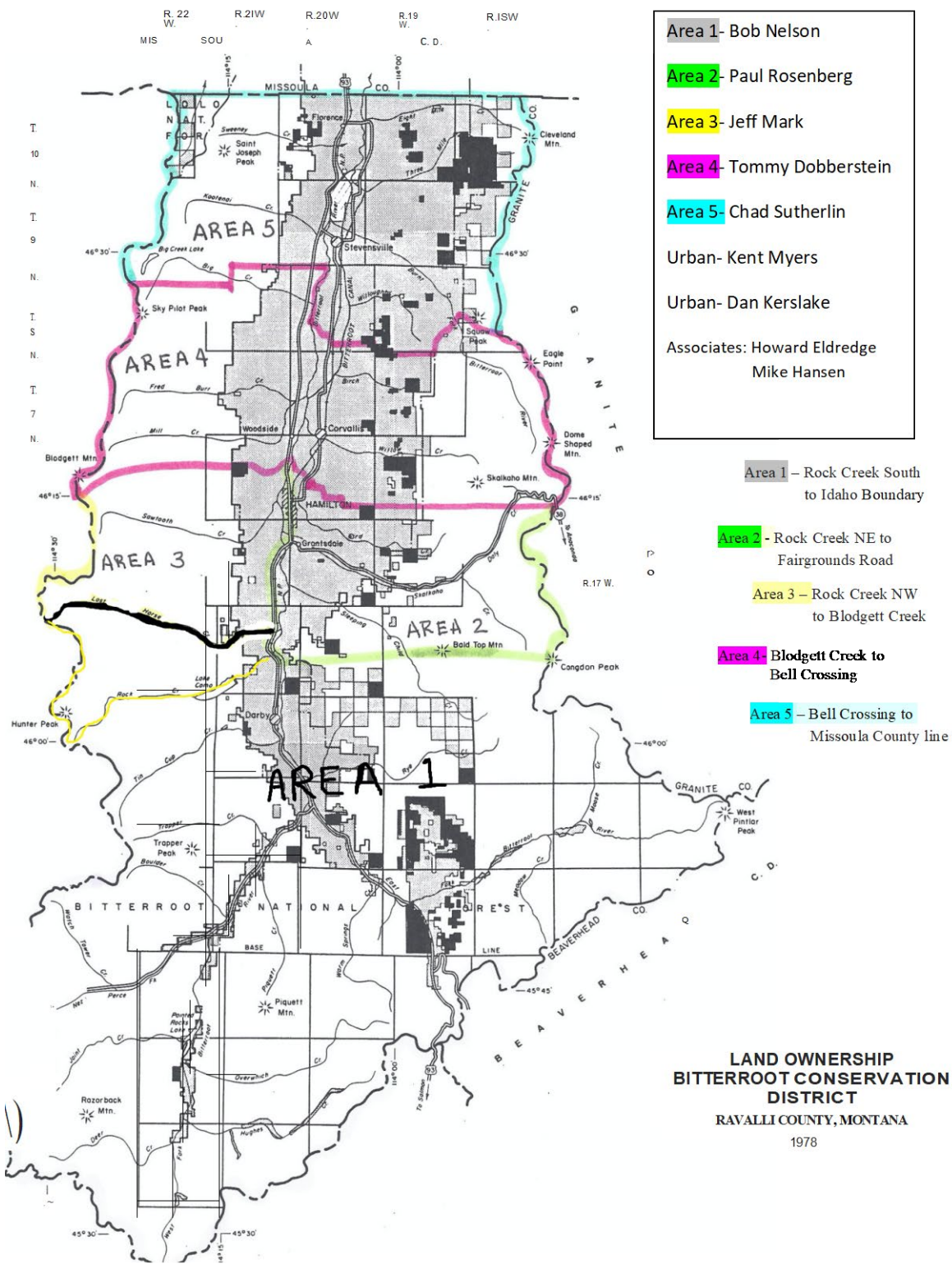


TABLE OF CONTENTS

MAP OF THE BITTERROOT CONSERVATION DISTRICT	1
EXECUTIVE SUMMARY	2
PROFILE OF RAVALLI COUNTY/BITTERROOT CONSERVATION DISTRICT.....	3
General Description	3
Topography	3
Geology.....	4
Land Forms	5
Hydrology	6
Land Use	7
STRUCTURE AND GOVERNANCE.....	9
Enabling and Governing Legislation	9
History.....	9
Policy	10
Leadership and Staff	10
MISSION, VALUES, AND GUIDING PRINCIPLES	11
Mission.....	11
Vision.....	11
Values and Guiding Principles.....	11
ROLES AND RESPONSIBILITIES.....	12
Local Level	13
Regional Level	14
State Level	14
National Level.....	15
NATURAL RESOURCE CONCERNS IN RAVALLI COUNTY	16
Forest Health.....	16
Pasture, Range, and Cropland Health	16
Water Quantity.....	17
Water Quality.....	17
Noxious Weeds	17
GOALS AND OBJECTIVES	18
Forest Health.....	18
Pasture, Range, and Cropland Health	19
Water Quantity.....	19
Water Quality.....	20
Noxious Weeds	20
DISTRICT PROGRAMS	21
Administer The 1975 Natural Streambed And Land Preservation Act (310 Law).....	21
Conservation Education	21
Promote Conservation Planning And Practices	22
Cost-Share Program	22

APPENDICES	24
Appendix A: Sources	24
Appendix B: Statutes and Administrative Rules	24
Appendix C: Acronyms used in this Long Range Plan	25

MAP OF THE BITTERROOT CONSERVATION DISTRICT



EXECUTIVE SUMMARY

The Bitterroot Conservation District (BCD), as a legal subdivision of the State of Montana under the Department of Natural Resources and Conservation (DNRC), is charged with the responsibility of promoting and enhancing the wise use and conservation of the soil and water resources within the Ravalli County. The Long Range Plan contained herein represents the fundamental policy framework within which the BCD will attempt to discharge these responsibilities over the period from 2021-2025. The plan describes the five highest priority resource concerns that exist within Ravalli County – forest health; pasture, range, and cropland health; water quantity; water quality; and noxious weeds – and identifies the BCD’s goals and objectives related to each resource concern. Specific actions and projects to address these concerns will be listed in the BCD’s Annual Plan for each year and will be derived largely from the goals and objectives in this Long Range Plan.

Additionally, this plan also describes the activities that are performed routinely by the BCD in fulfilling its prescribed responsibilities. The activities include administering the provisions of Montana’s Natural Streambed and Land Preservation Act of 1975 (the “310 law”), educating students in Ravalli County on conservation and the environment, and providing cost-share support to landowners for projects that benefit or enhance natural resources on their property.

In short, this Long Range Plan will serve as a roadmap for all of the BCD’s activities for the period from 2021 to 2025. The preceding Long Range Plan was released in 1980, and even though much has changed in the intervening 40 years, many of the concerns that were highlighted in that first plan still exist today and are reflected in the current plan. This plan is intended to be a living document that will change in response to changing circumstances and needs within Ravalli County and beyond. The BCD will review and revise this plan as necessary on a regular basis.

Public Participation

This Long Range Plan was prepared by the Bitterroot Conservation District with input from the Ravalli County Local Working Group, comprising representatives from the following organizations and interests:

- Agricultural producers
- Private citizens of Ravalli County
- Ravalli County Weed Board
- Montana State University Extension
- Western Montana Research Station
- Bitter Root Water Forum
- Bitter Root Land Trust
- Montana Trout Unlimited
- Teller Wildlife Refuge
- Resource Conservation and Development
- Natural Resource Conservation Service
- Bitterroot National Forest
- Farm Services Administration

Audience

Beyond the BCD supervisors and staff, the intended audience for this Long Range Plan includes the residents of Ravalli County, Ravalli County officials, potential funding sources, legislators, partner agencies, and anyone else with an interest in the BCD. It is hoped that, by providing greater transparency, this plan will encourage the public to become more engaged with the BCD and its mission.

PROFILE OF RAVALLI COUNTY/BITTERROOT CONSERVATION DISTRICT

As with most Conservation Districts in the state of Montana, the jurisdictional boundaries of the Bitterroot Conservation District are the same as that of the county in which it resides, namely Ravalli County. This section will provide a brief overview of the key features of Ravalli County that are relevant to the activities and responsibilities of the BCD.

GENERAL DESCRIPTION

Ravalli County encompasses an area of over 1.5 million acres (2,391 square miles), of which approximately 1,160,000 acres are federal, 40,000 acres are state, and 370,000 acres are private. US Forest Service and Wilderness lands occur on both the west and east sides of the valley. Ravalli County is bordered by Granite County to the east, Missoula County to the north, Beaverhead County to the southeast, and Idaho to the south and west. The length of the county from the southern end, at Lost Trail Pass, to just north of Florence, is approximately 95 miles, and the average width of the county is approximately 25 miles.

The population of Ravalli County was estimated by the US Bureau of Census in 2018 to be 43,172. While some of the population resides in the incorporated municipalities of Hamilton, Pinesdale, Stevensville and Darby, and the unincorporated rural communities of Charlos Heights, Conner, Corvallis, Grantsdale, Florence, Lone Rock, Sula, Victor, and Woodside, the majority of the county's inhabitants live outside of city limits on lots, farms and ranches ranging in size from an acre or less to thousands of acres. The combination of a large, relatively dispersed population living in close proximity to the Bitterroot River and its tributaries results in frequent issues requiring 310-permitted work.

TOPOGRAPHY

The Bitterroot Valley, which occupies most of Ravalli County, is a long, narrow north-trending basin bisected by the Bitterroot River. The valley begins at the confluence of the East and West Forks of the Bitterroot River, about 5 miles south of Darby, and ends approximately 84 miles to the north where the Bitterroot River joins the Clark Fork River near Missoula. The valley is up to 10 miles wide and is bounded by the Bitterroot Range on the west and the Sapphire Mountains on the east. The Bitterroot Range rises abruptly out of the valley floor with a remarkably even slope cut by deep parallel canyons, and reaches elevations of 9,000-10,000 feet. In contrast, the Sapphire Mountains are characterized by foothills that gradually give way to rounded summits, with elevations of 6,000-8,000 feet. The valley floor is broad and flat, and drops with generally even gradient from an elevation of about 3,980 feet at the confluence of the forks to about 3,100 feet at the junction with the Clark Fork. The relatively flat floodplain is flanked by terraces and

benches on both sides. The Bitterroot River drains a total area of 2860 square miles, of which over 80% is located within Ravalli County.

GEOLOGY

The Bitterroot Valley lies within the Northern Rocky Mountain physiographic province. This region is characterized by high, linear mountain ranges separated by narrow alpine and plateau valleys. The Bitterroot Range is the predominant range in this region. The area is structurally complex, and large areas are underlain by ancient Precambrian sedimentary rocks of the Belt Supergroup. Numerous geologic formations, ranging in age from Precambrian to Quaternary, are found in this area. Rocks of igneous and volcanic origin cover a large part of the Conservation District, with acid igneous formations of the westside granite occupying the greatest area. Tertiary bench gravels and "lake bed" deposits (see below) of silt, sand, gravel, volcanic ash, and impure limestone are found in the northern part of the Bitterroot Valley. The major portion of the central valley is filled with fluvial sediments in the riparian areas, alluvial fans and outwash deposits reaching back towards the mountain ranges. Gold-bearing gravels are present in many stream beds within the valley.

The Bitterroot Range is on the eastern edge of the Idaho batholith, a massive granite block that covers an area of more than 10,000 square miles in central Idaho and the western edge of Montana. The batholith was formed during the late Cretaceous period, between 70-90 million years ago, when molten granite magma intruded into the crust. In the northern end of the range, granite magma intruded into ancient Precambrian basement rocks of the Belt Supergroup that are believed to be as much as 1.7 billion years old. South of Stevensville, the bedrock is composed primarily of granite and gneiss, while the bedrock from Stevensville north is a complex assemblage of granite, gneiss, schist, and other rocks. A fault line runs along the base of the mountains and is visible in places from Highway 93.

From a geologist's perspectives, one of the most striking features of the Bitterroot Range is the smooth east face that tilts at a consistent angle of close to 25 degrees for almost the entire length of the range. This feature is plainly visible from the valley floor and is linked to the geologic history of both the Bitterroot Range and the Sapphire Mountains. As the Bitterroot Range rose up during its formation, the Sapphire block slid off and migrated to the east, giving rise to the Sapphire Mountains. The strong shearing action between the two blocks created a type of rock known as mylonite, and the smooth east face of the Bitterroot Range consists of a thousand foot thick layer of this distinctive rock. The Bitterroot mylonite zone can be observed in the mouths of any of the Bitterroot canyons south of Stevensville. The mylonite layer wraps over the top of the range and extends several thousand feet below the current surface. The trough that formed when the Sapphire block migrated to the east has filled with alluvium, which now underlays the valley floor. A well drilled at Corvallis shows that the alluvial deposits are at least 1,100 feet thick, and these deposits are suspected of being up to three times that thick in other places in the valley.

Glacial Lake Missoula also played a significant role in shaping the Bitterroot Valley. This ancient glacial lake was formed approximately 15,000 years ago, when a massive glacier blocked the entire flow of the Clark Fork River in what is now northern Idaho. At its maximum size, the lake was 2,000 feet deep at the ice dam and reached an elevation of 4,350 feet, extending up the Bitterroot Valley to approximately one mile south of Medicine Hot Springs. Ice is a poor

material for a large dam, and Glacial Lake Missoula went through at least 36 cycles of emptying catastrophically and then re-filling over a period of 1,000 years. Each time the dam failed, it released an enormous torrent of water, equal in volume to present day Lake Ontario, across eastern Washington to the Columbia River, profoundly shaping the landscape in that region. Glacial Lake Missoula played a major role in creating the numerous terraces and benches in the Bitterroot Valley, and also caused the horizontal lines that are visible on some grassy hillsides on the east side of the valley.

LAND FORMS

The Bitterroot Valley comprises the following physiographic subdivisions: mountains, foothills, upper valleys, and floodplains. These are described briefly below.

Mountains: As described above, the Bitterroot Valley is flanked by the Bitterroot Range on the west and the Sapphire Range on the east. The Bitterroots rise in many places to elevations of more than 9,000 feet, and the high point is Trapper Peak, located at the southern edge of the range and climbing to an elevation of 10,157 feet. The range contains many steep canyons that were carved by glaciers. These canyons run predominately west to east and occur every few miles up the valley. The streams that flow out of these canyons flow generally to the east until they join the Bitterroot River. In contrast, the Sapphire Range resembles a broad dissected plateau with peak elevations that range from about 7,000 feet in the north to more than 8,500 feet in the south. Most of the streams in the Sapphires flow northward and converge into a few major creeks before reaching the Bitterroot Valley.

Foothills: The foothills of the Sapphire Range consist of many low spurs and ridges that ascend gradually from the benches to the mountains, with many gentle slopes of tillable soils. The high benches are underlain chiefly by stratified, unconsolidated to weakly consolidated loams, clays, silts, sand, gravels, and volcanic ash of the Tertiary era. Except for the ash, the materials appear to be normal alluvial sediments. Some of the thicker gravel deposits around the edges of the benches may be of glacial origin. The benches in the Burnt Fork and Willoughby areas also contain soils that originated from gravelly or cobbly fine earth and silty wind deposits from the Pleistocene era. Only parts of the original surfaces of the Tertiary era benches remain, primarily north and south of Burnt Fork Creek and east of Hamilton. These areas are nearly level to gently sloping and smooth. The intervening areas have been more or less dissected and eroded, and are now gently to strongly sloping. The overall slope is toward the valley. The bench edges are steeply sloping to broken. Local relief around these edges varies as much as 200 feet.

On the west side of the valley, from Lolo to Conner, the high fans and moraines form a set of nearly level to hilly benches at the base of the Bitterroot Mountains. The more prominent moraines are south of Lost Horse Creek. The benches have been bisected by the Bitterroot River and the west side creeks, and they generally slope towards the valley. With the exception of the bench just south of Lolo, all were formed early in the glacial (Pleistocene) era as outwash fans and glacial moraines. The underlying materials are mostly boulders, cobblestones, and pebbles derived chiefly from granite and gneiss. These have been so strongly weathered that many of them can be crushed by hand. In one area between Big Creek and Sweathouse Creek, the material is mostly gravel derived chiefly from micaceous schists, quartzites, and argillites. Only a few remnants of the original fan surfaces are left, the largest of which are just west of Darby.

The Upper Valleys: The valley of the West Fork of the Bitterroot River is no more than a mile wide at any point, and it is often much less. The narrow floodplain is bordered first on one side and then the other by low terraces and fans. These are underlain by loose sands and gravel, derived from a variety of rocks. The alluvium is not especially thick. Bedrock outcrops occur at some places in the river bed. Mountains rise precipitously on both sides of the valley. Small remnants of high benches occur where the West Fork joins Nez Perce Fork and Overwhich Creek.

The valley of the East Fork from Conner to Sula is similar to that of the West Fork, with a complex topography of floodplains and broken terraces. Above Sula, the valley widens out to form Sula Basin and French Basin. Together, these basins of floodplains and rolling hills cover about 20 square miles. Materials underlying the floodplains are mixed gravel mantled with loams and clays. Parts of the hills are weathered granite outwash like that of the high fans on the west side of the main valley; other parts are Tertiary sandstones and silts; and the remainder is weathered granite bedrock. Wind deposited silts and sands form a mantle in some areas.

The Bitterroot Floodplains: - The floodplains of the Bitterroot River and its tributaries consist of intricately channeled strips of alluvium composed predominately of sand and gravel of mixed origin. The alluvium originates from the lower edges of the side fans by downcutting and re-sorting of the eroded material. The floodplains for the Bitterroot River and major tributaries have been mapped at high resolution using light detection and ranging (LiDAR) data collected between 2008-2013. A user-friendly and searchable version of the LiDAR map of the Bitterroot floodplain was created by a collaboration between Trout Unlimited and the Montana State Library (see [Web](#)).

HYDROLOGY

The Bitterroot River flows in a predominately northward direction from its formation, at the confluence of the East and West Forks, to where it finally joins the Clark Fork River 84 miles to the north. The drainage comprises 14 watersheds, which themselves contain a total of 48 tributaries or sub-basins. The river is fed throughout its length by numerous tributaries that originate from snowmelt in the Bitterroot and Sapphire Ranges. As is typical for a snowmelt-dominated river system, the flows in the Bitterroot River vary dramatically between peak runoff in early June and then tapering off to baseflow levels beginning in mid-July. Groundwater is also an important component of the river's hydrology, due in large part to the prevalence of flood irrigation in the valley. Groundwater levels on both sides of the valley gradually rise during and just after the irrigation season, and surface discharge of groundwater contributes a significant portion of the total flow in the river during the late summer and fall.

The gradient of the Bitterroot River tends to be relatively shallow throughout its length, dropping an average of approximately 10 feet per mile from the confluence to where it joins the Clark Fork. Localized variations in substrate, topography, and gradient influence how the river behaves with respect to channel migration as it flows to the north, and three distinct sections of channel behavior can be identified:

- From the confluence north to just south of Hamilton, the river alternates between braided and relatively straight reaches but is generally stable and confined to a single active bed;

- Between Hamilton and Stevensville, the river and the valley bottom are characterized by branching channels that tend to wander over a wide area. The river in this section is very dynamic and exhibits significant channel instability, as bedload accumulations force the river to establish new channels;
- North of Stevensville, the river is less dynamic and contains both single-bed reaches and stretches of multiple, interconnected, coexisting channel belts (anastomosis).

One of the characteristic features of the Bitterroot River is the large volume of bedload that it transports. The tributaries carry large quantities of bedload to the river during spring runoff, especially in the years following significant fire events. Additional bedload is contributed by erosion of the banks of the river main stem, which are highly erodible because the floodplain alluvium consists primarily of well-rounded gravel and sand. The combination of the relative shallow gradient and high bedload are important factors that influence the hydrology of the Bitterroot River.

The reason for the extreme channel instability observed between Hamilton and Stevensville is not well understood and remains controversial. In addition to considerations related to the shallow gradient and high bedload, other factors that have been put forth include tectonic effects and shortening of the river channel caused by both human activity and natural processes. An excellent review of these factors can be found in the Master's Thesis of David Gaueman ("Historical channel changes and processes of the central Bitterroot River Ravalli County Montana," 1997; see Sources). Regardless of the mechanism, the dynamic behavior of the Bitterroot River and its tributaries, coupled with the demographics of Ravalli County, results in the need for numerous bank stabilization and stream modification projects that require 310 permits.

LAND USE

Ravalli County encompasses a total area of 1,536,899 acres, of which 6,016 acres are surface water (streams, rivers, lakes) and the rest is land. According to the Montana Department of Revenue Final Land Unit Classification (2015), 82%, of Ravalli County is designated as forest land, 14 percent is range and pasture, 3 percent is irrigated land, and 1 percent is fallow and dry hay land. The forest land includes high-elevation headwater areas and contains relatively intact wildlife habitats. These are primarily public lands that are managed by the U.S. Forest Service or State of Montana. The foothills and valley bottom of Ravalli County are generally privately owned and are used for agricultural production, light industry, commercial and non-commercial services, and residences.

Agriculture is an important component of the economy in Ravalli County, and it also drives a significant portion of the activities of the BCD. According to the 2017 Census of Agriculture, agricultural production in Ravalli County generated \$42.6 million in revenue in 2017, divided between \$12.7 million from crops (primarily hay) and \$30.0 million from livestock, poultry, and livestock-derived products. The total area of land under cultivation was 58,000 acres in 2018. The farming community in Ravalli County is somewhat unique in that it consists of a large number of relatively small farms, with 1,576 farms averaging 153 acres/farm as of 2017 (241,223 total acres). For comparison, Beaverhead County has 430 farms that average about

3,211 acres/farm. It is also noteworthy that 98% of the farms in Ravalli County are classified as family-owned and operated.

The productivity of Ravalli County farms is attributable largely to the soils, primarily on the east side of the valley. The original soil survey in the Bitterroot Valley was conducted from 1947-1951, and an updated Web Soil Survey was released in 2009. The soils found in the Sapphire Range areas on the east side of the valley are underlain by sediment from the “Belt rocks.” These soils are medium to fine grained in texture and relatively productive. The soils of west side of the valley are coarser grained, because the parent material is granite and gneiss from the Idaho Batholith that has been transported in colluvium and glacial till and outwash into the valley. Many of the west side soils are also very rocky, both within and on the surface. Overall, the valley contains many soils that are well-suited for farming and have been designated as soils of agricultural importance, as listed below (from the NRCS Long Range Plan for Ravalli County, 2020):

- Farmland of Local Importance (82,723 acres) - These are widely scattered in areas where hay and forage are grown and occur mainly on elevated fans and terraces on both sides of the Bitterroot River;
- Farmland of Statewide Importance (24,037 acres) - These soils occur mainly on the east side of the Bitterroot River on broad alluvial fans and terraces;
- Prime if Irrigated (20,696 acres) – These areas are mainly on low lying alluvial terraces on the southern end of the valley on the east side of the Bitterroot.

The climate of the Bitterroot Valley is semi-arid, with annual precipitation typically in the range of 12-14 inches, although the surrounding mountain ranges receive considerably more precipitation, and can accumulate snow-water equivalents of over 50 inches in some locations. Because of the semi-arid climate, agricultural production in Ravalli County has always depended heavily on irrigation. Starting in the late 1800s, a complex irrigation system evolved in the Bitterroot Valley to deliver water from the tributaries and river to agricultural lands. While some of this water is delivered in pipes, the majority is conveyed in numerous open ditches under the management of 23 irrigation districts. Water from runoff is stored in two large reservoirs, Painted Rocks Reservoir and Como Lake, as well as seven backcountry lakes. This water is released during the summer months for irrigation and, in the case of a portion of the Painted Rocks water, to augment flows in the Bitterroot River during late summer. The Bitterroot Basin is a closed basin and is considered to be highly over-allocated. As a result, careful management of the available water resources is imperative.

Another important category of land use in Ravalli County is outdoor recreation. Numerous recreational activities are available in Ravalli County, including hiking, backpacking, fishing, hunting, boating, and skiing (cross-country and downhill). These activities contribute to the quality of life in Ravalli County and are also an important part of the local economy. For example, the reputation of the Bitterroot River as a blue ribbon trout stream attracts anglers from all over the world, which in turn creates or supports numerous jobs in the guiding/outfitting, retail sporting goods, and hospitality services sectors. According to a 2017 presentation by Larry Swanson (University of Montana), fishing-related activities contributed \$28.4 million to Ravalli County’s economy, with over \$22 million coming from non-residents. By administering the 310 Law, the BCD plays an important role in preserving the Bitterroot River and its watershed as a productive and healthy cold water fishery.

In the 1980 Long Range Plan, it was noted that “The rapid population growth in the District... is causing an intense demand for land, dwellings, recreation and highways,” and one of the stated objectives in the plan was “To work toward an effective means of persuading the farmer and rancher to preserve prime agricultural land while encouraging the use of land not suitable for agricultural development.” A study published in 2006 by Larry Swanson confirmed that the loss of agricultural land has continued and even accelerated in the years since 1980. This study highlighted voluntary conservation easements as an effective tool for protecting open lands in Ravalli County. The total area of conserved open land in Ravalli County at the end of 2019 was 37,894 acres, accounting for more than 2% of the total area. Depending on the conditions of these easements, the conserved lands are protected for decades or perpetuity for the purposes of protecting plant or animal habitat, landscape features (e.g. wetlands), or land management activities like farming and ranching. In 2006, the voters in Ravalli County showed their strong support for conserving open lands by passing a ballot proposal to establish a \$10 million Open Lands Bond Program. As of the end of 2019, this program has been instrumental in establishing conservation easements in perpetuity for 6,610 acres of open lands in Ravalli County, primarily farm lands but also including park lands and public access sites. These easements cost \$17.1 million, of which \$4.5 million came from the Open Lands Bond Program, \$4.2 million from outside sources (primarily NRCS programs), and \$8.5 million from landowner contributions of easement value.

STRUCTURE AND GOVERNANCE

ENABLING AND GOVERNING LEGISLATION

Title 76, Chapter 15 of the Montana Codes Annotated, 1979, provides for the creation of Conservation Districts in the state. This state legislation has given each Conservation District the responsibility for the conservation of soil resources; and the conservation, development, utilization and disposal of water through appropriate soil-conserving land use practices. Conservation Districts are a legal subdivision of the State under the Conservation Districts Bureau of the Department of Natural Resources and Conservation.

The Montana State Legislature, mindful of its constitutional obligations under Article II, section 3, and Article IX of the Montana constitution, enacted the Natural Streambed and Land Preservation Act of 1975 (known colloquially as the “310 Law”). The BCD has adopted a set of administrative rules that delineate how the requirements and provisions of the 310 Law are to be implemented in the district. These rules were most recently amended in September 2020.

HISTORY

The Bitterroot Conservation District was first organized in November, 1941 and was chartered by the Secretary of State in June, 1943. As noted above, it operates presently under policy specified in Section 76-15-102 of the Montana Codes Annotated, 1979. The District’s name was originally the “Bitterroot Soil and Water Conservation District” but has since changed to its present name.

POLICY

It is the policy of the BCD, as mandated by Montana Codes Annotated, 1979; (section 76-15-10), to provide for the conservation of water and soil resources of this state, for the control and prevention of soil erosion, for the prevention of flood water and sediment damages, and for furthering the conservation, development, utilization, and disposal of water and thereby to preserve natural resources, control floods, prevent impairment of dams and reservoirs, preserve wildlife, protect the tax base, protect public lands, and protect and promote the health, safety, and general welfare of the people of this state.

It is also the policy of the BCD to faithfully administer the 310 Law in the District. The BCD considers that natural rivers and streams within its county jurisdiction, and the lands and property immediately adjacent to them, are “to be protected and preserved to be available in their natural or existing state and to prohibit unauthorized projects, and in so doing to keep soil erosion and sedimentation to a minimum, except as may be necessary and appropriate after due consideration of all factors involved.” Further, it is the policy of this Conservation District to recognize the needs of irrigation and agricultural use of the rivers and streams of the State of Montana and to protect the use of water for any useful or beneficial purpose as guaranteed by the Constitution of the State of Montana.

Finally, it is the BCD’s policy to work cooperatively with individuals, groups, local governments and the federal government to better achieve mutual objectives related to sound soil and water conservation planning.

LEADERSHIP AND STAFF

Supervisors

A seven member Board of Supervisors is the governing body of the BCD and consists of five supervisors who are elected at a general election from within the District, and two “urban” supervisors who are appointed from among residents of the incorporated municipalities of Hamilton, Darby and Stevensville. The elected supervisors each serve a four year term and the two appointed supervisors each serve for two years. There are no term limits for elected or appointed supervisors.

Officers are elected annually from among the members of the Board of Supervisors and may serve with no term limits. The responsibilities of the Officers are as follows:

- The **Chair** is responsible for presiding over regular and special meetings of the Board, and representing the District in meetings with other districts, agencies, associations, partners, organizations, legislators, and property owners;
- The **Vice-Chair** is responsible for acting as the Chair in case of the absence or unavailability of the Chair;
- The **Treasurer** is responsible for reviewing the District’s receipts and expenditures and providing regular updates to the Board. The Treasurer is also responsible for proposing a draft budget in advance of each fiscal year.

Each Supervisor is required to serve on one or more of the following BCD committees: Cost-Share, Claims, Education & Conservation Days, Finance, Nomination, Personnel, Re-

Organization, and 310 Committee. Appointments to BCD committees are made annually, generally at the same time as election of the Officers. Additionally, supervisors may be appointed to represent the BCD on the following County boards: Planning Board, Open Lands Board, and RC&D Board. County board appointments are made in accordance with each board's by-laws. A supervisor must also be appointed by the Board to serve as Chair of the Local Working Group.

Associate Supervisors

Associate Supervisors are non-voting members of the District Board. They are appointed by the Supervisors to serve as advisors and representatives. The role of Associate Supervisor offers a way to educate potential Supervisors, broaden community input to the District, and expand District programs. Associate Supervisors are not eligible to serve as Officers and generally do not serve on committees unless appointed by the Board.

District Administrator and Staff

The District Administrator is responsible for managing the BCD office, conducting the day-to-day business of the District, and carrying out other activities as described in the Annual Plan. The routine duties of the District Administrator include preparation of meeting agendas and minutes, managing the 310 permit system, bookkeeping, and all other tasks related to office operation. The District Administrator also serves as the primary point-of-contact between the BCD and the public and other agencies. Additional full-time or part-time staff may be added as required to meet the workload of the BCD office.

MISSION, VISION, VALUES AND GUIDING PRINCIPLES

MISSION

The BCD is committed to conserving and enhancing the soil and water resources in Ravalli County. This mission is carried out through education and outreach with the public, partnering with other agencies and non-profits, and providing administrative, technical, and financial support to landowners and partners.

VISION

The BCD seeks to be a leader in the responsible stewardship of the soil and water resources in Ravalli County. This will be done by faithfully and responsibly carrying out the mandate of the Natural Streambed and Land Preservation Act, to protect and preserve the natural rivers and streams in Ravalli County, while recognizing the needs of landowners and agricultural producers. Further, the BCD will be a positive force in the community for environmental education and promoting sustainable land use practices. And lastly, the BCD will be fully accountable to the taxpayers of Ravalli County for the wise and careful use of the funding it receives and the trust placed in it by the public.

VALUES AND GUIDING PRINCIPLES

In carrying out its Mission and realizing its Vision, the BCD strives to embody the following core values:

SUSTAINABILITY – We believe that good soils, clean water, and healthy ecosystems are essential for the continued well-being of our community and environment, and that well-managed agricultural and forest operations can co-exist with healthy fish and wildlife habitats;

LEADERSHIP – We use our knowledge and expertise in the fields of natural resource stewardship and responsible land use to guide others in the wise use of soil and water resources;

COLLABORATION – We respect the private property rights of landowners, value their input and concerns, and work with them to achieve their project goals while remaining true to our Mission;

ACCOUNTABILITY – We are funded by taxpayers and are committed to ensuring that the funding we receive is spent wisely and that we operate transparently and in full compliance with all rules and regulations;

SERVICE – We recognize that our most important asset is the trust of the public and agencies with whom we work, and that trust is earned and maintained by consistently providing excellent service;

EDUCATION – We understand that today’s youth will be the environmental stewards of tomorrow, and believe that providing young people with educational opportunities in conservation and the environment is an important investment in the future.

These core values form the basis for the guiding principles that the BCD follows in carrying out its duties:

- Be courteous and professional in dealing with the public;
- Be productive and responsible members of our local community;
- Participate in state level conservation initiatives and organizations that are aligned with our local conservation efforts;
- Seek cost-effective solutions for local projects;
- Work with landowners to meet their needs without causing harm to the environment;
- Whenever possible, leverage available expertise and funding from other agencies and organizations;
- Seek collaborations that will advance our conservation goals.

ROLES AND RESPONSIBILITIES

The BCD works with agencies and individuals on the local, regional, state, and national levels as partners in our efforts to achieve our vision. These partnerships are formalized through various memoranda of agreement and/or understanding, working agreements, intergovernmental agreements, and informal arrangements. These agreements typically outline the responsibilities of each partner and identify the types of assistance, resources, and support each will provide to accomplish common conservation goals. The roles and responsibilities of the BCD and the agencies with which it works are described below.

LOCAL LEVEL

Bitterroot Conservation District (BCD)

The District assists the general public with conservation planning, technical and financial assistance, farm bill program opportunities, and conservation-related questions. The BCD also provides assistance to other agencies in securing grant or loan funding for an array of natural resource conservation projects. The BCD can provide direct assistance to landowners in the form of cost-share grants to landowners for projects that benefit natural resources on their property.

Landowners, Producers, General Public

The General Public and other private entities utilize the BCD as their primary point of contact for all District programs, as well as those of the Montana DEQ and the USDA's Natural Resource Conservation Service. Landowners and agricultural producers can utilize the technical expertise of the BCD with respect to natural resource concerns and the 310 permitting system.

County Government and Funding

The government of Ravalli County supports the BCD by providing support and sponsorship for the District's operations, programs, and activities. The BCD is entitled to receive up to 1.5 mills in county tax dollars, as authorized by Montana Code Sections 76-15-511, 76-15-515, and 15-10-420. The BCD provides a budget and formal request for funding to the Bitterroot County Commissioners at the end of each fiscal year. The County also provides legal assistance to the BCD when required for litigation involving the District. The BCD serves as a source of technical and conservation expertise for the County whenever needed.

Ravalli County Local Working Group (RCLWG)

The RCLWG is a partnership of local citizens who share a strong interest in agriculture and natural resources in Ravalli County. The RCLWG is led by the BCD, and participants include landowners and producers as well as representatives from various non-profit organizations and government agencies at the local, state, and national levels. The Group works with these agencies and the public to identify the natural resource priorities in Ravalli County, and also facilitates collaborations to address these priorities. The natural resource priorities identified by the RCLWG form the basis for the goals and objectives contained in this Long Range Plan. These resource priorities are also used by the NRCS in developing funding priorities and projects for Ravalli County.

Bitter Root Resource Conservation and Development Area (RC&D)

The Bitter Root RC&D was formed in 1965 and serves Missoula, Mineral, and Ravalli counties. The RC&D assists individuals, groups, and local governments with proposed projects that are focused on maintaining the rural lifestyle while improving the quality of life. The RC&D provides leadership and support on natural and community resource issues and projects that are important for the service area. Since 2000, a major focus has been on helping landowners to reduce fire risk on their lands through the Hazardous Fuels Reduction program. The BCD assists the RC&D by providing financial support and serving on its board.

Bitter Root Water Forum (BRWF)

The BRWF is a non-profit organization whose mission is to enhance and restore the Bitterroot watershed through on-the ground restoration projects and watershed education activities. The BCD supports this mission by providing financial and technical assistance, serving as a pass-through agency for grants, and partnering with the BRWF on select projects and grants. The collaboration between the BRWF and BCD is important for achieving many of the BCD's goals and objectives related to natural resource concerns in the Bitterroot Valley.

Trout Unlimited (TU)

The national TU organization has a strong commitment to “conserve, protect and restore North America's coldwater fisheries and their watersheds.” Locally, this mission is led by the Bitter Root chapter of TU (BRTU). The BCD supports the efforts of TU and BRTU by providing technical assistance, serving as a pass-through agency for grants, and partnering on select projects and grants. BRTU members frequently attend BCD meetings and provide valuable input on 310 projects and other activities that affect the Bitterroot River and its tributaries.

Montana State University (MSU) Ravalli County Extension Office

The MSU Ravalli County Extension Office is an educational resource that provides the citizens of Ravalli County with access to information and expert knowledge provided by MSU faculty and associated topic specialists. The Extension Office works with the BCD on various educational programs for schools in Ravalli County regarding the wise use of soil and water resources.

REGIONAL LEVEL

USDA Natural Resource Conservation Service (NRCS)

The BCD maintains a Cooperative Working Agreement with the NRCS Hamilton Field Office to provide office space and equipment, and to assist with conservation planning and conservation practice implementation activities in Ravalli County. The District also from time to time enters into Contribution Agreements with NRCS to produce complete conservation plans. The District is served through the NRCS field office in Hamilton. The local field service agent provides technical assistance to the District and directly to county landowners and producers.

STATE LEVEL

Montana Department of Fish, Wildlife, and Parks (FWP)

The FWP shares a common goal with the Conservation District of the conservation of natural resources. Projects by private landowners with the potential to affect fish and wildlife habitat are jointly reviewed by FWP and the BCD. The FWP representative attends all meetings and is a team member on site visits for 310 permit applications. The BCD relies heavily on FWP for advice and expertise related to fish and wildlife habitat.

Montana Department of Natural Resources and Conservation (DNRC)

The Conservation District Bureau (CDB), which is in the Conservation Resource Development Division of the DNRC, is the coordinating state agency for conservation districts in the state of Montana. The CDB provides technical and legal support to conservation districts to assist them in carrying out conservation programs and implementing the 310 Law. The CDB also offers many grant programs for conservation districts, helps sponsor statewide educational events such as the Montana Youth Range Camp and the Montana Envirothon.

Department of Environmental Quality (DEQ)

The DEQ is responsible for ensuring, via the 318 Authorization permit system, that any construction or construction-related activity that could result in sediment release or increased turbidity in state waters is done in way that minimizes the extent and duration of the impact. The same form is used to apply for both the 310 and 318 permits, and the requirement for 318 Authorization can be waived by FWP during the 310 review process. The DEQ may also provide assistance to the BCD on 310 projects or complaints that could affect water quality in other ways. Additionally, the DEQ provides financial resources through grants for habitat restoration and water quality improvement projects.

Montana Association of Conservation Districts (MACD)

The MACD provides technical and administrative support to the District. It is also the main conservation district advocacy organization with the Montana State administration and legislature.

NATIONAL LEVEL

USDA Natural Resource Conservation Service (NRCS)

The NRCS, originally called the Soil Conservation Service, was created in 1935 with the mandate to create a national program to protect and develop the nation's soil, water and related natural resources. As it exists today, the NRCS provides technical and financial assistance to eligible landowners, agricultural producers, groups, and state and local units of government, including conservation districts, to assist them in managing natural resources in a sustainable manner. The NRCS is organized on a local level, and Ravalli County is served by the Hamilton Field Office (see above). The NRCS has access to a wide range of technical expertise, including scientists, engineers, conservationists, foresters, and other specialists who are available to provide technical assistance to conservation districts.

United States Forest Service (USFS)

The Forest Service objectives and responsibilities concerning soil and water conservation on public lands generally parallel those of conservation districts on private lands. It is therefore Forest Service policy to cooperate with and aid conservation districts whenever possible. In the case of the BCD and the Bitterroot National Forest, there are many mutual problems and opportunities, and benefits involving waterways that run through both FS and private lands, and these can form the basis for mutually beneficial collaborations.

NATURAL RESOURCE CONCERNS IN RAVALLI COUNTY

A natural resource concern is a condition that does not meet agreed-to or established criteria for a quality, sustainable resource. This section is intended to provide a picture of the natural resource challenges that exist in Ravalli County and why they are important. These resource concerns represent the consensus of landowners and stakeholders on the Ravalli County Local Working Group.

The top five resource priorities in Ravalli County are as follows (not listed in any particular order):

- Forest health
- Pasture, range, and cropland health
- Water quantity
- Water quality
- Noxious weeds

FOREST HEALTH

The overall health of the Bitterroot National Forest and adjacent private forest lands has been, and continues to be, impacted negatively by the changing climate and the effects of long term fire suppression. These factors have resulted in crowded stands of trees that are more vulnerable to insect pests, parasites, and diseases. The net effect of these trends, coupled with the longer and drier fire seasons that are becoming more frequent, has been to increase the risk of catastrophic wildfires in the BNF and surrounding lands. In parallel, there has been a dramatic increase in the construction of new houses in wildfire-prone areas. For example, a study released in 2018 showed that, from 1990 to 2016, more than 90% of new houses were built in “high wildfire hazard areas.” The 2016 Roaring Lion Fire provided an alarming demonstration of the destructive, and potentially life threatening, consequences posed by these parallel trends. The fire risk to private property can be at least partially mitigated through management practices including mechanical thinning and prescribed fire in strategically located areas.

PASTURE, RANGE, AND CROPLAND HEALTH

Agriculture plays an important role in the economy of Ravalli County. In the 2015 Census, it was reported that approximately 1400 ranches and farms were in operation in Ravalli County. A study released in 2006 indicated that agriculture accounted for roughly 7% of all jobs in Ravalli County, and generated revenues of over \$33 million dollars per year, most of which was spent in the local economy. Less tangible, but no less important, is that the presence of working farms and ranches contribute significantly to the rural character that makes the Bitterroot Valley such a desirable place to live.

The continued existence of a robust agricultural presence in Ravalli County depends on the availability of productive farm land that is suitable for cultivation or grazing. Potential threats to this ongoing productivity include loss of topsoil through erosion, declining soil productivity, declining pollinator populations, and loss of farm lands to development. The importance of this latter factor is clearly evident from the large decrease in private farm lands between 1980 and 2016, when the total agricultural acreage dropped from 258,000 acres to 164,580 acres,

representing a decline of 36% in available farm land. Measures to conserve soil resources, maintain or improve soil productivity, and preserve open lands are therefore warranted.

WATER QUANTITY

In the 1980 version of the BCD's Long Range Plan, it was stated that "There is no water shortage in the District, but that there is a water distribution problem" (attributed to the Montana Water Resource Board and the Montana University Joint Water Resources Center). 40 years later, the first statement is no longer true but the second statement is truer than ever. Increasing demands on the supply of surface and ground water, combined with trends towards decreasing snowpack, warmer temperatures, earlier run-off, and more frequent droughts, have made water shortages increasingly common. Careful management of irrigation diversions is required to balance the requirements for agriculture and in-stream flows. Managing the water supply is made more difficult by the state of the irrigation infrastructure in the Bitterroot Valley, which was already identified as being problematic in 1980 and, with few exceptions, has not gotten any better in the intervening decades. For these reasons, water quantity is identified as a significant resource concern for Ravalli County and will be a major focus for the BCD in the years ahead.

WATER QUALITY

As used in this plan, "water quality" refers primarily to the quality of surface water in the Bitterroot River and its tributaries with respect to potential impairments arising from non-point source (NPS) pollution. The Montana Department of Environmental Quality (DEQ) defines NPS pollution as arising from diffuse sources and/or activities, including grazing, timber harvest, abandoned mine lands, irrigation, recreation, and septic systems, which can result in impairments such as elevated levels of nutrients (nitrogen and phosphorus) and heavy metals, increased sediment, loss of riparian habitat, alterations in streamflow, and increased temperature. The risk of these potential NPS impacts is heightened greatly by the increasing population in Ravalli County, which nearly doubled between 1980 and 2018. Additionally, increasing development alongside the Bitterroot River and its tributaries has the potential to degrade riparian and aquatic habitats. In light of these considerations, and recognizing their importance for the health of the Bitterroot River watershed, water quality is identified as a significant resource concern for Ravalli County and a priority for the BCD.

NOXIOUS WEEDS

The presence of noxious weeds in Ravalli County was not identified as a significant problem in the BCD's 1980 Long Range Plan, although 12 weed species were listed as being present in the county. However, it is readily apparent to even a casual observer that noxious weeds are now widely present and abundant in the county. Of the 35 noxious weeds and five regulated (Priority 3) plants listed as Montana Statewide Noxious Weed Priorities, at least 19 are present in Ravalli County, and new invasive species are continuing to arrive (e.g., common bugloss, ventenata). The economic and environmental impacts of these invasive weeds are significant and include reduced crop yields, decreased forage for wildlife and livestock, loss of native plant communities, degraded wildlife habitat, and toxicity to livestock. One factor that is likely contributing to the spread of invasive weeds in Ravalli County is the increased population, leading to increased opportunities for seed dispersal and soil disturbance. Another factor may be changing temperature and rainfall profiles in Western Montana. For example, the Montana Climate Assessment (2017) reported that increasing winter temperatures may allow winter

annual weeds, such as cheatgrass, to increase in distribution and frequency. Effective measures to counter these factors and control the spread of noxious weeds depend heavily on the cooperation and engagement of landowners and support from the Ravalli County Weed District. The BCD recognizes noxious weeds as a significant resource concern in Ravalli County and will assist however possible in these efforts.

GOALS AND OBJECTIVES

The natural resource concerns in Ravalli County, as described in the preceding section, largely define the long range goals of the BCD. These goals and associated objectives are listed below for each of the natural resource concerns. Additional BCD goals and objectives that reflect the BCD's values are represented in District Programs, and are outlined in that section.

FOREST HEALTH

OVERALL GOAL: To improve the health and productivity of forest lands and mitigate the wildfire risks to private property in Ravalli County.

Objective 1: Reduce fire hazards in Wildland Urban Interface (WUI) zones in Ravalli County.

Actions:

- Support the fire hazard reduction activities of the RC&D organization by providing funding and through representation on their board;
- Through the BCD cost-share program, make funding available to landowners for projects to reduce fire risk on their property.

Objective 2: Support the NRCS Sapphire Front Forest Health Targeted Implementation Plan (SFFH TIP), which seeks to improve the health and productivity of forest stands through management practices that include thinning, control of noxious weeds, and planting of desired species.

Actions:

- Promote public awareness of the SFFH TIP through Ravalli County Local Work Group meetings, public outreach meetings, and other means of communication;
- Prioritize funding of cost-share applications linked to the SFFH TIP.

Objective 3: Support a future proposal to the Joint Chief's for the Bitterroot Fireshed Restoration (BFR) project, which seeks to reduce wildfire threats by improving forest health and reducing fire risk to communities and critical infrastructure.

Actions:

- Commit to sponsoring two informational meetings annually during the three year term of the BFR project;
- Host annual educational workshops to inform landowners about successful forest treatments they can use to reduce the risk of fires on their property.

PASTURE, RANGE, AND CROPLAND HEALTH

OVERALL GOAL: Support practices that protect soil and enhance the productivity of pasture, range, and croplands in Ravalli County.

Objective 1: Minimize soil disturbance, increase soil fertility, and reduce loss of topsoil from erosion.

Actions:

- In partnership with MSU Extension, conduct educational outreach activities to promote soil health practices such as no-till cultivation, crop rotation with clover or legumes, and planting winter cover crops;
- Evaluate the feasibility of making a no-till seed drill available to landowners;
- Through the BCD cost-share program, make funding available to landowners for projects to reduce soil erosion.

Objective 2: Encourage healthy pollinator populations.

Actions:

- Implement an initiative to increase pollinator habitat;
- Conduct educational outreach activities to promote knowledge about pollinators and the critical role they play in agriculture and natural ecosystems

Objective 3: Contribute to the preservation of open agricultural land in Ravalli County.

Actions:

- Through letters of support and other means, promote the aims of the Bitter Root Land Trust to preserve open lands in Ravalli County;
- Support the Open Lands Bond Program through active representation on the Open Lands Board.

WATER QUANTITY

OVERALL GOAL: Mitigate the effects of potential future droughts and increasing population in Ravalli County by supporting efforts to improve local infrastructure for water storage and distribution.

Objective 1: Identify and address opportunities to improve irrigation infrastructure.

Actions:

- Sponsor grants to assess the condition of the main irrigation headgates and associated flow measurement devices on the Bitterroot River;
- As appropriate, collaborate with irrigators and ditch companies to address any issues identified in the irrigation assessment study;
- Make concrete blocks available to irrigators to be used to temporarily divert water to their headgates;
- Work with MT FWP and other agencies to ensure that USGS gauges on the Bitterroot River are maintained and remain operational;

- Through the BCD cost-share program, make funding available to landowners for irrigation projects.

Objective 2: Support efforts to increase water storage capacity in the Bitterroot River drainage.

Actions:

- Support the ongoing study to determine the feasibility of increasing the storage capacity of Painted Rocks Reservoir and, if warranted, endorse the project to carry out the necessary modifications;
- As appropriate, promote activities to maintain the operational status of backcountry dams;
- Evaluate the feasibility of using the Stevensville aquifer to mitigate the effects of prolonged drought.

WATER QUALITY

OVERALL GOAL: Promote actions to maintain and, where possible, improve the health of the Bitterroot River watershed.

Objective 1: Reduce NPS pollution in the Bitterroot River and its tributaries.

Actions:

- As appropriate, sponsor grants for projects to reduce NPS pollution in the Bitterroot River and its tributaries (e.g., DEQ 319);
- Continue to provide financial and in-kind support for the Bitter Root Water Forum (BRWF) and the activities described in their Bitterroot Watershed Restoration Plan;
- Contribute to ongoing water monitoring activities on the Bitterroot River through volunteering with the Bitterroot Health Check program;
- Through the BCD cost-share program, make funding available to landowners for projects to reduce irrigation run-off.

Objective 2: Improve the health of aquatic and riparian habitats in the Bitterroot River and its tributaries.

Actions:

- Sponsor grants and otherwise provide support for projects to improve aquatic and riparian habitats (e.g., Supply Ditch/Burnt Fork crossing);
- Through education and outreach, promote 310 practices that preserve or enhance aquatic and riparian habitats;
- Evaluate the feasibility of maintaining a check station for aquatic invasive species at Lost Trail Pass;
- Through the BCD cost-share program, make funding available to landowners for projects to improve aquatic and riparian habitats.

NOXIOUS WEEDS

OVERALL GOAL: Provide assistance to landowners and local agencies to help control the spread of noxious weeds in Ravalli County.

Objective 1: Educate landowners on effective ways to control noxious weeds on their property.

Actions:

- In partnership with MSU Extension and the Ravalli County Weed District, conduct educational outreach activities to promote effective weed control measures;
- Participate in seminars and workshops on the best current practices for noxious weed control.

Objective 2: Assist landowners in implementing effective weed control measures on their property.

Actions:

- Through the BCD cost-share program, make funding available to landowners for projects to control noxious weeds.

DISTRICT PROGRAMS

In addition to the specific projects and activities intended to address the natural resource concerns in Ravalli County, the BCD has several ongoing programs that are performed routinely by the BCD in fulfilling its prescribed responsibilities. Some elements of these programs have been described in the preceding sections, and the programs are described in greater detail below.

ADMINISTER THE 1975 NATURAL STREAMBED AND LAND PRESERVATION ACT (310 LAW)

Goal:

Administration of the 310 Law in accordance with Montana State statutes 75-15-101 through 75-101-125 MCA.

Activities:

- Receive and process 310 applications according to the District's administrative rules;
- Enforce mitigation of valid 310 complaints as defined under the District's administrative rules;
- Educate the public on the 310 Law through informational materials, advertising, workshops, and presentations;
- Coordinate all 310 inspections with necessary team members, including, at a minimum, a representative of FWP, the landowner and/or applicant, and a BCD Supervisor and/or Associate Supervisor;
- Work with FWP and other organizations to reduce unauthorized manipulation of woody debris in the Bitterroot River and its tributaries.

CONSERVATION EDUCATION

Goal:

Provide people of all ages with educational opportunities in conservation and the environment, and in so doing equip them to be responsible stewards of the environment.

Activities:

- Sponsor, plan, and lead the annual Conservation Field Days for all local area 6th grade students. This is a two or three-day outdoor event, with educational stations geared toward different topics in resource management. The event is normally held in mid-May at the Como Lake Campground;
- Make the BCD's Watershed Trailer available for community educational events;
- Sponsor student(s) attending conservation-oriented camps and workshops (e.g., Natural Resources Youth Camp, 4-H Camp, Range Camp, and Envirothon Competition);
- Sponsor other educational workshops and events relevant to conservation;
- Pursue funding for projects proposed by educational groups and organizations;
- Develop grant criteria for funds approved by BCD for Ravalli County Schools.

PROMOTE CONSERVATION PLANNING AND PRACTICES

Goal:

To provide landowners and stakeholders with the necessary knowledge and resources to preserve and enhance the natural resources in Ravalli County.

Activities:

- Promote and support the NRCS Targeted Implementation Plans (TIPs) for Ravalli County, under the direction of the Hamilton Field Office;
- Promote good management and application of water practices by sponsoring the DNRC grant for the "Bitterroot Irrigation Management Project";
- Improve pollinator habitat by providing pollinator-friendly seed mixes to local landowners;
- Maintain close coordination with federal, state and local agencies in developing and promoting beneficial soil and water conservation practices;
- Provide administrative support to partners for management of federal and state funded grants;
- Administer and fund a local natural resource cost-share program;
- Provide removable irrigation diversion blocks;
- Continue board representation on the Ravalli County Planning Board, RC&D, and the Ravalli County Open Lands Board;
- Lead and promote the Ravalli County Local Working Group;
- Track and evaluate state legislature measures that will affect Conservation Districts;
- Participate in administration and/or funding of priority natural resource projects;
- Review impaired stream list for Ravalli County and work toward the development of a Total Maximum Daily Load Monitoring Program;

COST-SHARE PROGRAM

Goal:

To provide support to landowners who are proposing projects to enhance or benefit natural resources on private land within Ravalli County. The program is a line item in the BCD's annual budget. In 2020, the budget for the cost-share program was \$20,000, and landowners could request up to 70% of the project cost, up to a maximum of \$7,000.

Activities:

- Through advertising and the BCD website, solicit applications from landowners for cost-share projects on their property. The application deadline is generally in September;
- Review applications and conduct site visits;
- Rank the projects and make funding decisions;
- Upon project completion, verify receipts and that the work has been completed as approved;
- If work and documentation are acceptable, provide payment to the landowner as agreed.

APPENDICES

APPENDIX A: SOURCES

1. Long Range Program for Soil and Water Conservation, Bitterroot Conservation District, 1980.
2. Alt, D and Hyndman, DW “Roadside Geology of Montana.” Mountain Press Publishing Company, 2006.
3. Gaeuman, D., “Historical channel changes and processes of the central Bitterroot River Ravalli County Montana” (1997). Graduate Student Theses, Dissertations, & Professional Papers. 7743. [Web](#).
4. Ravalli County Long Range Plan. NRCS, 2020. [Web](#).
5. Web Soil Survey. NRCS, 2009. [Web](#).
6. Census of Agriculture. USDA, 2017. [Web](#).
7. “Outdoor Recreation & Montana’s Economy.” Headwater Economics, September 2018. [Web](#).
8. “Water plays important role in Ravalli County’s economic well-being.” Ravalli Republic, April 30, 2017. [Web](#).
9. Swanson L, “Growth and Change in the Bitterroot Valley and Implications for Area Agriculture and Ag Lands.” Prepared for the Ravalli County Right to Farm and Ranch Board and Bitter Root Land Trust, Hamilton, MT. April, 2006. [Web](#).
10. “Montana Forest Insect and Disease Conditions 2017.” DNRC [Web](#).
11. “Wildfire Hazard & Home Development in Western Montana.” Headwaters Economics, June 2018. [Web](#).
12. “Study: Missoula, Ravalli counties have the most homes built in high fire hazard areas in Montana.” Missoulain, October 10, 2018. [Web](#).
13. Whitlock C, Cross W, Maxwell B, Silverman N, Wade AA. Executive Summary. In: “2017 Montana Climate Assessment.” Montana State University and University of Montana, Montana Institute on Ecosystems. 318 p. doi:10.15788/m2ww8w.

APPENDIX B: STATUTES AND ADMINISTRATIVE RULES

Relevant statutes in Montana Code Annotated:

Conservation Districts

- 76-15-101 through 76-15-105 – General Provisions
- 76-15-201 through 76-15-216 – Creation of Conservation Districts
- 76-15-301 through 76-15-324 – Administration of Conservation Districts
- 76-15-401 through 76-15-411 – Operation of Conservation Districts
- 76-15-501 through 76-15-547 – Financial Aspects of Conservation Districts Loan Program
- 76-15-601 through 76-15-625 – Project Areas
- 76-15-701 through 76-15-727 – Land Use Regulations
- 76-15-801 through 76-15-810 – Alteration and Termination of Conservation Districts
- 76-15-901 through 76-15-905 – Coal Bed Methane Protection
- 76-15-1001 through 76-15-1014 – Procurement and Competitive Bidding

The Natural Streambed and Land Preservation Act of 1975 (310 Law)

- 75-7-101 through 75-7-125 – Streambeds

Administrative Rules:

Rules Adopted by the Bitterroot Conservation District, Revised November 2007

APPENDIX C: ACRONYMS USED IN THIS LONG RANGE PLAN

BCD	Bitterroot Conservation District
BLM	Bureau of Land Management
BNF	Bitterroot National Forest
CDB	Conservation District Bureau
DEQ	Department of Environmental Quality (Montana)
FSA	Farm Service Agency
MOU	Memorandum of Understanding
MACD	Montana Association of Conservation Districts
NACD	National Association of Conservation Districts
NRCS	Natural Resources Conservation Service (formerly SCS)
RC&D	Resource Conservation and Development
RCLWG	Ravalli County Local Working Group
USDA	United States Department of Agriculture
USFS	United States Forest Service