

Water Rights Query System (WRQS)



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Deputy Administrator Water Resources Division

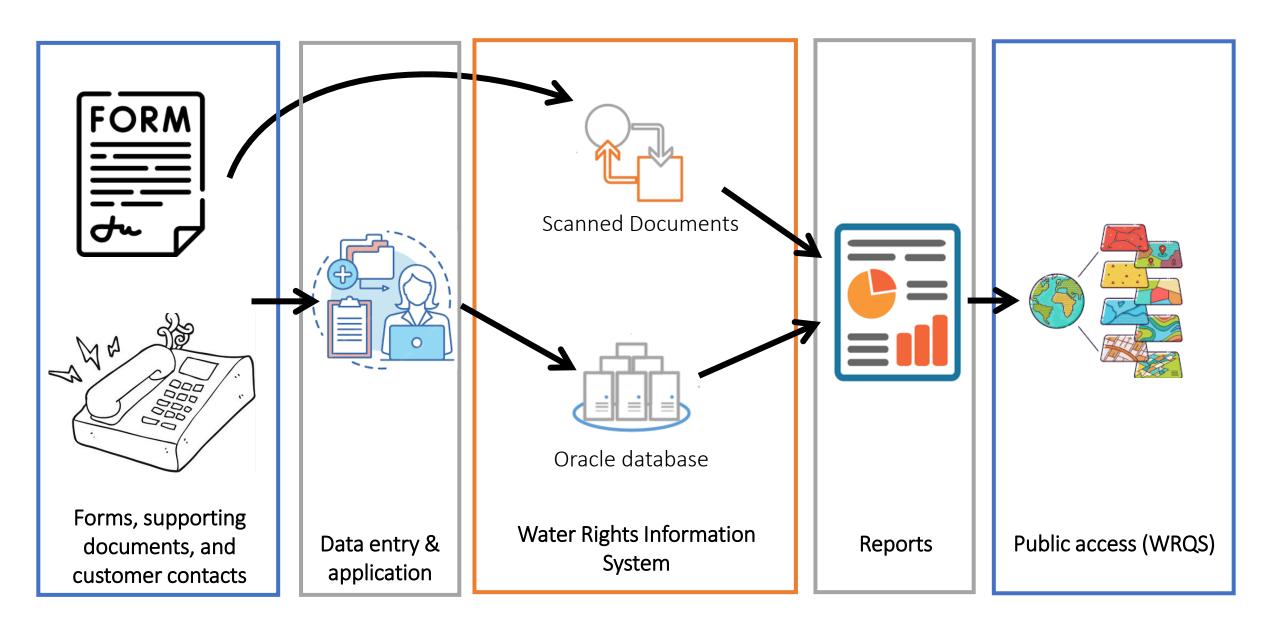
Comprehensive Water Review Meeting 10/10/2023



TOPICS:

- Overview
- Forms & documents
- Data entry & application
- Water Rights Information System (WRIS)
- Reports
- Water Rights Query System (WRQS)
- Other improvements
- Feedback & collaboration

Overview



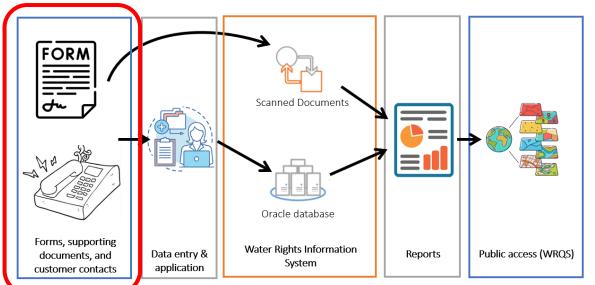
Forms, Supporting Documents, and Customer Contacts

Background:

- DNRC receives water right forms & Water Court documents
- Paper generated in Regional and Central Office Scanned Documents
- Water Right Ownership updates

Challenges:

- Paper forms only and need to transition to electronic processes
- Heavy reliance on owner's understanding and updates
- Water right owners not being notified or updated regularly



- 2-person verification before data entry (Complete)
- Electronic transfer documents (Complete)
- Water Right Notification System (Nov. 2023)
- Owner outreach push to update information (2024) and ongoing verification
- Develop digital forms (2024/25)

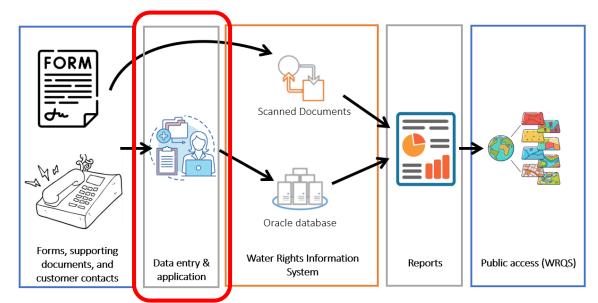
Data Entry and Application

Background:

- DNRC and Water Court use an application to interact with database
- New application deployed April 2022 enhancements continue
- Data is entered by regional and central office staff manually
- Forms and other documents sent to central office for retention.

Challenges:

- New application due to rising costs complete migration, new features, new report format
- Manual data entry may have errors

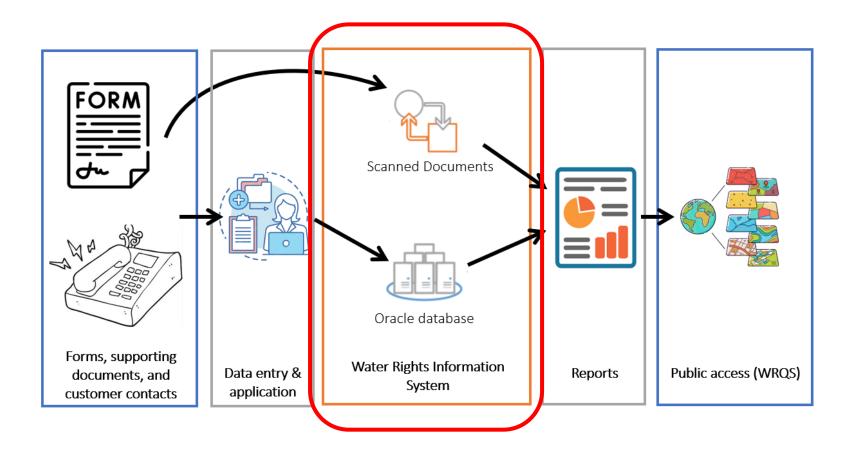


- DNRC and Water Court test and report issues, and collaborate on solutions (ongoing)
- Built-in data input rules (ongoing)
- Formalize data quality strategy (2024)
- Develop automated data entry methods (~2024/5)

Water Right Information System (WRIS)

Background:

- The WRIS contains the water right database and scanned documents
- Encompasses all data relevant to a water right the department holds



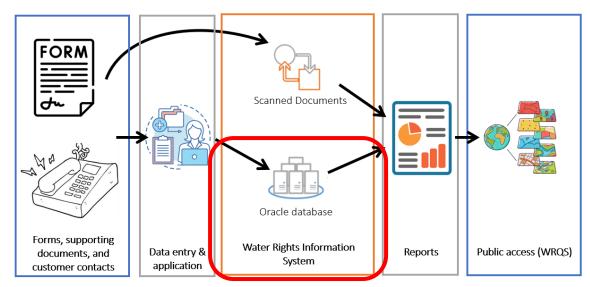
Water Right Information System – Oracle Database

Background:

- Oracle database built in 2005, backed up monthly in two locations multiple months retained for security
- Data entered by DNRC and Water Court staff using new application
- Legislative audit found database and paper files over **90% consistent**

Challenges:

- Formalized data quality and assurances strategy
- Legacy data issues (e.g., customer verification)



- Establish data quality strategy (2024)
- Owner outreach push to update information (2024) and ongoing verification

Water Right Information System – Scanned Documents

Background:

- Critical part of the water right record
- Data entered database, digital copy (FileNet), physical copy storage
- Scanned documents linked to database & available via WRQS
- If documents found inconsistent with database, document rules

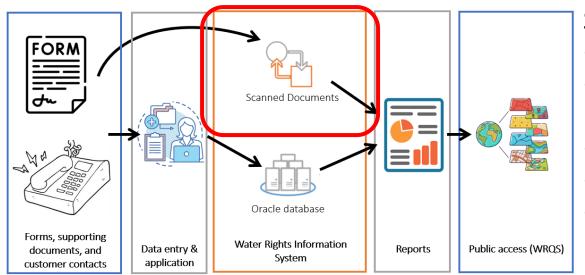
Challenges:

- Unintuitive file naming
- Not ordered logically

- Poor quality of historic scans
- Stakeholders have identified additional information for scanned documents

Workbook: DNRC_P - Google Chrome

Water Rights Digital Images



- Implemented ordering strategy (Completed)
- Ensure new high-quality scans (Completed), rescanned when identified (ongoing)
- Increased naming categories (July 2023)
- Historic scan categorization (TBD)
- Identify what other files are needed
 - (Old case files, associated documents to court decisions)
 - Feedback & examples needed from SWG

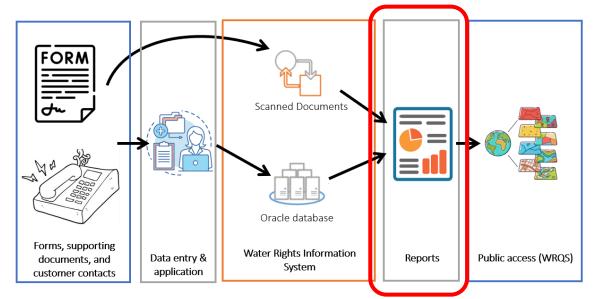
Reports

Background:

- A query of the database using certain metrics and displayed in a designated format (e.g., abstract)
- Reports from the database necessary for decrees
- Reports are seen by the public via WRQS

Challenges:

- Built new reports (Oracle vs. SSRS)
- Increase issuance of decrees
- Troubleshooting doesn't catch all scenarios



- DNRC and Water Court **new** report building and testing (ongoing)
- DNRC and Water Court collaborating on previous issues as they arise (e.g., operation authority) (ongoing)
- Feedback & examples needed on errors from SWG

WRQS – Public Access

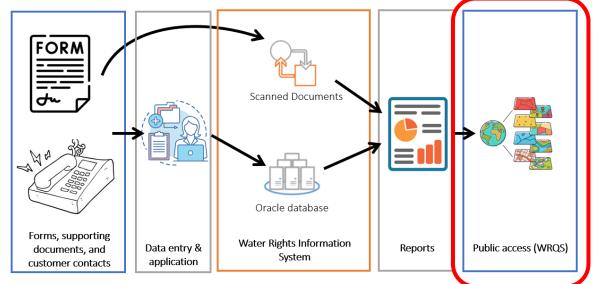
Background:

- Online tool provides access to the water right database and scanned documents
- Created in 2008

Challenges:

- Server at end of life 10/10/23
- No comprehensive mapping
- Duplicate water rights shown

- Poor access to digital documents
- Poor functionality & limited usability



- Stakeholders identified needs (2021)
- Beta-testers (September/October 2023)
- New WRQS live 10/5/2023
- Weekly updates based on testing & feedback
- Feedback: dnrcmtwaterrightinfo@mt.gov



Water Rights Query System (WRQS)- new enhancements

- WRQS had significant map, search, and functionality upgrades
- Enhanced user experience
- Smart query prompts
- Downloadable query results to JSON & CSV
- Built on current, sustainable technology
- Removed duplicate rows and will soon include pending applications and all versions of water rights



WRQS: Old Version Simple Search



Water Right Query System

DNRC Home » DNRC Water Resources Division » Water Rights Query

Water Rights Web Guide

Videos: How to Use the Query System | How to Search by GEOCODE or Township, Range, and Section

Simple Search Advanced Water Rights Search	
To search, choose ONE of the three criteria below. WRNumber: Basin Code (ex 41K) Number (ex 1) 130067 00 (ex 2) 123456 00 (ex 3) 300000123	DNRC Water
OR Owner: Partial names are allowed. Not case sensitive. (ex1) lastname firstname (ex2) lastname (ex3) firstname	The state of the s
OR GEOCODE: (ex 1) 05-1994-25-3-03-15-0000 (ex 2) 05199425303150000 *Please note that not all geocodes have been validated in DNRC records. If the geocode search does not return any records, you may need to contact your local DNRC regional office for additional information.	DNRC Water
	Search Clear



Divisions

Board of Oil & Gas Conservation and Resource Development Director's Office Forestry Reserved Water Rights Compact Commission Trust Lands Management

About

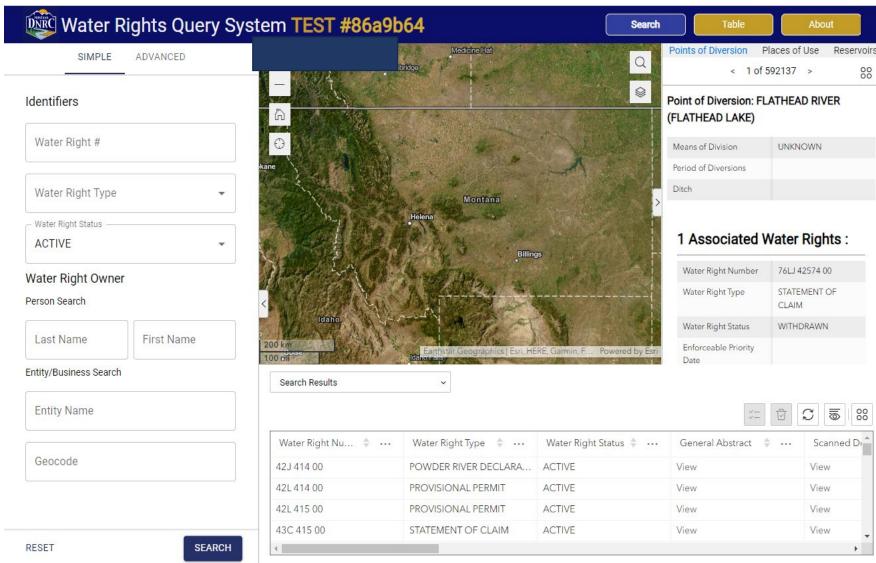
DNRC's Mission Administrative Rules Organizational Structure Boards and Commissions Website Map

Follow Us



New WRQS

- Combined map, table, and search functionalities in one place
- Linked map and search results
- Same simple and advanced search parameters as original
- Enhanced user experience results available and users can interact with the map and data



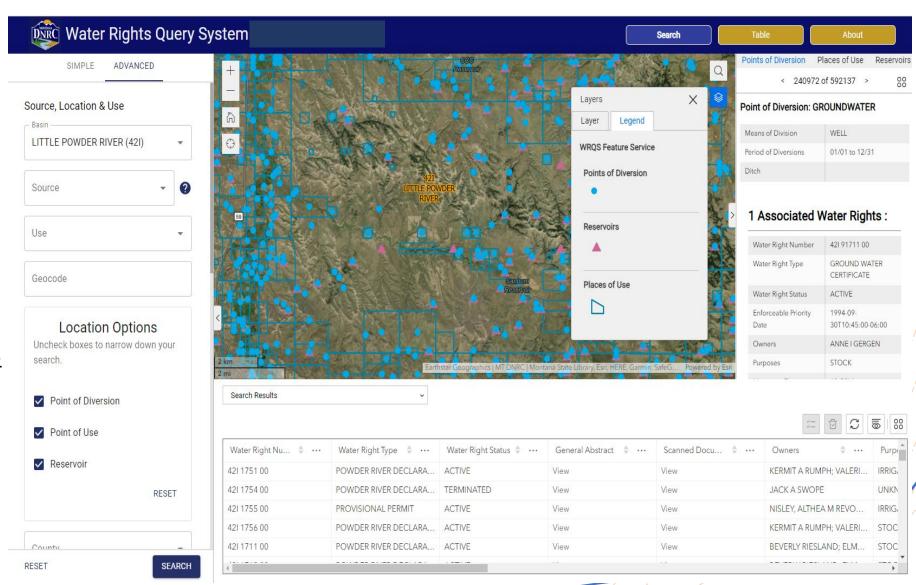


WRQS- Old Version Advanced Search

Simple Search	Advanced Water Rights Search	
The best strategy water rights that	is to enter as few search criteria as possible, but enough to narrow the search for your purpose. Too many search criteria may exclude are needed for your research, while too broad of search criteria will not produce an index as the system has a size limit and will return an error code.	
Step 1) Select	Index - Sort Order: Index Descriptions	
Search parameters	vary based upon Index Type chosen. To see additional search options, such as legal land description, choose a different Index Type.	
Index Type	: [DIVERSION (9:24/2023) ✓ (Records last updated)	
Step 2) Select	Parameters	
	: Basin Code (ex 41K) Number (ex 1) 130067 00 (ex 2) 123456 00 (ex 3) 300000123	
Owner:	Stump Partial names are allowed. Not case sensitive. (ex.1) lastname firstname (ex.2) lastname (ex.2) lastname	
Area Filters		
County:	Select County 🔻	
Basin:	Select Basin V	
Stream:	Partial names are allowed. Not case sensitive. (ex) black	
Ditch:	Partial names are allowed. Not case sensitive. (ex) black	
Water Right	Status	
Status:	ACTIVE CANCELLED DENIED DISMISSED EXPIRED NO STATUS REJECTED To select multiple statuses, hold Ctrl while clicking each status. DISMISSED EXPIRED NO STATUS REJECTED	
Water Source	s/Use Filters	
Source:	SURFACE V	
Use:	ANY PURPOSE V	
Water Right		
WRType:	Select Water Right Type	
	Range Filters	
Begin:	mm/dd/yyyy	
End:		
TRS Filters		
Enter a tow Township:	nship/range or township/range/section combination. Select Township ▼ ▼ Range: ▼ ▼ Section: *To select multiple sections, hold Ctrl while clicking section numbers.	
Quarter Se (ex 1) E2Si	ction: EMWSE (ex 2) SESESW (ex 3) NESW	
GEOCODE		
GEOCODE:	(ex 1) 05-1996-14-4-02-05-0001 (ex 2) 05199425303150000	
*Please no	te that not all geocodes have been validated in DNRC records. If the geocode search does not return any records, you may need to contact your local DNRC regional office for additional information.	Search Clea

New WRQS: Search Features

- Advanced Search features
 Source, Location, & Use
- Location Options featuring County, Basin, TRS
- Water Right Status, Type,
 Priority Date Range
- Water Right Owner, Entity & Business Name





WRQS- Results Generated in Old Application

Query: ((Water Right Status = 'ACTIVE')) AND (Source = 'Surface') AND (Use = 'ANY PURPOSE')

Diversion

Water R	ight Ma	ap Abstrac	Doc Image	WRKey	Version	Src	WR Type	Status	Hist Type	Enforceable Priority Date mm/dd/yyyy	Purpose	Means of Diversion	Owner	Div ID		Ditch Name	Cnty	TR	Section	Qtr Section	Govt Lot	5PX S	PY Re	Max Flow Rate	Vol	Well Depth	Div Count	Use Count	Irr Count	Res Count	Issue Remarks	Record Last Updated mm/dd/yyyy
42B 30064	827 Vie	w View		402253-1	1	5	COMPACT	ACTIVE	Reserved	4/21/1937	ANY PURPOSE	DAM	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	1	TONGUE RIVER (TONGUE RIVER RESERVOIR)		BIG HORN	8541E	18	NWSW			Y		20000		1	0		1		9/24/2023
42B 9942	00 Vie	w View	View	26403-1	1		WATER RESERVATION	ACTIVE		12/15/1978	ANY PURPOSE	DAM	MONTANA, STATE OF DEPT OF NATURAL RESOURCES	1	TONGUE RIVER		BIG HORN								383000		1	0		0		9/24/2023
43P 30064	841 Vie	w View		402256-1	1	5	COMPACT	ACTIVE	Reserved	5/5/1961	ANY PURPOSE	DAM	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	1	BIGHORN RIVER (BIGHORN RESERVOIR)		BIG HORN	6531E	18	SWSE			Y		30000		1	0		1		9/24/2023
76LJ 3006	3812 Vie	w View	View	401280-1	1	5	COMPACT	ACTIVE	Reserved	7/16/1855	ANY PURPOSE	ANY MEANS	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	1	FLATHEAD RIVER		LAKE								229383		6	0		0		9/24/2023
76LJ 3006	3812 Vie	w View	View	401280-1	1	5	COMPACT	ACTIVE	Reserved	7/16/1855	ANY PURPOSE	ANY MEANS	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	2	FLATHEAD RIVER		FLATHEAD								229383		6	0		0		9/24/2023
76LJ 3006	3812 Vie	w View	View	401280-1	1	5	COMPACT	ACTIVE	Reserved	7/16/1855	ANY PURPOSE	ANY MEANS	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	3	FLATHEAD RIVER		SANDERS								229383		6	0		0		9/24/2023
76LJ 3006	3812 Vie	w View	View	401280-1	1	5	COMPACT	ACTIVE	Reserved	7/16/1855	ANY PURPOSE	ANY MEANS	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	4	FLATHEAD RIVER (FLATHEAD LAKE)		LAKE								229383		6	0		0		9/24/2023
76LJ 3006	3812 Vie	w View	View	401280-1	1	5	COMPACT	ACTIVE	Reserved	7/16/1855	ANY PURPOSE	ANY MEANS	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	5	FLATHEAD RIVER (FLATHEAD LAKE)		FLATHEAD								229383		6	0		0		9/24/2023
76LJ 3006	3812 Vie	w View	View	401280-1	1	5	COMPACT	ACTIVE	Reserved	7/16/1855	ANY PURPOSE	ANY MEANS	USA (DEPT OF INTERIOR BUREAU OF INDIAN AFF)	6	FLATHEAD RIVER, SOUTH FORK		FLATHEAD								229383		6	0		0		9/24/2023

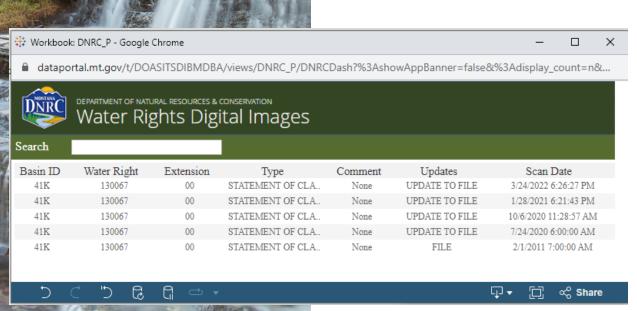
Download *Excel users: Convert dates to numbers after download for proper sorting.

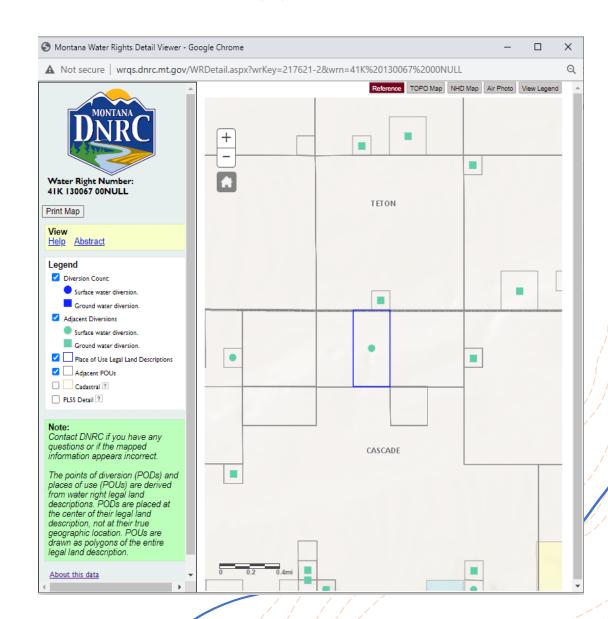


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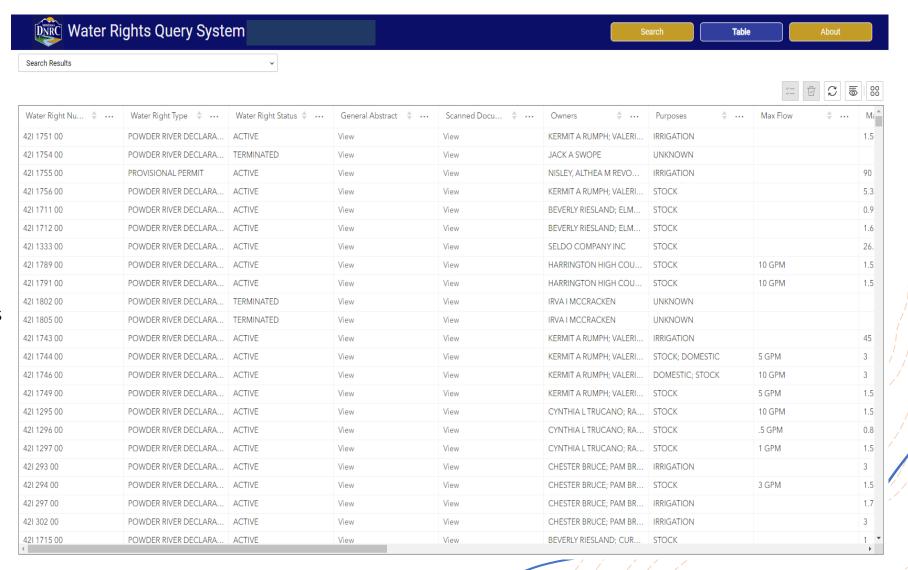
WRQS- Data Presentation in Old Application





New WRQS: Table of Results

- Table View reflects search results
- Users can organize their output to show only desired fields
- Export results to CSV or JSON that reflect search and field selections
- General Abstract report available
- Easier viewing of scanned documents
 - One click opens image in new window
 - Increased naming options to assist in locating relevant files
 - Re-ordered from newest to oldest



New WRQS: About page

DNRC Water Rights Query System



- FAQ with links to more resources
- Email address for feedback <u>dnrcmtwaterrightinfo@mt.gov</u>
- Share updates when deployed

Welcome to Montana Department of Natural Resources' (DNRC) Water Right Query System (WRQS).



The WRQS is the public's portal to the state's water right records repository (known as the Water Rights Information System (WRIS)).

The WRQS provides:

- Public access to all scanned documents within a water right file: the original claim file or water right application file, ownership updates, adjudication documents, if applicable, and any relevant change application materials.
- . Search and visualization tools that help users understand relationships between water rights, including a map display for query results.
- The ability to export data in excel.

The WRQS interface was updated in October 2023 to add spatial components, eliminate duplicate search results, and modernize the backend. In addition to improving the public experience, these updates lay the foundation for additional functionality being built for (2024):

- · Provide general abstracts of all versions of water rights.
- Provide Final Decree Abstract when complete.
- Map building tools to assist with water right applications.
- One central webpage (hub) for all water management resources.

FAQ's:

- ▶ I have questions, where can I go to get answers?
- ▶ I want to learn more about my water rights and water management in general?
- ► Where do I find the status of my water right application?
- ► Where do I go to update my Water Right Ownership information?
- ▶ Is there a glossary for terms and abbreviations I'm not familiar with?
- ▶ I'm looking for a water court filing but it's not there
- ▶ The point of diversion shown on the map does not match my actual point of diversion.
- ► Can I use Map Viewer on my mobile device?



Water Rights Query System – Future Work

Immediate:

Implement suggestions and improvements following beta testing

Next Phase (Middle of November)

- Abstracts for all versions of a water right
- Speed of rendering abstracts
- Notification system for new and changing water rights in selected areas

Additional Features:

2025 legislative asks

Try it out – we want to hear from you!

dnrcmtwaterrightinfo@mt.gov



Other Improvements

- Increase Water Court functionality
 - Bi-monthly update for Water Court enhancements
 - Weekly coordination to discuss issues, concerns, improvements
 - Monthly leadership meetings
- Outreach and communication
 - Water Right Owner information updates
- Water Right Notification tool
 - County, Admin. Basin, Source email.



Feedback and Developing Solutions

Always able to improve- need to hear from you!

- Scanned documents, reports, etc.: <u>Trevor.watson2@mt.gov</u>
 - Specific examples help us to identify the issue and solve the problem
 - Tell us what additional features you would like to see
 - Collaborate with us on solutions
- Water rights query system: dnrcmtwaterrightinfo@mt.gov



Thank You

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