Water Resources Survey

Part I:

HISTORY OF LAND AND WATER USE ON IRRIGATED AREAS

Meagher County, Montana

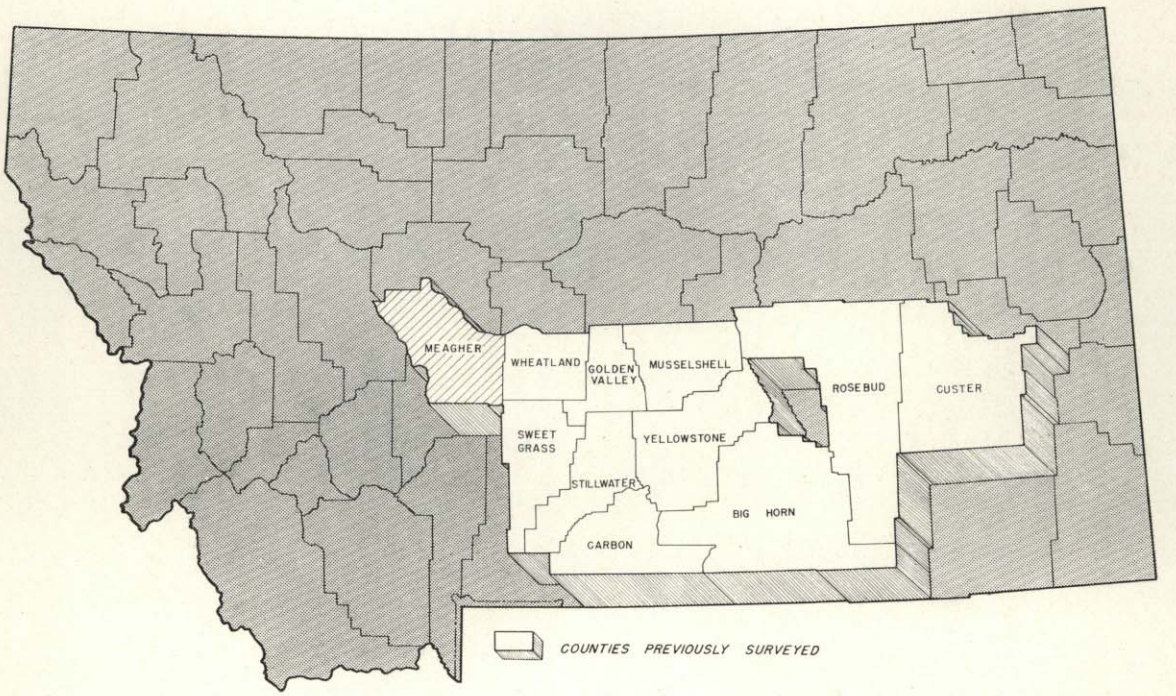
Published by
STATE ENGINEER'S OFFICE
Helena, Montana, July, 1950

WATER RESOURCES SURVEY

MEAGHER COUNTY
MONTANA

Part 1

History of Land and Water Use
on Irrigated Areas



Published by
STATE ENGINEER'S OFFICE
Helena, Montana
July, 1950

STATE ENGINEER'S OFFICE

Fred E. Buck	State Engineer
Hans L. Bille	Assistant

STATE WATER CONSERVATION BOARD

Governor John W. Bonner	Chairman
O. S. Warden	Vice Chairman & Secretary
C. H. Raymond	Member
John B. David	Member
Fred E. Buck	Member & Consulting Engineer
Ralph H. Fifield	Chief Engineer
R. J. Kelly	Assistant Secretary

MONTANA STATE AGRICULTURAL EXPERIMENT STATION

O. W. Monson, Irrigation Engineer, Consultant and Project Leader, Bozeman

July, 1950

Hon. John W. Bonner
Capitol Building
Helena, Montana

Dear Governor Bonner:

Submitted herewith is a consolidated report on the Water Resources Survey of Meagher County, Montana. This work is being carried on by funds made available to the State Engineer by the Thirty-first Legislative Session, 1949, and in cooperation with the State Water Conservation Board.

The report is divided into two booklets—part one consisting of the history of land and water use, irrigated lands, water rights, etc., while part two contains all of the township maps showing in color the lands irrigated from each canal.

The office files contain minute descriptions and details of each individual water right, water and land use, etc., which are too voluminous to be included herein. These office files are available for inspection to those who are interested.

Respectfully submitted,

FRED E. BUCK, State Engineer

TABLE OF CONTENTS

ACKNOWLEDGMENTS

A survey and study of water resources involves many phases of work in order to gather the necessary data to make the information both complete and comprehensive. Appreciation of the splendid cooperation of various agencies and individuals who gave their time and assistance in aiding the gathering of data for the preparation of this report is hereby acknowledged.

Meagher County Officials

Almon Berg ..... Chairman
Carl Rostad ..... Commissioner
Arthur S. Berg ..... Commissioner
Hannah M. Brady ..... Clerk & Recorder
M. D. Holmes ..... Clerk of Court
Catherine McDonald ..... Treasurer
E. P. Pierce ..... Assessor
J. V. Potter ..... Surveyor

Matt Heaphy ..... County Extension Agent
L. F. Gieseker, Associate Agronomist, Montana Agricultural Experiment Station
R. A. Dightman ..... Station Director, U. S. Weather Bureau, Helena
Jake Bair ..... Rancher
George A. Mahrt, District Ranger, White Sulphur Springs District, Lewis & Clark National Forest
John Forsman, District Ranger, Musselshell District, Lewis & Clark National Forest

The State Engineer's Office, Water Resources Survey, hereby expresses sincere appreciation to the many ranchers and farmers who have given their helpful cooperation in this survey.

FOREWORD

In nearly all of the 17 Western Reclamation States a water right is obtained by first making a filing with some legally designated central state agency—usually the State Engineer's Office—setting forth the amount of water desired and the area proposed to be irrigated. A study is then made of the sufficiency of the water supply and, if found adequate, a permit for use of the water is issued and recorded. If studies show that the stream is depleted, the application is denied. The procedure in Montana, however, is vastly different.

In Montana a right to the use of water from a stream not adjudicated by the courts is acquired by posting a notice on the stream and filing a copy of same in the office of the county clerk of the county wherein the appropriation is located, and by proceeding to divert and use the water. Where a person diverts and uses water from a stream without posting or filing a notice, a water right based thereon has been recognized as valid by the courts. Whenever it becomes necessary to adjudicate the stream, both methods of acquiring rights have been recognized by the courts, and the amount of water finally decreed and dates of priority in either case are determined by the evidences and proofs.

Under Montana law there is no restriction as to the amount of water one may designate in his notice of appropriation. As a consequence, the amount set forth in the filing in no way indicates the amount being diverted and used, nor does it show whether or not the water was ever used at all to perfect the right. Nor is there any relation whatsoever between the amount filed on and the normal flow of the stream. To further complicate this matter, our courts have made it almost impossible to prove the abandonment of a water right.

There is no central office in the State where recordings are filed, or any supervision over the distribution of water from unadjudicated streams. One wishing to study the validity of a water right must make a search of the county records wherein the stream is located and perhaps two, three, or more counties if the stream courses through them. About the only result one will accomplish by such a research will be a tabulation of the dates of filing. The amounts of water filed on will be of no consequence; there is no conclusive evidence that the recorded appropriations have been perfected, and there is no record of the rights which are being used but never recorded. Therefore, a purchaser of ranch property, where he has to depend upon irrigation from a stream that is not adjudicated, has no way of determining the validity or priority of his water right. He has no assurance of the value of the right until the stream is adjudicated by the court, when each claimant must prove his claim by material witnesses.

The pioneers who are able to offer direct testimony in adjudication suits are rapidly passing on. One phase of this Water Resources Survey is to obtain all of the first-hand information possible on water and land use from the "old timers" who are left, before it is too late. These data will include every known water right up to the time of completing the work in the respective counties, and the information will be on file for inspection in the State Engineer's Office. At the time of this publication, Yellowstone, Carbon, Stillwater, Big Horn, Custer, Rosebud, Musselshell, Golden Valley, Wheatland, Meagher and Sweet Grass counties are completed, with work progressing on Park and Treasure counties. A prospective land purchaser, after studying the record in any of the above named counties, may have a good idea of the sufficiency and priority of the water right appurtenant to the land in question.

In this and succeeding volumes of the data compiled by this Water Resources Survey, it is the intention to provide as much information as is possible relative to the water right records of the various counties, as well as to assemble such other information as may be available from

all sources having knowledge of these various water rights. Every precaution is being taken to avoid errors in the compilation of these data.

The results of this work were used in negotiating the Yellowstone River Compact between the States of Wyoming, North Dakota and Montana. In arriving at an equitable division of the waters between the states, it was necessary for Montana to have a catalog of its irrigated land and water use. This same question will undoubtedly arise in other river basins. It is highly important that Montana gather such data, and thereby be able to defend its water rights in the development of the great river basins of the Missouri and Columbia rivers and the international streams between Canada and Montana.

The subject of water rights is coming more and more into prominence as the rapid expansion of our irrigated area proceeds under the impetus of both State and Federal development programs. As new canals are dug and old canals and ditches are enlarged and extended, the relative area of land to be irrigated, compared to the water supply available for irrigation, becomes greater, and a competition for the limited water supply results, which often develops into controversy over the right of use of the water.

In a strict sense a "water right" on a live stream does not imply ownership in the same way as does a deed to a tract of land or a certificate of title to an automobile. A water right implies only the right to divert and use the water. Water when stored in a reservoir, however, is recognized as real property which may be sold or disposed of as desired by the owner. The ownership to the water of our rivers and streams rests in the State and the rules under which the State grants to the individual the right to use these waters are known as Water Right Laws.

The early settlers in Montana took up land under the provisions of the Homestead Law of 1862 and the Desert Land Act of 1877. The former Act gave 160 acres of land to anyone who settled on it and put it into cultivation. The latter deeded 640 acres of land to anyone who would irrigate it and pay the government $1.25 per acre. In 1890, filings under the Desert Land Act were reduced to 320 acres. The construction of ditches on desert claims was in compliance for title to land rather than for irrigation, and little attention was paid to the water supply available. Consequently miles of ditches were dug in Montana through which no water ever flowed. This is especially true in the drier parts of the State, where the diversions were made from intermittent streams.

In the more fertile mountain valleys irrigation was given more importance than in the plains country. Live streams provided a dependable source of water supply and the ditches which tapped them were designed to actually carry water, not merely to comply with a legal requirement to obtain title to a piece of land. Thus, the right to diversion and use of water for irrigation became as important as the acquisition of title to the land.

But, while the government granted a patent deed as evidence of title to the land upon proof of compliance with the Homestead Laws, there was no deed, certificate of title or other legal instrument offered as evidence of title to a water right.

Water rights refer also to other uses than irrigation. Thus, the authorized use of water for mining, power, fish hatcheries, bird refuges, recreational purposes, municipal needs for culinary supply and sewage disposal, manufacturing, or navigation, all may become valid water rights.

The first irrigators took for granted their right to use water from creeks or rivers for irrigation. They saw water going to waste and appropriated it to their needs. It was as free to

them as the air they breathed. They made no official record of the game they shot for food or the fish they caught in the streams and likewise considered it unnecessary to make official record of the time, place, or the amount of water diverted for irrigation. However, time has changed these conditions and it is now necessary to record the game killed and limit the fish catch, and also file a claim for the water appropriated from the streams and rivers for irrigation or other use.

When game was plentiful, no one concerned himself with the number of deer a person killed, but when game became scarce, steps were taken to prevent a few persons from taking more than their share while others had to go without. To do this it became necessary to issue licenses or permits to kill game and also to keep a record of game killed, a practice which is still followed.

Likewise, when only a few settlers diverted water for irrigation and the supply was more than enough for all, no one was concerned about the exact amount used by any one person. But as more and more settlers constructed diversion dams and ditches and tapped the rivers and streams for irrigation water, it soon became evident that there would not be enough water for all. Thus, a year with low water brought about disputes over the division of the supply. The older settlers, in such cases, demanded that the later comers close down their headgates and refrain from taking water, in order that the prior appropriations might have a full supply. The later users, on the other hand insisted that the available supply be divided among all users so that all might share alike.

Thus, progressive over-development of irrigation, together with the occurrence of seasons of water shortage, combined to bring about the enactment of Water Right Laws in the Western States where irrigation is practiced.

METHOD OF SURVEY

Data incorporated in this report were obtained by the field survey method in cooperation with the irrigators on the land.

For irrigation system under private ownership, water users were asked for specific information as to the source of water, present acreage irrigated, potential irrigable acreage under existing works, seeped acreage, condition of irrigation system, type of system, water supply, dates of priority, and the amount of water appropriated or decreed. This information was then recorded on a field form and later checked as to its authenticity.

The information in regard to the location of the irrigation system, present irrigated and potential irrigable lands under existing works, was indicated on aerial photographs with the exact location of each shown, and the various systems distinguished by color.

After the field survey was completed, the information was mapped on township maps from the aerial photographs, by means of projection, to insure the utmost in accuracy. In addition to the information pertaining to irrigation, all culture, drainage, section lines, etc., were mapped in order to make complete and authentic township plats for the area concerned. This information was then mapped by farm units on individual farm forms that show the farm boundary, the location and type of irrigation system, location of irrigated and potential irrigable lands, present irrigated acres, potential irrigable acres under existing works, type of system, source of water, etc., with water filings attached. If the field survey information was complete, these individual farm forms were completed in the office. If not, the water user was again contacted in an attempt to complete the form. After these farm unit forms were completed, a summary was made of each township, which shows the name of the water user, section, township and range, source of water, whether a user has a private irrigation system or is under a ditch company or irrigation district, acres irrigated from each source, present irrigated acres, potential irrigable acres under existing facilities and maximum irrigable acres. The summary given in this report was tabulated from these township summaries to show the totals for the county. After this was accomplished and a final check made, color separation maps were drawn which included from three to ten separation plates, depending on the number of colors that appear on the final township map in Part 2 of this report. Section and township corner locations were obtained by the photogrammetric system, based on Government land classification maps, county maps, plane table sheets and other sources.

This is the first survey of its kind ever to be consummated in the United States. The value of this work has been well substantiated by giving Montana its first accurate and verified information concerning its water resources under existing irrigation facilities. New lands to be developed by State and Federal construction agencies are not within the scope of this report. No effort has been made to analyze economic possibilities, or the problems of the irrigated projects, or to make recommendations as to their future development. The facts presented are as found and provide the items and figures from which a detailed analysis can be made.

GENERAL INFORMATION ABOUT

MEAGHER COUNTY

HISTORY

Meagher County, named for General Thomas F. Meagher, acting territorial governor, was formed by the second territorial assembly March 26, 1866. All laws enacted by the second assembly were nullified by Congress, but on November 16, 1867, the law creating the County was re-enacted by the fourth assembly. It was at this time that Meagher County was embracing the great gold boom. From 1864-65, up to the fall of 1868, the County had produced $6,949,200 in gold, but the yield has steadily diminished until today only a very small amount of placer gold is produced. Lead and silver caused a boom in the Castle Mountain district while copper was discovered in a few isolated localities. In November, 1869, Camp Baker was established by U. S. Troops to protect the miners in Diamond City, later to be moved 12 miles south, improved and re-named Fort Logan. Fort Logan, and the towns of Castle, Robinson, Blackhawk and Copperopolis arose and flourished for a time but now stand as ghost towns.

White Sulphur (first called Brewer's) Springs was first established in 1870 when dwellings, bath houses and stables were erected, and later acquired the county offices by election November 4, 1880. It is picturesquely situated at the foot of the Castle Mountains near the head of the Smith River Valley.

The livestock industry was given added impetus in 1880 when cattle and sheep from overstocked ranges in southwestern Montana moved into Meagher County. In the early 80's Texas and Kansas stockmen drove herds of cattle into the Smith River Valley. At that time the area was largely open range and continued as such up to the time of the creation of the National Forest. The sheep population has always outnumbered the cattle. Much of the tillable land was put under irrigation to produce the needed forage crops for livestock.

Agricultural development had thus far been retarded by lack of transportation facilities. However, the construction of the Jawbone Railroad from Lombard to Leadbore in 1896, to Martinsdale in 1899_ and later extended to Townsend removed the previously imposed handicaps. About 1908 when the Milwaukee Railroad was extended to the Pacific Coast, it bought and scrapped the Jawbone Railroad, then constructed a branch line from Ringling to White Sulphur Springs incorporated as the White Sulphur Springs & Yellowstone Park Railway Company. Homeseekers arrived and started to break up and farm land that nature intended for grazing only. Due to the fair prices up to 1918, dry land farming was a common practice. The severe drought between 1918 and 1921 caused the abandonment of dry land farming. After failure, the homesteads reverted to range use.

Today stock raising is the greatest industry, but many acres of wheat, oats, barley, timothy and alfalfa are grown. Due to the scarcity of dependable labor and comparatively high operating costs, livestock operators are shifting from sheep raising to cattle production, which at one time made Meagher County the most important wool producing county in the State of Montana.

ORGANIZATION

The area now embraced in Meagher County was originally included in Gallatin County by an Act of the First Territorial Assembly of Montana, approved February 2, 1865, creating the nine original counties. On March 26, 1866, Meagher County was created, however, only to have

the Act declared invalid. The County was re-created by the Fourth Territorial Assembly and officially recognized November 16, 1867.

Since the creation of Meagher County in 1867 numerous boundary changes have been instituted with portions of the County as originally created subdivided to aid in the formation of other central Montana counties. Counties which derived part of their land from the original area of Meagher County are: Fergus, Cascade, Sweet Grass, Yellowstone, Broadwater, Lewis & Clark, and Wheatland.

The top of the main divide of the Little Belt Mountains forms Meagher County's northeastern boundary and that of the Big Belt's its western boundary. The County covers approximately 2,412 square miles between Townships 4 North and 16 North, and Ranges 1 West and 12 East. The Castle Mountains lie within its borders and the Crazy Mountains rise in the southeastern part. White Sulphur Springs, the principal town and county seat, is centrally located in the County and serves as the trading center for the area.

TRANSPORTATION

The main line of the Chicago, Milwaukee, St. Paul & Pacific Railway passes through the southern part of Meagher County serving Martinsdale, Lennep, Loweth, and Ringling, and has a branch line known as the White Sulphur Srings and Yellowstone Park Railway running northward from Ringling to White Sulphur Springs. U. S. Highway 89, connecting White Sulphur Springs with Livingston and Great Falls, traverses the county north and south, and State Highway 6, connecting White Sulphur Springs with Harlowton and Townsend, traverses the county east and west.

Aside from these transportation facilities, the area is fairly well supplied with graded county roads which make the main highways and railroad shipping points accessible. The unimproved upland and forest trails are passable most of the year.

CLIMATE

The climate in Meagher County is greatly influenced by the four mountain ranges—Big Belt, Little Belt, Castle and Crazy mountains, which border and lie within the county. Due to the extreme topographical conditions afforded by the mountain ranges and intermountain valleys, the climate is quite variable. Thus, climatic data recorded at one station might vary considerably from that of a nearby station.

Winters in general are cold with an occasional mild or open year. Cold waves cause sudden sharp drops in temperature and are often followed by prolonged cold spells which may be abruptly terminated by the occurrence of a warm chinook and followed by mild weather. Snowfall has been recorded in every month of the year; the average annual snowfall recorded is 60 inches with the heaviest being recorded in January and March, although the heaviest precipitation recorded falls in May and June. Moderate to strong winds occasionally cause blizzard conditions that snarl road traffic and hamper livestock production.

Summers are characterized by wide diurnal temperature variations, low relative humidity and showers that are often frequented by an occasional cloudburst. Occasional late spring or early fall frost causes crop damage, as does hail. Although the growing season is short, crop growth is stimulated by the long hours of daylight and greater intensity of sunshine incident to high altitudes.

Data for the following table were compiled from the United States Department of Agriculture Weather Bureau's "Climatic Summary of the United States," Section 9—Southwestern Montana, published in 1931, the United States Department of Agriculture Yearbook "Climate and Man," Climate of Montana, published in 1941, and more recent information made available by the United States Weather Bureau, Helena.

Table 1.—Climatic Summary

Station	Elevation (ft.)	Precipitation (in.)			Temperature (°F)					Avg. Killing Frost		
		Average Annual	Greatest Annual	Least Annual	Mean Annual	January Average	July Average	Highest Recorded	Lowest Recorded	Last in Spring	First in Fall	Frost-free Period
Findon.....	6000	17.55	21.54	11.86	40.4	22.4	62.4	96	−37	May 22	Sept. 22	123
Fort Logan...*	4750	11.70	19.40	8.77	39.6	——	——	100	−61	June 22	Sept. 2	74
Loweth.....	5799	12.97	20.56	7.67	38.5	16.7	61.8	97	−48	June 8	Sept. 9	93
Martinsdale....	4820	15.57	21.89	10.71	42.1	22.4	64.6	104	−52	June 1	Sept. 5	96
Wht. Sul. Spgs..	5187	14.18	25.90	8.69	41.9	21.0	65.2	103	−42	May 29	Sept. 14	108

*/ Record short and unreliable

The following climatic data have been compiled from the data recorded at Findon, Fort Logan, Loweth, Martinsdale, and White Sulphur Springs, in order to arrive at an average set of data which might more closely represent the prevailing climatic conditions in Meagher County. The average annual precipitation is 14.4 inches with the greatest average annual preciptation being 21.9 inches and the least average annual precipitation being 9.5 inches. Most of the total rainfall is received in May and June. The average mean annual temperature is 40.5 degrees F. with the January average being 20.6 degrees F. and the July average 63.5 degrees F. The range between recorded minimum winter and maximum summer temperature is —61 degrees F. and 104 degrees F. The average date of the last killing frost is June 4 and of the first killing frost September 10, giving an average frost-free period of 98 days.

SOILS

The soil types of Meagher County do not cover extensive areas due to the topographical features within the county and the extreme variation of parent material which includes igneous, metamorphic and sedimentary rock.

Undifferentiated alluvial soils occur chiefly on flood plains in the stream valleys. The character of the stream valleys varies with the physiographic area. The stream valleys in the intermountain basins are, for the most part, open valleys with poorly drained, wet bottoms and in the mountains and foothills are chiefly gorges and deep canyons. Deep narrow valleys usually enclose the streams traversing the benchlands. These dark colored alluvial soils occur in nearly all of the stream valleys and range from clay loams and silt loams to gravelly loams and stony loams. Because of their advantageous location, being in the stream valleys and occurring as

gently sloping bottomlands, practically all of these soils are or have been under irrigation. Good crops of alfalfa and small grains are produced on the better drained areas, while the more poorly drained areas are utilized as pasture or for the production of tame and wild hay.

Benchlands, having grades of 30 to 40 feet to the mile and being 15 to 20 feet above the level of the streams, are generally gravel-capped. These benchlands occur principally along the Smith River, South Fork of the Smith River and North Fork of the Musselshell River and are utilized primarily as irrigated crop lands. The soil over a considerable portion of the area, however, is too gravelly and shallow for cultivation. Much of the irrigated land has become seeped and is now utilized for pasture and the production of wild hay. The soils are quite variable in structure, ranging from clay to gravelly loam, and are predominantly grayish brown in color.

Tablelands, having grades of 50 to 60 feet to the mile and being 100 feet or more above the level of the streams, occur on the eastern slopes of the Big Belt Mountains, in the west-central part of the County south of Camas Creek, in the east-central part of the County below the Little Belt Mountains, on the north slopes of the Crazy Mountains and locally around the Castle Mountains. Tablelands along some of the streams are under irrigation with fair yields of forage and feed crops being produced. Because these tablelands are generally intrenched by stream courses and are gravel-capped, the land is primarily utilized for grazing of livestock, although a small acreage is cultivated. The soils are light grayish-brown to dark grayish-brown gravelly loams and stony loams with occasional dark colored mulch covering the top soil.

The gently rolling lands have a relief favorable for farming; however, in some areas the soils are too shallow and often too stony for farming. The soils in the gently rolling areas range in color from almost black in the northwest and west to a grayish brown or light brown in the lower foothills of the Castle and Crazy mountains and, in structure, from clays to stony loams. More level areas along perennial streams are locally under irrigation. Fair yields of forage and feed crops are produced. A small acreage is devoted to dry land farming. The remainder is utilized almost entirely for the grazing of livestock.

The sharply rolling land, because of its rough, broken topography, is suitable chiefly for the grazing of livestock. The soils range from clays to slaty loams and stony loams with stony loams predominant and, in color, from reddish-brown on the slate-like shale extending from the Big Belt Mountains in the southwestern part of the County to dark grayish-brown in the lower foothills of the Castle, Crazy and Little Belt mountains. Except for extremely localized irrigation on the more gentle slopes in stream valleys, the area is utilized for the summer grazing of livestock.

For a detailed soil survey of Meagher County see: "Soils of Meagher County" by L. F. Gieseker, Bulletin 420, available through the Montana State College, Agricultural Experiment Station, Bozeman, Montana.

CROPS

Of the approximate 1,516,160 acres in Meagher County, 52,706 are classified by the 1940 U. S. Census as cropland. From these figures one can readily see why such an area has become dependent upon livestock raising and realize the importance of native grasses in a livestock raising area. Practically all of the native grasses are found on the grazing land, however, over 14,000 acres are cropped with much of the acreage in poorly drained irrigated and wet pastures.

Since water is rarely available during the critical growing stages of small grains and forage crops, most of the land under irrigation is devoted to pasture and wild and tame hay. The

crops grown above the ditch are chiefly early maturing varieties of small grains that can withstand late spring frosts.

Approximately 6% of the cropped acreage is idle or fallow. Of the 52,700 total cropped acres, 45,390 acres, or 86%, are devoted to the production of wild and tame hay. Of this, wild hay is produced on 14,300 acres and alfalfa on 10,300 acres. Timothy and clover consume 6,300 acres. The remaining 8% of the cropped acreage is devoted to small grains, of which 50% is wheat, 39% oats and the remainder such minor crops as barley and rye. Spring wheat is grown on 69% of the wheat acreage.

LIVESTOCK

The prosperity of Meagher County is largely dependent upon the livestock raising industry. According to figures obtained from the County Agent, sheep greatly outnumber all other livestock and, as a matter of fact, are over twice as populous as cattle. In Meagher County in 1949 there were 29,581 head of cattle and 64,734 head of sheep.

During the ten years from 1938 to 1949 cattle numbers have increased 10,629, from 18,952 to 29,581, an increase of 56%. Sheep numbers for the same period, however, have decreased 65,743, from 130,477 to 64,734, a decrease of over 50%. From these figures one might conclude that one head of cattle has replaced ten head of sheep. The scarcity of dependable labor and the comparatively high operating costs have forced the production shift.

The beef cattle produced in this area are predominantly of the Hereford breed with a few sizeable Aberdeen-Angus herds. Most of the sheep produced are of the Rambouillet breed or a Rambouillet-Hampshire cross. Sheepmen's losses to predators were extremely great but these losses have been greatly reduced by "1080" coyote poison set out on private land.

Horses and mules are retained for draft purposes by most farmers and ranchers; swine and poultry are raised for private consumption with the meager surpluses being placed upon the local markets. A few ranchers have colonies of bees for honey production.

WATER SUPPLY

Within Meagher County lie the headwaters of the Smith and Musselshell rivers and a great number of their tributaries; Sixteen Mile Creek, a branch of the Missouri River, with a few of its tributaries, and a small number of streams tributary to the Shields River, a branch of the Yellowstone River. The Big Belt, Little Belt, Castle and Crazy mountains have proved to be good watersheds during the years of average precipitation and it is from these watersheds that the above mentioned streams derive their water.

Smith River, the largest perennial stream in the County, rises in (a) North Fork, Little Belt and Castle mountains, and (b) South Fork, southern slopes of the Castle Mountains. The South Fork takes a northwesterly course through a small open valley to its confluence with the North Fork, approximately four miles southwest of White Sulphur Springs. Above the confluence, the North Fork courses through a poorly drained valley until a few miles above White Sulphur Springs where the valley gradually widens and meanders through shallowly intrenched benchlands. Below the confluence, the Smith River flows through the narrow valley, ranging from one-eighth to one mile in width, until near and north of Fort Logan where it cascades through a deepening canyon into Cascade County.

Within Meagher County numerous tributaries arising in the Big Belt and Little Belt mountains join the Smith River. A few of the major tributaries arising in the Big Belt Mountains and flowing generally northeasterly to the Smith River are Birch, Camas, Benton, Beaver, and Rock creeks. From the Little Belt Mountains, flowing generally westerly to the Smith River, are Newlan, Sheep, Eagle and Tenderfoot creeks.

Musselshell River, the second largest perennial stream in Meagher County, rises in (a) North Fork, Little Belt and Castle mountains, and (b) South Fork, Castle and Crazy mountains. The North Fork of the Musselshell River, also known as Musselshell River, courses southeasterly from its head through a valley occasionally constrained by gorges along its course and generally meandering through narrow benchlands to its confluence with the South Fork near Martinsdale. The South Fork of the Musselshell River courses generally northeasterly through a small brush-covered valley bordered by stony benches, and widening near its confluence.

Cottonwood Creek is the principal tributary to the South Fork of the Musselshell River. This creek heads in the Crazy Mountains; however, other tributaries to the South Fork also arise in the Castle Mountains. The principal tributaries to the North Fork of the Musselshell River having their headwaters in the Little Belt and Castle mountains in Meagher County are: Checkerboard, Spring and Box Elder creeks. Little Elk and Daisy Dean creeks, arising in Meagher County, are tributaries of the Musselshell River.

Sixteen Mile Creek heads on the western slope of the Crazy Mountains and flows thence generally westerly to join the Missouri River in Broadwater County.

MINING

The majority of mining activity in Meagher County took place before 1899, with 94% of the recorded mining income derived during that period. Data used in Table 2, Mine Production, were taken from the Bureau of Mines Information Circular 7540; however, the table is incomplete due to the lack of complete data concerning the amount of minerals produced. The values are relatively accurate.

Table 2.—Mine Production of Silver, Gold, Lead, Cooper, and Zinc in Meagher County for years 1883-1947, in terms of recoverable metals.

Metal	Amount Produced*			Value
Silver	14,017	Fine ounces		$3,282,385
Gold	5,277.81	Fine ounces		1,418,845
Lead	29,439,740	Pounds		1,201,242
Copper	703,573	Pounds		139,984
Zinc	34,207	Pounds		2,055
			Total	$6,044,511

*Records not available for entire periord—incomplete.

Five mining districts are recognized in Meagher County: Castle Mountain, Musselshell, Murray, Tenderfoot-Sheep Creek and Beaver Creek districts. Of these, Castle Mountain district has yielded virtually all of the lead and silver produced in Meagher County, as well as small but unknown amounts of gold, zinc, copper, iron, and manganese. No large mines have been developed in the Musselshell districts; however, prospecting has been general throughout the area. Copper and silver have been extracted in small quantities. The Murray and Tenderfoot-Sheep Creek districts have yielded no ores of great value. The Beaver Creek district is noted for its

placer gold and small amounts of manganese. Since 1932 virtually all of the gold produced in Meagher County was produced in this district.

Castle Mountain District: All of the Castle Mountain Range is embraced in this district; however, most of the claims are near the old towns of Castle, Robinson and Blackhawk. The Cumberland mine, discovered in 1884, is located on the southeast slope of the Castle Mountains about one mile north of the town of Castle. It is credited with most of the district's metal production: the principal metals being silver and lead in the form of argentiferous galena and cerussite. No record is available that gives the amount of ore mined or the quantity of silver and lead recovered, but estimates place the past production at approximately 19 million pounds of lead and 615,000 ounces of silver. At the present time, work is being done on the mine in an attempt to unwater the shaft in order to resume mining operations. A few of the other mines in the district are the Jumbo, Yellowstone, Homestake and Silver Star.

Musselshell District: This district embraces the region drained by the North Fork of the Musselshell River with the exception of the Castle Mountains. The metal of major importance found in the district is copper, mainly in the form of chalcopyrite and chalcocite. No large scale production has ever taken place; however, Copperopolis, discovered in 1867 and located eighteen miles east of White Sulphur Springs in the foothills south of the North Fork of the Musselshell River, is probably the best known. No production records are available.

Murray District: This district is located near the headwaters of Battle Creek about 14 miles south and four miles west of White Sulphur Springs and contains small amounts of copper ore in the form of chalcopyrite, chalcocite, azurite and malachite. A small amount of ore has been shipped from the Stewart and Battle Creek, Cooper Queen and Copper Glance mines. The mines in the district are not now in operation.

Tenderfoot-Sheep Creek District: The region on the western slope of the Little Belt Mountains that is drained by the Smith River is embraced in this district. Small amounts of zinc, lead, silver, iron, and gold have been mined. Shipments were small and of very little economic importance.

Beaver Creek District: The Beaver Creek district embraces the region drained by the tributaries of the Smith River on the eastern slope of the Big Belt Mountains. The principal metal produced within the district has been gold, mainly from placers. Of lesser importance is manganese. Gold was first discovered in 1865 in the gravel of Thompson Creek. Since that time, gold has been placer-mined along Camas Creek, Atlanta Gulch, Elk Creek, Thomas Creek, Benton Gulch, and Beaver Creek. Since 1932, 3,096.31 ounces of gold have been produced within this district as compared with 10.02 ounces from all other Meagher County districts. The lode gold deposits occur in small quartz veins, while in shallow workings, most of the gold occurs free, associated with quartz, iron oxide and calcite. The Meteor or Victory mine located 22 miles northwest of White Sulphur Springs has produced small amounts of manganese; the ore being braunite with opal or chalcedony and psilomelane.

Nonmetallic mineral deposits have not been mined to any extent due to transportation costs and lack of local markets.

NATIONAL FORESTS

Lying within Meagher County are portions of three national forests—Gallatin, Helena and Lewis & Clark. Less than two sections of land situated in the southwest corner of the County and a small area of the Crazy Mountains in the southeast corner of the County lie within the Gallatin National Forest boundary. Lands within the Helena National Forest boundary in Meagher County are located along the Big Belt Mountains and include some dry range southeast of Lingshire. The major portion of national forest lands in Meagher County are included in the Lewis & Clark National Forest and are separated into three districts — White Sulphur Springs, Musselshell and Belt Creek.

District operations are well exemplified by those of the White Sulphur Springs and Musselshell districts of the Lewis & Clark National Forest since these districts comprise well over 60% of the national forest lands within Meagher County. Their activities are diversified so as to cover the major operations of all forest districts. The overall aims and basic functions remain constant with all districts.

The White Sulphur Springs Ranger District includes those portions of the Little Belt Mountains down to "Rimrock Ridge" and of the Castle Mountains that drain into the Smith River and lie within the Lewis & Clark National Forest boundary. The district includes approximately 330 square miles, all of which is located in Meagher County.

The timber stand in the White Sulphur Springs District is composed principally of Lodgepole pine, Ponderosa pine, Douglas fir and Englemann spruce at lower elevations and Limber pine and Alpine fir at higher elevations. The stand is in good condition at the present time, having thrown off infestations by the Pine beetle and Spruce budworm. A widespread epidemic started among the Ponderosa pine in 1949 when, after a warm spell, a sudden intense cold wave froze the Ponderosa pine thus weakening them and making good brood trees for the insect infestation by the Pine beetle. In April or May the beetles swarm. The female bores into the tree to lay her eggs in the cambium. After hatching, the grubs spread sideways eventually destroying the cambium and thus the tree. The only defense is the tree's ability to pitch them out; however, this can be done only when the tree is healthy. The Spruce budworm, a defoliator or leaf eater, reached its peak in 1950 after attacking the entire district. Normally three to five years are required to kill an evergreen tree by annual defoliation; however, defoliation makes trees susceptible to secondary infestations. At the present time both infestations have subsided.

Logging operations for saw timber and pulpwood are under different systems of management. All logging operations are under supervision, the saw timber to be cut being marked with a U. S. stamp. Charges are made according to the estimated board feet. In addition to this charge a deposit of 25 to 75 cents per 1,000 board feet is required for brush disposal and a deposit of 20 cents per 1,000 board feet for erosion control. Pulpwood rates are based according to cords which are scaled after the pulpwood is loaded on flat cars at White Sulphur Springs. Areas up to a maximum of 50 acres are designated for cutting. In this district 700 to 1,000 acres are cut per year with approximately 25,000 cords of pulpwood removed per year on a sustained basis. Part of the charge goes into the K-V fund (sale area betterment or Knuteson-Vandenberg Act) which is used to finance the falling of defective trees, seeding or replanting if the cut area doesn't regenerate. Deposits based upon cordage are required for brush disposal and erosion control.

Livestock grazing should be classified under the grazing of sheep and of cattle since different systems of management govern each activity. In 1950 four bands of sheep, consisting of

800 to 1,200 head per band, were allowed approximately 60 grazing days in the White Sulphur Springs District, three bands grazing in the Little Belt Mountains and one band in the Castle Mountains. The grazing fee is based in accordance with the price of mutton the previous year. The Bureau of Agriculture Economics' base for the sheep month payment is four cents per head per month as of 1926. The 1950 fee was approximately eight to nine cents per head per month. Because lamb and mutton prices were higher in 1950, the 1951 fee will be correspondingly higher. In 1950, 2,253 head of cattle grazed the lower ranges. The grazing period varies according to range conditions, the average being from June 16 to October 15. The base cow month payment is fifteen cents per head per month as of 1926 according to the Bureau of Agriculture Economics. The 1950 fee was fifty-nine cents per head per month. The fee will be higher in 1951 because of increased prices received by beef cattle producers in 1950.

The Musselshell Ranger District includes those portions of the Crazy, Castle and Little Belt mountains that drain into the Musselshell River and lie within the Lewis & Clark National Forest. The district embraces approximately 399 square miles of which 274 square miles lie within Meagher County.

The timber stand in the Musselshell District is composed principally of Ponderosa pine and Douglas fir at the lower elevations, and Lodgepole pine and Limber pine at higher elevations. There is a stringer of spruce along some of the creek bottoms. The saw timber, although not large in quantity nor high in quality, is important to the local economy. To date no pulpwood has been removed from the district; however, due to recent interest in Lodgepole pine for pulpwood, a sale in the amount of 120,000 cords will be advertised in the Spring of 1951.

In 1950, 14,700 sheep grazed the higher elevations within the district for approximately 60 days and 4,030 cattle grazed the lower ranges for from 3½ to 4½ months. Range management work consisting of range inspection and inspection and maintenance of existing range improvements, as well as the construction of additional improvements, is a major job on the Musselshell District. These improvements consist of 70 developed springs, seven reservoirs and one well with windmill for stock water, approximately 25 miles of stock driveway and several miles of range fence.

On all Federal grazing land regular inspections are made by rangers with the permitees, as much as possible, to check sore spots caused by erosion due to grazing and trampling, trespassing of livestock, and to obtain the best use of the forage. Every precaution is taken to maintain the grazing land which is an important portion of the watershed.

Of prime interest and importance is the actual watershed condition, for it is from this watershed that water is derived for livestock, irrigation and other uses within and below the national forests. The Musselshell River is one of the headwaters of the Missouri River. These headwaters are vitally important from a local standpoint as well as for the effect of the headwaters on the lower river. One of the principal duties of the district ranger is the maintenance and protection of the watershed.

Forest fires destroy timber, forage for game and livestock, game shelter, and recreational facilities, but the principal long range effect of forest fires is the destruction of water holding capacities of watersheds. A fire at the turn of the century burned nearly 100 square miles in the Wheatland County portion of the Little Belt Mountains. Much of the soil in the area was washed from hillsides leaving nothing but parent rock. Today only a scattering of brush and grass covers much of the area. Coulees, now dry except for flash floods, were previously provided year long water from what used to be a good watershed.

The forest districts have written fire prevention and control plans tied in with plans of neighboring districts and national forests. Fire tool cashes are maintained at strategic points throughout the district as well as with rancher cooperators and sawmill operators living within or close to the district. Problems of fire prevention and control are discussed at fire schools attended by district personnel and local cooperators. In event of fire nearly every person living in the vicinity, in addition to fire guard cooperators, have always been willing to go to and fight a fire without waiting to be asked by the forest service. In part, this cooperation accounts for the more recent decline in burned acreage.

National forests have for their objective the preservation of all forest resources. Watershed efficiency is maintained through supervised logging and grazing, erosion control, and fire control. Resources include the watershed, water, minerals, wildlife and recreational facilities. The overall aim is to gain integrated multiple use of all available forest resources.

SUMMARY OF IRRIGATED LAND BY RIVER BASINS IN THE FOLLOWING COUNTIES COMPLETED TO DATE

Big Horn, Carbon, Custer, Golden Valley, Meagher, Musselshell, Rosebud, Stillwater, Wheatland and Yellowstone

RIVER BASIN	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
Missouri River Basin			
Missouri River	55	62	117
Musselshell River	63,135	54,459	117,594
Sixteen Mile Creek	3,567	1,228	4,795
Smith River	30,304	18,398	48,702
Total	97,061	74,147	171,208
Yellowstone River Basin			
Big Horn River	46,916	14,851	61,767
Little Big Horn River	17,134	9,844	26,978
Clarks Fork	33,286	7,328	40,614
Powder River	8,264	1,804	10,068
Rosebud River (Big Horn & Rosebud counties)	1,989	3,887	5,876
Rosebud Creek (Carbon & Stillwater counties)	15,828	12,944	28,772
Rock Creek	58,482	16,867	75,349
Shields River	25	40	65
Stillwater River	11,661	3,459	15,120
Tongue River	22,137	7,479	29,616
Yellowstone River	153,914	29,880	183,794
Total	369,636	108,383	478,019
Grand Total Missouri River Basin	97,061	74,147	171,208
Grand Total Yellowstone River Basin	369,636	108,383	478,019
Grand Total in the Counties Complete to Date	466,697	182,530	649,227

It was necessary to cover 10,543,972 acres in the above basins in order to complete the survey.

IRRIGATION SUMMARY OF MEAGHER COUNTY BY RIVER BASINS

Missouri River Basin—Regular Irrigation	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
North Fork Musselshell River			
Alkali Creek	0	38	38
Brooks Creek	0	57	57
Checkerboard Creek	64	80	144
Checkerboard Cr. & E. Fk. Checkerboard Cr.	6	0	6
Desert or Sheep Creek	0	56	56
Flagstaff Creek	298	6	304
Hall Creek	16	0	16
Hall Spring (Trib. to N. Fk. Musselshell R.)	0	7	7
Lion Creek	76	665	741
Mill Creek	10	0	10
Mud Creek & Coulees	182	369	551
North Fork Musselshell River	3,176	2,535	5,711
Sourdough Creek	61	101	162
Spring Creeks	560	726	1,286
Stohr Creek	48	0	48
Trail Creek	225	144	369
Unnamed Coulees (Trib. to N. Fk. Musselshell R.)	73	52	125
Unnamed Springs (Trib. to Checkerboard Cr.)	3	0	3
Whetstone & Cooper Creeks	0	98	98
Total	4,798	4,934	9,732
South Fork Musselshell River			
Allebaugh Creek	247	8	255
Bonanza Creek or Coyote Creek	257	126	383
Bozeman Fork Creek	395	42	437
Comb Creek	1,430	423	1,853
Cottonwood Creek	1,354	1,839	3,193
Dale Creek	72	183	255
Deer Creek	21	0	21
East Fork Cottonwood Creek	212	143	355
Hensley Creek	111	0	111
Hereim Creek	144	65	209
Little Cottonwood Creek	28	0	28
Loco Creek	5	0	5
Lost Horse Creek	46	100	146
Meadow Creek	22	0	22
Middle Fork Cottonwood Creek	104	0	104
Mosback Creek & Tributaries	155	0	155
Mud Creek & Tributaries	561	14	575
Muddy Creek	0	78	78
Pine Creek	0	58	58
Robinson Creek	108	0	108
Sawmill Creek	66	0	66
Sill Creek	1	0	1
Slaughterhouse Creek	63	0	63
South Fork Musselshell River	1,597	148	1,745
Unnamed Coulee (Trib. to Cottonwood Cr.)	0	7	7

IRRIGATION SUMMARY OF MEAGHER COUNTY BY RIVER BASINS

Missouri River Basin—Regular Irrigation (Cont'd)	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
Unnamed Coulee (Trib. to Reynolds Cr.)	0	16	16
Unnamed Coulees (Trib. to So. Fk. Musselshell R.)	165	452	617
Unnamed Spring (Trib. to Mud Creek)	9	2	11
Warm Springs Creek	274	54	328
Total	7,447	3,758	11,205
Musselshell River			
Daisy Dean Creek	163	28	191
Morris Creek & Coulees	44	1	45
Nevada Creek	65	16	81
North Fork Little Elk Creek	81	53	134
West Fork Little Elk Creek	23	45	68
Total	376	143	519
Grand Total Musselshell River Drainage Basin	12,621	8,835	21,456
Sixteen Mile Creek			
Badger Creek	0	22	22
Battle Creek	166	416	582
Battle Mountain Creek	267	0	267
Canyon Creek	10	0	10
Cottonwood Creek	56	0	56
Dirst Creek	39	0	39
East Meadow Creek	170	0	170
Faulkner Creek	412	24	436
Hay Creek	136	0	136
Indian Creek	10	3	13
Joe Creek	8	0	8
Lost Creek	54	155	209
Meadow Creek	39	19	58
Middle Fork Meadow Creek	51	0	51
Mike Day Creek	256	142	398
Quail Creek	0	34	34
Sixteen Mile Creek	1,666	267	1,933
Unnamed Coulees (Trib. to Battle Creek)	59	57	116
West Meadow Creek	36	81	117
Woodson Creek	33	8	41
Young Creek	99	0	99
Total	3,567	1,228	4,795
Grand Total Sixteen Mile Creek Drainage Basin	3,567	1,228	4,795
North Fork Smith River			
Basin Creek	0	49	49
Casey Creek	0	26	26
Dry Creek	57	12	69
Eight Mile Creek	40	136	176
Four Mile Creek	66	37	103

IRRIGATION SUMMARY OF MEAGHER COUNTY BY RIVER BASINS

Missouri River Basin—Regular Irrigation (Cont'd)	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
Geis Creek	301	210	511
Ice Creek	0	67	67
Lake Creek	120	25	145
Moss Creek	0	5	5
North Fork Smith River	6,771	4,077	10,848
North Fork Smith River South Side Canal (S.W.C.B.)	1,585	1,237	2,822
North Fork Smith River & Trinity Springs	10	29	39
North Fork Smith River, Trinity Springs & Spring Creek	203	16	219
Pinchout Creek and Springs	0	87	87
Spring Creek	119	180	299
Studhorse Creek	40	0	40
Unnamed Coulee (Trib. to Whitetail Creek)	0	3	3
Unnamed Coulee & Springs (Trib. to Eight Mile Creek)	0	28	28
Unnamed Springs	9	0	9
Whitetail Creek	0	45	45
Willow Creek	544	451	995
Total	9,865	6,720	16,585
South Fork Smith River			
Artesian Well (Trib. to So. Fk. Smith River)	51	0	51
Catlin Springs	44	0	44
Cook's Creek	1,335	295	1,630
Cottonwood Creek	0	827	827
Cottonwood Creek & Catlin Springs	0	36	36
Ford's Creek	126	25	151
Hussey Creek	510	46	556
Lone Willow Creek	66	85	151
Mayn's Creek	24	0	24
North Fork Cook's Creek	17	0	17
Prairie Creek	57	0	57
South Fork Cook's Crek	74	0	74
South Fork Smith River	1,719	693	2,412
Spring Creek & Reservoir	41	0	41
Unnamed Coulees (Trib. to So. Fk. Smith River)	98	49	147
Total	4,162	2,056	6,218
Smith River			
Atlanta Gulch	7	0	7
Ayers Gulch	146	5	151
Beaver Creek	0	65	65
Benton Creek	409	73	482
Birch Creek	1,518	483	2,001
Butte Creek	137	0	137
Cabin Creek	31	74	105

IRRIGATION SUMMARY OF MEAGHER COUNTY BY RIVER BASINS

Missouri River Basin—Regular Irrigation (Cont'd)	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
Camas Creek	1,675	1,887	3,562
Canyon Creek	301	41	342
Daniels Creek	68	0	68
Deadman's Creek	7	0	7
Deer or Jumping Creek	119	0	119
Eagle Creek	144	0	144
East Fork Eagle Creek	109	0	109
East Fork Newlan Creek	13	7	20
East Fork Spring Creek	44	33	77
Elk Creek	723	483	1,206
Fox Creek	159	0	159
Fox Desert Spring	10	0	10
Freeman Creek	118	0	118
Freeman Creek & Large Spring	50	0	50
Garden Creek	29	3	32
Gypsy Creek	9	0	9
Horse Creek	40	0	40
Horse Creek & Springs	11	34	45
Indian Creek	275	230	505
Kinney Creek	89	4	93
Lake Creek	134	0	134
Large Spring (Trib. to Spring Creek)	23	0	23
Little Birch Creek	560	632	1,192
Little Camas Creek	9	0	9
Little Sheep Creek	52	0	52
Meadow Creek	106	0	106
Moose Creek	183	323	506
Moose Creek & Gillogly Spring	14	21	35
Mud Creek	19	0	19
Mule Creek	228	0	228
Murray Creek	61	0	61
Newlan Creek	1,231	1,127	2,358
North Fork Freeman Creek	29	0	29
North Fork Woods Gulch Creek	623	94	717
Park Creek	26	0	26
Pickfoot Creek	35	0	35
Pistol Creek	0	9	9
Pole Creek	99	0	99
Rabbit or Spring Creek	262	18	280
Rock Creek	187	232	419
Ryan or Woolsey Creek	249	0	249
Sheep Creek	727	607	1,334
Smith River	739	464	1,203
South Fork Freeman Creek	19	0	19
South Fork Tenderfoot Creek	167	0	167
South Fork Woods Gulch Creek	276	0	276
Spring Branch or Little Sulphur Creek	0	5	5

IRRIGATION SUMMARY OF MEAGHER COUNTY BY RIVER BASINS

Missouri River Basin—Regular Irrigation (Cont'd)	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
Spring Creek	146	95	241
Spring Gulch	217	0	217
Spring (Trib. to Freeman Creek)	17	0	17
Spring (Trib. to Rock Creek)	44	0	44
Spruce Creek	4	0	4
Thomas Creek	93	97	190
Thompson Gulch	249	168	417
Tourist Spring (Trib. to Beaver Creek)	11	0	11
Unnamed Coulee (Trib. to Moose Creek)	5	0	5
Unnamed Coulee (Trib. to Newlan Creek)	2	0	2
Unnamed Coulee (Trib. to Sheep Creek)	20	0	20
Unnamed Coulee (Trib. to Smith River)	0	4	4
Unnamed Coulees (Trib. to West Fk. Eagle Cr.)	0	58	58
Unnamed Coulee & Res. (Trib. to Sheep Creek)	13	0	13
Unnamed Coulee & Res. (Trib. to Smith River)	0	22	22
Unnamed Spring (Trib. to One Creek)	43	42	85
Unnamed Spring (Trib. to Two Creek)	4	17	21
Unnamed Springs (Trib. to Cottonwook Creek)	22	0	22
Walker Creek	58	62	120
West Fork Eagle Creek	208	35	243
Whitetail Creek	0	6	6
Whitetail Deer Creek	175	126	301
Williams Creek	26	0	26
Woods Gulch Creek	528	190	718
Total	14,184	7,876	22,060
Grand Total Smith River Drainage Basin	28,211	16,652	44,863
Grand Total Missouri River Basin	44,399	26,715	71,114
Yellowstone River Basin—Regular Irrigation			
Shields River			
Smith Creek	25	40	65
Total	25	40	65
Grand Total Shields River Drainage Basin	25	40	65
Grand Total Yellowstone River Basin	25	40	65
Missouri River Basin—Flood Irrigation			
North Fork Musselshell River			
Alkali Creek	25	0	25
Brooks Creek	26	3	29
East Fork Spring Creek	35	49	84
Mud Creek	57	1,022	1,079
Quaking Asp Coulee	34	0	34
Sourdough Creek	8	0	8
Unnamed Coulees (Trib. to Checkerboard Creek)	27	0	27

IRRIGATION SUMMARY OF MEAGHER COUNTY BY RIVER BASINS

Missouri River Basin—Flood Irrigation (Cont'd)	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
West Fork Mud Creek (Trib. to West Fork Box Elder Creek)	0	61	61
Whetstone Creek	8	0	8
Total	220	1,135	1,355
South Fork Musselshell River			
Comb Creek	281	89	370
East Fork Cottonwood Creek	66	0	66
Little Cottonwood Creek	96	52	148
Reynolds Creek	43	0	43
Willow Creek	0	129	129
Total	486	270	756
Musselshell River			
Daisy Dean Creek	24	0	24
Middle Fork Little Elk Creek	10	0	10
Nevada Creek & Coulees	39	3	42
North Fork Little Elk Creek	27	0	27
Unnamed Coulees (Trib. to Morris Creek)	4	0	4
Total	104	3	107
Grand Total Musselshell River Basin	810	1,408	2,218
Sixteen Mile Creek			
East Meadow Creek	86	0	86
Faulkner Creek	162	0	162
Indian Creek	0	9	9
Total	248	9	257
Grand Total Sixteen Mile Creek Drainage Basin	248	9	257
North Fork Smith River			
Bangtail Creek	0	75	75
Five Mile Creek	0	45	45
Four Mile Creek	341	332	673
Pinchout Creek	0	17	17
Studhorse Creek	0	51	51
Trout Creek	0	12	12
Total	341	532	873
South Fork Smith River			
Mayn's Creek	86	0	86
Sawmill Creek	0	27	27
Unnamed Coulees (Trib. to South Fk. Smith R.)	29	29	58
Unnamed Spring (Trib. to Sawmill Creek)	0	20	20
Total	115	76	191
Smith River			
Beaver Creek	620	747	1,367
Benton Creek	6	42	48

IRRIGATION SUMMARY OF MEAGHER COUNTY BY RIVER BASINS

Missouri River Basin—Flood Irrigation (Cont'd)	PRESENT IRRIGATED ACRES	IRRIGABLE ACRES UNDER PRESENT FACILITIES	MAXIMUM IRRIGABLE ACRES
Bonine Creek	23	0	23
Butte Creek	28	0	28
Charcoal Creek	14	0	14
Coon Creek	15	0	15
Cottonwood Creek & Springs	163	0	163
Daisy Creek	0	97	97
Deadman's Creek	0	54	54
Deer Creek	33	0	33
Ditch Creek	0	69	69
Jack's Creek & Springs	60	0	60
Lambing Camp Creek	42	0	42
Lind Creek	58	0	58
Little Beaver Creek	32	0	32
Middle Fork Beaver Creek	20	0	20
Newlan Creek	49	0	49
North Fork Freeman Creek	132	33	165
Priest Gulch	0	11	11
Ranch Creek	13	0	13
Skunk Creek	22	0	22
Skunk & Sheep Creek	13	6	19
Spring Creeks	73	0	73
Trout Creek	47	5	52
Unnamed Coulee (Trib. to Little Beaver Creek)	46	0	46
Unnamed Coulee (Trib. to Newlan Creek)	2	0	2
Unnamed Coulee (Trib. to Sheep Creek)	19	20	39
Unnamed Coulee & Res. (Trib. to Williams Cr.)	7	0	7
Unnamed Spring (Trib. to Horse Creek)	90	0	90
Vermont Creek	0	54	54
Whitetail Spring (Trib. to Little Beaver Creek)	10	0	10
Total	1,637	1,138	2,775
Grand Total Smith River Drainage Basin	2,093	1,746	3,839
Grand Total Missouri River Basin	3,151	3,163	6,314
Regular Irrigation			
Grand Total Missouri River Basin	44,399	26,715	71,114
Grand Total Yellowstone River Basin	25	40	65
Grand Total in Meagher County	44,424	26,755	71,179
Flood Irrigation			
Grand Total Missouri River Basin	3,151	3,163	6,314
Grand Total Yellowstone River Basin	0	0	0
Grand Total in Meagher County	3,151	3,163	6,314
Regular and Flood Irrigation			
Grand Total Missouri River Basin	47,550	29,878	77,428
Grand Total Yellowstone River Basin	25	40	65
Grand Total in Meagher County	47,575	29,918	77,493

A part of the State Water Conservation Board overall Musselshell Basin development plan is known as the Upper Musselshell Storage Project. This Project was planned to supply supplemental irrigation water to 29,000 acres and a full supply for 6,000 acres. The effect of the upper project on the lower project, the Deadman's Basin Project, is that it lowers the flood stages of the Musselshell River at Winnecook where the intake canal diverts to Deadman's Basin Storage Reservoir—thus saving flood water which would otherwise be lost because of the insufficient carrying capacity of said canal. It also increases the fall and winter flow from return ground water. Also, a portion of the peak flood diverted to the upper reservoir can be reclaimed at Deadman's Basin as return flow during late fall and winter.

UPPER MUSSELSHELL PROJECT

DURAND DAM AND RESERVOIR: A portion of the State Water Conservation Board's Upper Musselshell Project on the North Fork of the Musselshell River. The photograph shows the dam with its spillway (right) and outlet (bottom), and the reservoir as it was in October, 1950.

This project consists of two storage reservoirs, three diversion canals, one outlet canal and one distribution canal. One reservoir, called DuRand, and one diversion canal from Checkerboard Creek are located in Meagher County. The balance of the project is located in Wheatland and Golden Valley counties. The major part of the project lands are located in the Musselshell Valley between Harlowton and Martinsdale, while a minor part is in the North Fork of the Musselshell Valley, between Martinsdale and Delpine.

The upper reservoir, called DuRand Reservoir, is located on the North Fork, about one-half mile above Delpine, and has a storage capacity of 7,029 acre-feet at the elevation of spillway crest. In addition to the North Fork drainage, water can also be fed into the Reservoir by a diversion canal from Checkerboard Creek. The canal is three miles long and has a carrying capacity of 51 second-feet. The canal has not been in use for several years due to the adequate supply of

flood waters in the North Fork drainage; however, if need arises the canal can be used. Drainage area tributary to the Reservoir from North Fork is 48.2 square miles and from Checkerboard 21.3 square miles, or a total of 69.5 square miles, all of which is moderately high mountains, and is lightly timbered.

The DuRand Dam is an earth, sand, gravel and rock fill, having a total crest length of 550 feet and top width of 30 feet. The front slope is 3:1 below water line and 2:1 above water line. Donwstream slope is 2:1. Elevations are: top of dam, 5,337 feet; spillway crest, 5,325 feet; natural creek bottom, 5,237 feet; bottom depth of cutoff trench, 5,222 feet; flow line of outlet, 5,247.15 feet. From these elevations, the maximum height of dam above natural creek bed is 100 feet and above the bottom of cutoff trench, 115 feet. The spillway crest is 12 feet below the top of the dam. The dam contains approximately 241,600 cubic yards of material.

The outlet conduit rests on solid rock near the middle of the dam and the concrete spillway is at the left end of the dam. The concrete lined outlet conduit is 54 inches by 54 inches inside and equipped with two gates operated through a concrete tower from the top of the dam. The operating gate is a 48 inch diameter Dow disc arm pivot valve, while the emergency is a 48 inch diameter gate valve. The spillway has a crest length of 64 feet and is capable of discharging a flood of 6,000 second-feet with a freeboard of 3 feet. The flooded area of the reservoir covers 272 acres.

Project History and Operation

The State Water Conservation Board made three appropriations for all of the unappropriated water in the North Fork of Mussellshell River and tributaries and two appropriations for all of the unappropriated water in the South Fork of Musselshell River and tributaries, the water to be used for storage in the Upper Musselshell Project and irrigation of lands within the project. The notices of appropriation are on file in Book 52 of Miscellaneous Records on Pages 318, 447-449 in the Meagher County Courthouse. These appropriations were made and filed under provisions of Section 349.18 of the Revised Codes of Montana.

The State Water Conservation Board received a loan and grant offer from the Federal Government, dated October 2, 1937, which was accepted on October 6, 1937. This offer called for the construction of two reservoirs known as "DuRand" and "Martinsdale"; a supply canal known as "Checkerboard Canal"; a supply canal known as "Martinsdale Canal", and an "Outlet Canal", at an estimated cost of $776,364, of which $349,364 was to be a grant and $427,000 a loan, evidenced by Water Conservation Revenue Bonds. It requred the formation of the Upper Musselshell Water Users' Association, and the sale of 30,000 acre feet of water purchase contracts, acceptable to the Finance Division of the PWA. Owing to the question of a sufficiency of water supply for the Martinsade Reservoir, the PWA required the construction of an additional diversion canal, known as the "North Fork Diversion Canal" in order that the surplus waters of the North Fork of the Musselshell River could be diverted to the South Fork of the Musselshell River, and then into the Martinsdale Reservoir. In order to secure sufficient water purchase contracts acceptable to PWA, it was necessary to construct the "Two Dot Canal" to distribute water to lands not irrigable from any existing ditches from the river. This enlarged in a considerable degree the scope of the project and accounts for the cost over and above the original estimate.

The Upper Musselshell Water Users' Association was incorporated under the laws of Montana October 22, 1927. Water purchase contracts in the amount of 30,000 acre feet of water on contracts acceptable to PWA were secured and approved by the Association on May 31, 1938, and by the Board on June 1, 1938. The bond transcript was then completed and the bonds sold to the Government on Dcember 3, 1938.

Bids for the construction of the project were received on March 17, 1938, the low bidder being Peter Kiewit Sons's Company of Omaha, Nebraska, ($619,804.30) and contract was awarded to said contractor on the same day, subject to approval of PWA. This approval was received on March 30, 1938. Work was started on April 1, 1938, and completed September 20, 1939.

The project operated during 1940 for the first time. Owing to the extremely dry fall of 1939 and lack of snow fall and spring rains during 1940, there were only 13,293 acre feet of water in storage for use during the season. This was proportioned among water purchasers, and by its use many crops were grown that otherwise would have been a total failure. Since that time there has never been a shortage of stored water.

To secure funds to construct the project, the Board issued its Water Conservation Revenue Bonds, Series "N" in the amount of $427,000, dated May 1, 1938, secured by a trust indenture of the same date, executed by the Board and the Montana National Bank of Billings, Montana, as trustee. The indenture provides for the pledge of all of the revenues of the project for the payment of interest on and principal of the bonds. These bonds bear interest at 4% per annum, payable May 1st of each year, commencing with the year 1939, and with first bond principal in the amount of $9,000 due May 1, 1942, and increasing annual payments to the sum of $25,000 due May 1, 1968.

The security mentioned consists of a water marketing contract between the Board and the Association, and water purchase contracts entered into between each individual water purchaser, the Association and the Board.

The original list comprises 128 water purchase contracts totaling 30,000 acre feet of water, at $1.10 per acre foot per year, commencing with the year 1939 to and including 1967. The total sums due under the contracts are sufficient to pay all interest and principal, and provide a reserve of approximately 23%.

ARTICLES OF INCORPORATION
of
UPPER MUSSELSHELL WATER USERS' ASSOCIATION

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned, pursuant to and in conformity with the provisions of Chapters 12 to 23, Civil Code, Revised Codes of Montana, 1935, and Acts amendatory thereof, or supplemental thereto, associate ourselves together, not for profit, and do hereby adopt the following Articles of Incorporation.

ARTICLE I

The corporate name of this corporation is hereby declared to be Upper Musselshell Water Users' Association.

ARTICLE II

The objects and purposes for which this corporation is formed are as follows:

1. To appropriate, purchase, market, sell, pump, divert, develop, furnish, distribute, lease and dispose of the waters of the North Fork of the Musselshell River and tributaries and the South Fork of the Musselshell River and tributaries, Meagher and Wheatland counties, Montana, and such other waters as may be deemed advisable.

2. To enter into and carry out agreements with the State of Montana, the State Water Conservation Board, the United States of America, or any instrumentality or agency thereof, any person, firm, association, corporation, private, public or municipal with reference to the purchasing, marketing, furnishing, distributing and selling of the aforesaid waters, and of the privilege of obtaining such waters when available, and the diversion, development, disposition and utilization of such waters, the charging, collecting and disposition of

rents and revenues for such waters and privileges, the operation, maintenance, repair, alteration, construction, reconstruction and supervision of the means of conserving and distributing such waters.

3. To construct, reconstruct, maintain, repair, alter, use, control and operate dams, reservoirs, irrigation works and systems, drainage works and systems, diversion canals, distributing canals, laterals, ditches, pumping ditches, pumping units, mains, pipe lines, waterworks systems, and other means of conserving and distributing the aforesaid waters.

4. To lease, sell or otherwise dispose of water, water rights, lands, easements and/or property which it may acquire.

5. To acquire, own and hold such real and personal property as may be necessary or convenient for the transaction of its business.

6. To incur indebtedness upon its bonds, notes, contracts or other evidences of indebtedness, and to secure the same by mortgages, deeds of trust, pledges of any or all of its revenues and contracts, or in any other manner, subject, however, to the approval of any such indebtedness by resolution of the State Water Conservation Board.

7. To acquire, hold and dispose of stock in other corporations, domestic or foreign.

8. To acquire by purchase, forfeiture or in any other legal manner, shares of the capital stock of this corporation, and to acquire and exercise options thereon, and to dispose of, re-issue or cancel same as the Board of Directors may determine.

9. To have and exercise all the powers and to perform any and all acts necessary, convenient or appropriate to carry out any one or more of the said purposes or anything incident thereto, or which shall at any time appear conducive or expedient for the protection or benefit of the Association or its shareholders, and to that end to enter into any contract, agreement or other arrangement with the State of Montana, the State Water Conservation Board, the United States of America or any instrumentality or agency thereof, or any person, firm, association, corporation, private, public or municipal, or any state or foreign government.

10. To make and promulgate Bylaws for the government and control of this corporation. The Bylaws, or amendments thereto, adopted by the Board of Directors shall be and become effective only after their approval by the State Water Conservation Board.

11. The powers herein granted and conferred, shall be exercised only with the approval of the State Water Conservation Board.

ARTICLE III

The principal place of transacting the business of the corporation shall be at Harlowton, in the County of Wheatland, State of Montana.

ARTICLE IV

This corporation shall continue in existence for the term of forty (40) years from and after the filing of these Articles of Incorporation.

ARTICLE V

The number of directors who shall manage the affairs of this corporation shall be five. . . .

ARTICLE VI

The capital stock of said Corporation shall be Fifty Thousand ($50,000.00) Dollars, which shall be divided into fifty thousand (50,000) shares of the par value of One Dollar ($1.00) each. Each shareholder of the capital stock of this corporation shall be entitled to one (1) vote for each share of stock owned by him.

Capital shares of the stock of this corporation shall be subject to purchase, sale or forfeiture under such terms and conditions as are provided by the Bylaws of the corporation and its subscription and pledge agreements with shareholders. Except with the consent of the corporation, no stock of this corporation shall be transferred on the books of the corporation so long as the owner or owners thereof are obligated in any way to the corporation, whether such obligations be matured or unmatured, or be under a subscription agreement or note, a water purchase contract or otherwise.

The private property of the stockholders of this corporation shall not be liable for the obligations of the corporation except as in the Bylaws of the corporation otherwise provided.

ARTICLE VII

That the amount of the Capital Stock actually subscribed is Twenty Five ($25.00) Dollars. . . .

Witness our hands and seals this 11th day of September, A. D. 1937.

(s) E. J. Settle
John Duncan
Sanford M. Holliday
H. C. Klock
Chas. F. Williams

STATE OF MONTANA
SS
COUNTY OF WHEATLAND

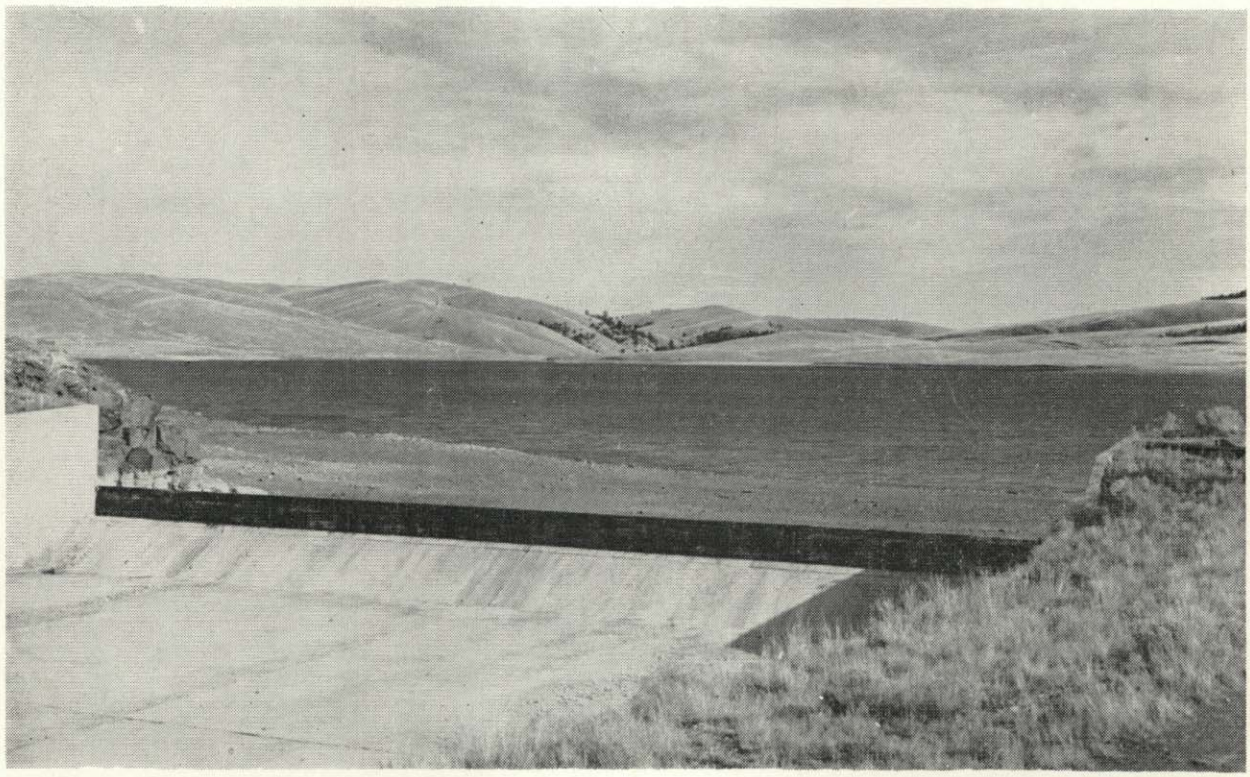
On this 11th day of September, A. D., 1937, personally appeared before me, a Notary Public for the State of Montana, E. J. Settle, John Duncan, Sanford M. Holliday, H. C. Klock, and Chas. F. Williams, whose names are subscribed to the foregoing instrument as the parties thereto, personally known to me to be the same persons described in, and who executed the said foregoing instrument, as the parties thereto, and who, each of them, duly acknowledged to me that they each of them respectively, executed the same.

In witness whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

A. A. Poirier,
Notary Public for the State of Montana, Residing at Harlowton, Montana.
My Commission expires Jan. 15, 1940.

(SEAL)

NORTH FORK OF SMITH RIVER PROJECT



NORTH FORK SMITH RIVER DAM AND RESERVOIR: A portion of the State Water Conservation Board's North Fork Smith River Project. The photo shows the spillway and reservoir as it was in October, 1950. The flashboards, added in 1950, increased the reservoir capacity 800 acre-feet.

The North Fork of Smith River Project consists of a dam and its storage reservoir located on the North Fork of Smith River about nine miles northeast of White Sulphur Springs. Also included in the project is about 15½ miles of canal, known as the South Side Canal, serving lands along the North Fork of Smith River. Prior to the spring of 1950 the reservoir had a capacity of 10,750 acre-feet but flashboards were added to the spillway crest which has increased the capacity of the reservoir to 11,550 acre-feet. This reservoir supplies water, most of which is used for supplemental irrigation, to 11,000 acres of land. The drainage area above the reservoir is 68.3 square miles situated in the high timbered Belt Mountains and foothills. The dam and reservoir were built under PWA loan and grant while the canal was built by WPA with cooperation from the State Water Conservation Board. In 1948 the canal was extended about one and one-half miles by the Board. The flashboards on the spillway were constructed in the Spring of 1950 and are to be paid for from revenues collected for operation and maintenance. There are two separate independent projects so far as repayments are concerned. Only the users under the canal are to repay the construction cost of the canal while all users in the project share alike in repaying the cost of the dam and reservoir.

Dam and Reservoir

The dam is an earth, rock and sand gravel fill, having a total crest length of 1,200 feet and top width of 24 feet. The front slope is 3 to 1 below water line and 2 to 1 above water line. The downstream slope is 2 to 1. The elevation and top of dam is 5,495 feet. The maximum height of dam above the natural creek bed is 81 feet, or 90 feet above the bottom of the cutoff trench. The spillway crest is nine feet below the top of the dam and the flashboards are 2 feet 4 inches high. The structure contains approximately 391,000 cubic yards of material.

The outlet conduit is built on bedrock at the right abutment and the spillway is at the right end of the dam. The concrete lined outlet tunnel is five feet by five feet inside and equipped with two gates operated through a concrete tower from the top of the dam. The operating gate is a 54 inch diameter Dow disc arm pivot valve, while the emergency is a 54 inch diameter gate valve. The spillway has a crest length of 80 feet and is capable of discharging a flood of 4,000 second-feet with a freeboard of four feet. The flooded area of the reservoir to the elevation of spillway crest covers 322 acres. At the elevation of top of dam, the area is 370 acres.

South Side Canal

The construction of the South Side Canal was initiated by local people and the work was done by WPA in cooperation with the State Water Conservation Board. The canal was originally 14 miles long but in 1948 was extended 1½ miles by the Water Board with its own funds. The canal diverts on the south bank of the North Fork of Smith River in the southeast quarter of the northwest quarter of Section 26, Township 10 North, Range 7 East and traverses generally southwesterly then southerly to a point approximately one-fourth of a mile west of the northeast corner of Section 31, Township 9 North, Range 7 East.

Although Articles of Incorporation of the South Side Canal Water Users' Association were drafted in 1939 they were not filed with the Secretary of State until May 8, 1948, at which time the need for maintenance funds was realized. The water users are assessed 10 cents per acre-foot per year for maintenance and repayment of the canal costs. The South Side Canal was designed to deliver about 3750 acre feet per season to approximately 1585 acres of land which are now being irrigated. At the present time no more land can be served from the North Fork reservoir on account of the limit in water supply. There are about 1237 acres under the present South Side Canal that could be irrigated if the canal were enlarged and there were sufficient water. Also the canal could be extended to serve several thousand acres more. The limits of the project are defined by the water supply and not by acres of potential land.

Future plans of the Board are: (a) divert water into the North Fork from Sheep and Newlan creeks to serve water users along the North Fork Valley below the South Side Canal intake and (b) enlarge and extend the South Side Canal to use a like amount of water from the reservoir on additional lands.

Project History and Operation

The State Water Conservation Board appropriated all unappropriated water in the North Fork of Smith River and tributaries on August 20, 1935, in accordance with the provisions of Section 349.18 of the Revised Codes of Montana, for storage and irrigation. The notice of appropriation was filed October 23, 1935, and is on file in Book 52 of Miscellaneous Records on Pages 317-318 in the Meagher County Courthouse.

The State Water Conservation Board received a loan offer from the Federal Government, dated December 31, 1935, which was accepted by the Board on January 10, 1936. This offer called for the construction of an earth-fill dam and appurtenances, at an estimated cost of $260,000 of which $117,000 was to be a grant and $143,000 a loan, to be evidenced by State Water Conservation Revenue Bonds, Series "D". It required the formation of the Smith River Water Users' Association and the sale of 11,000 acre-feet of water under contracts satisfactory to PWA.

The Smith River Water Users' Association was incorporated under the laws of Montana on October 15, 1935. Water purchase contracts in the amount of 11,000 acre-feet were secured and approved by the Association on September 4, 1936, and approved by the State Water Conservation Board on September 12, 1936, immediately following approval by PWA. The bond transcript was completed and approved by PWA and the bonds sold to the Government on September 30, 1936. Bids for construction of the project were received on November 29, 1935. The low bidder was J. L. McLaughlin of Great Falls, Montana, ($202,146.65) and the Board awarded the contract to said contractor on the same day, subject to approval of PWA, which approval was received on April 28, 136. Construction work was commenced May 4, 1936, and was accepted by the Board as completed on November 19, 1936.

This project was first operated during the year 1937, and has operated each succeeding year.

Under the terms of the water marketing contract between the Smith River Water Users' Association and the Board, the Association agreed to pay to the Board the sum of $9,900 on December 15th of each year, beginning with the year 1937, and to and including the year 1965.

To secure funds to construct the project the Board issued its Water Conservation Revenue Bonds, Series "D", in the amount of $143,000, dated February 15, 1936, secured by a trust indenture of the same date, executed by the Board and the Montana Bank and Trust Company, Great Falls, Montana, as Trustee, wherein the revenues of the project were pledged for payment of the interest on and principal of the bonds. These bonds bear interest at the rate of 4% per annum, payable February 15th of each year, commencing with the year 1937, with first bond principal in the amount of $3,000 due February 15, 1940, and increasing annual payments to the sum of $9,000, due February 15, 1966. The security mentioned consists of a water marketing contract between the Board and the Water Users' Association, and water purchase contracts entered into between each individual water purchaser, the Association and the Board. The original list comprised 34 water purchase contracts totaling 11,000 acre-feet of water, at 90 cents per acre-foot per year, commencing with the year 1937, to and including the year 1965.

ARTICLES OF INCORPORATION
of the
SMITH RIVER WATER USERS' ASSOCIATION

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned, pursuant to and in conformity with the provisions of Chapters 1 to 12, Part III, Civil Code of Montana 1921, and Acts amendatory thereof or supplemental thereto, associate ourselves together, not for profit, and do hereby adopt the following Articles of Incorporation:

ARTICLE I

The corporate name of this corporation is hereby declared to be the Smith River Water Users' Association.

ARTICLE II

The objects and purposes for which this corporation is formed are as follows:

1. To appropriate, purchase, market, sell, pump, divert, develop, furnish, distribute, lease, and dispose of the unappropriated waters of the North Fork of Smith River, which will be impounded by means of a dam or dams, and a storage reservoir or reservoirs located in or about Meagher County in Sections 15, 16, 17, 20 and 21, Township 10 North, Range 8 East; and the waters of Eight Mile Creek to be impounded by means of dams and storage reservoirs located in or about Meagher County, Montana, in Sections 15, 16, 17, 20 and 21, Township 10 North, Range 8 East, and such other structures as may be necessary to carry out the purposes of the Association, and the waters from the tributaries of all of the foregoing rivers, creeks and streams and from all other available sources of supply, together with the return flow of all of the foregoing waters furnished or supplied by seeping or overflowing from the previous place of use of such waters, and the waters from other dams, reservoirs, diversion canals, distributing canals, lateral ditches, pumping units, mains, pipe lines and water works systems.

2. To enter into and carry out agreements with the State of Montana, the State Water Conservation Board, the United States of America or any instrumentality or agency thereof, any person, firm, association, corporation, private, public or municipal with reference to the purchasing, marketing, furnishing, distributing and selling of the aforesaid waters, and of the privilege of obtaining such waters when available, and the diversion, development, disposition and utilization of such waters, the charging, collecting and disposition of rents and revenues for such waters and privileges, the operation, maintenance, repair, alteration, construction, reconstruction and supervision of the means of conserving and distributing such waters.

3. To construct, reconstruct, maintain, repair, alter, use, control and operate dams, reservoirs, irrigation works and systems, drainage works and systems, diversion canals, distributing canals, lateral ditches, pumping ditches, pumping units, mains, pipe lines, waterworks systems and other means of conserving and distributing the aforesaid waters.

4. To lease, sell or otherwise dispose of water, water rights, lands, easements and/or property which it may acquire.

5. To acquire, own and hold such real and personal property as may be necessary or convenient for the transaction of its business.

6. To incur indebtedness upon its bonds, notes, contracts, or other evidences of indebtedness, and to secure the same by mortgages, deeds of trust, pledges of any or all of its revenues and contracts, or in any other manner, subject, however, to the approval of any such indebtedness by resolution of the State Water Conservation Board.

7. To acquire, hold and dispose of stock in other corporations, domestic or foreign.

8. To acquire by purchase, forfeiture or in any other legal manner, shares of the capital stock of this corporation, and to acquire and exercise options thereon, and to dispose of, re-issue or cancel same as the Board of Directors may determine.

9. To have and exercise all the powers and to perform any and all acts necessary, convenient or appropriate to carry out any one or more of the said purposes or anything incident thereto, or which shall at any time appear conducive or expedient for the protection or benefit of the Association or its shareholders, and to that end to enter into any contract, agreement, or other arrangement with the State of Montana, the State Water Conservation Board, the United States of America or any instrumentality or agency thereof, or any person, firm, association, corporation, private, public or municipal, or any state or foreign government.

10. To make and promulgate Bylaws for the government and control of this corporation. The Bylaws, or amendments thereto, adopted by the Board of Directors shall be and become effective only after their approval by the State Water Conservation Board.

11. The powers herein granted and conferred, shall be exercised only with the approval of the State Water Conservation Board.

. . .

ARTICLE IV

This corporation shall continue in existence for the term of forty (40) years from and after the filing of these Articles of Incorporation.

. . .

ARTICLE VI

The Capital Stock of said corporation shall be Fifteen Thousand ($15,000) Dollars, which shall be divided into fifteen thousand (15,000) shares of the par value of One Dollar ($1.00) each. Each share holder of the capital stock of this corporation shall be entitled to one (1) vote for each share of stock owned by him.

Capital shares of the stock of this corporation shall be subject to purchase, sale or forfeiture under such terms and conditions as are provided by the Bylaws of the corporation and its subscription and pledge agreements with shareholders. Except with the consent of the corporation, no stock of this corporation shall be transferred on the books of the corporation so long as the owner or owners thereof are obligated in any way to the corporation, whether such obligation be matured or unmatured or be under a subscription agreement or note, a water purchase contract, or otherwise.

The private property of the stockholders of this corporation shall not be liable for the obligations of the corporation except as in the Bylaws of the corporation otherwise provided.

ARTICLE VII

That the amount of the Capital Stock actually subscribed is One Thousand One Hundred Twenty Five ($1,125.00) Dollars. . . .

Witness our hands and seals this 15th day of October, A. D., 1935.

C. H. Sherman
Orville Harris
Arcelia Smith
Frank P. Edwards
J. A. Stewart

STATE OF MONTANA
SS
COUNTY OF MEAGHER

On this 15th day of October, A. D., 1935, personally appeared before me, a Notary Public for the State of Montana, C. H. Sherman, Orville Harris, Arcelia Smith, Frank P. Edwards and J. A. Stewart, whose names are subscribed to the foregoing instrument as the parties thereto, personally known to me to be the same persons described in and who executed the said foregoing instrument, as the parties thereto, and who, each of them duly acknowledged to me that they each of them respectively, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

James H. Higgins,
Notary Public for the State of Montana, Residing at White Sulphur Springs, Montana.
My Commission expires April 11, 1938.

(SEAL)

ARTICLES OF INCORPORATION
of
SOUTH SIDE CANAL WATER USERS' ASSOCIATION

KNOW ALL MEN BY THESE PRESENTS: THAT WE, the undersigned directors of the South Side Canal Water Users' Association, pursuant to and in conformity with the provisions of Sections 6454 and 6455, Revised Codes of Montana, 1935, and Acts amendatory thereof and supplemental thereto, hereby adopt the following Articles of Incorporation:

ARTICLE I

The name of the Association shall be South Side Canal Water Users' Association.

ARTICLE II

The objects and purposes for which this Association is organized are to enter into contracts or arrangements with the State Water Conservation Board of the State of Montana, and to operate and manage an irrigation project consisting of a dam, reservoir, canal and/or other irrigation works known as the South Side Canal Project, and to purchase the waters conserved by said project from the State Water Conservation Board and to dispose of them to water users who may be members of this Association or otherwise, and to do all other acts necessary or expedient for a successful operation of said project. The Association is not organized for pecuniary profit and shall make no profit in any manner and shall act as an agency of the State Water Conversation Board in the distribution of water.

ARTICLE III

The number of directors who shall manage the affairs of this Association shall be three.

WITNESS our hands and seals this ..... day of April, A. D., 1939.

Henry Shaw
Chris Mabis
Emmett Cox

STATE OF MONTANA
SS
COUNTY OF MEAGHER

On this 1st day of May, A. D., 1939, personally appeared before me, a Notary Public for the State of Montana, Henry Shaw, Chris Mabis and Emmett Cox, whose names are subscribed to the foregoing instrument as the parties thereto, personally known to me to be the same persons described in and who executed the said foregoing instrument, as the parties thereto, and who, each of them duly acknowledged to me that they each of them respectively, executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

John V. Potter
Notary Public for the State of Montana, Residing at White Sulphur Springs, Montana.
My Commission expires Dec. 18, 1940.

(SEAL)

These Articles of Incorporation were filed with the Secretary of State May 8, 1948.

In the formation of State Projects the terms "Water Marketing" and "Water Purchase Contracts" are often referred to. In order to clarify the meaning of these two terms they are explained briefly herewith.

WATER MARKETING CONTRACT

This is an agreement between the Association and the State Water Conservation Board, whereby the Board agrees to sell to the Association all of the available water of the project, and the Association agrees to distribute same to water purchasers; and provides method of payment of

sums due, levying of assessment for operation and maintenance cost, time of notification of such levy to be given water purchasers, time of default and remedies in the event of default.

WATER PURCHASE CONTRACT

This is a contract entered into between the individual water purchasers, the Association and the State Water Conservation Board, whereby, the individual agrees to purchase a definite amount of water, and to pay therefore a definite sum of money on or before a definite day of each year, until a definite future date; in addition to such definite annual sum the individual agrees to pay such additional sum or sums as may be required annually as his proportionate share of the cost of operation and maintenance of the Association. This contract is void unless the water purchaser executes a Subscription and Pledge Agreement.

DECREES

Court decrees adjudicating waters are too lengthy and technical to be included herein verbatim. Condensed forms of all of the decrees pertaining to land and water located in Meagher County are included in this report. Where possible, the decreed rights of each case have been tabulated according to the date of priority. The condensed decree consists of the case title, case number, plaintiffs and defendants, persons receiving decreed rights, water source, land descriptions where the right is appurtenant to the land, amount of water decreed, priority dates, case date and presiding judge. The case number has been entered below each decree title in order to facilitate locating the case in the County Courthouse in the event additional information is desired by interested parties. Copies of the decrees may also be inspected in the State Engineer's Office.

BENTON AND WALKER CREEKS DECREE
Case No. 2404

In the District of the Fourteenth Judicial District of the State of Montana in and for the County of Meagher.

Richard Manger, plaintiff)
vs) Decree
Thomas Edwards and John E. Byrne, defendants)

Person to Whom Decreed	Priority	Stream	M. I.	Date of Priority
Richard Manger	1st	Benton Creek	90	1875
Richard Manger	2nd	Benton Creek	70	1880
John E. Byrne	3rd	Benton Creek	140	1884
John E. Byrne	4th	Benton Creek	34	May, 1885
John E. Byrne	5th	Walker Creek	25	April, 1888
Thomas Edwards	6th	Benton Creek	20	1910
Thomas Edwards	7th	Benton Creek	50	June 1, 1913
John E. Byrne	8th	Walker Creek	100	Aug. 1, 1913

Done in open Court this 31st day of December, 1920.

E. H. Goodman, Judge.

NORTH FORK OF BIRCH CREEK DECREE
Case No. 1583

In the District Court of the Tenth Judicial District of the State of Montana, in and for the County of Meagher.

David E. Folson)
Mayn and Heitman (a partnership) plaintiffs)
vs) Decree
Philadelphia-Montana Livestock Co. (a corporation))
Harry J. Giltinan, defendants)

Person to Whom Decreed	Priority	M. I.	Date of Priority
David E. Folsom	1st	350	June 1, 1883
Mayn & Heitman	2nd	650	July 1, 1883

Person to Whom Decreed	Priority	M. I.	Date of Priority
Philadelphia-Montana Livestock Co.	3rd	600	June 1, 1885
David E. Folsom		150	July 1, 1885
Mayn & Heitman, jointly	4th	500	July 1, 1885

Dated this 12th day of December, 1905.

E. K. Cheadle, Judge.

SUPPLEMENTAL BIRCH CREEK DECREE
Case No. 2441

In the District Court of the Fourteenth Judicial District of the State of Montana, in and for the County of Meagher.

In the matter of the Application of William J. Buckingham to appropriate water from Birch Creek, an adjudicated stream.	Supplemental Decree

. . . Now therefore, it is Ordered, Adjudged and Decreed that the said William Buckingham is the owner and entitled to the use and possession of 480 miner's inches of the waters of Birch Creek, an adjudicated stream, which said water was appropriated by the said William J. Buckingham on the 28th day of September, 1919, for the purpose of irrigating Sections 23 and 26 in Township 10 North, Range 5 East, and that the said right and appropriation of the said William J. Buckingham herein is subject to and subsequent in point of time only, to the adjudicated rights upon the said Birch Creek.

Done in open Court this 30th day of January, 1920.

E. H. Goodman, Judge.

DECREE OF CAMAS CREEK AND ITS TRIBUTARIES
Case No. 3117

In the District Court of the Fourteenth Judicial District of the State of Montana, in and for the County of Meagher.

Howard J. Doggett and Charles G. Gaddis, plaintiffs)
vs.)
Manger Ranches, Inc., a corporation, Oscar Hallam,)
Trustee, Richard Manger, Clara Manger, Russell Manger,)
Virginia Manger, Adeline Manger, Edward R. Teague,)
Hattie Teague, Lottie E. Teague, Wilbur H. Rader,)
Nellie B. Rader, Wells County State Bank, a)
corporation, E. W. Gile, Cecelia A. Gile, E. W. Gile, Jr.,)
Florabelle Gile Greenman, William Gile, Lester C. Rader,)
Myrtle B. Rader, Charles G. Gillogly, Hugh F. Gillogy, defendants) Decree
Bessie R. Gillogly, Northwestern Finance Corporation,)
a corporation, Warren Hawkins, Emelia Hawkins,)
Ker D. Dunlop, Robert H. Luke, Walter J. Walsh,)
Anna May Walsh, Everett White, E. L. Wall, R. C.)
Robinson, Harriet May Gjerde, Henry C. Jacobson,)
Joe Sylvester, J. B. Kilbride, Allwyn Retallick,)
Kate Retallick, The Federal Land Bank of Spokane, Donald Strong,)
Adam Marks, James H. Baldwin, Gilbert Mallosch, Harry Luke,)
Walter Walsh, Frank Shad, and Henry Trager.)

NOTE: The rights decreed to Wilbur H. Rader and Federal Land Bank of Spokane are herein referred to as W. Rader & F.L.B.

The rights decreed to Oscar Hallam, Trustee, Russell Manger and Clara Manger are herein referred to as Manger rights.

Person to whom Decreed	Stream	Land Description	Sec.	Twp.	Rge.	M.I.	Priority
Howard J. Doggett	Camas Cr.	W½E½	26	11N	4E		
		Lots 3, 4, E½SW¼	35	11N	4E	60	5-1-1878
	Camas Cr.	E½W½, W½E½	35	11N	4E	150	5-1-1878
Charles G. Gaddis	Camas Cr.	N½ W. of Camas Cr.	2	10N	4E	76	5-1-1878
Manger rights	Camas Cr.	W. of Cmas Cr. in Sec. 2, 3, S½ 11, 14, &	15	10N	4E	160	7-1-1878
	Camas Cr.	W½	11	10N	4E	50	6-1-1883
	Phil. Miller Spg.	20 Ac. N. of Spring	11	10N	4E	20	6-1-1883
	Camas Cr.	SE¼SW¼	2	10N	4E		
		E½NW¼	11	10N	4E	25	6-1-1883
	Camas Cr.	E½SW¼,SE¼NW¼, NW¼SE¼	11	10N	4E		
		NW¼NW¼	14	10N	4E	65	6-1-1883
	Camas Cr.	SE¼NW¼	23	10N	4E	20	6-1-1885
Howard J. Doggett	Elk Cr.	W½	26	11N	4E		
		E½E½	27	11N	4E	50	6-1-1886

Person to whom Decreed	Stream	Land Description	Sec.	Twp.	Rge.	M.I.	Priority
Charles G. Gaddies	Camas Cr.	Ft. Logan Mil. Res. and W½NE¼	2	10N	4E	380	6-15-1886
Manger right	Camas (Gaddis D.)	E. of Camas Cr. in	2	10N	4E	20	6-15-1886
Edward R. Teague	Atlanta Cr.	NW¼	3	9N	4E	30	5-1-1887
	Pickfoot Cr.	Near center	33	10N	4E	20	5-1-1887
Manger right	Camas Cr.	E½SW¼	2	10N	4E		
		NW¼	11	10N	4E	70	6-1-1887
Edward R. Teague	Meadow Cr.	SW¼	34	10N	4E	25	6-1-1887
W. Rader & F.L.B.	Mule Cr.	W½SW¼	27	10N	4E		
		E½SE¼	28	10N	4E	30	7-1-1887
Edward R. Teague	Mule Cr.	N½	34	10N	4E	20	7-15-1887
Manger right	Camas Cr.	Land in	12	10N	4E	75	6-1-1889
W. Rader & F.L.B.	Garden Cr.	SE¼NW¼, NE¼SW¼	27	10N	4E	25	7-1-1889
Cecelia A. Gile	Camas Cr.	SE¼NE¼, E½SE¼	15	9N	4E	75	6-1-1892
E. W. Gile	Little Camas Cr.	E½	15	9N	4E	50	6-1-1892
Howard J. Doggett	Mule Cr.	SW¼	3	10N	4E		
		NW¼	10	10N	4E		
		W½, W½E½	26	11N	4E		
			27	11N	4E	50	7-15-1893
	N. Fk. Moose Cr.	SE¼NW¼, SW¼, W½W½SE¼	3	10N	4E		
		NW¼NW¼	10	10N	4E	50	7-15-1893
Manger rights	Camas Cr.	W. of Camas Cr. in W½	14	10N	4E	36	6-1-1898
	Nat. Water Course	W. of Camas Cr. in E½SW¼	2	10N	4E	32	6-1-1898
	Ayers Cr.	N. of Ayers Cr. in S½	9	10N	4E	25	6-1-1898
	N. Fk. Moose Cr.	Land in S½	9	10N	4E	30	6-1-1898
	N. Fk. Moose Cr.	Easement in gross— S½SW¼	9	10N	4E	30	6-1-1898
	Camas Cr.	W½NW¼	26	10N	4E	10	6-1-1898
	N. Fk. Moose Cr.	S½SE¼	9	10N	4E	60	6-1-1901
E. W. Gile	Camas Cr.	E½	10	9N	4E		
		W½, NW¼SE¼	11	9N	4E		
		NW corner	15	9N	4E	190	6-1-1904
Wilbur H. Rader	Elk Cr.	E½	4	10N	4E	30	5-1-1906
	Elk Cr.	W. of Elk Cr. in	4	10N	4E	40	5-1-1906
	Ayers Cr.	E½	4	10N	4E	25	5-1-1907
	Moose Cr.	E. of Elk Cr. in E½	4	10N	4E	50	5-1-1907
W. Rader & F.L.B.	Mule Cr.	Land in Sec. 28, 29, 32 &	33	10N	4E	50	5-1-1908
Edward R. Teague	N. Fk. Atlanta Cr.	NE¼NW¼, NW¼NE¼, S½S½	34	10N	4E		
		NE¼NW¼	3	9N	4E	50	5-1-1908
	Fox Desert Spg.	NE¼NW¼	3	10N	4E	A11	5-1-1908
	Meadow Cr.	E½E½	34	10N	4E	25	6-1-1908

Person to whom Decreed	Stream	Land Description	Sec.	Twp.	Rge.	M.I.	Priority
Wilbur H. Rader	Elk Cr.	E. of Elk Cr. in	4	10N	4E	46	5-1-1909
Edward R. Teague	Camas Cr.	NE¼SE¼, S½SE¼NE¼	34	10N	4E	20	6-1-1909
W. Rader & F.L.B.	Mule Cr.	Land in Sec. 28, 29, 32,	33	10N	4E	50	5-1-1910
Edward R. Teague	Pickfoot Cr.	E½	33	10N	4E	20	5-1-1910
Manger right	N. Fk. Moose Cr.	SE¼, S½SW¼	9	10N	4E	48	6-1-1910
W. Rader & F.L.B.	Mule Cr.	Land in Sec. 28, 29, 32,	33	10N	4E	40	6-1-1910
	Dick's Gulch Spg.	W½	28	10N	4E	A11	6-1-1910
Edward R. Teague	Mule Cr.	N½	34	10N	4E	20	6-1-1910
Hugh F. Gillogly	N. Fk. Moose Cr.	E½	17	10N	4E	75	6-10-1910
	Gillogly Spg.	Land in	17	10N	4E	25	6-10-1910
Myrtle B. Rader	N. Fk. Moose Cr.	NW¼	20	10N	4E	50	6-10-1910
Wilbur H. Rader	Elk Cr.	NW¼	9	10N	4E	36	5-15-1911
Lester C. Rader	E. Fk. Elk Cr.	NE¼	18	10N	4E	50	9-1-1911
Hugh F. Gillogly	Ayers Cr.	W½NE¼	17	10N	4E	30	6-1-1913
	E. Fk. Elk Cr.	NW¼	17	10N	4E	50	6-1-1913
Myrtle B. Rader	N. Fk. Moose Cr.	SW¼	20	10N	4E	75	7-1-1913
Northwestern Finance Corp.	Camas Cr.	Land in	18	10N	5E	125	9-1-1914
W. Rader & F.L.B.	Spg. in Sec. 30—10N-4E	Land in	30	10N	4E	A11	5-1-1917
Howard J. Doggett	Camas Cr.	Land in Sec. 26, 27, 34,	35	11N	4E	600	6-1-1920
Edward R. Teague	Atlanta Cr.	NW¼, NE¼	3	9N	4E	35	5-1-1921
Howard J. Doggett	Moose Cr.	SE¼NW¼, SW¼, W½W½SE¼	3	10N	4E		
		NW¼NW¼	10	10N	4E	100	6-1-1922
Hugh F. Gillogly	Ayers Cr.	S½	9	10N	4E	30	6-1-1925
Howard J. Doggett	Moose Cr.	Land in	27	11N	4E	150	6-1-1926
Manger rights	Camas Cr.	Land in Sec. 1, 2, 11,	12	10N	4E	240	6-1-1928
	Camas Cr.	Land in	12	10N	4E	600	7-1-1930

Oscar Hallam, trustee, Russell Manger and Clara Manger received a decree by the Court allocating as an appurtenance to and for the purpose of irrigating 7.2 acres in the NE¼NW¼ and and SE¼NW¼ of Section 15, Township 10 north, Range 4 east, the water right in gross of 30 miner's inches of the waters of the North Fork of Moose Creek appropriated on June 1, 1893.

Wilbur H. Rader was decreed the right to the use of all of the waters of Dick's Gulch Spring, as of date June 1, 1908, for the irrigation of said lands at all times during the irrigating season of each year from and after July first.

Wilbur H. Rader was decreed the right to the use of all of the waters of a certain spring located in the SE¼ of Section 30, Township 10 north, Range 4 east, as of May 1, 1917, for the

irrigation of his said lands at all times during the irrigation season of each year from and after July first, and to store the waters of said spring in a reservoir so long as it does not interfere with rights of prior appropriators.

Wilbur H. Rader is entitled to the use of the entire flow of the waters of Garden Creek for the irrigation of the said lands at all times during the irrigating season of each year from and after July first.

Edward R. Teague is entitled to the use of all of the waters of Fox Desert Spring, as of date May 1, 1908, for the irrigation of lands lying under ditches leading from said spring, during the irrigating season of each year from and after July first.

Edward R. Teague was decreed the right to divert, store and maintain in a reservoir, the waters of Pickfoot Creek and of the North Fork of Atlanta Creek for the irrigation of his lands and premises elsewhere herein described, when such diversion, storage and retention shall not interfere with the rights of prior appropriators.

The respective parties to this litigation are the owners of the right to use the waters of Camas Creek and its several tributaries as of the dates and for the respective lands as set forth, and that they have the right to divert said waters from the said Camas Creek and its tributaries at their respective points of diversion when said water is actually needed for irrigating said land, provided said water is not being necessarily used by some other party or parties hereto whose right is prior in time.

(Signed) Benjamin E. Berg
Judge Presiding.

EAGLE CREEK (and tributaries) DECREE
Case No. 2408

In the District Court of the Fourteenth Judicial District of the State of Montana, in and for the County of Meagher.

Walter A. Songster, plaintiff)
vs.)
R. W. Lucas, C. M. Lyon, John Shannon) Decree
Angie Shannon, Wm. C. Wood & Floyd Burns, defendants)

Person to whom Decreed	Priority	Stream	M. I.	Date of Priority
Walter A. Songster	1st	Eagle Creek	110	1883
John Shannon	2nd	Indian Creek	150	1884
John Shannon	3rd	Murray Creek	120	May 26, 1889
R. W. Lucas	4th	E. Fk. Eagle Creek	200	Spring of 1890
R. W. Lucas	5th	Murray Creek	80	" " "
R. W. Lucas	6th	N. Fk. Murray Creek	65	" " 1893
Angie Shannon	7th	Eagle Creek	40	March 17, 1897
John Shannon	8th	Indian Creek	100	April 7, 1898
R. W. Lucas	9th	N. Fk. Eagle Creek	150	June —, 1904
Wm. C. Wood	10th	Trib. of N. Fork	75	April 23, 1906
Wm. C. Wood	11th	Trib. of N. Fork	50	April 23, 1906
Floyd Burns	12th	N. Fk. Eagle Creek	125	May 10, 1906

Done in open Court this 30th day of December, 1920.

E. H. Goodman, Judge.

FREEMAN CREEK (and tributaries) DECREE
Case No. 1729

In the District Court of the Tenth Judicial District of the State of Montana, in and for the County of Meagher.

Walker Ranch Company, plaintiff)
vs.)
O. N. Kennard, Wm. M. Jones, Venia Jones,) Decree
Geo. Holland and F. C. Campbell, defendants)

DECREE

Person to whom Decreed	Priority	M. I.	Date of Priority
O. N. Kennard	1st	50	Oct. 15, 1887
Walker Ranch Co.	2nd	50	May 1, 1888
O. N. Kennard	3rd	20	May 1, 1889
Walker Ranch Co.	4th	60	May 1, 1891
F. C. Campbell	5th	50	May 15, 1892
F. C. Campbell	6th	10	May 15, 1895
F. C. Campbell	7th	100	May 15, 1896
O. N. Kennard	8th	40	May 1, 1900
Venia Jones	(9th	80	May 23, 1903
William M. Jones	jointly (	40	May 23, 1903

Done in open Court, White Sulphur Springs, Montana, December 22, 1911.

E. K. Cheadle, Judge.

GEIS CREEK DECREE
Case No. 1480

In the District Court of the Ninth Judicial District of the State of Montana, in and for the County of Meagher.

Louis Geis)
vs.) Decree
Edith Reinhart & Agustus Reinhart, defendants)

. . .It is therefore Ordered, Adjudged and Decreed: 1st. That the plaintiff, Louis Geis, is the owner and entitled to the possession of 120 inches of the waters of Geis Creek appropriated in the month of September 1887, for the irrigation of his land, situated in the County of Meagher and State of Montana and described as follows, to-wit: Section 33, 11N-8E and which right is prior in time to the right of the defendants. Second; that subject to the preceding right, the defendants are the owners of and entitled to the possession of 120 inches of the waters of Geis Creek, appropriated in the month of May, 1892 for the irrigation of the following described lands situated in the County of Meagher, and State of Montana, to-wit: SE¼, SENE¼ of section 28, 11N-8E.

Done in open Court this 8th day of October, 1901.

W. L. Holloway, Judge.

EAST FORK OF MUD CREEK DECREE
Case No. 1544

In the District Court of the Ninth Judicial District of the State of Montana, in and for the County of Meagher.

Ed Sayre, plaintiff)
vs.) Decree
David Johnson, defendant)

. . .It is Therefore Ordered, Adjudged and Decreed:

First: That the plaintiff Ed Sayre is the owner of and entitled to the possession and use of 300 inches of the waters of the East Fork of Mud Creek, appropriated in the month of July 1895 and is entitled to said water for the irrigation of the following described lands owned by the plaintiff and situated in the County of Meagher, State of Montana, to-wit: the NWSW¼, W½SW¼, of section 3, and the NENW¼, SW¼, of section 10, all in Township 9N-Range 11 East, and the following described land held by plaintiff under lease from the State of Montana situated in said Meagher County to-wit: the SW¼ of section 16, 9N-11E.

Second: That subject to the preceding right, the defendant is the owner of and entitled to the possession of 300 inches of the waters of the East Fork of Mud Creek appropriated in the month of September, 1901, for the irrigation of the following described lands owned by the defendant and situated in the County of Meagher, State of Montana, to-wit: E½SW¼, SE¼, of section 28, and NENW¼, NWNE¼, of section 33, 10N-11E.

Done in open Court this 10th day March, 1904.

W. R. C. Stewart, Judge.

NEWLAN CREEK DECREE
Case No. 1562

In the District Court of the Tenth Judicial District (formerly the Ninth) of the State of Montana, in and for the County of Meagher.

Francis Ellis, plaintiff)
vs.)
Johnston-Penwell Livestock Co.)
James M. Smith, John Butler,) Decree
Leonard Fuller, Margaret Blackall,)
Mary J. Kimsey, defendants)

Person to whom Decreed	Priority	M. I.	Date of Priority
Francis Ellis	1st	50	1873
Johnston-Penwell Livestock Co.	2nd	100	Jan., 1877
Mary J. Kimsey	3rd	40	Aug., 1885
Johnston-Penwell Livestock Co.	4th	125	April, 1886
James M. Smith	5th	50	June, 1887
John Buttler	6th	60	Sept., 1888
Leonard Fuller	7th	100	June, 1889

Person to whom Decreed	Priority	M. I.	Date of Priority
John Butler	8th	90	May, 1891
John Butler	(9th	75	Sept., 1891
James M. Smith	jointly (	75	Sept., 1891
Mary J. Kimsey	10th	150	June, 1893
Margaret Blackall	11th	100	May, 1902

Done at Chambers in Bozeman, Montana, this 18th day of May, 1905, as provided by stipulation of all the parties on file with the papers in this case.

W. R. C. Stewart, Judge.

SIXTEEN MILE CREEK DECREE
Case No. 625

In the District Court of the Sixth Judicial District of the State of Montana, in and for the County of Meagher.

Lemuel Lincoln plaintiff)
vs.)
John Lucas, Robert Quayle, Henry Duist,) Decree
Albert Bruckert, George Young, Mrs. Young)
and John Bruckert, defendants)

. . . It is therefore Ordered, Adjudged and Decreed: that the plaintiff Lemuel Lincoln is the owner of and entitled to the use and possession of 200 inches of the waters of Sixteen Mile Creek, which is a right prior to the rights hereinafter decreed. That the defendant, Albert Bruckert Jr. is entitled to the possession and use and is the owner of 50 inches of the waters of Canyon Creek, and 50 inches of the waters of Cottonwood Creek, which is a first right to said waters, subject only to the rights of the plaintiff herein. That the defendant Robert Quayle is entitled to the use and possession of and is the owner of 75 inches of the waters of Lincoln Creek which right is of equal date with the right hereinafter decreed to the defendant Young. That the defendant George Young is entitled to the use and possession and is the owner of 75 inches of the waters of Woodson Creek, which right is of equal date as the right of defendant Quayle. That the defendant, John Lucas is entitled to the use and possession of 250 inches of the waters of Sixteen Mile Creek, and is the owner of the same, which right is subsequent to the right of the plaintiff and subsequent to the right of the defendant Bruckert to the use of the water hereinbefore decreed to him.

F. K. Armstrong, Judge.

November 23, 1891.

(NORTH FORK) SMITH RIVER, WILLOW CREEK & TRINITY SPRINGS DECREE
Case No. 380

In the District Court of the Sixth Judicial District in and for the County of Meagher, State of Montana.

William Luppold, plaintiff)
vs.)
Len Lewis, R. N. Hanson, George Knauss,)
The White Sulphur Springs Association,)
Meagher County, John O'Marr, Joseph Cline,)
Margaret Beatty, Ben D. Gardner, Geo. F. Danzer,)
J. C. Tipton, J. B. Newberry, John Pizor, A. Spencer,)
Chas. Mayn & Louis Heitman (firm of Spencer, Mayn & Heitman),) Decree
Jas. Sutherlin, J. H. Kiehl, Alvin Lincoln, Philip Miller,)
Louis Geis, Valentine Geis, J. M. Hanson, Carrie E. Sutherlin,)
Almon Spencer, James Weight, M. L. Neff, Wm. Bryan, John A.)
Woodson, Maria Kirchman, Wm. Rader, Tal Reed, Seth Butterfield,)
Harvey Spencer, John T. Moore, and Alice Newkirk,)
defendants)

Person to whom Decreed		Priority	M. I.	Date of Priority
William Luppold		1st	60	1873
Lewis & Moore	)3/5 of 150″			
Robert Hanson Est.	)1/5 of 150″ jointly		150	1874
George Knauss	)1/5 of 150″	2nd		
Lewis & Moore	)3/5 of 450″			
Robert Hanson Est.	)1/5 of 450″ jointly		450	1876
George Knauss	)1/5 of 450″	3rd		
John A. Woodson		4th	100	June, 1877
White Sulphur Springs Association		5th	100	June, 1877
Meagher County		6th	125	July, 1877
John A. Woodson (Willow Creek)		7th	200	June, 1878
John O'Marr (North Fork)		8th	200	July, 1878
Lewis & Moore	)3/5 of 450″	9th	450	August, 1878
Robert Hanson Est.	)1/5 of 450″ jointly			
George Knauss	)1/5 of 450″			
George F. Danzer		10th	50	October, 1878
George F. Danzer		11th	125	April, 1879
George F. Danzer		12th	275	Sept. 6, 1879
Seth Butterfield (Willow Creek)		13th	120	Sept. 7, 1879
John A. Woodson		14th	275	October, 1879
John C. Tipton		15th	200	April, 1880
Robert Hanson Est. (Trinity Springs)		16th	100	June, 1880
John O'Marr		17th	350	October, 1880
J. B. Newberry		18th	200	April, 1881
Henry Kiehl		19th	160	May 1, 1881

Person to whom Decreed		Priority	M. I.	Date of Priority
Almon Spencer	)1/2 of 200″			
James Wright	)1/2 of 200″ jointly	20th	200	May 2, 1881
Spencer, Mayn & Heitman	jointly	21st	250	April 16, 1882
Margaret Beattie		22nd	250	April 16, 1882
James Sutherlin		23rd	250	May, 1882
Philip Miller		24th	150	June, 1882
Robert Hanson Est.		25th	40	August, 1882
Valentine Geis	)		100	
John A. Woodson	)		225	
Philip Miller	) jointly	26th	75	Mar. 22, 1883
Harvey Spencer	)		50	
J. M. Hanson	)		100	
Robert Hanson Est.		27th	125	May 1, 1883
Carrie Sutherlin		28th	100	May 9, 1883
George F. Danzer		29th	100	June, 1883
Robert Hanson Est.		30th	60	August, 1884
John A. Woodson		31st	200	October, 1884
John A. Woodson		32nd	74	1887

Done in open Court August 30th, 1890.

Frank Henry,
Judge, Sixth Judicial District

SUPPLEMENTAL NORTH FORK OF SMITH RIVER DECREE
Case No. 2138

In the District Court of the Fourteenth Judicial District of the State of Montana, in and for the County of Meagher.

In the matter of the Application of)
William Zehntner for a Decree of Water)
Right from the North Fork of Smith) Decree
River, an adjudicated stream.)

. . . It is hereby Ordered, Adjudged and Decreed, that the said William Zehntner has the absolute right to the use of 7.5 cubic feet per second of the waters of the North Fork of Smith River, to be diverted at a point which is 5190 feet south 82° east from the northeast corner of section 24, 11N-8E, in Meagher County, Montana which water was appropriated on the 19th day of May, 1916, for the irrigation of the NENW¼, S½NW¼, N½SW¼, SWSW¼, NESE¼ SWNE¼, of sec. 34, 11N-8E. Subject only to prior adjudicated rights, and to the right of Orville Harris to the use of 7.5 cubic feet per second of the waters of the North Fork of Smith River appropriated July 9th, 1904.

Done in open Court this 7th day of June, 1916.

John A. Matthews, Judge.

SOUTH FORK OF SMITH RIVER DECREE
Case No. 461

In the District Court of the Sixth Judicial District of the State of Montana, in and for the County of Meagher.

William Luppold	plaintiff)	
vs.	)	
Jesse Harry, Charles)	)	Decree
Klave & Ed Hill)	defendants)	

Person to whom Decreed	Priority	M. I.	Date of Priority
Jesse Harry	1st	140	March, 1881
Charles Klave	1st	50	March, 1881
Wililam Luppold	2nd	400	1882

Done in open Court, November 14th, 1890.

Frank Henry, Judge.

SUPPLEMENTAL SOUTH FORK OF SMITH RIVER DECREE
Case No. 1948

In the District Court of the Fourteenth Judicial District of the State of Montana, in and for the County of Meagher.

In the matter of the Application of)	
George W. Crosby for a Decree of Water)	
Right from the South Fork of Smith River,)	Decree
an adjudicated stream.)	

. . . It is hereby Ordered, Adjudged and Decreed, that the said George W. Crosby has the absolute right to the use of 2.5 cubic feet per second of the waters of the South Fork of Smith River, to be diverted at a point 1505 ft. S 61° 20′W from the east quarter corner of section 30, 8N-7E which water was appropriated on the 27th day of August, 1914, for irrigation of Sec. 30, 8N-7E, also that the said George W. Crosby has the absolute right to the use of 1.25 cubic feet per second of the waters of the South Fork of Smith River to be diverted at a point which is 1040 ft. N 35° 45′ W from the east quarter corner of Sec. 31, 8N-7E which water was appropriated on the 27th day of August, 1914, for the irrigation of Sec. 30, 8N-7E.

Done in open Court this 7th day of October, 1914.

John A. Matthews, Judge.

SPRING CREEK DECREE
Case No. 1074

In the District Court of the Sixth Judicial District of the State of Montana, in and for the County of Meagher.

Margaret Sarter, plaintiff)
vs.) Decree
Harry Cartwright & James Edgar, defendants)

Person to Whom Decreed	Priority	M. I.	Date of Priority
Margaret Sarter	1st	50	July 14, 1888
Harry Cartwright	2nd	150	

Done in open Court this 27th day of November, 1894.

Frank Henry, Judge.

STUDHORSE CREEK DECREE
Case No. 1479

In the District Court of the Ninth Judicial District of the State of Montana, in and for the County of Meagher.

Louis Geis, plaintiff)
vs.)
Margaret I. Reed and) Decree
Augustus Reinhart, defendants)

. . . It is therefore Ordered, Adjudged and Decreed: First; That the plaintiff Louis Geis is the owner of and entitled to the possession of 75 inches of water of Studhorse Creek, appropriated April, 1888, for the irrigation of his homestead situated in the County of Meagher, State of Montana, described as follows, to-wit: the SWNW¼, lots 2, 3 and 4, in Sec. 4, 10N-8-E which right is prior in time to the right of the defendant Margaret I. Reed.

Second; That the plaintiff Louis Geis is the owner of and entitled to the possession of 45 inches of the waters of Studhorse Creek, appropriated in the year 1883 for the irrigation of his Newkirk Ranch, situated in the County of Meagher, State of Montana, described as follows, to-wit: the SENW¼, E½SW¼, SWSW¼, Sec. 4, 10-8E, which right is prior in time to the right of the defendant, Margaret Reed.

Third; That subect to the preceding rights, the defendant Margaret I. Reed is the owner of and entitled to the possession of 100 inches of the waters of Studhorse Creek appropriated the 4th day of July, 1894 for the irrigation of the following described land situated in the County of Meagher, and State of Montana, to-wit: the E½SE¼, SWSE¼, S½SE¼, Sec. 32, 11N-8E.

Done in open Court this 8th day of October, 1901.

W. L. Holloway, Judge.

THOMPSON CREEK DECREE
Case No. 2303

In the District Court of the Fourteenth Judicial District of the State of Montana, in and for the County of Meagher.

J. C. Walter plaintiff)
vs.) Decree
James Bair & A. Retallick, defendants)

. . . It is therefore Ordered, Adjudged and Decreed:

1. That the plaintiff, J. C. Walter is the owner of and entitled to the use and enjoyment of the waters of Thompson Creek to the extent of 279 inches as of the date, November 6th, 1882, which said right is the first right in and to said waters and is prior to the rights hereinafter mentioned.
2. That the said defendant James Bair is the owner of and entitled to the use and enjoyment of 202 inches of the waters of Thompson Creek, which right is of date October 31st, 1892 and is the second right on said creek. That as against these parties, plaintiff and defendant, the defendant A. Retallick has no right whatsoever to the use of the waters of said Thompson Creek.

Dated this 25th day of November 1919.

John A. Matthews, Judge.

WHITE SULPHUR SPRINGS DECREE
Case No. 1863

E. J. Anderson, G. K. Spencer, plaintiff)
Cockerell Commercial Company)
vs.)
John Ringling, Conrad-Stanford Co.) Decree
Smith River Development Co.)
Town of White Sulphur Springs,)
E. G. Hartfield, defendants)

. . . 1. The defendants John Ringling and E. G. Hartfield having failed to appear and answer within the time allowed by law, or to appear in Court either personally or by counsel and their default having been heretofore entered, have no right, title, or interest in or to the waters of White Sulphur Springs, or any part thereof,

2. That the defendant, Smith River Development Company, has no right, title or interest in or to the waters of said springs, or any part thereof,

3. That the defendant, the Town of White Sulphur Springs, has no right, title or interest in or to the said waters of White Sulphur Springs or any part thereof,

4. That the use of the waters of White Sulphur Springs for medicinal and healing purposes is beneficial use within the meaning of the law, and one for which waters may be appropriated.

5. That said waters are valuable for medicinal and health-giving purposes, and also for irrigation and other useful purposes.

6. That the plaintiffs herein are entitled to a decree fixing and establishing their right to the use of and to use all of the waters of White Sulphur Springs Creek as the same flows and has flowed from the Springs Square or Park, since the year 1876, that is to say, to all of the waters from the said springs with the exception of the Drinking Spring and the two springs covered and used for bathing purposes, and to the overflow of waste water from those springs for irrigation and other useful purposes on the lands described in their complaint.

7. That the defendant, the Conrad-Stanford Company is entitled to a decree fixing and establishing their rights to the use and enjoyment of the certain springs as follows:

1. To the uninterrupted flow of that certain stone-curbed spring in the center of the Springs Square or Park, known as the Drinking Spring, for drinking purposes, for said defendant, its patients, visitors, and the public at large, as of April 30th, 1886.

2. To the continuous use of and for bathing purposes, all of the waters of the said two springs, heretofore and now covered and piped to the bath-house and tanks of said defendant, which said right shall be of the date of April 30, 1866.

3. To the use of and to use for bottling purposes and for sale all of the waters of that certain spring known as the Iron Spring, except when same shall interfere with the prior rights of the plaintiff, which right shall be decreed as of April 30th, 1907.

Done in open Court this 28th day of October, 1914.

John A. Matthews, Judge.

WILLOW CREEK DECREE
Case No. 1578

In the District Court of the Tenth Judicial District of the State of Montana, in and for the County of Meagher.

Town of White Sulphur Springs, plaintiff)
vs.) Judgment
Wm. Luppold et al, defendants)

. . . It is hereby Considered, Adjudged and Decreed that upon payment of said damages as so assessed, determined and apportioned by said commissioners, amounting in all to the sum of $475 together with the costs of said commissioners taxed at $63.00 and of the proceedings herein taxed at $52.30 that the right to construct and maintain said water system as the same now exists, or as the same may be constructed, used, maintained and extended in the future, and the right to take, use, and appropriate through their said water system, the said property described in said assessment, to-wit: 10 miner's inches of the waters of Willow Creek for the use and purposes of providing the said Town of White Sulphur Springs and the inhabitants thereof with an adequate water supply for municipal and domestic purposes only at all times, and the right to use said amount of water as a first right in the waters of said creek against all of the defendants herein, with the right to the plaintiff to retain the said amount of water, or so much thereof as may be necessary to supply said uses, in said reservoir and pipes now constituting its said water system or as the same may be altered, extended, or used in the future shall, as against all the parties interested in said property and said assessment, be and remain in the said plaintiff, the Town of White Sulphur Springs, its successors and assigns forever.

Done in open Court this 12th day of Dec. 1905.

E. K. Cheadle, Judge.

WOODS GULCH DECREE
Case No. 1501

In the District Court of the Ninth Judicial District of the State of Montana, in and for the County of Meagher.

Daniel F. Jackson, plaintiff)
vs.) Decree
William Luppold & John Logan, defendants)

. . . It is therefore Ordered, Adjudged and Decreed,

That the plaintiff is the owner and entitled to the possession of all the waters of Woods Gulch, being 100 inches of water appropriated the 20th day of October, 1881 by means of two ditches conveying fifty inches of water each, for the irrigation of the following described lands owned by the plaintiff, situated in the County of Meagher and State of Montana, to-wit: S½SE¼, E½SW¼, Sec. 2, and N½NE¼, Sec. 11, all in 8N-5E.

And it is further Ordered, Adjudged and Decreed that the rights of the defendants, William Luppold and John Logan, if any they have, are subsequent to the rights of the plaintiff herein.

Done in open Court this 8th day of October, 1901.

W. L. Holloway, Judge.