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Watershed Restoration Web App USER GUIDE

A User Guide for the Watershed
Restoration Web Application

New Jersey Department of Environmental Protection
Division of Watershed Land Management
Bureau of Watershed Management



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Introduction

Purpose and Tool List

This application is a public web application intended to provide GIS data relevant to Watershed Protection and Restoration. Geographic Information System (GIS) layers are grouped in different categories to aid in a desktop evaluation. The following list summarizes the tools available in the application:

- [Navigation Tools](#)
- [Address Search](#)
- [Accessing/Viewing Layers](#)
 - Imagery Layers
 - Category 1 Waters (C1) Layers
 - Total Maximum Daily Load (TMDL) Layers
 - Data Layers
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- [Bookmarks](#)
- [Print](#)
- [Basemap](#)
- [Measure](#)
- [Set Filter](#)

Menu Bar

The screenshot displays the Watershed Restoration Application interface. The top navigation bar includes the application title and a search bar. The main map area is overlaid with numerous callout boxes identifying key features and tools. On the right side, a legend panel is visible, showing categories for Watershed Restoration Projects and Watershed Based Plans. The bottom of the interface features a scale bar and a footer with technical details.

Watershed Restoration Application
NJDEP - Bureau of Watershed Management

Menu Bar:

- Find address or place
- User Guide
- Instruction Manual
- Address Search
- Add Data
- Parcel Search
- Program Interest Search
- Near Me
- Swipe
- Draw
- Bookmark
- Print
- Basemap
- Measure
- Legend
- Attribute Table
- Scale Bar

Legend:

- Watershed Restoration Projects
- Projects
- Watershed Based Plans
- Plans

Footer:

20 mi | New Jersey Office | Tom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS | NJDEP, BWMS, BEARS Edition 20210609 | Powered by Esri

Navigation

The following tools are available to help the user in moving or panning around the map:

Zoom in/Zoom out



Use the *plus* or *minus* button located on the top left of the application to *zoom in* or *out* of the map. Or use a scroll wheel on a mouse to zoom in/out of the map.

Default Extent



This button is located under the *zoom in/out* button. It will bring the map view back to the extent of New Jersey.

Previous/Next Extent



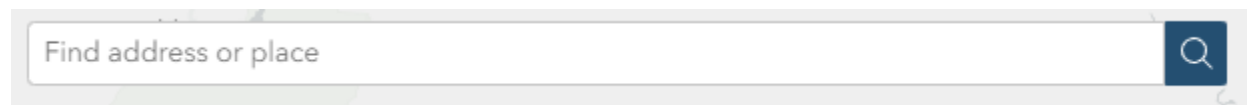
This button is located under the *home* button. This enables the user to view the previous extent (or scale) of the map. This may be useful to go to previous or next extents when panning through an area of interest.

Reset Map Orientation



This button will only activate if the view is rotated. You can rotate the view of the map by holding right click on your mouse and dragging your cursor around the map. If you want to reset the map back to its default orientation, this button will reset the view.

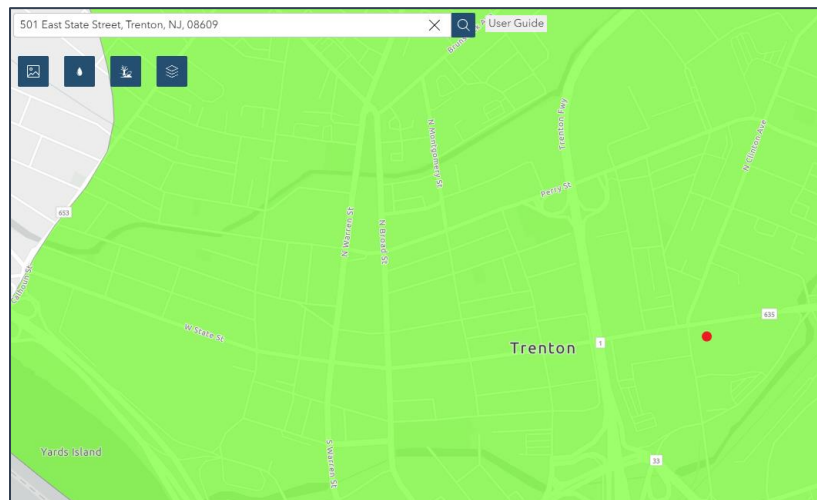
Address Search



The address search bar is located on the top left of the application. Type in a full address and the results will start to auto-populate with possible matches. Click on the address or the magnifying glass to bring the extent of the map to the location.



Address Search Window



When selecting the address, the map will zoom to the location by placing a point where the address was mapped. This point is temporary and will be removed once the address is removed from the search bar.

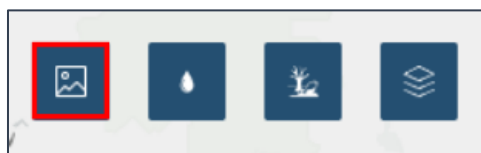
Accessing/Viewing Layers

The following examples show where to find layers, how to turn on/off layers in different groups and how to adjust transparency:

Accessing Layers

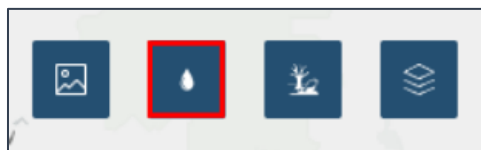
All layers can be accessed through the buttons below the address search bar for quick access.

Imagery Layers



The Imagery layers contain aerial images of New Jersey from 2006 to 2020.

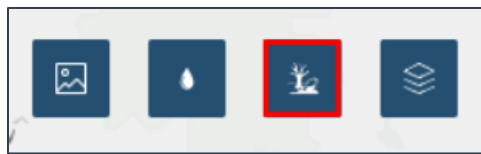
Category One Waters Layers



The Category One Waters layers (C1 Layers) holds layers relating to Category One Waters and the Integrated List of Waters.

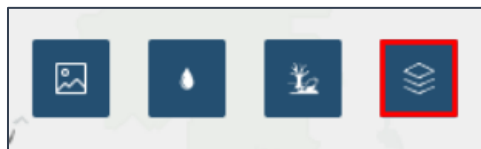


Total Maximum Daily Load Layers



The Total Maximum Daily Load layers (TMDL Layers) holds layers relating to TMDL.

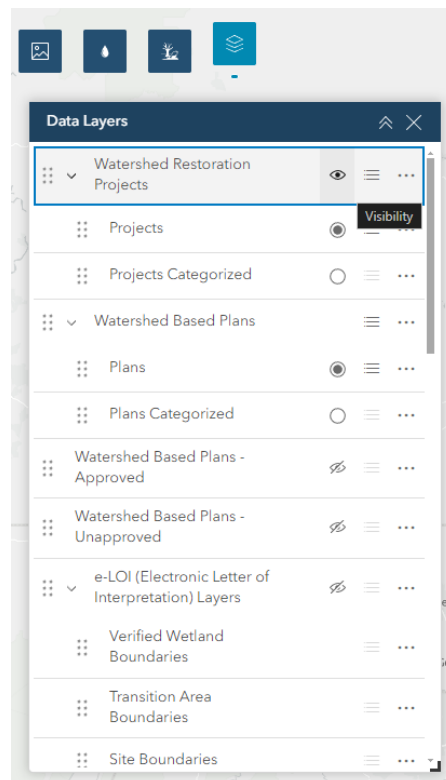
Data Layers




The Data layers list has all other layers related to Watershed Restoration such as Watershed Restoration Projects, Watershed Based Plans, HUCs, NJEMS sites, Known Contaminated Sites List, and more. It also consists of administrative boundaries such as county and municipal boundaries, parcels, road centerlines, Highlands boundary, Pinelands boundary, and others.

Turning layers on/off

Layers can be turned on and off individually or by groups.



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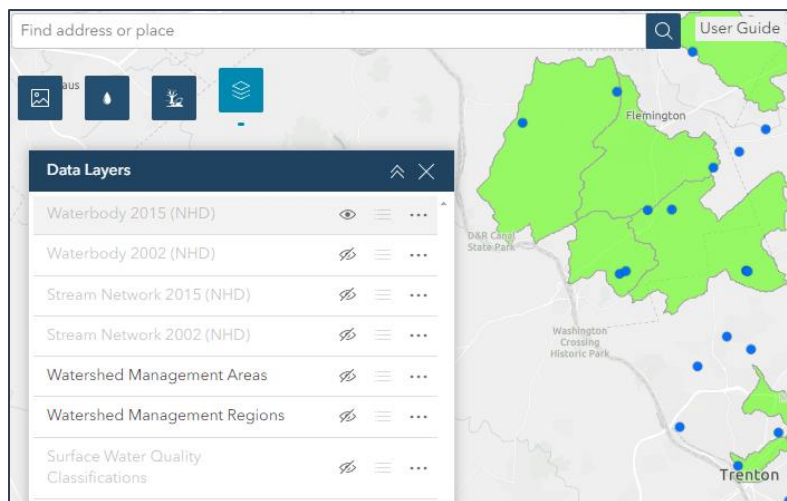
Some layers are grouped together and the layers within the group are mutually exclusive (only one can be visible at a time). The Watershed Restoration Projects group has two layers in it, you can click the layer itself or click the Visibility icon  to turn it on/off.

Other groups such as the e-LOI (Electronic Letter of Interpretation) Layers group will have all their respective layers turned on only when you have the group visibility on. Then you can turn on/off individual layers if desired.

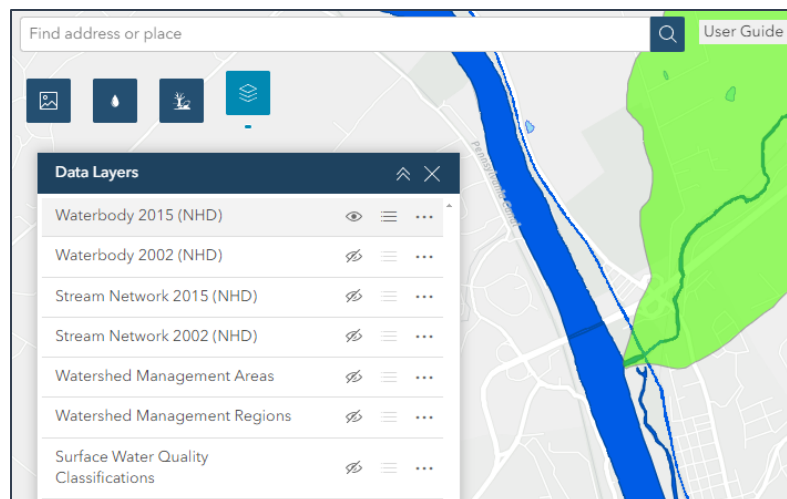
Layer Visibility

Layer names that appear *gray* indicate that they are not visible at the current map scale. For example, the Waterbody 2015 (NHD) layer will appear gray until you zoom in close enough for the layer to become available. This is to help the application run faster as displaying layers with numerous records at a statewide level may slow down the application.

Layer not available at a small scale



Layer available at a larger scale after zooming in



Layer options

Below are the options available for the layers in the map. Any options that are set will not be saved and the map will reset to the default view if the window is refreshed. Groups must be expanded for the layer options to be visible.

Note that not all the layers have the same options available since they are dependent on their content.

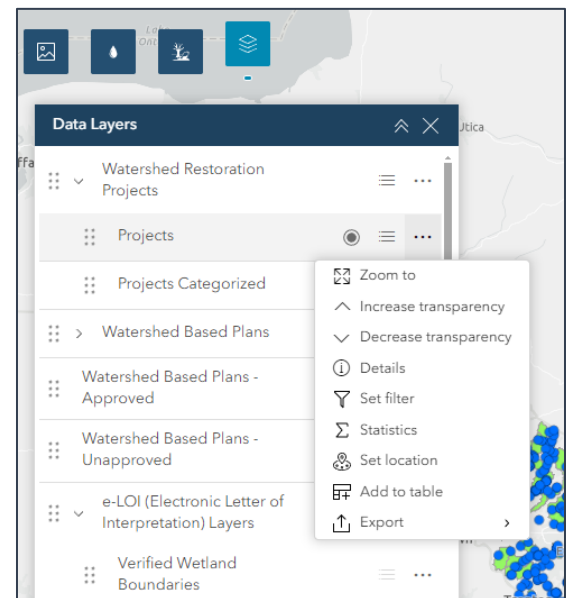
Changing order

A user can temporarily change the layer order while working in the application. Changing the layer order can be done by clicking and dragging the six dots to the left of the layer and moving the layer above or below others.

Options Pop-up

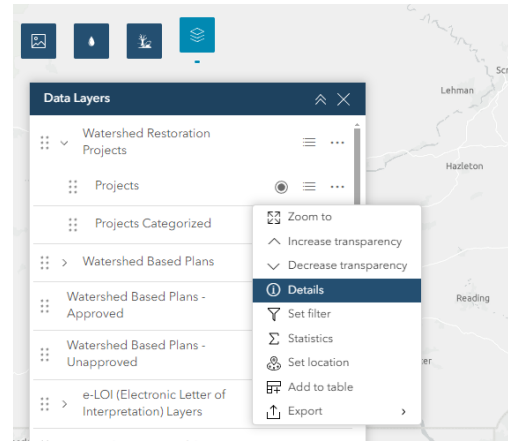
To view the layer options, click on the three dots to the right of the layer of interest and select the options from the pop-up. These options are explained below:

- Zoom to
 - Zoom to the full extent of the layer.
- Hide labels
 - If the labels of the layer are distracting, they can be temporarily turned on/off.
- Increase transparency
 - Temporarily increases the transparency of the layer. Continue clicking to keep increasing the transparency.
- Decrease transparency
 - Temporarily decreases the transparency of the layer. Continue clicking to make the layer opaque.
- Details
 - View metadata associated to the GIS layer.
- Set filter
 - Opens the Set filter tool. Further explanation can be found [here](#).
- Statistics
 - Select a field from the drop-down menu to view a summary of the values in the layer. You can only view statistics for numerical fields.
- Set location
 - Opens the Near Me tool. Further explanation can be found [here](#).
- Add to table
 - See a detailed view of the information associated with the layer. This will add the layer as a tab to the table view on the bottom of the map.




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- **Export**
 - Allows you to download the layer in either JSON, CSV, or a GeoJSON format. CSV is recommended if you're looking to download a tabular view of the data to open it in Microsoft Excel for example. If you want to add the GIS layer to your own map, you should go to the Details option instead and add the layer from the URL on the metadata page.



Layer URL Location

Watershed Restoration Projects in New Jersey
Overview | **Data** | Visualization



The purpose of this data is to provide project information and locations to Department management, staff and the public. This will help DEP management set priorities for future RFPs, aid with EPA reporting requirements, and showcase all the work the program and the grantees have done.

Feature layer by NJDEPBGIS

Item created: Feb 23, 2024 | Item updated: Feb 26, 2024 | View count: 1,019

Open in Map Viewer

Open in Scene Viewer

Open in ArcGIS Desktop

Metadata

Description

This data represents projects funded by the New Jersey Department of Environmental Protection's (Department) Water Quality Restoration Grant Program (WQRGP) within the Division of Watershed Protection and Restoration. The WQRGP is part of the Statewide Nonpoint Source (NPS) Management Program, which highlights key actions that the Department and its partners use to control NPS pollution and restore water quality throughout New Jersey. The State of New Jersey utilizes a variety of funds to restore, prevent, and/or mitigate NPS pollution. Funding sources include USEPA pass-through grants issued under Section 319(h) and 604(b) of the federal Clean Water Act (CWA) and other Federal and State funds that may be available for NPS-related water quality restoration activities. Each year the program solicits Request for Proposals (RFPs) for projects that will reduce non-point source pollution. Generally, grants are focused on restoration of water quality predominantly impaired by NPS pollution for waters located in a priority waterbody or region where the grant will help implement an approved Total Maximum Daily Load (TMDL) or Watershed Based Plan (WBP). To demonstrate measurable water quality outcomes grantees must provide pollutant load reduction estimates (where applicable) utilizing the USEPA Spreadsheet Tool for Estimating Pollutant Loads (STEPL) or other non-proprietary load reduction estimation model.

Layers

- Watershed Restoration Projects in New Jersey
 - Point layer

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Details

Source: Feature Service
 Data updated: Feb 26, 2024, 8:58 AM
 Schema updated: Feb 26, 2024, 8:58 AM
 Size: 744 KB
 Attachments size: 0 KB
 ID: 16c268b893334d0c95832b9f69e446ff
 ☆☆☆

Share

Owner: NJDEPBGIS

Tags: envr_admin_watershed_restoration, TMDL, inlandWaters, Quality, Nonpoint Source, Statewide Water Quality, New Jersey, WQRGP, WQRP, NPS, Water Quality Restoration Projects, Restoration, Total Maximum Daily Load, Water Quality Restoration Grant Program, NJDEP, Watershed, Projects, NJDEPTrentonMetadata

Credits (Attribution)
 NJDEP, BWMS, BEARS Edition 20210609

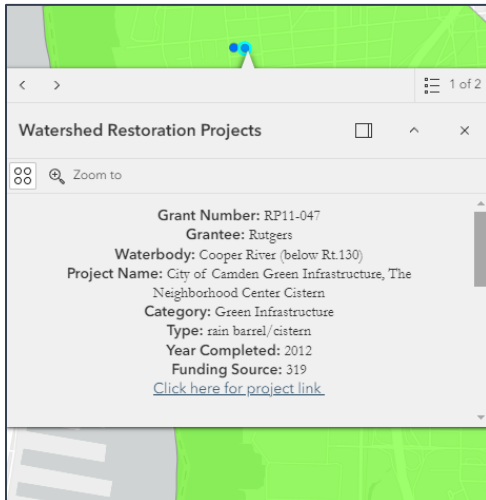
URL View

https://services1.arcgis.com/QWdNIRz7ll 🔗

Pop-Up Window

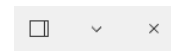
Associated information to the GIS layers can be viewed through a Pop-Up window. It is possible that a pop was disabled if there was no pertinent information in the GIS layer.

Pop-up Window

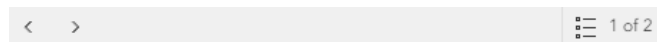


To view the pop-up, simply click on the layer in an area of interest. The information will show up in the pop-up. There may be links to other sites that can provide more information.

Some options include zooming in to the feature by clicking Zoom to. You can also dock the pop-up by clicking on the icon in the top right. To minimize the pop-up, click on the small arrow on the top right. To close the pop-up, click on the X.



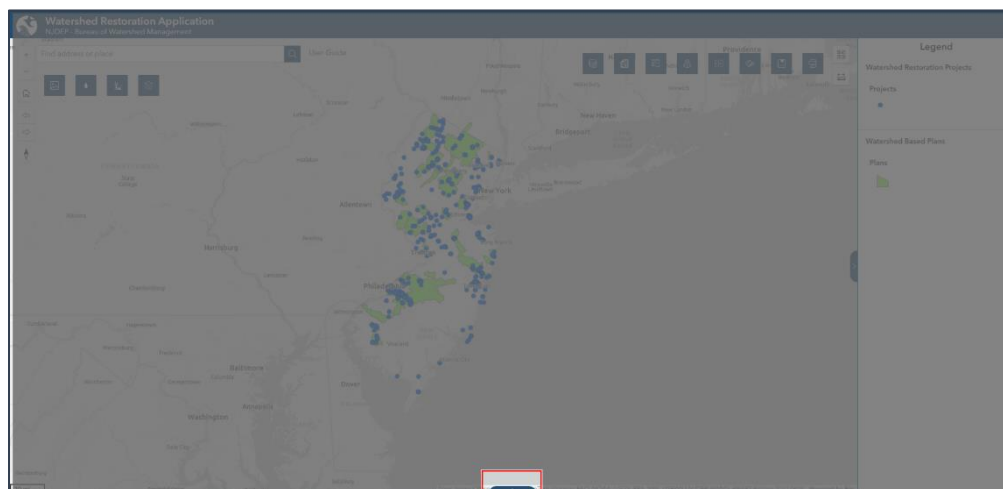
If you select more than one layer that has a pop-up, you can tab through by clicking the arrows on the bottom left of the pop-up or the legend icon in the bottom right.



Attribute Table

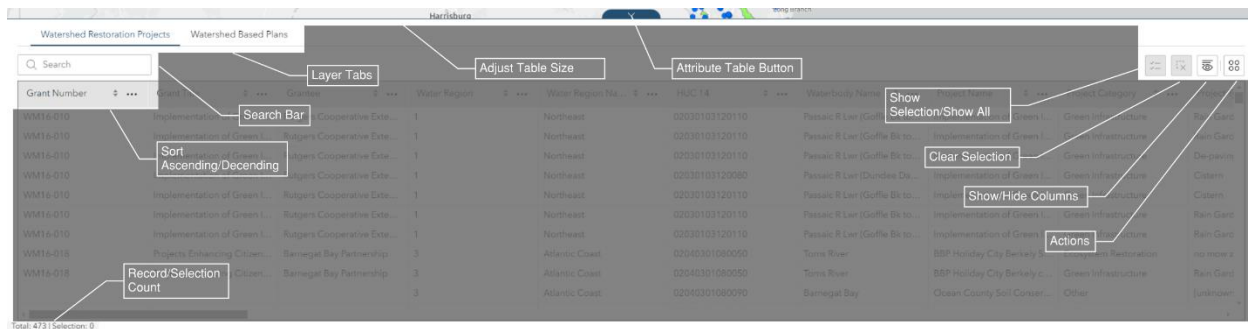
The pop-up window shows more general information. If there is interest in viewing the full details of the GIS feature of interest, this information can be viewed from the attribute table display. Access the attribute table by clicking on the arrow on the bottom of the application.

Attribute Table Button



Attribute Table Features

Attribute Table



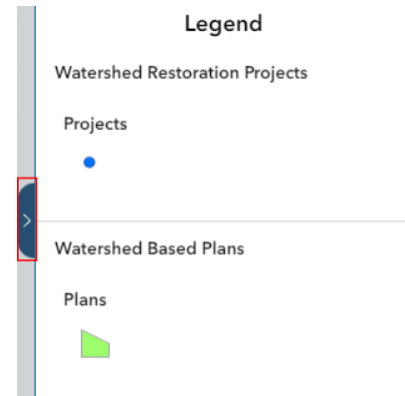
The attribute table shares similar features with the Options Pop-up window for each layer. You can resize the table by clicking and dragging on the blue bar at the very top of the table. Other features are:

- Layer tabs
 - Shows you the active layer view.
- Search bar
 - Search records within the table for each layer.
- Sort ascending/descending
 - Click the three dots to choose the order of the values for that column.
- Record selection count
 - Shows you the total number of records in the layer and how many features you have selected. You can select/unselect a feature by clicking on the row.
- Show selection/show all
 - If you have selected features, this will filter the table to just those features.
- Clear selection
 - Will clear your selected features. This will not delete any data.
- Show/hide columns
 - Brings up a list of all columns for the layer that you can choose to turn on or off for your view.
- Actions
 - Shows additional features. These are the same as the features explained in the [Options Pop-up](#).

Tools

Legend

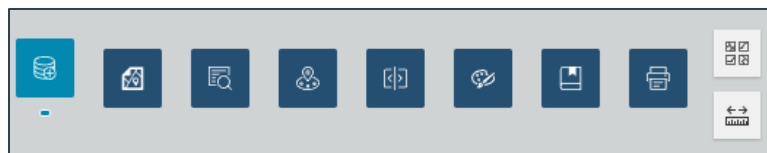
When a layer is turned on, the symbology will appear in the legend window located on the right side of the page. To close and re-open the legend, click the icon on the toolbar.



Add Data

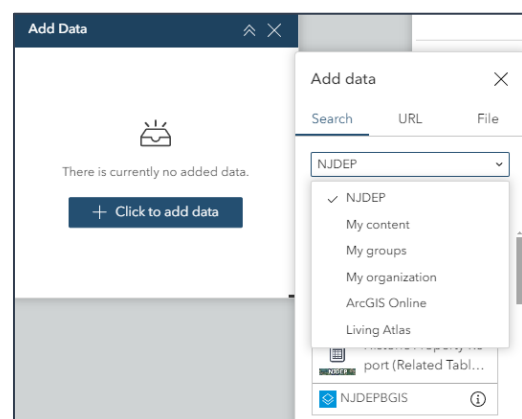
The *Add Data* tool is located on the main menu bar on the top right.

Add Data



The *Add Data* tool can be used to add other GIS layers to your map. This data can be from NJDEP, ArcGIS Online, other GIS data from another web map service, or local data of your own (i.e. a shapefile). Note that there are some limitations of bringing in a local GIS dataset: A shapefile cannot contain more than 1,000 features or items. Additionally, if adding a shapefile, it must be zipped. Any extra data layers added in the application will be temporary and will not stay in the application when the application is closed and reopened.

Click the button in the pop-up and search by typing in the name or keyword in the search bar underneath the data selection filter. The drop-down for the filter can be changed to add data from NJDEP, your organization, ArcGIS Online, or the Living Atlas. You can further filter the results by the data type.



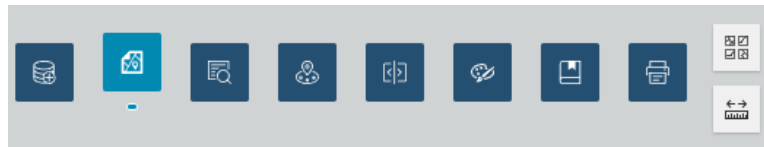
Click the layer you want to add and click the Done button that pops up on the bottom of the window.

To remove the layer, click the trash icon to the right of the layer inside the Add Data tool pop-up.

Parcel Search

The *Parcel Search* tool allows you to quickly search for a location based on its block and lot.

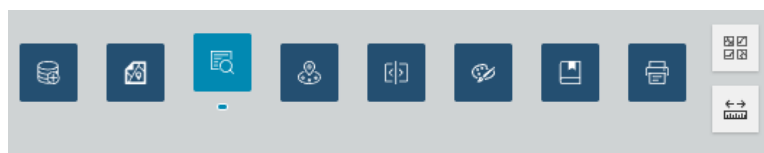
Parcel Search



Filter your search first by County, then Municipality, then Block, and finally Lot. The filter is faster this way since it will sort out only the features that exist in the previous drop-down menu. Clicking Apply will add the lot to the map and zoom to the location. You can see the parcel information by clicking on the Property Ownership Details box.

Program Interest Search

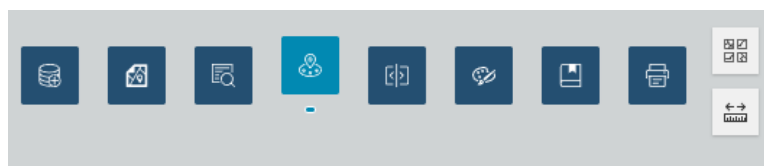
Program Interest Search



The *Program Interest Search* tool lets you search through the NJEMS Program Interest layer by Preferred ID, Program Interest ID, or Program interest name.

Near Me

Near Me

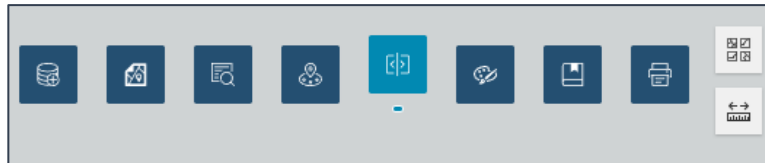


You can use the *Near Me* tool to look for Watershed Restoration Projects and Watershed Based Plans within a specified radius. To start, define your search radius, then click on either the point, polyline, or polygon buttons and select a location on the map. If you are drawing a polyline or polygon, double click at the end to finish drawing your feature.

Swipe Tool

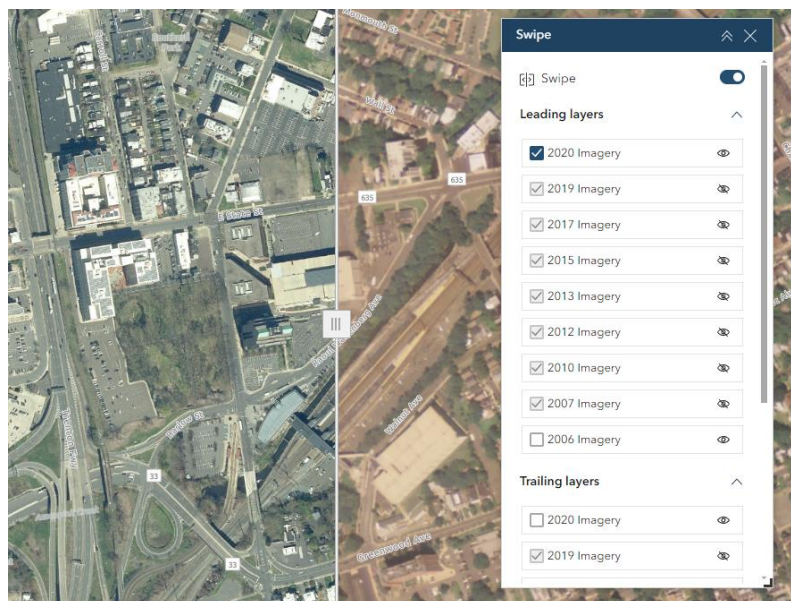
The *Swipe* tool enables the user to compare layers to one another.

Swipe Tool



To activate the *Swipe* tool, click on the button shown above, a vertical bar will then appear on the screen. The Leading layers list will be for the imagery you want on the left side of the swipe bar and the Trailing layers will be for the right side.

To view a layer you want, click the Visibility icon in the Leading or Trailing layers list. Turning imagery on in one of them will turn it on in the other, so uncheck the layer you do not want to view. For example, these are the steps for comparing 2020 and 2006 imagery:



Step 1 | Turn on the 2020 Imagery layer in the Leading layers list by clicking the Visibility icon.

Step 2 | Turn on the 2006 Imagery layer in the Trailing layers list by clicking the Visibility icon.

Step 3 | Turn off the 2020 Imagery layer in the Trailing layers list by unchecking the box to the left.

Step 4 | Turn off the 2006 Imagery layer in the Leading layers list by unchecking the box to the left.

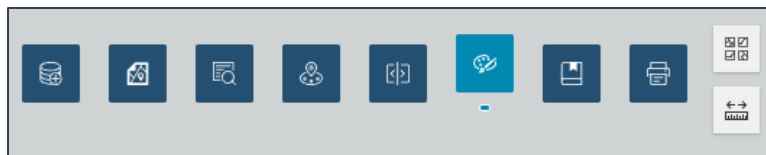
Now you can compare the imagery by sliding the swipe bar between the two layers.



Draw

To temporarily mark up the map and draw a point, line, or polygon, use the draw tool.

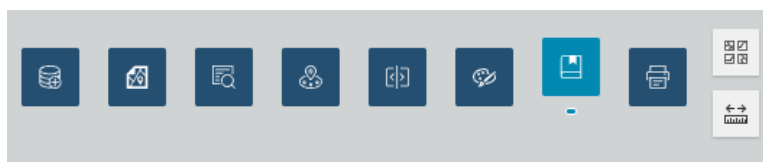
Draw




To activate the *Draw* tool, click on the draw button shown above and the window will appear. Select the shape desired, customize the color and transparency. Click on the map to start drawing. Double click to finish. There are options to undo, redo, or clear points you made. The selection features in the drawing tool are for selecting the drawings you made, not for selecting features on the map. *Note: The color and line width must be changed before drawing on the map and cannot be revised once placed on the map.*

Bookmark

Bookmark

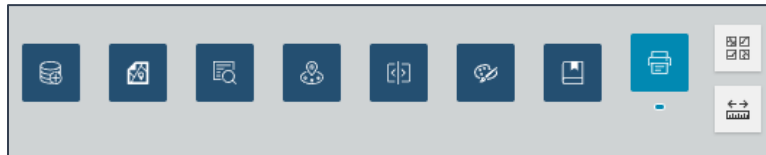


Use the *Bookmark* tool to add temporary bookmarks to the map. Zoom to your desired extent and click the “+” icon in the tool to create the bookmark. To zoom to each bookmark, click the location icon.  You can rename and delete the bookmarks you create.

Print

The *Print* tool will generate a PDF of the current extent and visibility of layers that are turned on.

Print



Step 1 | Open the *Print* tool. Select the page size or “Map only” if you just want the map and not any additional information on the map. Change the title of the map name in the map title area.

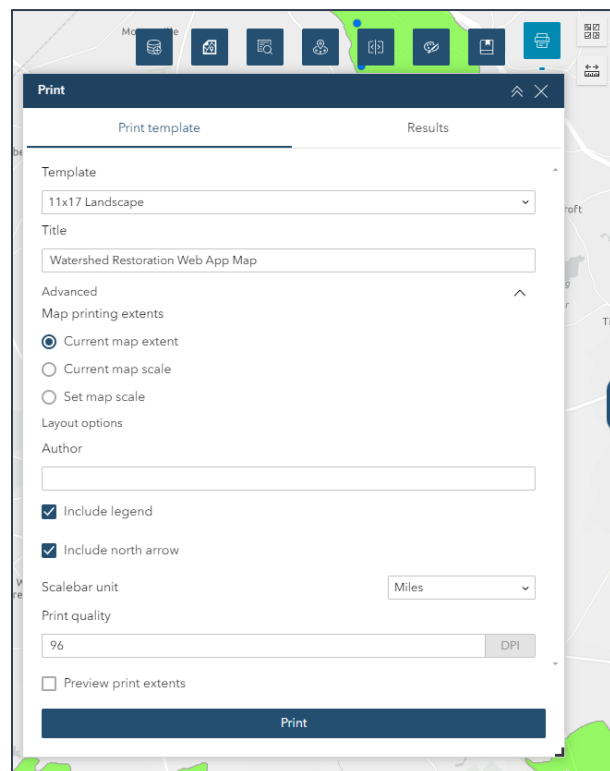
Step 2 | Either customize settings in the PDF by clicking the drop-down arrow next to *Advanced* or click print when ready.

Some options include:

- Changing the map scale or extent
- Include legend or north arrow
- Setting the Scale Bar unit
- Print quality DPI (dots per inch)

Step 3 | Click Print when ready. The PDF will show up when ready in the Results tab. Click on the icon to open the map and save the PDF or Print it.

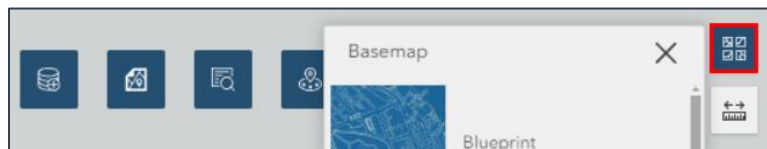
Click the X on the maps if the PDFs that were created are no longer needed or saved to another location.



Basemap

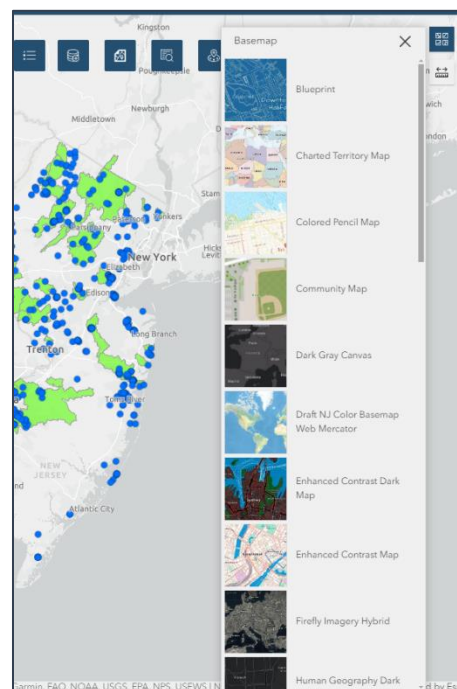
To change the basemap or background layer from streets to imagery, or topographical relief, select the *Basemap* tool on the main menu bar on the top right of the application.

Basemap



The basemap can be changed at any time. However, in order to compare aerial imagery side by side, use the imagery list icon to select the imagery and the swipe tool to compare. *Note: Some basemaps may not be available (based on ESRI production).*

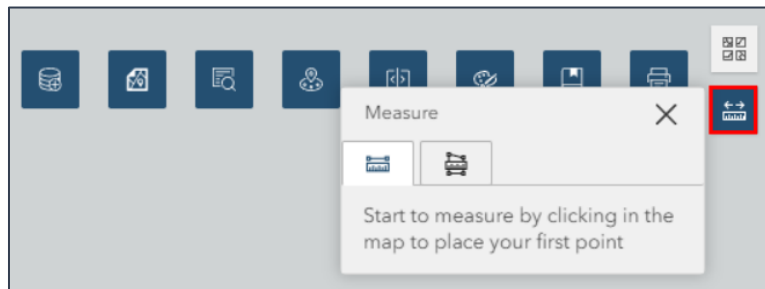
Basemap Window




Measure

The measuring tool can be used to find the distance or area of a feature on the map. The measurements you make are temporary and they cannot interact with the data on the map. It is located on the main toolbar at the top of the application.

Measurement Tool

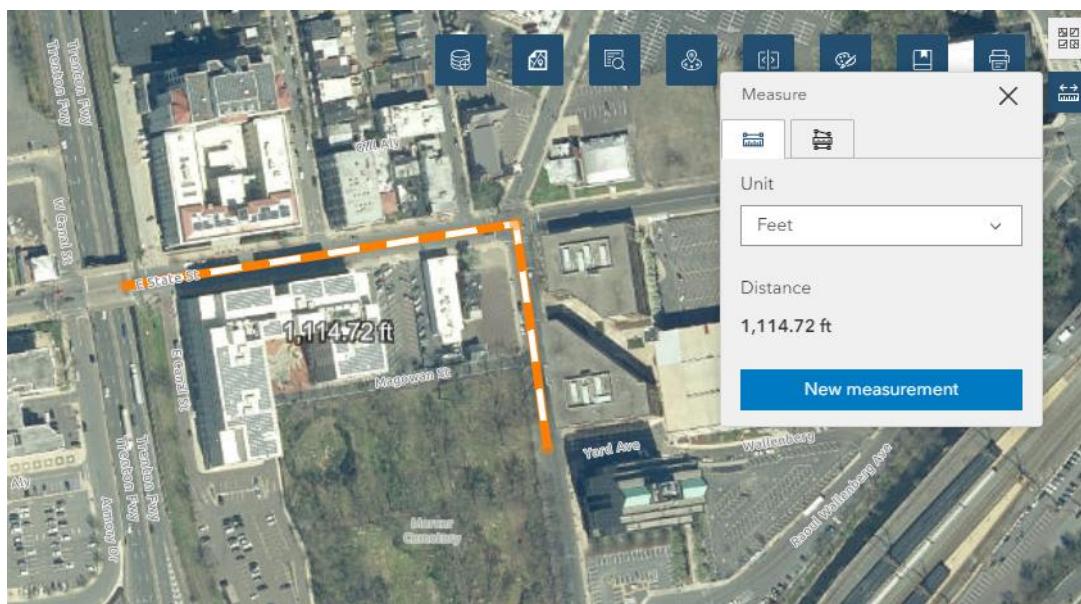


Measure Distance


Step 1 | To measure distances on the map, click on the *distance* button  and click on the map.

Step 2 | Continue clicking to draw the line and double click on the at the last point to finish. The results will be displayed in the window. You can change the units here and to start a new line, click on the *new measurement* button.

Measure Distance

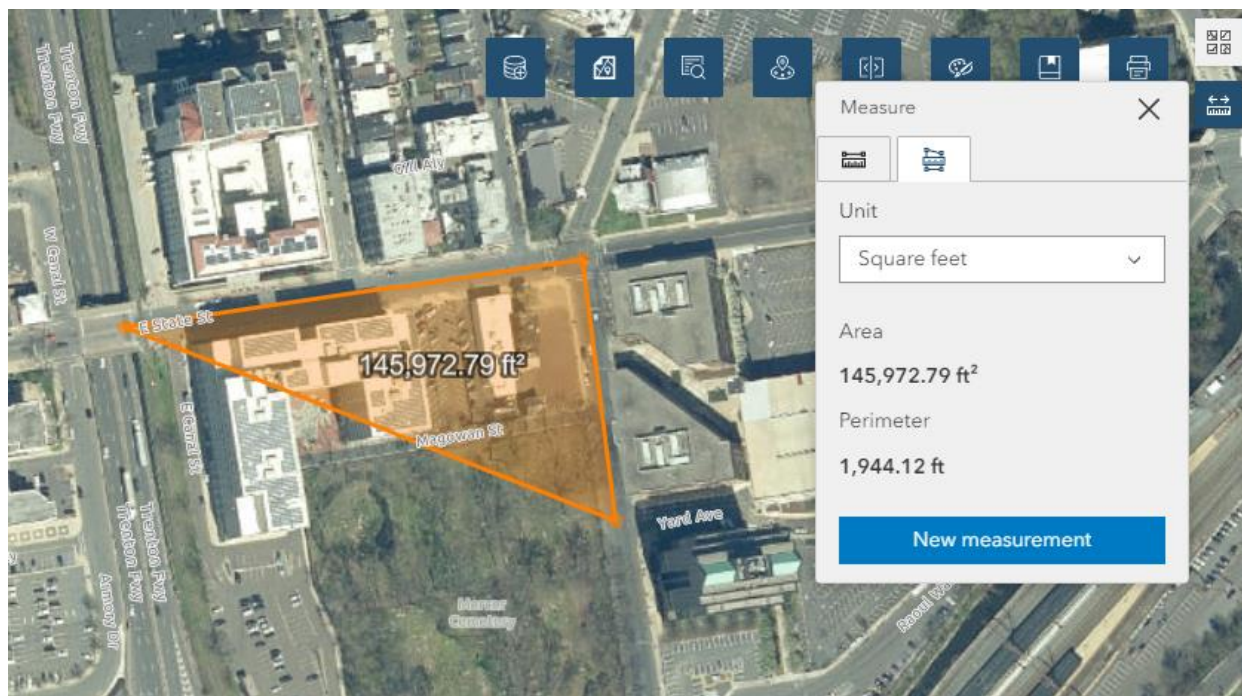


Measure Area

Step 1 | To measure the areas on the map, click on the *area* button  and click on the map.

Step 2 | Continue clicking to draw the polygon and double click on the at the last point to finish. The results will be displayed in the window. You can change the units here and to start a new polygon, click on the *new measurement* button.

Measure Area



Set Filter

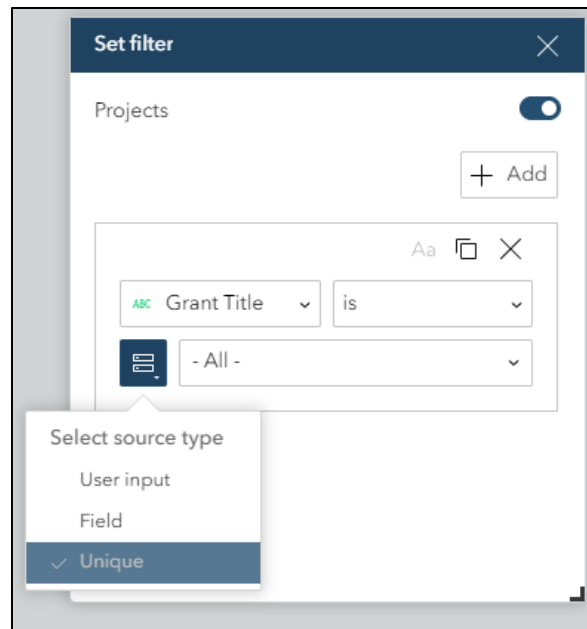
The *Set Filter* feature allows users to limit visibility of features in a layer. Only features that meet the set criteria will be visible on the map. Below is an example of how to use this feature using the Watershed Restoration Projects layer:

Step 1 | Open the *Set Filter* feature on the layer you want and click the Add button. We're going to select the Clause option from the drop-down. Make sure you also turn the filter on using the toggle switch above the Add button. You can continue adding more clauses later if needed.

Step 2 | Select the field you want to filter from the drop-down list. In this example, we will use the *Grant Title* field.



Field Selection



Step 3 | Change the source type to be “Unique” and click the drop-down box to get a full list of unique values. You can scroll through the list or type in the search bar that shows up. Type in “Brookdale” and select the “Brookdale Community College Parking Lot Rain Garden System Establishment” feature. The layer will now filter out just that value on the map and in the attribute table below.