



# **PROGRAM EVALUATION: WATER RESOURCES DIVISION OF THE DNRC**

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Water Policy Interim Committee

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**MONTANA STATE LEGISLATURE**

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# PROGRAM EVALUATION: WATER RESOURCES DIVISION (DNRC)

## INTRODUCTION

Montana law requires the Water Policy Interim Committee to conduct program evaluations of the agencies under the committee's oversight.<sup>1</sup>

The WPIC allocated 102 hours of staff time to evaluate the two agency programs under committee oversight during the 2017-18 interim. This evaluation generally covers the Water Resources Division of the Department of Natural Resources and Conservation and its five bureaus.

## BACKGROUND

The Water Resources Division essentially plans for, manages, and administers Montana's water. The division monitors the state's water supply, administers water rights, operates dams, reservoirs, and irrigation canals, and maintains a large database of all water rights.

The division's duties today come after 133 years of various water development and management efforts. Generally, water development came before a centralized administration of water rights.

As the native people, explorers, and settlers observed for years, water is a scarce commodity in Montana. The state, federal, local, and private entities have made numerous efforts to maximum water availability throughout Montana. To this end, the state of Montana created various institutions and programs, including the following:

- Arid Lands Commission in 1895,<sup>2</sup> which identified land suitable for development and irrigation
- State Engineer's Office, which generally existed in the first half of the 1900s and was primarily responsible for gathering historical water use information for the exhaustive Water Resources Surveys
- State Water Conservation Board, which was formed in the 1930s to locate and build water infrastructure projects in Montana<sup>3</sup>
- State Water Plan, a creation of 1967 legislation, charging the DNRC with creating and updating a plan to "encourage wise conservation, development and use of the state's natural resources"<sup>4</sup>

Today, the Water Management Bureau, the Water Operations Bureau, and the Water Projects Bureau do much of the water planning and management of important state irrigation projects.

While the state of Montana was effective at creating infrastructure mainly to power Montana's largest industry – agriculture – it took decades before the state comprehensively tackled the issue of administering water rights.

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<sup>1</sup> Section 5-5-231, MCA.

<sup>2</sup> Montana Environmental Quality Council, *Annual Report Ninth Edition: Montana's Water* (1985).

<sup>3</sup> Montana Department of Natural Resources and Conservation, "Water Projects," [dnrc.mt.gov/divisions/water/projects](http://dnrc.mt.gov/divisions/water/projects).

<sup>4</sup> Montana Environmental Quality Council, *Annual Report Ninth Edition: Montana's Water* (1985), 30.

In the territorial days, the Legislature recognized a Western system of water rights. While traditional water rights in water-rich Eastern states relied on the legal doctrine of “riparianism,”<sup>5</sup> Montana is one of eight Western states that embrace “prior appropriation,”<sup>6</sup> which is roughly described as “first in time, first in right.”

This legal doctrine was eventually solidified by 1921,<sup>7</sup> but the administrative scheme was less certain. Some declared water rights at county courthouses, which may have been subsequently upheld by a district judge’s decree. Other rights were established by simply diverting and using the water. For much of the 20th century, while other Western states issued water rights from a designated central agency, “the procedure in Montana, however, [was] vastly different.”<sup>8</sup>

The modern phase of Montana’s water administration begins after the passage of the 1972 Montana Constitution and the 1973 Water Use Act.

The Constitution recognized all existing uses and required the state to create a system of centralized records. To “recognize” all existing uses meant the launch of the statewide adjudication, which led thousands of Montanans to file for more than 219,000 water rights claimed before 1973.<sup>9</sup> Statewide adjudication includes an extended legal process, which allows a claimant to state a right and allows neighbors to object to that right. The Water Adjudication Bureau processes these claims for the Water Court to complete this statewide adjudication.

The Water Use Act also provided for new, post-1973 uses of water. The Water Rights Bureau permits new uses of water and approves changes to existing water rights or claims.

## WATER ADJUDICATION BUREAU

The Water Adjudication Bureau focuses on historic water rights – and the agency has been on the front lines from the start. In 1973, the Legislature ordered the Department of Natural Resources<sup>10</sup> to determine all existing rights, which began in the Powder River region. This meant on-the-ground discovery of all water rights in the fields and hills of southeast Montana. The Legislature changed that process to require water users to file claims, but it lessened the agency’s involvement only somewhat.

Over three decades, the bureau processed nearly 225,000 filed historic water rights. Water rights examiners conducted field visits and technical analyses of each right. Unclear or inconsistent information was tagged for the Water Court’s consideration. Additional information was and is provided to the Water Court for litigation of claims. After generally meeting its 2015 deadline to examine all historic (pre-1973) water rights,<sup>11</sup> the bureau’s work has shifted. The Legislature required reexamination of certain technical elements of 90,000 historic claims by June 30, 2023.<sup>12</sup> The bureau continues to aid the

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<sup>5</sup> “Landowners bordering a waterway are considered riparians. Their location gives them certain appurtenant rights under the laws of most states. Historically, a riparian location had special advantages because it enabled the owner to operate water-driven mills and to have access to the water surface for boating, hunting, and fishing, and to consume reasonable quantities of water.” David H. Getches, *Water Law in a Nutshell*, West Pub. Co. (1997), 4.

<sup>6</sup> “[Water] rights, then belong to anyone who puts water to a ‘beneficial use’ anywhere (on riparian or non-riparian land), with superiority over anyone who later begins using water. Unlike riparian law, it depends on usage and not on land ownership.” David H. Getches, *Water Law in a Nutshell*, West Pub. Co. (1997), 6.

<sup>7</sup> The Montana Supreme Court finally jettisoned the state’s modified riparian system of water rights in *Mettler v. Ames Realty Co.*, 61 Mont. 152, 169, 201 P. 702 (1921).

<sup>8</sup> State Engineer and State Water Conservation Board, *Water Resources Survey: Big Horn County, Montana* (1947), 2.

<sup>9</sup> The Water Adjudication Bureau aids the Montana Water Court in this work, which is estimated to end in 2028.

<sup>10</sup> Predecessor to the Department of Natural Resources and Conservation.

<sup>11</sup> The bureau is accepting “claims previously exempt from filing” until June 30, 2019, as required by Section 85-2-222, MCA. The bureau has received 3,709 claims for domestic and stock water rights as of January 2018.

<sup>12</sup> Section 85-2-271, MCA. This reexamination was ordered by Water Court Judge Russ McElyea.

Water Court's work as it litigates individual historic claims. The bureau also updates lists, or tabulations, of rights for distribution of water by water commissioners. The bureau is required to report quarterly to the Water Policy Interim Committee.<sup>13</sup>

Bureau staff are located in Helena and in all DNRC field offices.

## WATER MANAGEMENT BUREAU

The Water Management Bureau tends to Montana's surface and groundwater resources in many ways. The bureau conducts hydrologic assessments, develops the State Water Plan and water resources planning studies, offers educational programs, and supports implementation of federal and tribal water compacts. The bureau often partners with local watershed groups, conservation districts, and other state and federal agencies. The activities and work products of bureau staff support the conservation, development, use, and sustainability of the state's water resources. The bureau is composed of three sections.

### Hydro Sciences Section

The Hydro Sciences Section analyzes and investigates surface water and groundwater resources. Section staff's technical expertise informs various hydrologic studies, water right application reviews, and other water management issues, including working with other state and federal agencies. For example, this section provided much of the technical work for the State Water Plan. Staff also analyze water supplies, return flows, groundwater levels, and irrigation and storage potential.<sup>14</sup>

### Water Planning Section

The Water Planning Section coordinates water planning documents and other water projects throughout Montana, most notably the updated State Water Plan.

### Compact Implementation Section

The Compact Implementation Section coordinates Montana's role in implementing the water compacts with seven tribes and six federal agencies.<sup>15</sup> The state is required to meet obligations under these compacts, ranging from state funding to technical studies of reservation water use.

## WATER OPERATIONS BUREAU

This bureau administers and implements programs for dam safety, floodplains, and water well drilling.

### Floodplain Management Program

The bureau's largest program is its Flood Management Program, which manages the state flooding risk by mapping floodplains and providing technical assistance and training for 136 locally administered floodplain management programs. This

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<sup>13</sup> Section 85-2-281, MCA.

<sup>14</sup> Department of Natural Resources and Conservation, "Reports & Technical Information," [dnrc.mt.gov/divisions/water/management/reports-technical-information](http://dnrc.mt.gov/divisions/water/management/reports-technical-information).

<sup>15</sup> The Reserved Water Rights Compact Commission negotiated 11 compacts with these federal agencies. Although the Legislature has approved all negotiated compacts, several await approval by tribes, Congress, or the Water Court.

allows participation in the National Floodplain Insurance Program administered by the Federal Emergency Management Agency. While local entities ultimately decide what development is allowed in a floodplain,<sup>16</sup> state<sup>17</sup> and federal law establish minimum requirements. The Floodplain Management Program also provides outreach and education.

## Dam Safety Program

Another function of the Water Operations Bureau is its Dam Safety Program, which regulates construction, operation, and maintenance of high-hazard dams in Montana.<sup>18</sup>

The Dam Safety Act<sup>19</sup> governs the Dam Safety Program. As the act states, “dams play a crucial role in maintaining the vitality of Montana’s economy.” The act requires program engineers and experts to approve plans, issue construction permits and operating permits, conduct inspections, and gather reports. The program has the authority to conduct emergency inspections and take actions to protect human life or property.<sup>20</sup>

The bureau also assists the **Board of Water Well Contractors**, which licenses drillers and enforces construction standards.

## WATER PROJECTS BUREAU

The Water Projects Bureau operates and manages state-owned water projects. These include 22 dams, 250 miles of irrigation canals, and one hydropower facility (see Table 1). The bureau also helps operate nine dams owned by the Department of Fish, Wildlife, and Parks (see Table 2). This bureau is an heir to the State Water Conservation Board.

While the state owns these dams, 18 water user associations operate the facilities. The associations contract for the water contained in these reservoirs mostly for irrigation. An exception is at Painted Rocks Dam, where most of that reservoir’s stored water is for FWP instream flows into the Bitterroot River basin.

The bureau consists of three sections. All sections are responsible for emergency response and action to ensure the safe operations of storage facilities and accompanying components.

## Rehabilitation Section

The Rehabilitation Section is responsible for prioritizing rehabilitation efforts, managing consultant selection, managing contracts, maintaining operating permits, and conducting annual dam safety operating permit inspections at state-owned storage projects.

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<sup>16</sup> State law defines the term “flood plain” as areas next to waterways “that would be covered by the floodwater of a flood of 100-year frequency.” Section 76-5-103, MCA.

<sup>17</sup> Title 76, Chapter 5, MCA.

<sup>18</sup> State law defines a high-hazard dam one with a capacity of at least 50 acre feet, “the failure of which would be likely to cause loss of life.” Section 85-15-106, MCA.

<sup>19</sup> Title 85, Chapter 15, MCA.

<sup>20</sup> Title 36, chapter 14, A.R.M.

## Project Management Section

This section oversees canals of varying carrying capacities. This includes design, contract management, and ensuring irrigation season deliveries. The section also manages water marketing agreements and purchase contracts for more than 300,000 acre-feet of delivered water.

## Hydropower Section

Hydropower Section operates and maintains the Broadwater Power Project at Toston. This Missouri River hydropower project generates 10 mw of electrical power, which is sold to NorthWestern Energy. Sales of this power fund repairs at other state water projects. Annual proceeds have ranged from \$1 million to \$2.5 million annually, depending upon river conditions.<sup>21</sup>

TABLE 1. LIST OF DNRC DAMS

Project name	County
Ackley Lake	Judith Basin
Bair Reservoir	Meagher
Cooney	Carbon
Cottonwood	Park
Deadman's Basin	Wheatland
East Fork of Rock Creek	Granite
Fred Burr	Ravalli
Frenchman	Phillips
Glacier Lake (North and South)	Carbon
Martinsdale (North and East)	Wheatland and Meagher
Middle Creek (Hyalite)	Gallatin
Nevada Creek	Powell
Nilan (North and East)	Lewis and Clark
North Fork of Smith River	Meagher
Painted Rocks	Ravalli
Ruby River	Madison
Tongue River	Big Horn
Toston (hydropower)	Broadwater
Willow Creek	Madison
Yellow Water	Petroleum

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<sup>21</sup> Email from Kevin Smith, Water Projects Bureau chief, Aug. 11, 2016.

TABLE 2. LIST OF FWP DAMS

Project name	County
Ashley Lake	Flathead
Bailey Reservoir	Hill
Bearpaw	Hill
Gartside	Richland
Johnson Reservoir	Dawson
Knowlton Reservoir	Teton
S. Sandstone Reservoir	Fallon
Whitetail	Daniels
Rainy Lake Fish Barrier	Missoula

## WATER RIGHTS BUREAU

All new and modified water rights must move through the Water Rights Bureau. The bureau processes applications for new uses of water, changes to existing water rights, other water right processes, and water rights records. These functions are contained within three programs or units.

### New Appropriations Program

The New Appropriations Program is the primary focus of this bureau. The program permits new beneficial uses of water. This includes an analysis of whether the water is legally and physically available, and if the new right would adversely affect other users. The bureau also examines the means of diversion and construction and operation of the appropriation works and considers if the use of water is beneficial and if the applicant has an adequate ownership interest. Others may object to a permit application.

The New Appropriations Program also considers changes to existing water rights, including similar analyses for a new permit.<sup>22</sup> A water right must undergo a change in water use analysis if the appropriator changes the point of diversion, place of use, purpose of use, or place of storage. The program processes other modifications to a water right, such as temporary changes, temporary leases, and designation of water for mitigation.

The New Appropriations Program administers other aspects of water rights, such as notices, corrections, updates, and exempt well certificates.

The program also administers certain designated areas that place limits on new water rights, such as closed basins, controlled groundwater areas, and stream depletion zones (see Figure 1). For example, closed basins are closed to new surface appropriations of water (with some exceptions). Groundwater appropriations within a closed basin may require aquifer recharge or mitigation.<sup>23</sup> And the agency, local governments, or water rights holders may petition for a controlled groundwater area or a stream depletion zone, which may limit or restrict future appropriations.

<sup>22</sup> Excluding an examination of legal and physical availability.

<sup>23</sup> Environmental Quality Council, *Water Rights in Montana* (2012), 27.

The **Hearings Unit** hears objections to permit and change applications. The bureau shares maintenance of a water-right database containing critical information on more than 360,000 water rights with the Adjudications Bureau. The **Water Rights Records Unit** maintains more than 11 million images and documents related to water rights.

## FISCAL ANALYSIS

The Legislature appropriates a mix of general fund, state special revenue, and federal special revenue to the division (see Figure 2). The Legislature has approved the following appropriations for the past five biennia<sup>24</sup>:

Fiscal years	Legislative appropriation
2018-19	\$29,524,757
2016-17	\$32,016,873
2014-15	\$27,419,567
2012-13	\$24,585,952
2010-11	\$26,034,879

The division employs 133.05 full-time equivalent employees.

## AUDITS

In 2010, the Legislative Audit Division released its report on water rights adjudication.<sup>25</sup> The report found that the adjudication process had cost approximately \$65 million and had been meeting statutory deadlines, but the process of adjudicating pre-1973 water rights may not finish until 2028 or later. The audit recommended to the DNRC and Water Court various measures to help state agencies manage the adjudication to save money and prevent further delays, including:

- Avoid further re-examination of claims unless a significant increase in accuracy that provides benefits to water users can be found.
- Address the status of verified claims by developing system-based standards.
- Avoid further delays in decree issuance.
- Develop expectations for litigation phase of the adjudications process.
- Plan to transition staff and workload for the post-adjudication administration of water rights.

The Legislative Audit Division conducts financial audits of the DNRC biennially. A review of the past five audits found the following issues and recommendations specifically aimed at the Water Resources Division:

- The 2008 financial compliance audit stated staff “had difficulty meeting the application processing deadlines (for new water rights) established in state law due to the volume of objections received and the need to gather additional information from the applicant.”<sup>26</sup>
- The 2010 financial compliance audit recommended the department submit an annual report for the Reserved Water Rights Compact Commission as required by state law.<sup>27</sup> The report was submitted in 2011.<sup>28</sup>

<sup>24</sup> Legislative Fiscal Division biennial fiscal reports, [leg.mt.gov/css/fiscal/publications.asp](http://leg.mt.gov/css/fiscal/publications.asp).

<sup>25</sup> Legislative Audit Division, *Water Rights Adjudication (09P-09)* (2010).

<sup>26</sup> Legislative Audit Division, *Department of Natural Resources and Conservation (08-17)* (2008), 5.

<sup>27</sup> Legislative Audit Division, *Department of Natural Resources and Conservation (10-17)*, 17.

<sup>28</sup> Legislative Audit Division, *Department of Natural Resources and Conservation (12-17)*, 4.

- The 2012 audit found that the agency “is not determining whether a dam or reservoir is considered ‘high hazard’ within 60 days,” as required by law<sup>29</sup> and recommended a change in procedure. This change in procedure was implemented.<sup>30</sup>
- The 2016 audit found the agency was not producing a required surface and groundwater report as part of the water rights compact with the Chippewa Cree Tribe of the Rocky Boy’s Indian Reservation, and the agency was missing certain timelines for water right permits required by state law.<sup>31</sup>

## ISSUES

Future issues identified by division staff include:

- Funding to perform engineer peer review for large dam construction projects
- Flood risk mitigation
- Water right claims made pursuant to 85-2-222, MCA, also known as “claims previously exempt from filing” (see footnote 11)
- Meeting legislative benchmarks for re-examination of 90,000 historical water rights claims (see footnote 12)
- State Water Plan implementation
- Lack of funding to support statewide stream gauging
- Lack of funding to implement water right compacts

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<sup>29</sup> Legislative Audit Division, *Department of Natural Resources and Conservation (12-17)*, 17.

<sup>30</sup> Legislative Audit Division, *Department of Natural Resources and Conservation (14-17)*, 4.

<sup>31</sup> Legislative Audit Division, *Department of Natural Resources and Conservation (16-17)*, 13-14.



FIGURE 2. WATER RESOURCES DIVISION BUDGET BY SOURCE (2019 BIENNIUM)

Natural Resources and Conservation, 24-Water Resources Division Funding by Source of Authority						
Funds	HB2	Non-Budgeted Proprietary	Statutory Appropriation	Total All Sources	% Total All Funds	
01100 General Fund	18,277,903	0	0	18,277,903	57.58 %	
02104 Miscellaneous State Spec Rev	0	0	0	0	0.00 %	
02145 Broadwater O & M	1,062,902	0	0	1,062,902	8.22 %	
02146 Broadwater Irrigation	0	0	0	0	0.00 %	
02147 Broadwater R & R	0	0	0	0	0.00 %	
02216 Water Storage St Sp Rev Acct	519,518	0	0	519,518	4.02 %	
02305 Blackfeet Mitigation	0	0	0	0	0.00 %	
02351 Water Project Lands Lease Acct	113,600	0	0	113,600	0.88 %	
02404 Water Project Loans	585,588	0	0	585,588	4.53 %	
02430 Water Right Appropriation	1,272,014	0	0	1,272,014	9.83 %	
02431 Water Adjudication	4,334,297	0	0	4,334,297	33.51 %	
02470 State Project Hydro Earnings	4,617,948	0	0	4,617,948	35.70 %	
02576 Natural Resources Operations	226,354	0	0	226,354	1.75 %	
02825 Water Well Contractors	201,871	0	0	201,871	1.56 %	
<b>State Special Total</b>	<b>\$12,934,092</b>	<b>\$0</b>	<b>\$0</b>	<b>\$12,934,092</b>	<b>40.74 %</b>	
03034 Yellowstone Groundwater NPS	43,590	0	0	43,590	8.16 %	
03094 FEMA Federal Grants	490,621	0	0	490,621	91.84 %	
03308 Water Resources - Federal	0	0	0	0	0.00 %	
03724 AA Miscellaneous Federal	0	0	0	0	0.00 %	
<b>Federal Special Total</b>	<b>\$534,211</b>	<b>\$0</b>	<b>\$0</b>	<b>\$534,211</b>	<b>1.68 %</b>	
<b>Proprietary Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>0.00 %</b>	
<b>Total All Funds</b>	<b>\$31,746,206</b>	<b>\$0</b>	<b>\$0</b>	<b>\$31,746,206</b>		

Source: Legislative Fiscal Division

Note: This figure does not reflect actions during the 2017 special legislative session, which reduced the division's spending authority.