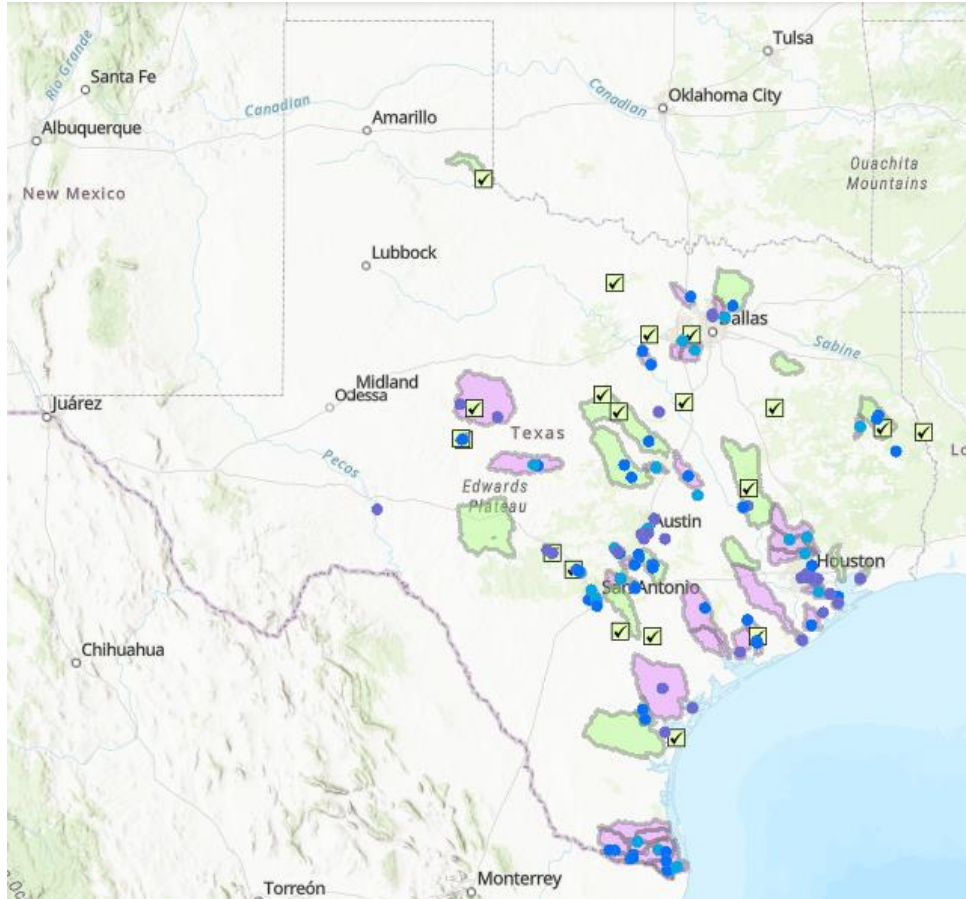


Nonpoint Source Project Viewer

User Guide



Texas Commission on Environmental Quality



Water Quality Planning Division

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Application Overview

The *Texas Nonpoint Source Management Program* outlines Texas' comprehensive strategy to protect and restore waters impacted by nonpoint source (NPS) pollution. The United States Environmental Protection Agency (EPA) provides grant funding to Texas to implement the components and goals set forth in the *Texas Nonpoint Source Management Program*. The responsibility for implementing this program is shared between the Texas Commission on Environmental Quality (TCEQ) and the Texas State Soil and Water Conservation Board (TSSWCB). For more information visit <https://www.tceq.texas.gov/waterquality/nonpoint-source> or <https://www.tsswcb.texas.gov/programs/texas-nonpoint-source-management-program>.

This interactive map includes TCEQ projects, watershed protection plans (WPPs), and success stories which have been funded in part by Clean Water Act (CWA) Section 319(h) funds from the EPA. Local project partners also provided funding for these projects. The map is not intended to be a comprehensive list of all the watershed planning efforts currently underway in Texas because there may be other local planning efforts not funded by CWA Section 319(h) funds.

The WPP layer includes watershed boundaries and information for completed and developing nine-element WPPs. The nine-elements are described in EPA's "*Handbook for Developing Watershed Protection Plans to Restore and Protect Our Waters*". WPPs are accepted as meeting the nine-elements by the EPA, the TCEQ, and the TSSWCB. This layer includes only nine-element plans and is not a comprehensive list of all watershed-based planning efforts in Texas. The WPP boundaries were combined into one layer from various local, state, or national sources. Each source used its own boundary delineation method.

The Project layer includes general locations and information for projects administered through the TCEQ. Projects administered by the TSSWCB are not included. Locations are not meant to be exact since projects can cover large areas.

The TCEQ and the TSSWCB work together to identify water quality improvements where the implementation of NPS best management practices (BMPs) is a contributing factor. The Success Story layer includes general locations for success stories written for water quality impairments that have been restored according to the Texas Integrated Report of Surface Water Quality for CWA Sections 305(b) and 303(d) (Integrated Report). It is not a comprehensive list of all water quality impairments that have been restored according to the Integrated Report, and locations are not meant to be exact since success stories can cover large areas. More information on Success Stories can be found on EPA's webpage here: <https://www.epa.gov/nps/success-stories-about-restoring-water-bodies-impaired-nonpoint-source-pollution>.

This map was generated and is maintained by the NPS Program of the TCEQ. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the NPS Program at nps@tceq.texas.gov or (512) 239-5607.

Acronym List

AU - Assessment Unit
BMP - Best Management Practice
CMP - Coastal Management Program
CRP - Clean Rivers Program
CWA - Clean Water Act
CZARA - Coastal Zone Act Reauthorization Amendments
EPA - Environmental Protection Agency
GLO - General Land Office
LID - Low Impact Development
MS4 - Municipal Separate Storm Sewer System
NPS - Nonpoint Source
OSSF - On-Site Sewage Facility
SWQM - Surface Water Quality Monitoring
SWQMIS - Surface Water Quality Monitoring Information System
TMDL - Total Maximum Daily Load
TSSWCB - Texas State Soil and Water Conservation Board
TWDB - Texas Water Development Board
WPP - Watershed Protection Plan
WWTF - Wastewater Treatment Facility

GIS Terms

Source -

http://webhelp.esri.com/arcgisserver/9.3/java/geodatabases/definition_frame.htm#attribute_table

Attribute - Nonspatial information about a geographic feature in a GIS, usually stored in a table and linked to the feature by a unique identifier. For example, attributes of a river might include its name, length, and sediment load at a gauging station.

Attribute Table - A database or tabular file containing information about a set of geographic features, usually arranged so that each row represents a feature and each column represents one feature attribute. In a GIS, attribute tables are often joined or related to spatial data layers, and the attribute values they contain can be used to find, query, and symbolize features.

Feature - A representation of a real-world object on a map.

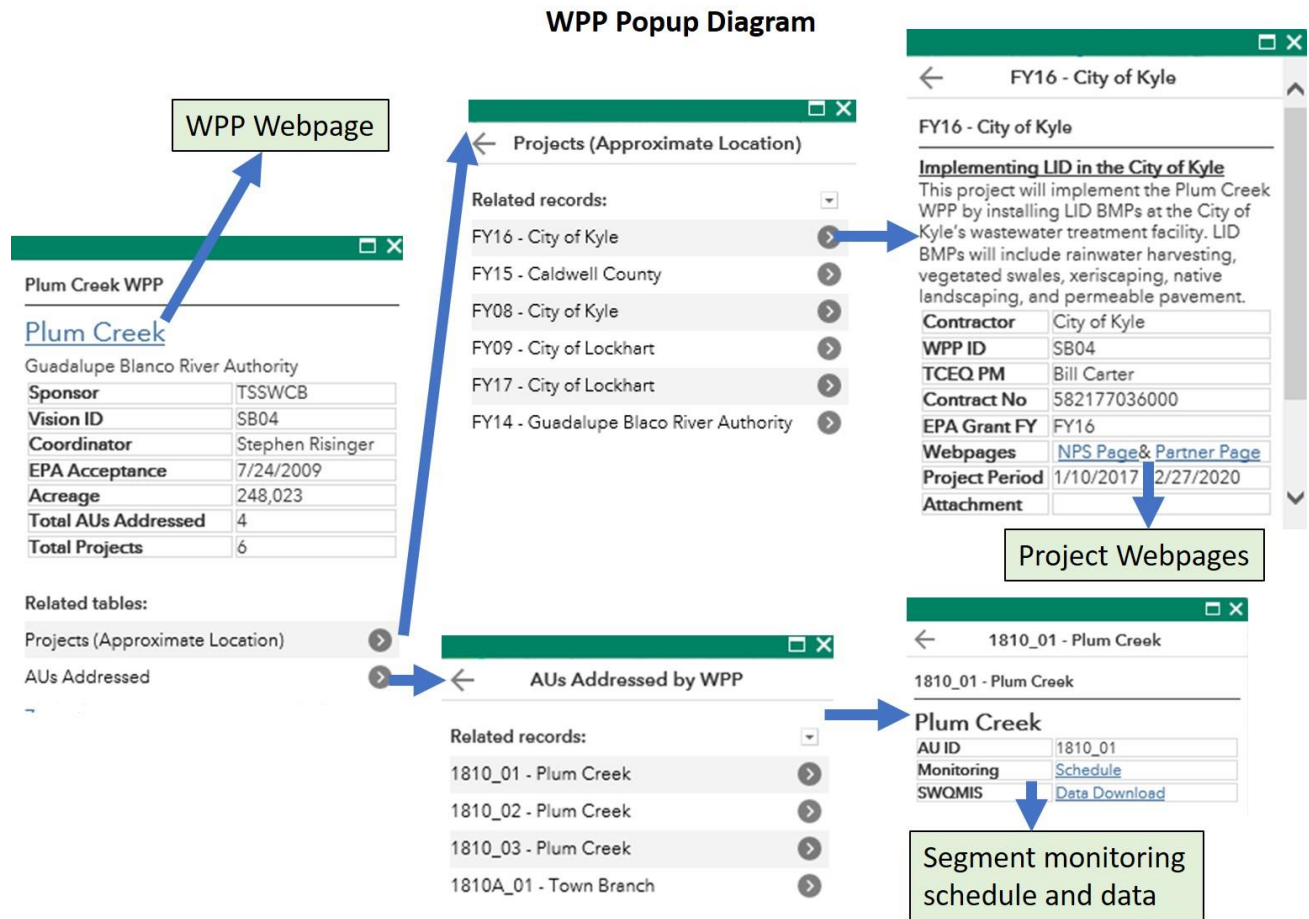
Layer - The visual representation of a geographic dataset in any digital map environment. Conceptually, a layer is a slice or stratum of the geographic reality in a particular area, and is more or less equivalent to a legend item on a paper map. On a road map, for example, roads, national parks, political boundaries, and rivers might be considered different layers.

Query - A request to select features or records from a database. A query is often written as a statement or logical expression.

Spatial Query - A statement or logical expression that selects geographic features based on location or spatial relationship. For example, a spatial query might find which points are contained within a polygon or set of polygons, find features within a specified distance of a feature, or find features that are adjacent to each other.

Popups

When a project, WPP, or success story is clicked, a popup will appear with information. Information in the geodatabase is linked to allow for the viewing of all associated information. For example, below is a diagram of how information and webpages associated with a WPP can be accessed through a WPP popup.

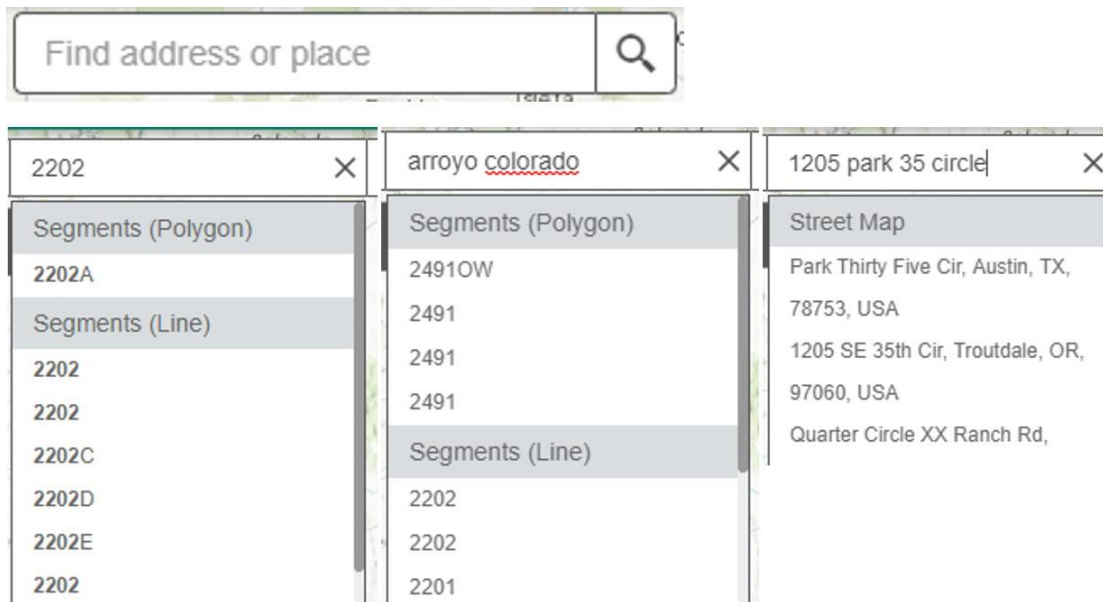


Searching and Filtering Tools

Search Bar



Search Bar - Type in an address, place, stream segment name, or segment number into the search bar. As you type, you will be presented with potential matches. If you see your desired match appear, click on it and the map will zoom to that location. You can also finish typing in the search criteria and press Enter on the keyboard or click the magnifying glass. Clicking the X on the bar will clear out the search bar.





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

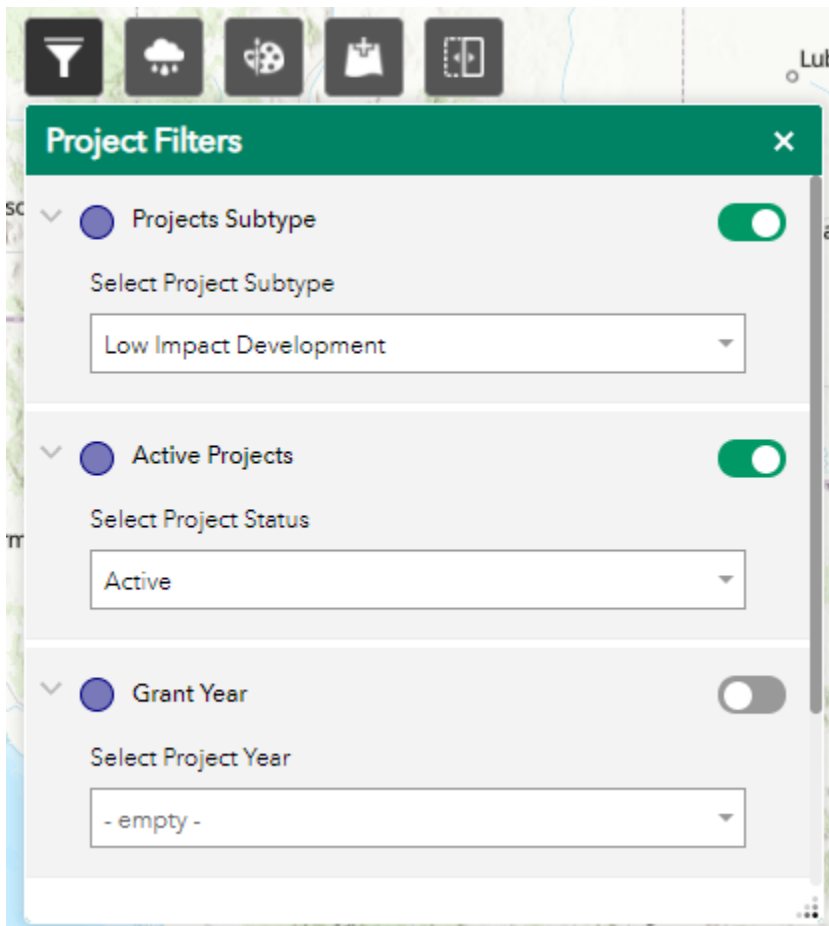
- Addresses: 100 Congress Ave, Austin, TX, 78701
- Names: Zilker Park
- Counties: Travis County
- Segment Name: Arroyo Colorado
- Segment Number: 2201

Project Filter



Project Filter - Click to filter projects by subtype, status, and federal grant year.



- Click the Project filter button on far left .
- Select the criteria for your filter using the four dropdown lists. Scroll down to see all of the options.
- Once criteria are selected toggle the filter on by clicking .
- The projects in the map will be filtered to meet the criteria
- For example, the filter in the image below selects all Low Impact Development projects that are currently active.

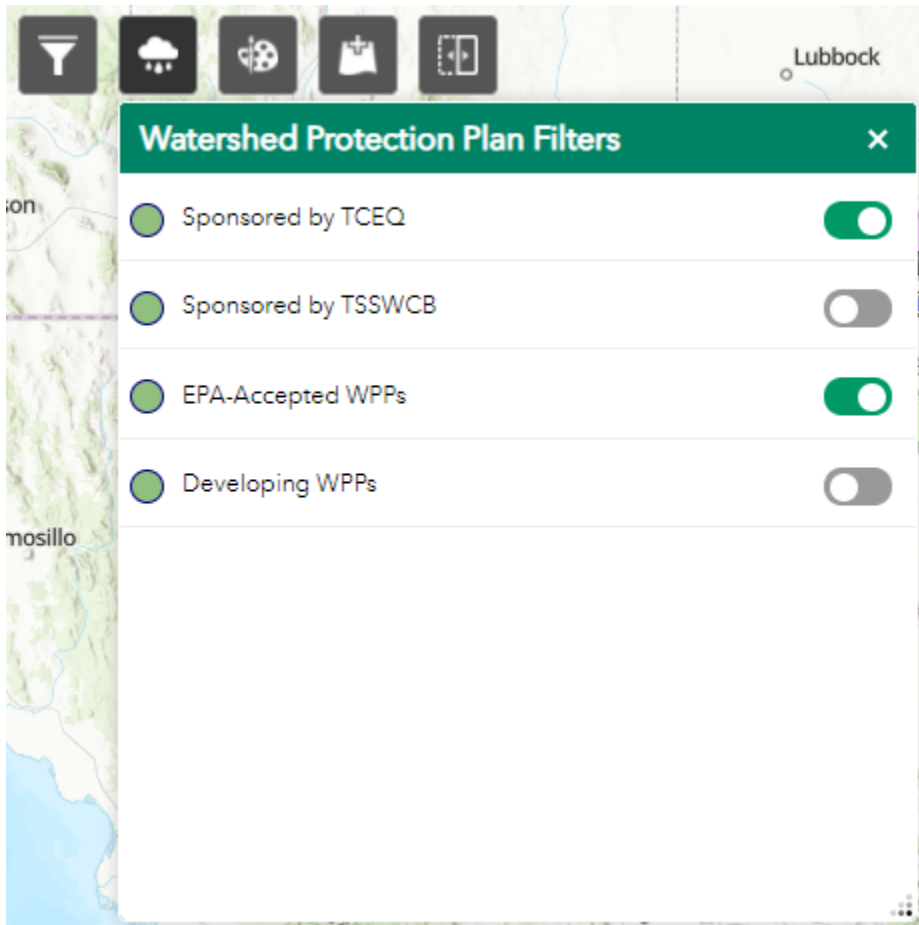


Watershed Protection Plan (WPP) Filter



WPP Filter - Click to filter WPPs by sponsor and status. There are four criteria options that can be toggled on and off. If more than one criteria is toggled on then the WPP layer will be filtered to show only WPPs that meet all criteria.


- Click the WPP filter button second from the left .
- Toggle on the criteria of your choice by clicking .
- The WPPs in the map will be filtered to meet the criteria. For example, the filter in the image below selects WPPs that are sponsored by TCEQ and are accepted by EPA.

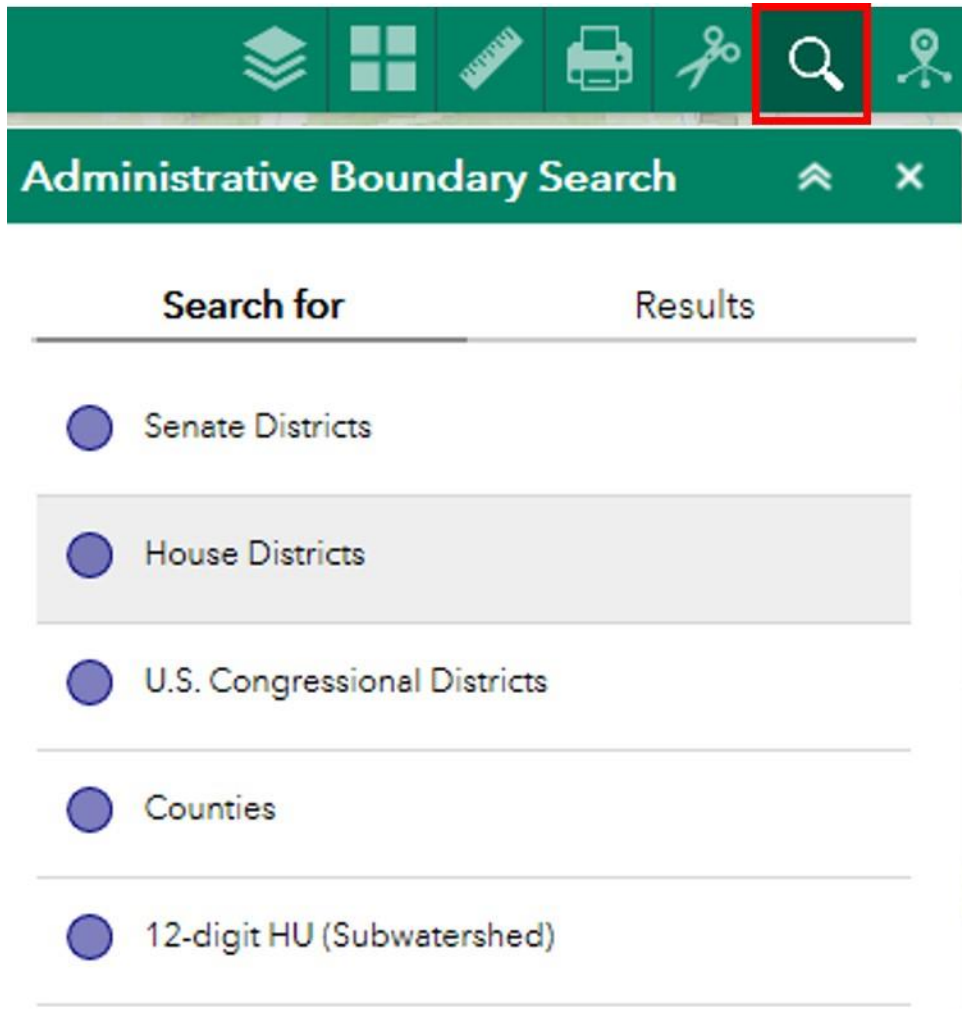


Administrative Boundary Search



Administrative Boundary Search - This tool allows the user to search for Legislative Districts and other boundaries.

- Example application: Find and zoom to Texas Senate District 5.
- Click the  icon on the main toolbar and click “Senate Districts”.
- Type “5” into the top text box and click “Apply”.
- The map should zoom to Senate District 5.



Info Summary



Info Summary Tool - This tool allows the user to see a summary of the three Nonpoint Source layers displayed within the current map view. The number of visible features for each layer will be displayed on the right. The number is filtered by the current map extent and any other filters that may have been applied. Click the down arrow to navigate and view information. WPPs are grouped by Sponsor and Projects are grouped by Federal Grant Year.

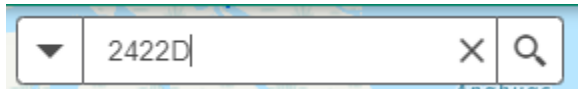
Layer Name	Count
Watershed Protection Plans	46
Projects (Approximate Location)	128
Success Stories	16

Spatial Queries

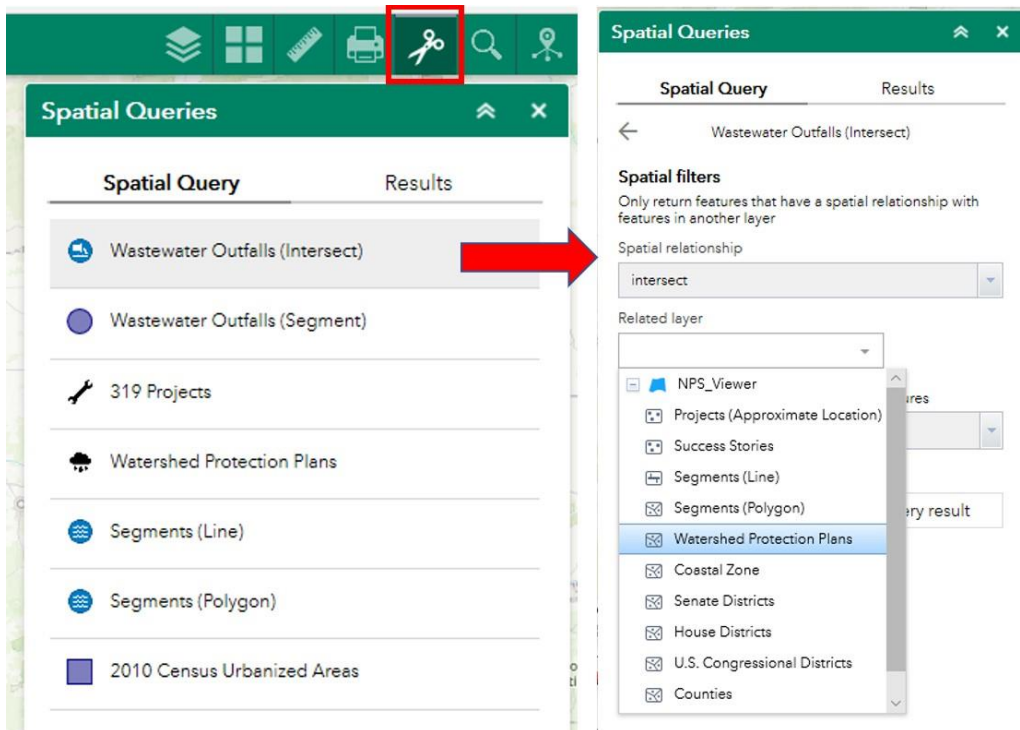



Spatial Queries - The Spatial Query identifies features that have a spatial relationship with features in another layer. The query selects features from one layer that are also contained in a related layer. Once the spatial query is executed, the user can view the locations of the features and export a spreadsheet (CSV file) of the feature attributes. Attributes are discussed further in the Layer Metadata section of this guide.

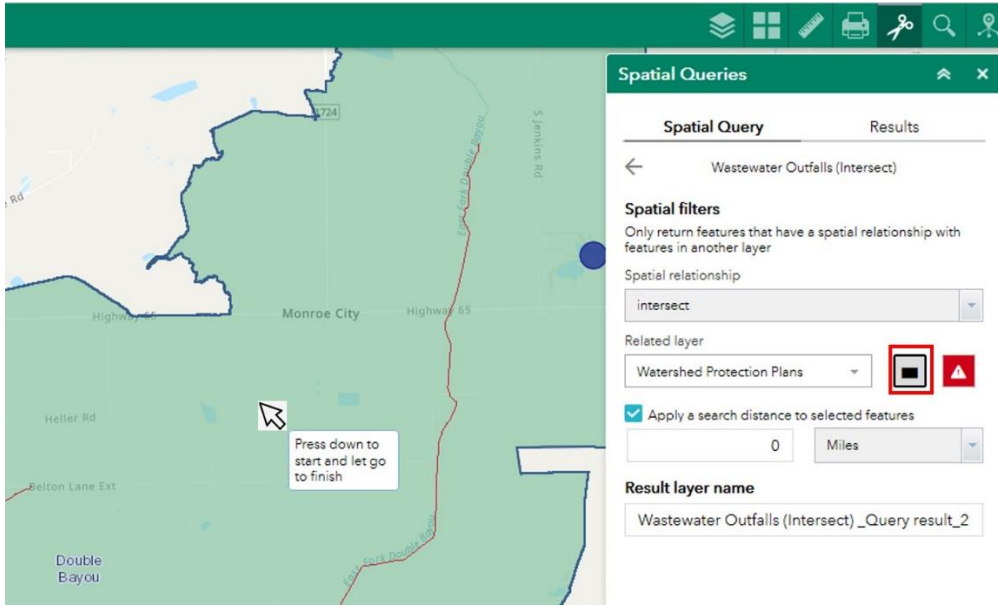
- Example application: Select all wastewater outfalls that intersect with the Bastrop Bayou WPP and export a spreadsheet with attribute information for the wastewater outfalls.
- Type in “2422D” into the Search bar and press Enter. This should zoom you to Bastrop Bayou WPP.



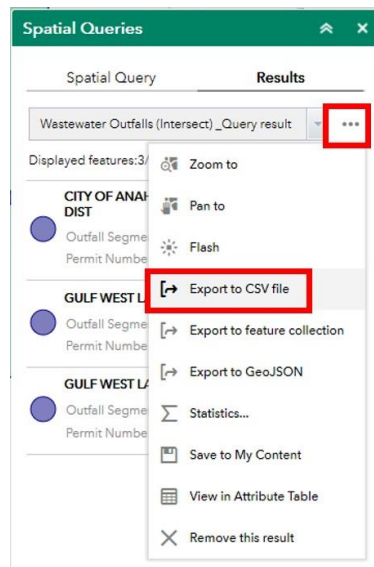
- Click the Spatial Query button
- Select layer you are interested in, for this example select “Wastewater Outfalls (Intersect)”
- Select the related layer you are interested in, for this example expand the NPS_Viewer layers by clicking the “plus” button and select “Watershed Protection Plans” as the Related layer



- Click  and then hover over the Double Bayou WPP boundary, click and drag a box, then release. The WPP boundary should be selected. All WPPs that are inside you box will be selected, if your box selected more than one WPP you will have to redo the box to select just one WPP.





- Click Apply
- A list of wastewater outfalls that intersect the selected WPP will appear on the map and a list will appear in the Spatial Queries window.
- To export a spreadsheet with the Results information, click the ellipsis in the Results window and select “Export to CSV file”. A CSV will be downloaded to your device. Open the CSV file in Microsoft Excel.



Layers

Layer List

-  **Layers tool** - The Layers tool can be used to turn data layers on and off.
- Click the **Layers** button  in the main tool bar, then check or uncheck the data layers you would like to see.



- The symbol shown for the layer is used in the map to represent features in the layer.
- Some layer titles appear grey. This means that they will only draw at a specified scale range. For example, the segment layers will not be displayed if map is zoomed out beyond 1:1,500,000 scale.
- The Layer List contains some Group layers. If the layers in the group are not visible click the small arrow to the left of the check box. This will show additional layers. To hide all the layers in the Group click the small arrow to the left of the check box again.
- Some layers, such as the Coastal Zone and Legislative Districts, by default are turned off. To view these layers check the boxes to turn them on.

Adding Layers

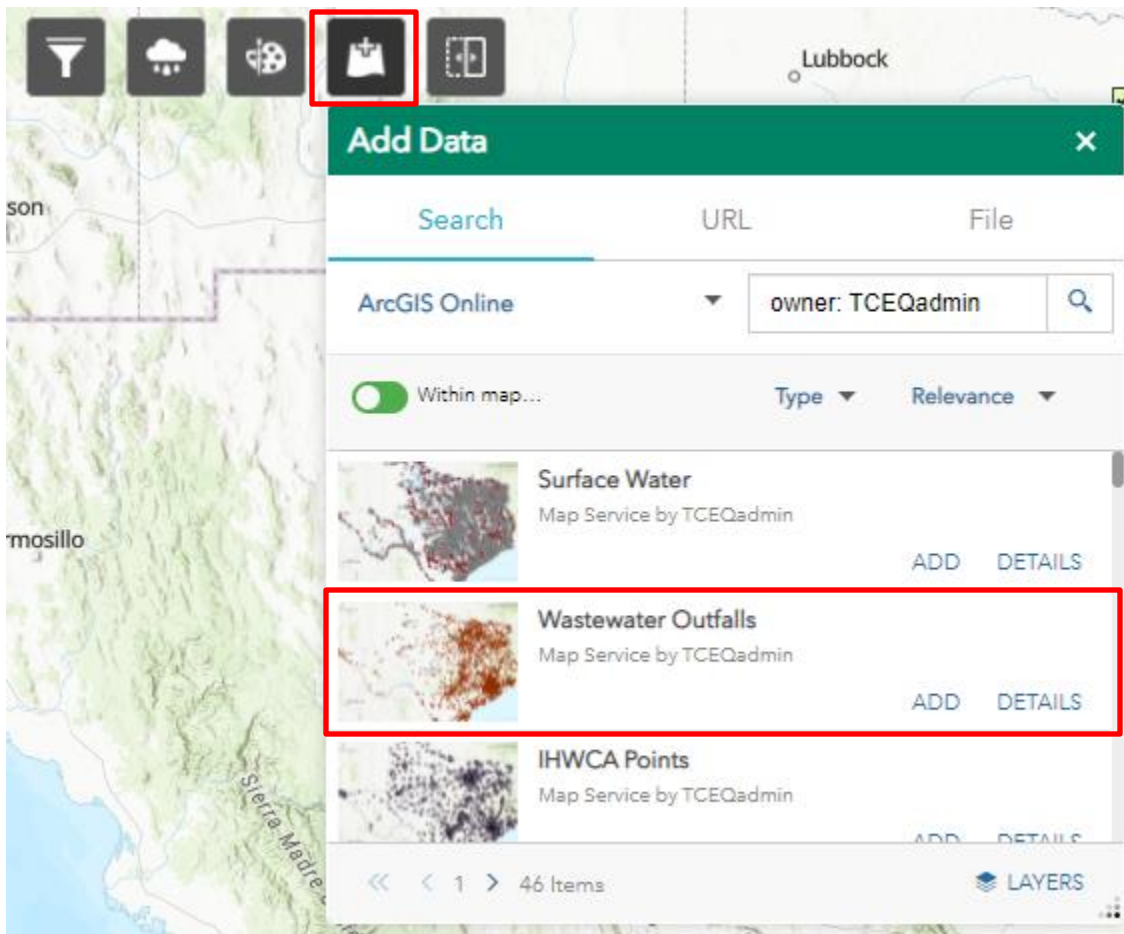


Add Data Tool - Publicly available layers can be added to the map by searching ArcGIS Online. Users can also add their own GIS layers. Once the viewer is closed all user-added layers are removed and will not appear when the viewer is opened again. Below is a useful list of GIS layers related to watershed management.

- Example application: Add TCEQ wastewater outfalls from ArcGIS online.



- Click Add Data button
- Type “owner: TCEQadmin” into the search box.
- Scroll down and find the “Wastewater Outfalls” layer. Click “Add”.
- Another way to find the same layer would be to type “Wastewater Outfalls”.



ArcGIS Online Layer List


Here is a list of GIS layers related to watershed management. These layers are publicly available and can be added to the NPS Viewer using the add data button .

Table 1 - List of layers available in ArcGIS Online

Layer Name	User	Description
Wastewater Outfalls	TCEQadmin	Wastewater outfalls
Water Districts	TCEQadmin	Water districts of Texas
TCEO Service Regions	TCEQadmin	TCEQ's 16 Service Regions
Groundwater Conservation Districts	TCEQadmin	
Permitted OSSFs H-GAC Region	Sungmin.lee	
PriorityProtectionAreas	Admin_tglo	
Coastal Projects for Storm Viewer	Admin_tglo	GLO Coastal Projects
Texas Groundwater Data	ArcGIS REST Service URL	
Texas Stream Team Water Quality Data	Lp1140_TxSt	wqdataall_201910
Texas Councils of Governments	TPP_GIS	Council of Governments.
TxDOT City Boundaries	TPP_GIS	City Boundaries
TxDOT Roadways	TPP_GIS	TxDOT Roadways
Mesonet Sites	TWDBpub	
Texas Major Aquifers	TWDBpub	
Texas Groundwater Management Areas	TWDBpub	
Texas Groundwater Conservation Districts	TWDBpub	
TexasRockUnit	TWDBpub	Geology units
Level IV EcoRegions	Federal_User_Community	
FWS HQ ES NWI Wetlands	FWS_HQ_NWRS_NRPC	National Wetland Inventory
FWS HQ NWRS National Wildlife Refuge Boundaries	FWS_HQ_NWRS_NRPC	National Wildlife Refuges
USA Soils Erosion Class	USFSMapsandApps	U.S. Forest Service
USGS_Texas_Protected_Areas_Database	Harcuser	
TWDB_Texas_River_Basins	Harcuser	Basins
Recent Weather Radar Imagery	NOAA.GeoPlatform	NOAA Weather Radar

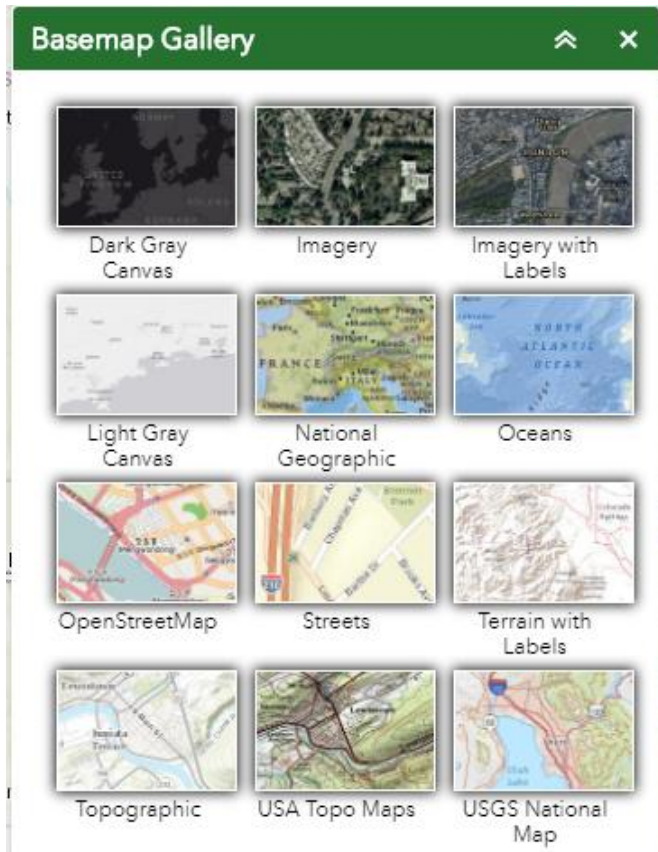
Surface Meteorological and Hydrologic Analyses - Quantitative Precipitation Estimates	NOAA.GeoPlatform	72hr - 1hr precipitation estimates
NOAA Estuarine Bathymetry	NOAA.GeoPlatform	
Water and Sewer CCN Viewer Sewer	ghortonjr	Public Utility Commission of Texas
PAR_VIEWER_Projects_01042018	E-ROCK	TWDB Projects
DWH_ALL_Prjs_Pt	jskillman@ducks.org_duinc	Deepwater Horizon Projects



Basemap



Basemap tool - The Basemap tool can be used to change the background in the map viewer. The topographic basemap is the default basemap.

- To change the basemap, click on the Basemap tool  on the main toolbar, then select the basemap you wish to use.




- To close the window, click the  in the upper right-hand corner. To collapse the window, click the  just to the left of the close button.
- You may choose from twelve different basemaps. Note: Some basemaps (such as Open Streetmap) are not visible when zoomed in too close.

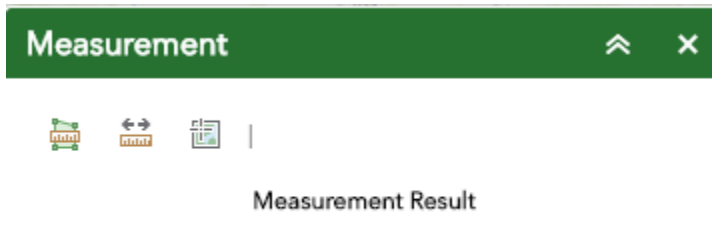
Other Tools



Measure



The Measure tool enables the user to measure location, linear, and area features on the map.

- To measure a feature, click on the **Measure**  tool on the main toolbar.
- The Measure window will appear as shown below.



- To close the window, click the  in the upper right-hand corner. To collapse the window, click the  just to the left of the close button.
- There are three different ways to measure features on the map:



Area - Click this button and choose a unit of measure from the drop- down list. Single-click the first point of your polygon on the map. Continue to single-click until you have finished measuring your area. Double-click to end. Results will appear in the Measure window.




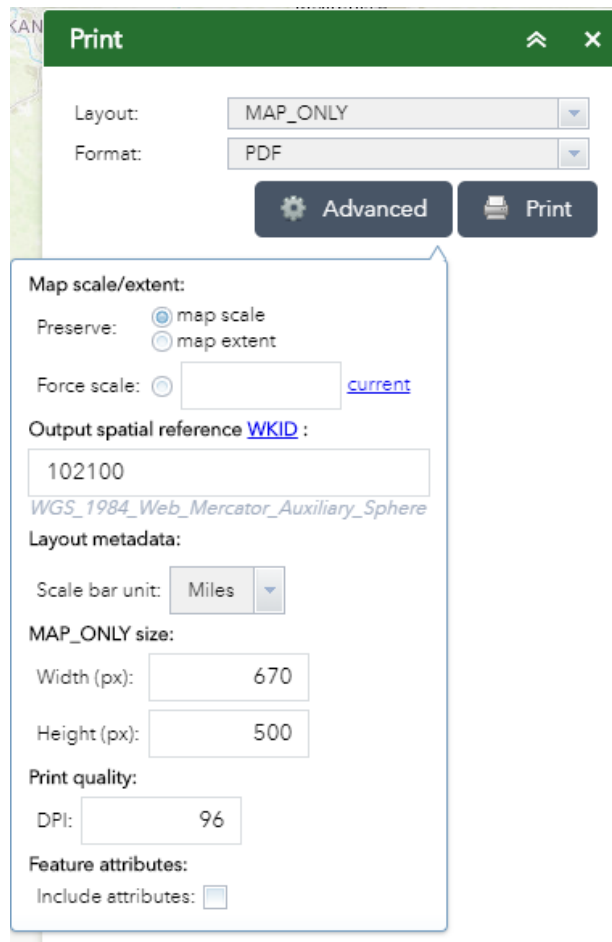
Distance - Click this button and choose a unit of measure from the drop- down list Single-click the first point of your line on the map. Continue to single-click until you have finished measuring distance. Double-click to end. Results will appear in the Measure window.



Location - Click this button and choose a unit of measure from the drop- down list. Click a point on the map then move the mouse across the map. Results will display the coordinates for both the green indicator and the cursor in the Measure window.

Print

- Use the **Print** tool  to save the current map as an image file. You may give it a customized title, select a layout and size, and format. Advanced features include the ability to set map scale, pixel dimensions, and print quality.



Zoom Tools:



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



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

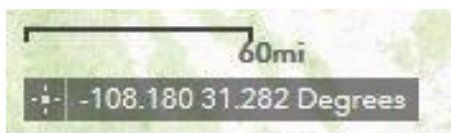



Home – Click once to return to the default extent



My Location – Clicking this button will take you to your current location.

Coordinate Indicator:



- Click this  tool located in the bottom left corner, then click anywhere on the map to obtain the coordinates in decimal degrees.
- The tool will also show the coordinates of your current mouse position over the map.

Swipe Tool



The swipe tool allows the user to see underneath layers.

- Click the swipe tool. A vertical bar will appear.
- Use the handle to swipe the vertical bar from left to right to see the basemap underneath.
- Click the swipe tool again to turn it off.

