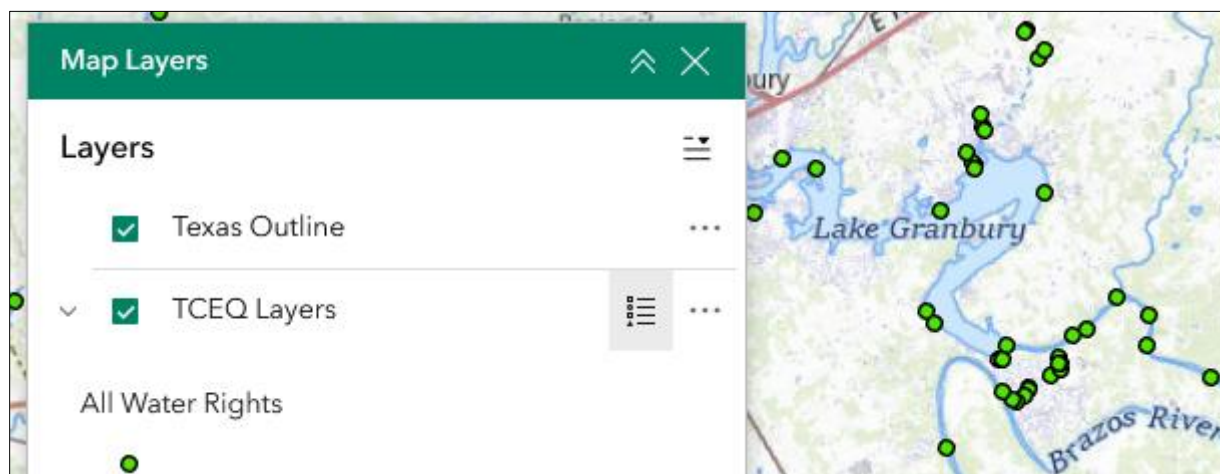


Water Rights Viewer User Guide



Application Overview

The TCEQ Water Rights Viewer is an interactive online map with information about water rights authorizations and other water related data. A user can find information about the location of authorized water rights points, a copy of the water right and the Adjudication Final Determination, current ownership of the water right, recent water use data, and TCEQ's adopted environmental flow standards. A user can also find administrative boundaries such as Watermaster Areas, Regional Water Planning Areas and Groundwater Conservation Districts.



Contents

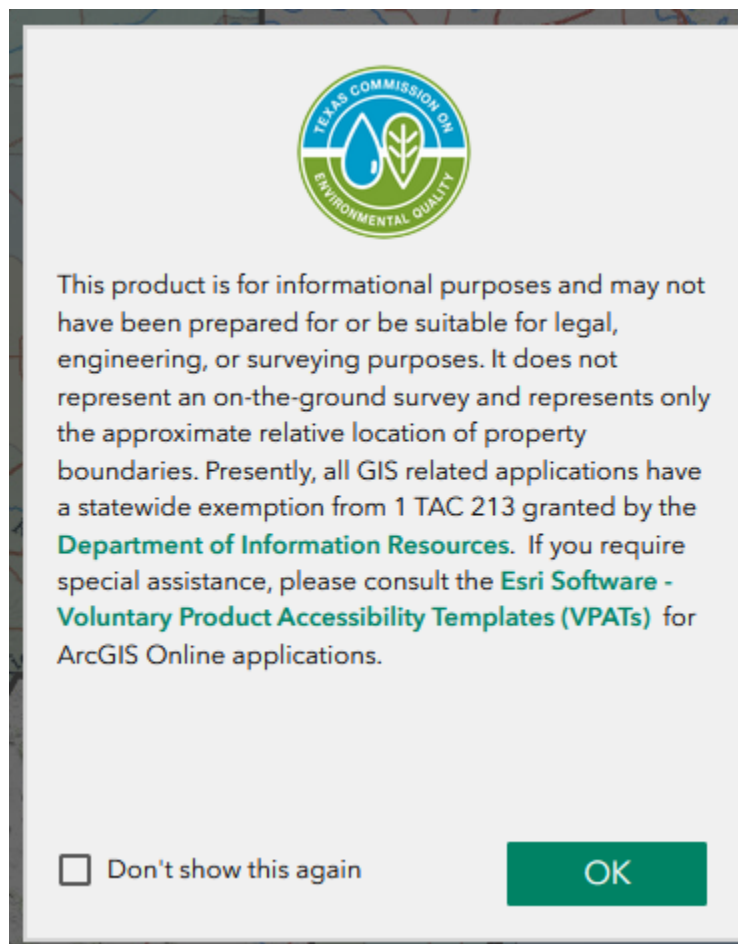
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Navigating Around the Map

This section serves as a reference for functionality within the viewer. For common workflows for querying water rights, see the section on [Analysis Widgets](#).

Splash Screen Pop Up:

When first accessing the Viewer, you will see a pop-up that includes disclaimer information on the intended use of the application. Users can click the OK button to exit the window and continue to view the application.



Viewer Header:

The header section of the Viewer includes the title and essential information about the Viewer. It provides links to the TCEQ Homepage, the viewer's landing page under the TCEQ Geographic Web Apps page, and the Viewer's User Guide. A version number is also displayed to assist version control for developers.

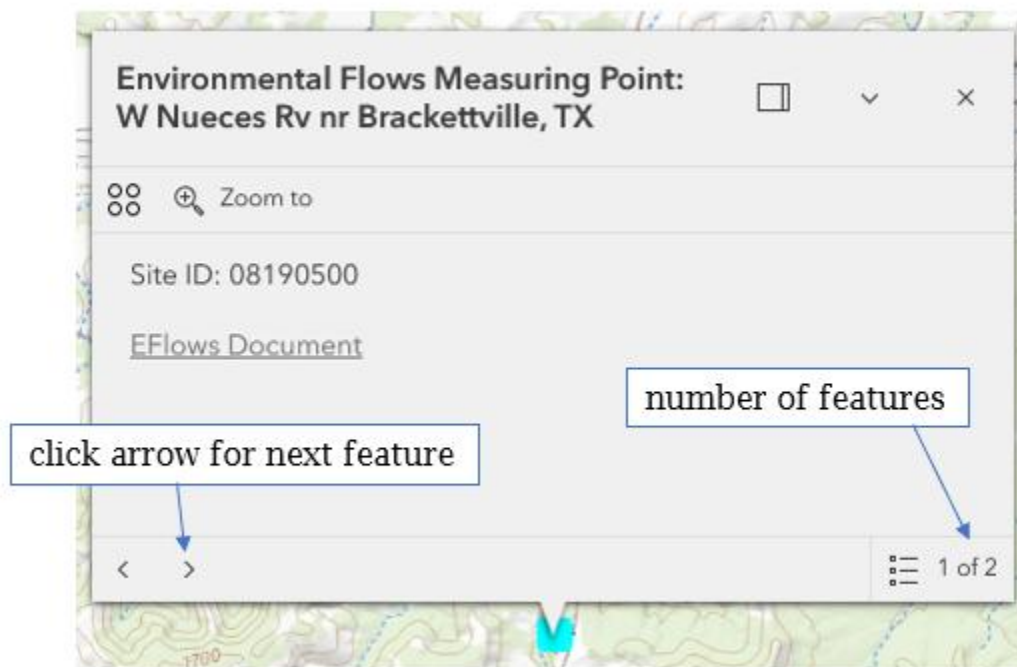


Scale Dependent Rendering:

Most layers in the map use scale dependent rendering, which means their visibility is governed by the current zoom level. For example, you will typically see major river basin boundaries but not individual water right locations when zoomed to the entire state. When zoomed in to the county level, the major basin boundaries fade away while water right locations become visible. To check whether a layer is zoomed beyond its visible scale range, you can look in the Map Layers widget and see if the layer name is gray (not visible at this scale) or black (visible at this scale).

Showing the right pop-up:

You can click a feature in the map to show a pop-up with more information. When more than one clickable feature is present, the pop-up includes arrows that let you browse the different features at that location. Click the arrows until you find the pop-up related to your feature of interest.



Key Map Layers:

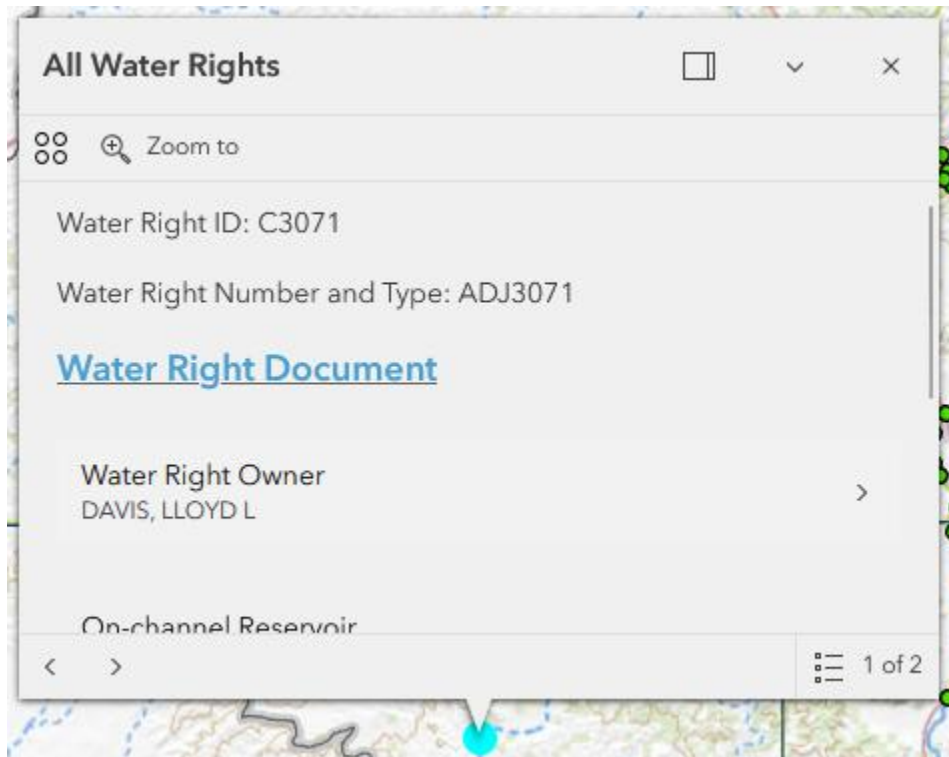
Key map layers include two layers representing water rights and a layer showing locations where environmental flows recommendations have been

established. Other layers provide more information or context, such as groundwater conservation districts and final determination watersheds.

Water Rights

The **All Water Rights** layer shows water right points, such as locations where a water rights holder may divert water from a river. Clicking one point will highlight all points in the map associated with that water right.

The pop-up includes a link to the water right document. You'll also find links to related records such as owners and water use.



If related records are present, you will see a preview of the first related record. Below the preview, if more than one related record is available, you will see a "Show all" button and the total number of related records. Click the related record preview, or click "Show all" and then click a related record, to see more details about that record.

To interact with individual locations associated with a water right in the map instead of working with all points for the water right at once, first turn on (i.e., check) the **Water Rights As Single Points** layer using the Map Layers widget. You

can then click a point in the map and cycle through the pop-ups to see the individual location's attributes and the overall water right's attributes.

Environmental Flows

From the [TCEQ website](#):

An environmental flow is an amount of water that should remain in a stream or river for the benefit of the environment of the river, bay, and estuary, while balancing human needs. (For the legislative definition of an environmental flow regime, see (Title 2, Texas Water Code, Section 11.002.16.)

TCEQ has established environmental flows recommendations at select locations throughout Texas. These locations are commonly associated with stream gages, whose measurements help decision makers identify when certain environmental flows thresholds are being reached.

The **Environmental Flows Measuring Point** layer shows these environmental flows locations. The pop-up for each location includes a link to the environmental flows document for that location.

Widget Controller:

The widget controller is located on the left side of the Viewer. It hosts widgets to conduct actions such as measuring or changing the basemap being displayed.



About Texas Water Rights Viewer

Query

Legend

Map Layers

Measurement

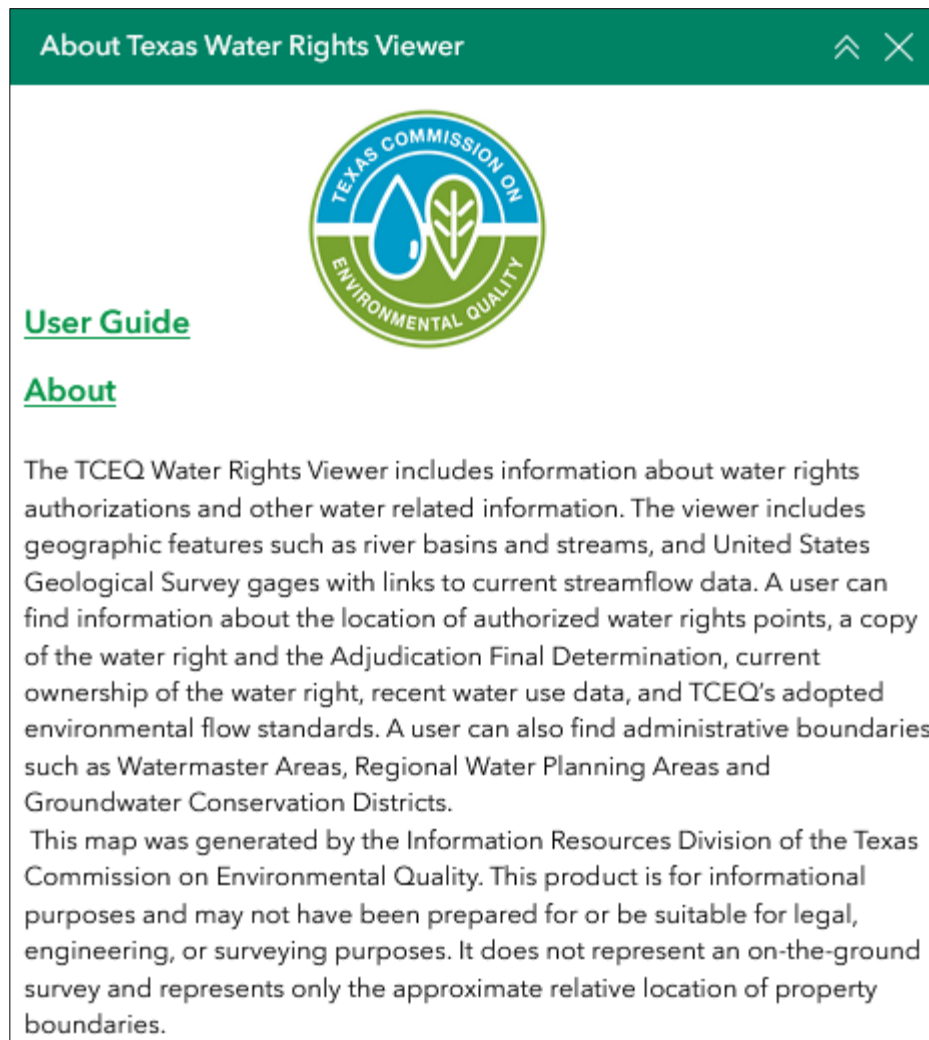
Basemap Gallery

Bookmark

Print

About Texas Water Rights Viewer

- The **About** widget provides users with essential information regarding the application, including its purpose, user guide, data sources, and any credits or acknowledgements related to the content.
- To use the **About** widget, click on the **About Texas Rights Viewer**  icon in the widget controller
- This opens a brief description of the application and the links.



- To close the window, click **Close**  in the upper right-hand corner.
- To collapse the window, click **Collapse**  just to the left of the close button.

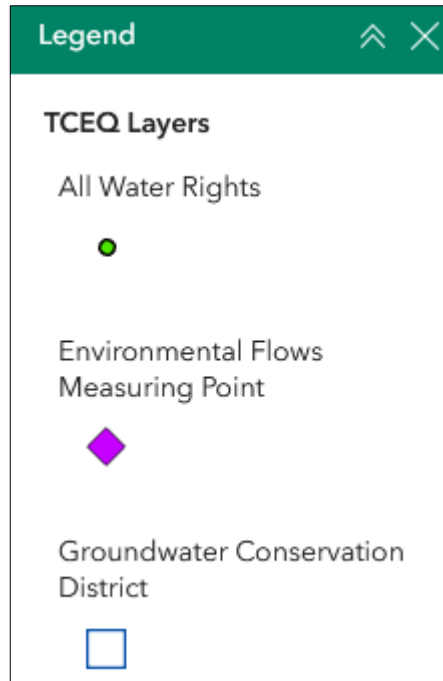
Query

The Query widget  is used to locate more information about a water right. Workflows for using this widget are described in the Analysis Widgets section of this document.

Legend

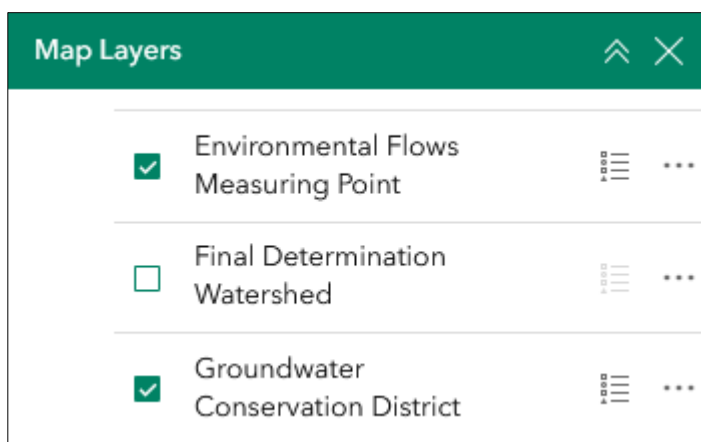
- The **Legend** widget shows symbols for the visible layers on the map.

- Click the **Legend** button  in the widget controller to show or hide the legend.

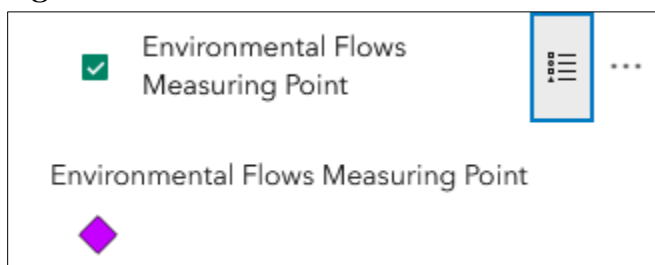


Map Layers

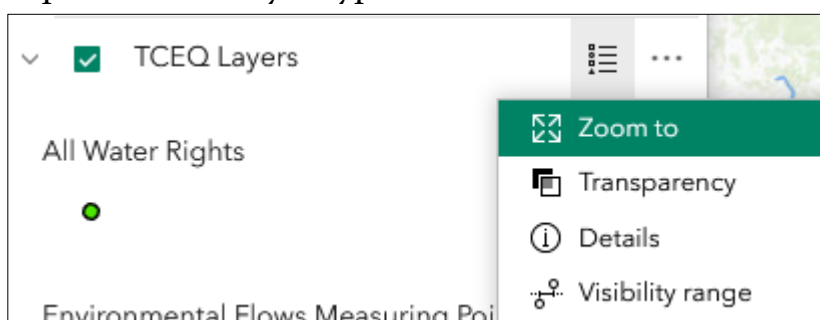
- The **Map Layers** widget can be used to turn on and off data layers such as Groundwater Conservation Districts and the current query results.
- To **view** the layers, click the **Layers** button  in the widget controller.
- Then browse through the available layers.



- To **Toggle the layer visibility**, locate the layer in the list and click the checkbox next to the layer name. This toggles the visibility on and off in the map.
- Click the **Legend** button  to the right of the layer name to show its legend.

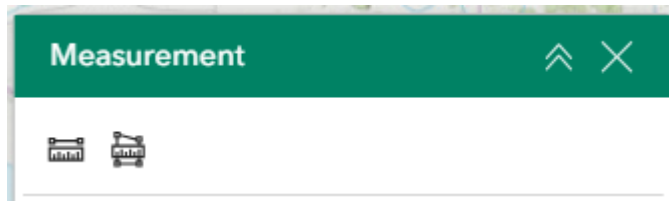


- Click the **Options** button  to the right of the layer name and legend button to see additional options for the layer such as **viewing layer details** or **setting layer transparency**. The available options depend on the layer type.



Measurement

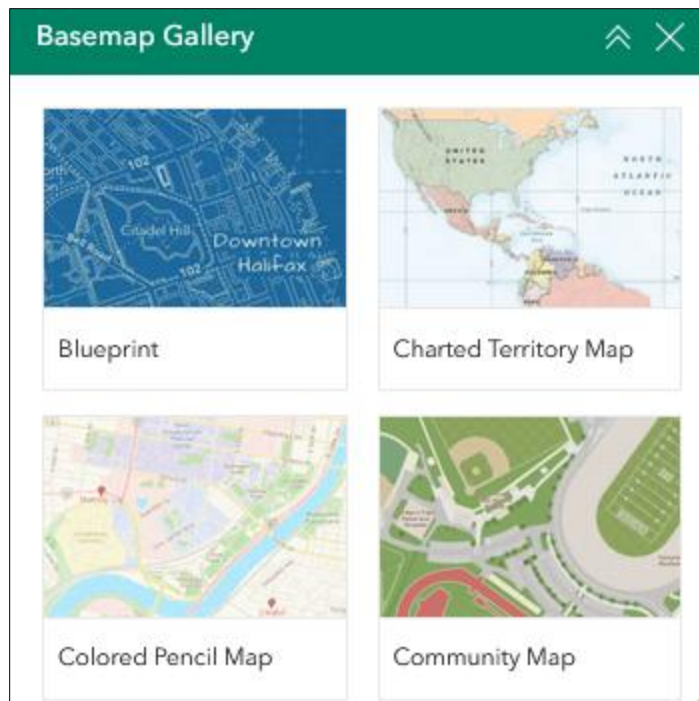
- The Measurement widget enables user to calculate the area, and distance directly on the map.
- To measure a feature, click on the **Measurement**  widget in the widget controller.
- The Measurement window will appear as shown below.



- There are two ways to measure features on the map:
 -  **Distance** - Click the button with a line (first from the left), then single-click the first point of your line on the map. Continue to single-click until you have finished measuring your linear feature. Double-click to end. Results will appear in the Measurement window.
 -  **Area** - Click the button with a polygon (second from the left), then single-click the first point of your polygon on the map. Continue to single-click until you have finished measuring your area feature. Double-click to end. Results will appear in the Measurement window.
- Click **New measurement** to clear the measurement and start a new one, or click **Clear measurement** to clear the measurement.

Basemap Gallery

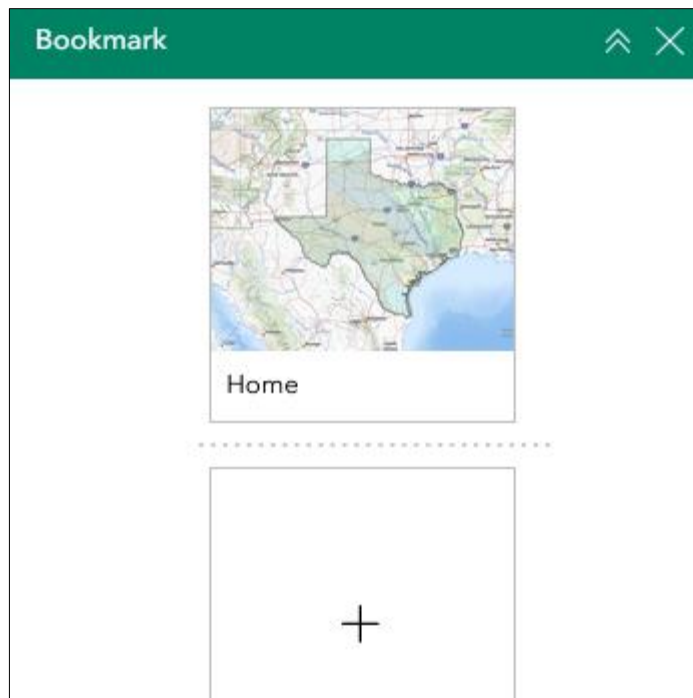
- The **Basemap Gallery** widget can be used to change the background in the map viewer. The USGS National Map is the default basemap.
- To change the basemap, click on the **Basemap Gallery** widget  on the widget controller, then select the basemap you wish to use.



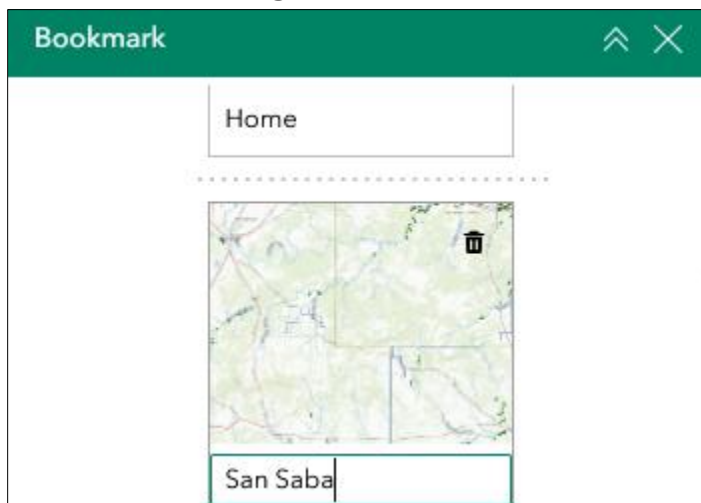
- You may choose from thirty-four different basemaps.

Bookmark

- The **Bookmark** widget enables users to navigate to predefined map locations.
- The widget includes a Home bookmark for zooming to the State of Texas.
- To create a bookmark, navigate to the desired map extent and click the **Bookmark** widget  in the widget controller.
- Click on the **Add Bookmark**  icon in the window.



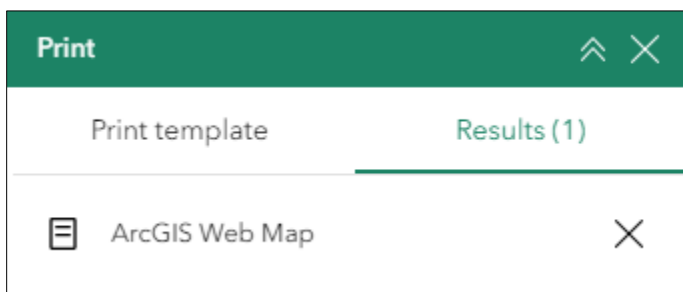
- Click on the name of the bookmark to rename it. Click on the **Delete**  icon on the right to remove the bookmark.



Print

- Use the **Print** widget  to save the current map as a pdf file. You may give it a customized title and select a layout template. Advanced features include ability to set the scale bar unit, author, copyright, north arrow, and legend. You may also set the map extent and print quality.

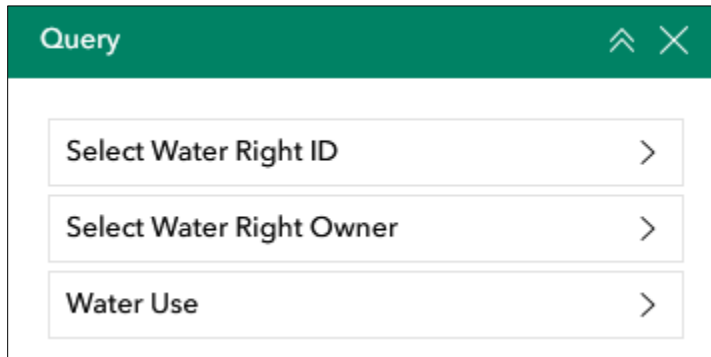
- After clicking print, the results will show in the results panel of the Print window.



Analysis Widgets:

- **Query** – Use the Query widget  to enter and execute predefined queries.

- Each query represents a specific workflow. Through queries, you can discover locations of water rights in the map, related water right documents, and information on water right owners and water use.

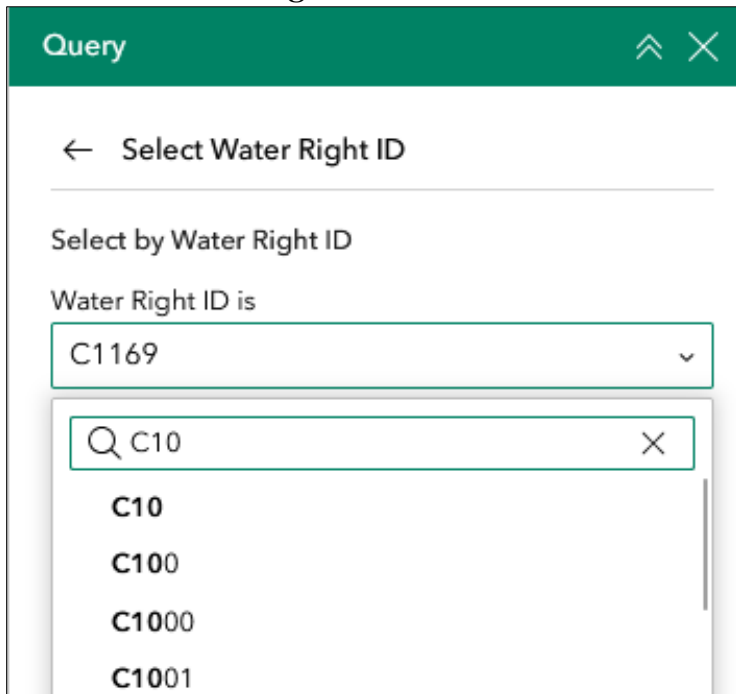


The image shows a 'Query' widget with a green header bar containing the word 'Query' and two icons (an upward arrow and a close 'X'). Below the header, there are three white rectangular buttons with rounded corners, each containing text and a right-pointing chevron icon. The buttons are labeled 'Select Water Right ID', 'Select Water Right Owner', and 'Water Use'.

Select Water Right ID

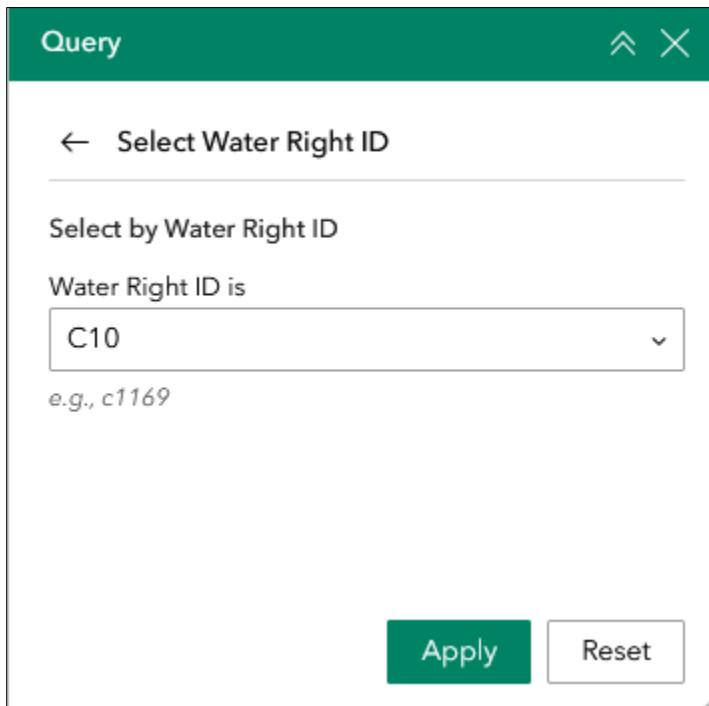
Use this query if you know the partial or complete identifier of the water right you want to locate. For example, to locate water right C10:

1. In the Query widget, click **Select Water Right ID**.
2. Click the dropdown and start typing the identifier, e.g., C10. Then click to select the matching identifier in the list.



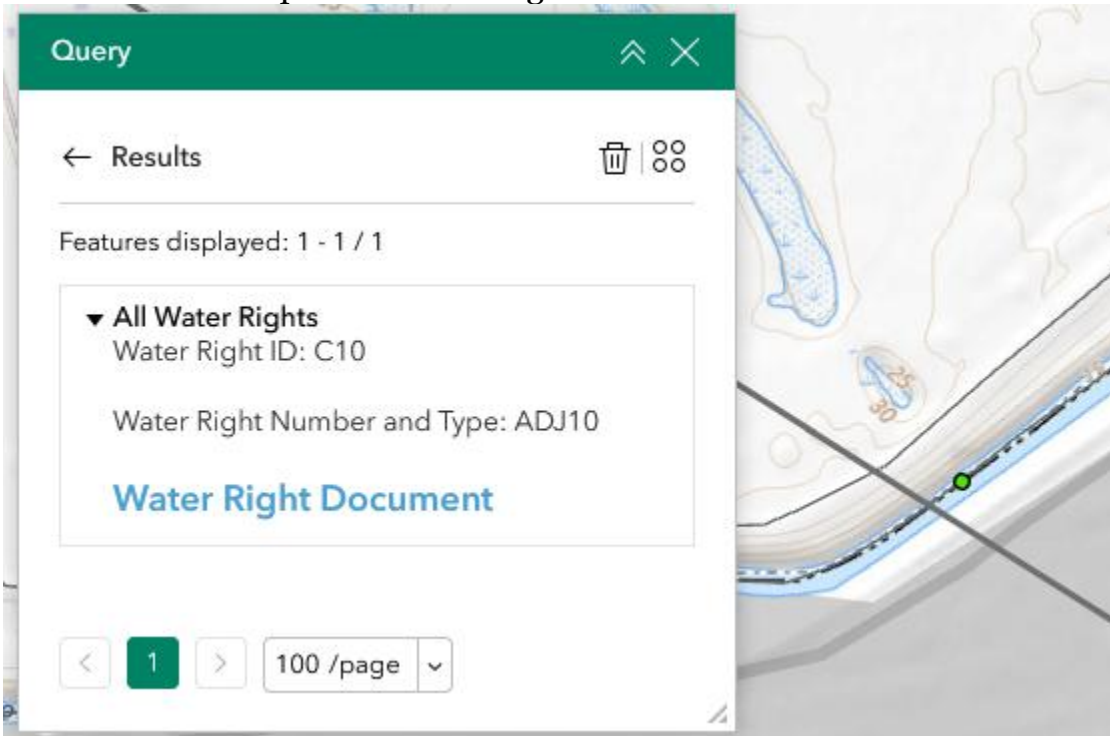
The image shows the 'Query' widget with the 'Select Water Right ID' option selected. The header bar is green with 'Query' and icons. Below the header, there is a white area with a back arrow and the text 'Select Water Right ID'. Underneath, it says 'Select by Water Right ID' and 'Water Right ID is'. A dropdown menu is open, showing a search bar with 'C10' and a list of suggestions: 'C10', 'C100', 'C1000', and 'C1001'. The dropdown has a search icon on the left and a close 'X' on the right.

3. With the identifier chosen, click **Apply**. The map will zoom to the matching water right, and the water right number and type will be displayed in the Query results along with a link to the water right document.



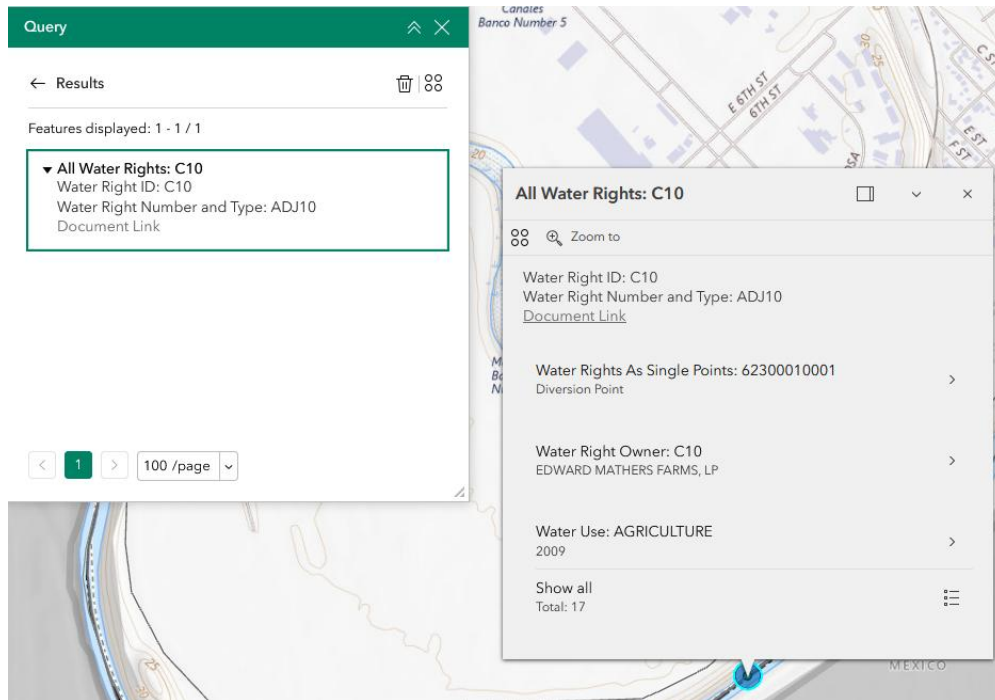
The screenshot shows a web application window titled "Query". Inside, there is a section titled "Select Water Right ID" with a back arrow icon. Below this, it says "Select by Water Right ID". A label "Water Right ID is" is followed by a dropdown menu currently showing "C10". Below the dropdown, there is a hint "e.g., c1169". At the bottom right of the window are two buttons: "Apply" (in green) and "Reset" (in white).

4. Click the link to open the water right document.

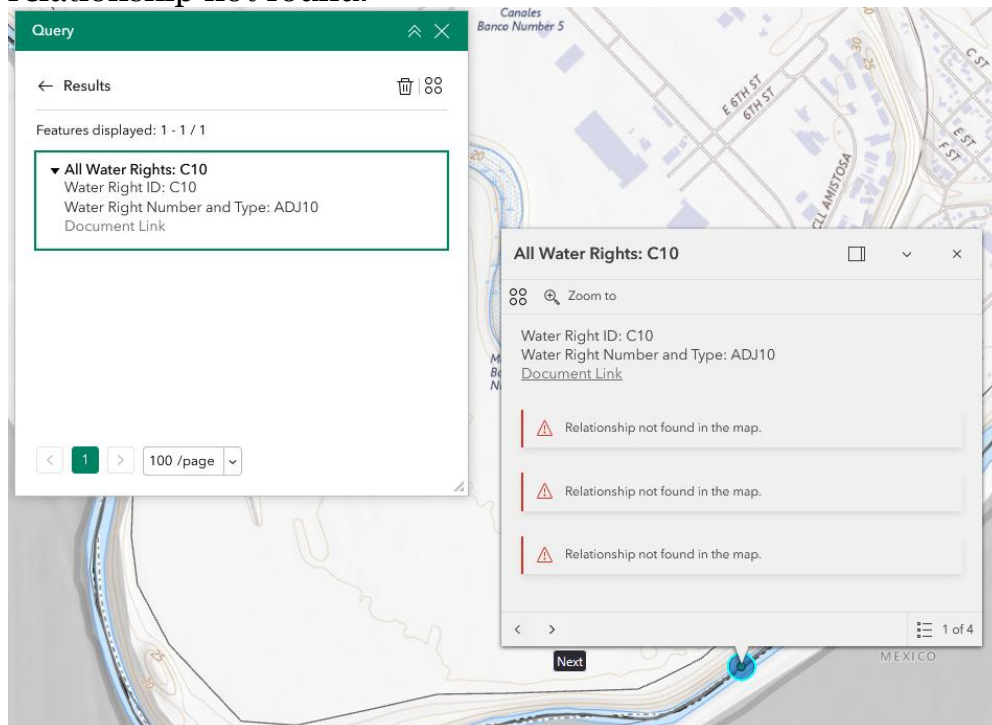


The screenshot shows the same "Query" window, but now it displays search results. The title bar remains "Query". Below the title bar, there is a "Results" section with a back arrow, a trash icon, and a list icon. It states "Features displayed: 1 - 1 / 1". Underneath, there is a section titled "▼ All Water Rights" which contains the text "Water Right ID: C10" and "Water Right Number and Type: ADJ10". Below this information is a blue link labeled "Water Right Document". At the bottom of the window, there is a pagination control showing "< 1 >" and "100 /page" with a dropdown arrow. In the background, a map is visible with a green dot indicating the location of the water right.

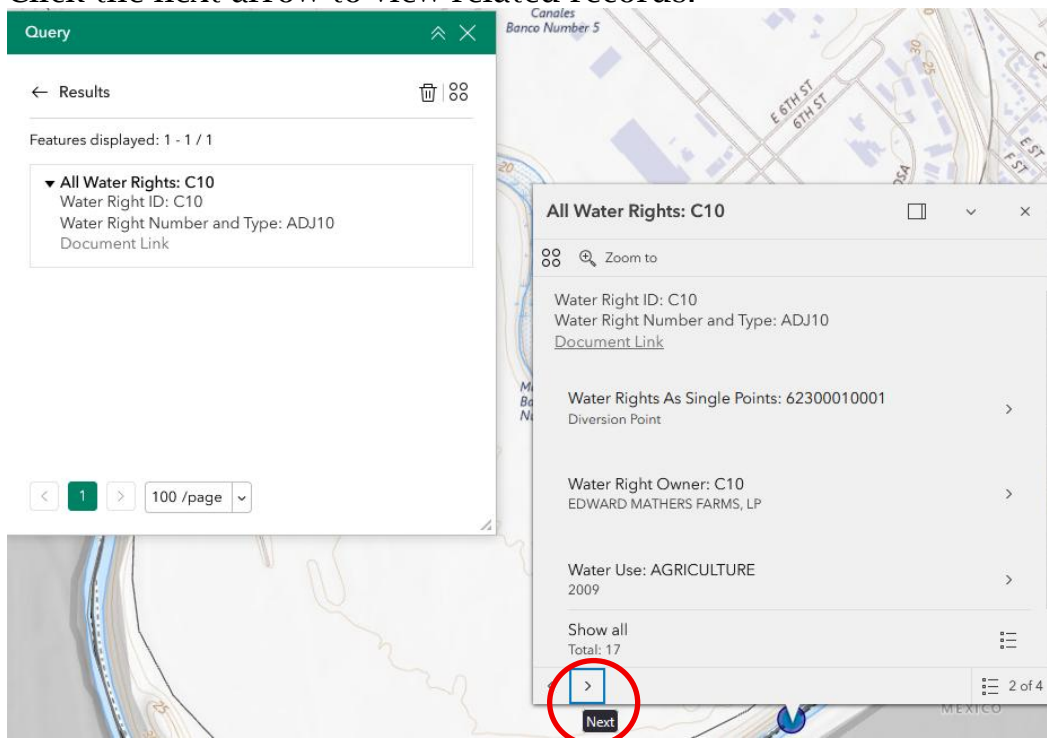
5. Click the result in the Results to show the pop-up for more information about the point. The pop-up is further described in the [Water Rights](#) section of this document.



6. Note: If you click on the point to view the pop-up, the pop-up will display relationship not found.



7. Click the next arrow to view related records.

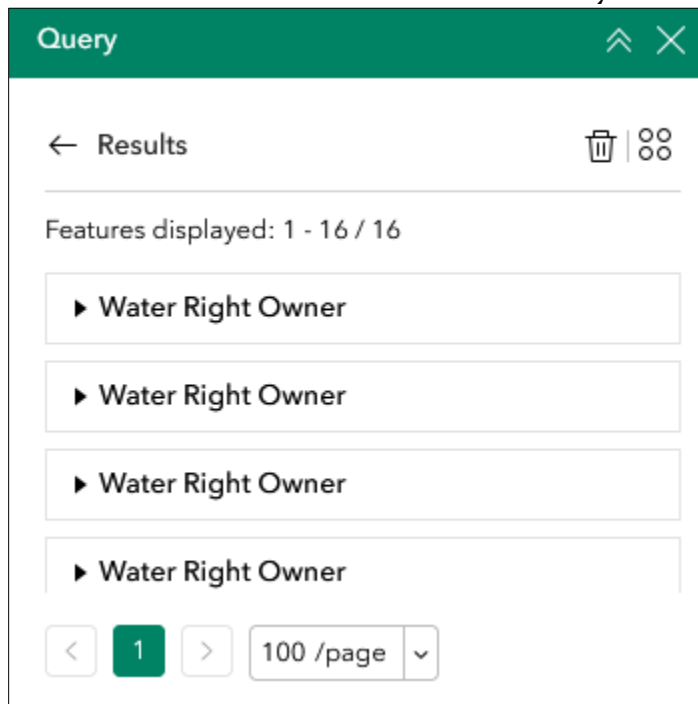


Select Water Right Owner

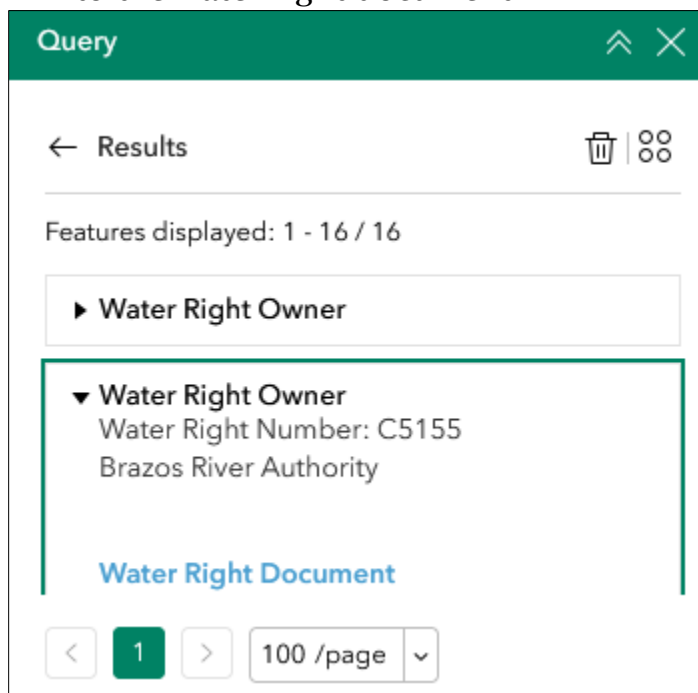
Use this query to view water right information for a given owner name.

1. In the Query widget, click **Select Water Right Owner**.
2. Click the dropdown and start typing the owner name. Then click to select the matching owner in the list.

3. With the owner chosen, click **Apply**. The query window will then display the matches. Note that one owner may have several water right matches.

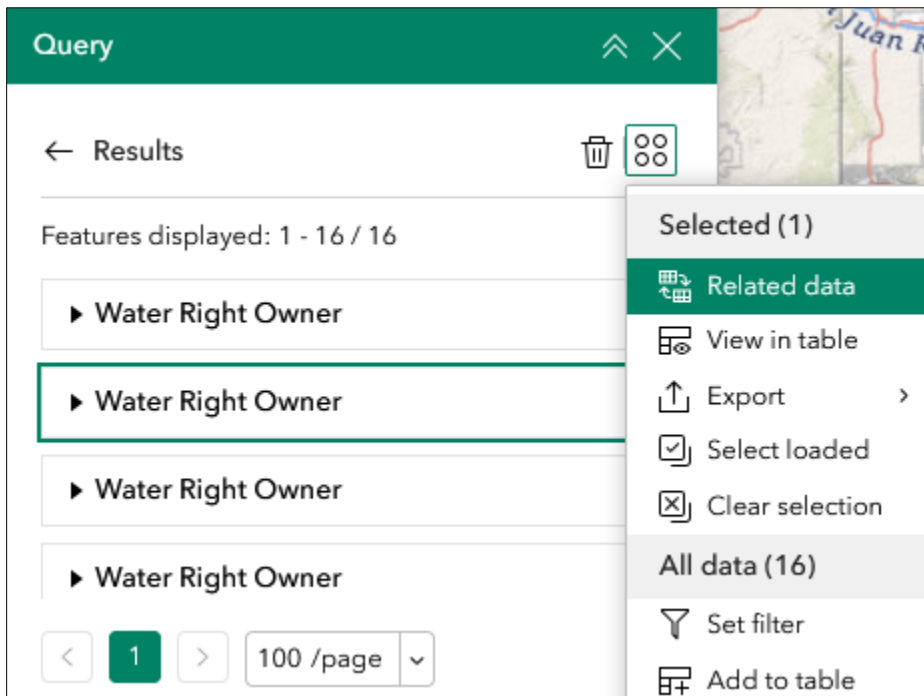


4. Click the triangle next to the result to view the water right number and a link to the water right document.

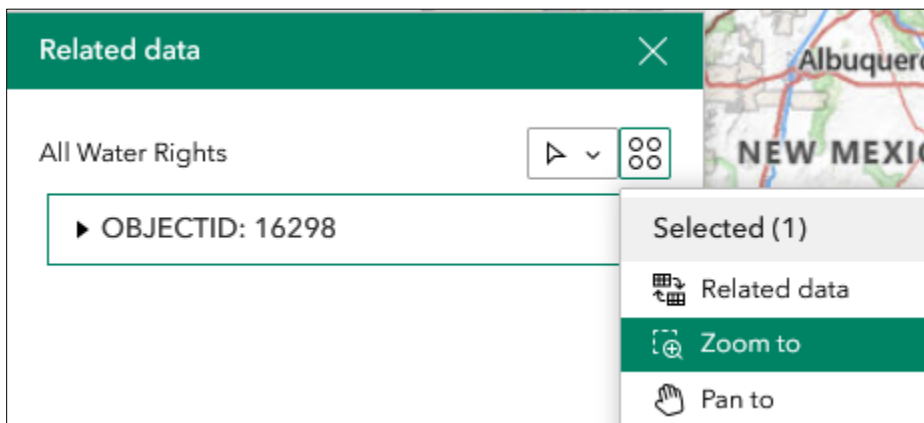


5. Click the link to open the water right document.
6. Water right owner information is stored in a table, and several owners could be associated with a single water right in the map. To zoom to the

water right in the map, click one of the search results to select it. Then click the Actions button  in the top right of the query window and click Related data.



7. In the Related data window that opens, click the Actions button in that window and click Zoom to.



8. Once zoomed in to the water right in the map, you can click it to open the pop-up and view more information about it. The pop-up is further described in the [Water Rights](#) section of this document.

Water Use

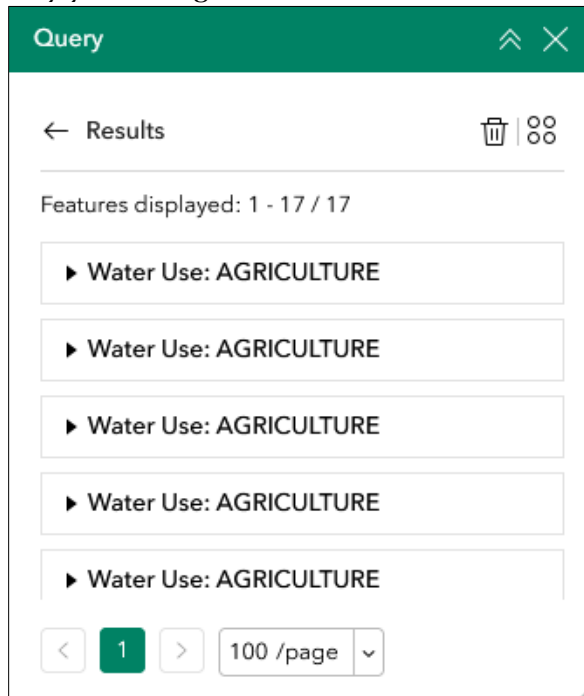
Use this query to view water use information for a given water right.

1. In the Query widget, click **Water Use**.

2. Click the dropdown and start typing the identifier, e.g., C10. Then click to select the matching identifier in the list.

With the identifier chosen, click **Apply**. You may see several search results for a given water right. Each result represents a given water use and year.

Query window showing water use records available for water right C10. Several records are available by year for agriculture.



- 3.
4. Click the triangle next to the result to view the water use information. You'll find the water use data in tabular form. You can expand the query window by dragging the handle in the bottom right corner to make it

easier to see the results.

Query

← Results

Features displayed: 1 - 17 / 17

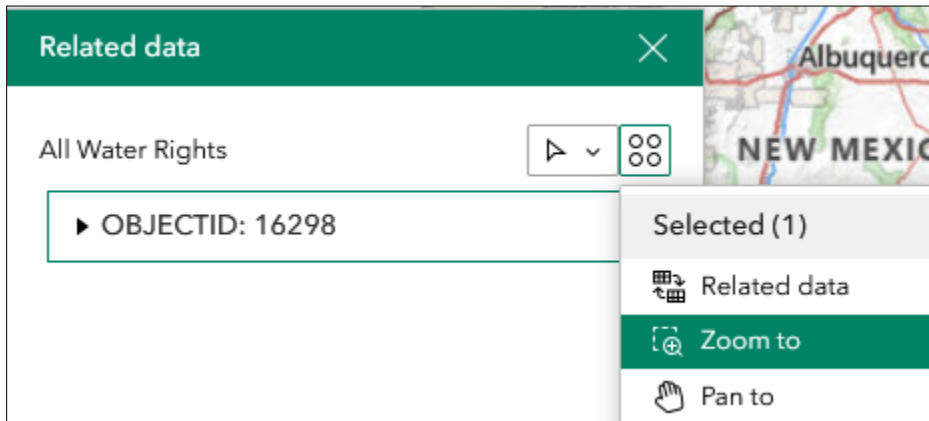
▼ Water Use: AGRICULTURE

Water Right ID	C10
Owner	EDWARD MATHERS FARMS, L.P.
Year	2015
Use	AGRICULTURE
JAN_DIV	0.00
FEB_DIV	0.00
MAR_DIV	0.00
APR_DIV	0.00
MAY_DIV	3.49
JUN_DIV	0.00
JUL_DIV	2.57
AUG_DIV	0.00
SEPT_DIV	5.53
OCT_DIV	0.00

< 1 > 100 /page ▾

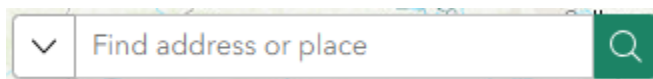
- Water use information is stored in a table, and several records could be associated with a single water right in the map. To zoom to the water right in the map, click one of the search results to select it. Then click the Actions button  in the top right of the query window and click Related data.

6. In the Related data window that opens, click the Actions button in that window and click Zoom to.



7. Once zoomed in to the water right in the map, you can click it to open the pop-up and view more information about it. The pop-up is further described in the [Water Rights](#) section of this document.

Search Bar:



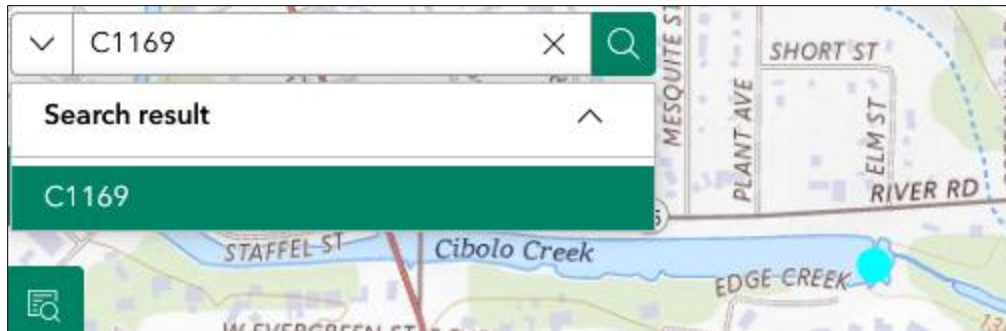
- Type in an address or place into the bar to search for a location. As you type, you will be presented with similar matches. If you see your desired location appear, click on it (or select it with the arrow keys on the keyboard and then press ENTER) and the map will zoom to that location.

You can click the **Clear** icon  on the bar to clear out the search bar.

The following are examples of the types of searches you can perform.

- Addresses: 17041 El Camino Real, Houston, TX, 77058
- Names of places: Houston Zoo, Cedar Bayou

You can also locate a water right if you know its identifier by entering the identifier directly in the search box, e.g., C1169. Below possible results from the ArcGIS World Geocoding Service, you will see results from the All Water Rights layer. Click the result to zoom to that water right. Note that you can also use the Query widget (described in the Analysis Widgets section of this document) to locate a water right.



Attribute Table:

To view attribute tables, click on the green **Expand** arrow  at the bottom of the viewer. The attribute table panel will expand. To collapse the attribute table panel, click on the green **Collapse** arrow  at the top of the table.

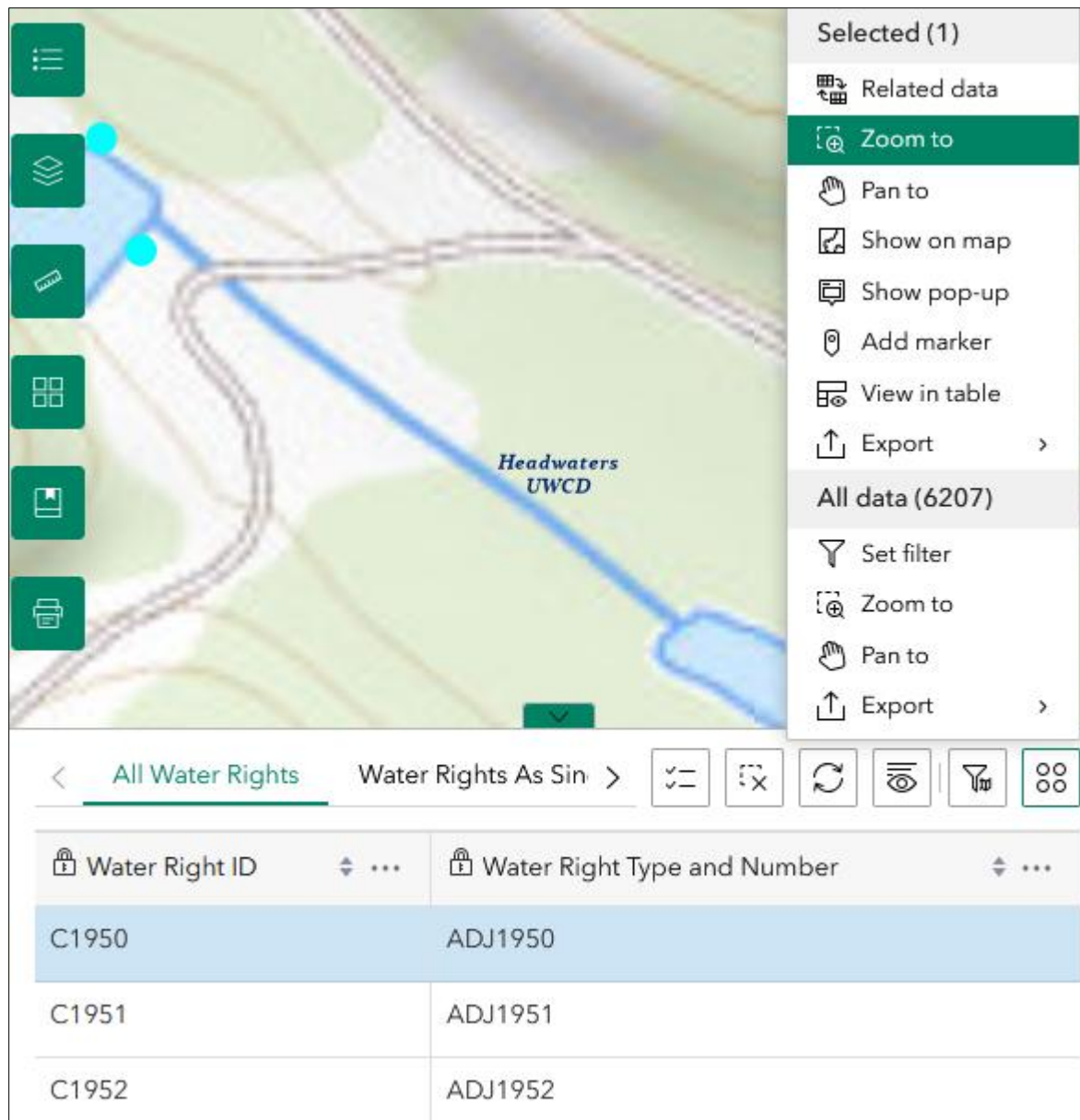
The tabs at the top of the panel are the attribute tables that you can view. Click a tab to view its table. You can then click column names to sort rows by that column.

All Water Rights	Water Rights As Single Points	Water Right Owner	Environmental Flows Measuring Point	Water Use
 Water Right ID	 ...	 Water Right Type and Number		
C1950		ADJ1950		
C1951		ADJ1951		
C1952		ADJ1952		

The All Water Rights, Water Rights As Single Points, and Environmental Flows Monitoring Point tables are associated with layers with those same names in the map. You can click a row in one of those tables to select it, then click the Actions button



], and then click **Zoom to**. This will zoom to that feature in the map.



The Water Right Owner and Water Use tables are purely tables, and while they are related to water right records in the map, they do not have a spatial representation themselves.

Map Tools:

The zoom tools are located on the bottom right side of the map application. You may need to hide the attribute table to see the zoom tools if a table is open.



Find My Location – Click the **find my location** button to take you to your current location.



Zoom In – Click the **zoom in** button once or multiple times to **zoom in** at fixed increments



Zoom Out – Click the **zoom out** button once or multiple times to **zoom out** at fixed increments



Default Map View – Click the **default map view** button once to return to the default extent



Scale Bar – shows the scale of the map at your current extent, located in the bottom left corner of the viewer window.

Coordinates

- The **Coordinates** widget is found on the bottom left corner of the viewer window, near the scale bar. The coordinates automatically update to the location of the cursor in the viewer window.



- To get the coordinates of a particular location on the map, click on the **Enable clicking the map to get the coordinates**  icon.
- Click on the map to create a **marker** . The coordinates widget will update with the coordinates of the marker and will continue showing those coordinates regardless of mouse location.



- You can copy the coordinates of the marker by clicking the **Copy**  icon.

- When you are finished with a marker, click the same button, now with the tooltip **Disable clicking the map to get the coordinates** . This removes the marker and makes the coordinates track your mouse location again.

Contact Us

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