United States Environmental Protection Agency

User Guide to the Drinking Water Mapping Application to Protect Source Waters (DWMAPS)

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1 WELCOME TO DWMAPS

The Drinking Water Mapping Application to Protect Source Waters (DWMAPS) is an online mapping tool that provides state and utility drinking water professionals, watershed protection groups, source water protection partnerships, and others with information to update source water assessments (SWAs) and prioritize source water protection measures in any location or watershed in the country. SWAs are important because they have the potential to indicate water contamination sources and the potential for systems to be impacted by those sources. SWAs can guide water supply planning efforts and assist with the implementation of measures to protect and/or enhance source waters through a variety of methods including public education, watershed conservation, adoption of best management practices, or land use restrictions. DWMAPS includes several search tools that, when used together with state and locally available mapping tools and data, can help users to:

- ✓ Identify potential sources of contamination.
- ✓ Find data to support SWAs and plans to manage potential sources of contamination.
- ✓ Evaluate accidental spills and releases, identifying where emergency response resources for releases must be readily available.
- ✓ Promote integration of drinking water protection activities with other environmental programs at the U.S. Environmental Protection Agency (EPA), state, and local levels.
- ✓ Identify source water protection partnerships and watershed projects.
- ✓ Analyze assessed waters to determine whether the waters meet water quality standards and support designated uses.

DWMAPS provides geographic data regarding the nation's sources of drinking water and public water systems while intentionally obscuring the precise locations of Public Water System intakes. DWMAPS has been designed to work in tandem with local data and information to assist with source water protection and emergency preparedness.

The DWMAPS application contains map controls, search tools, and interactive data displays to help users navigate, visualize, and sort through map data. Search tools can be accessed through the Welcome Screen or toolbar located in the primary map display.

DWMAPS is hosted on the EPA's GeoPlatform and integrated with Esri ArcGIS Online, a dynamic, expansive, and collaborative web platform that allows users to create and share data, maps, analytics, and mapping applications. Users do not need access to additional software, such as Esri's ArcGIS, to use DWMAPS. This user guide provides step-by-step instructions for each search tool and navigational feature—including those provided through ArcGIS Online—located within DWMAPS.

Use the following link to access DWMAPS: https://geopub.epa.gov/DWWidgetApp/.

2 DWMAPS Welcome Screen

DWMAPS contains useful links and advanced search tools that are accessible from the **Welcome Screen**. Additional navigation controls and search tools are accessible from the map display. Figure 1 below familiarizes users with the **Welcome Screen** and Table 1 provides a brief description of each element on the **Welcome Screen**.

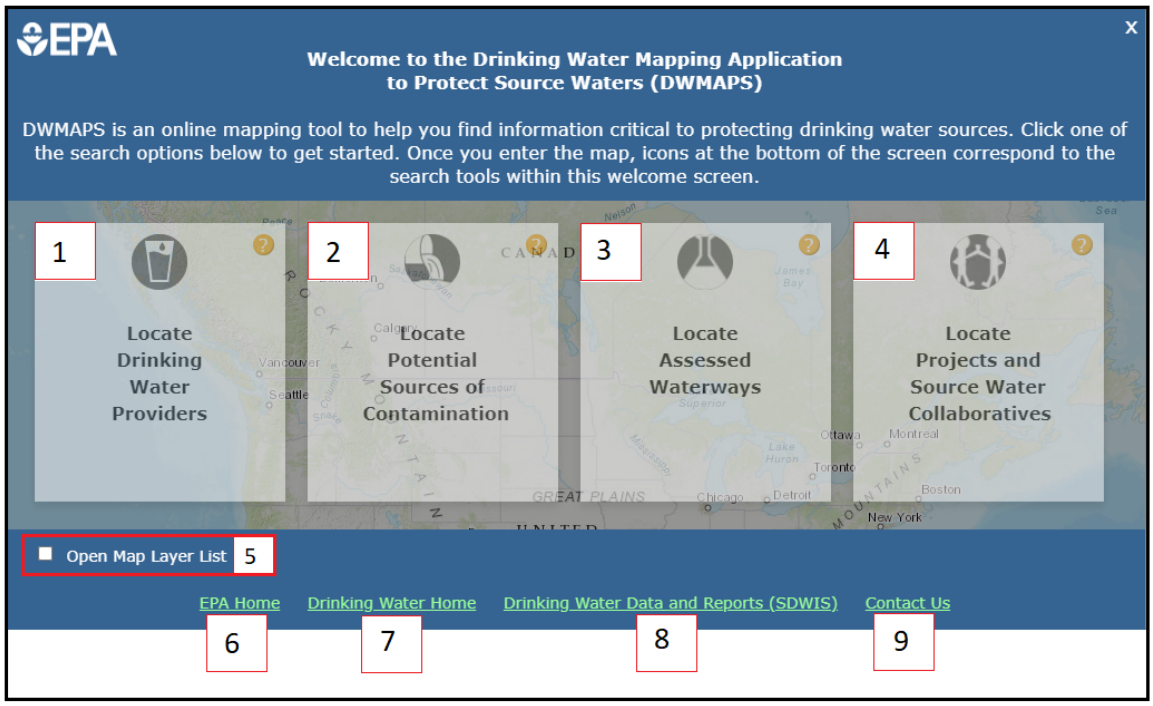


Figure 1: DWMAPS Welcome Screen highlighting interactive tools and features. Numbers correspond with "Key" number in Table 1 on the following page.

Table 1: Welcome Screen elements

Key	Title	Description
1	**Locate Drinking Water Providers**	Click **Locate Drinking Water Providers** to search for drinking water providers in a specified area and see the assessment status of surface source water. Click the question mark icon in the upper right corner of the box to access more information about drinking water providers on the EPA Office of Ground Water and Drinking Water website.
2	**Locate Potential Sources of Contamination**	Click **Locate Potential Sources of Contamination** to search for potential sources of contamination upstream of a specified area or designate your own area of interest using the tool. Click the question mark icon in the upper right corner of the box to access the Integrated Compliance Information System and learn more about potential sources of contamination regulated by the EPA.
3	**Locate Assessed Waterways**	Click **Locate Assessed Waterways** to search for the assessed waterways in a specified area**.** Click the question mark icon in the upper right corner of the box to access more information about polluted waterways (i.e., 303(d) impaired waters) on the EPA's website.
4	**Locate Projects and Source Water Collaboratives**	Click **Locate Projects and Source Water Collaboratives** to search for projects and source water collaboratives in a specified area. Click the question mark icon in the upper right corner of the box to access more about the EPA's watershed restoration programs and projects.
5	**Open Map Layer List**	Click the **Open Map Layer List** check box to open the Layer List tool upon entering the map display. The Layer List tool will provide a list of geospatial data layers that are available to view in the map display.
6	**EPA Home**	Click the **EPA Home** text link to open the EPA's website home page in a separate browser window.
7	**Drinking Water Home**	Click the **Drinking Water Home** text link to open the EPA's Office of Ground Water and Drinking Water webpage in a separate browser window.
8	**Drinking Water Data and Reports (SDWIS)**	Click the **Drinking Water Data and Reports** text link to open the EPA's Safe Drinking Water Information System (SDWIS) Federal Reports Search webpage on the EPA's website in a separate browser window.

Key	Title	Description
9	**Contact Us**	Click the **Contact Us** text link to open the DWMAPS Contact Us webpage in a separate browser window.

3 NAVIGATING AND EXPLORING DWMAPS

DWMAPS contains a number of tools that may be used to navigate and explore the map display. Figure 2 and Table 2 highlight tools and features located within the map display.

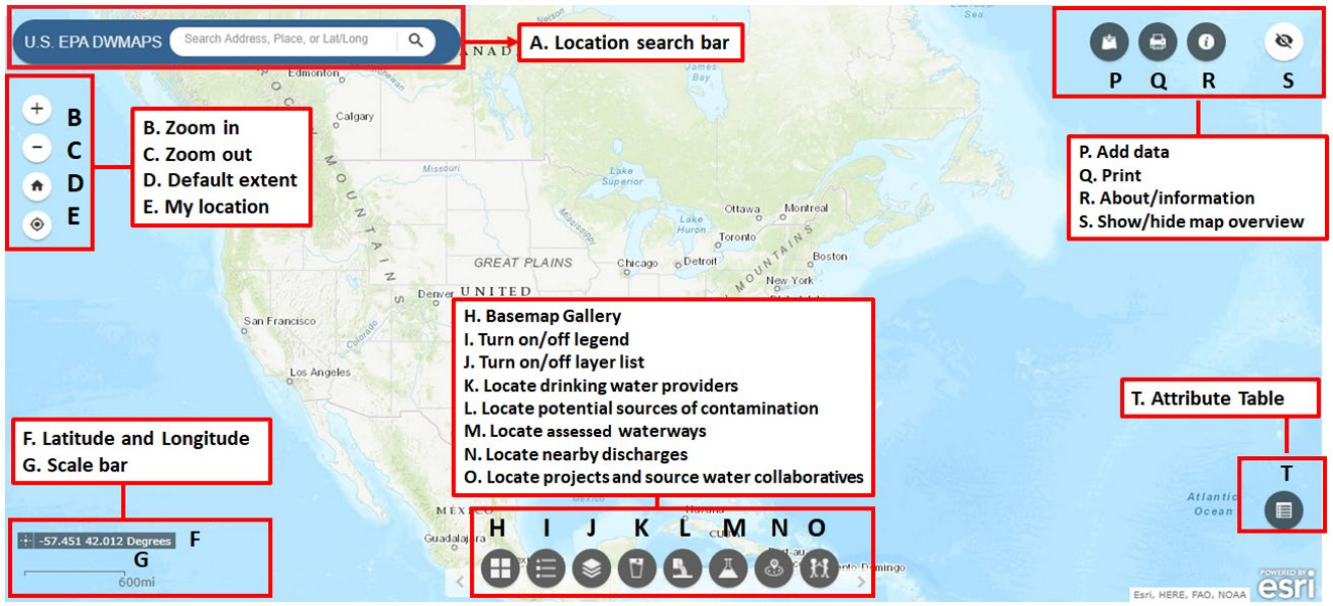


Figure 2: DWMAPS map view highlighting interactive tools and features located in the map display.

Table 2: Map Elements (corresponds with lettering of elements in Figure 2)

Key	Map Element	Function
A	**Location Search Bar**	Zoom to a specific location by entering an address, zip code, or place name.
B	**Zoom in**	Manually zoom into a target location.
C	**Zoom out**	Manually zoom out to view a larger area.
D	**Default Extent (Home)**	Re-center the map display to the continental United States.

Key	Map Element	Function
E	**My Location**	Zoom to the user's physical location. The user must adjust browser privacy preferences to allow DWMAPS to access their location.
F	**Latitude and Longitude (Coordinates)**	Latitudinal and longitudinal coordinates coinciding with the cursor's location on the map.
G	**Scale Bar**	Scale bar adjusts as the user zooms in and out of the map.
H	**Basemap Gallery**	Open basemap gallery to view and change current basemap.
I	**Legend**	View active layers and map symbols.
J	**Layer List**	Open the layer list to view all layers available in DWMAPS and to select which layers to view on the map.
K	**Locate Drinking Water Providers**	Search for drinking water providers serving a selected political boundary or within a selected watershed. Determine the assessment status of the raw surface waters for drinking water use.
L	**Locate Potential Sources of Contamination**	Search a specific area of interest for potential sources of contamination. To locate potential point sources of contamination, open the layer list and activate the *Potential Sources of Contamination* layers and select the desired programs.
M	**Locate Assessed Waterways**	Search within the HUC12 watershed boundary of a selected point for waters listed as impaired in accordance with Section 303(d) of the Clean Water Act (CWA), locate waters with active Total Maximum Daily Loads (TMDLs), and determine the assessment status for various uses such as drinking water, fishing, and recreation.
N	**Locate Nearby Discharges**	Search for pollutant discharges, impaired waters, and watershed protection projects and source water collaboratives within a specified radius of a selected point.
O	**Locate Projects and Source Water Collaboratives**	Search for completed or ongoing watershed protection projects and source water collaboratives in a specified area.
P	**Add Data**	Add data from the EPA's GeoPlatform, ArcGIS Online, specified URL, or file from user's local computer to view as layers within DWMAPS. The data is not saved to DWMAPS and is only available within the user's current session.

Key	Map Element	Function
Q	**Print**	Print the current map view.
R	**About**	Open this window to read a brief description of DWMAPS.
S	**Map Overview**	Open a small, zoomed out view of the current map display.
T	**Attribute Table**	Open the attribute tables for all active layers in the map, and export data as a .csv file.

3.1 Location Search Bar

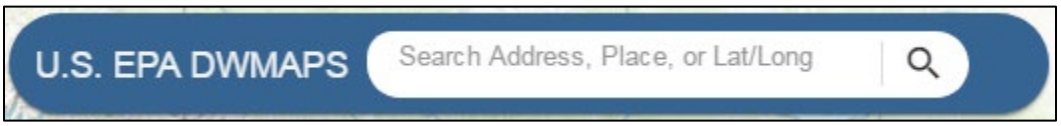


Figure 3: The Location Search Bar tool.

The **Location Search Bar** tool (Figure 2, Map Element A) allows the user to find and zoom to a location of interest by entering an address, city and state, zip code, coordinate, or place name.

1. Enter a location in the **Location Search Bar** text box (Figure 3).

   ✓ The tool will display possible matches (Figure 4).

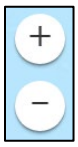
2. Click the location match to select and zoom to the desired location (Figure 4).

Figure 4: The Location Search Bar tool will suggest location matches for the inputted text.

Or;

click the magnifying glass icon or press enter to zoom the map display to entered location. If no matches are found for the input location, the map will remain unchanged.

3.2 Zoom In/Out



Use the **Zoom In/Out** tool (Figure 2, Map Elements B & C) and the keyboard controls to zoom in and out of the map display.

To use the Zoom In/Out tool in the map display:

1. Click the plus (+) sign to zoom in to the map display.
2. Click the minus (-) sign to zoom out of the map display.

To use the keyboard to zoom in and out of the map display:

1. Hold the control key with one hand.
2. Push the plus (+) key to zoom in.
3. Push the minus (-) key to zoom out.

To use the mouse to zoom in and out of the map display:

1. Move the roller wheel one direction to zoom in.
2. Move the roller ball the opposite direction to zoom out.

3.3 Pan

Use the mouse and keyboard controls to scroll the map display in the direction and area you choose.

To use the mouse to pan across the map:

1. Click and hold on any location in the map display.
2. Drag the mouse, and the map will move in the corresponding direction.

To use the keyboard to pan across the map:

1. Push the up arrow key to move north in the map display.
2. Push the right arrow key to move east in the map display.
3. Push the left arrow key to move west in the map display.
4. Push the down arrow to move south in the map display.

3.4 HOME

The **Home** tool (Figure 2, Map Element D) re-centers the continental United States across the map display.

Click the **Home** icon to re-center the map display.

3.5 MY LOCATION

The **My Location** tool (Figure 2, Map Element E) zooms the map display to your current physical location. A blue dot will appear on the map indicating your current location (Figure 5).

1. Click the **My Location** icon to zoom to your current location.

Note: You may be required to reconfigure your browser's privacy settings to allow DWMAPS to access your location.

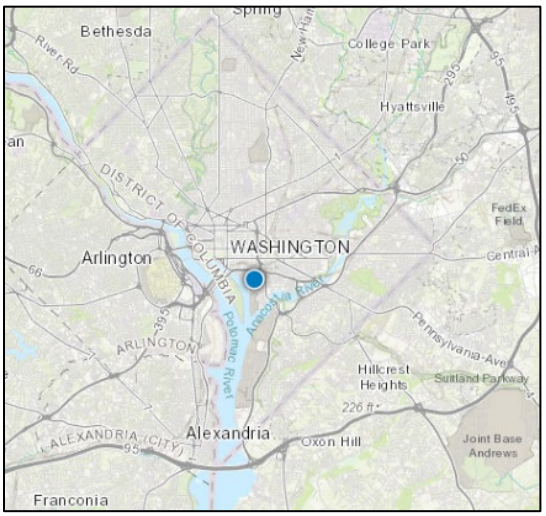


Figure 5: A blue dot indicates the user's location on the map.

3.6 COORDINATES AND SCALE BAR

The **Map Coordinates** tool (Figure 2, Map Element F) and **Scale Bar** tool (Figure 2, Map Element G) can be found in the lower left-hand corner of the map display. The **Coordinates Tool** displays the latitude and longitude coordinates in decimal degrees that coincide with the location indicated by the mouse cursor. The coordinates will change as the mouse is moved over the map. The **Scale Bar** tool indicates the scale (the ratio between the distance on the map and the corresponding distance on the ground) of the map display. The **Scale Bar** adjusts with the zoom of the map and is displayed in miles (Figure 6).

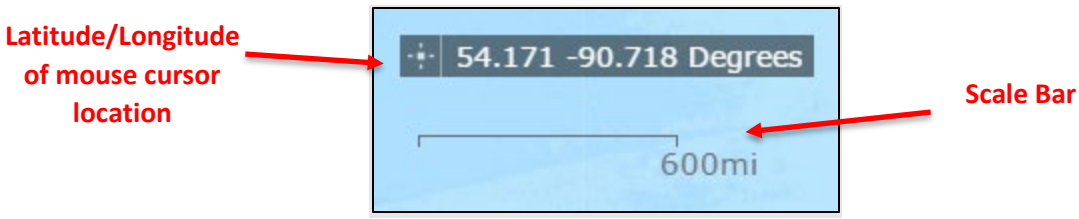


Figure 6: The Coordinates and Scale Bar display. The numbers displayed at the top of the image indicate the longitudinal & latitudinal coordinates that coincide with the location of the mouse cursor. The scale bar (at the bottom) will automatically adjust when zooming in and out on the map.

1. To get map coordinates for a specific location, click the location symbol next to the longitude and latitude coordinates, then click the map.

   ✓ A green location pin will mark the location and the latitude/longitude display will show the precise latitude/longitude of the marked location (Figure 7).

Figure 7: The green location pin showing a precise latitude and longitude coordinate.

3.7 Map Overview

The **Map Overview** tool (Figure 2, Map Element S) displays a small overview map in the upper right corner of the map display that shows a zoomed-out view of the current map display. A grey rectangle within the overview map indicates the current extent of the primary map display (Figure 8).

1. Click the **Map Overview** icon to expand the overview map.
2. Click the expand icon to expand the overview map.
3. Click the minimize icon to shrink the overview map.

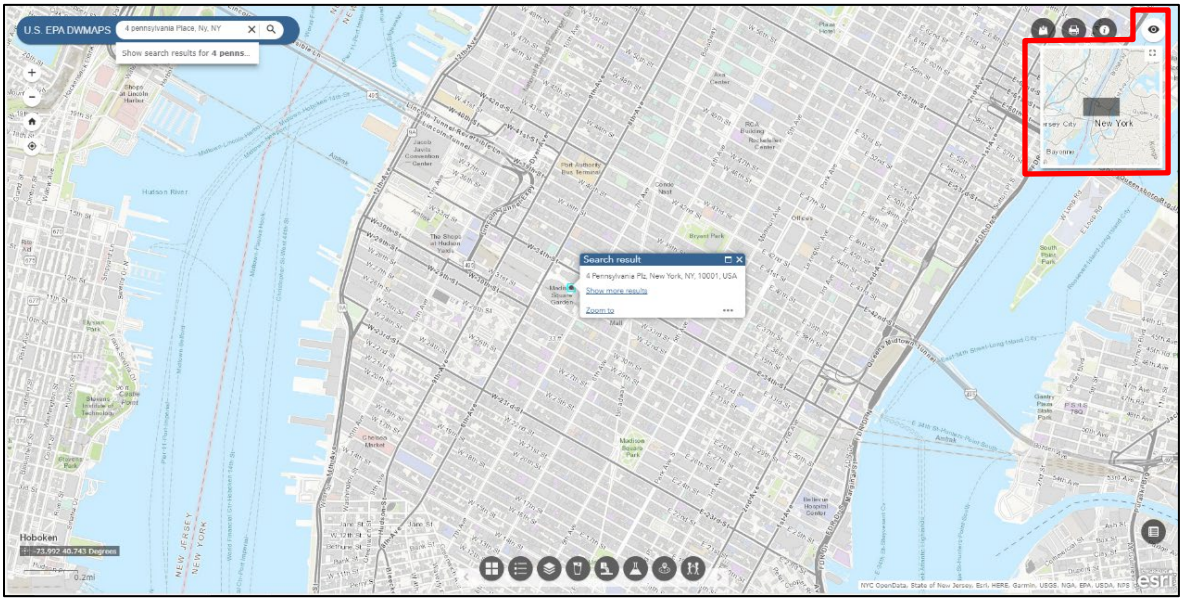


Figure 8: The Overview Map. The inlay grey box indicates the area being displayed in the main map view.

4 VISUALIZING THE DATA

4.1 LAYER LIST

Figure 9: The Layer List tool icon in tool bar in the DWMAPS map display.

There are many useful data layers that can be viewed within DWMAPS. Use the **Layer List** tool (Figure 2, Element J) to access a range of data layers that can be viewed in the DWMAPS map display (Figure 9). Additional data layers are also available through the **Add Data** tool (Figure 2, Element P).

4.1.1 Turn on/off layers

1. Click the **Layer List** icon in the toolbar at the bottom of the DWMAPS map display,

   Or;

   check the box next to the **Open Map Layer List** icon (Figure 10) on the **Welcome Screen**.

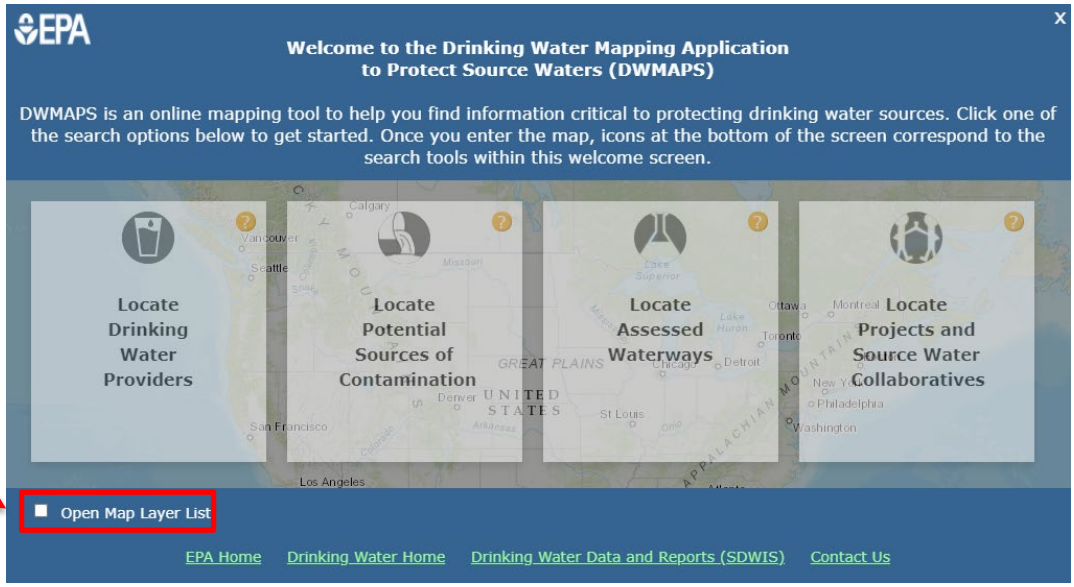


Figure 10: Open Layer List Icon.

✓ The **Layer List** window will display (Figure 11).

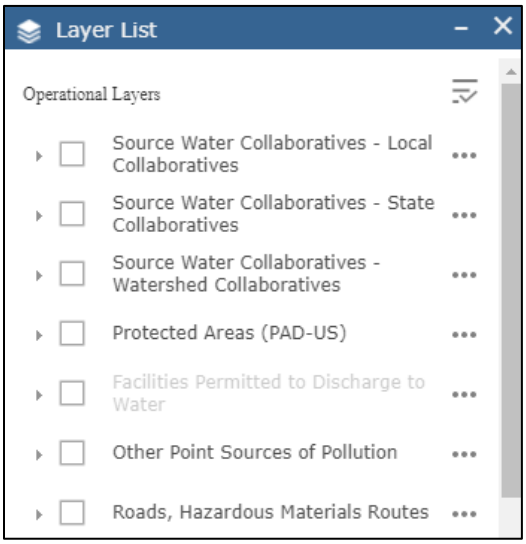


Figure 11: The Layer List window.

2. Click the box to the left of the layer name to view the layer in the map display. Grey text indicates layers that cannot be viewed at the current map scale. To view these layers in the map, zoom in or out until the layer text appears opaque.

✓ A blue box with a check mark will show activated layers (Figure 12).

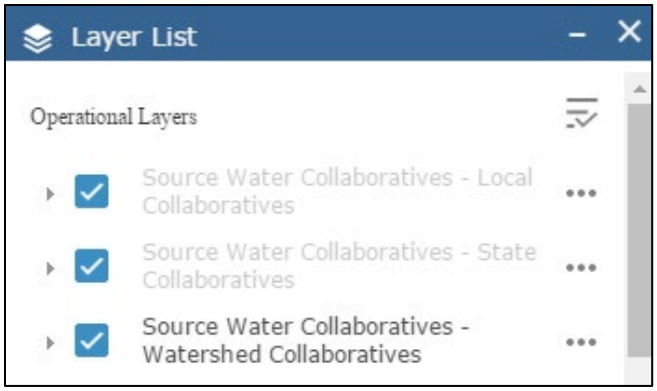


Figure 12: The Layer List tool with layers activated.

Note: If using a search tool (e.g., **Projects and Source Water Collaboratives**), the data layers utilized within that tool will automatically turn on and display in the **Layer List**. By default, additional layers do not appear in the map display unless turned on by the user. If you want additional layers turned on, select the layers.

3. Certain layers on the **Layer List** are broad layer categories and need to be expanded in order to select specific data and display it on the map (e.g., Demographic Indicators, Environmental Indicators 2020). To expand a layer, click the gray arrow to the left of the category you want to display (Figure 13).

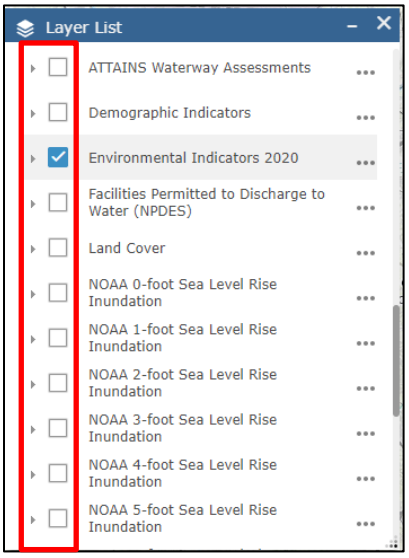


Figure 13: The grey arrow used to expand a category in the Layer List.

✓ The specific layer options will display (Figure 14).

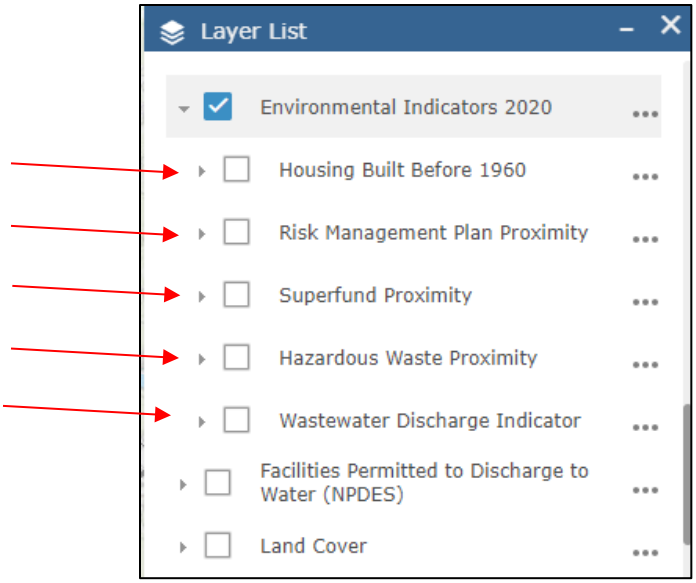


Figure 14: The layer options nested under a layer category.

4. A user may select the gray drop down arrow to the left of a layer on the **Layer List** to view the key for that layer if it is not a layer category (Figure 15). To view this information in the **Legend**, see Section 4.2 of this document.

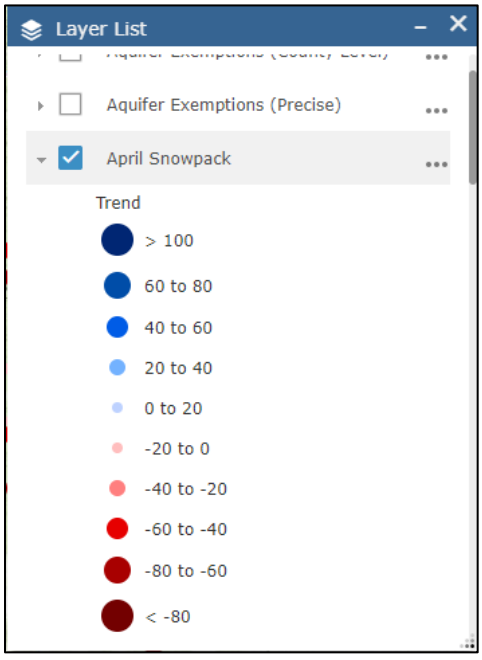


Figure 15: The expanded layer key for a layer that is not a layer category.

4.1.2 Setting Layer Transparency

The user can adjust the transparency of a top layer to allow them to see this layer while still viewing underlying layers.

1. Within the **Layer List**, click the ellipsis icon located next to a layer (Figure 16).

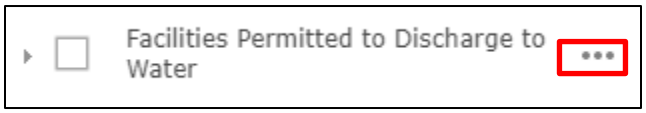


Figure 16: Layer List tool ellipse icon.

✓ A layer options menu will display (Figure 17).

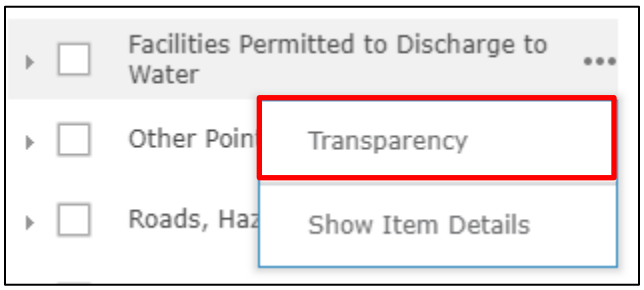


Figure 17: Layer List tool layer options menu transparency button.

2. Click the **Transparency** button to open the layer transparency slider. Drag the circular slider towards the plus or minus signs or click the plus or minus signs to adjust layer transparency (Figure 18).

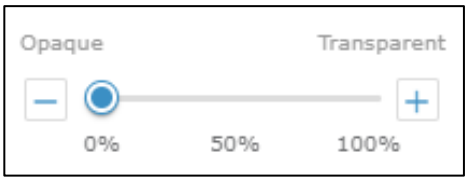


Figure 18: The Layer List tool transparency slider bar.

4.1.3 Access Layer Details

Within the **Layer List** tool, a user can access additional information about a layer and its underlying data, such as a service description, metadata, and access and use constraints. The **Layer List** tool also provides access to a layer's map service (e.g., ArcGIS Server Web Service, WMS OGC Web Service) endpoint, which they can use to bring the layer into a separate map or mapping application. Availability of information and data services may vary by the source, owner, and type of layer service.

1. Within the **Layer List** options menu, click the **Show Item Details** button. Alternatively, click the layer **Description** button (Figure 19).

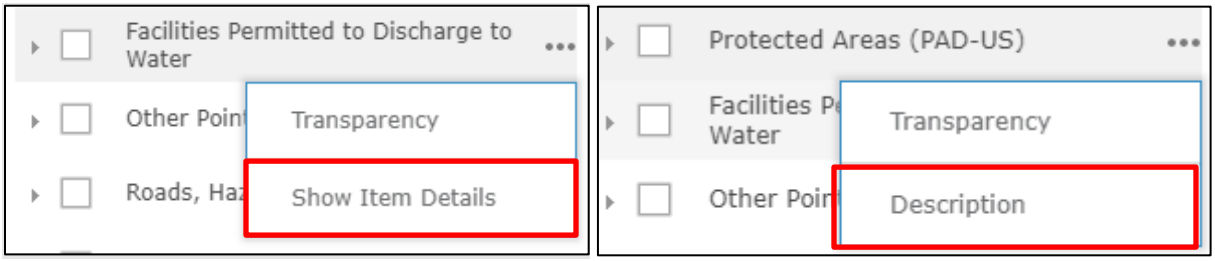


Figure 19: The Layer List tool options menu Show Item Details button and Description Button.

✓ A separate browser window will open with an Item Details page or an ArcGIS REST Services Directory Map Server page, depending on the layer's map service origin.

4.1.4 View Layer Attributes

A user may access a layer's attribute table via the **Layer List** tool for viewing in the **Attribute Table** tool.

Note: Certain layer services do not provide access to layer attribute tables. This feature is set by the layer's service owner and is not unique to DWMAPS.

1. Within the layer List tool options menu, click the **View in Attribute Table** button (Figure 20).

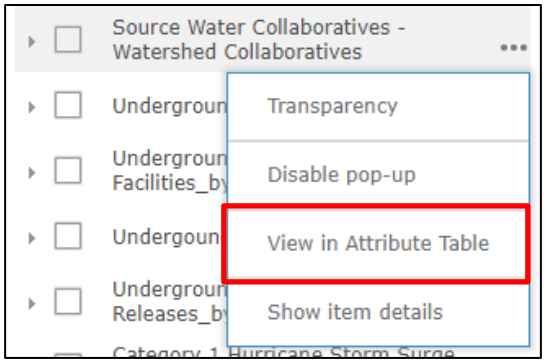


Figure 20: The Layer List tool Open Attributes Table button.

✓ The layer's attribute table will open in the **Attribute Table** tool (Figure 21).

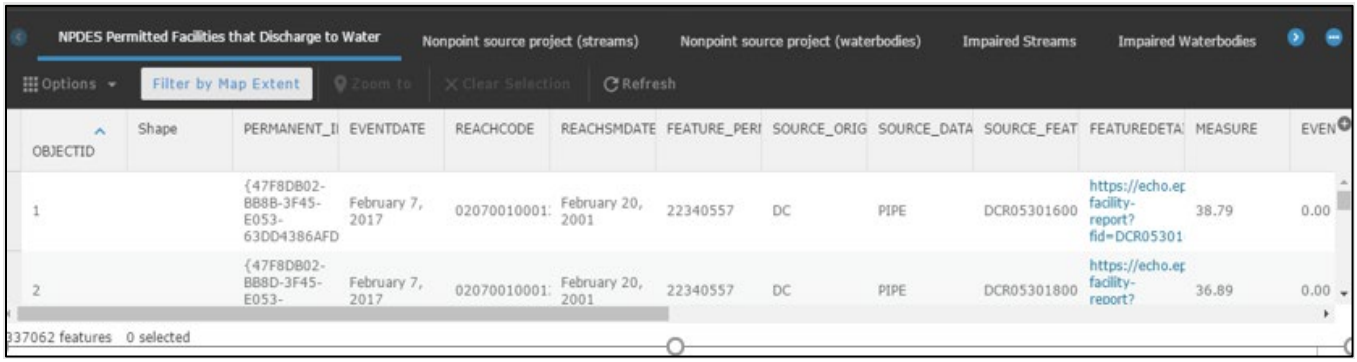


Figure 21: Layer attribute table displayed via the Attribute Table tool.

4.2 LEGEND

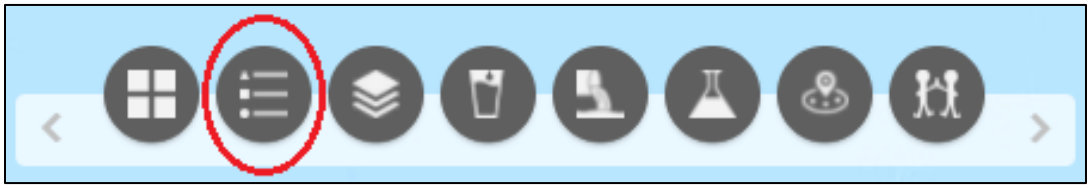


Figure 22: The Legend tool icon in the tool bar in the DWMAPS map display.

The **Legend** tool (Figure 2, Element I) lists the data layers that are currently active and visible in the map and explains the symbols used on the map (Figure 22). In the **Legend,** a symbol will appear beneath each layer title that matches the symbol for the layer displayed on the map. Data layers will appear in the legend only if they are being utilized or displayed in the map.

1. Click the **Legend** tool icon in the toolbar at the bottom of the map display.

✓ The legend window will open (Figure 23). Active layers will appear in the legend. If no data layers are active, it will appear blank (certain layers may appear automatically).

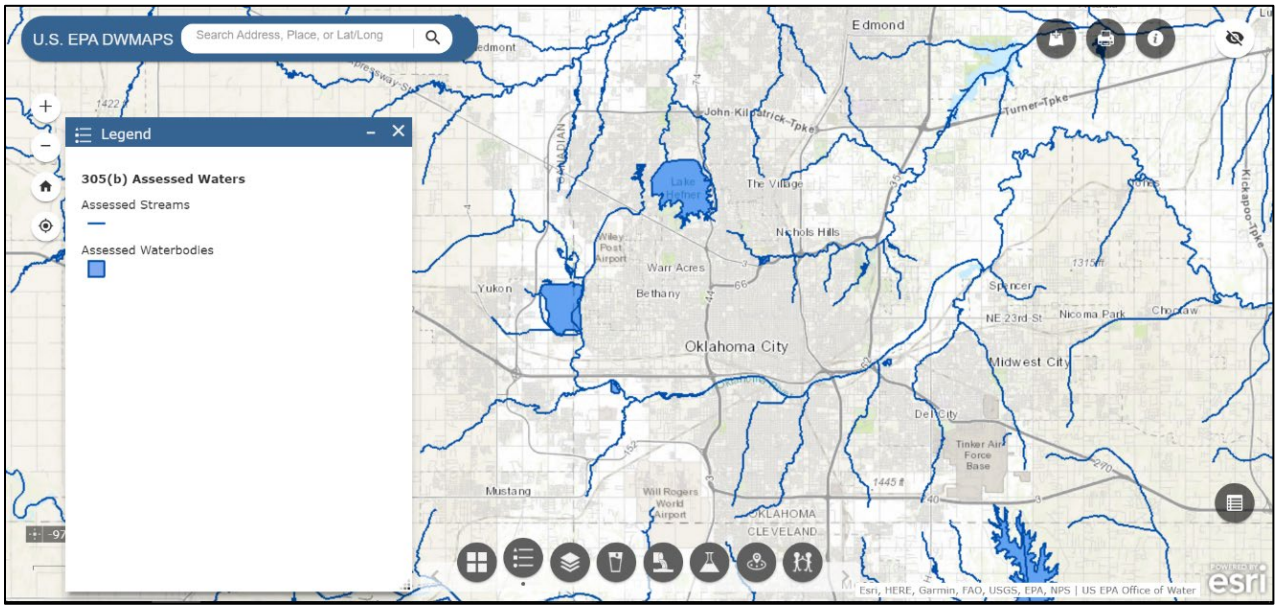


Figure 23: The Legend explains the symbols that appear in the map. In the example of 305(b) Assessed Waters, lines show assessed streams and polygons show assessed waterbodies.

2. To close the **Legend** tool, click the **X** in the top right corner or click on the **Legend** tool in the toolbar.

4.3 Add Data

The **Add Data** tool (Figure 2, Element P) allows users to temporarily add data to the map by searching for ArcGIS content in layers in ArcGIS online, entering URLs, or uploading files directly from your desktop. Users can temporarily add layers to the map; however, data layers cannot be saved to the DWMAPS map interface. Added data layers will only be visible to the user that added the data and will not be visible to separate users. Users can print maps that include data added through the **Add Data** tool.

1. Click the **Add Data** icon in the upper right corner of the map display.

✓ The **Add Data** tool window will open (Figure 24).

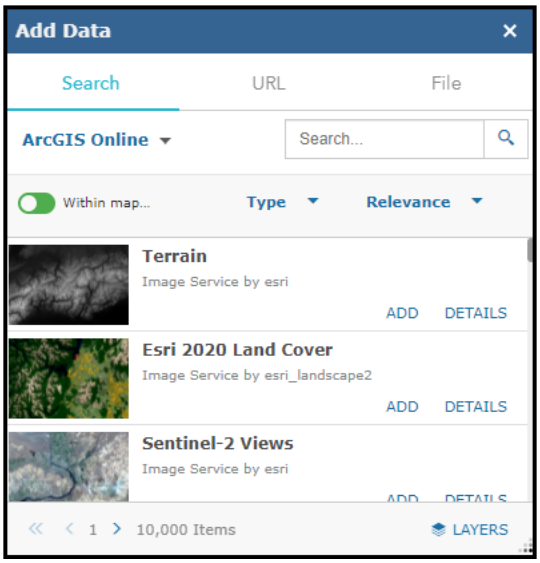


Figure 24: The Add Data tool window.

4.3.1 Add data from ArcGIS Online

Esri provides access to many geospatial layers through ArcGIS Online. DWMAPS users may access publicly available and licensed data services through the **Search** tab and ArcGIS Online dropdown menu option.

1. Click the **Search** tab.
    - ✓ ArcGIS Online data layers that are available for viewing in the current map area will automatically populate in the **Add Data** layer list (Figure 25). Data layers that do not have data for the current map location and scale will not appear in the data layer list.

Figure 25: The Add Data tool window with suggested layers. The Within Map toggle.

Note: Activate the **Within map** option to view only layers that are visible in the current map viewing area.

2. Locate the layer(s) of interest in the data layer list and click **ADD** to add the data layer to the map display.
   - ✓ The layer will appear in the map display, the **Layer List**, and the **Legend**.

3. Click **REMOVE** to remove the layer from the map, the **Layer List** tool, and the **Legend** tool (Figure 26).

Figure 26: The REMOVE and DETAILS buttons.

4. Click **DETAILS** to access information about the layer and obtain the map service URL, which a user may use to view the same layer within DWMAPS or within a separate map or mapping application through their ArcGIS Online account (Figure 26). The information will open in a new browser window.

Optionally, to search for layers in the **Add Data** tool:

1. Click the magnifying glass icon .
   - ✓ A search bar will appear (Figure 27).
2. Type a name or keyword to search for a data layer.
   - ✓ Data layers matching the search criteria will appear in the data layer list. The number of results will appear at the bottom of the window.
3. Click **ADD** to add the layer to the map display (Figure 27).

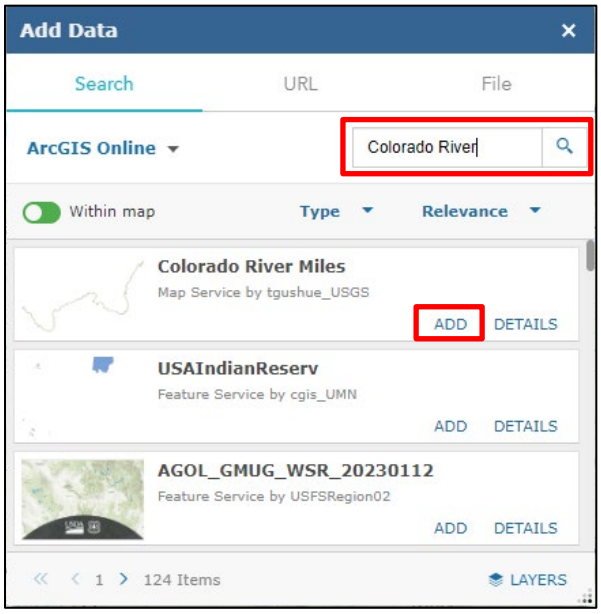


Figure 27: The Add Data tool search bar and ADD layer button.

4.3.2 Add layers by URL

1. Click the **URL** tab located next to the **Search** tab (Figure 28).

Figure 28: The Add Data tool Enter A URL tab.

2. Click the drop-down arrow and select the data type to be added (Figure 29). The following types are supported through the **URL** option:
   - An ArcGIS Server web service
   - A WMS OGC web service
   - A KML file
   - A GeoRSS file
   - A CSV file

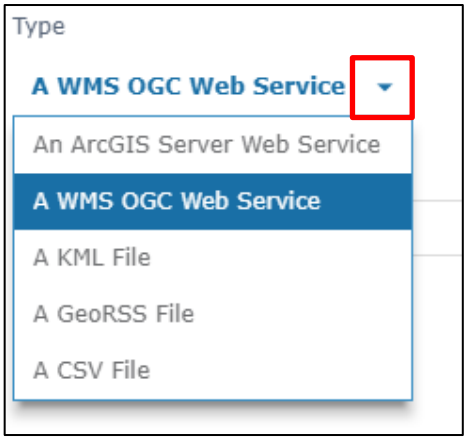


Figure 29: The Add Data tool drop down menu arrow.

3. Type or copy and paste the URL into the URL text box (Figure 30).

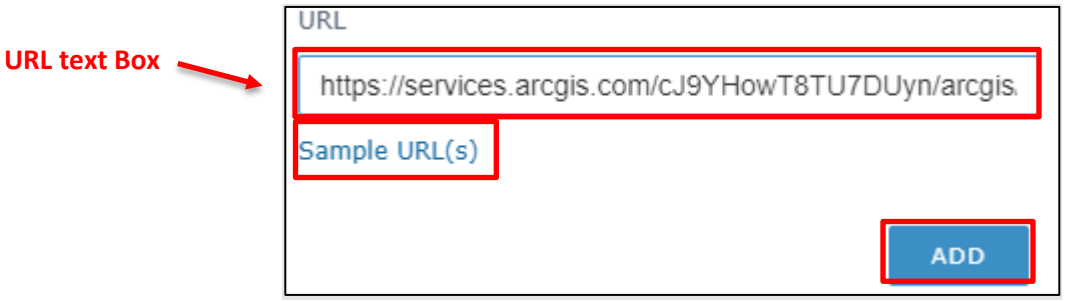


Figure 30: The Add Data text box, ADD button, and Sample URL(s) button.

4. Click **ADD** to add the data to the DWMAPS display (Figure 30).
5. Click **Sample URL(s)** to see the URL format for each type (Figure 30).

4.3.3 Add Data From File

1. Click the **File** tab located next to the **URL** tab (Figure 31).

Figure 31: The add data tool enter a File tab.

2. Acceptable files include Shapefiles, CSV files, KML files, GPX files, and GeoJSON files. The maximum number of features allowed is 1000.
3. Select the **Generalize features for web display** check box (a.) and then choose **BROWSE** (b.) (Figure 32).

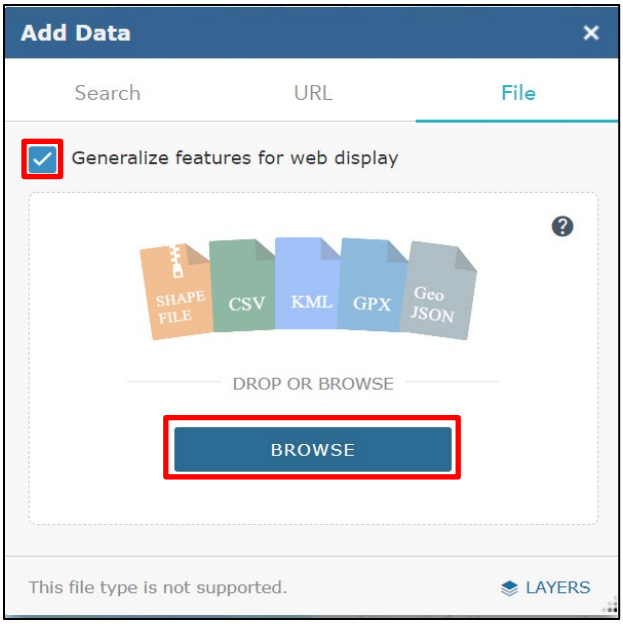


Figure 32: Generalize features for web display and browse for files.

4. In the file explorer select a file and click **Open** to add to the map (Figure 33).

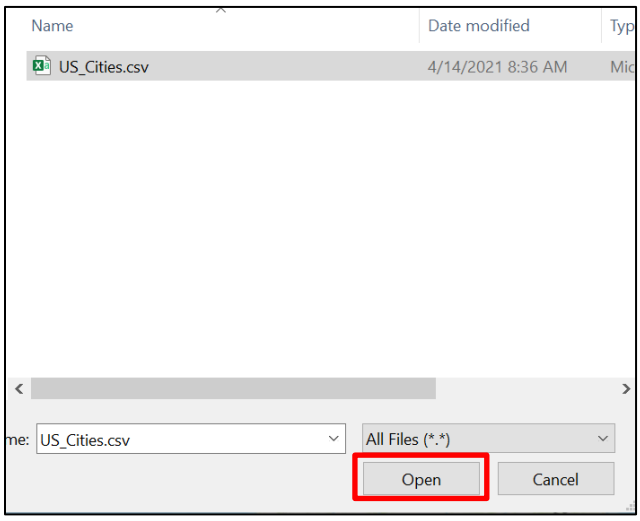


Figure 33: Open file in the file explorer to add to it the map.

Once displayed, the user can select **Layers** to view or remove added data (Figure 34).

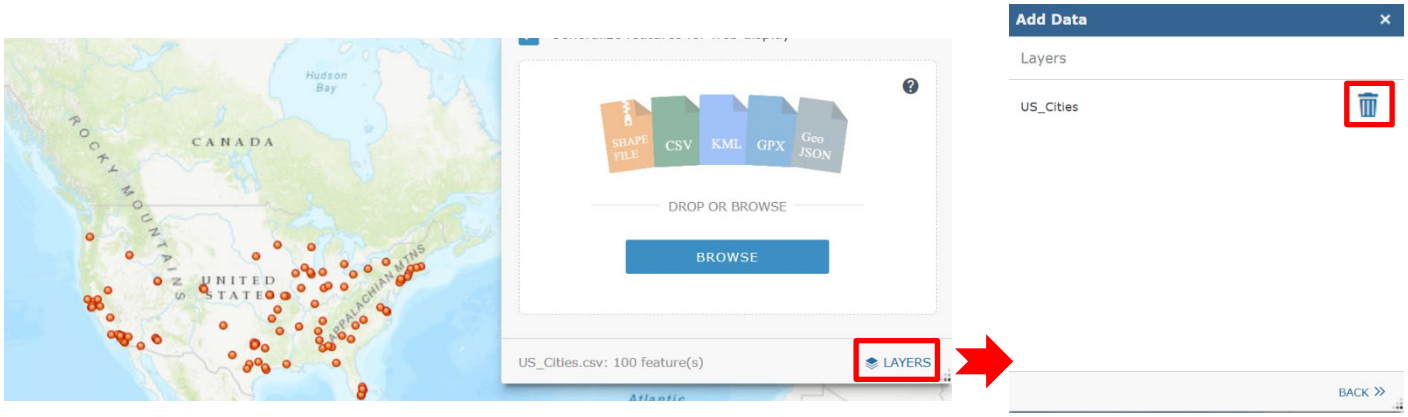


Figure 34: Locational data added will appear on the map as a layer and can be viewed and removed in the layers pane.

4.4 PRINT

The **Print** tool (Figure 2, Element Q) offers the option to print the current map display. Only the data layers visible on the map will display in the printed file.

1. Click the **Print** tool icon in the upper right corner of the map display.

   ✓ The **Print** tool display will appear (Figure 35).

Figure 35: The Print tool display.

2. Select the applicable print layout option from the **Layout** dropdown menu (Figure 36).

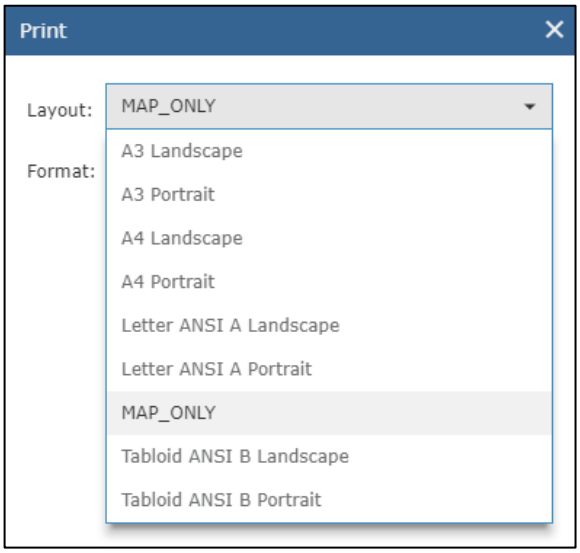


Figure 36: The Print tool option Layout dropdown menu.

3. Select the applicable file type from the **Format** dropdown menu (Figure 37).

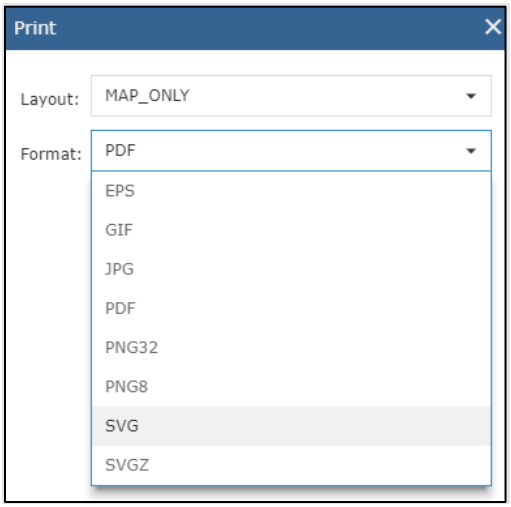


Figure 37: The Print tool Format dropdown menu.

4. Click **Advanced** from the **Print** tool display (Figure 35) to customize the map size and quality and to choose between printing the map scale or extent (Figure 38).

Note: Map scale/extent section defines the area to print. Try both options and select which works best for your uses.

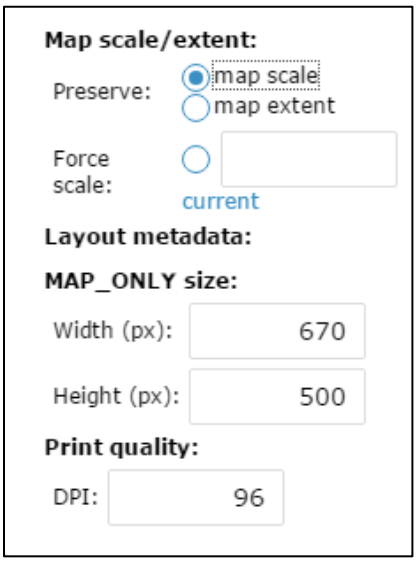


Figure 38: Print tool Advanced Customization options.

5. Click **Print** once desired settings are selected.

4.5 Attribute Table

The **Attribute Table** tool (Figure 2, Map Element T) lists information for features in the map layer in tabular format. Users may use this tool to filter and select (highlight) attributes to view in the map and in the attribute display. Attributes tables are available for **Layer List** layers and user-added external layer services that are query capable. A query capable layer will have the **View in Attribute Table** option available in the layer's description tab.

4.5.1 Open Layer Attribute Table

1. Click the **Attribute Table** tool icon in the bottom right corner of the DWMAPS map display (Figure 39).

✓ The attribute table will display below the map panel. Attribute table field names appear above the feature values (Figure 39).

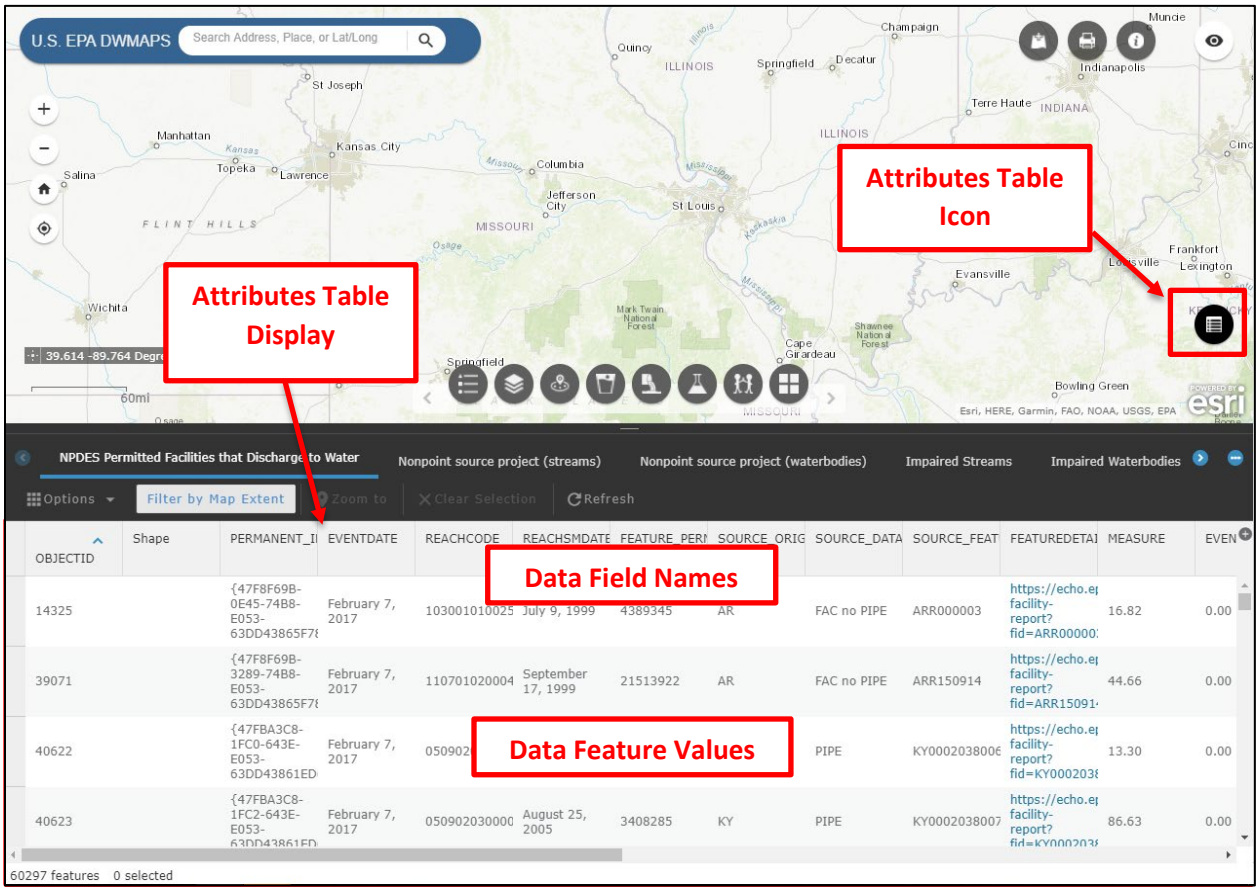


Figure 39: Map display with Attributes Table tool icon and open display. Field Names and Feature Values shown.

Or;

click the **View in Attribute Table** text link within the **Layer List** tool to view attribute data for a specific data layer (Figure 40). View detailed instructions on accessing attribute information through the **Layer List** tool in the **Layer List** in Section 4.1.4. of this document.

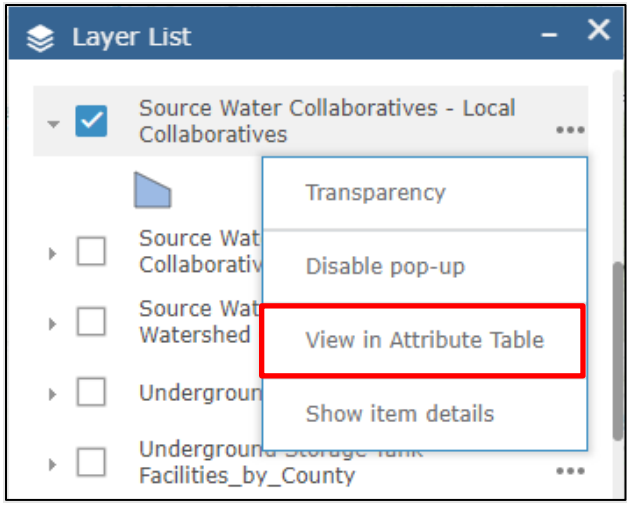


Figure 40: View in Attribute Table link in Layer List tool window.

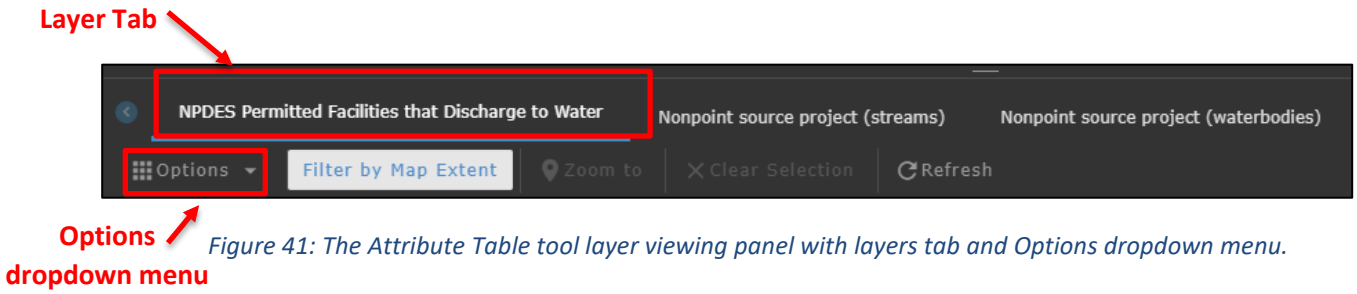


Figure 41: The Attribute Table tool layer viewing panel with layers tab and Options dropdown menu.

2. Within the **Attribute Table** tool, select a layer tab from the layer panel to view that layer's attribute table (Figure 41).
   - ✓ The selected data layer will be underlined in blue in the layer panel (Figure 42).

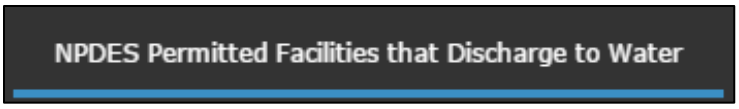


Figure 42: Selected layer panel.

3. Click the **Attribute Table** tool icon on the map display to close.

4.5.2 Filter & Select Attributes

Use this tool to filter and select which data within a layer to view on the map and in tabular format. Use this tool to download a table with selected attributes.

To show only data being displayed in the current map view in the attributes table:

1. Click **Filter by map extent** to view data only visible in the current map view (Figure 43).

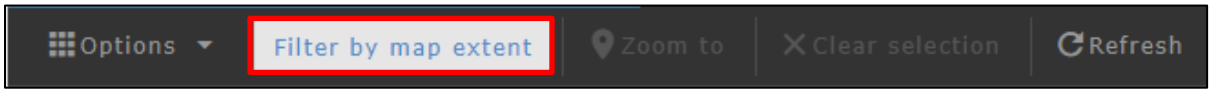


Figure 43: Attribute Table Filter by Map Extent button.

✓ The **Attribute Table** tool will show only data in the table that coincides with the data currently visible in the map display (Figure 44). To clear the selection, click the **Filter by map extent** button again.

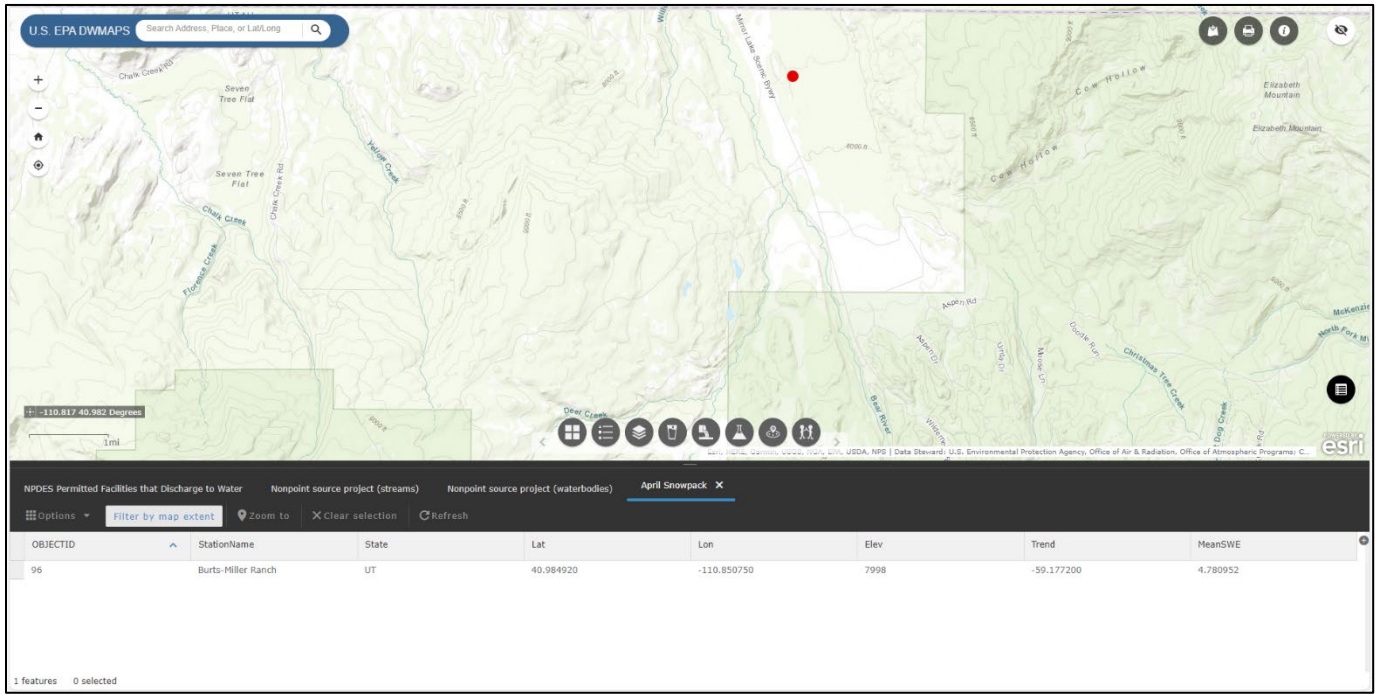


Figure 44: The records that show in the attribute table will match those displayed in the map. In this image, the record displayed in the attribute table coincides with the red point on the map.

To filter table records using a filter expression:

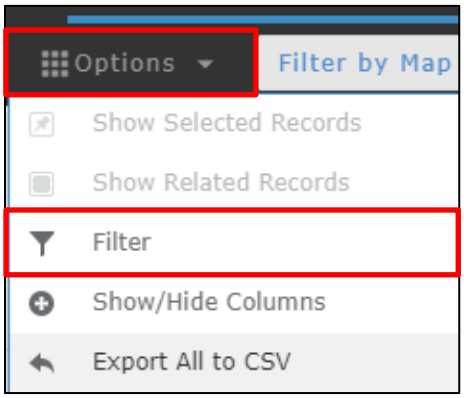


Figure 45: The Attribute Table tool Options dropdown menu and Filter button.

1. Click the **Options** dropdown menu button and the select **Filter** button to access the **Filter** expression window (Figure 45).
2. Click the "Add expression" button to set the filter expression. The left dropdown menu sets the attribute field to be searched; the middle box sets the function logic; and the right box sets the value, field, or unique value by which to filter. Click the gear icon to the right of the text box to select which input type to filter by (Figure 46). Click **OK at the bottom of the page** (Figure 46).

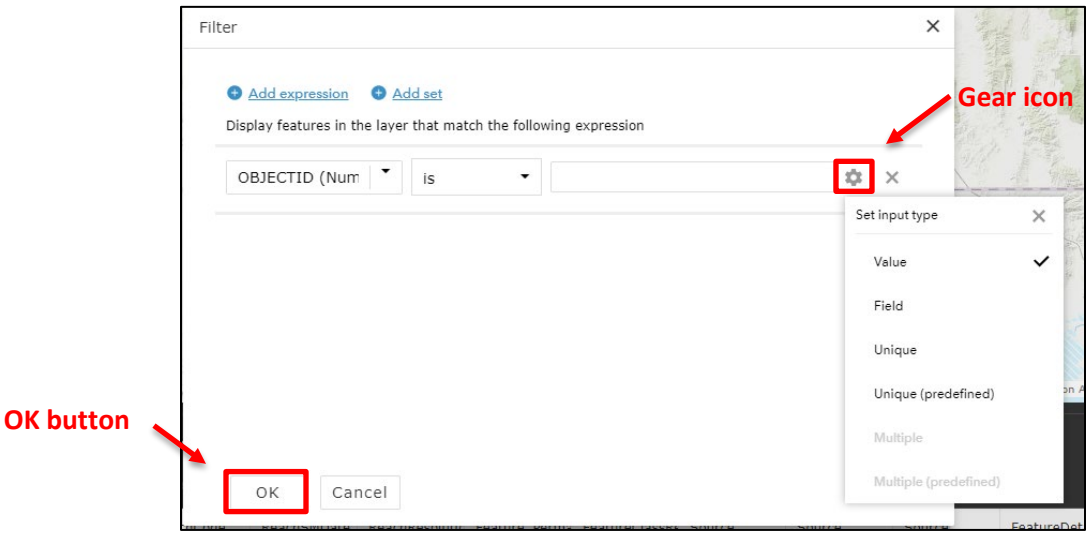


Figure 46: The Attribute Table tool Filter tool expression window and OK button.

To filter records by data field (column):

1. Click the **Options** dropdown menu button (Figure 47).

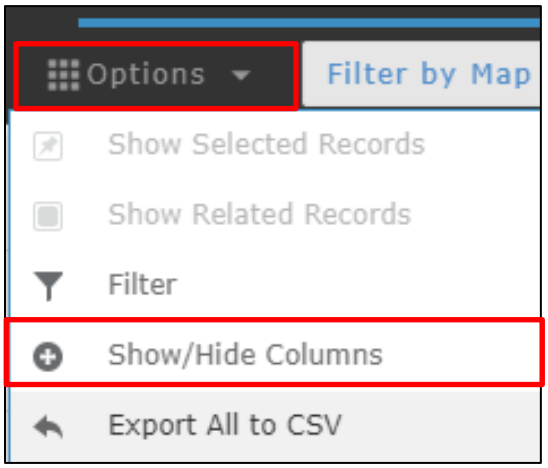


Figure 47: The Attributes Table tool Options dropdown menu and Show/Hide Columns button.

2. Click the **Show/Hide** columns button (Figure 47).
3. A popup will appear to the right of the attribute table. Select the data field(s) to display by checking or unchecking the boxes (Figure 48).

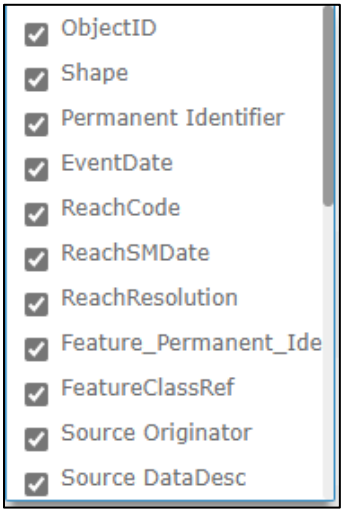


Figure 48: Attribute Table tool data fields selection menu.

✓ The attribute table will only show the selected data fields (columns) (Figure 49).

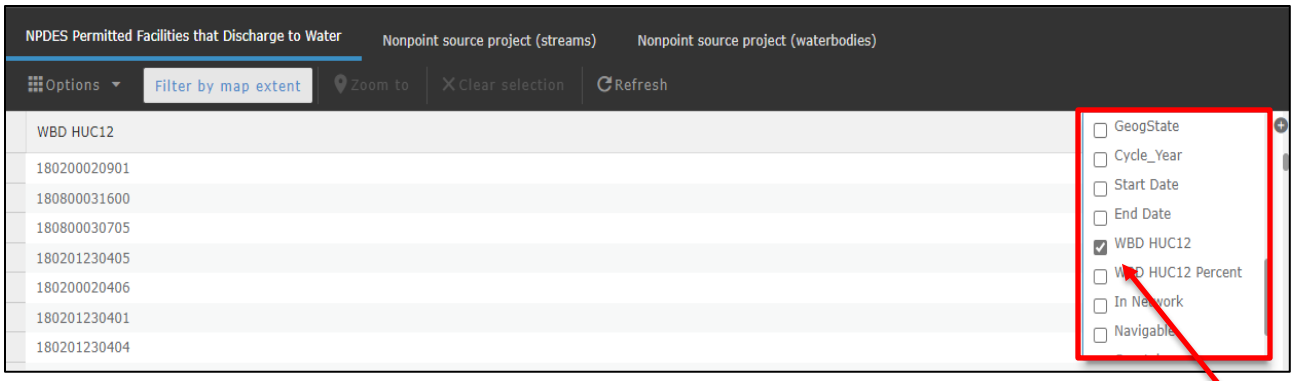


Figure 49: Attribute Table tool display with selected attributes.

To filter by record (row):

1. Click the left side of a record row.

   ✓ The record row will highlight (Figure 50).

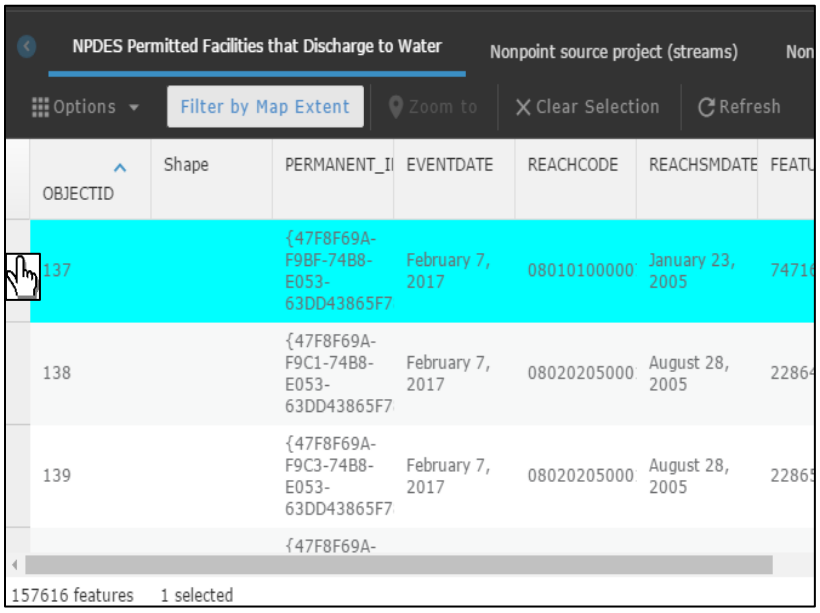


Figure 50: Highlighted record row in Attributes Table tool.

2. Click the **Options** dropdown menu (Figure 51).
3. Click the **Show Selected Records** button (Figure 51).

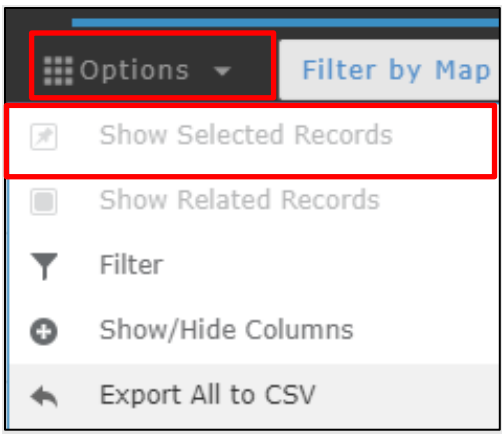


Figure 51: The Attributes Table tool options dropdown menu button and Show Selected Records button.

✓ The attribute table will only display the selected records (Figure 52).

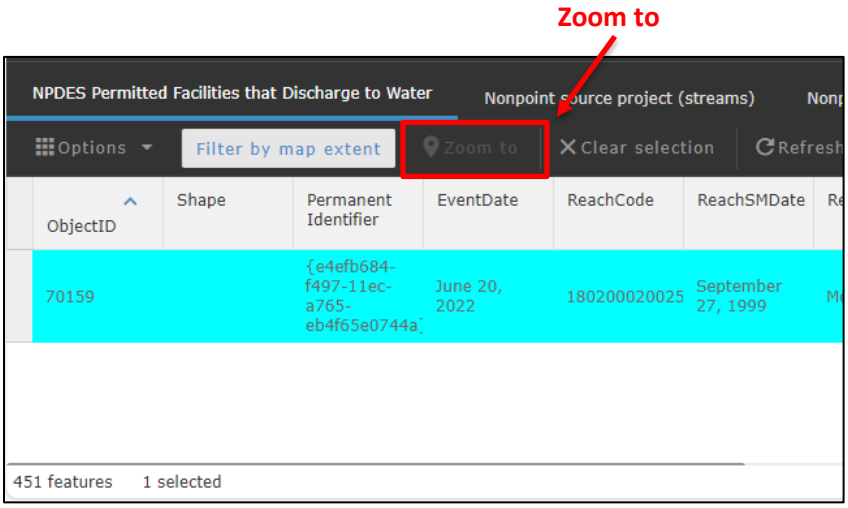


Figure 52: The Attributes Table tool display with only selected records and the Zoom to button.

4.5.3 Highlight an Attribute on the Map Display

Use this feature to highlight features on the main map display.

1. Click the left side of a record row.
   - ✓ The row will highlight (Figure 52).
2. Click **Zoom to (Figure 52).**
   - ✓ The map display will zoom to the selected record location, which is highlighted in blue (Figure 53).

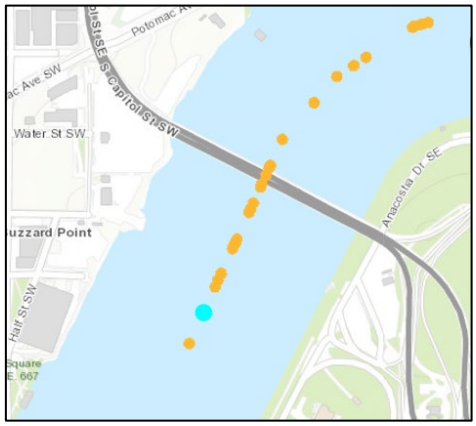


Figure 53: The blue highlighted point indicates the selected record.

4.5.4 Export Attribute Data

Use this feature to export attribute information in a Comma Separate Values (CSV) file.

1. Click Select the **Options** drop down menu button.
2. Click **Export All to CSV** to export all of the desired data layer's attributes in a CSV file format (Figure 54).

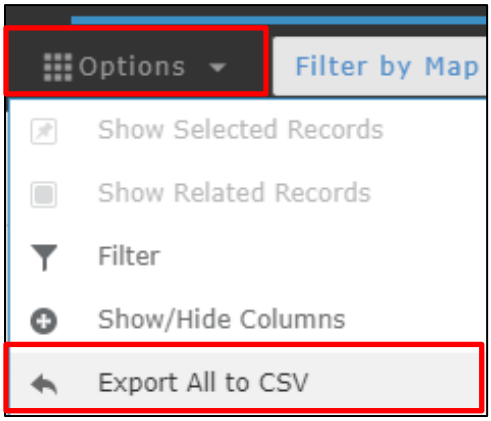


Figure 54: The Attributes Table tool options dropdown menu and Export All to CSV button.

Or; to export select attributes to a CSV file.

3. Select the desired record row(s) in the attribute display (Figure 55).

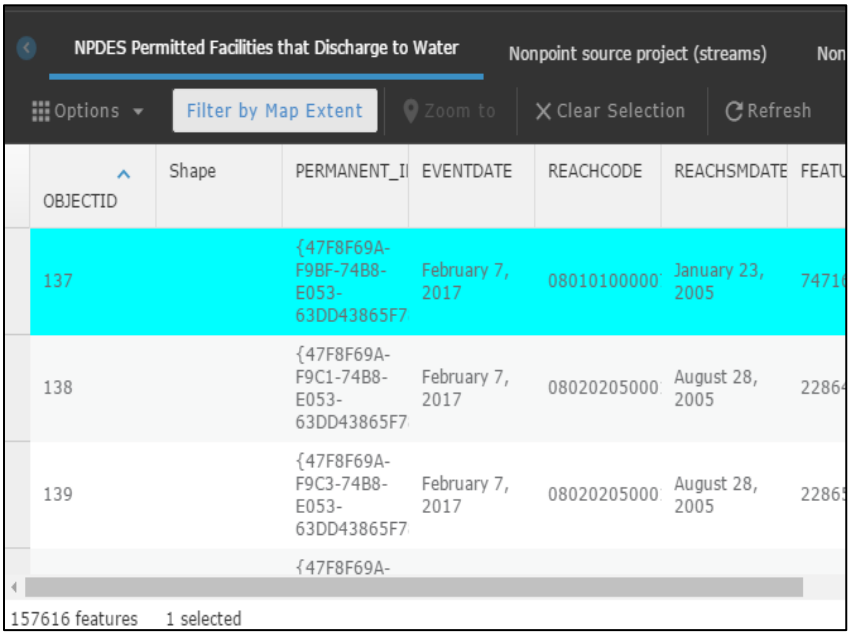


Figure 55: The Attributes Table tool display with records row selected.

Click the **Option** menu; click **Export Selected to CSV**.

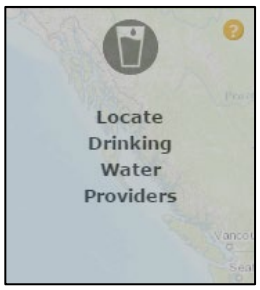
4. Click **OK** at the bottom of the page when the "Export data to CSV file?" window opens.

5 SEARCH TOOLS

The DWMAPS application contains several search tools that enable users to filter, select, and view information to help them locate drinking water providers, locate potential sources of contamination, located polluted waterways, and locate projects and source water collaboratives. Users can access search tools either on the **Welcome Screen** or on the **Search Toolbar** at the bottom of the Map Display.

5.1 Locate Drinking Water Providers

Use this search tool to view information about drinking water providers and to locate sources of drinking water.



The **Locate Drinking Water Providers** tool (Figure 2, Map Element K) provides information on Public Water System (PWS) service areas and sources of drinking water. Service area information is displayed at the county level, while drinking water source information is displayed by Hydrologic Unit Code (HUC 12) watershed. The tool provides links to information, including service population, source type, and violations, reported by the state, tribe, or territory, within the EPA's Safe Drinking Water Information System (SDWIS). ***DWMAPS does not display the actual locations of Public Water System intake facilities.***

1. Select the **Drinking Water Providers** tool from the Welcome Screen.

   Or; click the **Drinking Water Providers** tool icon from the toolbar at the bottom of the DWMAPS map display (Figure 56).

Figure 56: The Drinking Water Providers tool icon in tool bar in the DWMAPS map display.

   - ✓ The **Drinking Water Providers** search window will open in the map display.
   - ✓ The **Drinking Water Providers** tool search window will display (Figure 57).

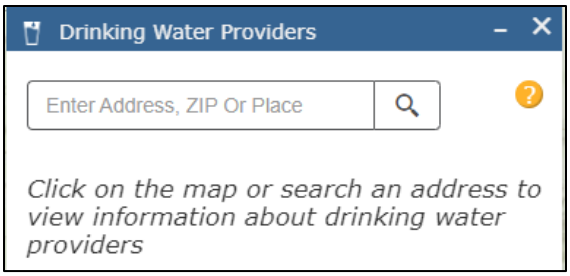


Figure 57: The Drinking Water Providers tool search window.

2. Type in an address, zip code, latitude/longitude coordinates, or place name in the search bar and press enter on your keyboard, click a suggestion from the pop-up box, or click the magnifying glass icon to search the location.

   Or;

   click a point on that map to search that area.

   ✓ The map will zoom to the location and generate results that match the area selected (Figure 58).

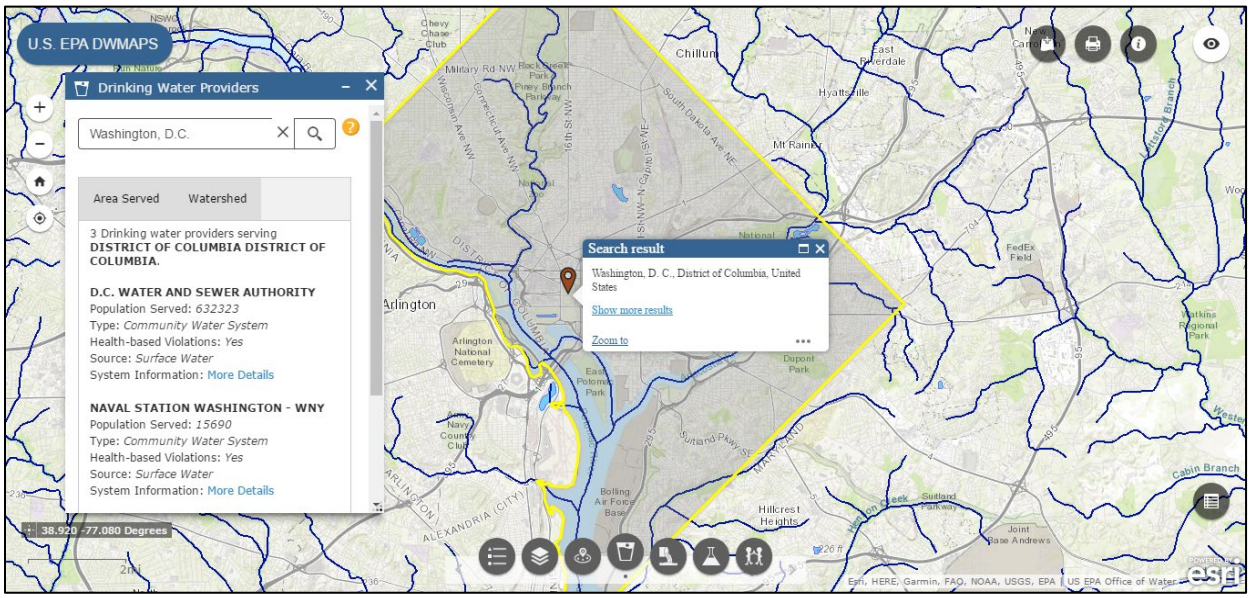


Figure 58: The Drinking Water Providers tool will initially highlight on the map the geographic area served (e.g., county) that encompasses the point clicked or place entered. The results window will show all systems that serve the designated area.

✓ The **Drinking Water Providers** tool results window will display (Figure 58). The results window will automatically display the **Area Served** results, as indicated by the **Area Served** tab.

5.1.1 Systems by Area Served

The **Area Served** tab lists all public drinking water providers serving the county encompassing the selected location or map point.

1. Upon searching a location, the **Area Served** results will automatically display in the **Drinking Water Providers** results window (Figure 59).
2. Click the **More Details** button to view more information about that drinking water provider.

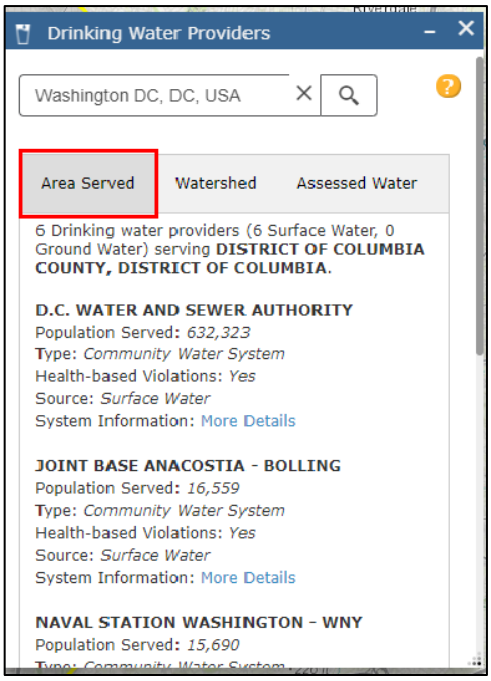


Figure 59: The Drinking Water Providers tool results window, Area Served tab results.

5.1.2 Systems by Source of Drinking Water

The Watershed tab lists all drinking water providers that have a drinking water source within the HUC12 watershed encompassing the selected location or map point (Figure 60).

1. Within the **Drinking Water Providers** results screen, click the **Watershed** tab to view drinking water providers with a source of water within that HUC12 watershed.
2. Click **More Details** to view more information about the drinking water provider (e.g., facilities, violations).
3. Click the **Export Table Data** at the bottom of the results window to export the drinking water providers list into an Excel file (Figure 61).

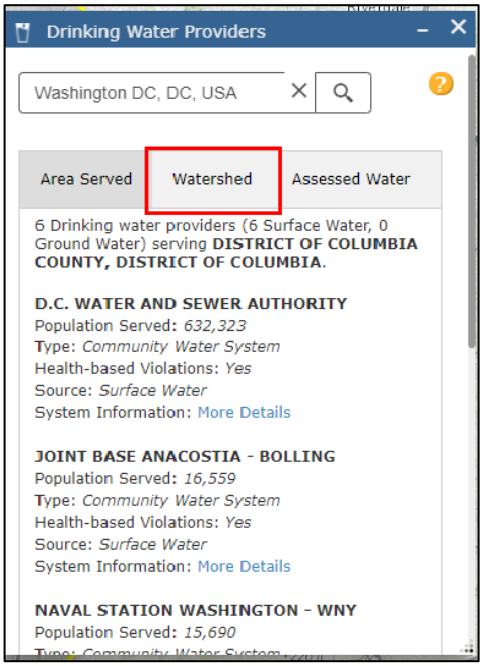


Figure 60: The Drinking Water Providers tool results window, Watershed tab results.

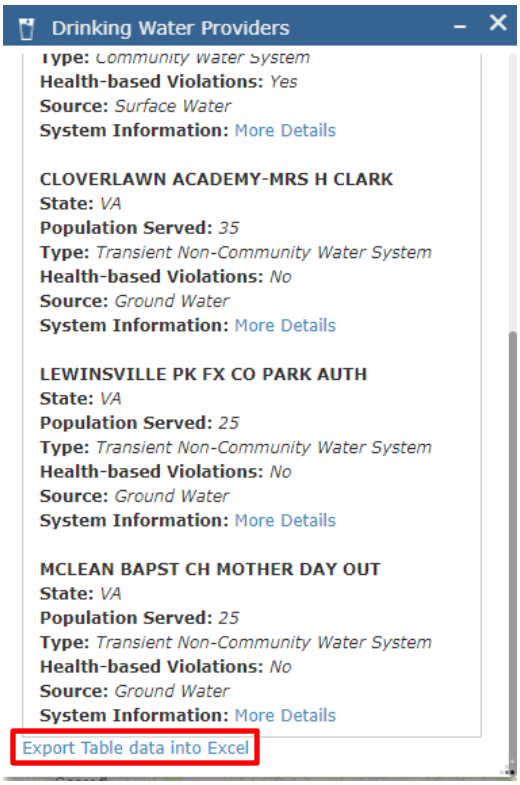


Figure 61: Drinking Water Providers tool Export Table Data text.

5.1.3 Waterways by Drinking Water Assessment Status

The **Assessed Waters** tab shows a map of the assessment status of the surface source water encompassing the selected location of map point. Public water systems also evaluate the source water quality and treat the source water that is used for public drinking water to be in compliance with the Safe Drinking Water Act (Figure 62).

1. Within the **Drinking Water Providers** results screen, click the **Assessed Water** tab to view assessed waters.
2. Click **View Waterbody Report** (Figure 62) to view more information about the assessment information of the waterbody from How's My Waterway.

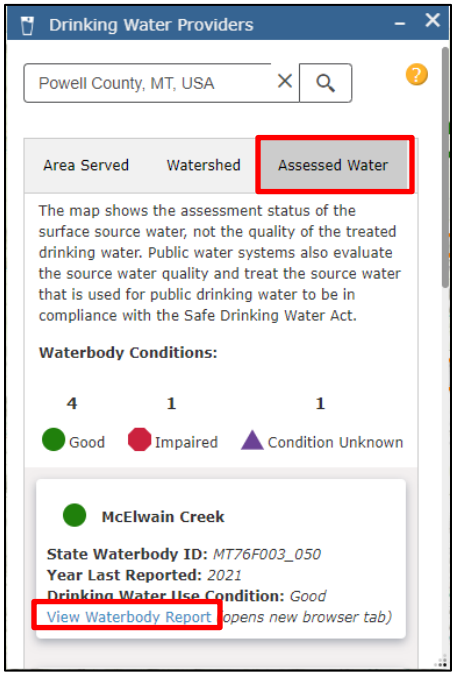
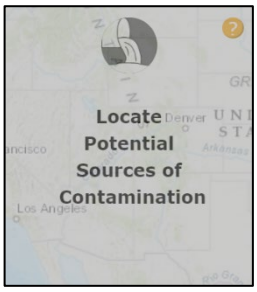


Figure 62: The Drinking Water Providers tool results window, Assessed water tab and View Waterbody Report.

Note: Click the **Area Served, Watershed, or Assessed Waters** tabs to move between the respective results. Enter a search term into the search bar or click and re-click the **Drinking Water Providers** tab to start a new search.

5.2 Potential Sources of Contamination

Use this search tool to locate potential sources of contamination in a defined area of interest.



The **Locate Potential Sources of Contamination** search tool (Figure 2, Map Element L) locates and highlights National Pollutant Discharge Elimination System (NPDES) permitted facilities located upstream from a user-designated point, within a range of 1-10 miles. Potential contaminant sources are indicated by a yellow icon on the map. Further details on each potential contaminant source identified, including enforcement and compliance history, are made available in a results window. This search tool intends to help users identify where they may be able to engage in the CWA to protect sources of drinking water. Refer to the Clean Water Act-Safe Drinking Water Act Coordination Toolkit for more information.

Select the **Potential Sources of Contamination** tool on the Welcome Screen**,**

Or;

click the **Potential Sources of Contamination** tool at the bottom of the DWMAPS map display (Figure 63).

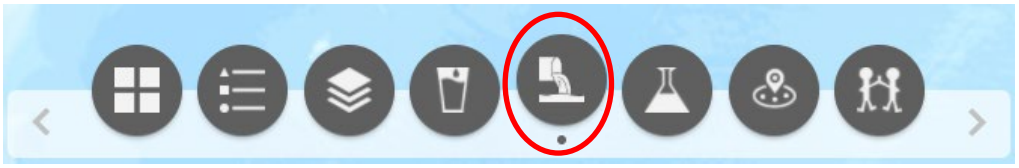


Figure 63: The Potential Sources of Contamination tool icon in toolbar in the DWMAPS map display.

✓ The **Potential Sources of Contamination** tool results window will display (Figure 64).

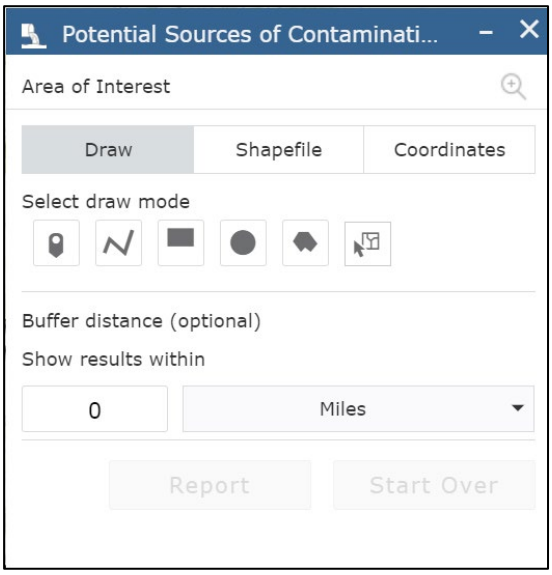


Figure 64: The Potential Sources of Contamination tool search window.

5.2.1 Defining Your Area of Interest

The Potential Sources of Contamination tool results window allows the user to specify an area of interest with 3 different options:

1. **Draw:** Manually place a point (a), draw a line (b), rectangle (c), circle (d), polygon (e), or use the select by rectangle tool (f) to select all points within a specified extent. Choose a buffer distance to restrict results to a specified distance (Figure 65).

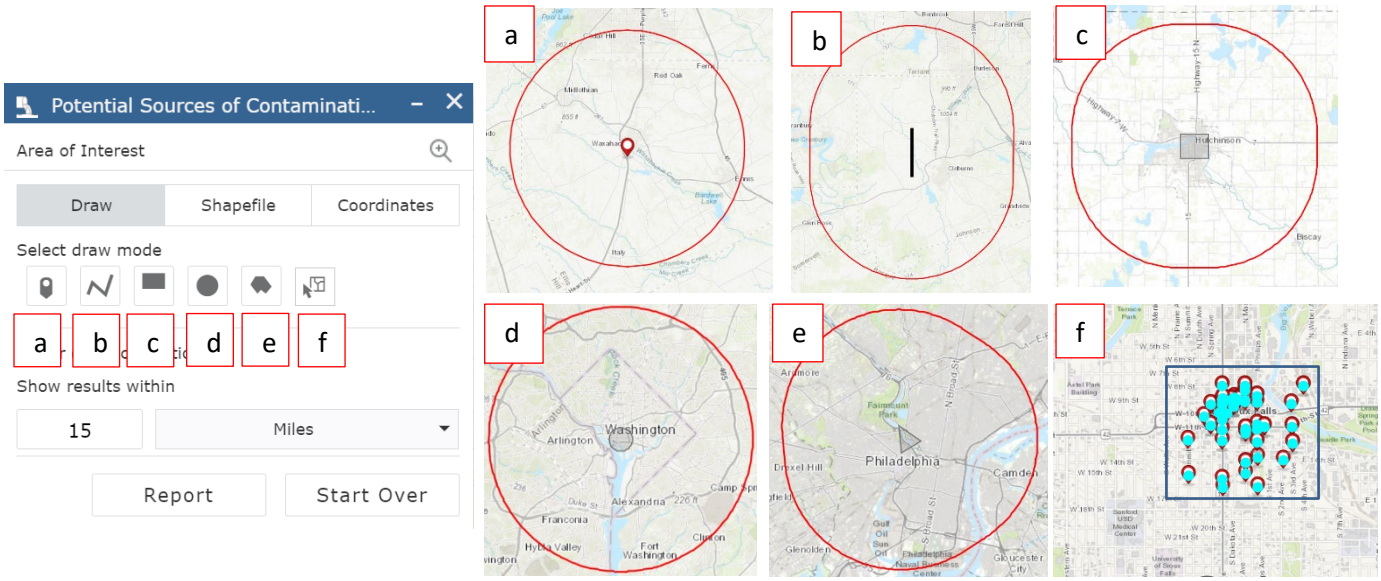


Figure 65: Potential Sources of Contamination tool Area of Interest draw modes.

2. **Shapefile:** Select an area of interest by uploading a shapefile. Enter a buffer distance to restrict results to a specified distance around identified location (Figure 66).

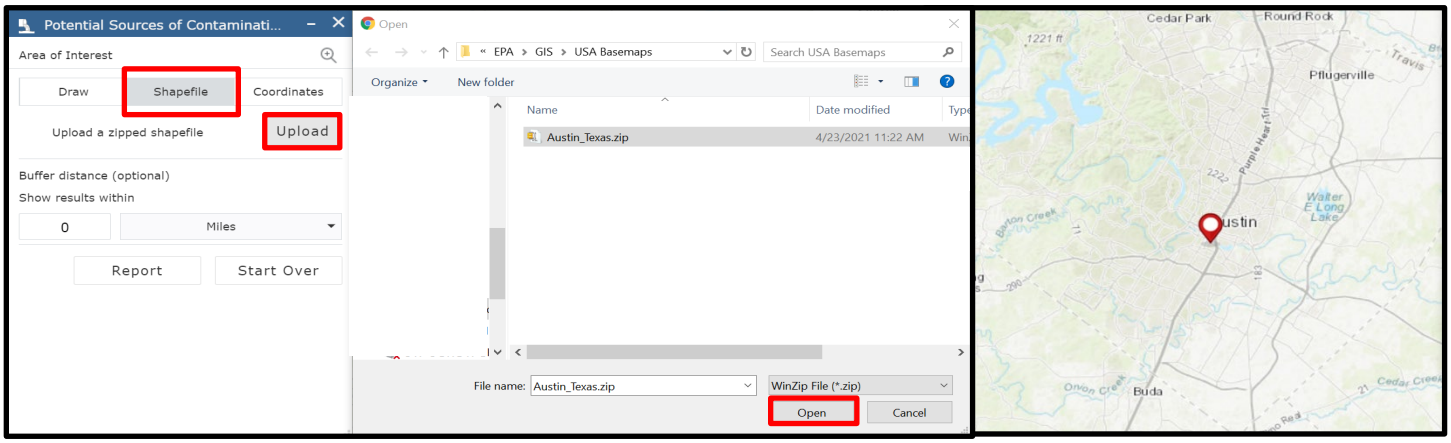


Figure 66: Potential Sources of Contamination tool shapefile upload.

3. **Coordinates:** Choose between 1. Define a starting point, 2. Latitude/Longitude, or 3. Bearing/Length, to locate and mark a location and enter a buffer distance around the chosen point (Figure 67).

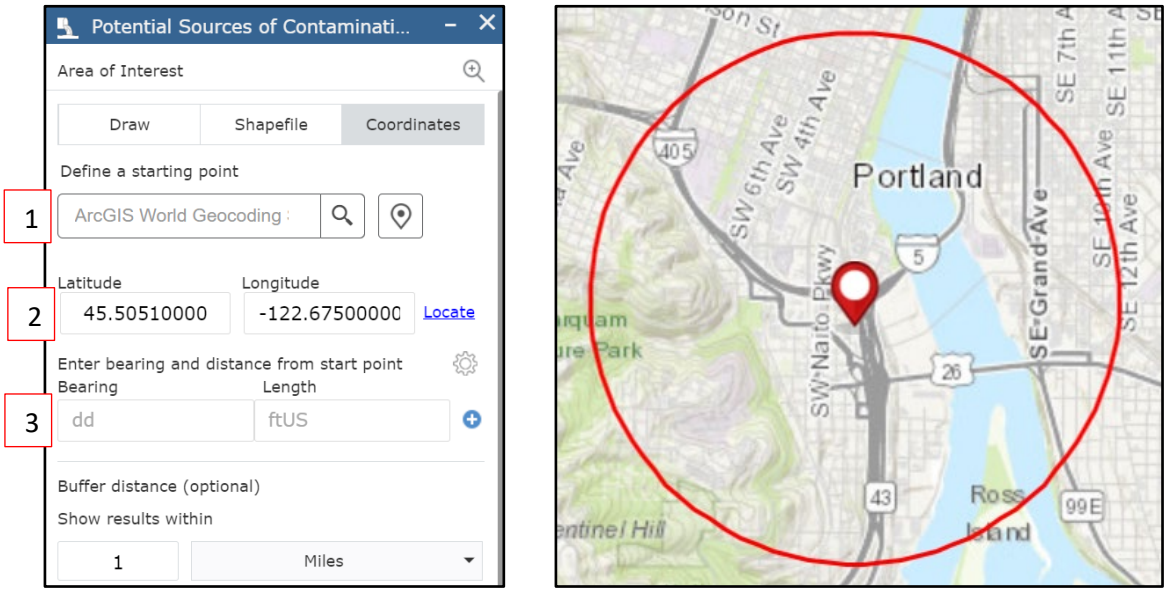


Figure 67: Potential Sources of Contamination tool enter coordinates.

5.2.2 Viewing and Reporting Potential Sources of Contamination

1. Once you have set your area of interest, click on the "report" button to view all the potential sources of contamination.
   - ✓ The **Potential Sources of Contamination** search results window will appear with a list of these facilities. The number in brackets for each search result category indicates the number of items meeting facility category (Figure 68).

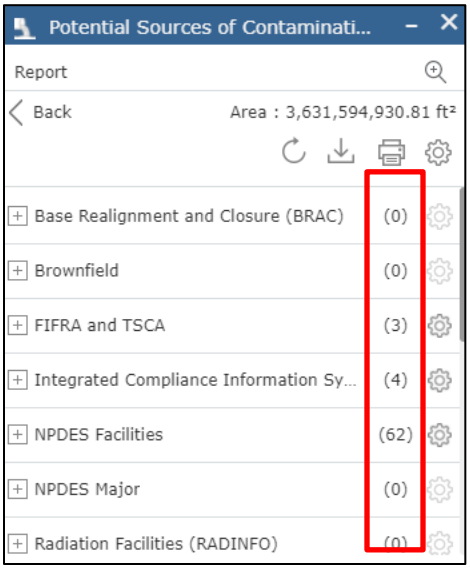


Figure 68: Potential Sources of Contamination tool report results list.

2. Display these facilities on the map by clicking the layer list button on the bottom of the screen (a.) and selecting the gray dropdown arrow to the left of "Potential Sources of Contamination" in the layer list (b.). Then select the "Potential Sources of Contamination" and "All Facilities" boxes and points representing potential sources of contamination will populate the map (c.) (Figure 69).
   Or; differentiate these points by clicking the drop-down arrow on potential sources of contamination in the layer list which will display several different facility types. Selecting each will give a unique symbol for every type of facility.
3. Select an individual point on the map to view details about that facility (d.) (Figure 69).
   Or; browse through the report list.
4. From the report list you can refresh the report, download the list as a csv file, or print the list (Figure 68).

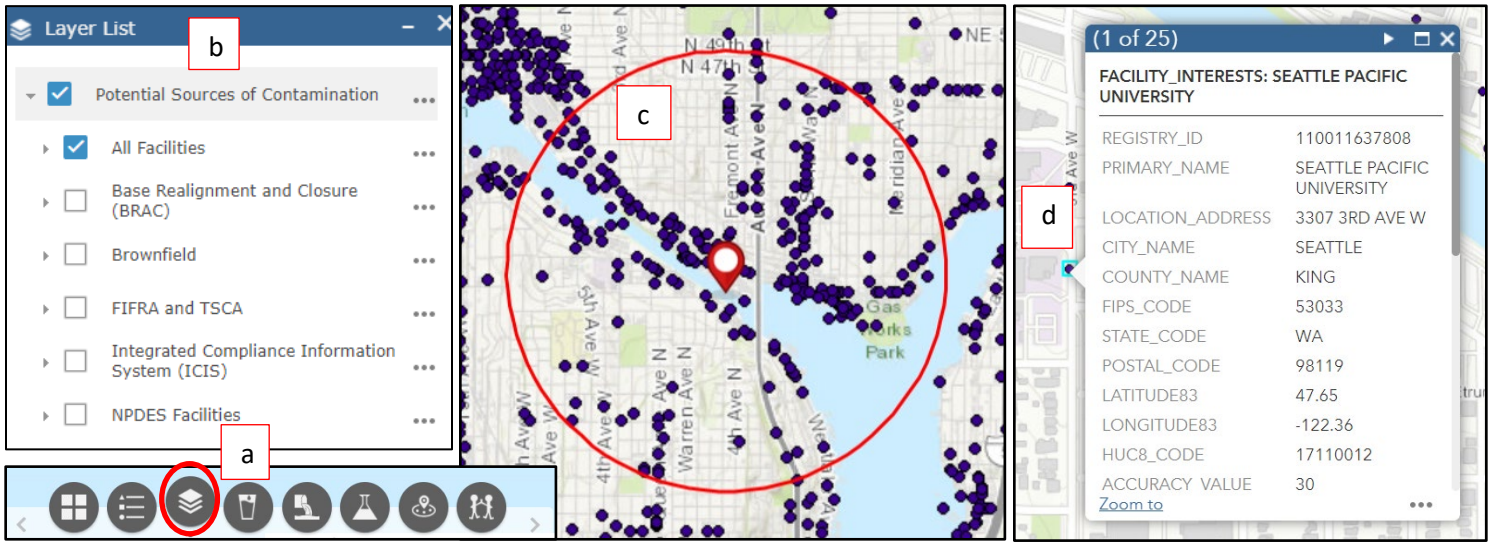
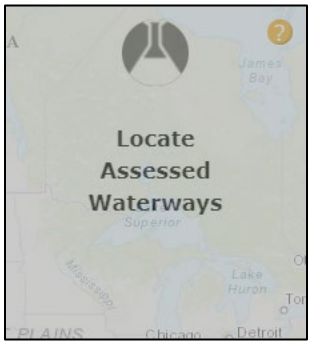


Figure 69: Potential Sources of Contamination tool.

5.3 Assessed Waterways



The CWA requires states to identify waterbodies—rivers, streams, and lakes—that are "impaired," or not meeting the water quality standards to support activities such as recreation, fishing, and public water supply. The **Assessed Waterways** search tool (Figure 2, Map Element M) allows users to search for CWA waterways that are on impaired waters list and/or have an active Total Maximum Daily Load (TMDL) and see

several designated waterbody uses. This search tool intends to help users identify where they may be able to engage in the CWA to protect sources of drinking water within a HUC12 watershed boundary. Refer to the Clean Water Act-Safe Drinking Water Act Coordination Toolkit for more information.

1. Click the **Locate Assessed Waterways** box on the Welcome Screen

   Or; select the icon from the search bar at the bottom of the DWMAPS map display (Figure 70).

Figure 70: The Assessed Waterways tool icon in tool bar in the DWMAPS map display.

   ✓ The **Assessed Waterways** window will appear (Figure 71).

2. Enter an address, zip code, latitude/longitude coordinates, or place name into the search bar to zoom to an area of interest.

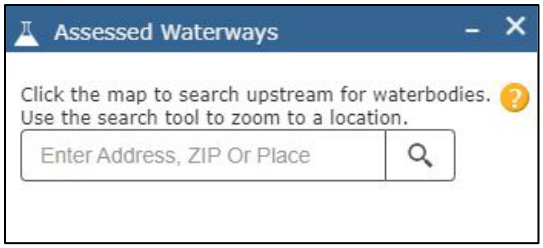


Figure 71: The Locate Assessed Waterways tool search window.

3. **Click a location on the map to perform a search.** Click on a waterbody for best results.

   ✓ The assessed waterway located within the HUC12 watershed boundary of a selected point will highlight in green, red, or purple on the map. A window will appear that displays a list of search results (Figure 72).

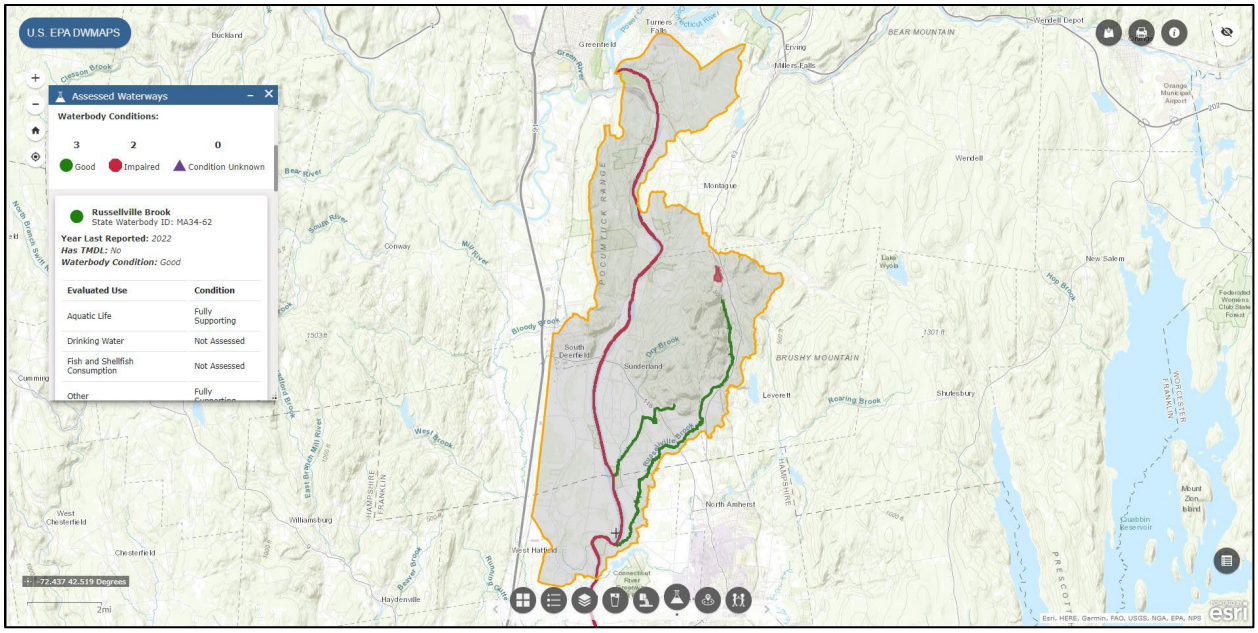


Figure 72: Assessed waterbodies that are within the HUC12 watershed boundary of a selected point will be highlighted on the map. The results window will display more information about these waterbodies.

4. Toggle the waterbody lines on and off at the top of the results window (Figure 73).
    - **ATTAINS Assessments Layer:** The Asssessment and Total Maximum Daily Load Tracking and Implementation System layer containing information about the conditions of the Nation's surface waters.
5. View information about that waterbody's assessment status for various evaluated uses in the results window (Figure 74).

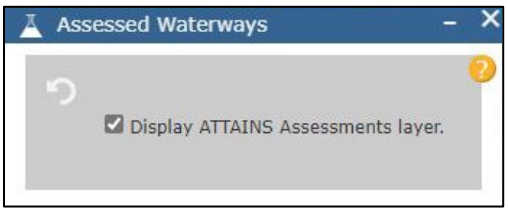


Figure 73: The Assessed Waterways tool ATTAINS layer toggle.

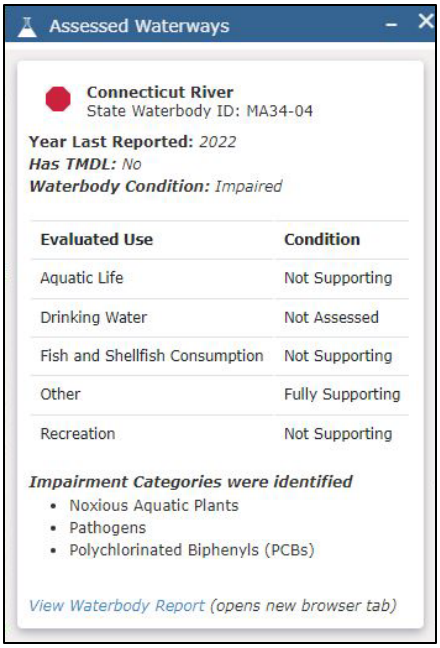


Figure 74: The Assessed Waterways results window which shows assessment status for evaluated waterbody uses and identified Impairment Categories.

6. For more information on an impairment or **TMDL**, scroll through the results window or click "View Waterbody Report." A new window will open with a How's My Waterway Waterbody Quality Assessment Report.

5.4 Nearby Discharges

The **Nearby Discharges** tool (Figure 2, Map Element N) locates NPDES-permitted discharge points. The **Nearby Discharges** provides results that fall **within a specified radius** (1 to 30 miles) of an address, place, or specified location by clicking on the map. The tool is not located on the Welcome Screen but can be found at the bottom of the DWMAPS map display.

1. Select the **Nearby Discharges** tool from the tool bar at the bottom of the map display (Figure 75).

Figure 75: The Nearby Discharges tool icon in tool bar in the DWMAPS map display.

✓ The **Nearby Dischargers** search window will appear (Figure 76).

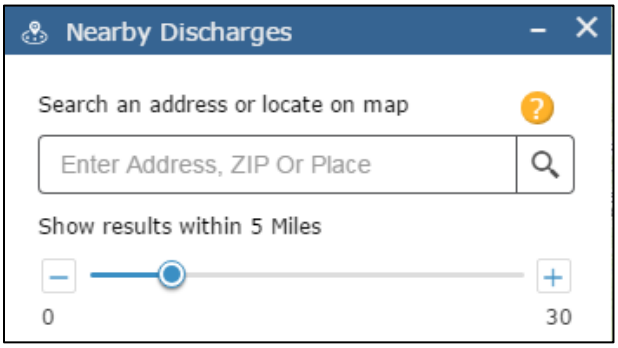


Figure 76: The Nearby Discharges search window.

2. In the tool search window, adjust the slide bar to the desired search radius before specifying your search location (Figure 77).

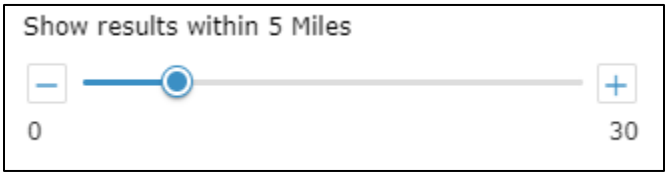


Figure 77: The Nearby Discharges tool search distance slider bar.

3. Enter an address, zip code, latitude/longitude coordinates, or place name in the search tool bar (Figure 78). Press enter or click on the magnifying glass icon to search,

   Or;

   click on the map to search a different location.

   ✓ A green circle on the map indicates the selected search radius (Figure 79).

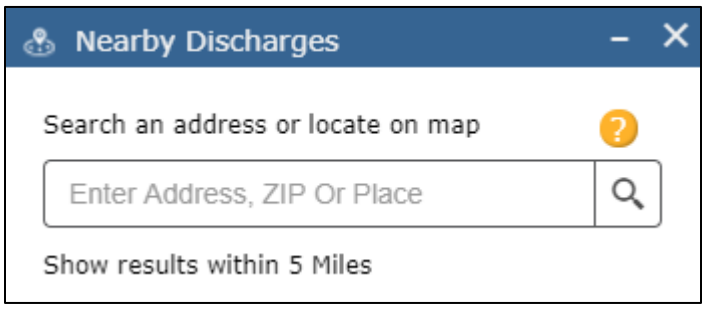


Figure 78: The Nearby Dischargers tool search bar.

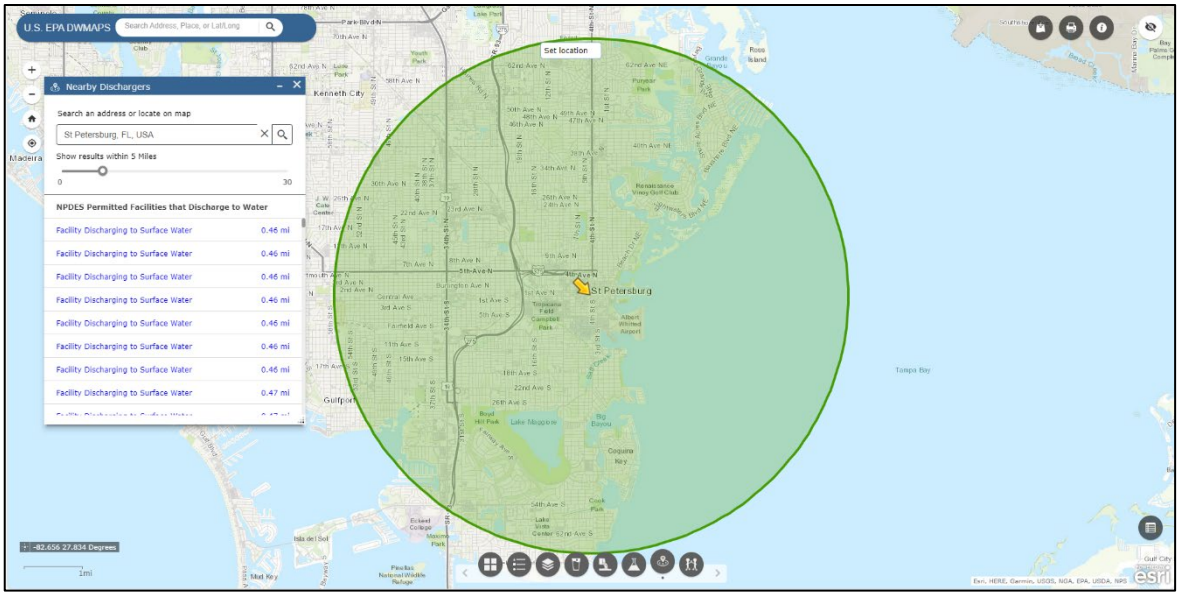


Figure 79: A green circle will indicate the search radius from the point selected.

- ✓ A window will also appear that displays search results for NPDES-Permitted Facilities that Discharge to Surface Water that are located within the search radius (Figure 80).

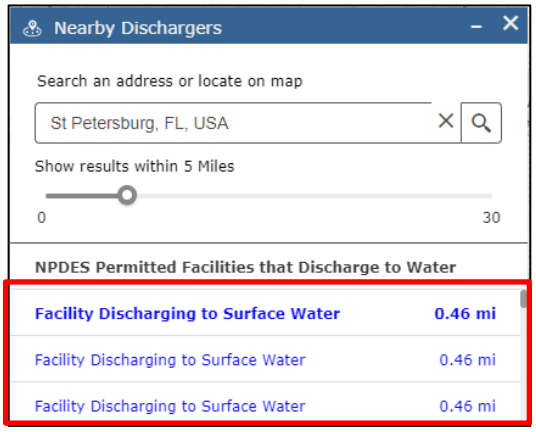


Figure 80: Nearby Dischargers tool search results window.

4. Adjust the search radius using the slide bar in the results window. The green search radius on the map and results list will update as you adjust the slide bar.

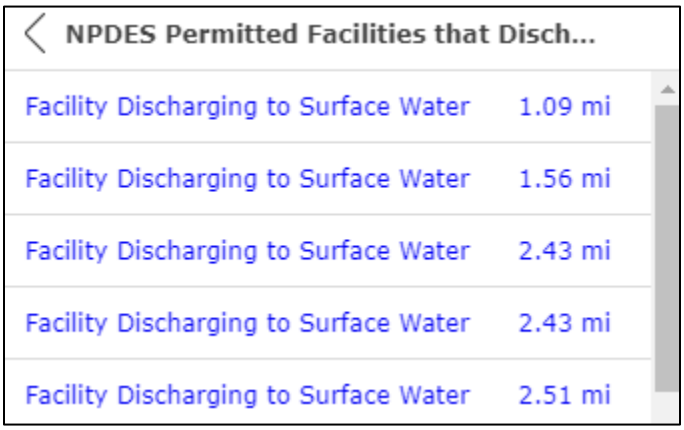


Figure 81: Nearby Dischargers tool results window facilities list.

5. Click on an individual facility link for more details (Figure 81).
   - ✓ Additional information will appear in the window with a link to further information (Figure 82).

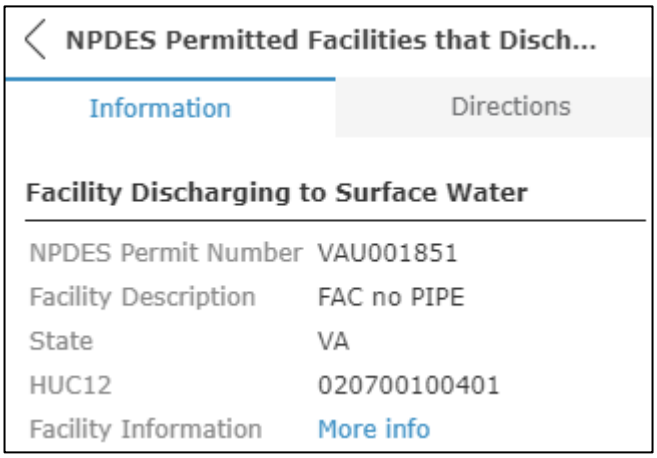


Figure 82: Nearby Discharges tool individual facility details information.

5.5 Projects and Source Water Collaboratives

Use this search tool to locate watershed projects and source water collaboratives working in a specified area.

The **Locate Projects and Source Water Collaboratives** tool (Figure 2, Map Element O) identifies and displays the location of ongoing and completed Nonpoint Source Management Program grants funded by Section 319 of the CWA and the location of source water collaboratives. The tool identifies projects upstream of a user-defined location. This tool is intended to inform users about source water protection activities and programs in their area so that they may get involved. For more information on source water collaboratives and tools for source water protection visit the national Source Water Collaborative website.

Figure 83: The Locate Projects and Source Water Collaboratives tool icon in tool bar in the DWMAPS map display.

1. Click the **Locate Projects and Source Water Collaboratives** box on the Welcome Screen,

   Or;

   click the icon in the toolbar at the bottom of the DWMAPS map display (Figure 83).

- ✓ The **Locate Projects and Source Water Collaboratives** search window will appear and the location of restoration projects will display as purple lines and areas in the map (Figure 84).

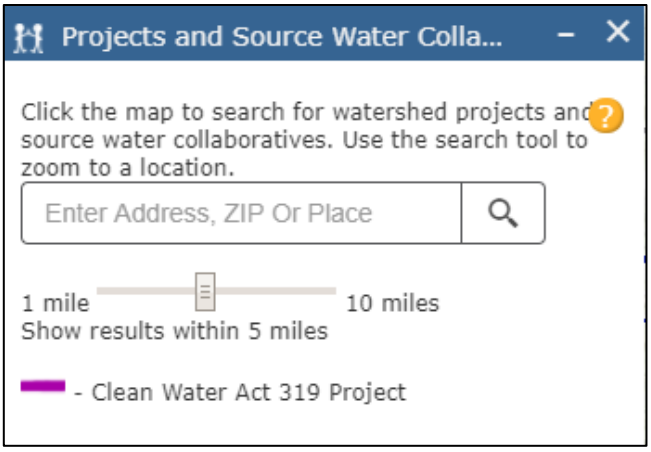


Figure 84: The Locate Projects and Source Water Collaboratives tool search window.

2. Type in an address, zip code, latitude/longitude coordinates, or place name into the search toolbar to zoom to an area of interest.
3. Adjust the slide bar for desired search distance upstream.
4. **Click on the map** to perform the search.
   - ✓ Completed and ongoing Section 319-funded projects will highlight in orange on the map (Figure 85).

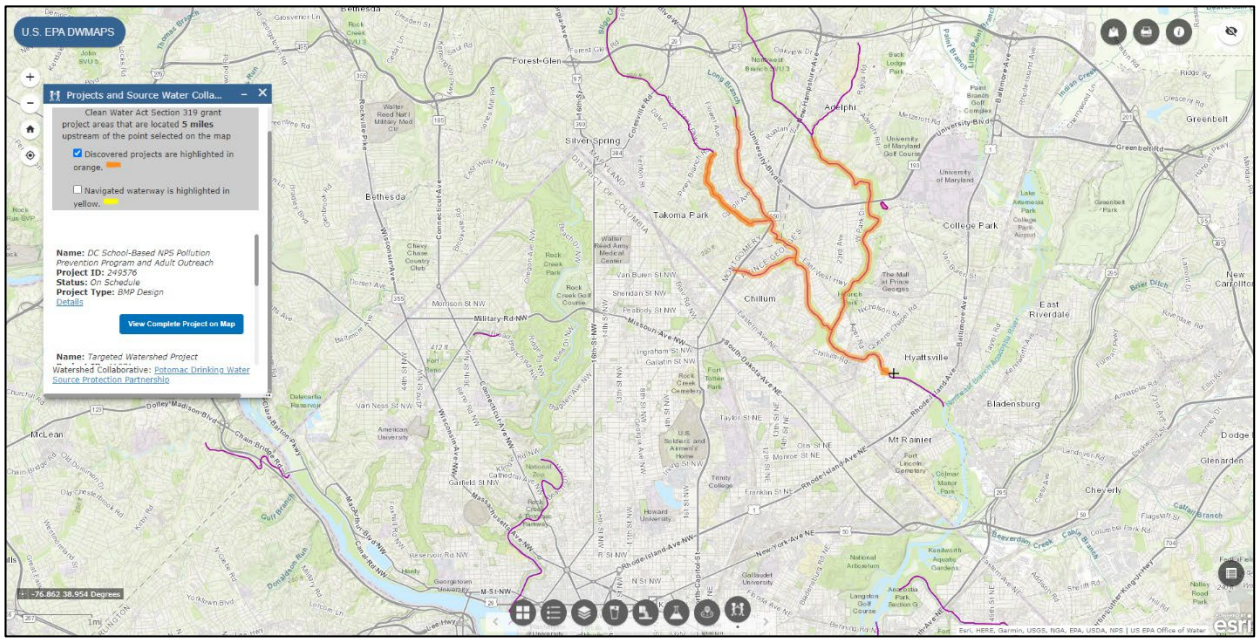


Figure 85: The waterbody area(s) with completed or active restoration projects will highlight orange on the map. The results window will display more information about these projects.

✓ A window will appear that displays a list of search results, including the source water collaboratives located within the search area (found at the bottom of the search results window) (Figure 86).

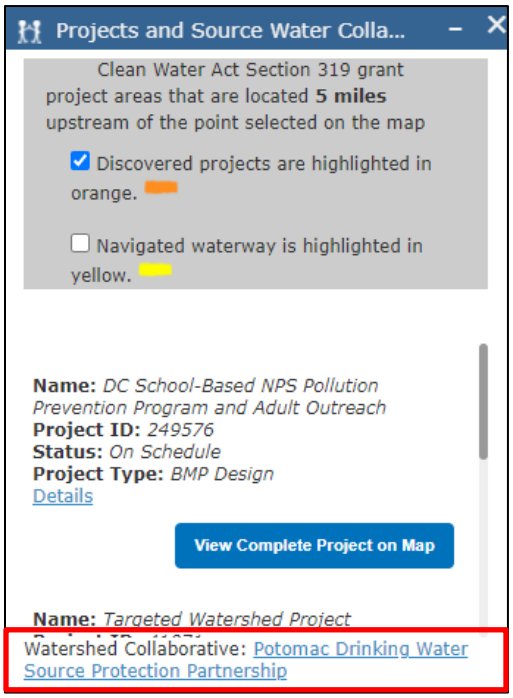


Figure 86: Source water collaboratives located in the area selected will appear in the Projects and Source Water Collaboratives tool results window.

5. Click the **Details** link (Figure 87) for additional information about that Section 319-funded project. A new browser window will open with Grants Reporting and Tracking System (GRTS) information, including the project title, project manager, contact information, project budget, and a project summary.

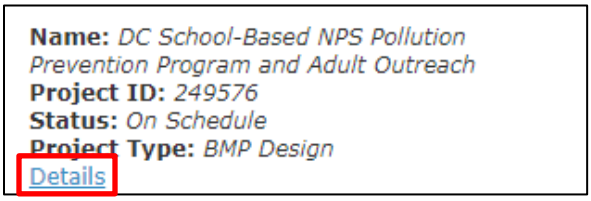


Figure 87: The Details link in the Projects and Source Water Collaboratives tool search results window.

Note: If a source water collaborative is present in the user defined area, it will appear at the bottom of the search window with a link to more information on the collaborative (Figure 86). If a source water collaborative is not present in the user defined area, the search window will not display information about source water collaboratives.

6 HELP AND CONTACT US

For additional information, comments on usability, or help navigating DWMAPS, please contact us at *dwmaps@epa.gov*.