

# Water Storage in Montana

**A Report Submitted to the Sixty Sixth Montana Legislature**

**Office of the Governor**

Pursuant to Montana Code Annotated, Sec. 85-1-704

March 2020



**Ruby River Dam, Madison County**



**CONTENTS**

**EXECUTIVE SUMMARY** ..... 3  
State-Owned Water Projects Map ..... 4  
List of State-Owned Water Projects, administered by the DNRC State Water Projects Bureau ..... 5

**I. INTRODUCTION** ..... 6  
A. Water Storage Special Revenue and Hydropower Earnings Accounts ..... 6  
B. Renewable Resource Grant and Loan (RRGL) Program ..... 6  
C. Water Storage Project Classification and Terminology ..... 7  
D. DNRC State Water Projects Bureau ..... 8

**II. WATER STORAGE PROJECTS PRIORITIZED** ..... 9  
Table 1. New Projects - FY 2020-2021 Biennium Water Storage Project Proposals Prioritized ..... 10

**III. JUSTIFICATION FOR FY 2020-2021 BIENNIUM PROPOSAL-NEW PROJECTS PRIORITIZATION** ..... 11  
A. DNRC Painted Rock Dam Toe Access (Ravalli County) ..... 11  
B. DNRC Nevada Creek Water Project Douglas Canal Rehabilitation (Powell County) ..... 12  
C. DNRC Broadwater Missouri Canal System Study and Master Plan (Broadwater County) ..... 13  
D. DNRC East Fork Dam Rehabilitation Environmental Planning (Granite County) ..... 15  
E. DNRC Painted Rocks Dam Environmental Planning (Ravalli County) ..... 16  
F. DNRC State Water Projects Planning Document ..... 17

**IV. ON-GOING / RECENTLY COMPLETED PROJECTS (Previous Biennium)** ..... 18  
Table 2. Ongoing / Recently Completed Projects ..... 18  
A. DNRC Allendale Canal Intake and Fish Screen (Granite County) ..... 19  
B. DNRC East Fork of Rock Creek Alternative Analysis (Granite County) ..... 21  
C. DNRC Gate Tower Safety, Engineering Design and Construction Documents - Willow Creek, Middle Creek, Nevada Creek and North Fork of the Smith Dams ..... 22  
D. DNRC Painted Rocks Dam Site Investigations and Feasibility Study (Ravalli County) ..... 23  
E. DNRC Willow Creek Project Transfer (Madison County) ..... 25

**V. HYDROPOWER PROGRAM** ..... 26  
A. Description ..... 26  
B. Financing/Revenue ..... 27  
C. History ..... 27  
D. Irrigation ..... 28  
E. Future Plans ..... 28

**VI. APPENDIX A** ..... 30  
A. Water Storage Policy and Statutory Criteria ..... 30  
B. Water Storage Project Prioritization Policy ..... 30

## EXECUTIVE SUMMARY

Montana law requires the Governor to submit a report on water storage to the Legislature each regular session. The Governor's Report on Water Storage in Montana prioritizes new rehabilitation and construction projects for the upcoming biennium and summarizes projects that occurred during the previous biennium. Appendix A contains MCA 85-1-703 Water Storage Policy.

The Department of Natural Resources and Conservation Water Resources Division State Water Projects Bureau will be submitting two new Renewable Resource Grant and Loan Requests and four new projects proposed for funding using funds from the Water Storage Account and/or Hydropower Earnings Account.

The total FY18-19 Water Storage Account appropriation was approximately \$260,000; however, it is currently unallocated.

New projects:

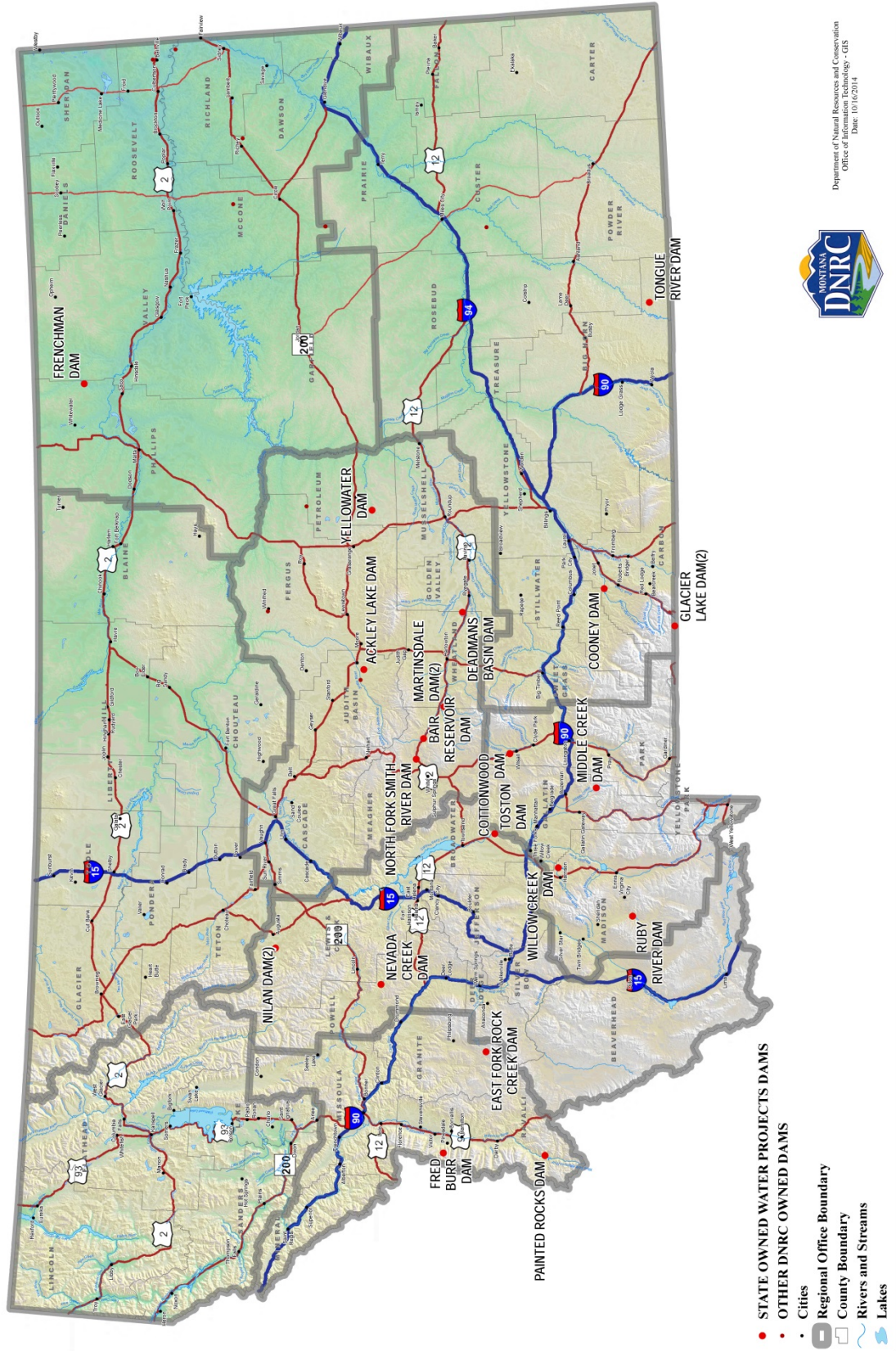
- Painted Rocks Dam Toe Access (Ravalli County), estimated cost \$900,000\*
- Nevada Creek Douglas Canal Rehabilitation Project (Powell County), estimated cost \$159,572.10
- Broadwater-Missouri Canal System Master Plan (Broadwater County), estimated cost \$162,969.70
- East Fork Rock Creek Dam Rehabilitation Environmental Planning (Granite County), estimated cost \$500,000
- Painted Rocks Dam Environmental Planning (Ravalli County), estimated cost \$500,000\*
- State Water Projects Planning Document, estimated cost \$600,000

On-going / recently completed projects:

- Allendale Canal Intake and Fish Screen (Granite County), estimated cost \$1,900,000.
- East Fork of Rock Creek Alternative Analysis (Granite County), estimated cost \$350,000.
- Gate Tower Safety Improvement Engineering Design and Construction Documents, estimated cost \$20,000.
- Painted Rocks Site Investigations and Feasibility Study (Ravalli County). Pending site investigations, cost estimated at \$750,000 and will occur over several years.
- Willow Creek Project Transfer (Madison County), DNRC Administrative.

\* Note: The new Painted Rocks Dam Toe Access Project (page 11) and Painted Rocks Dam Environmental Planning Project (page 16) are tasks identified in the on-going Painted Rocks Site Investigations and Feasibility Study (page 23).

# MONTANA STATE WATER PROJECTS DAMS



- STATE OWNED WATER PROJECTS DAMS
- OTHER DNRC OWNED DAMS
- Cities
- ▭ Regional Office Boundary
- ▭ County Boundary
- ▬ Rivers and Streams
- ▭ Lakes



Department of Natural Resources and Conservation  
Office of Water Management - GIS  
Date: 10/16/2014

## State-Owned Water Projects

<u>Project Name</u>	<u>Year Completed</u>	<u>Storage (acre-feet)</u>	<u>Height (feet)</u>	<u>County</u>
<a href="#"><u>*Ackley Lake Dam</u></a>	1938	6,722	51	Judith Basin
<a href="#"><u>*Bair Reservoir Dam</u></a>	1939	7,300	106	Meagher
<a href="#"><u>*Cooney Dam</u></a>	1937	28,230	102	Carbon
<a href="#"><u>*Cottonwood Dam</u></a>	1953	1,905	39	Park
<a href="#"><u>*Deadman's Basin Dam</u></a>	1941	72,218	60	Wheatland
<a href="#"><u>*East Fork of Rock Creek Dam</u></a>	1938	16,040	88	Granite
<a href="#"><u>*Fred Burr Dam</u></a>	1949	525	50	Ravalli
<a href="#"><u>Frenchman Dam</u></a>	1952	2,801	44	Phillips
<a href="#"><u>*Glacier Lake Dams</u></a>	1937	4,200	57 (N) 20 (S)	Carbon
<a href="#"><u>*Martinsdale Dams</u></a>	1939	23,348	91 (N) 49 (E)	Wheatland & Meagher
<a href="#"><u>*Middle Creek Dam (Hyalite)</u></a>	1951	10,184	125	Gallatin
<a href="#"><u>*Nevada Creek Dam</u></a>	1938	11,152	105	Powell
<a href="#"><u>*Nilan Dams</u></a>	1951	10,092	54 (N) 51 (E)	Lewis & Clark
<a href="#"><u>*North Fork of Smith River Dam</u></a>	1936	11,500	84	Meagher
<a href="#"><u>*Painted Rocks Dam</u></a>	1939	32,362	143	Ravalli
<a href="#"><u>*Ruby River Dam</u></a>	1938	37,642	112.5	Madison
<a href="#"><u>*Tongue River Dam</u></a>	1940	79,071	93	Big Horn
<a href="#"><u>*Toston Dam</u></a> (Broadwater-Missouri)	1940	4,100	51.5	Broadwater
<a href="#"><u>*Willow Creek Dam</u></a>	1938	18,000	105	Madison
<a href="#"><u>*Yellow Water Dam</u></a>	1938	3,842	37	Petroleum

\*Denotes High-Hazard Dams: A “high-hazard” dam stores over 50 acre-feet and will endanger lives if it fails. This classification is not a reflection on the actual condition of the dam.

## **I. INTRODUCTION**

The Governor's Report on Water Storage in Montana reviews state water storage policy and statutory criteria used for prioritization of proposed projects; identifies water storage projects proposed for development, including the rehabilitation of existing projects and progress on new projects; and summarizes water storage projects in progress over the previous two years.

The focus of this report is on projects that are funded by the state and under the administration and ownership of the Montana Department of Natural Resources and Conservation (DNRC), State Water Projects Bureau (SWPB).

### **A. Water Storage and Hydropower Earnings Accounts:**

State-owned water storage project dams classified as high-hazard that are in an unsafe condition receive first preference for use of funds from the state's Water Storage Special Revenue Account (Water Storage Account) (Section 85-1-704 MCA). This is a separate funding source from the Renewable Resource Grant and Loan program. This account allocates interest revenue from the Resource Indemnity Trust Fund each biennium to be used exclusively for state-owned water storage projects.

Another important funding source is the DNRC-SWPB Hydropower Program. Earned revenues from the sale of power are used to help finance the rehabilitation of other DNRC state-owned water storage projects, per MCA 85-1-220.

DNRC will be requesting spending authority for the 2020-2021 biennium for the following projects (listed/prioritized in Table 1, page 10):

- Painted Rocks Dam Toe Access, estimated cost \$900,000
- East Fork Dam Rehabilitation Environmental Planning, estimated cost \$500,000
- Painted Rocks Dam Environmental Planning, estimated cost \$500,000
- State Water Projects Planning Document, estimated cost \$600,000 (Reduced to \$125,000)

### **B. Renewable Resource Grant and Loan (RRGL) Program:**

The Montana Renewable Resource Grant and Loan (RRGL) Program provides grant and loan funding for projects that conserve, manage, develop, or protect renewable resources. RRGL loans are made available to public entities with proceeds from the sale of coal severance tax secured bonds and frequently are offered at a subsidized interest rate. The subsidy is paid with coal tax revenues. The DNRC-SWPB applied for two RRGL Program Grants for the 2020-2021 biennium to help fund the following:

- Nevada Creek Douglas Canal Rehabilitation Project (Powell County), estimated cost \$159,572.10
- Broadwater-Missouri Canal System Master Plan (Broadwater County), estimated cost \$162,969.70

### **C. Water Storage Project Classification and Terminology:**

It is important to have a basic understanding of some principles and terms related to dam safety classification used in this report. Standards used by the State of Montana are as follows:

- Unsafe spillway or dam - A spillway that is deemed unable to safely pass the inflow design flood, or if the dam's structural integrity has become compromised since construction.
- High-hazard dam - A dam is high hazard if it stores more than 50 acre-feet and its failure has the potential for loss of human life, regardless of its current structural condition.

Note - The state's highest priority for repair and rehabilitation is assigned to dams classified as high-hazard that are in an unsafe condition. The high-hazard classification should not be confused with an assessment of a dam's structural integrity or condition.

- Repair of a project - Most often refers to scheduled or emergency action taken to return dam function to original design capacity or for a project to continue operation at a reduced, but safe level.
- Rehabilitation - Involves upgrading existing projects to comply with or exceed current design and safety standards. This often includes removal and full replacement of structural components, such as a new spillway.



**Deadman's Basin Dam (Wheatland County)**

#### **D. DNRC State Water Projects Bureau:**

The State Water Projects Bureau (SWPB) administers the operation, management, and rehabilitation of state-owned dams, canals, and hydropower projects under the purview of the DNRC Water Resources Division (WRD). A complete statewide location map of the projects is presented on page 4, and a list of projects is provided on page 5. Additional information can be viewed on the DNRC WRD web site at:

<http://dnrc.mt.gov/divisions/water/projects>

The SWPB also provides professional engineering and rehabilitation assistance on nine additional water projects owned by the Department of Fish, Wildlife and Parks (DFWP).

The SWPB markets water from the state-owned water storage projects primarily for irrigation and administers approximately 1,800 water-marketing contracts through local water user associations. Currently, 309,899 acre-feet of water is marketed by the SWPB to water users associations across the state. Revenue from the water purchase contracts, leasing of lands associated with the projects, and net revenue from hydropower generation supplements funds used for state water project rehabilitations. Debt repayment funds come from repayment contracts with the water users.

The SWPB ensures that projects are operated and maintained in a safe, efficient manner, are kept to current dam safety standards, and that repayment contracts are properly administered. The SWPB is also responsible for overseeing repairs, maintenance, and rehabilitation of approximately 250 miles of irrigation canals associated with state-owned projects. Canals are integral components of many state water projects, delivering water to the reservoirs and water users served by the respective projects. The SWPB is responsible for identifying and correcting operational deficiencies on these canals, which includes maintaining and operating over 40 canal gauge stations to monitor water deliveries.



**Middle Creek Dam (Gallatin County)**

## II. WATER STORAGE PROJECTS PRIORITIZED:

One of the requirements of the water storage report is to prioritize state-owned DNRC water project proposals for the upcoming biennium. Per the available funding, the following are SWPB's priorities:

1. DNRC Painted Rocks Dam Toe Access
2. DNRC Nevada Creek Water Project Douglas Rehabilitation
3. DNRC Broadwater-Missouri Canal System Master Plan
4. DNRC East Fork Dam Rehabilitation Environmental Planning
5. DNRC Painted Rocks Dam Rehabilitation Environmental Planning
6. DNRC State Water Projects Planning Document

Table 1 (page 10) lists project proposals for the 2020-2021 Biennium and tabulates funding sources. Table 2 (page 18) lists ongoing or recently completed projects from the past biennium. Please note: The new Painted Rocks Dam Toe Access and Painted Rocks Dam Environmental Planning Projects are tasks identified in the on-going Painted Rocks Site Investigations and Feasibility Study.

State-owned water projects that have dams classified as high-hazard that are in unsafe condition receive first preference for use of funds from the state's Water Storage Account. Additionally, revenue received from the state's Hydropower Earnings Account is used to assist in the rehabilitation costs of active state-owned water projects.

Other non-DNRC projects recommended for funding through the RRGL program include waste water systems, municipal drinking water, water management, and irrigation water conveyance (not related to storage).

Detailed project information and rankings on these non-state owned projects can be viewed on the DNRC Grants and Loans Website at:

<http://dnrc.mt.gov/divisions/cardd/resource-development>



**Nevada Creek Dam Spillway (Powell County)**

**Table 1. New Projects – 2020-2021 Biennium Water Storage Project Proposals (in priority order)**

<b>Storage Project Name</b>	<b>RRGL Grant Amount Requested</b>	<b>Water Storage Account</b>	<b>RRGL Loan</b>	<b>Other Funding</b>
<b>DNRC Painted Rocks Dam Toe Access (Ravalli County)</b>		\$900,000		
<b>DNRC Nevada Creek Water Project Douglas Canal Rehabilitation (Powell County)</b>	\$124,331.50			DNRC SWPB and WUA In-Kind Services: \$25,240.60 WUA: \$10,000
<b>DNRC Broadwater Missouri Canal System Study and Masterplan (Broadwater County)</b>	\$124,579.50			DNRC SWPB and WUA In-Kind Services: \$18,390.20 WUA: \$20,000
<b>DNRC East Fork Dam Rehabilitation Environmental Planning (Granite County)</b>		\$500,000		
<b>DNRC Painted Rocks Dam Rehabilitation Environmental Planning (Ravalli County)</b>		\$500,000		
<b>DNRC State Water Projects Planning Document</b>		\$600,000		

### III. JUSTIFICATION FOR 2019-2020 BIENNIUM PROJECT PROPOSAL PRIORITIZATION

#### New Projects:

##### A. DNRC Painted Rocks Dam Toe Access (Ravalli County).

Painted Rocks Dam is an on-stream reservoir located in Ravalli County, Montana. The dam is approximately 30 miles southwest of the town of Conner and is classified as a high hazard dam due to the potential loss of life in the event of a dam failure.

DNRC-SWPB is in the process of conducting a feasibility study to identify future rehabilitation alternatives for Painted Rocks Dam (see on-going projects, page 23). In October 2017, DNRC-SWPB contracted with AECOM Technical Services, Inc. to perform the feasibility study. The feasibility study will evaluate what improvements are necessary and desirable for continued safe operations of the dam and will present alternatives for viable improvements. One of the project tasks is to provide enhanced access to the downstream toe of the dam. Access is needed for ongoing operations and maintenance of the dam as well as future rehabilitation efforts. This task will include construction of a bridge over the West Fork of the Bitterroot River approximately one-quarter mile downstream of the dam. It will also include improvements to an existing access road and improvements to an existing 2-track road on the west side of the river, from the new bridge to the downstream toe of the dam.

AECOM will be preparing final designs, drawings and specifications for the toe access bridge as part of the feasibility study project. A final construction package for the bridge, including plans, construction specifications and permitting, is scheduled for completion by the spring of 2019. Estimated project cost \$900,000.

Project Budget		
Funding Source	Amount	Committed/Uncommitted
Water Storage Account	\$900,000	Committed
<b>TOTAL</b>	<b>\$900,000</b>	



**Tow area of Painted Rocks Dam, currently inaccessible by vehicle without fording river.**

**B. DNRC Nevada Creek Water Project Douglas Canal Rehabilitation (Powell County).**

The Nevada Creek Water Project and the 12.6-mile-long Douglas Canal System provides water for the irrigation of 6,100 acres near Helmsville. Ranching and farming operations and many other local families rely on system water for crop irrigation and livestock watering, with an estimated crop value of \$3.6 Million and a potential \$11 million beef industry. Recreational opportunities also rely on project water and contribute significantly to the local and state economy.

The Douglas Canal Rehabilitation project is an effort by the DNRC-SWPB in cooperation with the Nevada Creek Water Users Association (NCWUA) to enhance water and habitat conservation through the installation of water measurement systems, the rehabilitation and replacement of dilapidated and/or failing structures in the Douglas Canal System, and the rehabilitation of sections of stream bank along Nevada Creek. From its inception, the project has focused on efforts that not only increase the functionality of the existing irrigation infrastructure but also enhance natural resource conservation, preservation, development, and management.

Funding and implementing the Douglas Canal Rehabilitation will have many benefits. Rebuilding the irrigation infrastructure will preserve irrigated cropland, the area’s beef industry and the local economy in general, which is heavily dependent on agriculture and outdoor recreation. Installing water measuring devices in the canal and stream gives the NCWUA the tools to accurately measure, manage, and conserve water. Rebuilding the degraded streams banks protects local infrastructure and increases the quality of aquatic and riparian habitat, enhancing both fisheries and wildlife resources. Estimated Total Project Cost \$159,572.10.

<b>Project Budget</b>		
<b>Funding Source</b>	<b>Amount</b>	<b>Committed/Uncommitted</b>
RRGL Grant	\$124,331.50	Committed
NCWUA Funding	\$10,000	Committed
DNRC SWPB and NCWUA In-Kind	\$25,240.60	Committed
<b>TOTAL</b>	<b>\$159,572.10</b>	



**Douglas Canal**



**Existing Damaged Liner**

### C. DNRC Broadwater-Missouri Canal System Master Plan (Broadwater County)

The Broadwater Missouri Canal System provides irrigation water for 21,000 acres from Toston to Townsend. Water from the system supports approximately 200 farming and ranching operations and many other local families. Irrigated crops have an estimated annual value of \$12.6 Million. Annual revenues are even greater if beef production and related agricultural support industries are considered.

The Broadwater Missouri Canal System Master Plan Project is an effort by the DNRC-SWPB to qualify and quantify structural and management problems in canal system to increase water conservation and reduce operation and maintenance costs for the benefit of the Broadwater-Missouri Water Users Association (BMWUA). Developing a Master Plan is the first step in a comprehensive effort to increase the efficiency of the canal system, enhance safety, and to identify tools needed to more effectively manage the system.

The Master Plan is designed to identify areas where rehabilitation and irrigation management efforts can have the greatest positive impact on water conservation. Conserving water also has a direct, positive effect on State revenues. The Toston Diversion Dam diverts water to the Broadwater Missouri Canal System and the Toston Hydroelectric Plant. Water conveyed through the hydroelectric plant produces electricity that is sold under contract to Northwester Energy.

Estimates from canal flow records indicate 41,000 acre-feet of water seeps out or is wasted out of the canal system annually. If 41,000 acre-feet of additional water was sent through the hydroelectric plant, it would generate an additional \$61,400.00 in annual revenue for DNRC-SWPB. Planning for the rehabilitation and preservation of vital irrigation infrastructure, identifying water conservation opportunities, and developing a strategy for effective system management are the primary, significant benefits of a master plan. With a master plan in place, the BMWUA and the DNRC-SWPB can begin work on improving and enhancing canal system maintenance and operations, so current and future generations can continue to rely on the critical water it provides. Estimated Total Project Cost \$162,969.70.

<b>Project Budget</b>		
<b>Funding Source</b>	<b>Amount</b>	<b>Committed/Uncommitted</b>
RRGL Grant	\$124,579.50	Uncommitted
BMWUA Funding	\$20,000	Committed
DNRC SWPB and BMWUA In-Kind	\$18,390.20	Committed
<b>TOTAL</b>	<b>\$162,969.70</b>	

**Broadwater-Missouri Canal Project**



**Canal head gates at diversion point (Toston Dam)**



**Gates at main canal end, splits into East-West Canals**



**Siphon over the Missouri River on East Canal**



**Concrete lined section of West Canal, with lining failure.**



**Undersized culvert at access point**



**Improperly designed/constructed fence crossing**

**D. DNRC East Fork Dam Rehabilitation Environmental Planning (Granite County).**

The East Fork of Rock Creek Dam is an on-stream reservoir located in Granite County, on the Beaverhead-Deerlodge National Forest. The dam is operated under a Forest Service Special Use Permit and is approximately 15 miles south of Philipsburg. The dam is considered high hazard due to its potential for loss of life in the event of a failure.

DNRC-SWPB is in the process of conducting a feasibility study for the future rehabilitation of the dam (see on-going projects, page 21). In November 2017, DNRC contracted with DOWL, Inc. to perform the study. The study will evaluate what improvements are necessary and desirable for the continued safe operation of the dam and identify viable alternatives for these improvements, which are needed to insure the dam meets current safety and design standards, and fully complies with directives in the Forest Service Special Use Permit.

One of the feasibility study project tasks is to provide data and perform necessary analyses for coordination with the U.S. Forest Service (USFS) and U.S. Fish and Wildlife Service (USFWS) to insure compliance with the National Environmental Policy Act (NEPA) and Endangered Species Act (ESA). Identifying an efficient and workable path forward that addresses the significant environmental consultation and compliance required for the future rehabilitation is the main-focus of this planning study. The rehabilitation NEPA analysis, which will include consultation with the USFWS on how the dam and reservoir can be operated and managed with minimal impacts to Bull Trout, a threatened species under the ESA, will be an integral component of this study. This information is needed before any future rehabilitation can proceed. Estimated Project Cost \$500,000.

<b>Project Budget</b>		
<b>Funding Source</b>	<b>Amount</b>	<b>Committed/Uncommitted</b>
Water Storage Account	\$500,000	Committed
<b>TOTAL</b>	<b>\$500,000</b>	



**East Fork Rock Creek Reservoir**

**E. DNRC Painted Rock Dam Environmental Planning (Ravalli County).**

Painted Rocks Dam is an on-stream reservoir located in Ravalli County, Montana. The dam is approximately 30 miles southwest of Conner and is classified as a high hazard to the potential loss of life in the event of failure. The existing spillway stilling basin requires repair, the outlet works are obsolete, and the project configuration limits site access for repair and maintenance activities.

In October 2017, DNRC-SWPB contracted with AECOM Technical Services to perform a feasibility study (see on-going projects, page 23). The feasibility study will evaluate what improvements are necessary and desirable for continued safe operation of the dam and will identify alternatives for viable improvements.

Providing the environmental data and analyses necessary for compliance with the Montana and National Environmental Policy Acts and ESA is the main-focus of this planning study and is one of the project tasks identified in the feasibility study. This planning report will provide the basis for the permitting related consultation with the USFWS on how the dam and reservoir can be operated and managed with minimal impacts to Bull Trout, a threatened species under the ESA. This is a necessary and critical component of the future dam rehabilitation. Estimated Project Cost \$500,000.

<b>Project Budget</b>		
<b>Funding Source</b>	<b>Amount</b>	<b>Committed/Uncommitted</b>
Water Storage Account	\$500,000	Committed
<b>TOTAL</b>	<b>\$500,000</b>	



**Painted Rock Dam and Reservoir**

**F. MT DNRC State Water Projects Planning Document.**

This planning project involved contracted services of \$125,000 to conduct full inventory, condition assessment, preliminary cost estimates to repair, rehabilitate, and / or provide necessary alterations, and economic analysis of 18 active state-owned water storage projects consisting of 23 dams, 2 dikes, and approximately 250 miles of supply and delivery canals. The report will provide a priority list of projects for rehabilitation efforts and identify those state-owned projects with minimal benefit to the State for future transfer from state ownership. Divesting these projects from state ownership will result in significant operations and maintenance cost savings and greatly reduced liability. An overview of the State Water Projects Bureau is provided on page 8. Page 4 provides a map showing the locations of active state water project dams.

Estimated Project Cost \$125,000.

<b>Project Budget</b>		
<b>Funding Source</b>	<b>Amount</b>	<b>Committed/Uncommitted</b>
Water Storage Account	\$125,000	Committed
<b>TOTAL</b>	<b>\$125,000</b>	

**IV. ONGOING OR RECENTLY COMPLETED PROJECTS**

<b>Table 2. Ongoing / Recently Completed Projects</b>	<b>RRGL Grant Awarded</b>	<b>Water Storage Account</b>	<b>RRGL Loan</b>	<b>Other</b>
<b>A. DNRC Allendale Canal Intake and Fish Screen (Granite Co.)</b>				\$254,438; Natural Resources Damage Program
<b>B. DNRC East Fork of Rock Creek Alternative Analysis (Granite Co.)</b>				\$350,000; Combined Water Storage-Hydro Earnings
<b>C. DNRC Gate Tower Safety Improvement Engineering Design and Construction Documents</b>		\$20,000		
<b>D. DNRC Painted Rocks Site Investigations and Feasibility Study (Ravalli Co.)</b>				\$750,000; Combined Water Storage-Hydro Earnings
<b>E. DNRC Willow Creek Project Transfer (Madison Co.)</b>				DNRC Administrative

**A. DNRC Allendale Canal Intake and Fish Screen (Granite Co.) On-Going**

The Allendale Canal is part of the Flint Creek Project owned by the DNRC-SWPB and maintained and operated by the Flint Creek Water Users Association. This Project consists of a storage reservoir on the East Fork of Rock Creek, located about 20- miles southwest of Phillipsburg, a main diversion canal across the divide between Flint and Trout Creeks, and four distribution canals in the Flint Creek Valley, of which the Allendale Canal (125 cfs design capacity) is located furthest downstream on Flint Creek. The original construction work on the full project started August 1936 and was completed in November 1938.

The Montana Department of Justice, Natural Resources Damage Program (NRDP) is implementing the 2012 Restoration Plans that includes a goal of restoring the fishery of the Clark Fork River mainstem. To accomplish this goal some of the factors limiting fish populations in priority tributaries to the Clark Fork River are being addressed to improve the trout populations. The Allendale diversion has been identified as a diversion that entrains many fish, including trout. The installation of a fish screen on this diversion has been recommended by DFWP fishery biologists as a measure to improve trout recruitment to the Clark Fork River from Flint Creek.

The main goals for the Project are to:

- a. Effectively and safely screen fish from entering the Allendale Canal during irrigation season.
- b. Coordinate with adjacent private ditches / diversions to attempt to combine and include these diversions into the overall project, thus enhancing the overall results of preventing fish entrainment in irrigation systems.

DNRC-SWPB has contracted with Morrison Maierle for engineering services for the Allendale Canal Intake & Fish Screen project. A preliminary engineering report (PER) was submitted this past June. DNRC-SWPB has since asked Morrison Maierle to resubmit the PER based on significant comment received during an on-site field review meeting by project Stakeholders and representatives from adjacent private ditches/irrigators.

The revised PER includes a preferred alternative to relocate the Allendale diversion and intake structure, as well as construct a vertical flat-plate fish screen. In addition, a turnout/control structure is proposed down gradient of the fish screen to facilitate private ditch integration with screened Flint Creek water. This structure would include separate control gates for each private ditch, as well as control gates for the Allendale ditch.

Through DNRC-SWPB’s agreement with NRDP, DNRC-SWPB will ensure the preferred alternative design allows for private ditch integration prior to construction, or later with minimal effort. Project construction is anticipated to begin in the fall of 2020, with completion tentatively schedule for the spring of 2020. Project cost - \$1,900,000;

Funding is as follows:

<b>Project Budget</b>		
<b>Funding Source</b>	<b>Amount</b>	<b>Committed/Uncommitted</b>
MT Dept. of Justice, NRDP	\$1,900,000	Committed
<b>TOTAL</b>	<b>\$1,900,000</b>	



**Existing Allendale Canal Diversion on Flint Creek**



**Existing Allendale Canal Intake on Flint Creek**



**Approximate location of proposed fish screen**

## B. DNRC East Fork of Rock Creek Dam Alternatives Analysis (Granite Co.) On-Going

The East Fork of Rock Creek Dam is an on-stream reservoir located in Granite County, on the Beaverhead-Deerlodge National Forest and is operated under a USFS Special Use Permit. The dam is approximately 15 miles south of Philipsburg and is considered high hazard due to its potential for loss of life in the event of failure. This project provides funds necessary to evaluate alternatives to rehabilitate the dam to meet existing dam safety and operational criteria. The analysis will determine the required spillway capacity and preferred configuration; identify any required embankment stability improvements; evaluate the cost and feasibility of increasing reservoir storage and provide a basis for future rehabilitation work related to the upcoming USFS Special Use Permit renewal and subsequent NEPA analysis, which includes consultation with the USFWS on how the dam and reservoir can be operated with minimal impacts to Bull Trout, a threatened species under the ESA. This work is the necessary first step for DNRC-SWPB to have the information needed to make decisions for rehabilitation efforts on this high hazard dam. DNRC contracted with DOWL, Inc. in November of 2017 to complete the analysis. Project cost - \$350,000. Funding is as follows:

Project Budget		
Funding Source	Amount	Committed/Uncommitted
Hydro Earning Account	\$350,000	Committed
<b>TOTAL</b>	<b>\$350,000</b>	

### East Fork Rock Creek Dam Project Statistics

Year Constructed	1938
Height:	88 feet
Normal Storage:	16,040 acre-feet
Surface Area:	390 acres
Number of Water Users:	67
Water Contract Volume:	27,180 Acre-Feet

### Primary Deficiencies

- **Spillway Capacity** – The spillway does not have adequate capacity to safely pass the required inflow design flood.
- **Foundation Seepage** – High foundation pressure and seepage requires further review and possible remediation.

### Project Scope

- **Surveying** – Conduct property boundary, topographic, and bathymetric surveys of reservoir and reservoir rim.
- **Hydrologic Analysis** – Compute the inflow design flood that the spillway is required to pass.
- **Geotechnical Investigation** – Exploratory drilling, test pits, and stability analyses.
- **Water Availability Analysis** – Evaluate legal and physical water availability for a potential future dam raise.
- **Alternatives Analysis** – Identify the feasibility and cost to meet project goals.
- **NEPA/ESA/Special Use Permit Compliance** – Collect data and perform analyses necessary to coordinate with the USFS and USFWS to insure NEPA, ESA and Special Use Permit compliance.

### Status

The analysis is on-going, with completion anticipated by the fall of 2019.



**East Fork of Rock Creek Dam Spillway**

**C. DNRC Gate Tower Safety Improvements (Madison, Gallatin, Powell, Meagher Counties) On-Going**

This project provides engineering design services to improve or install lighting, fall protection, and personnel retrieval capabilities within the gate towers. Willow Creek, Middle Creek, Nevada Creek and North Fork of the Smith dams were selected since their tower and ladder configurations are the least compliant with existing safety criteria. Willow Creek Dam was removed from this project due to the pending transfer.

The department was granted \$20,000 in spending authority from the Water Storage Account to provide the funds necessary to contract out the necessary components of this work.

This work is the necessary to ensure that the State complies with existing Occupational Safety and Health Administration safety criteria and to provide an overall safer working environment (see pages 4-5 for project location map and list).

The project is on-going, with completion anticipated by the spring of 2019.

**D. DNRC Painted Rocks Site Investigations and Rehabilitation Feasibility Study (Ravalli Co.) On-Going**

Painted Rocks Dam is an on-stream reservoir located in Ravalli County, Montana. The dam is approximately 30 miles southwest of the town of Conner and is classified as a high hazard dam due to the potential loss of life in the event of a dam failure. This project provides the funds necessary to evaluate alternatives to rehabilitate Painted Rocks Dam to meet existing dam safety and operational criteria. The existing spillway stilling basin requires repair, the outlet works are obsolete, and the project configuration limits site access for repair and maintenance activities. The alternatives analysis will determine the required spillway capacity and preferred configuration; identify any embankment stability issues; evaluate the cost and feasibility of developing a secondary outlet structure and provide final design and construction documents for a maintenance access road. The potential for increased storage and hydropower will also be evaluated. This work is necessary for the department to make decisions regarding rehabilitation efforts on this high hazard dam. The project is estimated to cost \$750,000. This is a multi-year project that will require funding over several years. Funding is as follows:

<b>Proposed Project Budget</b>		
<b>Funding Source</b>	<b>Amount</b>	<b>Committed/Uncommitted</b>
Combined Water Storage Account/Hydro Earnings	\$750,000	Committed
<b>TOTAL</b>	<b>\$750,000</b>	

**Painted Rocks Project Statistics**

Year Constructed	1939
Height:	143 feet
Normal Storage:	32,362 acre-feet
Surface Area:	655 acres
Safe Spillway Capacity:	<30,000 cfs
Required Spillway Capacity:	29,035
Number of Water Users:	41

**Primary Deficiencies**

- **Spillway Condition** – The spillway walls and stilling basin require repair.
- **Spillway Capacity** – The estimated safe capacity exceeds the required capacity by a small margin.
- **Outlet Works** – The existing gate system is obsolete and requires modernization. It is difficult to shut the gates and gate adjustments lack precision. This compromises the ability to conduct maintenance and repair activities and reduces the efficiency of project operations. Additionally, the outlet works discharge into the same stilling basin as the spillway, which further limits repair and maintenance options.
- **Access** – There is no provision for reliable access to the critical toe area of the dam. This greatly inhibits the ability to safely and efficiently conduct inspections and perform maintenance and repair activities.

### **Preliminary Project Scope**

- **Surveying** – Conduct property boundary, topographic, and bathymetric surveys of reservoir and reservoir rim.
- **Hydrologic Analysis** – Compute the Inflow Design Flood that the spillway is required to pass.
- **Preliminary Geotechnical Investigation** – Embankment and foundation subsurface investigation, test pits, and stability analyses.
- **Water Availability Analysis** – Evaluate legal and physical water availability for a potential future dam raise.
- **Hydropower Evaluation** – Evaluate the potential for hydropower development.
- **Maintenance Access Road** – Access road for heavy construction equipment for the future rehabilitation, and to provide all-weather access to the dam toe during routine operations.

**Status** On-going. Anticipated completion by the winter of 2019.



**Painted Rocks Dam Spillway**

## **E. Willow Creek Project Transfer (Madison Co.) On-Going**

The Willow Creek Dam and Reservoir are located in Madison County, approximately 4 miles east of Harrison and nine miles south of Willow Creek. The dam was constructed in 1938 by the State Water Conservation Board. The Project is currently owned and administered by the State of Montana DNRC through its SWPB for the benefit of the Willow Creek Water Users Association (WCWUA). The WCWUA operates the Project under a water marketing contract with the DNRC for the purpose of marketing agricultural water to individual users. The WCWUA is a private not for profit corporation organized pursuant to Mont. Code Ann. § 85-6-101 et seq. With a storage capacity at spillway crest of 18,000 acre feet, the Project's original purpose was to provide supplemental irrigation to 12,000 acres of land along the Willow Creek Valley. 12,000 shares (one share = one acre-foot) of water are marketed to individual members of the WCWUA for agricultural purposes.

The WCWUA expressed interest in acquiring the project. At their request, Senate Bill 221 was introduced and passed into law in the 2015 legislative session. The bill directs DNRC to attempt to dispose of the project by June 30th, 2015. Acting for the Department, SWPB options for disposal of a state water conservation project are limited where there is an active water user's association such as at the Willow Creek Project (see 85-1-211(5) (a) and 85-6-109 MCA). The water user's association has a purchase preference and must approve any sale or disposition to any other entity. Also, the preface to SB 221 and the legislative hearings indicated that the transfer was to be to the WCWUA.

SWPB is authorized to transfer ownership of state water project property and facilities to a water users' association without regard to other laws that would otherwise pertain to the disposition of state property (85-1-211(5) (a) MCA). Prior to taking that action, SWPB is required to determine the market value of the property ((85-1-210, 211(5) (a) MCA)). The determination of market value must consider all liens, encumbrances, and other limitations on the water project. This analysis was conducted internally and included in a draft Environmental Assessment (EA), in compliance with the Montana Environmental Policy Act (MEPA). The EA was released for public comment in February 2016.

Upon conclusion of the EA comment period, a Notice of Decision was developed and signed in May 2016. The preferred alternative called for a no fee transfer, with stipulations protecting public recreational access, a transfer of a small amount of DNRC shoreline land to Montana Fish, Wildlife and Parks (to consolidate property lines and protect public access to the existing Fishing Access Site), restrictions placed on potential future land developments, and reaffirmation of current water rights. Negotiations between the DNRC and the WCWU to complete the transfer are on-going.

## V. MT DNRC HYDROPOWER PROGRAM

The Hydropower Section of the DNRC-SWPB administers the development and operation of hydropower facilities on state-owned water projects. To date, one hydropower facility, the Broadwater Power Project near Toston, Montana has been built.

### A. DESCRIPTION

The Broadwater Power Project is a 10 megawatt, run-of-river hydroelectric project owned and operated by the DNRC-SWPB in conjunction with the Broadwater-Missouri Water Users Association (BMWUA). The Project is located on the Missouri River, near the town of Toston, Montana. The site is about 20 river miles downstream of the headwaters of the Missouri River and about 20 river miles upstream from Canyon Ferry Reservoir.

The Broadwater Project is a concrete gravity overflow dam, with a total length of approximately 705 feet. It is 24 feet high to the top of the gravity overflow section and 40 feet high to the tops of the abutment walls on either end. The maximum dam height from the bottom of foundation concrete to the top of the abutments is approximately 50 feet. The upstream face of the dam is vertical. The downstream face is a modified ogee section with an apron that extends 75 feet downstream from the upstream face of the dam. At either end of the dam, parallel to its axis, are counterfort abutment walls, which extend into the abutments and function as concrete seepage cutoff walls.

The spillway consists of seven spillway bays, each 54 feet wide, separated by six reinforced concrete piers, each three feet wide and about 20 feet long. The original spillway was fitted with needle beams and flashboards to regulate the water levels. Seven rubber gates are now used to control water levels. Each fiber reinforced rubber gate is approximately 54 feet long and 11½ feet tall and can be individually regulated to control the reservoir pool level when the Missouri river flows exceed the 6600 cubic feet per second (cfs) turbine rating or when the turbine is offline.

Air bag inflation is regulated through four compressor houses that sit atop the concrete piers between the spillway sections. Compressors and valves inflate and deflate the gates in response to commands received from the Powerhouse Control Room. The gates in the six northern bays are automatically regulated to maintain the headwater elevation. The gate in the southernmost bay is controlled manually. Air pressure signals from the gates are transmitted to the controller in the Powerhouse. Inflation pressures required for their operation are approximately equal to the maximum hydrostatic pressure exerted on them by the water retained behind them, or about 5 pounds per square inch.

The powerhouse is a reinforced concrete structure constructed in the left abutment between 1987 and 1989. Electric power was first generated at this installation in June 1989. The powerhouse is approximately 160 feet long, with a maximum width of 46 feet and a maximum height above the foundations of about 64 feet. To construct the powerhouse, a portion of the concrete counterfort abutment wall constructed as part of the original dam was removed. The powerhouse contains a single, horizontally-mounted double-regulated Kaplan turbine in a pit-type configuration. The turbine has a capacity of approximately 10 megawatts (MW) at a rated head of 21 feet and flow of about 6630 cfs. It typically operates at a 1.0 power factor.

Water flows into the powerhouse through two inclined trash racks, each 20 feet wide and 40 feet high. The trash racks are cleared of debris with an automated trash rake. The water then flows on either side of a concrete and steel turbine pit, through 16 turbine wicket gates, then through the turbine. Flow from the turbine discharges into a draft tube 30 feet high, 40 feet wide, and 90 feet long.

The Broadwater Project is on the Missouri River and forms a reservoir with a surface area of 327 acres. The original design storage capacity was approximately 4,100 acre-feet at full pool, but a 2008 bathymetric survey

found the reservoir volume to be approximately 1,900 acre-feet due to silting over the intervening years. The drainage area feeding the Project is about 14,669 square miles.

The generator produces power at 4160 volts ac, which is stepped up in voltage to 100 kilovolts (kV) using an on-site transformer. The power is then transmitted over a 3-mile long transmission line to the DNRC-SWPB owned Broadwater Substation where it connects to the NorthWestern Energy 100kV line between Townsend and Trident.

## **B. FINANCING/REVENUE**

Original construction bonds were issued September 1991 for \$21,735,000 which was used to cover the cost of constructing the Broadwater Project. The bonds were refinanced Sept 2001 to lower the cost of the debt payment. The last payment on the construction bonds was made on December 1, 2017.

All the electricity produced is sold to NorthWestern Energy under a 35-year Power Purchase Agreement which runs through June 2024. Revenues remaining after bond payments and operation costs are used to help finance the rehabilitation of other DNRC-SWPB water projects. For average water flows, Broadwater generates roughly 53 million kilowatt-hours of electricity and earns between \$4,000,000 and \$5,000,000 in energy and capacity revenue annually. After construction bond payments and operating expenses, approximately \$2.0 million is available to rehabilitate state-owned dams annually. Gross revenues for the last seven fiscal years were:

- Fiscal Year 2018: \$4,642,635
- Fiscal Year 2017: \$5,058,265
- Fiscal Year 2016: \$4,751,849
- Fiscal Year 2015: \$5,126,321
- Fiscal Year 2014: \$4,221,877
- Fiscal Year 2013: \$4,097,021
- Fiscal Year 2012: \$5,073,151

## **C. HISTORY**

The DNRC-SWPB owns and operates the Broadwater Project. It was one of many state-owned water storage projects built by the Montana State Water Conservation Board (Board). These projects were built during the 1930's to take advantage of the federal government's Public Works Administration's efforts to offset depression era economics as well as mitigating the effects of long-term drought. The DNRC-SWPB is the successor to the Board. Original construction of what was then known as the Broadwater-Missouri Dam was completed in 1940.

In May 1982, the DNRC submitted an application for license for the Broadwater Dam Project to the Federal Energy Regulatory Commission (FERC). Between 1987 and 1989, the powerhouse was constructed in the left abutment containing a single, pit-Kaplan 10 MW hydroelectric generating unit. Commercial power production began in June 1989.

In 2000, a rock embankment jetty was placed between the canal and turbine intakes. It extends out from the dam 130 feet into the reservoir to separate the flow paths of the irrigation diversion and the powerhouse intake. A primary design consideration of the jetty was minimizing the amount of debris at the canal diversion headgates.

A new automated track rake was installed at the turbine intake in 2002. The trash rake cleans debris from the intakes of the powerhouse and greatly reduces shutdowns of the power plant for intake cleaning and maintenance. Also, a new structural steel deck was constructed upstream of the dam at river left, adjacent to the powerhouse, during the summer of 2002 to facilitate handling and storage of debris.

A bridge construction project replaced the original timber deck over the dam's spillway during the summer and fall of 2006. The original bridge structure (built in 1940) was removed, new concrete pedestals were poured in place, and a steel girder structure with a reinforced concrete deck was installed. The approaches at both ends of the bridge were regraded and Mechanically Stabilized Earth (MSE) block retaining walls were built to stabilize the steep side slopes. At the same time, an MSE block retaining wall was installed with new fencing around the canal intake to facilitate maintenance and public safety. The bridge serves as a primary maintenance access and provides public recreational access to the east side of the river.

In 2012, the rubber bladder gate in Bay 5 failed along a seam. Analysis determined the remaining gates had exceeded their design life and required replacement. All seven rubber gates were replaced in 2014. MWH Americas was the design engineer, Dyrhoff Limited was the supplier for the replacement gates (which were manufactured by Huaxia), and NW Construction completed the installation. As part of this effort, additional site improvements were made: steel bulkheads were procured to replace the old wooden flashboards; ladders and catwalks were installed to facilitate inspection of the gates and spillway; and additional valves were added to allow air pressure control of individual gates, instead of in pairs. Also, the approach to the left side of the spillway bridge was paved to provide safer access to the bridge deck.

#### **D. IRRIGATION**

The project was originally constructed in 1940 as an irrigation diversion structure by the State Water Conservation Board as the Broadwater-Missouri Diversion Project. Water from the reservoir continues to be used for irrigation. It is diverted into the main canal through a headgate structure to the west of the powerhouse. The turbine and canal intakes are separated by a rock embankment jetty.

Immediately downstream of the irrigation canal intake, a transition section conveys the flow from the intake to a box culvert section ten feet wide by seven feet high, approximately 400 feet long. The box culvert discharges through another transition section into the main Broadwater-Missouri Canal. At the end of the main canal, approximately 1.5 miles from the intake, an 84 inch diameter steel pipe flume, 667 feet long, conveys much of the flow across the Missouri River into the Eastside Canal.

The main Broadwater-Missouri Canal has a capacity of 342 cfs and is 1½ miles long before it splits into the Eastside and Westside Canals. The Eastside Canal has a capacity of 262 cfs and is 34.3 miles long while the Westside Canal has a capacity of 90 cfs and is 12.4 miles long. The dam is operated by the DNRC-SWPB in conjunction with the BMWUA. Prior to construction of the powerhouse, BMWUA operated the dam. After project modifications in 1989, the BMWUA role is limited to the operation of the irrigation canal system, while SWPB personnel operate and maintain the dam and powerhouse.

#### **E. FUTURE PLANS**

The FERC-issued license for the Broadwater Power Project was issued for 35 years and expires on July 1, 2024. The initial steps toward relicensing are being taken on what is expected to be a lengthy and time-consuming process. A great deal of interaction with FERC and stakeholders will be required. No changes to Project operation are expected because of relicensing.

The Power Purchase Agreement (PPA), currently with NorthWestern Energy, also expires as of July 1, 2024. A replacement PPA will need to be in place before then. Early steps are being taken toward this end.

With the completion of bond repayment, additional funding is expected to become available for application to catching up on deferred maintenance and upgrades.

A high priority is the replacement of the Project Supervisory Control and Data Acquisition (SCADA) system (with significant attention paid to cybersecurity aspects) and the protective relaying equipment which provides protection against high-voltage, high-energy electrical faults. A thorough review of the remaining electrical and instrumentation/control systems is being undertaken, including the high and low voltage plant electrical systems, the Broadwater Substation, and the emergency backup generator.

A similar review is planned for the mechanical systems including the high-pressure and lubrication oil systems, the cooling water and station water systems, the ventilation system, and the service air system. Additionally, the powertrain systems will require evaluation, including the waterway, turbine, gearbox, exciter, and generator.

More discrete upgrades include repair of the spillway concrete, trash rake machine upgrades, and bank stabilization rip-rap maintenance.

The intake bulkheads have already been refurbished, including sandblasting, weld inspections, repainting, and new guide blocks and seals.



**Broadwater Power Project, Missouri River near Toston, MT**

## VI. APPENDIX A

### A. Water Storage Policy and Statutory Criteria

The 1991 Montana Legislature passed into law a policy to define when water storage is the best solution for solving specific water problems. When storage is determined to be the best alternative, the policy identifies criteria to use in ranking state-funded projects. (Sections 85-1-701-704 MCA).

#### 85-1-703. Water storage policy

*(1) The legislature recognizes that water resources needs are growing, existing water facilities are aging and in need of repair, and new water storage projects have become more difficult to complete. Other types of actions will be needed to solve many emerging problems, but if storage is the best way to meet growing water needs and solve problems, it should be actively pursued.*

*(2) In determining the best solution for a particular water management problem, the state shall:*

- a. carefully define the problem;*
- b. identify all options to solve the problem, including water storage;*
- c. determine whether water is physically and legally available to solve the problem; and*
- d. select the option that best meets the following criteria:*
  - i. technical feasibility*
  - ii. financial feasibility*
  - iii. economic feasibility*
  - iv. political feasibility*
  - v. legal feasibility, and*
  - vi. environmental feasibility*

### B. Water Storage Project Prioritization Policy

The statute calls for this report to the legislature and describes its requirements. The statute also identifies different criteria to be used to prioritize new water storage projects, storage rehabilitation projects, and budget priorities for the allocation of state water storage development funds. Section 85-1-704 prioritization of water storage projects - governor's report, states:

*(1) The governor shall submit to each regular session of the legislature a report identifying specific water storage projects proposed for development, including the rehabilitation of existing projects and new project proposals. The report must contain:*

- a) a list of water storage project priorities;*
- b) an implementation strategy for each priority project that identifies the resources (including specific budget requests), government actions, and other actions needed to accomplish the project;*
- c) a progress report on the development of water storage projects during the previous 2 years.*

*(2) In setting priorities among new water storage projects, the governor shall consider whether a project:*

- a) solves a severe water problem;*
- b) provides multiple uses and benefits;*
- c) provides for public uses;*
- d) shows strong evidence of broad citizen support;*
- e) is able to obtain non-state sources of funding;*
- f) protects and seeks to enhance social, ecological, cultural, aesthetic values;*
- g) improves local and state economic development;*
- h) could resolve Indian and federal reserved water rights issues;*
- i) supports water conservation activities; and*
- j) promotes the use of water reserved under Montana law.*

*(3) In setting priorities among water storage rehabilitation projects, the governor shall consider whether the project:*

- a) is needed to protect public safety;*
- b) has impacts if not repaired or rehabilitated; and*
- c) accomplishes the goals listed in subsection (2)(a) through (2)(j).*

*(4) In establishing budget priorities for the allocation of state storage development funds:*

- a) First preference must be given to projects that resolve threats to life and property posed by high-hazard facilities that are in an unsafe condition;*
- b) Second preference must be given to projects that improve or expand existing water storage facilities; and*
- c) Third preference must be given to the planning and construction of new water storage facilities.*

Person with disabilities who need an alternative accessible format of this document should contact:

Montana Department of Natural Resources and Conservation  
Water Resources Division  
1424 9<sup>th</sup> Ave. P.O. Box 201601  
Helena, MT 59620-1601  
Telephone (406) 444-6646  
Fax (406) 444-0533  
<http://dnrc.mt.gov/wrd>



**North Fork Smith River Dam, Meagher County**

