

# Montana DNRC Water Right Query System User Guide

Updated March 12, 2024

## Introduction








The Water Right Query System application provides access to water right information from the Montana DNRC Water Rights Database via a suite of query and map tools with the ability to export search results. Reference datasets are provided to supplement analytical research about a water right, including political boundaries, administrative water basin boundaries, Public Land Survey System (PLSS), Indian Reservation Boundaries, Hydrography, and Cadastral Parcels to detail land ownership.

For a basic understanding of water rights, review the [Understanding Water Rights](#) page.






To comprehend the terms and abbreviations used in water rights data, see the [Water Right Data Explanations Index](#).

## Application Interface

Three-tab buttons control the app layout in the upper right: Search, Table, and About pages (labeled **1 in red**). When the WRQS app is initially opened, the Search button is enabled, showcasing the enabled Simple search option, a blank map of Montana at the statewide extent, and an empty Search Results table with Results Count: 0. The Simple & Advanced Search options (labeled **2 in red**) enable the map, map widgets, table search results, and table widgets following a search. The map (labeled **3 in red**) and associated widgets (labeled **3a -3f in red**), are as follows:

- **2a:**  Minimize Search Panel Caret – *click to minimize/maximize the Search Panel.*
- **3a:**  Zoom In/Zoom Out - *click and hold the map with your mouse to pan and use your mouse scroll wheel to zoom in & out.*
- **3b:**  Default Map View – *click to zoom out to the full extent.*
- **3c:**  Find my location – *you must have geolocation enabled on your device to show your location.*
- **3d:**  Search – *enter an address or place name and click the magnifying glass to zoom to that location.*
- **3e:**  Layers List/Legend – *click to open the layer list & turn on/off available layers. Click the Legend tab to view the legend. Note: only WRQS Feature Service layers (POU, POD & Reservoirs) are listed in the legend. Also, Cadastral layer is updated monthly, for the most up to date ownership information visit [Montana Cadastral](#).*
- **3f:**  Basemap Selector – *click to select one of the available basemaps from the list.*

The Search Results section (labeled **4 in red**) also contains specific widgets (labeled **4a – 4e in red**):

- **4a:**  Show Selection/Show All – *If a search results in multiple records, individual records can be selected in the table, and are shown as selected in the map. Click Show All to show all records again.*
- **4b:**  Clear Selection – *Clears selection features.*
- **4c:**  Refresh – *Refreshes the table query results.*
- **4d:**  Show/Hide Columns – *click to show which columns to show or hide.*
- **4e:**  Actions - Export all or Export Selected – *choose Export to JSON or Export to CSV.*

By hovering over any Map or Search Results widget, a description popup serves as a reminder detailing their respective function (see Figure 1 below).

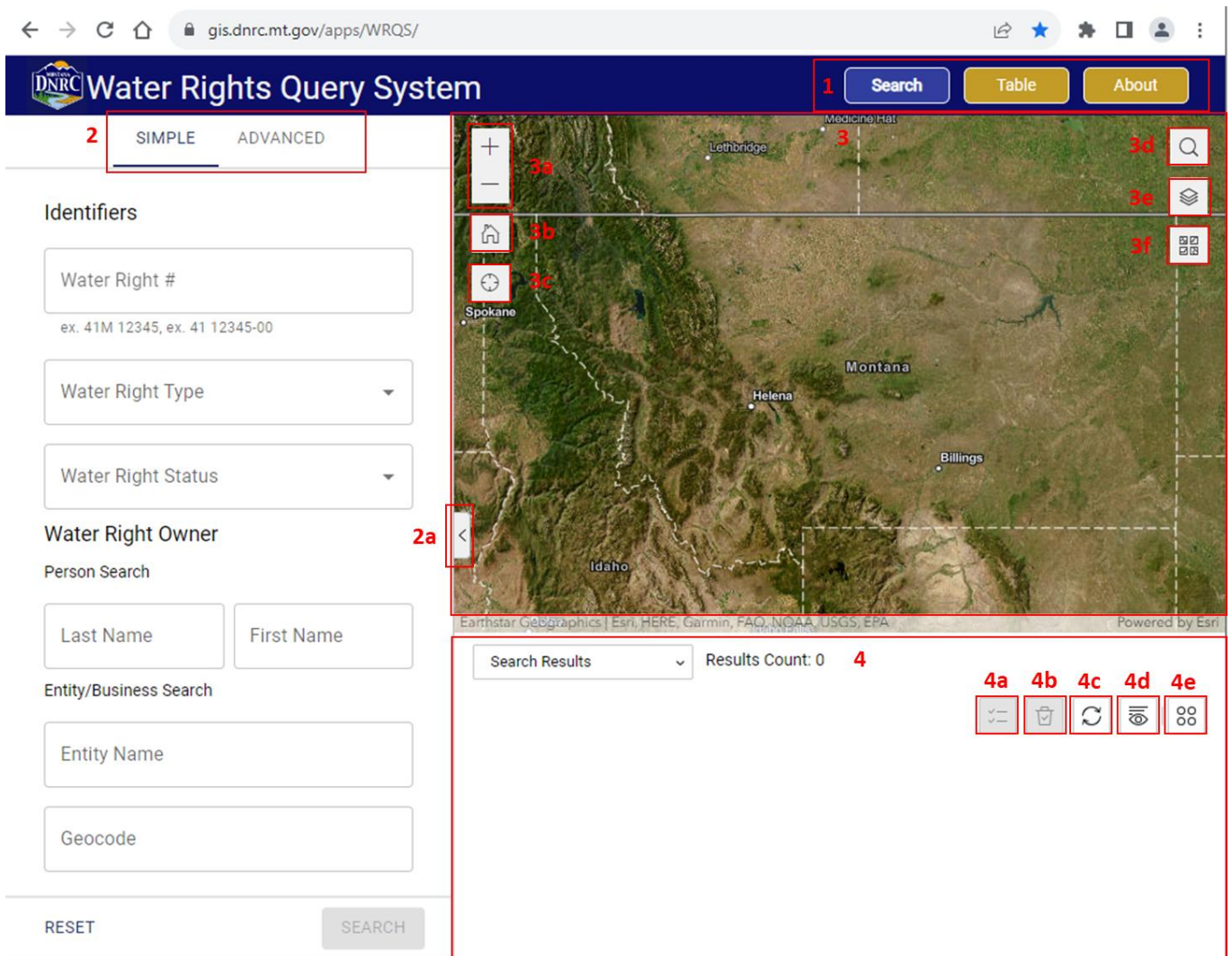


Figure 1. WRQS application interface showing the application layout, search options, map, map widgets, table search results, and table widgets.

## Search Features

The search panel has two main options – simple and advanced. Both operate using smart query technology, so you do not need to type the exact information. Drop down lists are also available for some search parameters.

Simple Search can be used if you know the water right number, type, or status; water right owner, person, entity, or geocode.

Advanced Search should be used if looking for water rights in an area, on a source, by a use, or for a specific priority date, or any combination of these options. Many options exist in advanced search to meet all users' needs. At least 1 option (Point of Diversion (POD), Place of Use (POU), and/or Reservoir) and any combination of options from Source, Location, & Use, the Parameters, or Water Right Owner must be selected to enable the Search button. Multiple selection is available for County, Township, Range, Section, and Water Right Type. *Note: to enable searching by Source Name on the Advanced Search, you must select Source Type of Surface or Ground Water.*

Click the Search button or hit Enter to run the search. The map zooms to the appropriate extent and populates the Search Results table. The Results Count reveals the number of records based on the search criteria.

You can look through the table results or click on specific mapped water right features to access the popup for individual features.

By selecting a record in the table, the selection will be highlighted in the map and all other water rights on the map that aren't similar will be removed from the map and the table. To return to the entire search, click the search button at the bottom of the page or hit enter on the keyboard. Figure 2 details the results of a simple search using Water Right # '411 78305' as input.

**Water Rights Query System**

SEARCH    TABLE    ABOUT

SIMPLE    ADVANCED

**Identifiers**

Water Right #  
411 78305 00  
ex. 41M 12345, ex. 41M 12345-00

Water Right Type

Water Right Status

**Water Right Owner**

Person Search

Last Name    First Name

Entity/Business Search

Entity Name

Geocode

RESET    SEARCH

Search Results    Results Count: 1

Water Right Nu...	Water Right Type	Water Right Status	Source Name	Source
411 78305 00	GROUND WATER CERTIFI...	ACTIVE	GROUNDWATER	GROUNDWATER

Figure 2. Example of Simple Search using Water Right # 411 78305 00.

Similarly, an example of an Advanced Search to identify PODs, POU, and Reservoirs in basin Missouri River Above Holter Dam (411), purpose of Power Generation (PG), and owned by the Montana Department of Natural Resources and Conservation yields 1 search result. 'Include All Results' in the Location Options can be checked to include water rights that have no mapped features, such as Cancelled Rights (see Figure 3).

**Water Rights Query System**

SEARCH    TABLE    ABOUT

SIMPLE    ADVANCED

Source Type

Purpose  
POWER GENERATION (PG)

Geocode  
ex. 05-1888-32-2-44-01-0000

**Location Options**

Uncheck boxes to narrow down your search.

Point of Diversion

Place of Use

Reservoir

Include All Results

RESET    SEARCH

Search Results    Count: 1

Water Right Nu...	Water Right ID	Water Right Type	Water Right Status	Source
411 16825 00	16,825	PROVISIONAL PERMIT	ACTIVE	MISSOL

Figure 3. Advanced Search Example showing basin 411, use of Power Generation, and owned by MT DNRC.

Also on the Advanced Search tab, users can select Start &

End Dates in the Enforceable Priority Date Range picker. Click in the Start Date box, select the year and day, and click OK. Do the same for the End Date box. If checked, the 1/1/1100 (TIME IMMEMORIAL) check box returns water rights owned by the Bureau of Indian Affairs for the purpose of Fish & Wildlife (boxed in red to the right).

**Enforceable Priority Date Range**

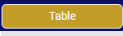
Start Date



End Date

1/1/1100 (TIME IMMEMORIAL)

[RESET](#)

## Search Data Table Features

The search table reflects the result of the simple and advanced search. Results can be viewed in the table below the map, or users can view the data in full screen by clicking the Table button  at the top right of the screen. The same search results and functionality are present in the table below the map, and the table accessed from the Table button.

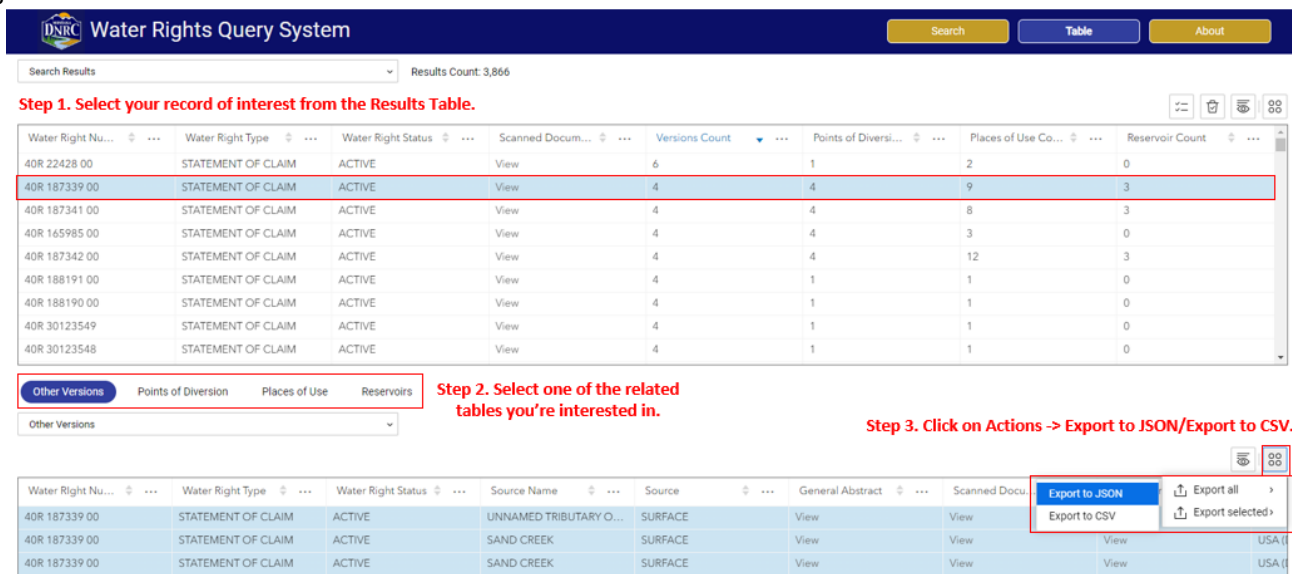
**Exporting Data from Results Table:** Users can export all data present in the results table by clicking the Actions -> Export to JSON/Export to CSV  (labeled **4e in red** - Figure 1) button located at the top right of the results table. Data can be exported to CSV (excel) and/or JSON. You can rearrange the table columns by clicking, holding, and dragging/dropping the column where you see fit. Likewise, you can sort records (ascending or descending) and enable or hide columns using the Show/hide columns widget  (labeled **4d in red** - Figure 1) to your liking prior to exporting the tabular search results.

**Exporting Data from Related Tables:** On the Table Page, to export record sets of water rights from the related tables (Other Versions, Points of Diversion, Places of Use, and Reservoirs) following a Simple or Advanced Search, perform the following workflow:

1. Select your record of interest from the Results Table.
2. Click on one of the available related table buttons; the related records from the results table for the chosen related table will be displayed and selected.
3. On the right side of the related tables view, Click on Actions -> Export to JSON/Export to CSV.

*\* Note: If the selected record in the results table only has 1 version, the Other Versions related table will be empty. Correspondingly, if the selected record in the results table has 2 versions, only 1 version will be shown in the Other Versions table. The Results Table shows the active version of the water right.*

Figure 4 details this workflow below:



**Water Rights Query System**

Search Results Results Count: 3,866

**Step 1. Select your record of interest from the Results Table.**

Water Right Nu...	Water Right Type	Water Right Status	Scanned Docum...	Versions Count	Points of Diversi...	Places of Use Co...	Reservoir Count
40R 22428 00	STATEMENT OF CLAIM	ACTIVE	View	6	1	2	0
40R 187339 00	STATEMENT OF CLAIM	ACTIVE	View	4	4	9	3
40R 187341 00	STATEMENT OF CLAIM	ACTIVE	View	4	4	8	3
40R 165985 00	STATEMENT OF CLAIM	ACTIVE	View	4	4	3	0
40R 187342 00	STATEMENT OF CLAIM	ACTIVE	View	4	4	12	3
40R 188191 00	STATEMENT OF CLAIM	ACTIVE	View	4	1	1	0
40R 188190 00	STATEMENT OF CLAIM	ACTIVE	View	4	1	1	0
40R 30123549	STATEMENT OF CLAIM	ACTIVE	View	4	1	1	0
40R 30123548	STATEMENT OF CLAIM	ACTIVE	View	4	1	1	0

**Step 2. Select one of the related tables you're interested in.**

Other Versions Points of Diversion Places of Use Reservoirs

**Step 3. Click on Actions -> Export to JSON/Export to CSV.**

Water Right Nu...	Water Right Type	Water Right Status	Source Name	Source	General Abstract	Scanned Docu	Export to JSON	Export all
40R 187339 00	STATEMENT OF CLAIM	ACTIVE	UNNAMED TRIBUTARY O...	SURFACE	View	View	Export to CSV	Export selected
40R 187339 00	STATEMENT OF CLAIM	ACTIVE	SAND CREEK	SURFACE	View	View		
40R 187339 00	STATEMENT OF CLAIM	ACTIVE	SAND CREEK	SURFACE	View	View		

Figure 4. Workflow example for exporting record sets from one of the related tables based off a selected record in the results table.

## Other Available Documents and Reports

Three clickable links from the Results Table include General Abstract, Scanned Documents, & CHAU Scanned Docs columns, along with two via the map popup (accessed after clicking a mapped feature - *CHAU Scanned Docs coming soon in the popup*) make available the Original Water Right File, Water Right Application File, Ownership Updates, Adjudication Documents, Updates to File, Change Authorizations, and Final Decree Abstract .pdf (if present).

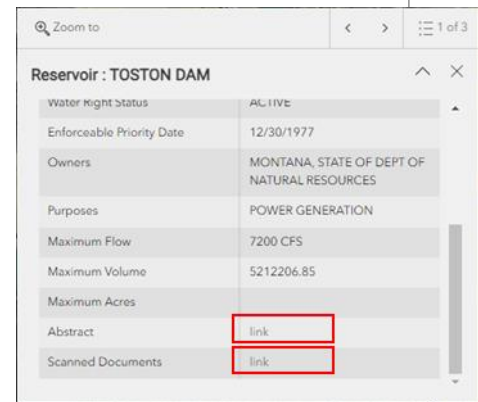
In the Results Table, a given water right has an Abstract, Scanned Document, or CHAU Document if 'View' is present in the record. In the popup, a map feature contains those documents if 'link' is present in the record. In the example below, Water Right Number '41I 16825 00' has a General Abstract, Scanned Documents, but no CHAU Scanned Docs (see Figure 5).



Source Name	Source	General Abstract	Scanned Documents	CHAU Scanned Docs
MISSOURI RIVER	SURFACE	<a href="#">View</a>	<a href="#">View</a>	

Figure 5. Clickable links to Scanned Documents, Abstracts, and Change Authorization Documents (CHAU Scanned Docs) from the results table & map popup, *highlighted in red.*

Abstracts in the form of reports generated from the water right database details the most recent version of the water right. The abstract specifies Water Right Number, Owners, Priority Date, Purpose, Irrigation Type, Maximum Flow Rate and Volume, Climatic Area, Maximum Acres, Source Name, Source Type, Place and Means of Diversion, Place of Use, Geocodes, and Remarks.



Reservoir: TOSTON DAM	
Water Right Status	ACTIVE
Enforceable Priority Date	12/30/1977
Owners	MONTANA, STATE OF DEPT OF NATURAL RESOURCES
Purposes	POWER GENERATION
Maximum Flow	7200 CFS
Maximum Volume	5212206.85
Maximum Acres	
Abstract	<a href="#">link</a>
Scanned Documents	<a href="#">link</a>

## Create Your Own Map

Following a search and initial analysis, you can create your own map of the search results. To gain a larger map extent, click the caret icon on the right-hand side of the Search Panel to minimize the Search Panel (labeled **2a** in Figure 1; click the caret again to maximize the Search Panel). Pan/zoom the map to your desired extent, right click on any space in the application other than the map and select 'Print' from the drop-down menu. The Print Options window opens; select the appropriate Destination (Print or Save to PDF) and Layout (Portrait or Landscape page orientation) options.

If you want to print the map immediately without creating a digital copy, click the dropdown for Destination, select the printer configured for your device, then click Print. To create a digital copy of the map, input your Destination as 'Save as PDF', then click Save. The File Explorer dialog opens; name your map, navigate to the file location on your device you wish to store the .pdf, then click Save (see Figure 6).

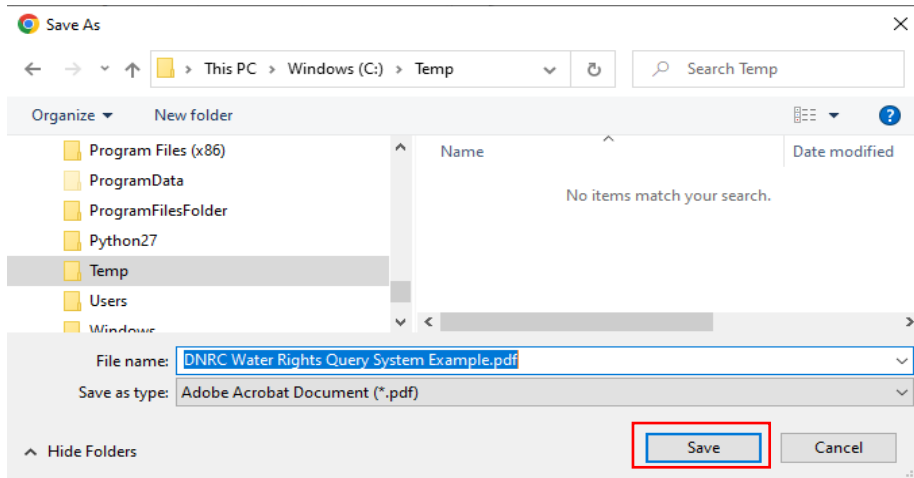
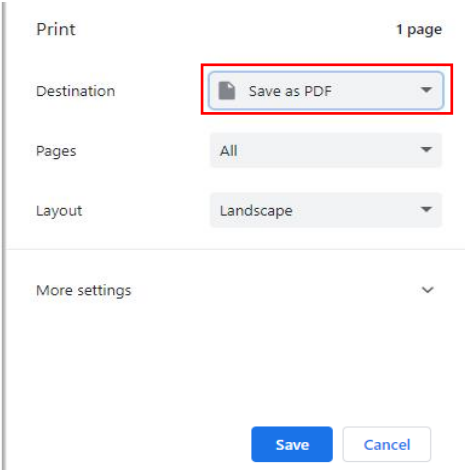
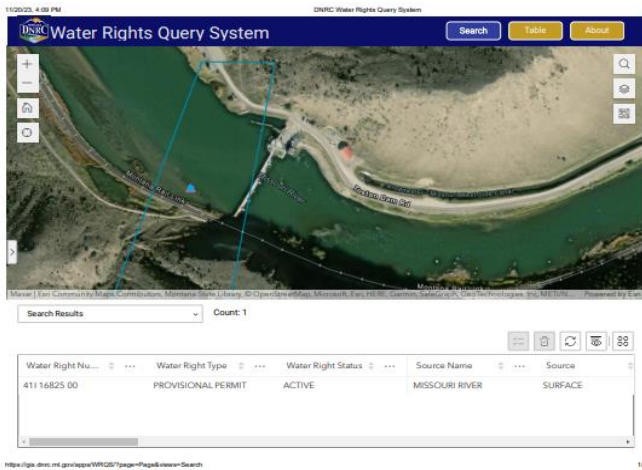
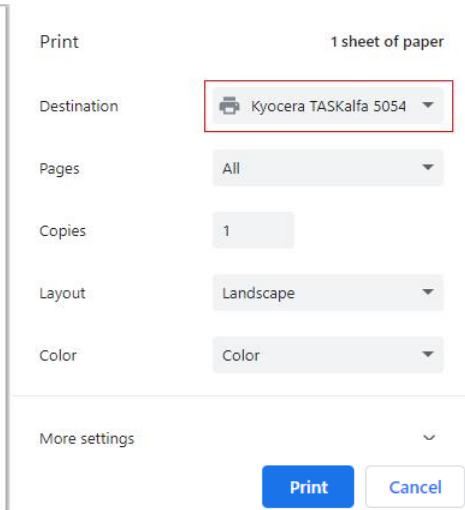
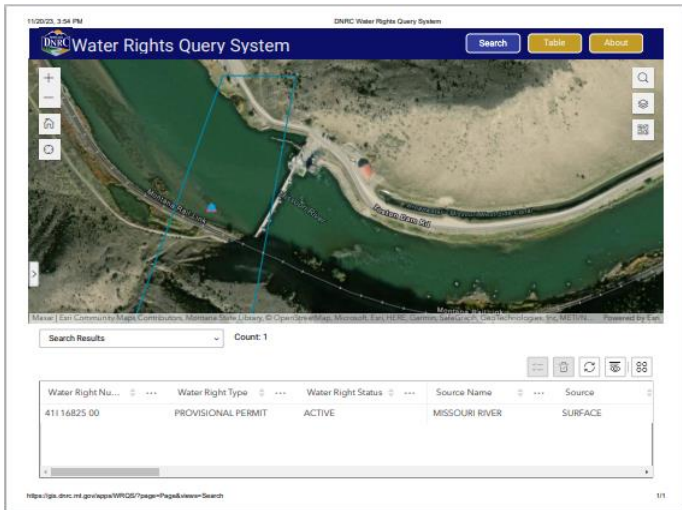


Figure 6. Create your own map example; top image shows how to print directly. Middle image shows how to save a digital .pdf copy. Bottom image shows saving the .pdf file at the local drive in a folder named Temp.

# About Page

Search

Table

About

The [About Page](#) provides a high-level overview of the Water Rights Query System, a frequently-asked-questions (FAQ's) section with imbedded information links, and an email address ([DNRCMTWATERRIGHTINFO@MT.GOV](mailto:DNRCMTWATERRIGHTINFO@MT.GOV)) to provide user feedback suggestions for future enhancements.

A [work completed/work in progress table](#) at the bottom of the About Page summarizes the list of beta-tester and stakeholder provided comments and requests for enhancements, their solution, status, and completed/anticipated completion date. The [WRQS Metadata Guide](#), detailing the dataset name, REST URL, data update frequency, and date obtained is also included. Future WRQS deployments, tool updates, functionality enhancements, and additional FAQ's will be announced on the About Page. ***Thank you for reviewing this User Guide! Please provide future functionality requests and enhancements via [DNRCMTWATERRIGHTINFO@MT.GOV](mailto:DNRCMTWATERRIGHTINFO@MT.GOV).***