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SECTION I: INTRODUCTION

VISION:

The people of Phillips County working together to achieve positive, beneficial land stewardship.

MISSION:

Develop relationships with producers and partners in groups, provide conservation education, promote improved conservation and invest in it to solve natural resource problems in Phillips County.

PURPOSE:

This Natural Resource Long-Range Plan covers the period from 2019-2024 and is a working document outlining the natural resource data, status and trends from Phillips County. This strategic plan is a summation of resources to provide a guiding document to the Natural Resources Conservation Service and its partners. This plan represents a commitment to local and regional partnerships and outlines strategic approaches to solving complex natural resource issues. The plan will analyze funding priorities in the future and continue a broad partnership with the common goal of strategically installing conservation practices on the ground. The plan will be used to assist in prioritizing projects for NRCS financial incentive programs.

The goal of the Long-Range Plan is to review natural resource characteristics and issues found throughout Phillips County and surrounding areas. This tool will provide a synopsis of the county, where current conservation activities are taking place, where untreated resource concerns remain and where future efforts might target. Updated at a minimum, on an annual basis via public meeting to help revise priorities and goals as new situations arise. This document will be used to identify resource concerns of high priority and will give guidance on future planning of Targeted Implementation Plans (TIP) over the next one to five years.

The Phillips County Long Range Plan was developed by the NRCS Malta Field office with help from the Phillips Conservation District. Multiple partners and producers were consulted during the completion of this plan, beginning with the Phillips County Local Work Group Meeting on May 14, 2019. In addition, existing resource plans and management plans from partners have been referenced in completing this document. A full listing of resources can be found in the References Section VII.

Active NRCS Partners In Natural Resources:

- Phillips Conservation District (PCD)
- Valley County Conservation District
- Natural Resources Conservation Service (NRCS)
    - Glasgow Field Office
- US Fish and Wildlife Service (USFWS)
    - Partners For Fish & Wildlife
- Farm Service Agency
    - Malta Field Office
    - Glasgow Field Office

- Malta Irrigation District
- Pheasants Forever (PF)
- Ducks Unlimited (DU)
- Soil and Water Conservation Districts of Montana (SWCDM)
- Phillips County Weed District
- Bureau of Land Management
- Ranchers Stewardship Alliance
- Milk River Watershed Alliance
- Montana Salinity Control Association
- Missouri River Conservation Districts Council
- National Wildlife Federation

High Potential To Become An Active NRCS Partners In Natural Resources:

- MSU Phillips County Extension
- Montana Fish Wildlife and Parks (MTFWP)
- US Fish and Wildlife Service (USFWS)
    - Bowdoin National Wildlife Refuge
    - Charles M. Russell National Wildlife Refuge
- Dodson Irrigation District
- Frenchman Water Users Association
- Montana Dept. of Natural Resources and Conservation (DNRC)
- Montana Association of Conservation Districts (MACD)
- Fort Belknap Indian Tribe
- Bureau of Indian Affairs (BIA)
- St Mary's Rehabilitation Working Group
- Milk River Joint Board of Control
- Phillips County Grazing Association
- Phillips County Cattlewomen
- Phillips County Stockgrowers
- Phillips County Farm Bureau
- Bureau of Reclamation
- Intermountain West Joint Venture (IWJV) Sage Grouse Initiative (SGI)
- Northern Great Plains Joint Venture (NGPJV)
- Prairie Pothole Joint Venture
- World Wildlife Fund
    - Northern Great Plains Program
    - Sustainable Ranching Initiative
- Montana Aquatic Resources Services (MARS)

SECTION II: NATURAL RESOURCE INVENTORY

GENERAL INFORMATION

PEOPLE

"Historical and current population trends, the City of Malta and Phillips County grew throughout the 1890's as people headed west in search of a new life and prosperity. As a result of the Homestead Act, the population of Phillips County peaked in 1920, at 9,316 and has been declining by varying degrees ever since. The acreage allowed in the Homestead Act was an unrealistic size to be sustainable. Between the severe drought in the 1930's and the small homesteads being unsuccessful, the population in Phillips County dropped greatly from its peak number. The years following 1920 were years of population decline followed by a brief stabilization throughout the 1970s and 1980s due to operations of the Pegasus Gold Mining Company in the Little Rocky Mountains. Just as mining opportunities drew people to Phillips County, decline in the industry precipitated population decline. After the closure of the Pegasus Gold Mining Company in the mid-1990s the population once again began to decline. Malta, Zortman, Landusky and Dodson realized a 20% reduction in tax base and Phillips County's population decreased by 562 people between 1990 and 2000." (Phillco, 2019)

"Agriculture has been the stabilizing factor for population in Phillips County. In the last five years Phillips County has seen a substantial number of young families returning to farm and ranch in Phillips County. As a result of fewer acres of crop land being returned to the Conservation Reserve Program (CRP) and higher commodity prices, young agriculture producers are able to purchase land and take over family operations. The Phillips County Economic Growth Council held a community needs assessment through the Montana Economic Developers Association were it was determined that at least 100 young families have returned or moved to Phillips County. Of those 100 young families, approximately 75%, are actively involved in agriculture." (Phillco, 2019)

According to the United States Census Bureau the population of the Phillips County was 4,074 on July 1, 2018, a decrease of 4.2 percent from the 2010 Census. About 1,935 people live in the town of Malta, the County Seat. The towns of Dodson and Saco are home to 124 and 197 people, respectively. Whitewater and Zortman are Census-designated places. The county has a total of thirteen unincorporated communities including Loring, Morgan and Wagner. Not quite half of the people in Phillips County live on farms and ranches. (US Census Bureau, 2019)

Throughout the county, unemployment is low, at around 3.2 percent compared to the state average of 3.7 percent (April 2019 statistics). However, the Census Bureau reports that nearly one in seven people in the county live in poverty. Most adults, nearly ninety percent, have graduated from high school. Over eighteen percent of adults have a bachelor's degree or higher. The median age of county residents is 49.1 years; 19.8 % of the population is age 65 or older, and 5.7 % of the people in the county are 80 years or older. (US Census Bureau, 2019)

There are 622 principal and 185 non-principal agricultural producers in the county. Figure 1 illustrates the age demographics of producers in the county. The first number in each data label is the age group of the producers, the second is the actual number of producers in the age group, and finally, the percent of total.

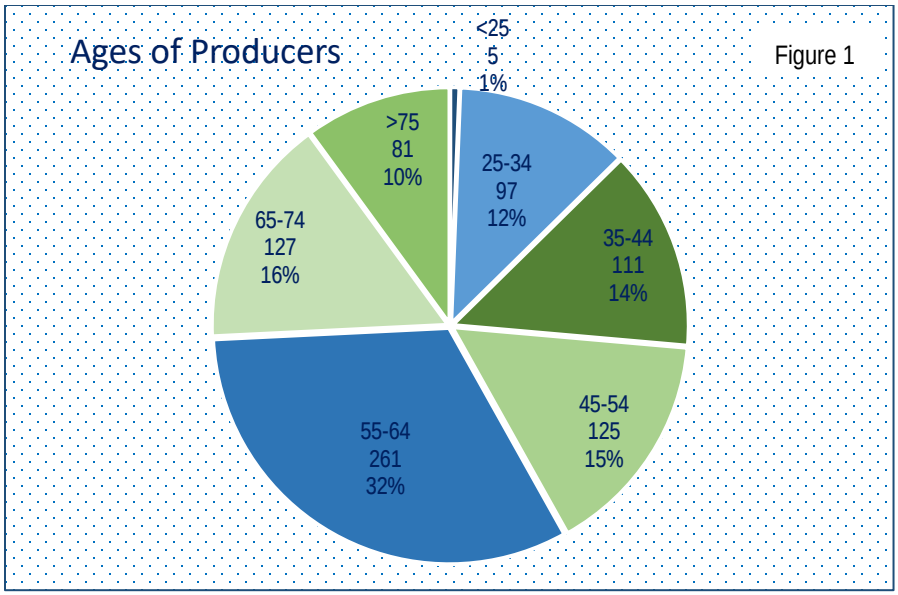


Figure 1. Age Ranges and Number of Producers and Percent of Total in Each Age Range, Phillips County

Thirty farms are operated by new and beginning principal producers, sixty-four farms are operated by principal producers age 35 years or younger. (US Census Bureau, 2019)

"The median household income in Phillips County is $38,958." (Phillco, 2019)

"The mix of industries that comprise Phillips County's economic base has remained fairly consistent over the years. Agriculture and natural resource extraction have been the dominant industries and continue to be, providing 30% of jobs in Phillips County. Educational services, healthcare and social services provide 23% of jobs, with transportation, warehousing and utilities providing 11%. Manufacturing provides only 1% of jobs in Phillips County. It has been a long-term goal of the Phillips County Economic Growth Council to diversify the Phillips County economy by encouraging manufacturing." (Phillco, 2019)

CLIMATE

"In the summer, the Phillips County Area is normally very warm to hot with frequent days of temperatures exceeding 100 degrees F. The sun shines 80 percent of the daylight hours in summer and 50 percent in winter. The prevailing wind is from the west. Precipitation does not vary a great extent in the survey area, expect in the Little Rocky Mountains. Most of the area is 11-14-inch precipitation with the Larb Hills receiving about 1 inch more. The Little Rocky Mountains receive between 17 and 25 inches of total precipitation during an average year. Most of the precipitation falls as rain during the spring and early summer. The timing of the precipitation is what makes dryland farming in area possible. During the summer, precipitation generally comes in the form of violent thunderstorms that may have associated hail. Snowfall in the area is normally light. The average snowfall in inches in Malta is 41 inches and the average growing season is 99 days where the daily minimum temperature is higher than 32 degrees Fahrenheit." Phillips County Soil Survey 1993

AGRICULTURE

The USDA National Agricultural Statistics Service Census of Agriculture defines 'farm' is any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year. The term is used to include all crop and livestock operations. There are 445 farms in Phillips County on over 1.94 million acres with 79% that are operated by a family or an individual. Average farm size is 4,352 acres; about fifty-four percent of the farms are one thousand acres or more. In calendar year 2017, 285 farms harvested crops on just over 265,000 thousand acres. (NASS, 2017)

Land dedicated to producing the top ten crops and the number of farms raising each crop type for calendar year 2017 is shown in Figure 2, below.

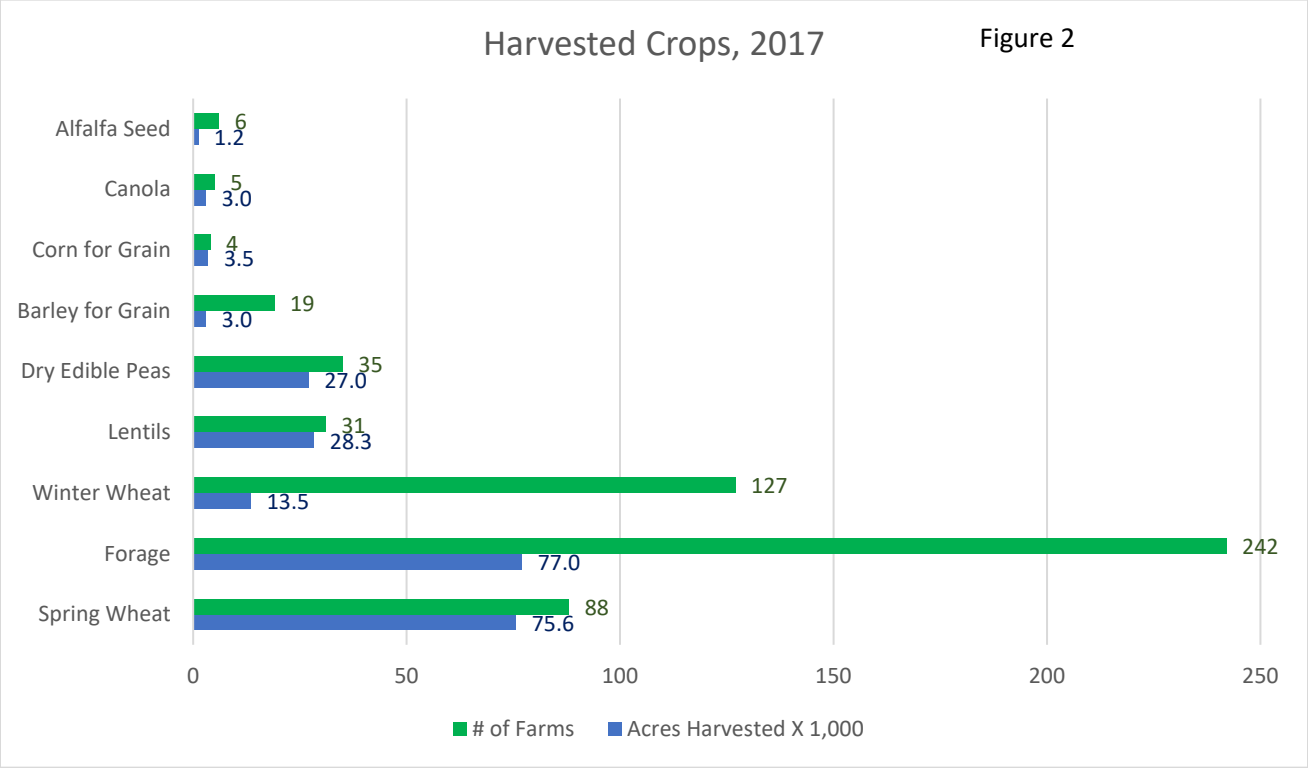


Figure 2. Crops, Acres of Each Crop and Number of Farms Harvesting Each Crop in 2017, Phillips County (NASS, 2017)

The graph illustrates that Phillips County's agriculture is typical of the rural counties along Montana's Highline. A relatively large number of acres are dedicated to producing feed and forage for livestock with an average number of cattle per 100 acres being 3.8. This combined with short growing season requires a lot of stored feed for cattle to survive. Dryland wheat is eminent and about forty-four percent of the forage is alfalfa hay.

Two hundred thirty-three farms produced cattle in 2017; the inventory totaled 76,901 cattle and calves. Sales were reported at 51,317 head. Twenty-three farms raised sheep inventoried at 2,829 head producing around twelve tons of wool. Sales are reported as 3,230 sheep and lambs. (NASS, 2017)

Common agricultural practices are shown in Table 1. The Census report data for the practices, the number of farms implementing each practice in 2017 and the acres applied are given along with the acres for 2012 and the amount of change in acres for each practice.

Table 1 Conservation Practices in Phillips County

Practice	Farms 2017	Acres 2017	Acres 2012	% Change In Acres
Irrigation	151	31,427	33,213	-5.4%
Conservation Easements	12	22,473	26,862	-16.3%
No Till	95	197,156	241,492	-18.4%
Reduced Till	48	81,354	47,806	41.2%
Intensive Tillage	72	35,549	49,197	-27.7%
Cover Crops	25	10,034	3,013	70%

Conservation Easements

Easements are becoming a more popular tool to manage economics and the land in Phillips County.

"Conservation easements work best when their purpose is to maintain existing land uses. Easements are given to government or nonprofit agencies, or local land trusts to preserve ecological or recreational values on wildlife habitat or productive agricultural land. Conservation easements will not typically lower property taxes as property taxes are calculated in accordance with current land use. This means the assessed value of land in agricultural use will not be significantly affected by a conservation easement. However, property values could be affected by the presence of a conservation easement." (Phillco, 2019)

Conservation easements are a valuable conservation tool. Depending on the parameters contained in the deed language, land can be protected for decades or even perpetuity for the purposes of protecting plant or animal habitat, landscape features such as wetlands or land management activities like farming and ranching. Several agencies and partners are interested in providing easements in Phillips County, the most common are the US Fish & Wildlife Service, Montana Fish, Wildlife & Parks, Montana Land Reliance, The Nature Conservancy and USDA NRCS. Prior to 2019, NRCS offered a variety of easement programs such as Agricultural Conservation Easement Program (ACEP), Agricultural Land Easements (ALE), the Grassland Reserve Program (GRP), Wetlands Reserve Program (WRP) and Wetland Reserve Easements (WRE). In 2019, ACEP and WRE are both still being offered. See Figure 3, NRCS Compiled Easement Map.

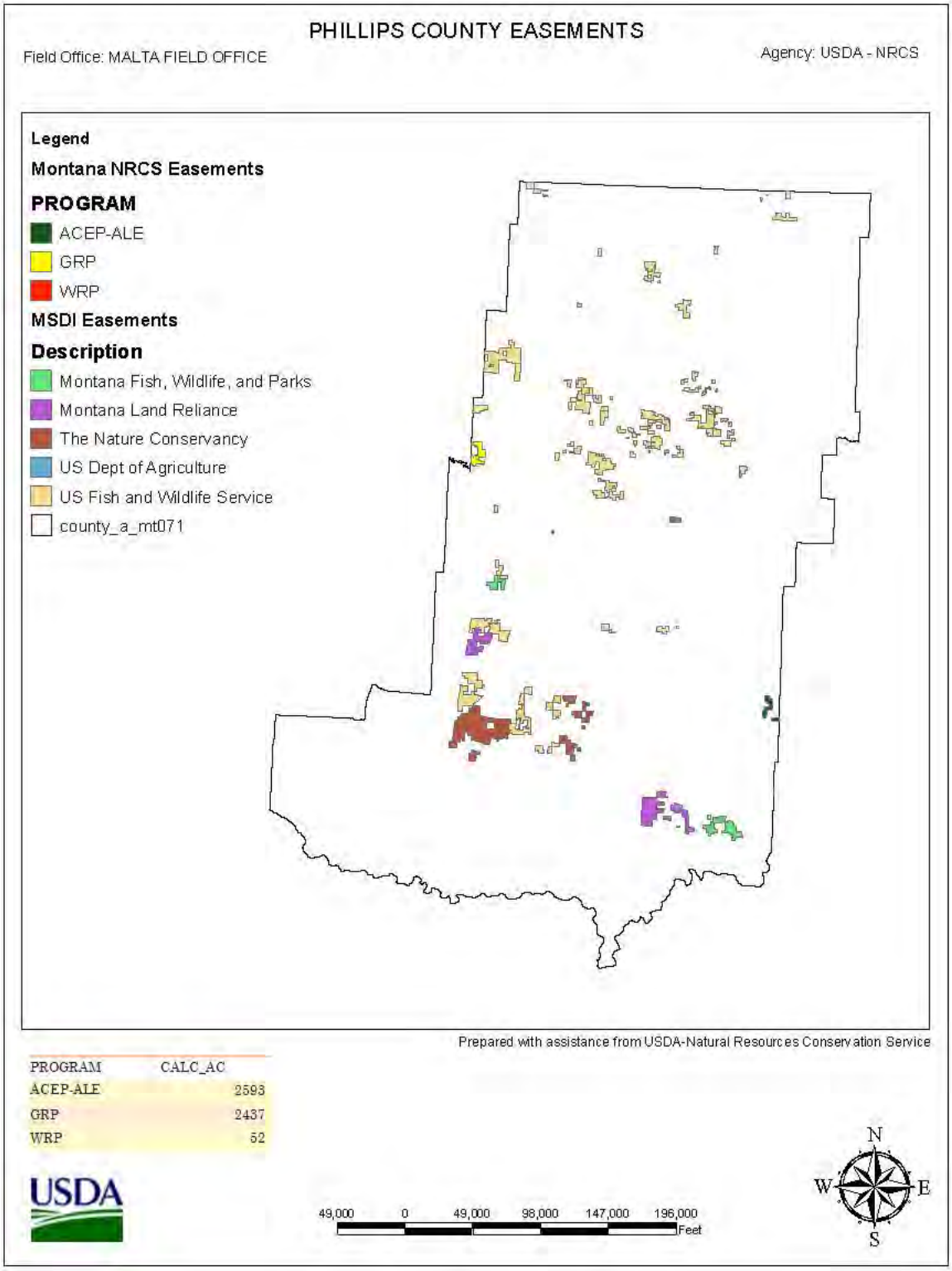


Figure 3. Complied Easements in Phillips County

LANDCOVER/LAND USE

Land Description

"Phillips County is located in North Central Montana and has a land base of 3,333,226 acres or 5,208 square miles and includes topography ranging from high plains to the Little Rocky Mountains. Agricultural lands and public lands account for most of the land area in Phillips County. The county is bordered to the North by Saskatchewan, Canada, to the east by Valley County, to the west by Blaine County and to the south by Fergus, Petroleum and Garfield Counties. A portion of the Ft. Belknap Indian Reservation is within Phillips County.
77% of the area land cover is rangeland; 17% is used for dry land crops; 2% is used for irrigated crops; 3% is woodland and about 1% is water. The principal dry land crop is wheat and the principal irrigated crops are small grains and alfalfa, which are used for hay.
As evident in the table below (Table 1.0), a large portion of the county is federally owned and administered by the Bureau of Land Management. The United States Fish and Wildlife Service administers those portions of the Charles M. Russell and Bowdoin National Wildlife Refuge that lie within Phillips County. (Phillco, 2019)

Land Ownership

"Phillips County is a mix of private and public lands. Managers of public land include the Bureau of Land Management, US Fish and Wildlife Service, the State of Montana, Fort Belknap Indian Reservation, Bureau of Reclamation and the US Corps of Engineers." (Phillco, 2019)

Table 2. Land Ownership, Phillips County

Owner	Acres	Percent of Total
Private	1,593,512	~48
Federal	1,373,706	~41
State	201,181	~6
Local Government	125,810	~4
Fort Belknap Tribal	110,612	~4
Turtle Mountain Tribal	16,378	
Total	3,333,226	

Land ownership is illustrated in Figure 4. The map is provided courtesy of the Malta Office of the Bureau of Land Management.

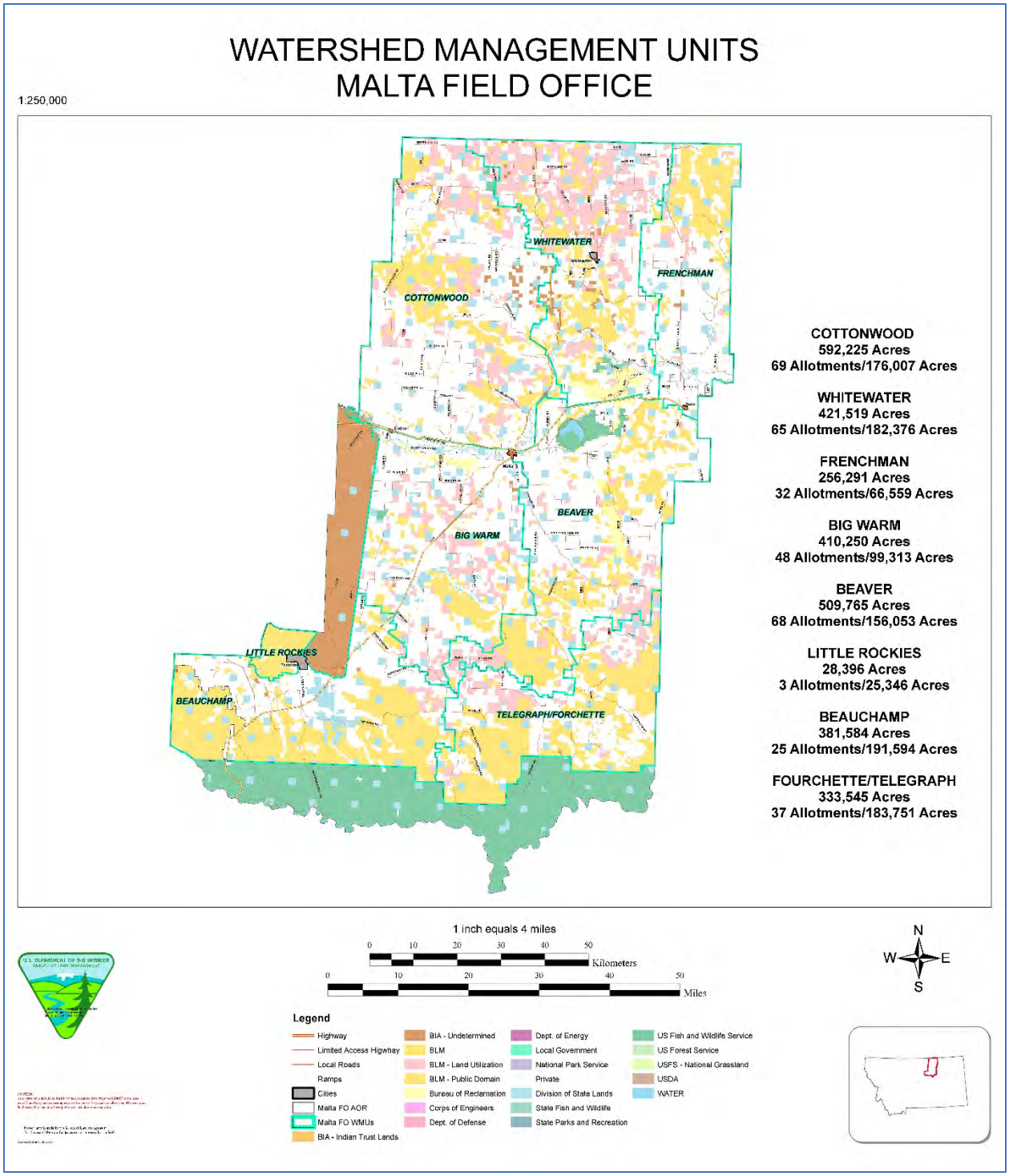


Figure 4. Land Ownership, Phillips County

Land Use

Figure 5 illustrated land use in Phillips County in a typical year.

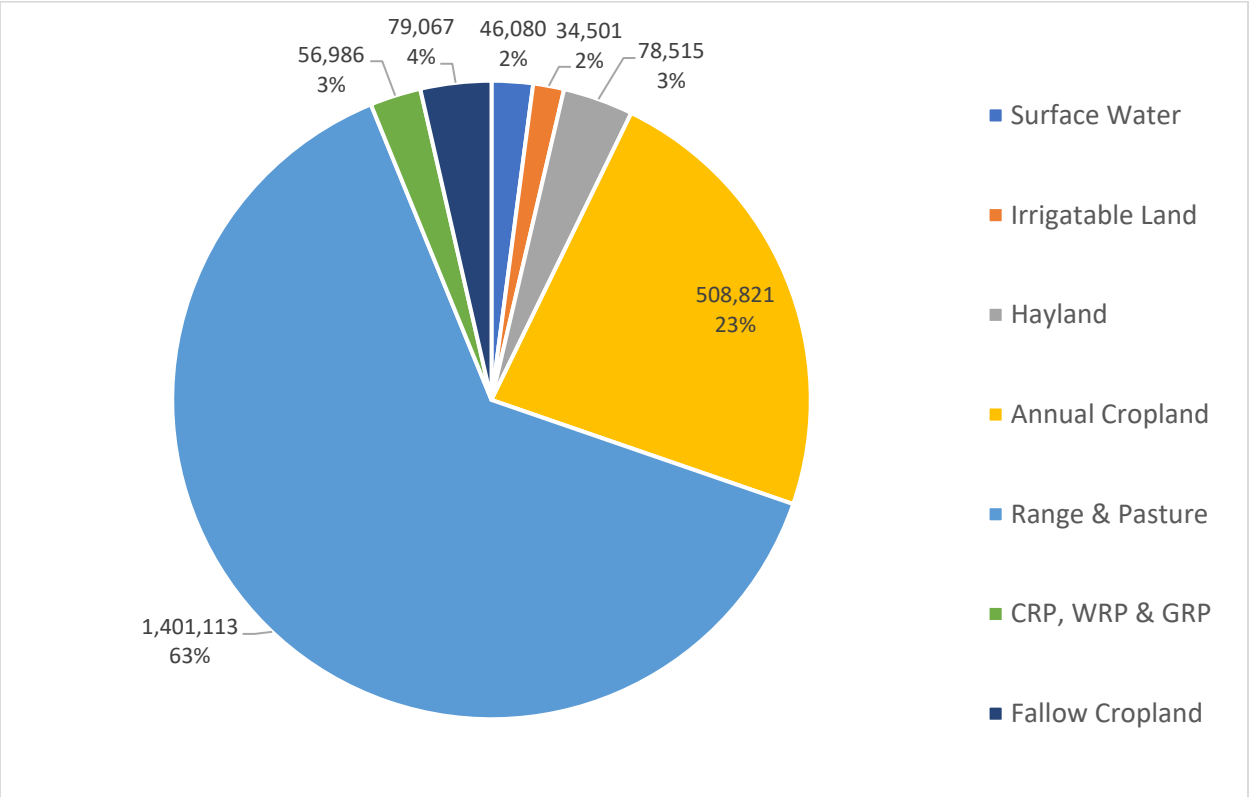


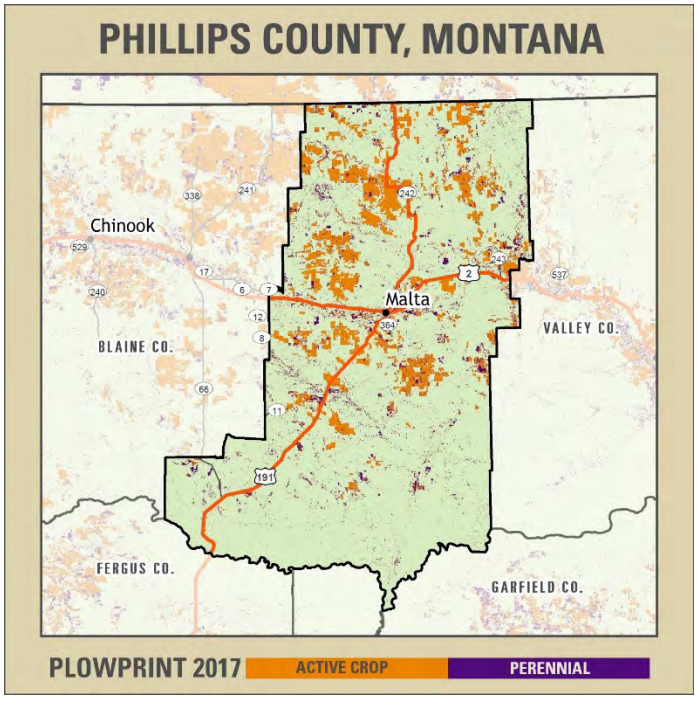
Figure 5. Typical Land Use Acres, Phillips County

Conversion of Grassland to Cropland

The 2018 Plowprint Report can be found here: https://www.worldwildlife.org/projects/plowprint-report. This website gives a brief explanation of what this report is looking at below:

> "Temperate grassland ecosystems are the least protected biomes on the planet. Worldwide, these important habitats are being lost at an alarming rate due to a number of factors, including the production of food and fuel for a growing human population. Their decline is significantly impacting species like grassland birds and black-footed ferrets, as well as the vital ecosystem services these grasslands provide—from carbon sequestration to water filtration.
>
> Now in its third year, The Plowprint Report analyzes grassland loss and identifies remaining intact grasslands across the Great Plains region. To date, only about half of the grasslands in this region remain. As grasslands are plowed up and land erosion increases, local drinking water is under growing threat from agricultural chemical runoff, affecting the nearly 44 million people who live downstream.
>
> In 2017, 1.7 million acres of grasslands were lost across the Great Plains to crop production, representing an overall decrease in land conversion according to new research from WWF. Last year, 800,000 fewer acres were plowed than in 2016, benefiting critical ecosystems and wildlife that rely on intact grasslands. Yet while overall conversion has decreased, the region of South Dakota that was once hit hardest by the Dust Bowl has experienced a dramatic increase in plow-up over the past year, putting the region again at risk of similar conditions."

The map below is a model developed to describe Plowprint, the orange areas are active cropland and the purple areas display perennial vegetation, whereas the light green areas are primarily intact native grassland. Cropland can rotate back into perennial grass cover through restoration or abandonment.



Paleontological Resources

"Phillips County is home to a rich land mass of Northern Montana where the world's most preeminent preserved dinosaur fossils have been discovered.
Malta is also home to the Great Plains Dinosaur Museum. A premier site on the Montana Dinosaur Trail, GPDM features permanent exhibits of dinosaurs and other prehistoric fossils curated in a natural setting to advance the visitors experience, allowing them to appreciate, enjoy and fully understand the rich prehistoric resources of this region. The Museum also provides the rare opportunity for both youth and adults to explore, dig and excavate fossils with their staff and paleontologist partners in scheduled laboratory experiences and onsite dig programs.
Great Plains Dinosaur Museum is governed and operated by volunteer board members of the Judith River Foundation, Inc. The Foundation is an IRS exempt 510c3 non-profit corporation established in 2002 to bring the exciting dinosaur discoveries of Phillips County, to life. Their mission is to curate and prepare paleontological resources for use in educational programs, scientific research and interpretive displays in support of the advancement of knowledge and the benefit of all people. " (Phillco, 2019)

Mineral, Energy and Natural Resources

See *2019-2020 Phillips County Geology Report 12-11-19 By Kari Scannella MT NRCS State Geologist for more information.*
"Historically, gold and silver have been mined in the Little Rocky Mountains. In 1979 Pegasus Gold Corporation obtained permits for open-pit mining and heap leach operations. During the period of 1860 and 1994, 1,709,126 ounces of gold and 6,585,870 ounces of silver were produced from the Little Rocky Mountain mining operations. Operations at Zortman and Landusky were noted as America's largest heap leap open pit ore mining operations. However, mining ceased in the late 1990's due to falling gold prices and internal problems within the corporation. This left the Zortman/Landusky Mines in a phase of reclamation, which includes water treatment in perpetuity overseen by the State of Montana and the Bureau of Land Management. According to the Environmental Impact Statement (EIS) for Zortman/Landusky Mines (ZMI) dated 1995 additional gold and silver exist within the Little Rocky Mountains. All of the former private land and mineral rights held by Pegasus Gold have been sold to private interests. Bentonite was actively mined at various surface pits south of Malta from 1970 to mid-1980's and processed at a former plant located east of Malta. AMCOL International Corporation holds 94 patents on 5,083 acres in Phillips County. AMCOL's subsidiary, American Colloid mined and processed bentonite in the area in the mid 1980's. AMCOL International Corp. (parent company to American Colloid Company and its mining and processing operations in southeastern Montana and Wyoming) holds a significant number of mining patents related to bentonite minerals. According to AMCOL officials, the company presently has no plans to resume operations in Phillips County.

Limestone deposits (Matador Dome) located in south west Phillips County in the Little Rocky Mountains are suitable for production of high calcium lime, or metallurgical grade limestone used in fluxes, sugar refining and oil refining. Other limestone deposits are suitable for cement rock, agricultural lime or building materials. The King Creek quarry site is located NW of Landusky on private land. Montana Gulch Quarry site is on BLM administered lands and according to ZMI EIS estimates contains approximately one million tons of limestone.

Numerous caves exist in the limestone formations, many of which have been identified in the bluffs and outcrops of the Little Rocky Mountains. Azure Cave is a well-documented site about 2 miles south of Zortman. The BLM has determined this resource is significant value due to its geologic and mineralogical features and biologic community.

In 1916, drilling for natural gas production began in Phillips County. Expanded pipeline construction began in 1929 and the Bowdoin Gas Field became one of the largest producing fields in Montana. 2011 statistics reported 13,590,580 million cubic feet (MCF) of natural gas were produced in Phillips County. Exploration within the Bowdoin and additional fields in the county continue. The natural gas industry is a vital sector of the local economy with multiple companies involved in exploration, drilling, gathering, storage, transportation and maintenance located primarily in the Saco and Whitewater areas of the county.

While there are currently no active oil wells in Phillips County, potential for oil and additional gas production is favorable. Northern Border Pipeline Company owns and operates a 42 inch pipeline which transports natural gas from the Montana-Saskatchewan border to interconnecting pipelines in the upper Midwestern US. Williston Basin Interstate Pipeline Co. operates a 10-inch pipeline (Saco-Morgan Creek Line) that transmits natural gas from the Bowdoin field east for local distribution via smaller diameter pipelines. At present Omimex operates multiple natural gas compressor sites north of Malta near the community of Whitewater and Williston Basin gathers to compress natural gas at plant east of Saco in Valley County. Additional compressor facilities and small diameter gathering pipelines will allow for expanded well drillings and gas production within Phillips County.” .” (Phillco, 2019)

Figure 6 shows the locations of oil and gas wells in Phillips County (Scannella, 2019).

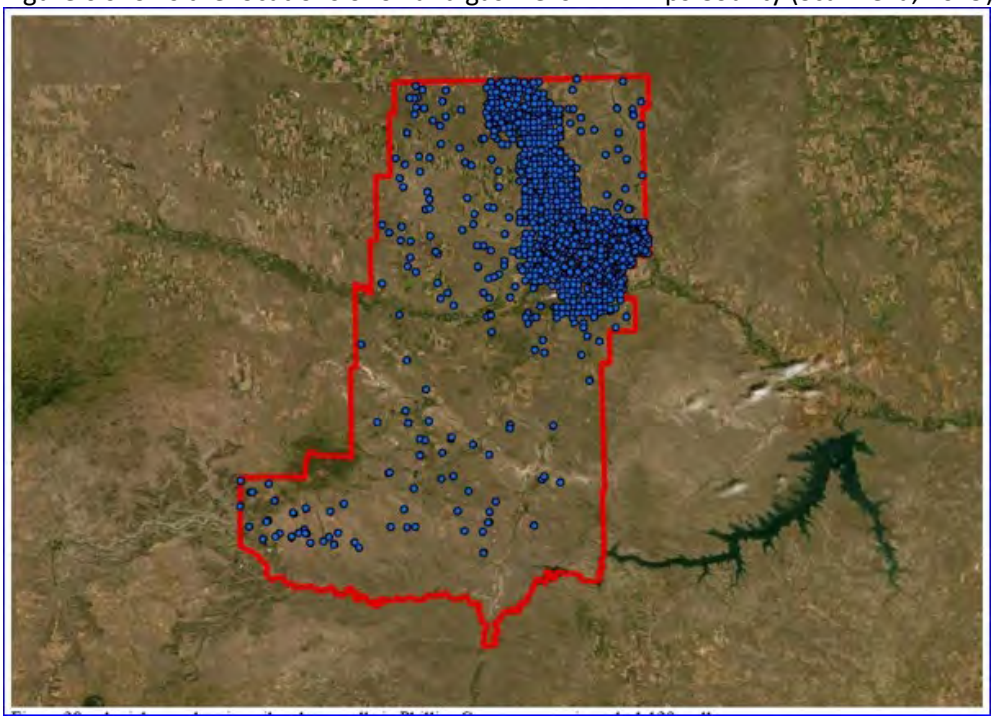


Figure 6. Locations of oil and gas wells in Phillips County

NRCS Montana State Geologist Kari Scannella prepared a county-wide Geology Report for the NRCS Montana Malta Field Office. It is available to view in the Field Office.

Zortman/Landusky Mine Reclamation Project

"The mines cover about 1,200 acres of intermingled private and public lands in the Little Rocky Mountains of Phillips County near the Fort Belknap Indian Reservation. The Montana Department of Environmental Quality (DEQ) and the BLM jointly manage the reclamation activities since the bankruptcy of mine owner/operator, Pegasus Gold Corporation, in 1998. The reclamation plans for these mines were estimated to cost more than the funding available from the reclamation bonds. With supplemental funding from the BLM and the State of Montana, the reclamation earthwork was completed in May 2005. However, there is still a funding shortage to maintain water treatment. Due to excessive precipitation in recent years and construction of additional treatment systems, water treatment costs exceed available funds from the bonds by over $1.5 million annually.

The bonds collected by the Montana DEQ were used to pay for most of the reclamation ($29.6 million for earthwork and a $13.8 million water treatment trust fund). To date, the BLM has provided more than $16 million to assist with reclamation and water treatment costs. In 2006 the BLM invoked its Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority in order to continue site management activities. ARRA funding allowed substantial upgrades to the three water treatment plants at the mines and the construction of an additional plant in Swift Gulch. Waters going into this drainage are a particular point of contention with the Fort Belknap Tribes since Swift Gulch flows onto the Reservation. Other upgrades included improved water capture systems, additional treatment ponds, and upgrades of process used at the Biological plant to remove nitrates, selenium, and cyanide from the leach pad water. ARRA funding was also used to erect a wind turbine to help defray power costs at the mines." (Phillco, 2019)

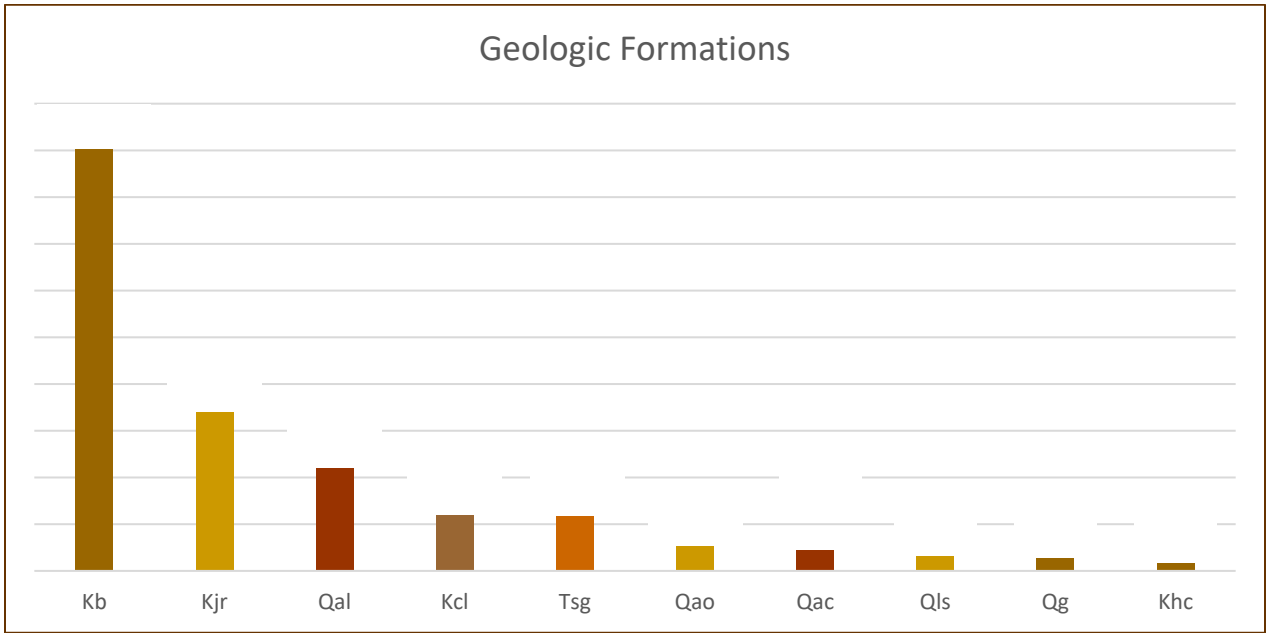
SOILS

Geology

See *2019-2020 Phillips County Geology Report 12-11-19 By Kari Scannella MT NRCS State Geologist for more information.*
Geologic formations underlying Phillips County are shown in Appendix A1. A formation in this context is a rock unit that that has a distinctive appearance compared to surrounding layers and is of enough thickness and extension to be plotted on a map. Formations often contain a variety of related or interlayered rock types and are sometimes divided into smaller units called members.

USGS Geologic maps depict the occurrence of thirty-four formations across the county. However, the ten formations shown in the graph below cover nearly 95% of the county whereas the others are found in isolated acres, some so small that they are difficult to see except on large-scale maps.

See Geologic Formations Table Below



See Geologic Formations Map on Page 15 See Figure 2 from 2019-2020 Phillips County Geology Report 12-11-19 By Kari Scannella MT NRCS State Geologist

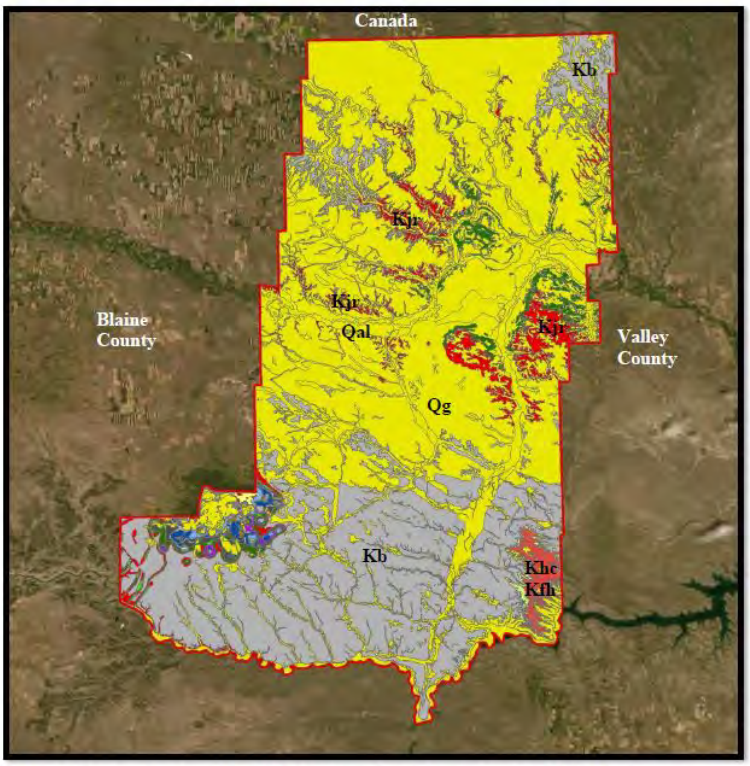


Figure 2 – Montana Geologic Map. Phillips county denoted by red outline. **Qal** = Quaternary Alluvium; **Qg** = Quaternary glacial deposits (drift, outwash, till); **Tgr** = Tertiary gravels; **Kb** = Bearpaw Formation Shale; **Kjr** = Judith River Formation; **Khc** = Hell Creek Formation; **Kfh** = Fox Hills Formation. Note: Underlying the Glacial Deposits (Qg) is the Bearpaw Formation shales.

Kb. Bear Paw Formation. Dark gray shale with several zones of calcareous concretions, a basal zone of ferruginous concretions and numerous thin bentonite beds. Marine. Can be as much as 984 feet thick.

Kjr. Judith River Formation. Light brown to light gray, fine to coarse-grained sandstone with interbeds of gray to black carbonaceous shale, silty shale and thin coal. Estuarine, brackish and nearshore marine. Thickness can be as much as 1,000 feet.

Qal. Alluvium. Sedimentary. Gravel, sand, silt, and clay deposits of stream and river channels, and floodplains.

Kcl. Clagget Formation. Dark Gray to gray shale that weathers brown, with thin gray sandstone laminae and beds in upper r middle part and calcareous concretions it the lower part. Marine. Can be as much as 558 feet thick.

Tsg. Tertiary sand and gravel.

Qao. Older alluvium, predating the Pleistocene era.

Qac. Alluvium and colluvium (Holocene And Pleistocene epochs). Brown to gray, poorly stratified clay, silt, and sand deposited by sheet-wash on slopes. Color and texture of colluvium reflect parent sediment. Thickness as much as thirty-five feet but generally less than fifteen feet.

Qls. Landslide, eolian.

Qg. Glacial deposits.

Khc: **Hell Creek Formation**. Light gray bentonitic clay stone that alternates with gray to brown sandstone interbedded with carbonaceous shale found on fluvial and flood plains under the Fort Union Formation and above the Fox Hills Formation. Thickness as much as 1,100 feet. The Hell Creek Formation was laid down by streams on a coastal plain along the edge of the Western Interior Seaway at the end of the Cretaceous period. It is known for an incredible variety of dinosaur, fish, plant, amphibian and other fossils.

Soil Associations

HEL Soils

Highly erodible land (HEL) is any land that can erode at excessive rates because of its soil properties and is designated by field and based on the proportion of the total field acreage that contains highly erodible soils. Soil map units and an erodibility index (EI) are used as the basis for identifying Highly Erodible Land (HEL) for Food Security Act compliance. Erodibility calculations are based on the "frozen" soil map units, soil loss tolerance (T), and factors for water and wind erosion as they existed in the Field Office Technical Guide on January 1, 1990. In addition to the soil itself, the climatic conditions in the specific area the soil is located completes the final NRCS determination if a field is considered HEL. In Phillips County, most of the soils are considered HEL.

Hydric Soils

Hydric soils are characterized by frequent, prolonged saturation and low oxygen content, which lead to anaerobic chemical environments where reduced iron is present. This definition includes soils that developed under anaerobic conditions in the upper part but no longer experience these conditions due to hydrologic alteration such as those hydric soils that have been artificially drained or are protected by ditches or levees.

Phillips County Hydric Soils list is made up of 57 different soils that can be hydric under the right circumstances. Hydric soils occur on just over 59,000 acres across the county on floodplains, in oxbows, in depressions, on lake terraces and on moraines.

Table 3. Hydric Soils

Map Unit	Map Unit Name	Acres	Landform	Hydric Criteria
28A	Nishon clay loam, 0 to 2 % slopes	12,988.8	depressions	2, 3
170A	Dimmick clay, 0 to 1 % slopes	6,379.2	depressions	2, 3
563C	Scobey-Kevin clay loams, 2 to 8 % slopes	3,677.5	depressions, moraines	2, 3
901A	Lallie clay loam, 0 to 1 % slopes	3,653.7	oxbows	2, 3
1443E	Kevin-Scobey-Nishon association, 0 to 25 % slopes	3,256.9	depressions	2, 3
481A	Bigsag clay, 0 to 2 % slopes	2,822.4	flood plains	2
930A	Wheatbelt clay, 0 to 1 % slopes	2,763.6	lake terraces	3
1441D	Kevin-Scobey-Phillips association, 2 to 15 % slopes	2,646.3	depressions	2, 3
29A	McKenzie clay, 0 to 2 % slopes	2,574.5	depressions	2, 3
502C	Kevin-Elloam complex, 2 to 8 % slopes	2,174.7	moraines	2, 3

The 10 soils that add up to nearly 3/4th of all hydric soils in the county, the acres of each and hydric criteria are shown in Table 3. Hydric criteria definitions are:

- Criteria 1--All Histels except Folistels and Histosols except Folists
- Criteria 2--Map unit components that, based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or show evidence that the soil meets the definition of a hydric soil.

- Criteria 3--Map unit components that are frequently *ponded* for long duration or very long duration during the growing season that, based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States or show evidence that the soil meets the definition of a hydric soil.

- Criteria 4--Map unit components that are frequently *flooded* for long duration or very long duration during the growing season that, based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or show evidence that the soils meet the definition of a hydric soil.

WATER

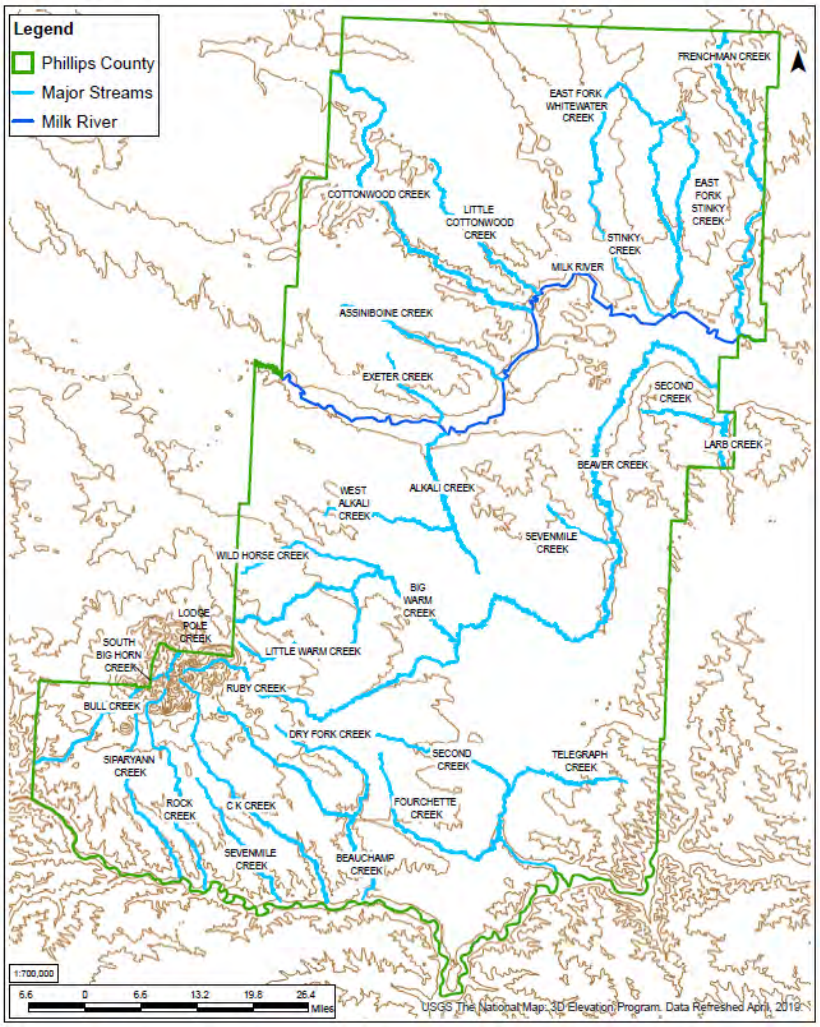
Surface Water

The Milk Rivers runs west to east through Phillips County as shown in Figure to the Right. There are twelve streams whose entire reach, or portions of it, are perennial. These are:

- Little Warm Creek
- Big Warm Creek
- Alkali Creek
- Armels Creek
- Woody Island Creek
- Rock Creek
- Cottonwood Creek
- Assiniboine Creek
- Frenchman Creek
- Siparyann Creek

In addition, the county has many streams that flow for part of the year, and many small lakes, pond and man-made reservoirs. Appendix A2 is a map of major streams in Phillips County.

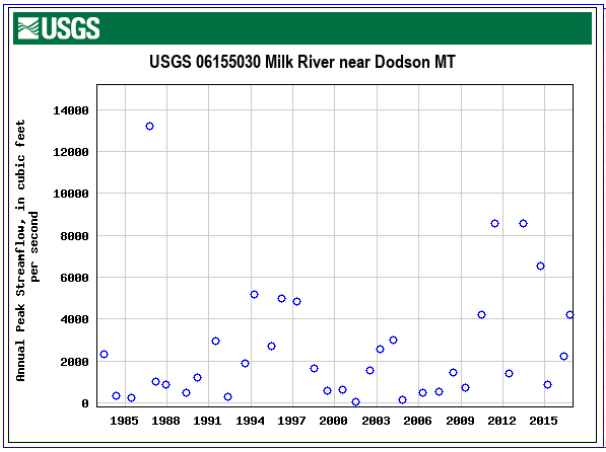
PHILLIPS COUNTY HYDROLOGY

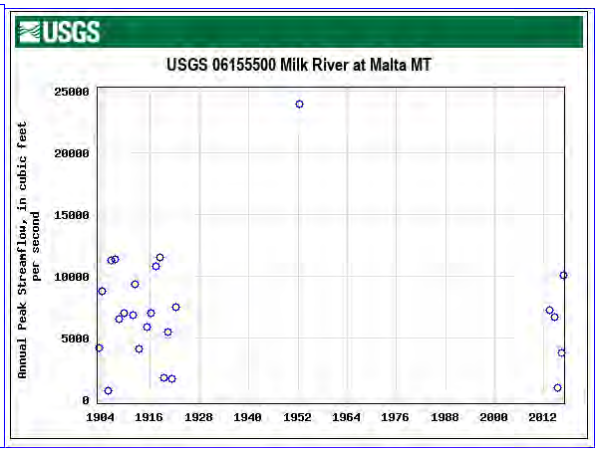


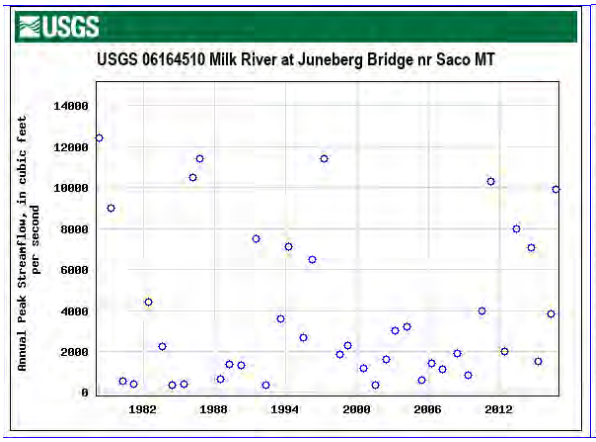
Streamflow

USGS Wyoming-Montana Water Science Center in cooperation with U.S. Army Corps of Engineers maintains four stream gauges in Phillips County as part of the Groundwater and Streamflow Information Program network of Federal Priority Streamgages (FPS). The stream gauges are located on Beaver Creek near Saco and on the Milk River near Dodson, at Malta, and at the Bjornberg Bridge near Saco.

The graphs below show annual peak streamflow for each of the gauging stations. Note for those of us who are not engineers: One cubic foot of water is a little less than 7.5 gallons. One cubic foot per second is a little less than 449 gallons per minute.







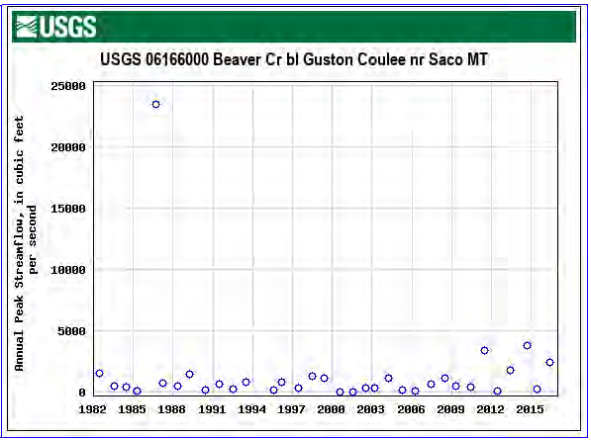


Table 4 shows high and low average annual discharge in cubic feet per second, for each of the gauging stations. Note that the Milk River at Malta station was the first installed; data for the others are only available as far back as the 1980's. *Table 4, Average Annual Discharge at Stream Gauge Stations in Phillips County*

Average Discharge--Cubic Feet per Second

	High	Year	Low	Year
06155030 Milk River near Dodson	524.3	1986	36.6	1985
06155500 Milk River at Malta	982	1916	42.1	1905
06164510 Milk River near Saco	1,042	1978	87	1985
06166000 Beaver Creek	355	2011	0.034	2001

Irrigation in Phillips County

St. Mary's and Milk River Irrigation System – US Bureau of Reclamation

"The Milk River Project in north-central Montana furnishes water for the irrigation of about 121,000 acres of land. Project features are Lake Sherburne; Nelson and Fresno Storage Dams; Dodson, Vandalia, St. Mary, Paradise, and Swift Current Diversion Dams; Dodson Pumping Plant; 200 miles of canals; 219 miles of laterals; and 295 miles of drains. A water supply is furnished to

project lands which are divided into the Chinook, Malta, and Glasgow Divisions and the Dodson Pumping Unit. The lands extend about 165 miles along the river from near Havre to a point 6 miles below Nashua, Montana. Local benefits of the project include:
Irrigation - The principal crops produced on the farms in the Milk River Project are alfalfa, native hay, oats, wheat, and barley.

Recreation and Fish and Wildlife - Fresno Reservoir provides
swimming, boating, and fishing, in season, for walleye, northern pike and perch. Nelson Reservoir provides excellent fishing, primarily for wall-eyed pike and trout and excellent duck and goose hunting.

The Dodson Diversion Dam on Milk River 5 miles West of Dodson, Montana, has a bladder and is a weir-type structure with movable crest gates, and an earth fill dike section. The structural height is 26 feet; the crest length is 8,154 feet. The Dodson North Canal, diverting on the north side of the river just above Dodson Dam, has an initial capacity of 200 cubic feet per second and conveys water to Malta Division lands north of Milk River. The Dodson South Canal has a capacity of 500 cubic feet per second, conveys water for irrigation of Malta Division lands south of Milk River, and also conveys water for storage in Nelson Reservoir.

The Dodson Pumping Plant, located 2.5 miles northwest of Dodson, Montana, lifts water from the Dodson North Canal 20.5 feet to the Dodson Pump Canal which serves 1,147 acres of land in the vicinity of Dodson. Two impeller pumps of 15 cubic feet per second capacity each, driven by 50-horsepower electric motors provide 30 cubic feet per second of water.

The Nelson Reservoir, located 19 miles northeast of Malta, Montana, provides off stream storage for irrigation of Malta Division lands in the Saco and Hinsdale areas. A series of dikes, with a maximum structural height of 28 feet, crest length of 9,900 feet, and total volume of 233,000 cubic yards provide for storage of 79,224 acre-feet of water. The reservoir does not have a spillway. Slide gates installed in the Nelson North Canal outlet works permit releases of water to Milk River for use in the Glasgow Division. Slide gates installed in the Nelson South Canal outlet works permit releases of water for irrigation of project lands." (Phillco, 2019)

The Malta Irrigation District manages 44,528 acres of the Milk River Bureau of Reclamation irrigation project in Phillips County. Refer to The Milk River International Lifeline of the Hi-Line A Guidebook completed by the Milk River International Alliance, Bureau of Reclamation, Montana Department of Natural Resources & Conservation in 1999; the Milk river State of the Watershed completed by Milk River Watershed Council Canada 2008; and the Milk River Watershed Alliance recent video clip at https://milkriverwatershedalliance.com/educational-video-project/ for more information about the Milk River Irrigation in Phillips County.

Frenchman Water Users –State of Montana

See Figures 10 and 11.

Frenchman Dam Fact Sheet is available at:
http://dnrc.mt.gov/divisions/water/projects/docs/factsheets/frenchman-_factsheet.pdf

PROJECT DESCRIPTION

*Impounds Frenchman Creek in Phillips County; located approximately 22 miles north of Saco

*Original construction completed in 1951; the dam failed during a flood in 1952 and was subsequently rebuilt

*Owned by DNRC & managed by SWPB

*Operated by the Frenchman Water Users Association since 1952

*Project consists of:

*Earthen embankment dame: 44 feet high & 2100 feet long

*Reinforced concrete spillway: 119 feet wide, with uncontrolled ogee crest

* 60-inch, 230-foot-long reinforced concrete outlet with two 60-inch slide gates (one operating and one guard)

* Original reservoir storage design capacity was 7,010 acre-feet at spillway crest, covering an estimated 800 to 1,000 surface acres; actual reservoir capacity is 2,801 acre-feet due to ongoing sedimentation

WATER USE

- 7,000 acre-feet through 56 contracts
- Water primarily used for irrigation; reservoir also used for water-based recreation and regulation of stream flows

Figure 7

October 2014

REHABILITATION SUMMARY

- *In 2011, the 24-inch irrigation conduit was replaced due to failure, the gate on the irrigation conduit was also replaced, and a sinkhole adjacent to the gatehouse was repaired. Project cost: $260,000. FEMA funded 75% of the costs for the irrigation conduit replacement and sinkhole repair and the Frenchman Water Users Association funded the remainder of the project costs.*

FUTURE NEEDS

- *Voids beneath the spillway and deteriorated joints compromise the integrity of the spillway. Spillway replacement is necessary.*
- *Sedimentation has reduced the storage capacity from 7,010 acre-feet to 2,801 acre-feet (2013 Feasibility Study).*
- *Corrosion and erosion have damaged the operating gate. Replacement is necessary.*
- *A feasibility study was conducted in 2013 to evaluate options for rehabilitating the current dam and enlarging the storage or building a new dam nearby to address the project deficiencies and potentially help address water compact issues. Costs for constructing an enlarged dam were estimated at $49,700,000 to $80,100,000. Estimated costs for rehabilitating or removing the existing dam range from $3,200,000 to $6,500,000. No final alternative has been selected.*

Downstream Face

Outlet

Spillway and county road bridge

October 2014

Figure 8

Other Irrigation in Phillips County

Scattered throughout Phillips County are various earthen dams and water spreading dikes where private landowners over the years have developed to assist with irrigation to supplement the forage water needs for a growing season. Much of these structures are thirty to sixty years old and need repair largely due to flooding conditions over the years. Figure 12 shows Potential Irrigation Development in Phillips County Water Resources Survey 1968.

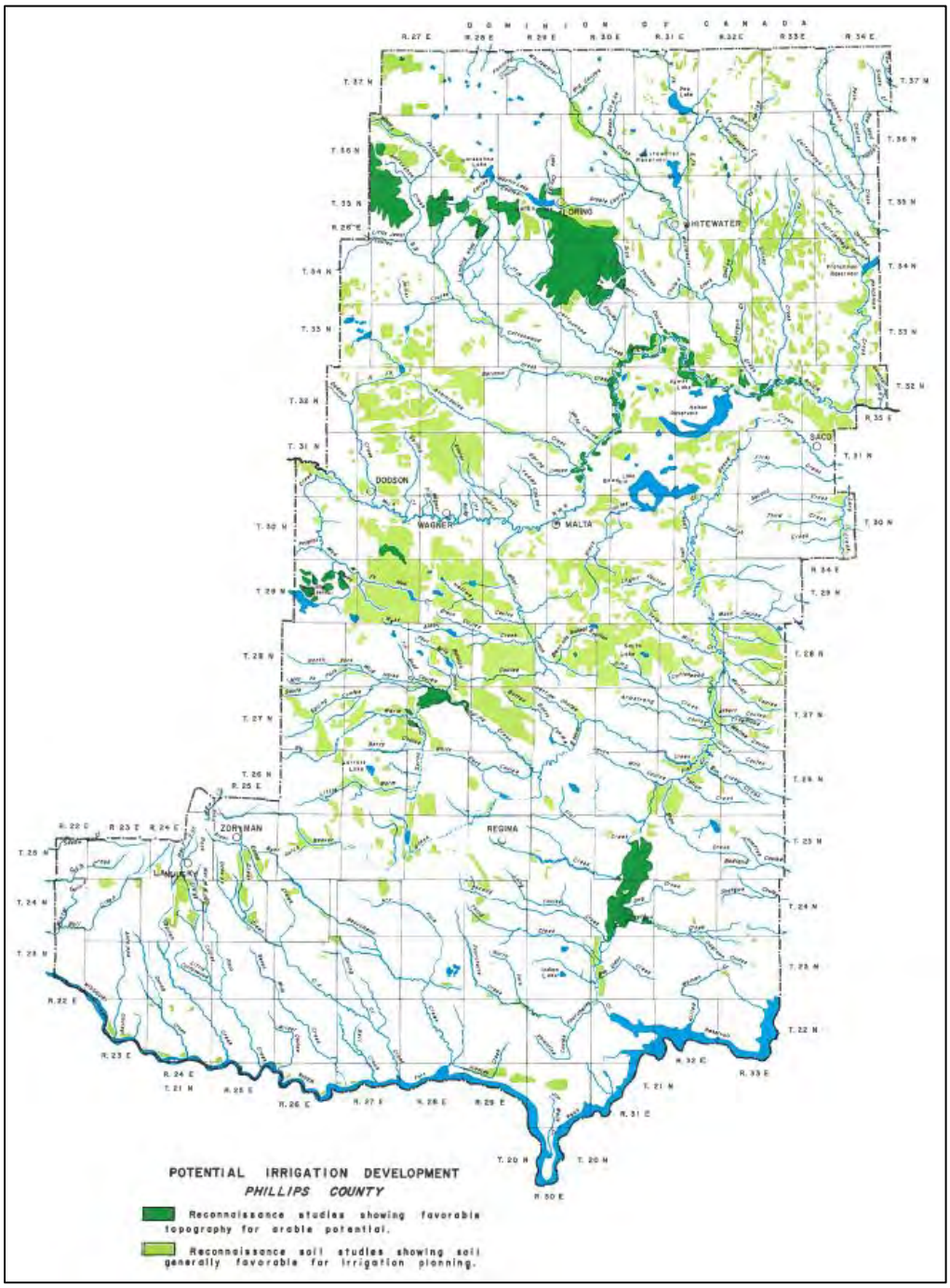


Figure 9. Irrigation Development

Geothermal Resources and Ground Water

See *2019-2020 Phillips County Geology Report 12-11-19 By Kari Scannella MT NRCS State Geologist for more information.*

"Most water wells in Phillips County receive water from the Judith River Formation, alluvial deposits or glacial deposits. Several geothermal springs are present in the Little Rocky Mountains with an average temperature is approximately 75 degrees F.

The Sleeping Buffalo Hot Springs obtains water from a flowing well that was drilled into the Madison Group. The well produces approximately 90 gallons per minute from a depth of 3,200 feet. At source, the water temperature is 108 degrees F. The well is used by the resort located 18 miles east of Malta. Other known geothermal wells assumed within similar veins as the Sleeping Buffalo are located NW of Malta on private property. Sleeping Buffalo Hot Springs was recently purchased and completely renovated. The new owners are hoping to turn the hot springs in to a tourist location for the Hi-Line.

Ground water in north central and eastern Montana is located within the Great Plains Province hydrogeologic region. There are 1,998 recorded water wells in Phillips County. The oldest well was recorded in January of 1890. The deepest recorded well is 2,987 feet and the shallowest is 5.8 feet." (Phillco, 2019)

Figure 13 shows Groundwater Inventory in Phillips County Water Resources Survey 1968. (Montana Water Resources Board, 1968). *https://archive.org/details/CAE4B696-E496-4DC9-A429-EE3B988B8CE3/page/n37*

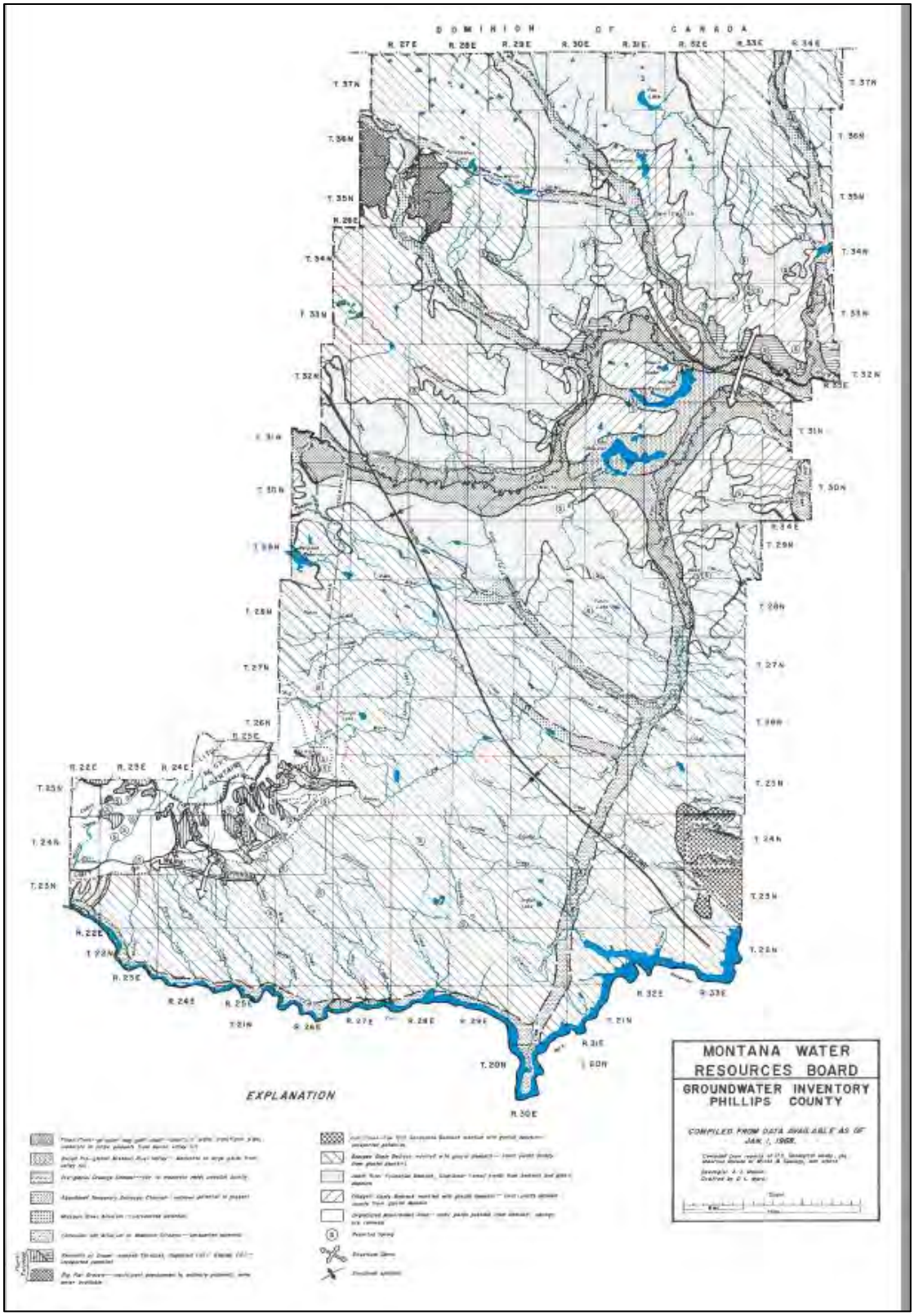

DOMINION OF CANADA
MONTANA WATER RESOURCES BOARD
GROUNDWATER INVENTORY
PHILLIPS COUNTY
COMPILED FROM DATA AVAILABLE AS OF JAN. 1, 1968.
EXPLANATION

Figure 10

Hydrography

The hydrologic unit code (HUC) is a numbering system for watersheds developed by the U.S. Geological Survey (USGS) to provide a common coding system for State and Federal agencies. Each unique HUC is attached to a specific watershed, enabling different agencies to have common terms of reference and to agree on the boundaries of the watershed. The entire country has been mapped with three levels of HUCs: 8-digit HUCs for large watersheds known as sub-regions, 10-digit HUCs for watersheds, and 12-digit HUCs for smaller or sub-watersheds.

Phillips County hydrology is illustrated in Appendix A3. Portions of the Whitewater, Frenchman, Cottonwood, Middle Milk, Beaver, Peoples and Fort Peck Reservoir sub-regions occur in Phillips County. These are shown on the right as polygons with thick black boundaries. Within the subregion are 10-digit watersheds bordered in brown. These are divided into 12-digit sub-watersheds, shown on the map as colored polygons. Figure 14 shows Phillips County Hydrologic Units.

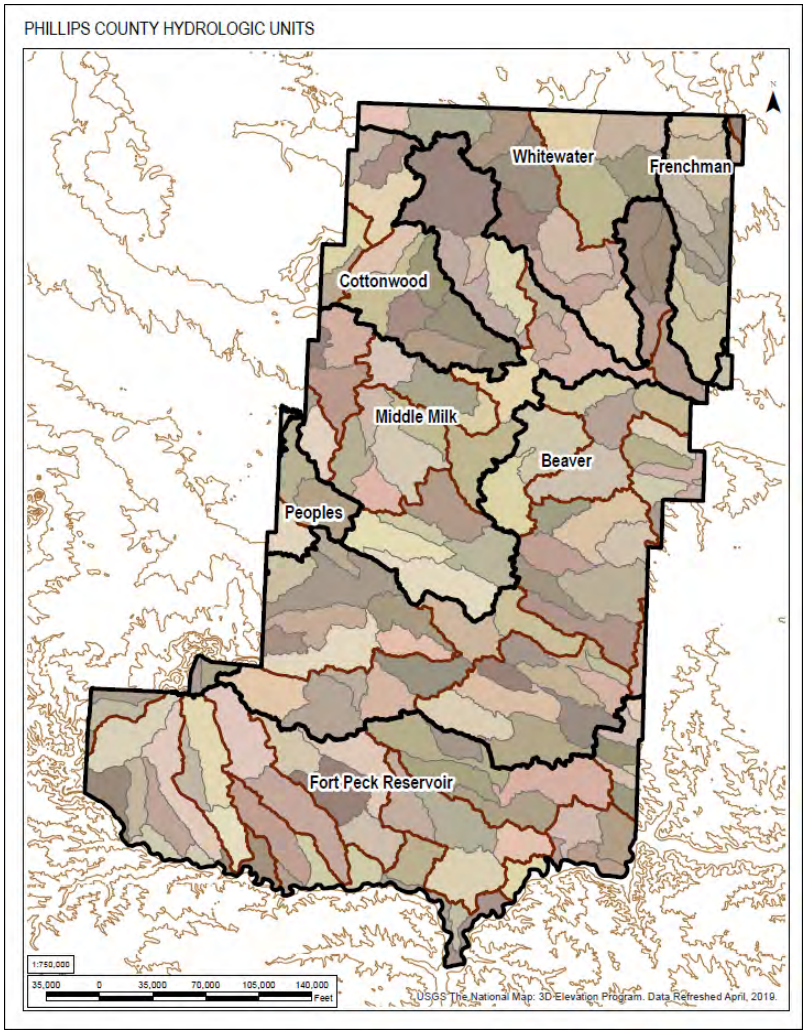


Figure 14

303-d Listed Streams

Phillips County has thirty-one reaches on twenty-three streams and two water bodies that appear on the Montana Department of Environmental Quality list of impaired streams in one of five water quality categories.

Category 2: *Available data and/or information indicate that some, but not all the beneficial uses are supported.*

- Black Coulee

Category 3: *Insufficient or not data available to determine whether any beneficial use is attained.*

- CK Creek

Category 4A*: All TMDLs needed to rectify all identified threats or impairments have been completed and* approved.

- Montana Gulch

- Alder Gulch
- Ruby Creek
- South Big Horn Creek
- Lodge Pole Creek
- Beaver Creek
- Swift Gulch Creek

Category 4C: *Identified threats or impairments result from pollution categories such as dewatering or habitat modification and, thus, a TMDL is not required.*

- Frenchman Creek

Category 5: *Waters where one or more applicable beneficial uses are impaired or threatened and a TDML is required to address the factors causing the impairment or threat.*

- Missouri River
- Ruby Gulch
- Rock Creek
- Mill Gulch
- Sullivan Creek
- Fort Peck Reservoir
- King Creek
- Milk River
- Whitewater Creek
- Beaver Creek
- Flat Creek
- Big Warm Creek
- Lake Bowdoin
- Nelson Reservoir

Category 5, 5N: *One or more beneficial use is impaired or threatened and a TDML is required* ***AND*** *available date and or information indicate that a water quality standard is not me due to an apparent natural source in the absence of any identified man-mand sources.*

- Larb Creek
- Cottonwood Creek

Water Rights

“Montana is a "prior appropriation doctrine state" {meaning first in time, first in right} and this was upheld by the Montana Supreme Court in 1921. The Mining Act in 1866 was the first federal law that allowed citizens to acquire title to vested water rights for mining, agriculture, and other purposes on the federal land. This and the Livestock Reservoir Site Act of 1897 essentially severed title to water from title to the underlying federal land. These rights are recognized and protected under the Taylor Grazing Act and Federal Land Policy Management Act. (Also see U.S. v. New Mexico 1978.) The "riparian doctrine" does not apply to acquisition

and ownership of water rights in Phillips County, Montana.

All existing rights to the use of any waters for any useful or beneficial purpose are recognized and confirmed by the Montana Constitution. "Existing water right" means a right to the use of water that would be protected under the law, as it existed prior to July 1, 1973.

GOAL 1: Water rights established historically and beneficially used by the citizens of Phillips County including but not limited to, the purposes of agriculture (irrigation and stock water), domestic use, industrial use, mining and power uses are recognized as private property rights and are to be protected as such.

Objective 1A: Any new or additional development of surface water or groundwater after June 30, 1973 will be consistent with Montana laws and the Montana Water Use Act of 1973.
GOAL 2: Allocation of water resources in Phillips County are governed by applicable Montana laws and the Prior Appropriation Doctrine.

Objective 2A: Any land use inventory, planning or management activities affecting water resources in Phillips County, either directly or indirectly, is coordinated with local government and is consistent with the Resource Use Management Plan of Phillips County. Encourage agencies to develop policy that is in conformance with applicable statutes and request notification from agencies of filing for water rights in Phillips County.

Objective 2B: Use of water resources in Phillips County is consistent with local culture and community stability with particular emphasis on the economic stability of the community

Objective 2C: Recognize that water used for recreation, fish, and wildlife purposes provide economic benefit to Phillips County although these uses are not historically recognized as historic water rights or "existing water rights". These uses are generally non-consumptive uses of water." (Phillco, 2019)

AIR AND ENERGY

Air Quality

Montana Department of Environmental Quality Air Quality Bureau maintains air quality monitoring stations in Malta and Sidney, Montana. Ambient temperature, wind speed and direction and pollutants including NO, NO2, NOX, ozone and particulate matter are monitored. Phillips County has no recurring areas of non-attainment. (MT DEQ, 2019)

Utilities

"Electric and gas services or utility services are provided to Phillips County by Big Flat Electrical Cooperative, Northwestern Energy and Montana-Dakota Utilities, Inc. Natural gas, propane, electricity, telephone, satellite TV, 3G service, and cellular phone service are all available in the area. The town of Saco owns natural gas wells, therefore people living within Saco receive very low-cost natural gas." (Phillco, 2019)

Triangle telephone, Verizon and Nemont in 2019 provide 4G cellular phone service depending on specific locations within Phillips County. Triangle telephone has installed fiberoptic internet services to the cities of Dodson, Malta and Saco and are currently working on rural areas.

Transportation

Public Transportation

"In 2006 Phillips County, the City of Malta, the Town of Dodson and the Town of Saco, by Joint resolution to create a Transportation Improvement Authority, a public body, corporate and politic, to be known and doing business as PHILLIPS TRANSIT AUTHORITY. The purpose of the Phillips Transit Authority is blending the interests of local, state, and federal governments with the interests of the general public and the business community to build, modify, or improve transportation facilities and systems according to 7-14-1001 through 7-14-1007 of the Montana Code Annotated in Phillips County, Montana. Phillips Transit Authority is governed by the board of directors who work to expand public transportation to those of need. To date, participating historic transportation providers include: Malta Head Start, Hi-Line Boys & Girls Club, Phillips County Council on Aging, Malta Opportunities, Inc. and Hi-Line Retirement Center." (Phillco, 2019)

Transportation

"Rail - The Northern Corridor Main Line in Montana is a segment of one of BNSF's principal east west main lines, which connects the Midwest with the West Coast. The route, which dissects Phillips County and the City of Malta hosts considerable intermodal (container) traffic and is a key corridor for grain moving to Pacific Northwest Ports. It is a major transcontinental rail freight trunk route.

The line is single tracked in Phillips County. The route has centralized traffic control (CTC), a trail movement system by which a remote dispatcher controls the throwing of switches and clearing of signals. Maximum track speed is 60 miles per hour (MPH) for freight trains and 79 MPH for passenger trains. Maximum gross car weight on this line is 286,000 pounds (143 tons). The primary commodities moving are grain (over half the volume) and forest products (about 16% of traffic). Metallic ores account for over half inbound traffic and 13% of total volume on the Northern Corridor Main Line. Petroleum and coal products move inbound accounting for 5% of all traffic. Primarily outbound metal products generate just under 5% of the highly diverse business on this line.

Oil production in the Bakken Oilfield has dramatically increased the number of trains passing through northern Montana. At this time, BNSF plans to double track their entire line through Montana to accommodate the increased traffic.
With less acres being re-enrolled in CRP, there has been an increase in wheat production. Resident of Phillips County would like to see a grain loading facility built. There is no 110 car grain loading facilities in Phillips County, many producers truck transport grain to the facilities in Harlem and Havre, both west of Malta on US 2. BNSF double track loading lines are located in Malta and Wagner and are most used to offsite transport loads.
Amtrak provides passenger service along the northern US with daily service both east and west at an unmanned station in Malta.

US and State Highways - US Highway 2 Runs from North Dakota border near Bainville to Idaho border near Troy for 666 miles. Phillips County is included within Montana Department of Transportation (MDT) District 4 with headquarters in Glendive.

Air - M75 (FAA Identifier) Malta Airport is located one mile NW of Malta just north of US Highway #2. Local contact is Dixon Hitch, P.O. Box 1473, Malta, Mt. Phone 406-654-1222. Malta Airport Zoning Ordinance to limit height of objects around the airport is in effect. The Malta Airport is under the local jurisdiction of the Phillips County Airport Authority. The nearest commercial airports are over 200 miles away in the communities of Great Falls and Billings. Smaller connecting flights are available 90 miles west in Havre and 70 miles east in Glasgow. Private and freight flights are made from the Malta Airport as outlined later in this section. The Malta Airport is also the site of emergency air ambulance service.

Local Roads and Bridges - Phillips County has between 1500-1550 miles of dirt/gravel roads that are gas tax eligible. These and other designated roadways and bridges are maintained by county maintenance crews. Phillips County has several criteria in place to assist in the management of county roads. Policy copies and application forms are available from the Phillips County Clerk and Recorder:

Policy for Road Approach Easements (dated 11/13/2001) and application form
Auto Gate Policy (12/31/12)
Because of large land areas owned and under management of state and federal entities and broad use of the many acres of public lands, wildlife refuges, impacts to roadways is high. Phillips County participates in the designated 6 County Fort Peck group that has been successful in obtaining additional federal funds to develop roadways surrounding Fort Peck Reservoir. In recent years the status of aging bridges across Montana has been identified as a need. The State Department of Transportation has developed a Bridge Management System along with ranking criteria. Status of bridges across Montana can be reviewed at www3.mdt.mt.gov. According to the Master List, Phillips County currently has 45 bridges." (Phillco, 2019)

PLANTS AND ANIMALS

Wildlife

"Phillips County is located with Montana Fish Wildlife's Region 6. Throughout the region antelope and mule deer inhabit the open and rougher terrain. White-tailed deer abound along rivers and streams, and world-class elk and bighorn sheep herds inhabit the Missouri River Breaks along sprawling Fort Peck Reservoir. The productive Prairie Pothole region produces thousands of ducks and geese. Pheasants are found in agricultural areas, and native sharp-tailed and sage grouse are plentiful in grassy and prairie habitat.
Anglers target walleye, northern pike, Chinook salmon, lake trout and smallmouth bass in Fort Peck Reservoir, and the Missouri River both above and below the lake offers great fishing for a variety of native and introduced species. Smaller reservoirs, such as Nelson Reservoir near Malta provide more good fishing." (Phillco, 2019)

Wildlife Management District

"The Bowdoin Wetland Management District (WMD) encompasses 9,757 acres of un-staffed satellite refuges which include Black Coulee, Creedman Coulee, Hewitt Lake, and Lake Thibadeau National Wildlife Refuges. The District also contains over 8,860 acres of Waterfowl Production Areas (WPAs) named Holm, Webb, Dyrdahl, Korsbeck, Pearce, McNeil Slough, and Beaver Creek, all of which are open to the public. All of these sites except Holm WPA are open to public hunting and trapping.

According to Montana Fish Wildlife and Parks, the primary goal of Montana's Wildlife Management Areas is to maintain vital wildlife habitat for the protection of species and the enjoyment of the public." (Phillco, 2019)

Milk River Wildlife Management Area (Per MFWP)

"Location: Phillips County in northeastern Montana, approximately 20 miles northeast of Malta. Size: Area 7 - 382 acres; Area 8 - 961 acres. Leased from U. S. Bureau of Reclamation since 1953. Management goal: To provide riparian/wetland habitats for wildlife, particularly waterfowl, and to provide public recreational opportunities.

Hunting opportunities: Hunting opportunities exist for waterfowl, upland birds and deer hunters are allowed to hunt only with shotgun, muzzleloader or bow and arrow.
Wildlife viewing: White-tailed deer, upland game birds, furbearers and numerous small mammals are present on the WMA year-round. Waterfowl, shorebirds, raptors and a host of songbirds can be seen during much of the year." (Phillco, 2019)

Animal Species of Concern

Montana Natural Heritage Program (MTNHP) provides a list of 63 animal species designated Species of Concern in Phillips County, Appendix A5. Information about each of the Montana Animal Species of Concern is available through the MTNHP Field Guide at http://mtnhp.org/animal/default.asp

The US Fish and Wildlife Service (USFWS) has determined that there are six species of native animals listed as endangered or threatened under the Endangered Species Act (ESA) in Phillips County.

Black-Footed Ferret (*Mustela nigripes*). Endangered, Experimental Non-essential Population. Black-footed ferrets are North America's only native ferret species. They appear similar to weasels in shape and form but are heavier than other weasels. They are slender, wiry animals with a distinctive black mask, black feet and a black-tipped tail. The rest of their body is short and sleek, with fur that is a yellow-buff color, lighter on the belly and nearly white on the forehead, muzzle and throat. Their legs are short with large front paws and claws developed for digging.

At one time the species occupied habitat from Canada to Mexico and from Utah east to Kansas. Black-footed ferret are intimately dependent on prairie dogs (*Cynomys spp*.) and are limited to the same habitat: grasslands, steppe and shrub steppe. It has been found that one ferret requires between 98 and 148 acres of prairie dog complex to survive; females with litters have never been found on colonies less than 121 acres.

The species has been extirpated from most of their former large range mainly as a result of prairie dog and predator control programs. Canine distemper, in conjunction with captures for captive breeding resulted in the extirpation of the last known wild population near Meeteetse, Wyoming by 1987. All known populations are a result of the reintroduction of captive bred black-footed ferrets from animals taken into captivity from the Meeteetse population. Predation by coyotes and badgers, long distance dispersal and plague have also apparently resulted in deaths of released animals. (MNHP, 2019)

Pallid Sturgeon (*Scaphirhynchus albus*). Endangered.
Pallid sturgeon are bottom dwelling, slow growing fish that feed primarily on small fish and immature aquatic insects. Adults have a flattened snout, a long slender tail and are armored with lengthwise rows of bony plates instead of scales. Pallid sturgeon can grow up to six feet long and weigh up to 80 pounds. The species is adapted to living close to the bottom of large, silty rivers; their preferred habitat has a diversity of depths and velocities formed by braided channels, sand bars, sand flats and gravel bars.

The pallid sturgeon is one of the rarest fishes in North America and only found in portions of the Missouri and Mississippi River basins; only about 200 adults remain in the upper Missouri River. It was federally listed as endangered in 1990 due to population decline caused by human alterations of the environment: impoundments, channelization and altered river hydrography, turbidity and temperature. The pallid sturgeon is currently listed as "S1" in Montana due to extremely limited or rapidly declining population numbers, range or habitat, making it highly vulnerable to global extinction or extirpation in Montana. (MNHP, 2019)

Any NRCS undertaking that impacts the Milk River bank below the ordinary high-water mark will require a consultation with the Corp of Engineers as well as a consultation with USFWS (Ellenburg, 2019).

Whooping Crane *(Grus americana)* – Endangered
Whooping cranes are the world's rarest crane and the tallest birds in North America. Adult height is about five feet, wingspan can be up to seven- and one-half feet. Average adult weight is about fifteen pounds. Once found throughout North America, the last wild flock of whooping cranes had been reduced to fewer than 20 birds by the 1940's due to habitat loss and hunting. Intensive conservation efforts and international cooperation between Canada and the United States rescued the species from extinction, but they remain extremely rare.

Habitat loss remains one of the biggest threats facing wild Whooping Cranes. Collisions with wind turbines and power lines are an ongoing threat. (MNHP, 2019) Whooping crane utilize migratory habitat in eastern Montana. They are not known to breed in the state (Audubon, 2019).

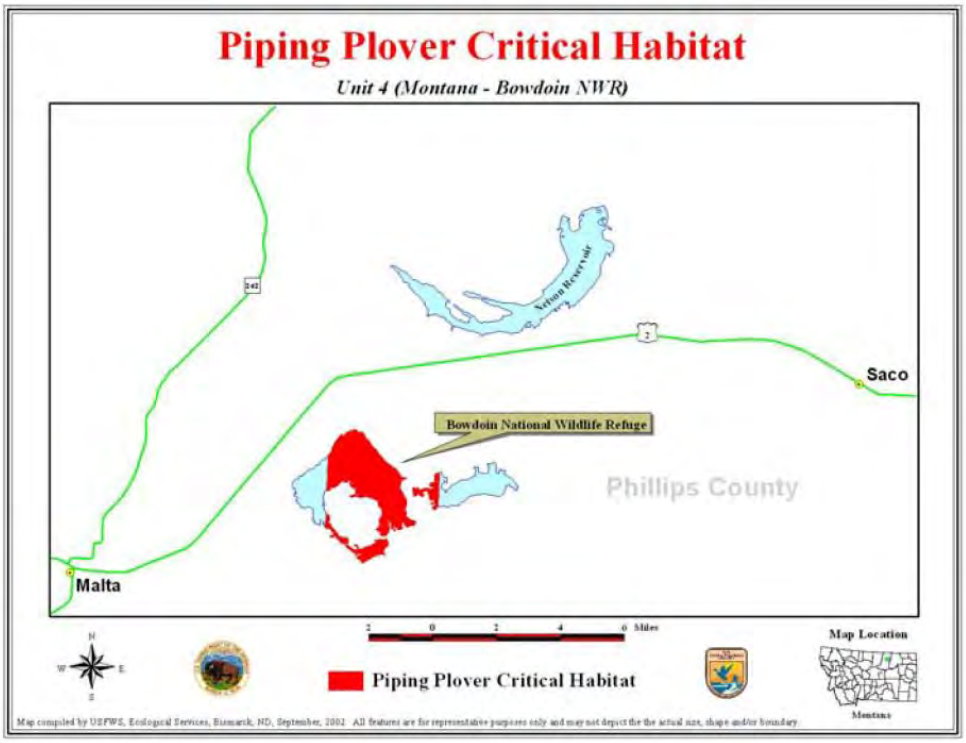
Least Tern (*Sternula antillarum*)—Endangered
Least tern are North America's smallest tern. These little shorebirds are easily recognized by their yellow bills and legs. The interior population has been listed as endangered because of loss of habitat. The interior population declined by about 88% between 1966 and 2015; interior least terns have been federally listed as endangered since 1985.

Least terns often nest in colonies; nesting sites are shallow scrapes on open ground near lake shores, on sandbars or along the riverside. Unfortunately, prime nesting habitat is often used by humans for recreation or residential development. Additionally, alterations to stream flows caused by dams, reservoirs, water diversion and other changes to river systems have eliminated most historic least tern nesting habitat. Wide channels dotted with sandbars, which are preferred by least terns, have been replaced by narrow, armor-banked rivers with highly altered flows. Fluctuating water levels from reservoir releases often destroy nesting sites. (MNHP, 2019)

Piping Plover (*Charadrius melodus*)—Threatened, Designated Critical Habitat.
Piping plover populations are in decline due to habitat loss caused by alterations to river systems. These small shorebirds are distinguished by a single black band around their necks and very short yellow-to-orange bills with black tips. Piping plover's nest on shorelines and islands of alkali lakes in North Dakota

and Montana and on sandbar islands and reservoir shorelines along the Missouri Rivers. Specifically, in Phillips County the piping plover's nest at Nelson Reservoir north of Bowdoin National Wildlife Refuge. Dam construction, water diversion and water withdrawals change river flow and drastically reduce the amount of available nesting habitat. Human activity has increased predation which decreases nest success and chick survival. USFWS Range map of breeding and wintering habitat shows piping plover use the northwest area of the county for breeding habitat. (USFWS, 2019)

Piping Plovers nest at Nelson Reservoir north of Bowdoin National Wildlife Refuge but are not contained within any of the Critical Habitat Units in the state. This reservoir was excluded from the critical habitat designation because of a Memorandum of Understanding between the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the local irrigation districts. The memorandum, in combination with a biological opinion from the USFWS, guides management actions at this location (USFWS 2003).



Critical Habitat MT-4 Bowdoin National Wildlife Refuge, Montana.
Courtesy USFWS, Ecological Services.

Red Knot (*Calidris canutus rufa*)—Threatened
Red knot's are rarely observed in Montana wetlands during migration in May or July through October (Montana Natural Heritage Program Point Observation Database 2016). Occasional migratory stopovers have been documented at Lake Bowdoin National Wildlife Refuge (Montana Natural Heritage Program Point Observation Database 2016). Larger wetlands rich with invertebrate prey are of value to the red knot.

Greater Sage-grouse

Montana, along with several other western states, has been the focus of multiple past petitions to list the greater sage-grouse (*Centrocercus urophasianus*) under the federal ESA. The primary concerns for sage-grouse are loss and fragmentation of their habitat. In Montana habitat loss due to conversion of the sagebrush steppe to cropland and energy development is thought to be the biggest threats to greater sage-grouse. To reduce this threat in Phillips County specifically, the EQIP SGI fund pool between 2016-2019 has assisted with seeding back approximately 4000 acres of cropland to perennial vegetation and approximately 7000 acres of rangeland improvements have been completed.

On September 22, 2015 the USFWS determined that the greater sage-grouse did not warrant listing protections under the ESA and withdrew the sage-grouse from the candidate species list. It was decided that the primary threats to populations had been ameliorated by conservation efforts implemented by Federal, State, and private landowners.

The MTNHP Species of Concern Report lists the species as category S2: At risk because of very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to global extinction or extirpation in the state.

Core area is the area that contains the species of concern, having exemplary natural plant and animal communities, or exceptional native diversity. Core areas delineate essential habitat that would not be able to absorb significant levels of disturbance without substantial impact to the species of concern. Sage-grouse core areas provide habitat for 75% of all known breeding sage-grouse in Montana and represent landscapes of greatest biological importance to the long-term persistence of the species. A little over 9,250 acres of Phillips County are included in the South Phillips sage grouse Core Area. Most of the rest of the county is considered general habitat for Sage-Grouse. Appendix A 4 is a map of sage-grouse habitat in the county.

Grassland and Sagebrush Birds

Several species of grassland birds are Montana species of concern in Phillips County. Vickery et al. explain the recent decline of grassland birds and probable causes of their decline in *Grassland Birds: An Overview of Threats and Recommended Management Strategies*.

“During the past quarter century, grassland birds have experienced steeper, more consistent, and more widespread population declines than any other avian guild in North America. While some grassland species are Neotropical migrants, most are short-distance migrants that winter primarily in the southern U.S. and northern Mexico. The winter ecology of most grassland birds is poorly known; winter survivorship could be a critically important factor in the long-term declines that some species have experienced.

Shortgrass prairies evolved under intense grazing by prairie dogs and bison. Consequently, the shortgrass prairie bird fauna evolved to select a variety of different site characteristics, created within landscapes receiving grazing pressure ranging from light to severe. Unfortunately, current range management practices strive to graze rangelands uniformly. These practices remove or inhibit heterogeneous grazing impacts across landscapes, and do not favor the specific habitat requirements of many species.

For example, Mountain Plovers require heavily grazed sites for breeding, but Lark Buntings prefer denser vegetation. Thus, moderate grazing everywhere is unlikely to result in suitable habitat for either species. In many locales, insufficient grazing has led to the invasion of grasslands by shrubs and forbs. Rather than opposing grazing as a management tool in all grasslands, conservation groups should encourage grazing that imitates natural conditions as closely as possible." (Vickery, 2000).

Table 5 Grassland and Sagebrush Birds Species of Concern, Phillips County

 Baird's Sparrow (*Centronyx bairdii*)	Prefers to nest in native prairie; requires a relatively complex plant structure including areas of light to no grazing. Feeds on seeds, insects and spiders. Migrates from winter habitat in Mexico to the grasslands of the northern plains in Montana, North Dakota and Canada. Loss of native prairie habitat due to agricultural conversion and loss of winter habitat due to overgrazing are thought to be causes of population decline (MNHP, 2019).
 McCown's Longspur *(Rhynchophanes mccownii)*	Prefers semi-arid shortgrass steppe, open with sparse vegetation. Migrates in large flocks between breeding ground in the Canadian Prairie Provinces and northwestern Great Plains and wintering grounds in the southwestern US and northern Mexico. Decreasing range-wide abundance can be attributed to conversion of short-grass prairie to agriculture and urban development (MNHP, 2019).
	• Prefers shrub-steppe habitat dominated by sagebrush. • Builds nests six to eight inches above the ground in big sagebrush. • The primary threat to Brewer's Sparrow breeding populations is fragmentation and loss of sagebrush shrubland and shrub-steppe habitats. (MNHP, 2019)

 Chestnut-collared Longspur *(Calcareous ornatus)*	Prefers open, sparse vegetation in native pastures with short-to-medium grasses that have been recently disturbed (grazed, mowed or burned). Summer diet includes insects, especially grasshoppers, caterpillars and spiders, and seeds. In the winter it eats seeds from grain, sunflowers and grasses. Winter habitat is the grasslands of the southwestern U.S. and north-central Mexico. Breeding grounds are grasslands in Montana and North Dakota and southern Canada. Conversion of native prairie to agriculture and urban development has eliminated the Chestnut-collared Longspur from much of its historical breeding range (MNHP, 2019).
 Sprague's Pipit *(Anthus spragueii)*	Do not nest in cropland and are uncommon or absent in non-native grasslands. They tolerate some grazing of this habitat but do not nest where it is overgrazed. Prefer scattered shrubs and relatively little bare ground. Summer diet is mostly insects and other arthropods, with some seeds. Little is known about the winter ecology and diet of Sprague's Pipit. Breeds in the north-central United States in Minnesota, Montana, North Dakota and South Dakota as well as south-central Canada. Wintering occurs in the southern US. Conversion from prairie to cropland and pasture along with excessive grazing are identified as the cause of this species' decline (MNHP, 2019).
 Long-billed Curlew *(Numenius americanus)*	Breeds in areas with sparse, short grasses, including shortgrass and mixed-grass prairies and agricultural fields. Outside of the breeding season it is found in wetlands, tidal estuaries, mudflats and beaches. Degradation or loss of grassland breeding habitat to agricultural and residential development is the greatest threat to the Long-billed Curlew. Additionally, other human disturbances such as off-road vehicle travel and agricultural practices such as chaining or dragging to remove sagebrush can destroy nests if done in the spring (MNHP, 2019).

Plant Species of Concern

MTNHP Field Guide describes Species of Concern as, "Native taxa that are at-risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors". The 16 plants listed in Phillips County are rare and exhibit traits of narrow environmental specificity, allowing them to survive only in very particular niches. Plant species of concern are shown in Table 6.

Table 6. Phillips County Plant Species of Concern

Species	Scientific Name	Common Name	Habitat
Flowering Plants	*Ammannia robusta*	Scarlet Ammannia	Wetland/Riparian
Flowering Plants	*Bacopa rotundifolia*	Roundleaf Water-hyssop	Wetland/Riparian
Flowering Plants	*Centunculus minimus*	Chaffweed	Wetland/Riparian
Flowering Plants	*Chenopodium subglabrum*	Smooth Goosefoot	Sandy sites
Flowering Plants	*Phacelia thermalis*	Hot Spring Phacelia	Barren clay slopes
Flowering Plants	*Physaria brassicoides*	Double Bladderpod	Breaklands/badlands
Flowering Plants	*Physaria ludoviciana*	Silver Bladderpod	Sandy sites
Flowering Plants	*Plagiobothrys leptocladus*	Slender-branched Popcorn-flower	Wetland/Riparian
Flowering Plants	*Psilocarphus brevissimus*	Dwarf woolly-heads	Wetland/Riparian
Flowering Plants	*Senecio eremophilus*	Desert Groundsel	Wetland/Riparian
Flowering Plants	*Senecio integerrimus var. scribneri*	Scribner's Ragwort	
Flowering Plants	*Triodanis leptocarpa*	Slim-pod Venus'-looking-glass	
Flowering Plants	*Carex scoparia*	Pointed Broom Sedge	Wetland/Riparian
Flowering Plants	*Elodea bifoliata*	Long-sheath Waterweed	Wetland/Riparian
Flowering Plants	*Lilaea scilloides*	Flowering Quillwort	Wetland/Riparian
Flowering Plants	*Schoenoplectus heterochaetus*	Slender Bulrush	Wetland/Riparian

Wetlands

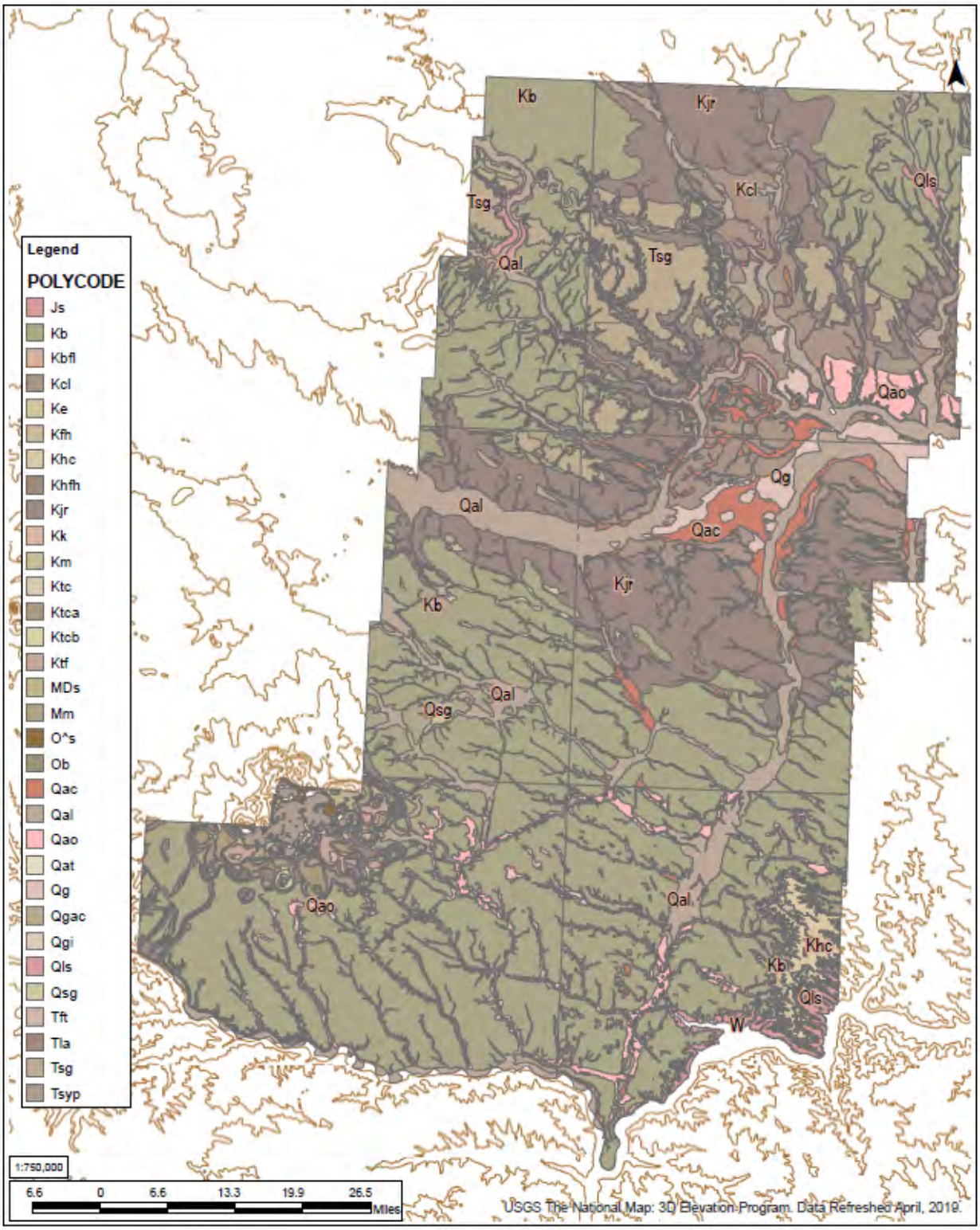
Wetlands are areas where water covers the soil or is present at or near the surface of the soil all year or for periods of time during the year, including during the growing season. The prolonged presence of water creates conditions that favor the growth of specially adapted plants and promotes the development of characteristic wetland (hydric) soils. (see Hydric Soils, https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html).

Emergent wetlands are those that are dominated by erect, rooted, water-loving plants. They may be persistent or ephemeral. Freshwater Forested/Scrub wetlands support woody vegetation, either evergreen or deciduous tree or shrub species. Riverine areas are perennial streams comprised of the deep-water habitat contained within a channel; they do not include adjacent floodplains.

Due to the high density of wetlands in Phillips County it is part of the "Prairie Pothole Region" with the primary concentration of these wetlands being located in Northern Phillips County. These are invaluable for many waterfowl and migratory bird species.

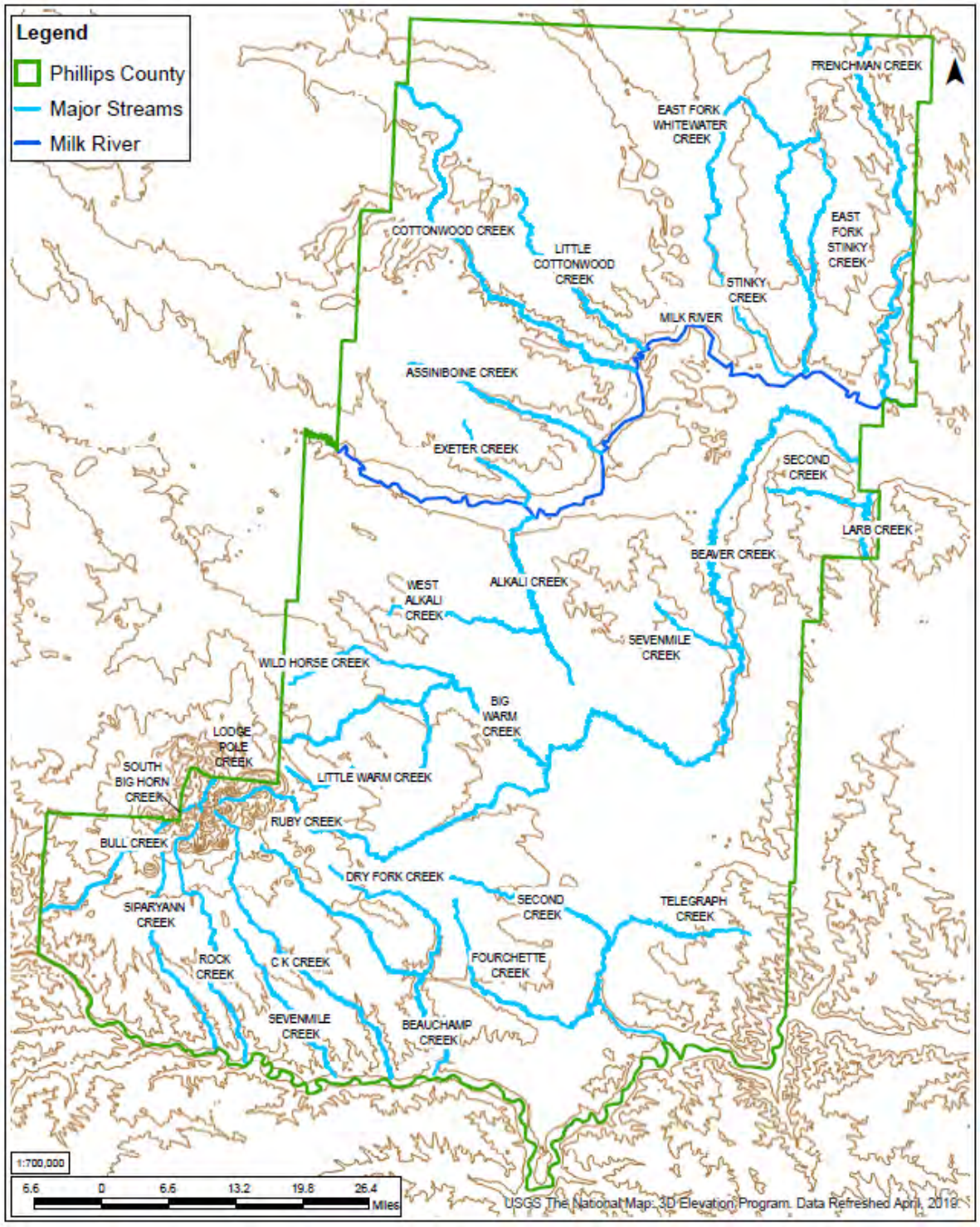
SECTION II---APPENDIX A

Appendix A1 Geology

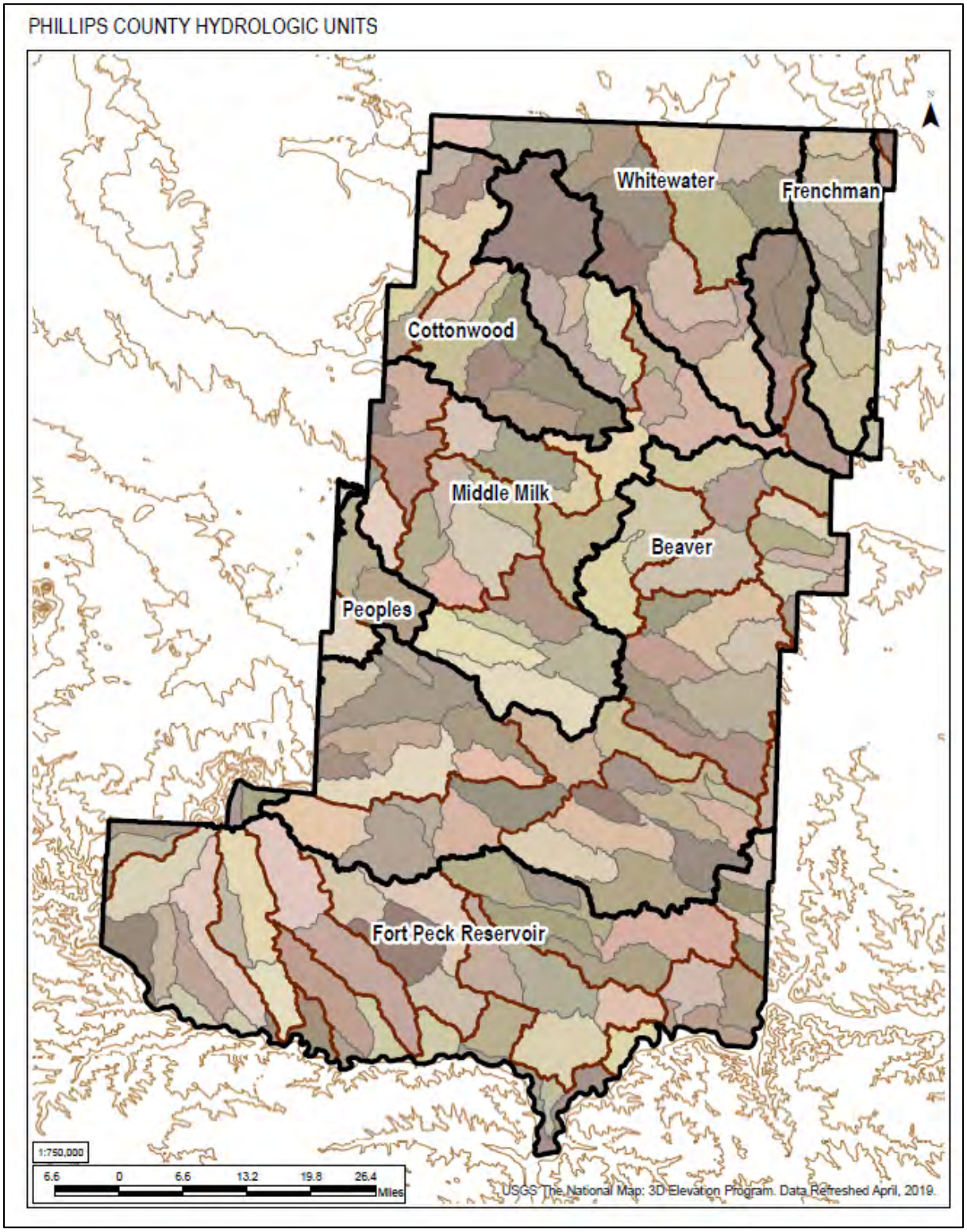


Appendix A2 Major Streams

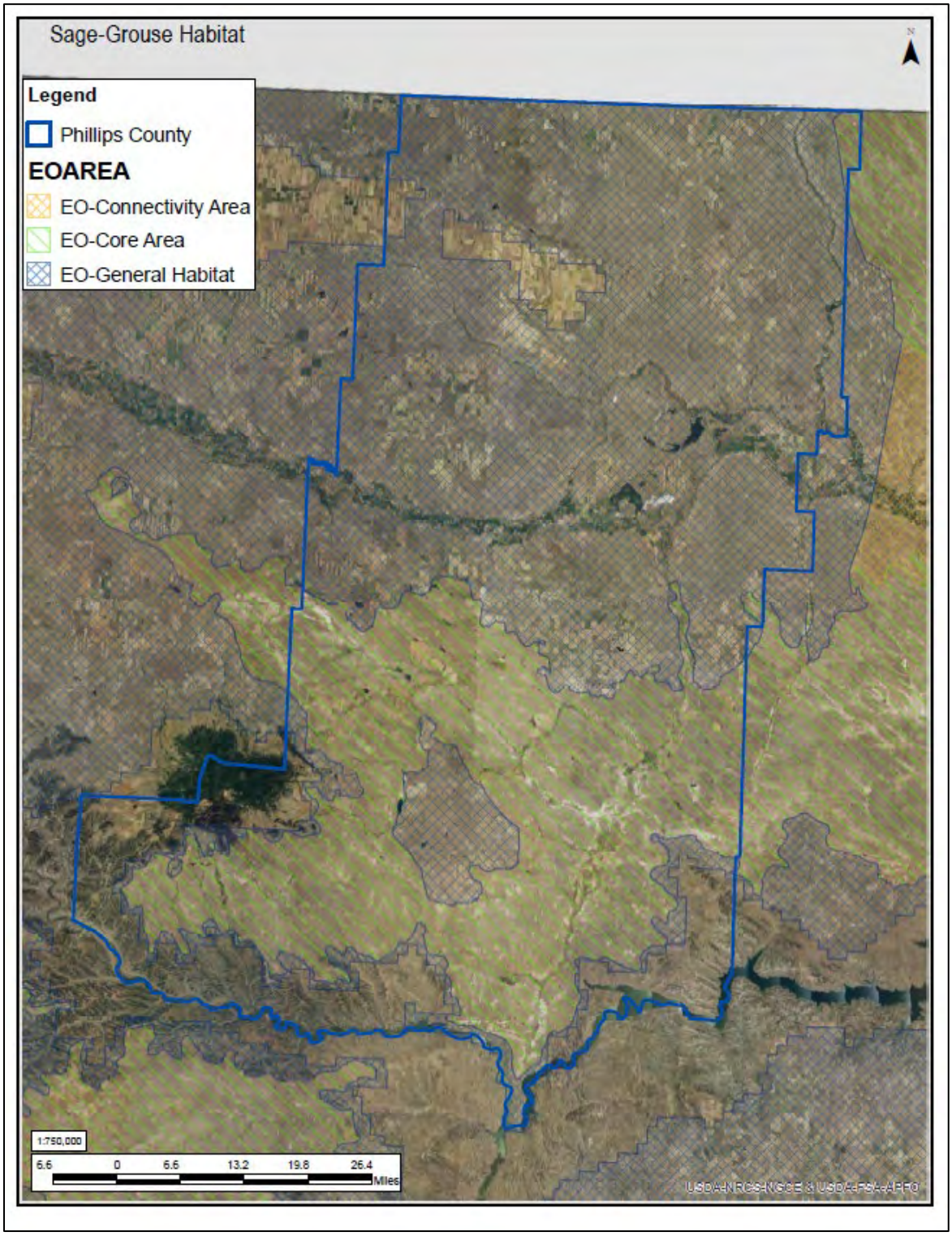
PHILLIPS COUNTY HYDROLOGY



Appendix A3 Hydrologic Units



Appendix A4 Sage-Grouse Habitat



Appendix A5. Montana Animal Species of Concern

Species	Scientific Name	Common Name	Habitat
Mammals	*Corynorhinus townsendii*	Townsend's Big-eared Bat	Caves in forested habitats
Mammals	*Cynomys ludovicianus*	Black-tailed Prairie Dog	Grasslands
Mammals	*Euderma maculatum*	Spotted Bat	Cliffs with rock crevices
Mammals	*Lasiurus borealis*	Eastern Red Bat	Riparian forest
Mammals	*Lasiurus cinereus*	Hoary Bat	Riparian and forest
Mammals	*Mustela nigripes*	Black-footed Ferret	Grasslands
Mammals	*Myotis lucifugus*	Little Brown Myotis	Generalist
Mammals	*Sorex merriami*	Merriam's Shrew	Sagebrush grassland
Mammals	*Sorex preblei*	Preble's Shrew	Sagebrush grassland
Mammals	*Vulpes velox*	Swift Fox	Grasslands
Birds	*Aechmophorus clarkii*	Clark's Grebe	Lakes, ponds, reservoirs
Birds	*Anthus spragueii*	Sprague's Pipit	Grasslands
Birds	*Aquila chrysaetos*	Golden Eagle	Grasslands
Birds	*Ardea herodias*	Great Blue Heron	Riparian forest
Birds	*Athene cunicularia*	Burrowing Owl	Grasslands
Birds	*Botaurus lentiginosus*	American Bittern	Wetlands
Birds	*Buteo regalis*	Ferruginous Hawk	Sagebrush grassland
Birds	*Calcarius ornatus*	Chestnut-collared Longspur	Grasslands
Birds	*Catharus fuscescens*	Veery	Riparian forest
Birds	*Centrocercus urophasianus*	Greater Sage-Grouse	Sagebrush
Birds	*Centronyx bairdii*	Baird's Sparrow	Grasslands
Birds	*Charadrius melodus*	Piping Plover	Prairie lakes, river shore
Birds	*Charadrius montanus*	Mountain Plover	Grasslands
Birds	*Chlidonias niger*	Black Tern	Wetlands
Birds	*Coccyzus americanus*	Yellow-billed Cuckoo	Prairie riparian forest
Birds	*Coccyzus erythropthalmus*	Black-billed Cuckoo	Riparian forest
Birds	*Dolichonyx oryzivorus*	Bobolink	Moist grasslands
Birds	*Gymnorhinus cyanocephalus*	Pinyon Jay	Open conifer forest
Birds	*Haemorhous cassinii*	Cassin's Finch	Drier conifer forest
Birds	*Himantopus mexicanus*	Black-necked Stilt	Wetlands
Birds	*Hydroprogne caspia*	Caspian Tern	Large rivers, lakes
Birds	*Lanius ludovicianus*	Loggerhead Shrike	Shrubland
Birds	*Leucophaeus pipixcan*	Franklin's Gull	Wetlands
Birds	*Melanerpes erythrocephalus*	Red-headed Woodpecker	Riparian forest
Birds	*Nucifraga columbiana*	Clark's Nutcracker	Conifer forest
Birds	*Numenius americanus*	Long-billed Curlew	Grasslands
Birds	*Nycticorax nycticorax*	Black-crowned Night-Heron	Wetlands
Birds	*Oreoscoptes montanus*	Sage Thrasher	Sagebrush
Birds	*Pelecanus erythrorhynchos*	American White Pelican	Lakes, ponds, reservoirs
Birds	*Pipilo chlorurus*	Green-tailed Towhee	Shrub woodland
Birds	*Plegadis chihi*	White-faced Ibis	Wetlands
Birds	*Podiceps auritus*	Horned Grebe	Wetlands
Birds	*Rhynchophanes mccownii*	McCown's Longspur	Grasslands
Birds	*Spizella breweri*	Brewer's Sparrow	Sagebrush
Birds	*Sterna forsteri*	Forster's Tern	Wetlands
Birds	*Sterna hirundo*	Common Tern	Large rivers, lakes

Reptiles	*Apalone spinifera*	Spiny Softshell	Prairie rivers & streams
Reptiles	*Chelydra serpentina*	Snapping Turtle	Prairie rivers and streams
Reptiles	*Heterodon nasicus*	Plains Hog-nosed Snake	Friable soils
Reptiles	*Lampropeltis gentilis*	Western Milksnake	Rock outcrops
Reptiles	*Phrynosoma hernandesi*	Greater Short-horned Lizard	Sandy / gravelly soils
Amphibian	*Anaxyrus cognatus*	Great Plains Toad	Wetlands, floodplain pools
Fish	*Chrosomus eos*	Northern Redbelly Dace	Small prairie rivers
Fish	*Chrosomus eos x Chrosomus neogaeus*	Northern Redbelly X Finescale Dace	Small prairie streams
Fish	*Cycleptus elongatus*	Blue Sucker	Large prairie rivers
Fish	*Etheostoma exile*	Iowa Darter	Small prairie rivers
Fish	*Macrhybopsis gelida*	Sturgeon Chub	Large prairie rivers
Fish	*Macrhybopsis meeki*	Sicklefin Chub	Large prairie rivers
Fish	*Margariscus nachtriebi*	Northern Pearl Dace	Small prairie streams
Fish	*Polyodon spathula*	Paddlefish	Large prairie rivers
Fish	*Sander canadensis*	Sauger	Large prairie rivers
Fish	*Scaphirhynchus albus*	Pallid Sturgeon	Large prairie rivers
Insects	*Erpetogomphus designatus*	Eastern Ringtail	Prairie rivers, warm springs

SECTION III: CONSERVATION ACTIVITY ANALYSIS

Education

Education is very important to Malta NRCS and all their associated partners. Conservation related workshops are continuously being offered to the public in Phillips County. Resource specialists in the area try to provide trainings for situations that arise in relation to natural resources. Historical events are too numerous to mention in this document. The Malta NRCS staff will continue to provide resources, equipment, expertise and training to area residents concerning natural resource issues and opportunities.

Natural Resources Conservation Service (NRCS)

NRCS in Phillips County utilizes a variety of different programs to achieve natural resource concern results in "helping people help the land". Between 2008 and 2018 programs utilized were: Cooperative Conservation Partnership Initiative (CCPI), Conservation Reserve Program (CRP), Conservation Stewardship Program (CSP), Emergency Conservation Program (ECP), Environmental Quality Incentives Program (EQIP), Grasslands Reserve Program (GRP), Prairie Pothole Wetland & Grasslands Retention Program (PPWGRP), Sage Grouse Initiative (SGI), Wildlife Habitat Incentives Program (WHIP) and Wetlands Reserve Program (WRP). In addition to these programs, general NRCS funds were also used to assist producers with basic technical assistance.

NRCS work in Phillips County has historically focused on meeting the needs of the Local Working Group's priority. The Local Work Group Priorities for Environmental Quality Incentives Program (EQIP) has shifted primarily between grazing land use and irrigation land use between 2008 and 2018. There remains a strong need and desire in Phillips County to prioritize grazing-related and irrigation-related projects. A total of 129 different EQIP or similar program contracts were written on a total of 329,232 acres during this timeframe. The Conservation Stewardship Program (CSP) contracts began in 2010 in Phillips County was the primary program used to address annual dryland cropland land use resource concerns, a total of 54 different CSP contracts between 2008 and 2018.

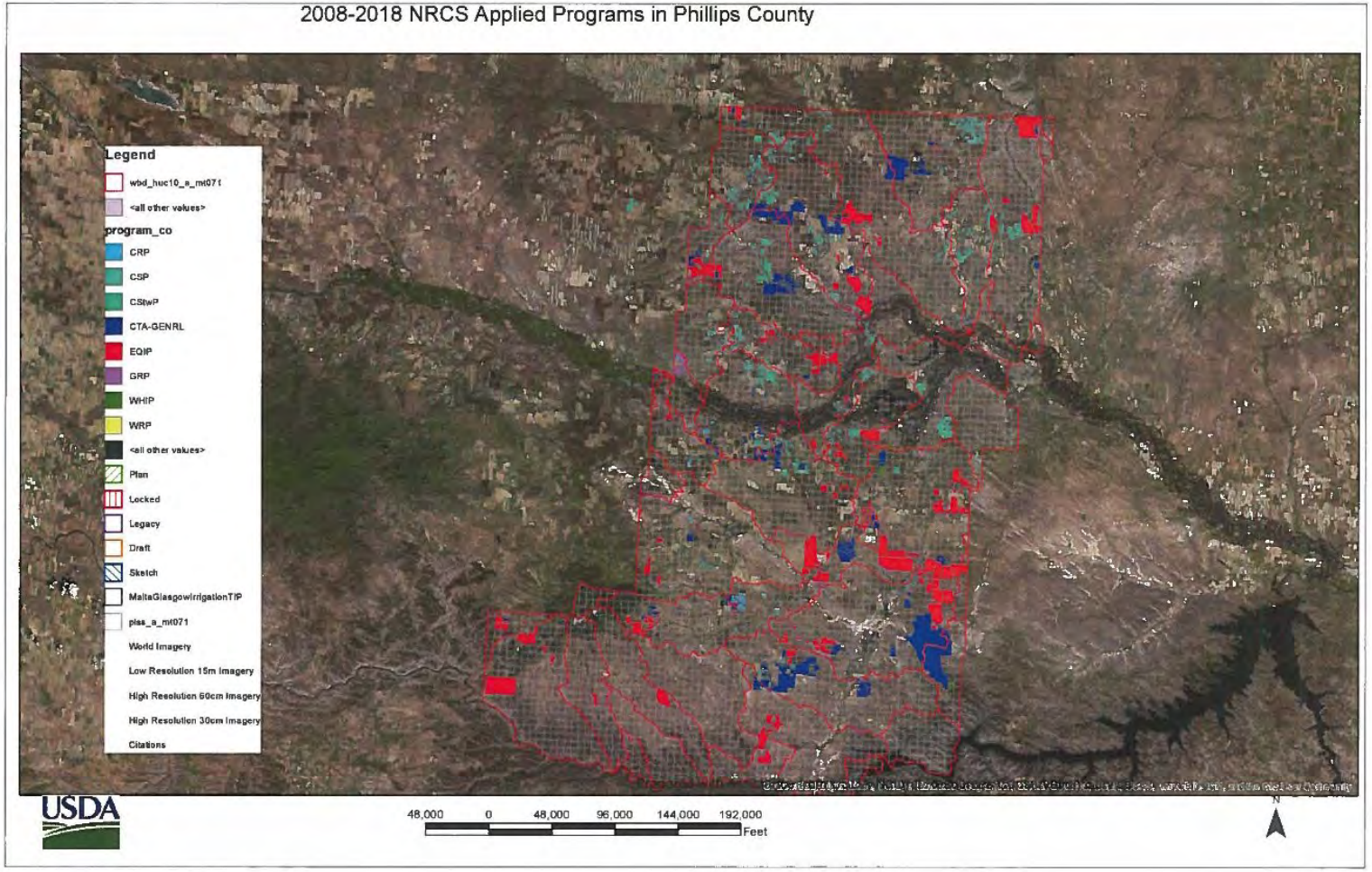
See Phillips County Map Showing NRCS Projects 2008-2018 Page 51

Between EQIP and CSP the primary resource concerns addressed between 2008-2018 were:

- SOIL erosion & condition
- WATER quality & quantity
- PLANT degraded condition
- ANIMALS livestock production limitation & fish & wildlife

More Detailed Resource Concerns Addressed Between 2008-2018 in Phillips County Below:

Soil Erosion—Gully or Concentrated Flow
Soil Erosion—Irrigation induced
Soil Erosion—Sheet, Rill & Wind Erosion
Soil Erosion—Excessive Bank Erosion from Streams Shorelines or Water Conveyance Channels
Soil Condition—Contaminants—Commercial Fertilizer K, N or P
Soil Condition—Contaminants—Residual Pesticides
Soil Condition—Contaminants—Salts & Other Chemicals
Soil Condition—Damage from Sediment Deposition
Soil Condition—Organic Matter Depletion
Soil Condition—Quality Degradation & Compaction
Water Quality Degradation—Excess Nutrients & Organics in Surface & Groundwater
Water Quality Degradation—Excess Pathogens & Chemicals from Manure, Bio Solids or Compost Applications
Water Quality Degradation—Harmful Levels of Pesticides Transported to Surface & Groundwater
Water Quality Degradation—Excessive Salinity in Surface & Groundwater
Water Quality Degradation—Excessive Suspended Sediment & Turbidity In Surface Water
Water Quality Degradation—Harmful Levels of Petroleum, Heavy Metals & Other Pollutants Transported to Surface & Groundwater
Water Quantity—Excessive Runoff, Flooding or Ponding
Water Quantity—Excessive Seepage
Water Quantity—Inefficient Water Use on Irrigated Land
Water Quantity—Insufficient Flows in Water Courses
Water Quantity—Reduced Capacity of Conveyances By Sediment Deposition
Degraded Plant Condition-Excessive Plant Pest Pressure/Noxious & Invasive Plants
Degraded Plant Condition—Inadequate Structure & Composition
Degraded Plant Condition—Plants not Adapted or Suited
Degraded Plant Condition—Wildfire Hazard
Degraded Plant Condition—Undesirable Plant Productivity & Health/Forage quality & Palatability
Livestock Production/Domestic Animals—Inadequate Quantities & Quality Feed & Forage
Livestock Production/Domestic Animals—Inadequate Stockwater
Livestock Production Limitation/Domestic Animals—Inadequate Shelter
Fish & Wildlife—Inadequate Cover/Shelter
Fish & Wildlife—Inadequate Food
Fish & Wildlife—Inadequate Water
Fish & Wildlife—Habitat Fragmentation
Fish & Wildlife--Inadequate Habitat/Habitat Degradation
Fish & Wildlife—Inadequate Habitat for T&E Species: Declining Species, Species of Concern


2008-2018 NRCS Applied Programs in Phillips County
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High Resolution 60cm Imagery
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Table Below: NRCS Implementation of commonly applied practices from 2008 to 2018.

Practice Name	Unit Type	Applied Amount
Upland Wildlife Habitat Management (645)	Ac	230,640
Prescribed Grazing (528)	Ac	194,048
Residue Management (329 & 345)	Ac	51,129
GPS, Targeted Spray Application (AIR07)	Ac	42,146
Integrated Pest Management (595)	Ac	25,640
Conservation Cover (327)	Ac	20,084
Nutrient Management (590)	Ac	16,970
Use Drift Nozzles, Low Pressures, etc. (AIR04)	Ac	14,494
Conservation Crop Rotation (328)	Ac	11,006
Access Control (472)	Ac	8,492
Herbaceous Weed Treatment (315)	Ac	4,760
Forage & Biomass Planting (512)	Ac	3,347
Cover Crop (340)	Ac	1,902
Salinity & Sodic Soil Management (610)	Ac	1,809
Range Planting (550)	Ac	1,627
Prescribed Burning (338)	Ac	1,424
Waste Recycling (633)	Ac	1,201
Irrigation Water Management (449)	Ac	810
Irrigation Land Leveling (464)	Ac	767
Grazing Land Mechanical Treatment (548)	Ac	710
Forage Harvest Management (511)	Ac	406
Wetland Wildlife Habitat Management (644)	Ac	108
Forest Stand Improvement (666)	Ac	98
Extend Existing Filter Strips For Water Quality (ANM04)	Ac	12
Vegetated Treatment Area (635)	Ac	4
Tree/Shrub Establishment (612)	Ac	3
Precision Land Forming (462)	Ac	2
Wetland Restoration (657)	Ac	1
High Tunnel System (325)	Ac	0.5
Structure For Water Control	Each	499
Watering Facility (614)	Each	165
Heavy Use Area Protection (561)	Each	54
Pumping Plant (533)	Each	31
Water Well (642)	Each	22
SPCC (Spill Prevention, Control & Countermeasure	Each	5
Pond (378)	Each	5
Structures for Wildlife (649)	Each	5
Waste Storage Facility (313)	Each	3
Spring Development (574)	Each	2
CNMP Plan (100)	Each	1
Fence (382)	Feet	625,180
Livestock Pipeline (516)	Feet	586,685
Irrigation Field Ditch (388)	Feet	60,345
Obstruction Removal (500) Primarily Old Fences	Feet	55,286
Diversion (362)	Feet	1,905
Surface Drain (607)	Feet	1,400
Access Road (560)	Feet	760
Firebreak (394)	Feet	500
Irrigation System Surface & Subsurface (443)	Feet	285
Underground Outlet (620)	Feet	236
Roof Runoff Structure (558)	Feet	72
Irrigation Pipeline (430)	Feet	66

The Conservation Reserve Program (CRP) has had a large impact in Phillips County between 2006 and 2018. Below is a table showing when CRP contracts are set to expire by calendar year and acres.

Phillips County Conservation Reserve Program Contract Expiration In Acres													
Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Acres	479	14717.9	9558.3	2569.3	8213.3	2182.7	11693	14619.7	0	539	1096.7	170.7	1858.3

The Grasslands Reserve Program (GRP) was offered in Phillips County only a few years 2006, 2009 and 2010. There was a vast amount of interest in the program, however only a total of six applications were funded in the county. One was a perpetual easement on 2524 acres. The others varied from a 15 to 20-year rental agreements with a total of 26916 acres. The program's purpose was to assist private land managers in protecting grazing uses and the related grassland values such as grassland-dependent plants and animals, soil erosion control and air or water quality protection.

USDA/NRCS Easements

See Map In Section II For Map of Phillips County Easements For More Information

Conservation easements are a conservation tool that is becoming more and more popular in Phillips County. Conservation easements are being utilized for a variety of reasons: to preserve grassland and/or wildlife habitat; to preserve family farm/ranch; and to expand family farm/ranches.

The Grassland Reserve Program (GRP) was offered in Phillips County in 2006, 2009 and 2010 only which was very popular it offered a 10 year, 15 year and 20 year contracts and permanent easements. Many applicants for the 10 to 20 year contracts were not funded primarily due to limited funding. In Phillips County in 2019 one permanent GRP easement (2437 acres), one 15-year contract and four 20 year contracts still exist.

The Wetland Reserve Program (WRP) was offered between 2011 and 2014 and during that time one WRP permanent easement was funded in Phillips County on 52 acres. The Wetlands Reserve Easements (WRE) program has been offered since 2015 and is growing in popularity in Phillips County every year. It is anticipated that several will be finalized in Fiscal Year 2020. The WRE requires landowners to protect, restore and enhance wetlands in exchange for retiring eligible land from agriculture. WRE offers permanent or 30-year easements, in addition reservation of grazing rights is an option under this program.

In addition, NRCS offers the Agricultural Conservation Easement Program (ACEP). The ACEP still requires a partner to arrange the purchase of development rights through conservation easements on private lands. That partner holds and manages the easements in perpetuity.

PARTNERS

Partners have always been important to conservation efforts for Malta NRCS. These long- term efforts to maintain good partnerships are key to NRCS Mission—"Helping People Help The Land". As more partner reports and links over time are provided to Malta NRCS they will be added to this document.

USFWS Bowdoin National Wildlife Refuge

FOR MORE DETAILED INFORMATION WEBSITE =https://www.fws.gov/refuge/bowdoin/

"US Fish and Wildlife Service Bowdoin National Wildlife Refuge (NWR) is located 7 miles east of Malta, in the Milk River Valley of north-central Montana. Established in 1936 to provide habitat for migrating, nesting, and feeding birds, the Refuge is home to more than 260 species of birds, 26 species of mammals, and a variety of reptiles, amphibians, and fish. Many of these wildlife species can be seen from the Refuges 15-mile auto tour loop.
Bowdoin NWR encompasses 15,551 acres, including more than 6,600 acres of wetlands. Refuge staff also manages Lake Thibadeau, Black Coulee, Creedman Coulee, and Hewitt Lake NWRs. In addition, Refuge staff administer Bowdoin Wetland Management District, which consists of seven waterfowl production areas and a variety of grassland and wetland. Major habitat types on the refuge include saline and freshwater wetlands, native prairie, introduced dense nesting cover and shrubs. In 2011 Bowdoin released a "Comprehensive Conservation Plan." This plan will guide management of the refuge for the next 15 years." Phillips County Growth Council 2013-2017

Department of Interior Bureau of Land Management

FOR MORE DETAILED INFORMATION WEBSITE = https://www.blm.gov/
The mission of the Bureau of Land Management (BLM) is to "sustain the health, diversity and productivity of the public lands for the use of enjoyment of present and future generations".

"The **Bureau of Land Management** (BLM) in Phillips County are guided by the approved Phillips Resource Area Resource Management Plan (RMP). The plan summarizes decisions that pertain to Phillips County from the Judith-Valley-Phillips RMP and final environmental impact statement. The RMP sets forth the land use decisions, or direction, on public lands for livestock grazing, vegetation/riparian, cultural resource and wildlife habitat management; natural resource development; rights-of-way actions, land tenure adjustments (selling, exchanging, and acquiring land); and recreation. According to the RMP, the public lands are available for multiple use management and uses. There are two grazing districts, North Phillips County Grazing District and South Phillips County Grazing District." Phillips County Growth Council 2013-2017

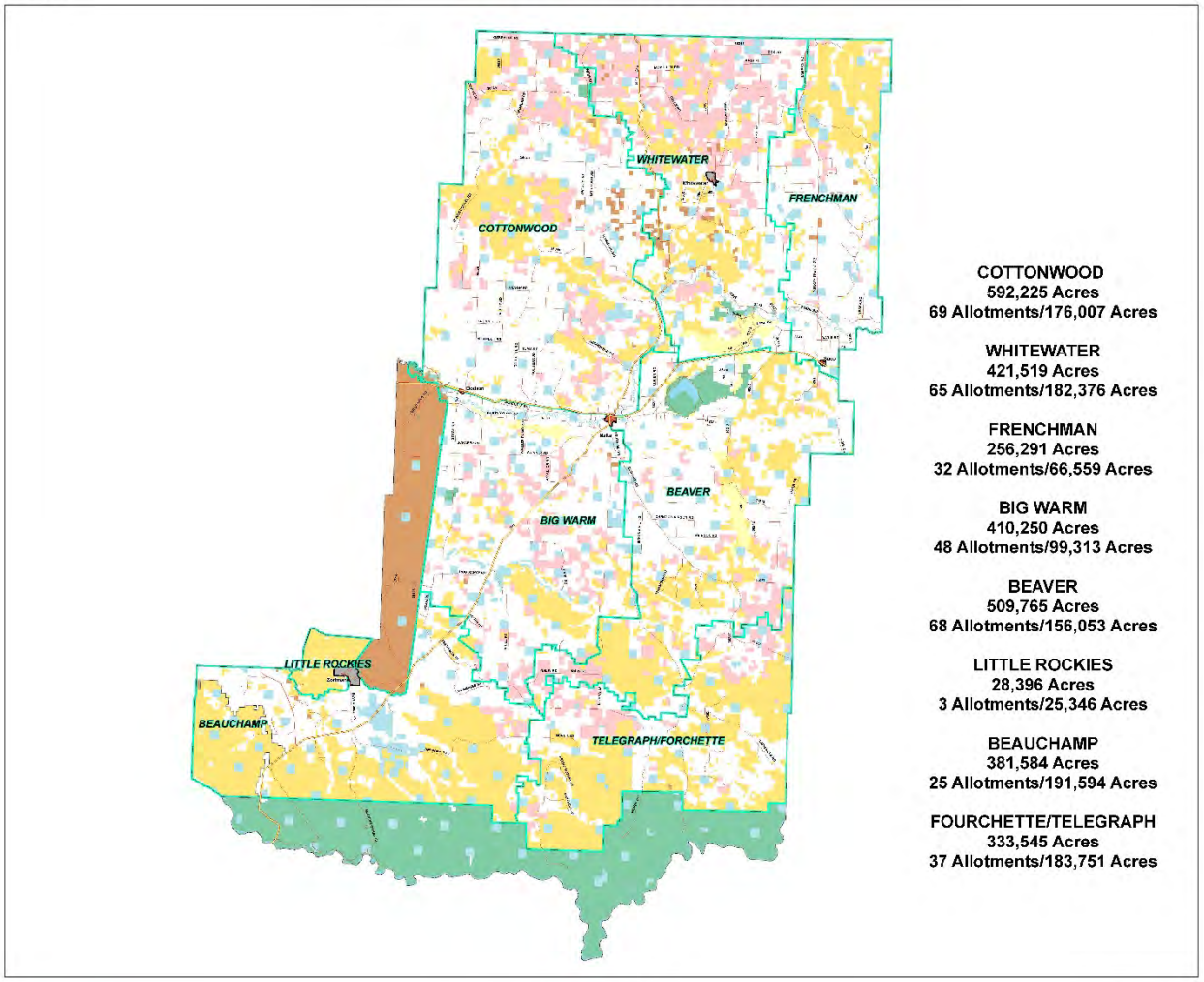
"The Upper Missouri River Breaks National Monument, established in 2001, is located in Southwestern Phillips County. 52,683 federally owned acres are included in the monument. While the BLM is the managing agency for these federal acres, the BLM has no jurisdiction over private or state land within the monument." Phillips County Growth Council 2013-2017

Locally, the BLM is managed by the Malta Field Office and their grazing permit renewal schedule rotates from watershed to watershed through seven to eight different watersheds. Generally, the field work is completed one year and within one to two years (depending on size of watershed and available staff to complete the work) the report is completed and within one year after the report the decision is completed.

See Phillips County BLM Map Showing Watersheds & General Allotment Information Below

WATERSHED MANAGEMENT UNITS
MALTA FIELD OFFICE

1:250,000



COTTONWOOD
592,225 Acres
69 Allotments/176,007 Acres

WHITEWATER
421,519 Acres
65 Allotments/182,376 Acres

FRENCHMAN
256,291 Acres
32 Allotments/66,559 Acres

BIG WARM
410,250 Acres
48 Allotments/99,313 Acres

BEAVER
509,765 Acres
68 Allotments/156,053 Acres

LITTLE ROCKIES
28,396 Acres
3 Allotments/25,346 Acres

BEAUCHAMP
381,584 Acres
25 Allotments/191,594 Acres

FOURCHETTE/TELEGRAPH
333,545 Acres
37 Allotments/183,751 Acres

1 inch equals 4 miles

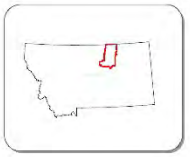
0 10 20 30 40 50 Kilometers

0 10 20 30 40 50 Miles

N
W E
S

Legend

- Highway
- Limited Access Highway
- Local Roads
- Ramps
- Cities
- Malta FO AOR
- Malta FO WMUs
- BIA - Indian Trust Lands
- BIA - Undetermined
- BLM
- BLM - Land Utilization
- BLM - Public Domain
- Bureau of Reclamation
- Corps of Engineers
- Dept. of Defense
- Dept. of Energy
- Local Government
- National Park Service
- Private
- Division of State Lands
- State Fish and Wildlife
- State Parks and Recreation
- US Fish and Wildlife Service
- US Forest Service
- USFS - National Grassland
- USDA
- WATER



Charles M. Russell (CMR) National Wildlife Refuge

FOR MORE DETAILED INFORMATION WEBSITE =https://www.fws.gov/refuge/charles_m_russell/

"Extending 125 airline miles up the Missouri River from Fort Peck Dam in north-central Montana, the Charles M. Russell National Wildlife Refuge contains approximately 1,100,000 acres, including the 245,000-acre Fort Peck Reservoir. Of the over 36,000 acres of State DNRC leases within the CMR boundary, 26,780 acres or 73% are held by individuals. There are also over 36,000 of privately held acres within the CMR boundary. The Refuge includes native prairies, forested coulees, river bottoms, and badlands so often portrayed in the paintings of Charlie Russell, the colorful western artist for whom the refuge is named. The historic use of the Charles M. Russell refuge is cattle grazing. There currently is a Comprehensive Conservation Plan (CCP) which is a 15 year plan for the refuge." Phillips County Growth Council 2013-2017

Charles M. Russell (CMR) National Wildlife Refuge Community Working Group

FOR MORE DETAILED INFORMATION WEBSITE = http://www.cmrcwg.org/ & http://missouririvercouncil.info/projects/cmr-community-working-group/

"The Charles M. Russell National Wildlife Refuge Community Working Group (CMR CWG) was formed to enhance and preserve the ecological, economic, and social well-being of the 6 counties (Fergus, Garfield, McCone, Petroleum, Phillips, and Valley) surrounding the Refuge. Participants in the group include agency representatives, landowners, grazing permittees, county commissioners, conservation districts, interest groups, and engaged citizens. The group has been meeting bi-monthly since July 2010, with the meeting location rotating through the 6 counties."

Montana Department of Natural Resources & Conservation

FOR MORE FOR MORE DETAILED INFORMATION = http://dnrc.mt.gov/

The **Montana Department of Natural Resources & Conservation** (DNRC) has several departments but the primary departments that Malta NRCS office works with is the Trust Land Management Department "The Trust Lands Management Division administers and manages the state trust timber, surface, and mineral resources for the benefit of the common schools and the other endowed institutions in Montana, under the direction of the **State Board of Land Commissioners**."

"The **Montana Department of Natural Resources & Conservation** (DNRC) manages the surface and mineral resources for the benefit of common schools and other endowed institutions in the State of Montana, under the direction of the State Board of Land Commissioners. The department's obligation for management and administration of Trust Land is to obtain the greatest benefit for the beneficiaries or schools. Divisions of the DNRC include Forest Management, Mineral Management, Agriculture and Grazing Management and Real Estate Management. The DNRC serves the Phillips County area from offices located in Glasgow. State lands on the Ft. Belknap Indian Reservation are served from Havre." Phillips County Growth Council 2013-2017

Ducks Unlimited

FOR MORE DETAILED INFORMATION WEBSITE = https://www.ducks.org/Montana & https://www.ducks.org/

The NRCS hosts two Ducks Unlimited (DU) Partner positions that assist with implementing USDA Farm Bill Programs in Phillips County one is located in Great Falls NRCS Area Office and one is located in Montana NRCS State office in Bozeman, Montana. The 2019 Report from DU can be read here: http://dustatesites.blob.core.windows.net/montana/documents/MT_2019_state%20report_F.pdf?sr=b&si=DNNFileManagerPolicy&sig=Ekjbe9%2Bbunp7qJZsgRC0M9b3YQCHkpEvcmAvk0Q6xbM%3D.

Since 1984, DU has been very active with completing projects that work towards their mission **"**Ducks Unlimited conserves, restores, and manages wetlands and associated habitats for North America's waterfowl. These habitats also benefit other wildlife and people." *See Map Below:*

Manager of Conservation Programs for Montana DU provided the following comments in relation to Phillips County NRCS Long Range Plan on October 15, 2019:

"Ducks Unlimited (DU) has been active on Montana's Hi-Line since 1984. In that time over 91,129 acres have been delivered in Phillips County by DU and our conservation partners. Phillips County is DU's highest priority landscape in Montana. Montana is ranked third in waterfowl production in the Lower 48 with the majority of the waterfowl breeding habitat in the state being located along Montana's Hi-Line.

DU delivers two basic types of conservation projects. ***Restoration/Enhancement*** *projects include wetland restoration and creation as well as development of livestock infrastructure in associated grasslands such as fencing, stock water and grass seeding.* ***Protection*** *projects include fee title purchases, conservation easements and term leases of wetlands and associated grasslands. Combined, these approaches offer producers multiple options for keeping grasslands and wetlands on the landscape while improving ranch profitability, soil health, water quality, groundwater recharge and flood abatement.*

The Natural Resources Conservation Service has a unique opportunity to further conservation efforts in Phillips County. Few places in Montana support as wide a diversity of wildlife species as does Montana's Hi-Line. Waterfowl along with declining grassland species such as sage grouse, Sprague's Pipit, longspurs and others are supported by critical habitat found in Phillips County. Conservation partners including the US Fish and Wildlife Service, Montana FWP, The Nature Conservancy and others are focused on Phillips County and in providing programs and tools that encourage producers to adopt conservation practices that perpetuate existing grasslands and wetlands, improve management on grasslands and croplands with high wetland densities and restore grasslands and wetlands on marginal crop ground.

Long-term agricultural trends demonstrate the need for programs that support grass-based agriculture and allow operators to convert marginal crop ground back to grasslands. Demand for such programs are high in Phillips County as reflected by demands for programs such as PPWGRP, EQIP, WRE, ALE, CRP and others. The relative stability of grass-based operations and relatively lower annual input costs of ranching as compared to farming have influenced many producers to transition to an increasing percentage of grassland as compared to crop ground in their operations.

DU recommends that NRCS place a strong emphasis on providing:

1) *Programs that support existing grass-based operations such as ALE, WRE and EQIP.*
2) *Programs that take lower quality ground out of row crop agriculture and return those lands to grass cover and livestock production.*
3) *Programs that restore, enhance and protect wetland habitat with prairie pothole wetlands as the highest priority.*
4) *Programs that provide incentives to improve soil health including cover crops.*
5) *Investing in the above programs to enhance wildlife habitat values in priority areas such as those highlighted by the Duck Breeding Pair Density (Thunderstorm Map). "*

Fort Belknap Indian Tribe

FOR MORE DETAILED INFORMATION WEBSITE = **https://ftbelknap.org/**
FOR COPY OF ARMP = https://img1.wsimg.com/blobby/go/d94bfdb9-dd85-49bd-94c2-4822ef04bf3b/downloads/Agricultural%20Resource%20Management%20Plan.pdf?ver=1574882825966

The Fort Belknap Reservation is physically located in Phillips and Blaine Counties with XXX acres located in Phillips County. The Fort Belknap Indian Community (FBIC) Tribal Council completed an agricultural resource management plan (ARMP) in January 2018. The Tribe has identified goals for each natural resource and outlined a series of alternatives for management. While the plan focuses on lands and resources it also incorporates social service and human concerns. The plan also serves to define policies and processes that will guide future resource management on the Reservation. This ARMP is critical to guide NRCS planning efforts.

The Fort Belknap Indian Reservation (Reservation) is home to the FBIC (i.e., members of the Gros Ventre and Assiniboine Tribes [Tribes]), is predominately rural and agricultural activities are the prevailing land use. The United States (U.S.) Bureau of Indian Affairs (BIA) Fort Belknap Agency, under the direction of the FBIC Tribal Council, developed this ARMP which guides the Tribe in respect to natural resources.

Malta Irrigation District

Malta Irrigation District (MID) is a local government unit that manages the US Bureau of Reclamation Project in their area whose purpose is to provide a source of water to contracted users in Phillips County. The lands are primarily flood irrigated by the use of the Dodson Dam functioning as the local diversion along with the North Dodson, South Dodson, Nelson and Bowdoin Canals. The District is managed by a board of directors elected by the consumers within the District. MID was created in 1924 according to "An Inventory of Montana Irrigation Projects" which was written in 1932 (http://arc.lib.montana.edu/msu-extension/objects/ext1-000165.pdf).
The Milk River Project Irrigation Districts consist of Alfalfa Valley, Dodson, Ft Belknap, Glasgow, Harlem, Malta Paradise Valley and Zurich. Together they irrigate approximately 110,000 acres of land with the MID having 44,528 of these acres. The MID works closely with the Joint Board of Control to establish the seasonal water allotment based on forecasted water supply conditions. Refer to The Milk River International Lifeline of the Hi-Line A Guidebook for more information: https://archive.org/details/milkriverinterna19milk.

Milk River Watershed Alliance

FOR MORE DETAILED INFORMATION WEBSITE = https://milkriverwatershedalliance.com/
The mission for "The Milk River Watershed Alliance (MRWA) is a locally led organization of conservation districts working together to preserve, protect and enhance natural resources within the Milk River Watershed, while maintaining the quality of life."

Refer to the following website link to view a brief educational video about the Milk River Watershed **https://milkriverwatershedalliance.com/educational-video-project/ .**
The Malta NRCS office has been a technical advisor for this watershed group and it's predecessor the Milk River International Alliance since the foundation of both groups.

Missouri River Conservation Districts Council

FOR MORE DETAILED INFORMATION WEBSITE = http://missouririvercouncil.info/
The Missouri River Conservation Districts Council (MRCDC) is focuses on being "Devoted to conservation of the Missouri River's natural resources through grassroots collaboration, education, incentives, and voluntary action."

"The Missouri River Corridor extends for 725 miles across Montana passing through the 14 counties and 15 conservation districts that form the Missouri River Conservation Districts Council. Each of the 15 conservation districts in the Missouri River Corridor has one supervisor as a voting member of the Council. Conservation Districts, through public elections, represent local residents' views and concerns regarding natural resources – giving this Council a true grassroots perspective of Missouri River issues. The river corridor is divided into reaches that contain unique geographic, social and economic features that create conservation priorities for the region."

See Map Below Showing the Member Conservation Districts & Their Respective Reaches

"The Reservoir Reach includes Phillips, Valley, Garfield, and Petroleum counties and is home to some of the largest features along the river – the Fort Peck Dam, which is the largest hydraulically filled dam in the U.S.; the Fort Peck reservoir, which provides 25% of the storage for the largest reservoir system in the U.S.; and the Charles M. Russell National Wildlife Refuge, the 2nd largest National Wildlife Refuge in the continental United States." Links to the local conservation districts associated with MRCDC:

Garfield County Conservation District
Petroleum County Conservation District
Phillips County Conservation District
Valley County Conservation District

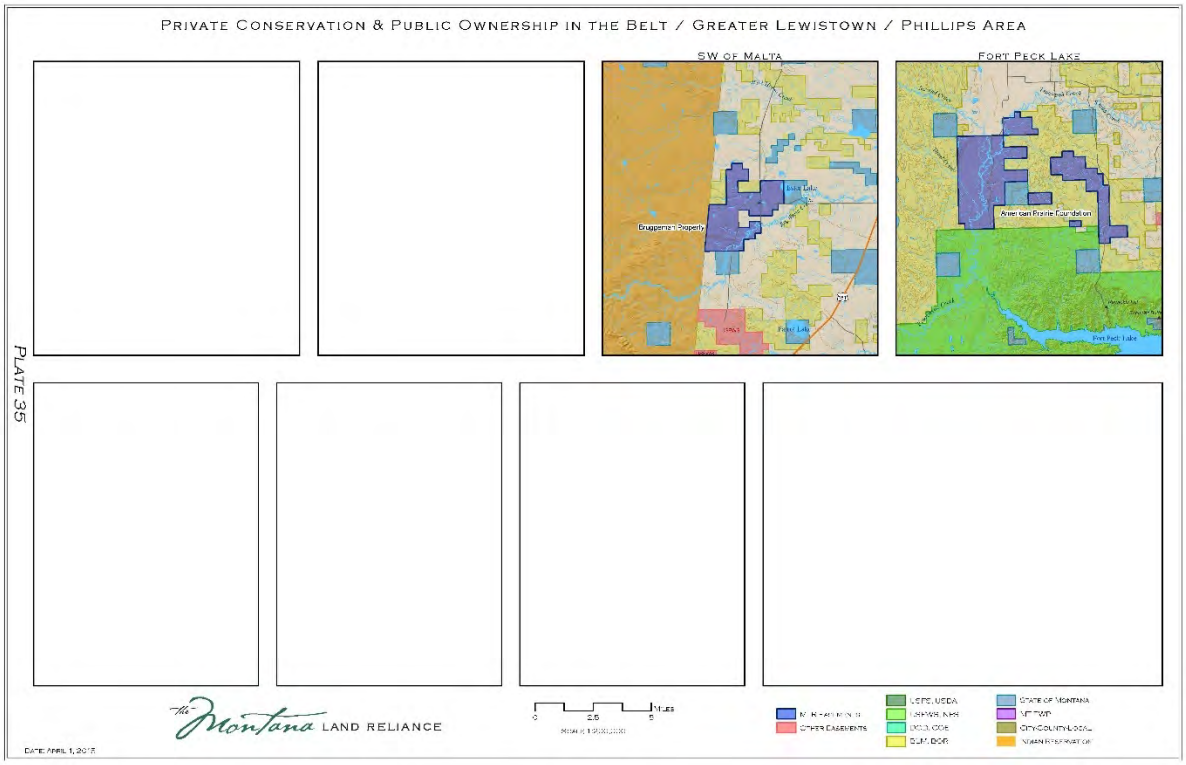
See the following link for list of recent project accomplishments:
http://missouririvercouncil.info/projects/.

Montana Land Reliance

FOR MORE DETAILED INFORMATION WEBSITE= http://mtlandreliance.org/

See Map In Section II For Map of Phillips County Easements For More Information

The mission statement for the Montana Land Reliance (MLR) "partners with private landowners to permanently protect agricultural lands, fish and wildlife habitat, and open space." In regard to MLR and NRCS in Phillips County in 2019, the primary partnering has been through the ALE Easement Program. See Map Below showing 2019 MLR Sponsored Easements. ***See Map Below Originally Copied from mtlandreliance.org and modified to show Phillips County Applicable Acres Only***



National Wildlife Federation

FOR MORE DETAILED INFORMATION WEBSITE = https://www.nwf.org/Northern-Rockies-and-Pacific-Region
FOR MORE DETAILED INFORMATION WEBSITE = http://www.pronghornxing.org/

The mission of the National Wildlife Federation (NWF) is "Uniting all Americans to ensure wildlife thrive in a rapidly changing world". Andrew Jakes, Regional Wildlife Biologist reported the following: "When I say 'we' I mean either my collaborative research team at University of Montana (first group) or National Wildlife Federation (second group):

- Over last 5-10 years I have created migratory pathway predictions for pronghorn antelope along with connectivity models to identify high priority areas for potential mitigation. (a couple of peer reviewed papers)
- We have tested various wildlife friendlier fence recommendations for pronghorn, mule deer, white tailed deer, elk, livestock (cattle) and currently are completed our third set of trials. (a couple of peer reviewed papers)
- We have assessed migratory pathway overlap between pronghorn and sage grouse and looked at areas, based on risk assessment of conversion, where conservation easements may be an effective tool for management. (a peer-reviewed paper)
- Soon, we will be submitting a peer review paper to identify the priority areas based on grassland bird, waterfowl, pronghorn and sage-grouse seasonal ranges and migratory movements.
- We have been assessing the impact of HWY 2 on connectivity with MDOT funding and look to mitigate in relation to various fence densities
- We have launched a citizen-science smartphone application to track wildlife-road use www.pronghornxing.org
- We are doing riparian restoration efforts on BLM lands using low-cost solutions (i.e. beaver dam analogs and Zeedyck structures).
- We are working with Rancher's Stewardship Alliance to put funding on the ground to do implementation projects using a targeting approach."

Pheasants Forever

FOR MORE DETAILED INFORMATION WEBSITE = http://www.montanapf.org/ & https://pheasantsforever.org/

Pheasants Forever (PF) mission is "dedicated to the conservation of pheasants, quail and other wildlife through habitat improvements, public awareness, education, and land management policies and programs". The NRCS hosts a PF Partner position located in our neighboring Blaine County, where this position does spend a considerable amount of time promoting conservation activities in Phillips County. The focus of this partner employee is creating and maintaining habitat for bird species along the Hi-Line, primarily in Blaine, Hill and Phillips Counties. An small example of activities this partner position includes can be read here: https://www.pfwebsites.org/chapter/montanapforg/news/2018%20Q4%20MT%20FBB%20Summary.pdf . In addition a specific project that PF has been involved in Phillips County can be read here: http://www.montanapf.org/projects/beaver-creek/.

The Phillips Conservation District

FOR MORE DETAILED INFORMATION WEBSITE = **https://phillipsconservationdistrict.com/**
FOR MORE DETAILED INFORMATION FACEBOOK = **https://www.facebook.com/phillipsconservationdistrict**
The Phillips Conservation District (PCD) has a long history of community outreach and natural resources conservation efforts that has been amplified in recent years. Currently PCD has several programs for community members to participate in including outreach events such as annual Malta Ag Day Booth, annual Phillips County Fair booth, community speakers, and school outreach programs. PCD also tries to offset some costs for producers in Phillips County to implement conservation projects by providing use of tree planter, fabric layer and irrigation sensors/monitors and trees/shrubs available for a discounted cost.

One of PCD's longest running outreach events is 4th Grade annual tree giveaway, which was started decades ago. At this event students from around Phillips County learn about tree planting methods and why it is important. PCD is always looking for ways to educate Phillips County residents about anything related to natural resources, new in 2019 was a "Soil Health Mini Series" where Patti Armbrister and other soil health specialists provided soil health related workshops in the county monthly.

Phillips County Weed District

FOR MORE DETAILED INFORMATION WEBSITE = **https://www.mtweed.org/weeds/weed-districts/**
FOR MORE DETAILED INFORMATION MT NOXIOUS WEED MANAGEMENT PLAN UPDATED 2017 =
https://agr.mt.gov/Portals/168/Documents/Weeds/MT%20Noxious%20Weed%20Management%20Plan-%20Update%202017.pdf?ver=2017-07-05-161511-370&timestamp=1575067595781

"Phillips County has a Noxious Weed Control Department located in Malta that provides noxious weed control for the entire county. The Weed Department is responsible for the control and eradication of all Montana State listed noxious weeds within the county. The weed department also contracts with the Montana Department of Transportation to provide noxious weed control along US Highway 2 and US Highway 191. The Weed Department has one-person full time employee and has three seasonal part time employees. The Weed Department is overseen by a Weed Board made up of Phillips County residents." Phillips County Growth Council 2013-2017

According to the Montana Noxious Weed Management Plan which was updated 2017 the following noxious weeds were found in Montana:

Appendix C: Montana Noxious Weed Infested Acres

Acres in Montana Infested with Noxious Weeds 2016	
Spotted Knapweed	2,227,010
Canada Thistle	1,411,060
Leafy Spurge	781,916
St. Johnswort	698,355
Houndstongue	541,581
Field Bindweed	529,206
Orange Hawkweed	513,041
Tansy Ragwort	300,691
Whitetop or hoary cress	279,208
Dalmatian Toadflax	187,764
Ox-eye Daisy	173,277
Sulfur (Erect) Cinquefoil	152,262
Hoary Alyssum	121,531
Yellow Toadflax	68,681
Russian Knapweed	66,540
Common Tansy	65,880
Saltcedar	62,168
Tall Buttercup	34,321
Curlyleaf Pondweed	13,813
Meadow Hawkweed Complex	11,661
Diffuse Knapweed	10,402
Blueweed	8,864
Perennial Pepperweed	3,812
Eurasian Watermilfoil	3,397
Rush Skeletonweed	3,287
Yellowflag Iris	2,864
Knotweed Complex	750
Flowering Rush	750
Purple Loosestrife	384
Scotch Broom	152
Dyer's Woad	11
Common Reed	9
Yellow Starthistle	<1
TOTAL ACRES INFESTED WITH NOXIOUS WEEDS IN 2016	**8,274,648**

According to Malta NRCS knowledge in 2019 the following weeds have been found in Phillips County: Spotted Knapweed, Canada Thistle, Leafy Spurge, Houndstongue, Field Bindweed, Whitetop, Russian Knapweed, Saltcedar, and Diffuse Knapweed. Some of these weeds are more predominant in specific portions of Phillips County.

Rancher's Stewardship Alliance

FOR MORE DETAILED INFORMATION WEBSITE = http://ranchstewards.org/

The Malta NRCS office has been a technical advisor for this Phillips County locally rancher-led group since its inception in 2003. Since then, Rancher's Stewardship Alliance (RSA) leaders have worked alongside professional consensus builders, technical experts, business people, and staff of agencies and conservation groups to develop strategies to meet the needs of wildlife while also protecting ranching traditions". RSA's mission is "ranching, conservation, communities---a winning team!", and they strive "to promote the ecological, social and economic conditions that will sustain the biodiversity and integrity of America's northern mixed-grass prairie for present and future generations". A short list of their accomplishments can be read here: http://ranchstewards.org/accomplishment/.

A successful NFWF Northern Great Plains grant in 2017 allowed the Ranchers Stewardship Alliance (RSA) to form a Conservation Committee with diverse partner organizations, including the US Fish and Wildlife Service, Montana Fish Wildlife, and Parks, the Nature Conservancy, World Wildlife Fund, Montana Rangeland Partnership, Pheasants Forever, and Soil and Water Conservation Districts of Montana (Sage Grouse Initiative) and the Bureau of Land Management. Led by the ranching community, this partnership has been successfully coordinating and delivering grassland enhancement and restoration projects in Blaine, Phillips and Valley counties. Upon completion of all active projects, RSA will have restored 10,000 ac of cropland back to grassland and implemented grazing systems on 12,000 ac of expiring CRP to date. Many additional projects are in the development phases, pending funding.

USFWS Partners Program

FOR MORE DETAILED INFORMATION WEBSITE =
https://www.fws.gov/mountain-prairie/refuges/montanaPFW.php
FOR MORE DETAILED INFORMATION = Montana 2017-2021 Report
https://www.fws.gov/mountain-prairie/refuges/partnersPDFs/MTPFW%20SP2017-2021.pdf

See Map In Section II For Map of Phillips County Easements For More Information

The USFWS Partners Program is very active in Phillips County. One of their goals is to assist private landowners to restore wetlands and riparian habitat by offering technical and financial assistance. The Phillips County USFWS Partners for Wildlife Program in Montana falls within two different focus areas, the Northern Grasslands Focus Area (primarily in northern portion of Phillips County) and the Glaciated Plains Focus Area (primarily in southern portion of Phillips County). In both USFWS focus areas in Phillips County the Tier 1 Focal Species are: Sprague's Pipit, Baird's Sparrow, McCown's Longspur, Chestnut-Collared Longspur, Greater Sage Grouse, Northern Pintail, Mallard and Northern Shoveler. USFWS Partners Program offers a variety of cost share programs for habitat restoration and enhancement for these focal species on private land in Phillips County.

The Nature Conservancy

FOR MORE DETAILED INFORMATION WEBSITE =
https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/matador-ranch/
See Map In Section II For Map of Phillips County Easements For More Information

The Nature Conservancy (TNC) purchased the Matador Ranch (~ 60,000 acres) in Southern Phillips County in 2000 with the intent of conserving native prairie wildlife in the Glaciated Plains of north-central Montana.

TNC's Matador Ranch is the site where they pioneered the "grassbank" program along with local ranchers which began in 2002. Refer to TNC website link for more information related to TNC's grassbank program on this ranch.

TNC actively started in 2018 working on Candidate Conservation Agreements with Assurances (CCAA) with local landowners. This is a voluntary agreement designed to maintain and enhance habitats to help protects the following grassland birds: Greater sage grouse, chestnut-collared longspur, Baird's sparrow, McCown's longspur and Sprague's pipit. As of December 2019, TNC has over 77,410 acres enrolled in the CCAA program in Phillips County.

Additionally, The Nature Conservancy works on conserving grasslands through perpetual conservation easements in Phillips and Valley County. TNC also works on research and monitoring on the Matador Ranch and holds an annual Science Symposium at the Matador.

As of October 9, 2019 below is a quick summary of TNC's accomplishments for Phillips County:

	Acres Under Approved Management Plan	Sage-grouse
Grassbank Ranches	124240	78402
Matador	31087	13253
Total	155327	91655

TNC protection acres are as follows for Phillips County:

2010-2015 -- 6,802 acres in conservation easements

2016-2019 – 4,340 acres fee purchase – to be sold

2016-2019 -- 1,560 acres in easements

SECTION IV: NATURAL RESOUCE PROBLEMS AND DESIRED FUTURE OUTCOMES

Phillips County Local Working Group 2020

On February 11, 2020 the Phillips County Local Working Group (LWG) (See Section V of this Long-Range Plan for more details) was conveyed in order to further focus and prioritize resource concerns in the county. (See Section V of this Long-Range Plan for more details) NRCS provided zoomed in geographical region maps, splitting Phillips County into six different areas (North Phillips, Frenchman, Milk River West, Milk River East, Central Phillips and South Phillips). The group then began to identify land usage and resource concerns within each geographical region and prioritized them in the following order:

1) range/pasture
    a. geographical region: North & Central Phillips
        i. resource concerns:
            1. overgrazing/distribution-water & fence/rotational grazing
            2. noxious weeds
            3. plant composition

2) irrigated cropland/hay
    a. geographical region: Milk River East
        i. resource concerns:
            1. inefficient use of water (need for pivot, land-leveling)
            2. seepage from canal (MRWA irrigation studies help?)

3) dryland cropland.
    a. geographical region: North Phillips
        i. resource concerns:
            1. soil erosion—wind/water
            2. soil quality/diversity
            3. weeds

Phillips County Local Working Group 2019

On May 14, 2019 the Phillips County Local Working Group (LWG) (See Section V of this Long-Range Plan for more details) was conveyed in order to identify and prioritize resource concerns in the county. The group prioritized WATER QUALITY AND WATER QUANTITY (identified as similar resource concerns) on irrigated land use as the top resource concern, inadequate LIVESTOCK WATER on all land uses range/pasture and cropland as the second resource concern and tied for third was degraded plant health and vigor causing an increase in INVASIVE (weeds and animal pests) species on all land uses and a need for improved GRAZING MANAGEMENT on grazing lands (range/pasture).

Throughout 2019 the Malta Field Office has met with partners and evaluated resource developed by partnering entities. Following this in-depth analysis, the Malta Field Office has highlighted some of the most pressing natural resource issues in Phillips County.

Priority Resource Concern # 1: "Water Quality and Quantity" as defined by the LWG

Water quality and quantity are often over-lapping resource concerns. In Phillips County, water quality issues can be exacerbated as a result of irrigation and agricultural-related use.

Irrigation Land Use NRCS Resource Concerns Identified:

Primary = Water Quantity--Inefficient Water Use on Irrigated Land
Primary = Water Quantity—Excessive Runoff, Flooding & Ponding
Primary = Water Quality Degradation--Excessive Sediment in Surface Waters
Other = Water Quantity—Excessive Seepage
Other = Water Quantity---Inefficient Flows in Water Courses
Other = Water Quantity—Reduced Capacity of Conveyances by Sediment Deposition
Other = Water Quality Degradation—Harmful Levels of Total Dissolved Solids in Surface Water
Other = Water Quality Degradation—Excessive Salinity
Other = Water Quality Degradation---Excess Pathogens & Chemicals from Manure

Water quality and quantity are often over-lapping resource concerns. Inefficient use of irrigation water is a major concern affecting both the quality and quantity of water available in rivers, streams and waterbodies.

Irrigation is fundamental to agriculture in Phillips County and in particular the Milk River and the Frenchman Creek drainages. The Malta Irrigation District operates the irrigation delivery system for acreage associated with Malta and Dodson Irrigation Districts. This system is antiquated and in need of vast infrastructure improvements. Areas in particular need of improvement include updating water delivery conveyances to be more efficient; converting from open ditch to pipeline to reduce system losses and/or bank loss; reducing inefficient level of fields to reduce excessive erosion, runoff, flooding, ponding, seepage and salinity and improved water drains to reduce inefficient water runoff and/or bank erosion. Other management considerations that could be improved are water measurement alternatives for flow and soil moisture, along with developing a more cooperative coordinative water delivery arrangement to the field level would also be a benefit. On-farm improvements are also needed throughout the system. Currently there remains significant wild-flood irrigation on which could benefit from graded border or flood-to-sprinkler conversion. Improving irrigation efficiency and/or upgrading irrigation type may be worthwhile in many cases. Improvements should focus on maximizing efficiency while eliminating off-site movement of water, nutrients and sediments. Working with partners to address multiple resource benefits is a key goal of the Malta NRCS.

Irrigation water in Phillips County can be affected by moss problems due to the turbidity of the irrigation water. Moss can plug irrigation equipment, the Malta/Dodson Irritation Districts try to mitigate this problem by shutting off the lateral canals (moderate size canals that feed field ditches) and the North Dodson Canal once during the irrigation season—generally around July 4th. Irrigation tailwater leaving crop fields can have issues with sediment and nutrient levels, which can be caused by intensive tillage practices, inefficient irrigation structures, lack of irrigation water management, and/or lack of nutrient management.

Priority Resource Concern # 1: "Water Quality and Quantity" as defined by the LWG continued:

On May 8, 2018 and again on May 14, 2019, the Natural Resource Conservation Service (NRCS) and the Phillips County local working group members identified irrigation water quality and quantity a major resource concern for the county. In 2018 the Montana Department of Environmental Quality (DEQ) Water Quality report indicated that this segment of the Milk River had stream bank structure and vegetation alterations, mercury and nitrate issues associated with irrigation. Water Quantity in this semiarid country is always a concern because it is dependent on snow and rain run off to supply the Milk River and thus the irrigation system. Based on these resource concerns the Milk River Irrigation Project was recognized as a strategic area to improve water quantity and quality for future agricultural use.

This resource concern has a direct effect on irrigators in the Dodson Irrigation District, Malta Irrigation District and Frenchman Water Users Irrigation District and other irrigators in Phillips County. Whereas, it has an indirect affect to many ranchers in the surrounding area as the hay produced from this irrigation generally feeds livestock during the winter months.

The Dodson and Malta Irrigation Districts in conjunction with US Bureau of Reclamation are always looking for economical alternatives to improve this resource concern, however financial restrictions limit the amount of improvements they can make annually.

The Joint Board of Control and the St. Mary's Rehabilitation Group organize the overall water delivery to the Irrigation Districts within the Milk River system.

The Department of Natural Resources & Conservation and Frenchman Water Users for the Frenchman Creek are working to improve this resource concern, however financial restrictions limit the amount of improvements they can make annually.

The NRCS between 2008 and 2018 addressed the "inefficient water use on irrigated land" on 810 acres.

Priority Resource Concern # 2 = "Stockwater"

All Land Uses Related NRCS Resource Concern Identified:

Primary = Livestock Production Limitation—Inadequate Livestock Water

Other = Inadequate Habitat for Fish & Wildlife—Inadequate Water Quantity & Water Quality to Meet Requirements of Identified Birds, Fish or Wildlife

Other = Inadequate Habitat for Fish & Wildlife—Inadequate Habitat/Habitat Degradation (conversion of grasslands to cropland leads to loss of habitat)

Water quantity and quality are two of the most limiting factors for grazing lands utilization, as both are needed to safely manage livestock.

Throughout Phillips County ranchers utilize surface water such as ponds/dams to water livestock during the growing season. Historically, climatic and soil conditions were favorable for a surface water type of livestock watering source. Also, historically, groundwater drilling rigs wouldn't be able to drill deep enough to hit the Judith River Formation efficiently. Surface livestock water promotes livestock to concentrate close to existing surface waters (riparian and mesic areas) and reducing grassland health through hoof action and plant overuse in those areas. Many of these ponds/dams are marginal as they depend on heavy rains, snowmelt for supply of water to meet livestock and wildlife needs. This causes land managers to leave gates open and not allow plant recovery in the more reliable surface water pastures so that the animals have access to reliable water. In addition, dry weather and soils types in the county can cause Total Dissolved Solids to reach toxic levels for livestock in surface water.

Scattered throughout Phillips County are scattered groundwater wells ranging in depth. (See Table 3 Below) This data came from 2019-2020 Phillips County Geology Report 12-11-19 by Kari Scannella MT NRCS State Geologist. Historically groundwater wells were developed for homesteads and ultimately expanded to improve livestock water supply and distribution among private ranches. These groundwater wells are invaluable to ensure livestock have sufficient water year-round and to make possible the ability to rotate season of grazing use and allow proper recovery times for grazed grasses. Developing groundwater wells can help preserve the integrity of the surface waters and provide good quality stockwater.

See *2019-2020 Phillips County Geology Report 12-11-19 By Kari Scannella MT NRCS State Geologist for more information.*

Table 3 – Summary of wells in each formation, based on specific depth intervals

Formation	< 100 ft	101-300 ft	301-500 ft	501-1,000 ft	1,001 – 4,000ft
Alluvium	380 of 415	35 of 415	0	0	0
Glacial Drift	165 of 177	11 of 177	0	0	0
Judith River Formation	49 of 396	146 of 396	91 of 396	99 of 396	6 of 396
Eagle Formation	2 of 8	3 of 8	1 of 8	0	2 of 8
Kootenai Formation	4 of 8	3 of 8	0	0	1 of 8

Priority Resource Concern # 2 = "Stockwater" continued:

Water quality in these groundwater wells vary, but many have issues with higher levels of salts, nitrates, iron and sulfur—with the most common contaminant being iron. Fortunately, overall the Total Dissolved Solids in the groundwater wells generally do not exceed levels that livestock can tolerate.

Partner efforts to address water quality concerns have centered around the Phillips Conservation District. The District has purchased four water meters that livestock producers can use to quickly measure water quality to screen for potential poisoning issues. The meters measure total dissolved solids, percentage of salts, and conductivity. These tests can give a baseline of information to decide if further testing is needed. The district has also hosted educational workshops on water quality for livestock with the assistance of SWCDM, Phillips County Extension and Partners for Fish and Wildlife.

Partners for Fish and Wildlife and The Nature Conservancy have implemented a few in stream projects to address water quality as well as wildlife and riparian habitat.

In recent years, the SWCDM Partner Conservationist has been monitoring water quality tests with the help of landowners along Beaver creek in South Phillips county.

Local efforts through NRCS have utilized various conservation programs to help ranchers develop improved stockwater and improve distribution of stockwater. Between 2008 and 2018, there was 22 new water wells, 118 miles of pipeline and 165 water tanks installed in Phillips County on range or pasture acres.

There continues to be a need to address this resource concern in Phillips County. If these acres are not treated range and pasture health, plant vigor and production will continue to decline. This will result in a large economic loss for ranch operations due to increased cost to provide forage to animals and lack of drought resilience.

Partners in the region that have helped treat this resource concern are USFWS, MTFWP, TNC, RSA, DU, PF, SCDWM, PC District, NWF, WWF, and MT Aquatic. Partners are interested in making ranches sustainable to improve habitat.

Dryland Crop Land Use Related NRCS Resource Concern Identified:

Primary = Soil Condition---Soil Health Degradation & Compaction

With a typical 10-14" precipitation range on most of the dry cropland in Phillips County, water quantity can be a limiting factor in crop productivity. Ensuring adequate residue cover on the soil surface, improving water infiltration and overall soil health are good methods for conserving soil moisture. Inadequate livestock water infrastructure to graze livestock on dry cropland is also a concern.

Priority Resource Concern Tied For # 3 = "Grazing Management" as defined by LWG

All Land Uses NRCS Resource Concerns Identified for Plant Health:

Primary = Degraded Plant Condition—Undesirable Plant Productivity & Health
Primary = Degraded Plant Condition—Excessive Plant Pest Pressure
Primary = Livestock Production Limitation---Inadequate Feed & Forage
Other = Inadequate Habitat for Fish & Wildlife—Food, Cover/Shelter and Fragmentation

Irrigation Related

Most of the primary use for irrigated cropland in Phillips County is to raise hay for the livestock in the county. There is approximately 10 percent of the irrigated acreage that is utilized solely for annual grazing of livestock, primarily cattle with a few sheep. Typically, after the hay is harvested and the growing season is over, the irrigated hay fields are grazed by livestock. As winter progresses and the hay aftermath grazed, excessive utilization and/or trampling on hayfields diminishes plant health.

Due to the nature of irrigation practices, the likelihood of spreading invasive noxious weeds is a higher. The poorer the grazing management the more likely the noxious weeds will take hold. However, noxious weeds even with the best grazing management practices, can get a start. Consistent monitoring for prevention is essential. Common noxious weeds are field bindweed (aka morning glory or creeping jenny) and Canada thistle. The Milk River and Peoples Creek also have a significant amount of leafy spurge and a little Russian knapweed. Beaver Creek has a significant amount of houndstongue on the upper reaches and some Russian knapweed on the mid-reach areas.

Other invasive weeds that can be found on irrigated land in Phillips County is musk thistle and burdock.

Irrigation fields in Phillips County are a popular place for "gophers" otherwise known as Richardson ground squirrel to invade. Flood irrigation helps control "gophers", so in areas that do not flood irrigate effectively there is a higher likelihood these "gophers" will prevail. In recent years, other invaders such as voles are increasing, especially in the sandier soil fields.

Range/Pasture Related

Overall range/pasture in Phillips County has a low percentage of noxious weeds. Agriculture producers and conservation specialists are constantly on the lookout for noxious weeds. This diligence has been the key to keep this land use relatively weed free. However, invasive winter annual grasses, such as cheatgrass and Japanese brome are becoming a problem on rangeland and have had significant impacts on forage quality and quantity as they have replaced native perennial grasses and forbs. Occasionally the following noxious weeds can be found on pasture and range acres: Spotted Knapweed, Leafy Spurge, Canada thistle, field bindweed, whitetop, saltcedar and houndstongue.

Lack of species diversity in pastures and in particular expiring CRP stands do not produce the forage quality and quantity needed for livestock and wildlife demand. Degraded stands are also more susceptible to annual grass invasion. Re-seeding, weed management and intensive grazing

Priority Resource Concern Tied For # 3 = "Grazing Management" as defined by LWG continued:

are options for renovation. Irrigated pasture occurs throughout the county. Most of the hayfields are grazed after haying.

Surface livestock water promotes livestock to concentrate close to existing surface water (riparian areas) and reducing grassland health through hoof action and plant overuse in those areas close to viable water. This type of grazing management can also cause under use in areas furthest from water. Plants directly adjacent to water do not have enough time to recover and without reliable livestock water adequately distributed throughout pastures there will be a gradual deterioration of range/pasture health overtime. Adequate livestock water can improve riparian area and livestock health; coupled with cross fencing could improve grazing management to increase recovery times for plant growth. The development of new livestock water alternatives can help mitigate grazing distribution issues and riparian health issues. Invasive noxious weeds such as spotted knapweed and houndstongue are a significant problem in the Little Rockies area. With this mountain area being the headwaters of many of the smaller creeks in Phillips County these weeds are a significant threat for downstream range/pasture acres. Also, in the Missouri River corridor there is a significant amount of the noxious weed, saltcedar, which has been found to spread to remote surface watering holes in Southern Phillips County—likely spread by wildlife.

Failure to address this resource concern will continue to promote undesirable plant productivity and health but at such a slow rate that the urgency for action is masked by gradual deterioration of the resource overtime and could result in an increased cost to provide forage to animals. Partners in the region that have helped treat this resource concern are USFWS, MTFWP, TNC, RSA, DU, PF, SCDWM, PC District, NWF, WWF, and MT Aquatic. Partners are interested in making ranches sustainable to improve habitat.

Cropland Related Operations in Phillips County that contain both cropland and grazing lands rely heavily on cropland aftermath for grazing AUMs. The primary annual dryland crop rotation is spring wheat/fallow rotation with approximately 50 percent of these acres being grazed by cattle after harvest and during the fallow years. In regard to "grazing management" the cropland aftermath grazing provides approximately 0.1 AUM/acre according to the Bridger Plant Materials Center. There is room for improvement on utilizing these acres to assist with "grazing management", such as cover crops in lieu of fallow, planting cropland back to perennial vegetation, changing crop varieties and or crop rotation alterations. The addition of a more diversified crop rotation, along with cover crops in lieu of fallow allows for more "grazing management" alternatives for land managers. By diversifying crop rotation and adding cover crops, land managers could also improve their overall soil health.

At the present time, there is a large amount of dryland crop acres that are still in permanent vegetation due to the fact they were in the Conservation Reserve Program (CRP) program for at least ten years. Much of this acreage does not have grazing related infrastructure set up to keep this land in permanent vegetation, such as livestock watering and fences. With Phillips County being prime habitat for grassland birds and ducks, these acres are at high risk for conversion back to annual dryland crop production, therefore this is a wildlife habitat concern.

Priority Resource Concern Tied For # 3 = "Invasives" as defined by LWG

All Land Uses NRCS Resource Concerns Identified for Plant Health:

Primary = Degraded Plant Condition—Undesirable Plant Productivity & Health
Primary = Degraded Plant Condition—Excessive Plant Pest Pressure
Other = Livestock Production Limitation---Inadequate Feed & Forage
Other = Inadequate Habitat for Fish & Wildlife—Food, Cover/Shelter and Fragmentation

Weeds (Invasive Species)

Weeds are a constant natural resource issue in Phillips County. The type of weeds and density of each species within the county is more information than will be discussed in this document. However, the generalized plan of action for land managers and Phillips County Weed District includes five major components. These components are: 1) prevention of introductions into non-infested sites; 2) early detection and rapid response of newly invading species; 3) implementation of best management practices for species that are widely established; 4) inventory weed populations and monitor and evaluate results to measure progress toward goals; and 5) public awareness, education and outreach. It is well known by most land managers in Phillips County that management of noxious weeds and protection and restoration of habitats are critical issues. Aggressively targeting new threats is a cornerstone of any active weed management plan and is a high priority for focusing resources whenever possible.

Widely spread Montana Noxious Weeds in Phillips County are field bindweed (morning-glory, creeping jenny) and Canada thistle.

Common Montana Noxious Weeds by geographical areas in Phillips County are:

- leafy spurge & Russian knapweed along the Milk River and mid-regions of Beaver Creek
- spotted knapweed & houndstongue in Little Rockies
- saltcedar along Missouri River
- houndstongue along upper reaches of Beaver Creek
- leafy spurge along parts of Frenchman Creek
- leafy spurge much of the Dodson Creek & People's Creek
- leafy spurge along old railroad right-away in Northern Phillips County
- whitetop is another noxious weed that is in an occasional site in Phillips County and was likely brought in by hay or transportation.

Other nuisance weeds scattered throughout Phillips County are cheatgrass, Japanese brome and yellow sweetclover. Scattered throughout waterways are Garrison creeping foxtail, burdock, and Russian Olive. Hawksbeard is becoming an issue on annual crop fields.

Common locations in Phillips County that need to be monitored regularly for new infestations of weeds are roadways, railroad and waterways. The most common way for noxious weeds to spread in Phillips County is from hunters that swarm the landscape every fall with their vehicles that transfer weed seeds from afar. The next most common way is by water carrying weed seeds downstream. Finally, the abundant wildlife in Phillips County also transport weed seeds.

Priority Resource Concern Tied For # 3 = "Invasives" as defined by LWG continued:

Conifer Encroachment
Ponderosa pine encroachment in the Larb Hills has led to decreased livestock and wildlife forage opportunities in the private and public forest lands while increasing the wildfire risk.

Animal Pests
Irrigation fields in Phillips County are a popular place for "gophers", otherwise known as Richardson's ground squirrel, to occur. Flood irrigation helps control "gophers". In recent years, other animals such as voles are increasing, especially in the sandier soil fields. These pests are damaging to desired vegetation, which allows for an opportunity for invasive plants to take hold.

Other NRCS Resource Concerns Identified for Animals on All Land Uses
Animal related resource concerns often overlap with other resource concerns related to soil, water and plants. Many animal concerns have been listed in previous resource concerns, others related are:

NRCS Resource Concern Identified:

Livestock Production Limitation---Inadequate Livestock Shelter
Inadequate Habitat for Fish & Wildlife—HABITAT CONTINUITY is Inadequate to Meet Requirements Of Identified Fish Wildlife Or Invertebrate Species
Inadequate Habitat for Fish & Wildlife—Quantity, Quality of FOOD is Inadequate to Meet Requirements Of Identified Fish Wildlife Or Invertebrate Species
Inadequate Habitat for Fish & Wildlife—COVER/SHELTER is Inadequate to Meet Requirements Of Identified Fish Wildlife Or Invertebrate Species

Irrigation
The biggest resource concern in relation to animals (livestock and wildlife) and irrigation in Phillips County, is they all depend on irrigation water benefits for forage. This combined with the aging infrastructures for irrigation the animals are directly affected. What happens to the animals in the area if one the major irrigation infrastructures catastrophically fail? With the short growing season and long winters, the animals (livestock and wildlife) depend on annual forage reserves to survive every winter. Therefore, the animals will be negatively impacted in the event of a catastrophic failure the larger infrastructures. The livestock will not have enough available forage to survive in Phillips County and subsequently the same for wildlife.

Other concerns in relation to irrigation are: declining pollinator health and reduced habitat attributed to pesticide use and weed control measures is an increasing public concern. Cash crops grown in the valley rely on pollination. There are some leaf cutter bee businesses as well as apiaries for honey production. Alternatives for seeding unusable production areas for pollinator friendly forb mixes are often presented but not always chosen.

Tail water and/or deep percolated irrigation water for ground water recharge may contain agriculture induced products such as increased salt levels, extra nutrients etc.; however, it is significant for many fish species that require cooler water, especially later in the summer season. This is sometimes a lesser recognized ecological benefit of flood irrigation. Many amphibian species utilize irrigation ditches and laterals throughout the irrigation season.

Other NRCS Resource Concerns Identified for Animals on All Land Uses continued:

Range/Pasture

Inadequate feed and forage for livestock and wildlife seems to be the largest issue for animals in Phillips County. Sometimes this is accelerated by inadequate livestock water distribution among grazing units. Phillips County is in the "General Sage Grouse" habitat and much of the southern portion of the county is considered to be in the "Core Sage Grouse" area. See Sage Grouse Core vs General Map on Page 33 of Section II

Phillips County has some of the most intact grasslands in Montana with 42 percent of the county being considered range or pasture which consists of mixed grass prairie, sagebrush steppe, or other intact communities (MT NHP Environmental Summary). Large intact tracts of grasslands in Phillips county provide ecologically significant habitat for the 47 species of concern as well as other priority species. Sage Grouse, Sprague's Pipit, McCown's Longspur, Baird's Sparrow, Chestnut Collared Longspur, Swift Fox, Pronghorn, Mule Deer, Elk, Upland Birds, and Waterfowl populations all rely on intact grassland communities and are important species to Phillips county for many reasons, including economic, aesthetic, cultural and other values. Conserving or enhancing this habitat involves grazing rotations focusing on forb diversity, sage brush cover, riparian/mesic area health and of course overall rangeland health measures.

Big Game migration corridors and winter range have received national attention with the Secretary of the Interior's secretarial order 3362. This order directs the need to conserve migration corridors and winter range for Mule deer, Pronghorn, and Elk. Phillips County has mapped winter ranges for all three big game species (MT FWP state action Plan), as well as some of the most important connectivity corridors and migration corridors for Pronghorn migration (Jakes 2015) (Tack) (MT FWP). Big game species are vitally important to Phillips County for several factors including economic, aesthetic, and cultural importance. Winter Range and Migration corridors rely on intact and healthy grasslands. Increases in fragmentation, loss of perennial grassland cover, increase in fences, and degradation of rangeland can be primary drivers impacting winter range and migration (MT FWP state action plan). Maintaining or improving this habitat involves rangeland management, conifer encroachment treatment, and noxious weed control.

North Phillips County has some of the highest waterfowl pair densities in the state. Due to high wetland density and intact grassland this region is vitally important to Pintail, Northern Shoveler, Blue Wing Teal, Gadwal, Mallard, and Widgeon.

Fragmentation of intact rangeland and degradation of western rangeland are primary drivers of population declines and habitat loss in grassland birds (Brennan et al. 2005), Sage Grouse (Connely et al.), Pronghorn (Poor et al. 2012), and other grassland obligate species. Keeping grasslands intact, grassland restoration, and improving grazing management are necessary to ensure priority wildlife species maintain healthy populations into the long term. Fragmentation is a concern in Phillips County. Producers, Government agencies, NGO's, and other partners are invested in keeping these wildlife species on the landscape and future work in the area should reflect that interest.

Other NRCS Resource Concerns Identified for Animals on All Land Uses continued:

Feral pigs are a concern on the horizon. Just north of Phillips County in Canada a growing population is on the verge of making it into the United States. Current distribution in Saskatchewan just north of Blaine, Phillips and Valley Counties and known rapid reproduction of feral hogs warrants awareness and action (Brook and Beest 2014). Action may need to be taken to prevent the spread and destruction of this invasive species in the future.

Pollinator populations and Pearl Dace Minnow populations are additional wildlife species that are of county importance. Conservation of these species is important to the county.

Cropland

The primary annual dryland crop rotation is spring wheat/fallow rotation with approximately 50 percent of these acres are grazed by cattle after harvest and during the fallow years. This type crop rotation does not provide a vast amount of food or shelter for wildlife species in the area.

Education

Long and short-term goals in relation to all the natural resource concerns listed in this Section IV of the Long-Range Plan is to assist or provide any educational events such as technical workshops, targeted presentations and one-on-one training. It is a priority for the Malta NRCS office to secure assistance in these educational activities whenever economically possible. In 2019, Phillips Conservation District has been the lead on providing Soil Health workshops related to gardening, cropland and range and surface water quality. Whereas, in 2019 the Ranchers Stewardship Alliance has taken the lead on providing economics and cattle handling workshops.

SECTION V: PRIORITZATION OF NATURAL RESOURCE & DESIRED FUTURE OUTCOMES

Section V. Prioritization of Natural Resource Problems and Desired Outcomes

This section provides the details of the public scoping process to assist in determining top natural resource concerns for Phillips County and Malta NRCS to focus on in the near future. The Malta NRCS office with assistance from the Phillips Conservation District hosted two different Local Work Group Meetings in Malta on May 14, 2019 and again on February 11, 2020 in order to comply with the Montana NRCS Focused Conservation requirements. Refer to Section V and Appendix C for more information on the 2020 Phillips County Local Work Group information gathering process as of March 1, 2020. NRCS will further continue efforts in prioritized geographical areas desired outcomes, it is anticipated at this time that the desired future out comes will be similar to those discussed in 2019.

Refer to Appendix B1-B4 for reference on 2019 Phillips County Local Work Group information gathering process. In addition to Local Work Group Meeting in 2019, a 2019 Phillips County Local Working Group Questionnaire was distributed throughout 2019 to approximately a hundred different interested individuals ranging from agriculture producers to government agencies to non-profit organizations.

The May 14, 2019 Local Work Group Meeting found that the top natural resource priorities are as follows:

 # 1 Priority "Water Quantity & Water Quality"

Land Use = Primarily Irrigated Lands Secondary Range/Pasture

 # 2 Priority "Stockwater"

Land Use = All Range, Pasture & Cropland

Tied # 3 Priority "Invasive Species"

Invasive = Weeds, Animal Pests & Conifer Encroachment On Grazing Lands

Land Use = All Range, Pasture, Cropland & Irrigated

Tied # 3 Priority "Grazing Management"

Land Use = All Range, Pasture, Cropland & Irrigated

 # 4 Priority "Soil Health"

Land Use = Primarily Cropland Secondary Range, Pasture & Irrigated

 # 5 Priority "Conifer Encroachment"

Land Use = Range & Forest

The Phillips County Local Working Group Questionnaire Results between January and October 2019 are as follows:

A total of twelve questionnaires were turned into Malta NRCS in 2019, in general the results align with what the Local Work Group meeting attendees came up with for priorities. Below summarizes each of the questionnaires with each number representing a different questionnaire that was completed by interested parties.

1) Priority 1 = Irrigation Related
    a. Land Leveling, Ditch, Ditch Lining, Gated Pipe & Turnouts

   Priority 2 = Cropland
    a. Continuous cover (512 & 550 Plantings)
    b. Broadleaf weed control

   Priority 3 = Wildlife

    a. Tree Plantings
    b. Wetland Restoration

   Priority 4 = Grazing Lands

    a. Permanent Fence

   TIP Idea = Extend flat bottom ditches

   Location = NE Malta just East of Milk River ~5 Mile from Malta

2) No Priority Given Between Land Uses
   Grazing Lands
    a) Priority 1 = Livestock Water Developments
    b) Priority 1 = Weed Control
    c) Priority 2 = Fencing

   Irrigated Lands

    a) Priority 1 = Land leveling, ditch, flood irrigation, eliminate cut ditches, improve drains, improve water delivery
    b) Priority 2 = Move delivery to decrease riparian/river erosion

   Cropland

    a) Priority 1 = Weed Control
    b) Priority 2 = Residue management, saline seep, livestock water developments, wind erosion, nutrient management

   Wildlife

    a) Grass plantings

   Location = Sun Prairie to First Creek Areas in Southern Phillips County

3) Priority 1 = Irrigation Related
    a. Flood, land leveling ditch, sprinkler

Priority 2 = Grazing Related

    a. Weed Control, Livestock Water Developments, Permanent Fencing

Priority 3 = Cropland

    a. Weed Control, continuous cover/crop rotation & residue management

Priority 4 -= Wildlife

    a. Grass & tree plantings

TIP Idea = Flood dikes & dams fix to hold water---

    --clean out to hold water for cattle and hay fields

TIP Idea = Dikes & Dams ---fix where the flood waters have wrecked—hold water we get

TIP Idea = Weed Control---something that will really kill—planned products

TIP Idea = Reseeding/Planting = grass, hayland or trees

    To help stop buying so much feed for cattle

TIP Idea = Education---Learning & Advice---with &/or from NRCS employees

Location = Cottonwood Creek Area North Malta

4) Priority 1 = Irrigation Related
    a. Flood irrigation dikes & dams

Priority 2 = Weed Control

    a. Land Use=Irrigation, Cropland & Grazing

Priority 3 = Reseeding

TIP Idea = Flood Irrigation Dikes & Dams

TIP Idea = Objective to Help Hay Fields

Location = Cottonwood Creek Area North Malta

5) Priority 1 = Grazing Related
    a. Livestock Water Developments
    b. Well/Spring Pipeline & Tanks
    c. Off-site water tank/solar pump/water

Priority 2 = Cropland Related

a. Weed Control (Canada thistle, resistant kochia), Cover Crop & Planting Annual Cropland Back to Perennial vegetation

TIP Idea = Water development/water preservation See KELLNSolar.com for example of off-site water from pond/dam

a. Objective to increase months of year to utilize water & increase riparian areas

Location = Phillips County Wide (Producer lives in Loring Area)

6) Priority 1 = Irrigation Related

a. Irrigation conveyance Pipe in vicinity of Beaver Creek is at a catastrophic level & needs updated due to excessive flooding & age of old pipe

TIP Idea = To replace conveyance pipe & figure out if there is a better location/structure for delivering irrigation water to two producers.

Location = West of Saco adjacent to Beaver Creek

7 & 8) Priority 1 = Irrigation Related

a. Irrigation land leveling, field ditch, checks, turnouts & gated pipe to eliminate need for cutting ditches

Priority 2 = Livestock water Developments

a. Well/spring, pipeline & tanks

TIP Idea = Irrigation practice updates to use less water and fuel

TIP Idea = Livestock water –winter water for longer grazing options

Location = North Saco just south of Frenchman Dam area Part of Frenchman Water Users Association

9 & 10) Priority 1 = Grazing Related

a. Conifer Encroachment into Grasslands in Larb Hills Area is reducing grassland acres for livestock and elk grazing.

TIP Idea = Utilize Brush Management & forest stand improvement NRCS practices to reduce the expansion of conifer species to preserve livestock grazing and wildlife habitat.

11) TIP Idea = Plant cover crops in Phillips County See Below:

TIP PROJECT RECOMMENDATION – COVER CROPS

Conservation District: Phillips

Natural Resource Issue: Planting cover crops to improve soil health, reduce erosion, reduce chemical inputs, provide grazing opportunities and increase wildlife habitat benefits.

Narrative: Cover crops are increasingly accepted by the farming community across the Northern Great Plains as an option to improve soil health, reduce fertilizer and chemical inputs, reduce erosion, increase forage for livestock and improve wildlife forage. Use of cover crops in Phillips County is limited and part of this program will seek to identify the best cover crop species to plant, the best timing of planting and impacts on soil moisture,

and estimating reductions in use of fertilizer, herbicides and pesticides. Ducks Unlimited and the US Fish and Wildlife Service will be implementing a cover crop demonstration project in 2019-20 targeting crop ground in and adjacent to areas of high wetland densities in Phillips and Blaine Counties. A 50% cost-share on seed will be offered to introduce select producers to using cover crops.

Potential Projects: North Phillips County landowners including …… INCLUDE MAP)

Objective of Priority Project: Build soil health, reduce erosion and provide alternative livestock grazing opportunities during regular fallow periods in crop ground near high wetland density areas.

Time Frame: Projects can be initiated upon availability of funding. Cover crop plantings will likely occur in spring or fall depending on soil moisture. Projects will be completed in a two year time frame.

Estimated cost: Project is scalable depending on funding availability. Estimated cost for cover crop seed is $20 per acre depending on seed mix. Landowner cost share includes 50% of seed cost and 100% of planting costs. EXPAND? Overall cost is estimated at $20,000-$50,000 and is scalable pending funding availability.

Potential Partners:

- Ducks Unlimited (includes cost share)
- U.S. Fish and Wildlife Service (includes cost share)
- Private Landowners (includes cost share)
- Cinnabar Foundation (grant pending)

Project Lead: Ducks Unlimited

Next Steps:

- Identify specific landowners and parcels
- Identify cover crop seed mixes
- Refine cost estimates
- Identify match sources and amounts

12) TIP idea = Restore marginal CRP to pasture & grazing infrastructure

TIP PROJECT RECOMMENDATION

Conservation District: Phillips

Natural Resource Issue: Maintaining expired CRP lands in perennial cover and converting marginal crop ground to pasture to enhance livestock grazing opportunities, improve soil health, reduce erosion, reduce dependence on crop insurance and provide wildlife habitat benefits.

Narrative: Approximately 1.6 million acres of CRP contracts have expired in eastern Montana since 2006. Many of these acres are on what was formerly relatively poor row crop ground. A strong interest exists on the part of producers to maintain these acres in grass for livestock grazing, however, infrastructure such as fencing and stock water does not exist on many of these parcels. Additionally, many producers in Phillips County are exploring options for converting low quality crop ground to grass pasture. Grass seed, livestock fencing and/or stock watering facilities will be needed to facilitate livestock grazing.

Potential Projects: Southern Phillips County adjacent to upper reaches of Beaver Creek ….INCLUDE MAP

Objective of Priority Project: Restore marginal crop ground to pasture via grass and forb seedings and provide grazing infrastructure as needed.

Time Frame: Projects can be initiated upon availability of funding. Grass plantings will likely occur in spring or fall depending on soil moisture. Projects will be completed in a two year time frame.

Estimated cost: Project is scalable depending on funding availability. Estimated cost for grass seeding is $$$$$ per acre. Fencing is estimated at $2 per linear foot. EXPAND Overall cost is estimated at $100,000.

Potential Partners:

- Ranchers Stewardship Alliance
- Ducks Unlimited (includes cost share)
- U.S. Fish and Wildlife Service (includes cost share)
- Private Landowners (includes cost share)

Project Lead: Ducks Unlimited

Next Steps:

- Identify specific landowners and parcels
- Identify work to be accomplished
- Refine cost estimates
- Identify match sources and amounts

SECTION V---APPENDIX B

Appendix B1 Local Working Group Advertisement 2019

Phillips County Local Working Group Advertisement 2019 – The Phillips Conservation District and the Malta NRCS promoted the Phillips County Local Work Group public meeting on May 14, 2019 in the local Phillips County News (the Phillips County News mails directly to 626 Phillips County residents and they estimated approximately a total of 1700 papers are distributed weekly [Email 11-19-19]) and the local radio station KMMR with the following Public Service Announcement:

Phillips County Local Work Group Meeting ---May 14th 9am until Noon @ Phillips County Library Basement

Local Work Group Meetings are a valuable part of the NRCS planning process, providing an opportunity for agricultural producers, partner conservation organizations, and local land managers to be part of a collaborative effort to improve natural resources within our county.

The purpose of the 2019 Local Work Group Meeting is to gather information in for the Long-Range Plan (LRP). The Natural Resource Conservation Service (NRCS) and the Phillips Conservation District will use this information to decide which natural resource concerns need the most attention in next few years. This meeting will help shape plans and prioritize future projects that may prove beneficial to you.

In recent years, the Montana NRCS has focused their Environmental Quality Incentives Program (EQIP) on Area and Statewide resource concern priorities. This meant that a local producer would have to compete for funding with all other producer's in the area/state to get their project approved for NRCS funding. In the future, the Montana NRCS will focus EQIP and other programs on Targeted Implementation Plans (TIP) that must be based on a LRP.

Your participation is very important! You have been invited to the Local Work Group meeting on May 14 from 9 to Noon at the Phillips County Library basement to submit your priority resource concerns for Phillips County. In addition, you will be asked to submit any project ideas (these ideas may eventually become a TIP) to assist in solving Phillips Counties identified natural resource concerns.

The decisions made by the Local Working Group will guide the direction of conservation efforts and NRCS program funding within Phillips County in future years. This is YOUR opportunity to influence what will be the focus of natural resource conservation in the coming years.

Your OPINION MATTERS! In the event you cannot attend the Local Work Group meeting on May 14th, be sure to contact either Shilo Messerly, Malta Field Office NRCS District Conservationist or Jenifer Anderson, Phillips Conservation District Administrator ASAP to get a simple worksheet to write down your ideas related to this matter. *Shilo Messerly shilo.messerly@mt.usda.gov 406-654-1334 x 104 Jenifer Anderson phillipsconservationdistrict@gmail.com 406-654-1334 x 3*

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Appendix B1 Local Working Group Advertisement 2019

The flyer below was dispersed starting in March 2019 throughout Phillips County and neighboring county businesses and organizations for public display and on the Phillips Conservation District Facebook page to encourage attendance:

USDA
United States Department of Agriculture
Natural Resources Conservation Service

Phillips County Local Working Group Meeting

Local Working Group Meetings are a valuable part of the NRCS planning process, providing an opportunity for agricultural producers, partner conservation organizations, and local land managers to be part of a collaborative effort to improve natural resources within our county.

You Are Invited:

- ✓ Review performance of the past year's projects.
- ✓ Help shape plans and prioritize future projects.
- ✓ Connect with partners and new audiences to seek opportunities to leverage partnership funds.
- ✓ Learn about other NRCS programs which may prove beneficial to you.

Natural Resources Conservation Service

mt.nrcs.usda.gov > MT Focused Conservation

WHERE:
Phillips County Library Basement

DATE:
Tuesday, May 14, 2019

TIME:
9:00 am - 12:00 pm

Contact:
Shilo Messerly
406-654-1334 x 104
shilo.messerly@mt.usda.gov
Jenifer Anderson
406-654-4262
phillipsconservationdistrict@gmail.com

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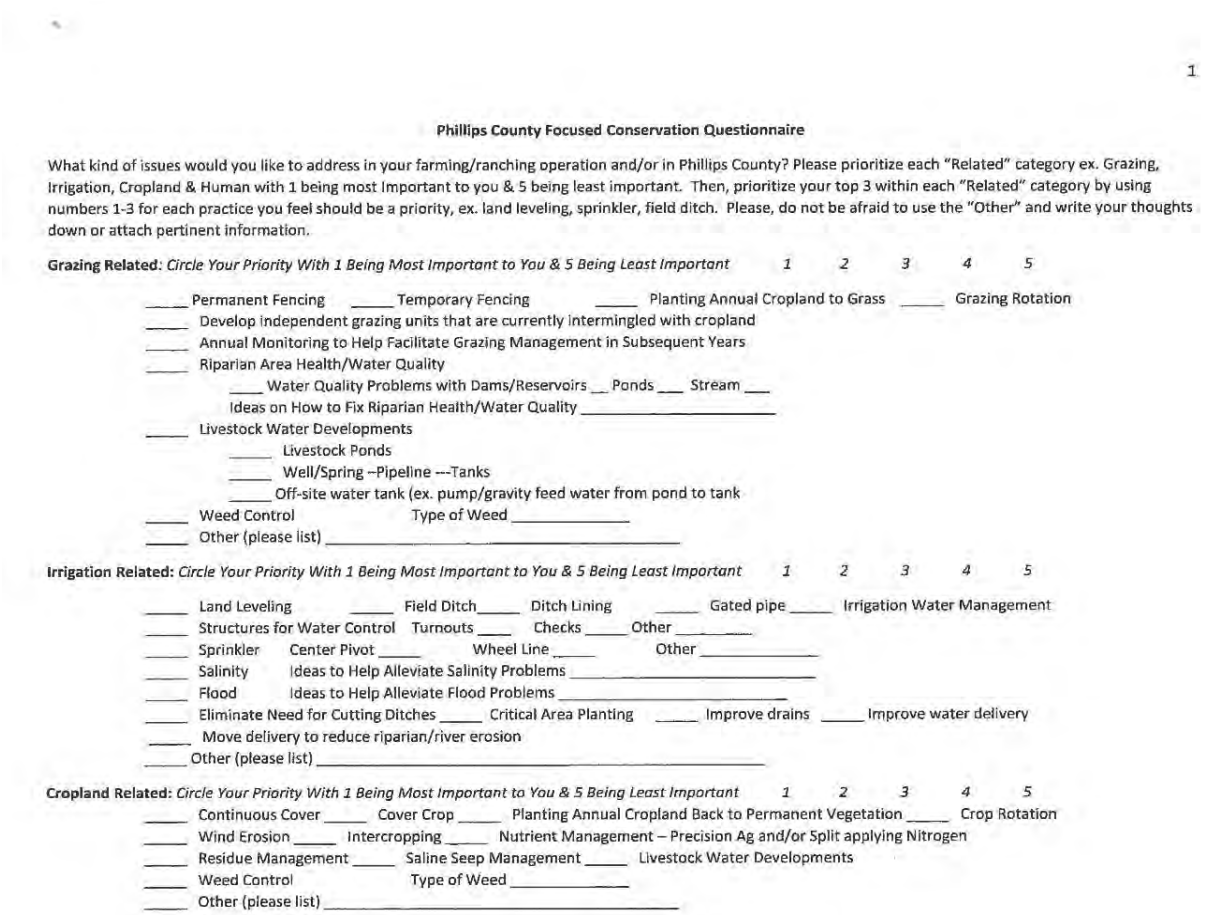
Appendix B2 Local Working Group Questionnaire 2019

Phillips County Local Working Group 2019 Questionnaire – New for this year, the local USDA-NRCS Field Office developed a Local Working Group Questionnaire to send out to local groups and ag producers starting January 2019 to assist with the Fiscal Year 2020 NRCS and Phillips Conservation District priorities was shared with many partners and producers in the area via hand delivery, email, Facebook and Phillips Conservation District website. The purpose of this questionnaire is to continue a locally-led process to highlight resource concerns in the area, and to provide a voice to people who may be unable or unwilling to attend a public forum. The format for the two-page questionnaire with two attached maps is as follows:

Page 1 of 4 of 2019 Phillips County Focused Conservation Questionnaire Below:



1

Phillips County Focused Conservation Questionnaire

What kind of issues would you like to address in your farming/ranching operation and/or in Phillips County? Please prioritize each "Related" category ex. Grazing, Irrigation, Cropland & Human with 1 being most Important to you & 5 being least important. Then, prioritize your top 3 within each "Related" category by using numbers 1-3 for each practice you feel should be a priority, ex. land leveling, sprinkler, field ditch. Please, do not be afraid to use the "Other" and write your thoughts down or attach pertinent information.

Grazing Related: *Circle Your Priority With 1 Being Most Important to You & 5 Being Least Important* 1 2 3 4 5

_____ Permanent Fencing _____ Temporary Fencing _____ Planting Annual Cropland to Grass _____ Grazing Rotation
_____ Develop independent grazing units that are currently intermingled with cropland
_____ Annual Monitoring to Help Facilitate Grazing Management in Subsequent Years
_____ Riparian Area Health/Water Quality
____ Water Quality Problems with Dams/Reservoirs __ Ponds ___ Stream ___
Ideas on How to Fix Riparian Health/Water Quality _____
_____ Livestock Water Developments
_____ Livestock Ponds
_____ Well/Spring --Pipeline ---Tanks
_____ Off-site water tank (ex. pump/gravity feed water from pond to tank
_____ Weed Control Type of Weed _____
_____ Other (please list) _____

Irrigation Related: *Circle Your Priority With 1 Being Most Important to You & 5 Being Least Important* 1 2 3 4 5

_____ Land Leveling _____ Field Ditch_____ Ditch Lining _____ Gated pipe _____ Irrigation Water Management
_____ Structures for Water Control Turnouts ____ Checks _____ Other _____
_____ Sprinkler Center Pivot _____ Wheel Line _____ Other _____
_____ Salinity Ideas to Help Alleviate Salinity Problems _____
_____ Flood Ideas to Help Alleviate Flood Problems _____
_____ Eliminate Need for Cutting Ditches _____ Critical Area Planting _____ Improve drains _____ Improve water delivery
_____ Move delivery to reduce riparian/river erosion
_____ Other (please list) _____

Cropland Related: *Circle Your Priority With 1 Being Most Important to You & 5 Being Least Important* 1 2 3 4 5

_____ Continuous Cover _____ Cover Crop _____ Planting Annual Cropland Back to Permanent Vegetation _____ Crop Rotation
_____ Wind Erosion _____ Intercropping _____ Nutrient Management – Precision Ag and/or Split applying Nitrogen
_____ Residue Management _____ Saline Seep Management _____ Livestock Water Developments
_____ Weed Control Type of Weed _____
_____ Other (please list) _____

Appendix B2 Local Working Group Questionnaire 2019

Page 2 of 4 of 2019 Phillips County Focused Conservation Questionnaire Below:

Wildlife Related: *Circle Your Priority With 1 Being Most Important to You & 5 Being Least Important* 1 2 3 4 5

_____ Grass Planting _____ Pollinator Plantings_____ Tree Planting_____ Wetland Restoration
_____ Other (please list) _____

Human Related: *Circle Your Priority With 1 Being Most Important to You & 5 Being Least Important* 1 2 3 4 5

_____ Other (please list) _____

Would you be interested in applying for USDA Programs? ☐ Yes
☐ No

In general, we are looking for ideas to help develop a Targeted Implementation Plan (TIP), which could be simplified to be called a "project". Take a few minutes and write down your thoughts related to project. NATURAL RESOURCE ISSUE TO ADDRESS _____

POTENTIAL PROJECT _____

OBJECTIVE OF THIS PROJECT _____

TIME FRAME (ex. when to do project & estimated # of years to finish) _____

ESTIMATED TOTAL COST FOR PROJECT ____ $5000-$10000 ____$10000--$100000 ____ $100000-$200000 ___ $200000-$300000 __>$300000

POTENTIAL PARTNERS _____

PROJECT LEAD _____

NEXT STEPS _____

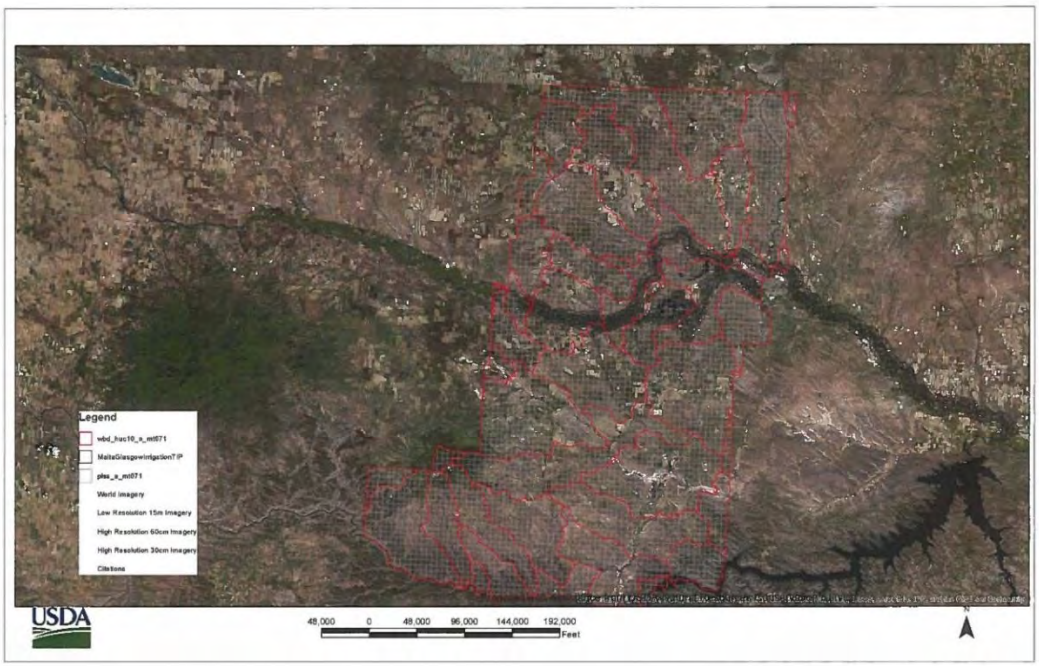
Phone # (optional): _____ Email (optional): _____

Please return this to USDA Building 1120 US Hwy 191S, Suite 2 Malta MT 59538 or email to phillipsconservationdistrict@gmail.com or shilo.messerly@mt.usda.gov by @ least June 14, 2019. Any questions, please call 406-654-1334 x 3 or stop in office.

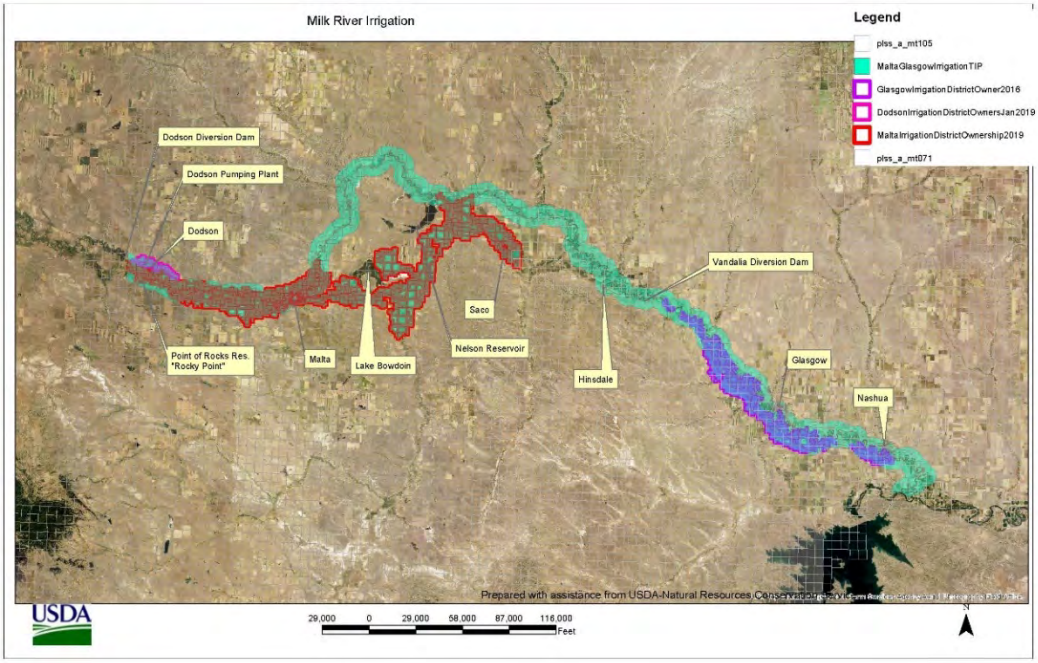
In addition, on next page, please mark on the map where your farming/ranching operation is located (does not have to be exact) or where your priority resource concerns need to be addressed.

Appendix B2 Local Working Group Questionnaire 2019

Page 3 of 4 of 2019 Phillips County Focused Conservation Questionnaire Below:



Page 4 of 4 of 2019 Phillips County Focused Conservation Questionnaire Below:



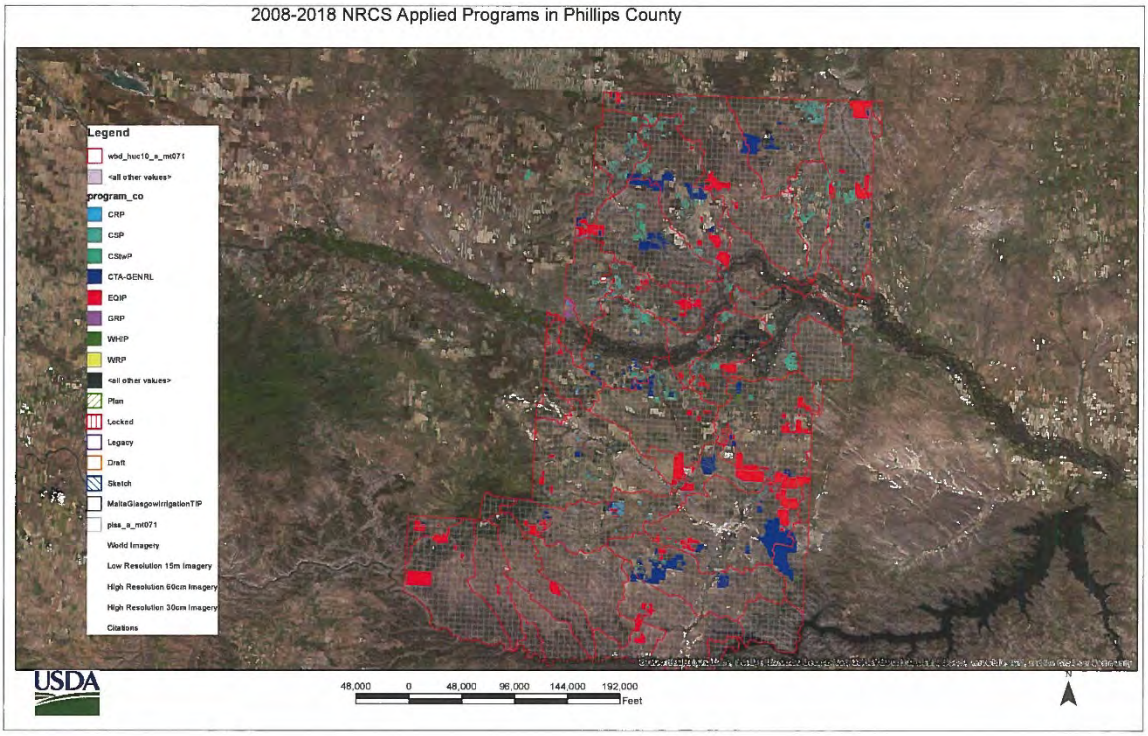
Appendix B3 Local Working Group Meeting Minutes May 14, 2019 Page 1 of 3

Phillips County Local Working Group Meeting Minutes – The Fiscal Year 2020 Phillips County Local Working Group meeting was held on Tuesday, May 14th, 2019, in Malta, MT, with 18 individuals in attendance. The minutes from the meeting are as follows:

Shilo Messerly, NRCS District Conservationist for Malta opened the meeting at 9:00 am. Mrs. Messerly explained the purpose of this meeting is to gather information to decide which natural resources in Phillips County is most in need of attention from the Natural Resource Conservation Service (NRCS) and partners. She explained that they had been invited to help identify local priority resource concerns and expressed that their participation is important. The decisions made by the Local Work Group will guide the direction of conservation efforts and program funding within Phillips county. She stressed their opinion matters and it is their opportunity to influence what will be focused on in regard to natural resource conservation for NRCS in coming years. She further explained, how the locally led conservation process will work for Montana NRCS and informed attendees of the importance of their input and how it would be taken into consideration to direct the work of the local NRCS office as well as where to focus Farm Bill 2018 funds and beyond. Mrs. Messerly explained Montana Focused Conservation, in a larger sense but also in terms of Phillips County and how a long range plan can hopefully more directly reach resource concerns that are the most urgent and also the most effective to treat. She also highlighted a tool for feedback at any time from any member of the public, the local working group questionnaire, where participants can record their recommendations of resource concerns needing completed and she encouraged the public to come talk to local NRCS or Conservation District at anytime. As a tool for consideration, Mrs. Messerly also handed out a map showing where the practices installed with the help of Malta NRCS has been applied between 2008 and 2018. See Map Page 12:

Appendix B3 Local Working Group Meeting Minutes May 14, 2019 Page 2 of 3

Shilo Messerly handed out at the LWG meeting 5-14-19



Andy Johnsrud, District Conservationist for the Scobey NRCS FO facilitated the Phillips County Local Work Group meeting. He began with explaining the plan for the meeting was to gather resource concerns and prioritize them by importance and location in order to help NRCS develop a long-range plan and Targeted Implementation Plan(s) by fall for Phillips County. Andy reminded the group that this process is significantly different that how NRCS has done business in the past. He reviewed how the Montana NRCS State Office defines Long Range Plans (LRP) and Targeted Implementation Plans (TIPs) and how the focused conservation planning will allow NRCS to dedicate staff and Farm Bill funding to the highest priority resource concerns in the highest priority area. In addition, how they clearly identify the resources necessary to carry out the work so NRCS can ask for the appropriate funding. Andy summarized the LRP and TIP process:

Appendix B3 Local Working Group Meeting Minutes May 14, 2019 Page 3 of 3

1) *Local Work Group meeting and prioritize resource concerns and locations*
2) *Figure out which ones NRCS can address*
3) *Form a TIP idea with specific suite of practice*
4) *Go and solicit applications/interest*
5) *Submit a TIP if feasible*

Andy further explained rules of the Local Work Group Meeting that we are looking for consensus, not necessarily 100 percent agreement.

Andy then went over a resource concern slide show to allow the participants to understand what exactly NRCS means by the term "resource concern". Discussion occurred throughout the slide show presentation so that all participants had a decent understanding of how their thoughts related to NRCS defined resource concerns.

Throughout the meeting room was flip charts with the primary natural resource concerns that NRCS is charged to address: Soil, Water, Air, Plants, Animals, Humans and Energy. The participants were then asked to take a sticky note and think about their property or property of interest, as well as what you can see elsewhere within Phillips County and answer the following questions:

1) *What natural resource concerns do you see that matters most to you?*
2) *What issues do you identify as high priority?*

Once participants answered these questions on a sticky note, they were asked to place them under the applicable natural resource concern title: ex. Soil, Water, Air, Plants, Animals, Humans or Energy. Next participants were given two dots of the same color to prioritize their top resource concern(s) (note: they if one resource concern was really important to them—they could place both dots on the same resource concern). For the purpose of prioritizing each Agency and Groups in attendance were asked that each agency and group try to count their vote as one.

The next exercise narrowed down the resource concerns chosen by the group—which was a total of four: Soil, Water, Plants and Animals. Then the group was to split into four smaller groups of people where they brainstormed as how to solve the resource concern problems in Phillips County. Each of the smaller groups spent time at each of the top priority resource concerns trying to find solutions.

Finally, the participants were given two dots per group or agency per resource concern and asked to place them on the general location of where in Phillips County does this resource concern need to be addressed.

Appendix B4 Local Working Group Press Release May 17, 2019

Phillips County Local Working Group Public Newsletter Article Placed in Phillips County News & Emailed to Partners and Producers After Local Work Group Meeting May 17, 2019.

Sent as attachment to Emails Sent 5-17-19

Public Service Announcement Below:

Phillips County Local Work Group Meeting

The Phillips Conservation District and the Malta NRCS hosted the Phillips County Annual Local Work Group Meeting on May 14, 2019 at the Phillips County Library basement. A total of 18 members of the community attended the meeting where they identified the top four resource concerns in Phillips County at this time based on SWAPA+H. SWAPA+H is the NRCS acronym for resource concerns and stands for Soil, Water, Air, Plants, Animals and Humans. The group was also asked to decide which land use the resource concern is located on. Phillips County's primary NRCS defined land uses are: Range, Pasture, Crop and Irrigated Crop.

The group felt like the top resource concern was "water quantity and water quality" primarily on irrigated land use, but this is also a concern on range and pasture land uses as well. Logically, the second resource concern chosen was "stockwater" on all land uses (pasture, range and cropland). There was a tie for the third resource concern between "grazing management" and "invasive species" on all land uses. This information will be utilized by the NRCS and the Phillips Conservation District to implement a Phillips County Long Range Plan (LRP).

Based on the four top resource concerns for Phillips County, the group then separated into smaller groups and brainstormed on future projects that could assist in solving the top four resource problems in Phillips County. In a very short period of time, the group came up with many project ideas that can be further explored for potential Targeted Implementation Plans (TIP), which is the basis for securing future funding for NRCS programs in Montana.

In the event, that you missed this meeting and would still like to provide input as to what Phillips Counties top resource concerns are and potential future projects that may prove beneficial to YOU in regard to future NRCS funding in this area and our community—there is still time! Please contact, either Shilo Messerly, Malta Field Office NRCS District Conservationist (*Shilo Messerly shilo.messerly@mt.usda.gov 406-654-1334 x 104)* or Jenifer Anderson, Phillips Conservation District Administrator (*Jenifer Anderson phillipsconservationdistrict@gmail.com 406-654-1334 x 3)* ASAP to get a SIMPLE QUESTIONAIRE to assist with documenting YOUR ideas related to this matter.

The deadline to submit YOUR ideas for Phillips County Resource Concerns and potential NRCS projects for Fiscal Year 2020 is May 31, 2019. Keep in mind that at a minimum the NRCS and Phillips Conservation District will be reviewing this annually—so please as you have thoughts and ideas please feel free to share them with NRCS and/or Phillips Conservation District.

SECTION V---APPENDIX C

Appendix C Local Working Group Meeting DRAFT Minutes February 11, 2020

Phillips Conservation District

1120 Hwy 191 S, Ste. 2
Malta, MT 59538-9407
Phone (406)654-1334 Ext. 3
Email phillipsconservationdistrict@gmail.com

Phillips County LWG Meeting Minutes

Phillips County Library Basement

February 11, 2020 9 a.m.-12:00 p.m.

Present: Justin Meissner, Jenifer Anderson, Mark French, Pat Hickey, Roger Solberg, James Murdock, Hal DeBoer, Adam McDaniel, Becky Ayre, Marko Manoukian, Jim Shettel, Dee Shettel, Bryan Kindle, Bob Breiphol, Karl Christians, Pat Anderson, Martin Townsend, Merrilyn Black, Conni French, Craig French, Tracy Cumber, Gary Knudsen, Wade Jones.

Phillips CD Chairman Bob Breipohl introduced NRCS Justin Meissner. Justin briefly went over focused conservation, the history of how NRCS Funding pools used to work and the new funding process under the focused conservation approach.

Under the focused conservation approach, each NRCS field office creates a long range plan then Targeted Implementation Plans (TIPs) after identifying resource concerns. Local Work Groups (LWG) have direct input on TIPs.

Justin went over the benefits of focused conservation and stated that the state of MT gets approximately $12 million in EQIP funds.

Bryan Kindle (NRCS) explained how in the past, the Phillips County LWG has switched back and forth between rangeland and irrigation as land use priorities, identifying water quantity and quality as resource concerns.

Martin Townsend, SGI Range Conservationist, discussed RSA conservation programs currently underway, mainly focusing on planting croplands back to grass.

Adam McDaniel, Ducks Unlimited discussed DU Wetlands programs in Phillips County, using DU/NRCS partnerships to fund reseeding/easement projects.

Phillips CD has purchased TDS water quality testers to loan to producers to identify water quality issues. Milk River Watershed Alliance received a grant to hire a consultant to perform an Irrigation Efficiency report to identify/prioritize areas of concern within the Malta Irrigation District, in the even NRCS/other funding opportunities arise for such projects. MID passed on the report, so the Irrigation Efficiency study was done within the Paradise Valley Irrigation District.

Appendix C Local Working Group Meeting DRAFT Minutes February 11, 2020 continued:

Local Landowners shared their conservation efforts/concerns.

Justin showed the group the map of Phillips County split into geographical regions. Those regions are:

1. **North Phillips**
2. **Frenchman**
3. **Milk River West**
4. **Milk River East**
5. **Central Phillips**
6. **South Phillips**

Marni Thompson, NRCS, introduced herself to the group as facilitator for the meeting and went over meeting ground rules and agenda.

The group began by identifying land usage and resource concerns within each geographical region. Geographical regions are highlighted in **blue,** land use in **red** and extra notes are in (parenthesis).

Geographical Region: **North Phillips**

Land Use:

1. **Native Rangeland**
2. **Dryland Crop**
3. **Tame Pasture**
4. **Dryland Hay**

Resource concerns on:

1. **Native Rangeland**
    1. Overgrazing/Distribution
    2. Bareground
    3. Plant Composition
    4. Weeds: spurge in riparian areas, hawksbeard, Canadian Thistle, Morning Glory, Club Moss (NRCS can only spend money on invasive weeds)
2. **Dryland Crop**
    1. Soil Erosion: wind & water mainly Spring
    2. Soil Degradation: increased use of synthetic fertilizer
    3. Sedimentation in wetlands
    4. Weeds: Canadian Thistle, Koscha (chemical resistant), Foxtail, Cheatgrass. (possible solution, plant back to grass)
    5. Saline (intermixed CRP/Cropland, CRP going into organic, result of CRP mainly grazed, some mixed stands)

Appendix C Local Working Group Meeting DRAFT Minutes February 11, 2020 continued:

3. **Tame Pasture** (lots of crested/alfalfa, some mixed stands)
    1. Weeds: Canadian Thistle, Cheatgrass
    2. Overgrazing around water
    3. Lack of water to be able to use efficiently
    4. Lack of livestock shelter/winter grazing
    5. Expired CRP being torn out
    6. Silting in reservoirs (cattle in reservoir)
4. **Dryland Hay** (resource concerns same as tame pasture with addition of:)
    1. Alfalfa dying out (spike to rejuvenate)

Geographical Region: **Frenchman**

Land Use:

1. **Native Rangeland**
2. **Dryland Crop**
3. **Irrigated Hay**
4. **Pasture**

Resource concerns on:

1. **Native Rangeland** (badlands)
    1. Soil Erosion/Sloughing
    2. Overgrazing/Water Distribution
    3. Flooding issues
    4. Unhealthy riparian areas
2. **Dryland Crop**
    1. Same concerns as Dryland Crop on North Phillips
3. **Irrigated Hay**
    1. Flooding Issues
4. **Pasture** (CWG/Alfalfa)
    1. Same concerns as Pasture on North Phillips

Appendix C Local Working Group Meeting DRAFT Minutes February 11, 2020 continued:

Geographical Region: **Central Phillips**

Land Use:

1. **Native Rangeland**
2. **Pasture**
3. **Dryland Crop**
4. **Irrigated Hay/Pasture (Flat Creek, Beaver Creek, Reservoirs)**
5. **Dryland Hay**

Resource concerns on:

1. **Native Rangeland** (weeds everywhere)
    1. Continuous grazing causes overgrazing/undergrazing (large pastures/limited water, a lot of BLM)
    2. Weeds (Cheatgrass, Canadian Thistle, Knapweed, Salt Cedar, Garrison Creeping Foxtail along riparian areas and irrigation drainages, Club Moss, lack of mgmt..
    3. Saline/Salts on surface on hard pans toxic to cattle due to cropland, water quality need alternative water.
    4. Reservoirs silting in
2. **Pasture**
    1. Monoculture-CWCT, Western Wheatgrass
    2. Expired CRP being torn up, going organic
    3. Water infrastructure for livestock
    4. Fencing-convert CRP on farmland to grazing
3. **Dryland Crop** (a lot of organic)
    1. Weeds-Bindweed, Knapweed, Spurge, Canadian Thistle, Curly Dock
    2. Soil erosion-water & wind
    3. Water infiltration
    4. Saline issues
    5. Wetland sedimentation
4. **Irrigated Hay/Pasture** (Smooth brome, Western, Alfalfa, CWG, Garrison, Quack/Older Water Spreading/Reservoirs, run off irrigation, contour dikes)
    1. Noxious Weeds-Bindweed, Knapweed, Spurge, Canadian Thistle, Curly Dock
    2. Saline Seeps-water quality, sulfates, TDS
    3. Drainage/Leveling issues-not able to get water off the fields-leveling, spreader dikes.
5. **Dryland Hay**
    1. Same as Central Phillips Pasture

Appendix C Local Working Group Meeting DRAFT Minutes February 11, 2020 continued:

Geographical Region: **South Phillips** (CMR/recreation)

Land Use:

1. **Native Rangeland**
2. **Flood irrigated hay (meadows)**
3. **Forestland-juniper, ponderosa**
4. **Dryland crop**

Resource concerns on:

1. **Rangeland**-spring/winter grazing
    1. Large Pasture/lack of water
    2. Noxious weeds-salt cedar from south, Canadian Thistle, Knapweed, Houndstongue
    3. Increase in sagebrush
    4. Prairie Dogs
    5. Riparian Health
2. **Irrigated Hay**- western, alfalfa, CWG, brome
    1. Drainage-getting water off
    2. Saline
    3. Weeds
3. **Forestland**
    1. Encroachment
    2. Grassland health
    3. Forage availability- tree thinning to increase grass
    4. Erosion from 2006 fire
    5. Weeds-houndstongue, Canadian Thistle, Knapweed
4. **Dryland Crop**-very small amount, spring grains/WW forage/fallow, 3-4 producers, convention & organic
    1. Same concerns as Central Phillips

Appendix C Local Working Group Meeting DRAFT Minutes February 11, 2020 continued:

Geographical Region: **Milk River East** (90% hay fed locally)

Land Use:

1. **Irrigated Hay**-Alfalfa/Grass, long rotation
2. **Irrigated Crop**-Corn, Barley, Peas, Wheat, Soy Beans, Pulse, Canola, Grass Meadows @ Saco. Flood/Pivot/Gated Pipe

Resource Concerns on both land uses:

1. Inefficient use of water, water infiltration, ponding issues
2. Saline Seep along canal
3. Losing topsoil to flood irrigation
4. Saline/salts in soil
5. Seepage in delivery ditches (Bureau of Rec), some smaller private
6. Leafy spurge
7. Bowdoin-Salt and water quality issue
8. Bank erosion

Geographical Region: **Milk River West**

Land Use: Same as Milk River East, more alfalfa

Resource concerns on both land uses:

1. Delivery issues-on fields
2. Bank Erosion-sandy soils, irrigation ditches
3. More weeds than East (from People's Creek) leafy spurge
4. Seepage in delivery ditch

Appendix C Local Working Group Meeting DRAFT Minutes February 11, 2020 continued:

The LWG prioritized land use, results were:

1. Range & Pasture
2. Irrigated Crop & Hay
3. Dryland Crop

Each landowner was given four votes and agency/partner representatives one vote (stickers) to identify which geographical region NRCS should prioritize it's funding. Results of the LWG prioritization for land use and resource concerns by geographical area were:

1. Land Use: Range & Pasture
Geographical Region: A tie for North and Central Phillips

Resource concerns:

1. Overgrazing/Distribution-water& fence/rotational grazing
2. Noxious Weeds
3. Plant Composition

2. Land Use: Irrigated Crop & Hay
Geographical Region: Milk River East

Resource Concerns:

1. Inefficient use of water (need for pivot, land-leveling)
2. Seepage from canal (MRWA irrigation studies help?)

3. Dryland Crop
Geographical Region: North Phillips

Resource concerns:

1. Soil Erosion-wind/water
2. Soil Quality/Diversity
3. Weeds

SECTION VI: Targeted Implementation Plans & Education/Outreach Plans

NRCS Land Use = Range/Pasture

Goals & Objectives:

Increase management options by developing reliable water sources to limit livestock dependence on surface water sources. By providing technical and financial assistance to land managers, producers will improve livestock water quality and quantity by implementing practices such as groundwater wells, springs, pipelines and watering facilities (tanks &/or storage tanks). With adequate livestock water infrastructure there will be an improvement in livestock health, water quality, vegetation, wildlife habitat and there will be less impact during drought years. Other considerations that will aid in improving livestock water availability is to consider shared groundwater wells with neighbors, portable watering facilities, alternative power resources (ex. solar, wind or generators) to pump livestock water and pumping natural or surface water into tanks to reduce the livestock use in riparian/mesic or sensitive areas.

In order to cover all range/pasture acres in Phillips County to meet the above stated goals, it will take many years and a lot of financial investment, therefore the approach in the short term will be to work with small groups of producers with similar resource concerns who are ready to develop the necessary livestock water infrastructure to meet the livestock needs in a specified area for a specific herd. While keeping in mind the long-term goal to improve livestock water infrastructure throughout Phillips County.

The approach will be to work with producers ready to implement necessary infrastructure practices in a short period of time (ex. within one year). These producers will be priority. Consideration for the staff that is needed to develop these producer's conservation plan and engineering designs will determine top priority projects. In addition, to help achieve the LWG "grazing management" priority, enough education will be provided for these producers to allow for a successful grazing rotation.

Once infrastructure is in place improved grazing management can reduce bare ground, improve plant productivity and overall range/pasture health can be improved through a grazing plan.

NRCS will only be able to address part of the resource concern needs, thus the Malta/Glasgow NRCS will work with partners to help increase this percentage on an annual basis.

2017-2019 in Phillips County agriculture has been a financial struggle for producers. So, in order to accomplish goals to address resource concerns a diverse partnership of agencies, NGO's are working together to provide additional financial assistance to minimize out of pocket costs for local producers.

NRCS Land Use = Irrigation

Goals & Objectives:

Current irrigation infrastructure is antiquated, often leaking with irrigation water being delivered to individual farm fields with poor efficiency. This combined with the higher levels of salts in the glaciated till soils often causes acres where irrigation has negatively influenced the salt levels on the soil surface. Improving infrastructure will improve irrigation water use on irrigated land and/or improve soil health degradation by increasing residue cover, reducing salinity and/or improving water infiltration.

NRCS Land Use = Cropland

Goals & Objectives:

Provide education events on cropland rotations to work toward improving soil health in Phillips County. The minimum producer participation goal for these education events would be 10 producers per year. This combined with incentive payments will result in an increase of cover crops in lieu of fallow and reduce mechanical tillage on participating producers.

Montana NRCS Focused Conservation is focused and targeted: Instead of funding conservation projects on a scattered, farm-by-farm approach, NRCS targets its investments in very specific areas to achieve clearly defined natural resource goals as identified by local partners. This approach harnesses the power of multiple landowners in one area undertaking similar conservation projects to achieve a regional or landscape-scale result. The focused approach emphasizes planning with the end result in mind. NRCS staff work with local partners to set measurable goals and to track and achieve meaningful conservation results. Focused Conservation begins with goals identified in county-level Long Range Plans. NRCS then develops Targeted Implementation Plans (TIP) to guide on-the-ground implementation. TIPs will explain: 1) how natural resource goals will be met 2) which conservation systems will best address resource concerns 3) how partnerships will be leveraged and 4) how outcomes will be measured.

Targeted Implementation Plans (TIPs) – This list of draft TIPs would assist private landowners/operators with implementation of practices to address Phillips County prioritized resource concerns. These TIP proposals are to be used as preliminary guidance and will be tweaked to meet specific goals and objectives defined by local priorities within the parameters of this Phillips County Long Range Plan.

Targeted Implementation Plans (TIPs) –

Irrigation Improvement Irrigation Efficiency Targeted

The long-term plan is to work with willing/qualified landowners/operators throughout Phillips County. Based on interest and need a targeted geographical area will be reviewed at a minimum annually to determine exact locations of future TIP proposals.

The short-term plan is to start with "Fiscal Year 2020 Irrigation Dodson Area Milk River" and move to other areas of Phillips County as applicable with workload and willing/qualified landowners/operators. "Fiscal Year 2020 Irrigation Dodson Area Milk River" preliminary

engineering estimates based on current EQIP applications show a minimum of 217 acres that will have a positive affect toward solving the resource concern: inefficient use of irrigation water.

Purpose: Assist landowners by improving water application efficiency on existing irrigated cropland in Phillips County.

Primary Resource Concern Addressed: Water: Excess/Insufficient Water – Inefficient use of irrigation water

Location: Irrigated cropland in Phillips County. Irrigated cropland is scattered in Phillips County but primarily concentrates along the Milk River with approximately 34501 acres. Two other large drainages with irrigation acres are the Frenchman and Beaver Creeks. The exact location and extent of acres will be determined at a later date based on further assessments, contractor and staffing availability to complete the projects.

Summary: The primary resource concern that will be addressed with this TIP will be Inefficient Use of Irrigation Water. TIPs will be further focused by 1) highly suitable soils or potentially suitable soils for irrigation and 2) by geographical location depending on eligibility of producers and NRCS workload in Phillips County. In addition, targeted acres must meet the minimum irrigation requirements of being irrigated two out of the last five years. The main practices will be (388) Irrigation Field Ditch, (430) Irrigation Pipeline, (464) Irrigation Land Leveling, (533) Pumping Plant, (587) Structure for Water Control, (442) Irrigation System, Sprinkler, (607) Surface Drain Field Ditch, (449) Irrigation Water Management, as well as some facilitating structural, vegetative and management practices.

Goals: Goals to accomplish through this project include securing an average of three EQIP contracts (this number may vary depending on contractor and staffing availability) per year and implement all structural practices associated with EQIP contracts within two years obligating contracts. Following one entire irrigation season with utilizing irrigation sensors and flow measurements to assist with implementation of IWM. The goal would be to increase a minimum of 10% irrigation efficiency by implementing a minimum of 150 acres of structural practices per year within Phillips County. With an average of $450 EQIP cost between 2020 and 2025 it is estimated that a total of $337,500 would be needed for EQIP monies.

Monitoring and Evaluation: (587) Structure for Water Control, Flow Meter, and soil moisture sensors will be utilized to facilitate (449) Irrigation Water Management. This will either be planned or contracted for each of the projects, allowing the participant to monitor and record their irrigation water use on the project fields. Annual Contract Status Reviews will be completed once yearly on each funded project for the duration of the contract.
Partners: Phillips Conservation District, Dodson Irrigation District, Malta Irrigation District, Frenchman Water Users Association and Private Landowners/operators.

Irrigation Improvement Salt Concentration Targeted

The long-term plan is to work with willing/qualified landowners/operators throughout Phillips County. Based on interest and need a targeted geographical area will be reviewed at a minimum annually to determine exact locations of future TIP proposals.

The short-term plan is to start with irrigated acres that have highly suitable soils (Chinook, Evanston, Ethridge, Glendive or Havre) depending on willing/qualified landowners/operators and available NRCS staff. With the goal of providing adequate irrigation infrastructure to reduce salt levels in acres where irrigation has negatively influenced the salt levels.

Purpose: Assist landowners by reducing salt levels on irrigated cropland soils in Phillips County.

Primary Resource Concern Addressed: Soil Condition: Concentration of salts

Location: Irrigated cropland in Phillips County. Irrigated cropland is scattered in Phillips County but primarily concentrates along the Milk River with approximately 34501 acres. Two other large drainages with irrigation acres are the Frenchman and Beaver Creeks. The exact location and extent of acres will be determined at a later date based on further assessments, contractor and staffing availability to complete the projects.

Summary: The primary resource concern that will be addressed with this TIP will be concentration of salts in the soil where existing irrigation management has caused an increase in salt accumulations. TIPs will begin further focused by 1) highly suitable soils or potentially suitable soils for irrigation and 2) by geographical location depending on eligibility of producers and NRCS workload in Phillips County. In addition, targeted acres must meet the minimum irrigation requirements of being irrigated two out of the last five years. The main practices will be (388) Irrigation Field Ditch, (430) Irrigation Pipeline, (464) Irrigation Land Leveling, (533) Pumping Plant, (587) Structure for Water Control, (442) Irrigation System, Sprinkler, (607) Surface Drain Field Ditch, (449) Irrigation Water Management, as well as some facilitating structural, vegetative and management practices.

Goals: Goals to accomplish through this project include: securing an average of three EQIP contracts (this number may vary depending on contractor and staffing availability) per year and implement all structural practices associated with EQIP contracts within two years obligating contracts. Prior to EQIP contract obligation and at least annually during the EQIP contracts the soils in the contracted area will be tested for salt levels. The goal would be to decrease the salt levels in the top 6 inches of the soil profile by implementing a minimum of 150 acres of

structural practices per year within Phillips County. With an average of $450 EQIP cost between 2020 and 2025 it is estimated that a total of $337,500 would be needed for EQIP monies.

Monitoring and Evaluation: Electrical Conductivity (EC) meters will be utilized to test salt levels on contracted acres at least annually. Annual Contract Status Reviews will be completed once yearly on each funded project for the duration of the contract.

Partners: Phillips Conservation District, Dodson Irrigation District, Malta Irrigation District, Frenchman Water Users Association and Private Landowners/operators.

Range & Pasture Improvement with Livestock Water Emphasis

The long-term plan is to work with willing/qualified landowners/operators throughout Phillips County. Based on interest and need a targeted geographical area will be reviewed at a minimum annually to determine exact locations of future TIP proposals.

The short-term plan is to start with "Fiscal Year 2020 Close The Gates Phillips County" and move to other areas of Phillips County as applicable with workload and willing/qualified landowners/operators. "Fiscal Year 2020 Close The Gates Phillips County" main goal is to install livestock watering systems to address water quantity while improving grazing distribution on 20,700 acres.

Purpose: Assist ag operators by providing alternative livestock water solutions and assisting with installation of infrastructure to improve livestock health and production.

Primary Resource Concern Addressed: Livestock Production Limitation—Inadequate Livestock Water; Livestock Production Limitation-- Inadequate Water Distribution/Water Quantity

Location: Fiscal Year 2020 acres that are nestled in between Assiniboine and Exeter Creeks in Phillips County. For Fiscal Year 2021 and beyond this will be determined by interested producers and NRCS workload priorities.

Summary: Providing the necessary infrastructure will allow livestock managers to close gates for a more uniform grazing distribution in order to allow perennial range/pasture plants more recovery time, facilitate pasture rotation and improve livestock health. This project seeks to provide more reliable sources of livestock water no matter what the seasonal weather conditions bring to the area. Added reliable livestock water along with cross fencing can allow for improved grazing distribution, improved range health and even more plant recovery time for the grass. Practices may include water well (642), spring development (574), livestock pipeline (516), watering facility (614), pumping plant (533) and Fence (382).

Goals: Fiscal Year 2020 main goal is to install livestock watering systems to address water quantity while improving grazing distribution and plant recovery time through improved rotation on 20,700 acres. Plan an average of 3,500 acres per year after fiscal year 2020, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Progress will be measured by monitoring the standing residue yearly using photos on fixed monitoring transect locations in existing underutilized and over-utilized areas. Progress will also be recorded in acres treated, where distance to water is reduced to 1 mile or less within pasture. It will also be recorded in acres per pasture (of reliable water added), where no reliable water previously existed.

Partners & Alternative Funding: BLM (Note: BLM is a key partner in Fiscal Year 2020 as a pipeline is planned to cross BLM), USFWS Partners Program, Ranchers Stewardship Alliance and land owners/managers themselves.

Forage Quantity Improvement

Note: plan to start with "Fiscal Year 2020 Montana Sage Grouse Initiative Cropland Seeding" and any other applicable programs that will fit the purpose of this resource concern with willing/qualified landowners/operators.

Purpose: Assist ag producers to seed dryland crop to permanent perennial vegetation to provide additional forage for their livestock.

Primary Resource Concern Addressed: Inadequate livestock feed and forage, soil quality degradation-organic matter completion, wildlife habitat- space/food.

Location: Dryland Crop located in Phillips County.

Summary: This project seeks to assist producers in taking dry cropland and seeding it to a perennial forage mix that can be used for grazing livestock. (512) Forage and Biomass Planting and (550) Range Planting are the basic practices that will be contracted with this project, in additional to other facilitating practices such as (614) Watering Facility, (516) Livestock Pipeline, (533) Pumping Plant, and (382) Fence.

Goals: Plant an average of 1,000 acres per year of cropland back to permanent vegetation, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Annual contract status reviews and routine field visits.

Partners & Alternative Funding: SGI, FWP, PFW, RSA, Private Landowners/operators.

Expiring CRP Renovation-Conversion to Grazing

Purpose: Aid in the transition of expiring CRP to operational grazing systems to maintain or improve perennial vegetation.

Primary Resource Concern Addressed: Inadequate livestock water, inadequate feed and forage, plant productivity and health, wildlife habitat- space/food.

Location: Expiring CRP acres located within Phillips County.
Summary: This project seeks to install practices necessary to convert CRP lands into a viable grazing lands. Practices may include water well (642), livestock pipeline (516), watering facility (614), pumping plant (533), Fence (382). Priority maybe be given to participants who are willing to implement a (528) Prescribed Grazing plan the seeded acres.

Goals: Practices addressed on approximately 4000 acres per year, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Annual contract status reviews and routine field visits.

Partners & Alternative Funding: SGI, USFWS, DU, FWP, PFW, RSA, Private Landowners/operators.

Livestock Water Quality Improvement

Note: plan to start in Southern Phillips County in Beaver Creek watershed as that is where resource concerns and willing/qualified landowners/operators are found at this time. Baseline data gathering has begun in 2019.

Note: since 2010 producers around Phillips County have been noticing an increase in water quality issues in relation to surface waters. The Phillips Conservation District has purchased water testers for producers and NRCS to utilize to test water for Total Dissolved Solids.

Purpose: Provide alternative water sources and mitigation strategies to improve water quality for livestock.

Primary Resource Concern Addressed: Inadequate livestock water, water quality.

Location: Grazing lands that depend on water for livestock use in Phillips county.

Summary: Surface water has had a history of poor water quality in certain areas of the county. In stream areas, these projects would work to address possible sources of contamination using mesic restoration and Beaver dam analogs. In pond/dam areas, these projects would work to address the reduction of livestock watering in surface waters by providing off-riparian area watering facilities. Offsite well water may also be provided in areas with no quality alternatives for livestock. Practices will include; water well (642), pumping plant (533), livestock pipeline (516), watering facility (614), pumping plant (533) and Fence (382).

Goals: Practices addressed on approximately 3000 acres per year, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Annual contract status reviews and routine field visits.

Partners & Alternative Funding: SGI, USFWS, DU, TNC, FWP, PFW, RSA, Private Landowners/operators.

Forestry- encroachment Reduction

Note: In 2019 interested producers in Larb Hills area, however in the past there has been a lot of interest in these type of practices in the Little Rockies.

Purpose: Reduce the expansion of conifer trees into grasslands to preserve forage base and wildlife habitat.

Primary Resource Concern Addressed: inadequate feed and forage, plant productivity and health, wildlife habitat- space/food/cover.

Location: Grassland acres of Phillips county with conifer encroachment.

Summary: Expansion of conifer species will be reduced to preserve livestock grazing and wildlife habitat. Practices used will be; Brush management (314) and forest stand improvement (666).

Goals: Practices addressed on approximately 30 acres, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Annual contract status reviews and routine field visits.

Partners & Alternative Funding: SGI, BLM, DNRC and Private Landowners/operators.

Great Falls Area Soil Health

Purpose: Incentives to implement all five soil health principles to see positive effect on soil health.

Primary Resource Concern Addressed: Soil: Soil Quality Degradation

Location: Phillips County & Great Falls Area

Summary: Currently, the main crop rotation in the Great Falls Area is small grain/chem-fallow. This rotation lacks crop diversity. Operators in our area have a myriad of pest and disease issues, which has resulted in higher use of chemicals and/or tillage operations. Excessive chemicals and tillage wipe out the biology in the soil. Proper soil function can only be realized on cropland when all five soil health principles are adopted. This solution requires a paradigm shift in the way producer's think about crop production and long-term sustainability of agriculture land. Consequently, the focus of this TIP must be on producers that are willing to adopt complete soil health centric system of cropping. Practices will include; conservation crop rotation (328), residue & tillage management (329), cover crop (340), upland wildlife habitat management (645), nutrient management (590) and integrated pest management (595).

Goals: Provide incentives to producers in Phillips County to implement practices that minimize disturbance, maximize diversity, keep the soil armored and keep living roots in soil. Targeted producers are those interested in incorporating the five principles of soil health. Expected outcomes are as follows: increase 10 to 20 percent soil cover; increase soil biology, increase biological diversity, increase soil carbon and increase flush counts. Projected practices addressed on approximately 1200 Phillips County acres total, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Annual contract status reviews and routine field visits.

Partners & Alternative Funding: Ducks Unlimited, Pheasants Forever and Private Landowners/operators.

Basic Phillips Soil Health Cropland Focus

Purpose: Incentives to implement basic soil health principles to see positive soil health results in the soil.

Primary Resource Concern Addressed: Soil: Soil Quality Degradation: Compaction &/or Organic Matter Depletion

Location: Annually Planted Cropland in Phillips County

Summary: Currently, the main crop rotation in Phillips county is small grain/chem-fallow. This rotation lacks crop diversity. Operators have diverse pest disease issues, which has resulted in higher use of chemicals and/or tillage operations, which wipes out the biology in the soil. Proper soil function can only be realized on cropland when all five soil health principles are adopted. This solution requires a paradigm shift in a way producer's think about crop production and long-term sustainability of agriculture land. The focus of this TIP will be on producers that are willing to begin moving in a positive direction to improve soil health. Practices will include; conservation crop rotation (328), cover crop (340), nutrient management (590) and integrated pest management (595).

Goals: Provide incentives to producers in Phillips County to implement practices that minimize disturbance, maximize diversity, keep the soil armored and keep living roots in soil. Targeted producers are those interested in beginning to incorporate the five principles of soil health. Expected outcomes are as follows: increase 10 to 20 percent soil cover and increase soil biology. Practices addressed on approximately 3000 acres per year, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Annual soil biology tests, annual contract status reviews and routine field visits.

Partners & Alternative Funding: Ducks Unlimited, Pheasants Forever and Private Landowners/operators.

Soil Health Incorporating Livestock On Cropland Focus

Purpose: To provide infrastructure for land managers to be able to manage livestock on cropland acres without leaving the gate open to the range/pasture on the adjacent acreage (as typically the only livestock water is in the adjacent range/pasture). The goal is to ensure the "livestock integration" soil health principle is implemented without decreasing grassland health of adjacent range/pastures.

Primary Resource Concern Addressed: Soil: Soil Quality Degradation: Compaction &/or Organic Matter Depletion

Location: Annually Planted Cropland in Phillips County

Summary: Currently, the main crop rotation in Phillips county is small grain/chem-fallow. This rotation lacks crop diversity. Operators have diverse pest disease issues, which has resulted in higher use of chemicals and/or tillage operations, which wipes out the biology in the soil. Proper soil function can only be realized on cropland when all five soil health principles are adopted. This solution requires a paradigm shift in a way producer's think about crop production and long-term sustainability of agriculture land. The focus of this TIP will be on producers that are willing to begin moving in a positive direction to improve soil health by incorporating the "livestock integration" soil health principle. The most limiting resource to accomplish this is livestock water infrastructure, thus practices will include; water well (642), livestock pipeline (516), watering facility (614), pumping plant (533), Fence (382) and nutrient management (590).
Goals: Provide infrastructure for land managers to be able to implement the "livestock integration" soil health principle without decreasing grassland health of adjacent grazing lands in Phillips County. The goal is to improve the soil biology in annual cropland rotations. Expected outcome is to increase the beneficial soil biology and increase grazing recovery time in adjacent grazing acres where typically the only livestock water is available. Practices addressed on approximately 3000 acres per year, however this acreage is subject to change based on interested and eligible producers and NRCS workload priorities.

Monitoring and Evaluation: Annual soil biology tests, annual contract status reviews and routine field visits.

Partners & Alternative Funding: Ducks Unlimited, Pheasants Forever and Private Landowners/operators.

Education and Outreach Plan-

- Education
  - Annual Ag Day Malta, MT
  - Support Local FFA Events
- Workshops
  - Soil Health
  - Easement Programs
  - Range Health
  - Farm Bill Programs
  - USDA Outreach Workshops
- Methods of Outreach
  - Phillips County News
  - Glasgow Courier
  - Tricia's Trader
  - Super Shopper
  - Postal Mailings
  - Emails
  - Flyers
  - Social Media
  - KMMR Malta's 100.1 FM Radio Station
  - KLTZ Glasgow's 93.5 FM Radio Station
  - KPQX Havre's Radio Station
  - KOJM Havre's Radio Station
  - KRYK Havre's 101.3 FM Radio Station
  - KGVA Fort Belknap Agency 88.1 FM Radio Station

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