

Kentucky Biological Assessment Tool

The Office of Kentucky Nature Preserves



Help Documentation

Updated 2019-04-15

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Quick Start Guide

Which type of account do you need?

| | Open Access | Site Registration | Annual License |
|--|---------------------|--------------------------------|--|
| Cost | Free | \$120 per project | \$1000 per 10 projects* |
| Access to Map and Map Tools | Yes | Yes | Yes |
| Ability to Create Project Reports | No | Yes | Yes |
| Create Shapefiles | No | Yes | Yes |
| Link | Map | Create Account | Email Us at eec.kybat@ky.gov |

***Baseline pricing. Users who produce more than 10 projects may be eligible for alternative bulk pricing options. Email us for more information.**

Once you have an account, go to the Map tab. This will be where you will do the majority of the work.

Read [Section 2: Map Navigation](#) and [Section 3: Tools](#) to learn the basics of the map and its capabilities.

If you already have a shapefile for your project, learn how to [Upload](#) the files.

If you don't already have a shapefile, you will need to draw your project's boundary. There are two ways to start drawing features on the Map for your projects. Which one would you like to use?

1. **[Make a Map](#)**: Easier to draw and include multiple shapes within a larger area. Can add polygons, lines, points and text. Done prior to Create a Project.

Once you have added everything to your map via Make A Map, go to [Create a Project](#).

2. **[Create Project](#)**: Easier for smaller projects with few shapes within a smaller area. Can add polygons, lines and points.

Once you submit your project, a report and a shapefile will be generated for your project area within approximately 5 minutes. Your project will be reviewed by Office of Kentucky Nature Preserves staff, and you will be contacted if there are any additional concerns or information you need to be made aware of. To learn about the report, go to [Project Report](#).

Section 1: My Account

Topics covered in this section:

- **Create New Account**
- **Log In**
- **Log Out**
- **My Account**
- **Request New Password**

Create New Account

Steps:

1. Within the *Home* page, click **Create New Account**.
2. Within the *User account* page, supply the required information (denoted by red asterisks *).

Home > User account

User account

[Create new account](#)
[Log in](#)
[Request new password](#)

E-mail *

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you wish to receive a new password or wish to receive certain news or notifications by e-mail.

Salutation

First name *

Last name *

Organization *

Organization or Business Affiliation

Address *

Street address, e.g. 123 Main St

Address line 2

Optional second line of address, e.g. Suite 987

City *

- a. Once the form is filled out, read and **Accept** Terms & Conditions of Use.

☒ **Accept** Terms & Conditions of Use *

- b. Click **Create new account** [Create new account](#) at the bottom of the page.
- c. A message is displayed on the *Home* page, indicating that further instructions have been sent to the email address entered during account creation. This verifies that the email address is valid and minimizes spam submissions.

A welcome message with further instructions has been sent to your e-mail address.

- Open the email and click on the link provided to activate the new account


Thank you for registering at Kentucky Biological Assessment Tool.

The link below can be used only once to log in to your Kentucky Biological Assessment Tool account and will lead you to a page where you can set your password. After saving your password, you will be able to log in at <https://kynaturepreserves.org/user> in the future using your email address.

You may now log in by clicking this link or copying and pasting it to your browser:

<https://kynaturepreserves.org/user/reset/85/1554381158/oTgZFy0xUdxos7YplvZWSUjqsOltP9c7Y24cpkVjX7g>

Kentucky Biological Assessment Tool

- Within the *Reset password* page, click the **Log in**  button.
 - Create a new password and confirm it.

whitney_weber_36

[View](#) [Edit](#)

You have just used your one-time login link. It is no longer necessary to use this link to log in. Please change your password. ✕

E-mail address *

whitney_weber@natureserve.org

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you wish to receive a new password or wish to receive certain news or notifications by e-mail.

Password

Password strength **Good**


Confirm password

Passwords match: yes

To make your password stronger:

- Add numbers
- Add punctuation

To change the current user password, enter the new password in both fields.

- If desired, set the local **Time zone**.
- Click **Save**  at the bottom of the form.
- A message will appear at the top of the page indicating the changes have been saved; the new account is now enabled

The changes have been saved. ✕

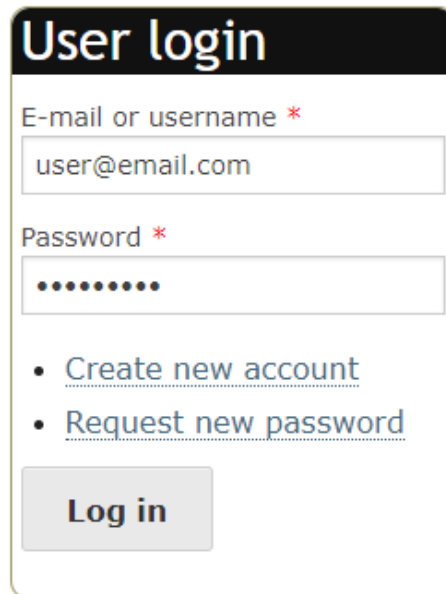
- Proceed to the desired menu to begin working.

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Log In

Steps:

1. Within the *Home* page, enter your **E-mail** and **Password**.

A screenshot of a 'User login' form. The form has a black header with the text 'User login' in white. Below the header, there are two input fields. The first is labeled 'E-mail or username *' and contains the text 'user@email.com'. The second is labeled 'Password *' and contains a series of dots. Below the input fields, there are two links: 'Create new account' and 'Request new password'. At the bottom of the form is a 'Log in' button.

User login

E-mail or username *

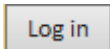
user@email.com

Password *

••••••••

- [Create new account](#)
- [Request new password](#)

Log in

2. Click the **Log in**  button.
3. Once logged in, proceed to the desired menu to begin working.

Log Out

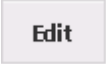
Steps:

1. From any page, click **Log out** in the upper right corner.
2. You will be returned to the *Home* page.


My Account

Allows user to update account settings, including **Password**.

Steps:

1. From any page, click **My account** in the upper right corner.
2. Within your account page, click the **Edit**  button to modify your user settings.
 - a. To change the **E-mail address** or **Password** associated with the account, enter the **Current Password**.

NOTE: If you have forgotten your password, click [Request new password](#) under the **Current password** text box.

3. Click **Save**  at the bottom of the form.
4. A message will appear at the top of the page indicating the changes have been saved.

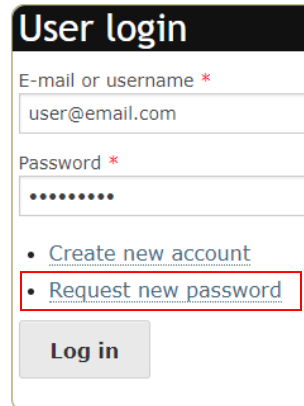
The changes have been saved. 

5. Proceed to the desired menu to begin working.

Request new password

Steps:

1. Within the *Home* page, click **Request new password**.

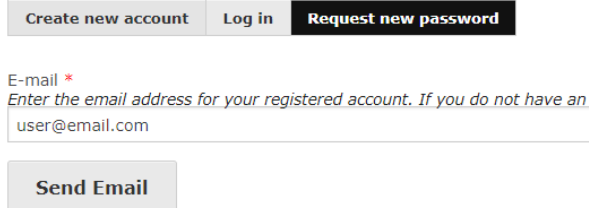


The image shows a 'User login' form. It has two input fields: 'E-mail or username *' with the value 'user@email.com' and 'Password *' with masked characters. Below the password field are two links: 'Create new account' and 'Request new password'. The 'Request new password' link is highlighted with a red rectangle. At the bottom is a 'Log in' button.

2. In the *User account* page, enter the **E-mail** associated with your account and click

Send Email

User account



The image shows the 'User account' page. At the top are three buttons: 'Create new account', 'Log in', and 'Request new password' (which is highlighted). Below these is an 'E-mail *' input field with the placeholder text 'Enter the email address for your registered account. If you do not have an' and the value 'user@email.com'. At the bottom is a 'Send Email' button.

3. A message will be displayed indicating that further instructions have been sent to the e-mail address entered.

Further instructions have been sent to your e-mail address.



4. Open the email and click on the link provided to activate the new account.


A request to reset the password for your account (kendallbrookemcdonald_85) has been made at Kentucky Biological Assessment Tool. If you did not make this request, please disregard this email.

Click or follow the link below for setting your new password. If the link is not active, you may need to copy and paste it into your browser.

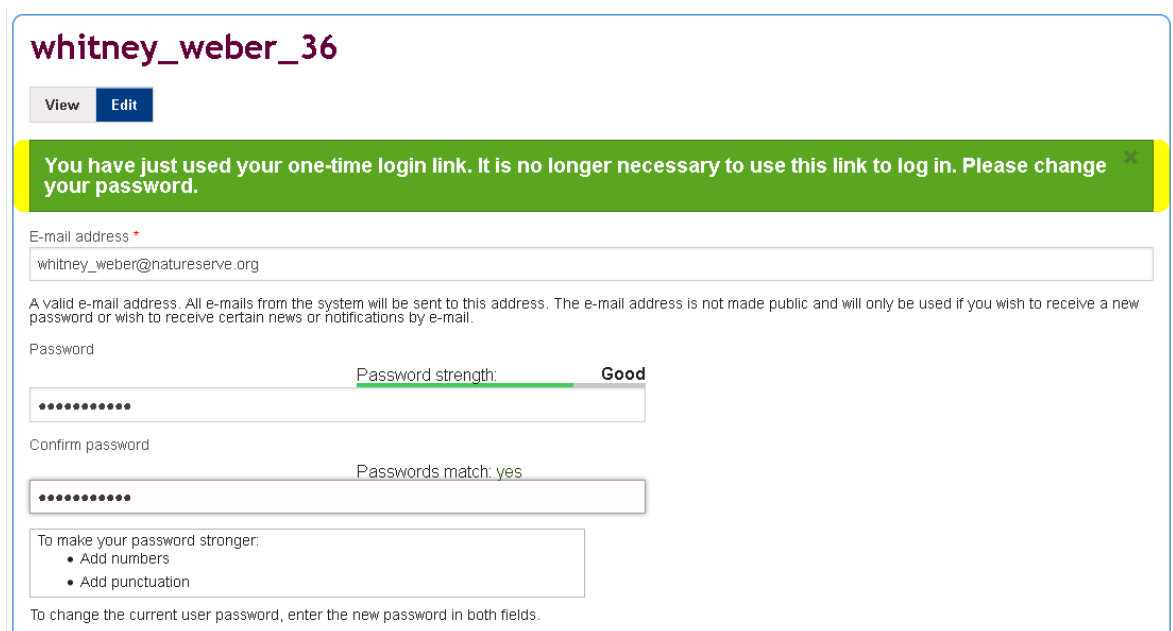
https://kynaturepreserves.org/user/reset/85/1554387338/n1qubPmTlmaQY3XiyeaXipecEFang8qBlqw_JTXObL4

This link can only be used only once and will lead you to a page where you can set your password. It expires after one day and nothing will happen if it's not used.

Thank you,
Kentucky Biological Assessment Tool

5. Within the *Reset password* page, click the **Log in**  button.

a. Create a new password and confirm it.



whitney_weber_36

[View](#) [Edit](#)

You have just used your one-time login link. It is no longer necessary to use this link to log in. Please change your password.

E-mail address *

whitney_weber@naturereserve.org

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you wish to receive a new password or wish to receive certain news or notifications by e-mail.

Password

Password strength: **Good**

Confirm password


Passwords match: yes

To make your password stronger:

- Add numbers
- Add punctuation

To change the current user password, enter the new password in both fields.

b. If desired, set the local **Time zone**.

c. Click **Save**  at the bottom of the form.

d. A message will appear at the top of the page indicating the changes have been saved.

The changes have been saved.

6. Proceed to the desired menu to begin working.

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Section 2: Map Navigation



Topics covered in this section:

- **Navigation Tools**
 - **Overview Map**
 - **Scale Bar**
 - **Shortcut Tricks**
- **Extent Tools**
 - Default Extent
 - Previous Extent
 - Next Extent tools
- **Find an Address or Place**
- **Zoom to Coordinates or Scale**
- **Spatial Bookmarks**

Map Navigation

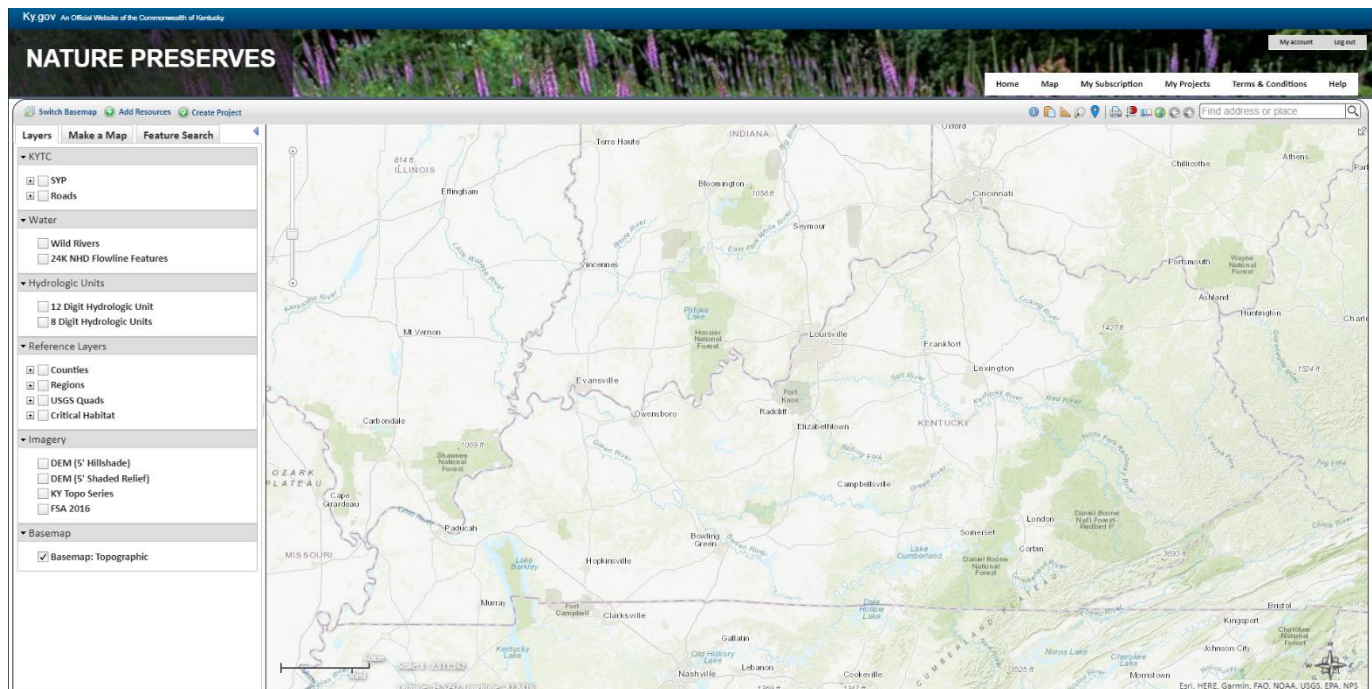
Several categories of tools are available for efficiently moving to specific locations and changing the display in the map viewer.

Map

The tabs within the Map can be minimized by clicking the Close Pane  icon to the right of the tabs. To display the tabs, click the Open Pane  icon. The active tab, or the tab currently in use at any given time, is shown in white.

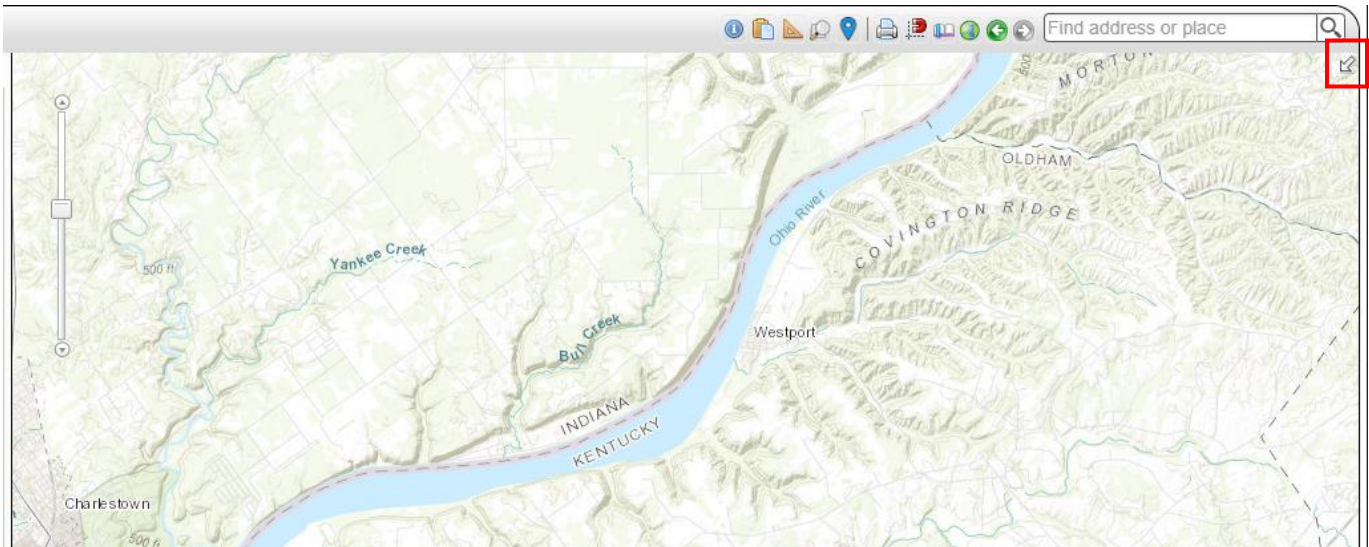
The Map includes options to:



- [Switch Basemap](#)
- [Add Resources](#)
- [Create a Project](#)
- [Alter Layers](#)
- [Make a Map](#)
- [Perform a Feature Search](#)

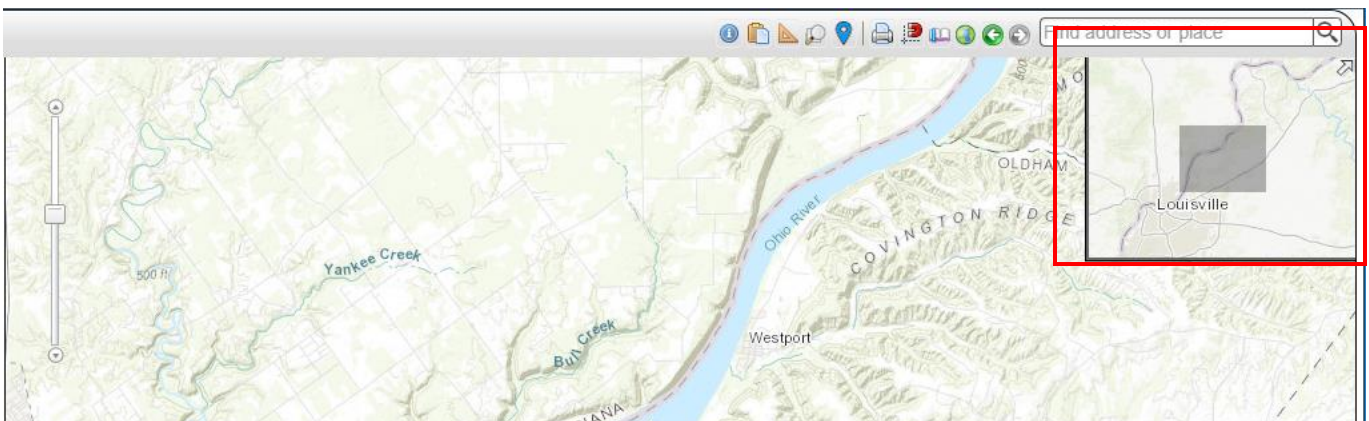


Overview Map

The Overview Map, located in the upper right corner of the map, is useful for keeping track of your location within the state when zoomed into an area on the main map.



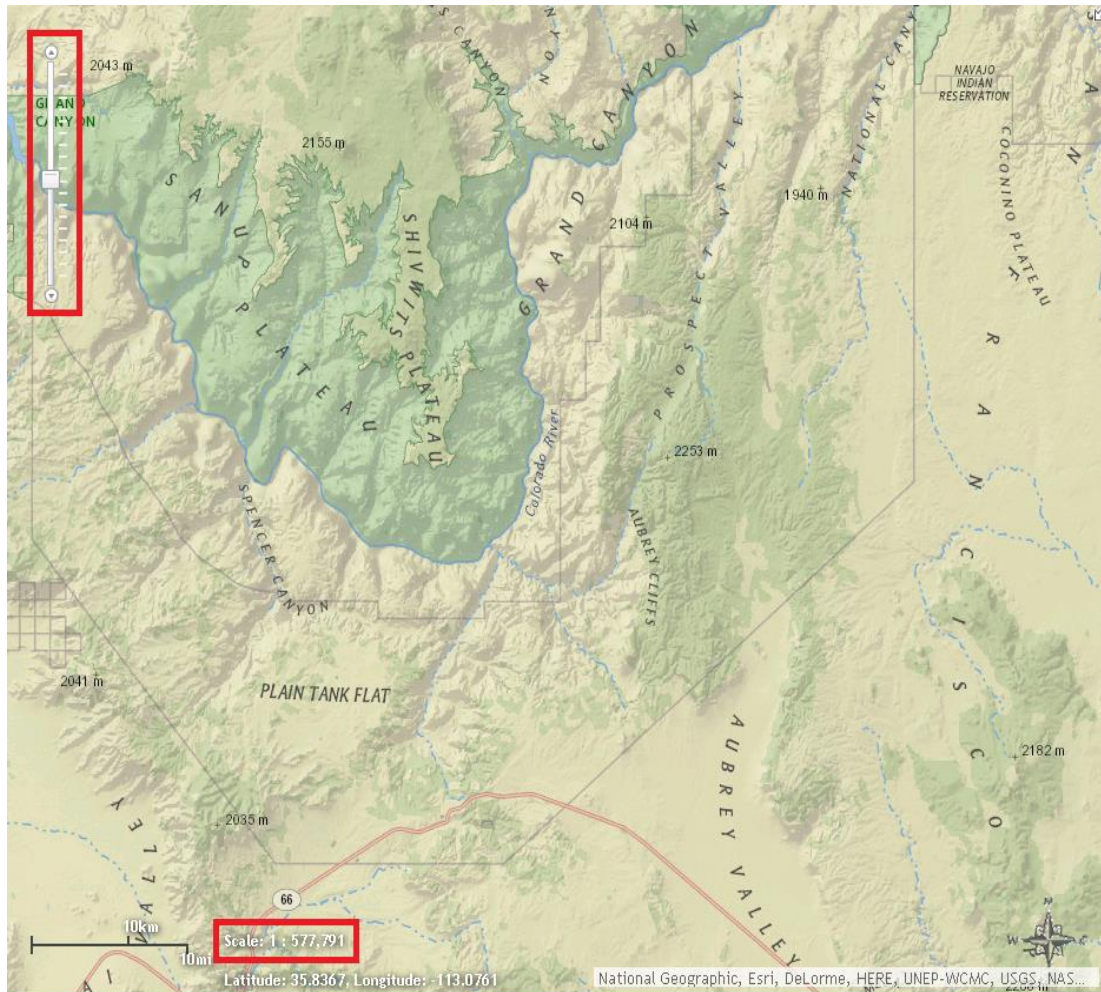
1. Show the Overview Map by clicking the arrow  icon.
2. Hide the Overview Map by clicking the arrow  icon in the upper right corner.
3. Change the map extent by dragging the gray box within the Overview Map. The main map adjusts when the mouse button is released.



Scale Bar

Slide the scale bar up and down to zoom in and out respectively, changing the map extent.

NOTE: the map scale and coordinates are visible in the bottom left hand corner of the map viewer (example below) and change accordingly when the scale bar or any other navigation tools are used.

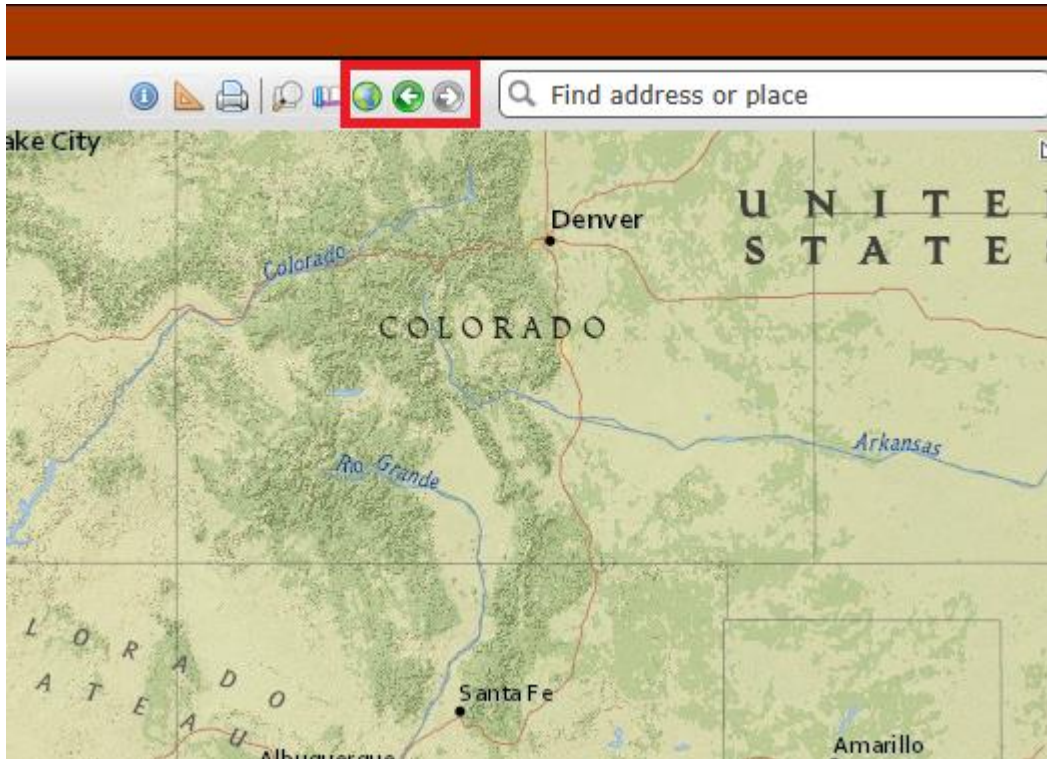


Shortcut Tricks


Zoom in - Hold the SHIFT key while dragging a box on the map.

Zoom out - Hold SHIFT and CTRL keys while dragging a box on the map.


Extent tools




Default Extent

To zoom to the initial extent of the map, click the **Default Extent**  icon located in the upper right corner of the map title bar.

Previous Extent

To zoom to the previous extent of the map, click the **Previous Extent**  icon located in the upper right corner of the map title bar.

Next Extent

To zoom to the next extent of the map, click the **Next Extent**  icon located in the upper right corner of the map title bar.

Find Address or Place

This tool navigates to locations on the map using the **ArcGIS Geocoder** as the source of the data.


Steps:

1. Found in the upper right corner of the Map, the **Find address or place** tool uses the ArcGIS Geocoder as the source of the search, by default.

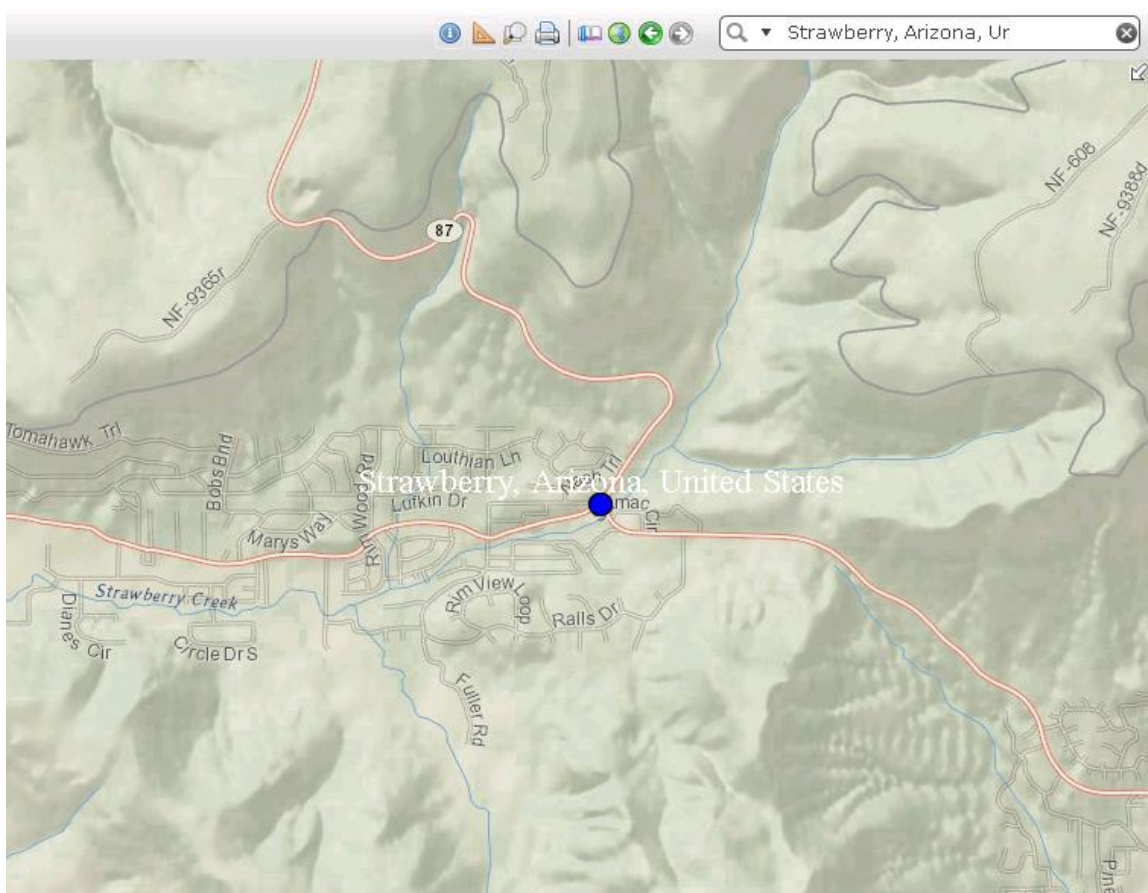


2. Enter the desired location (i.e., **Strawberry, AZ**) in the *Find address or place* text box



3. Click **<Enter>** or click the **Find**  icon to zoom to the specified location on the map.


NOTE: An alternate mode of zooming to a specific location, in cases when the desired location is not found, is to use the **Feature Search** tool to find the location within one of the map layers, and then zoom to it.

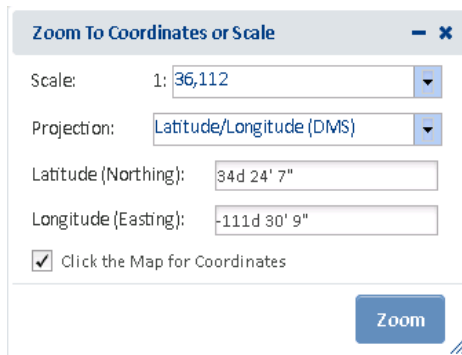


Zoom to Coordinates or Scale

This navigation tool is used to quickly adjust the map display according to either the coordinates or map scale specified by the user.

Steps:

1. Within the *Map*, click the **Zoom To Coordinates or Scale**  icon located in the upper right corner of the map title bar.
2. The *Zoom To Coordinates or Scale* dialog opens, displaying the current map scale and coordinates, as indicated on the map by a red diamond.



3. Select the desired **Scale**.
4. To zoom to a different location, select the **Projection** and enter the desired **Latitude (Northing)** and **Longitude (Easting)**. Alternatively, with the **Click the Map for Coordinates** ☒ checkbox indicated, click anywhere on the map to view the coordinates of that location, in the selected **Projection**.

Coordinates can be entered in the following projections in the formats shown:

- **Latitude/Longitude (DMS)**
Latitude (Northing): 42d 42' 44"
Longitude (Easting): -75d 38' 38"
- **Latitude/Longitude (Decimal)**
Latitude (Northing): 42.712326430204115
Longitude (Easting): -75.64402639639827
- **UTM Zone 16 or UTM Zone 17**
Latitude (Northing): 4254911.012366921
Longitude (Easting): -2346228.775082956
- **Define Projection**
NOTE: WKID and WKT values can be found [here](#).

- **By Well Known ID (WKID)**: 3857
Latitude (Northing): 5268287
Longitude (Easting): -8420654.5
- **By Well Known Text (WKT)**: The WKT can be copied directly from a projection file (.prj). Below is an example.

```
PROJCS["WGS_1984_Web_Mercator_Auxiliary_Sphere",GEOGCS["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROID["WGS_1984",6378137.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Mercator_Auxiliary_Sphere"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",0.0],PARAMETER["Standard_Parallel_1",0.0],PARAMETER["Auxiliary_Sphere_Type",0.0],UNIT["Meter",1.0],AUTHORITY["ESRI","102100"]]
```

Latitude (Northing): 5268287


Longitude (Easting): -8420654.5

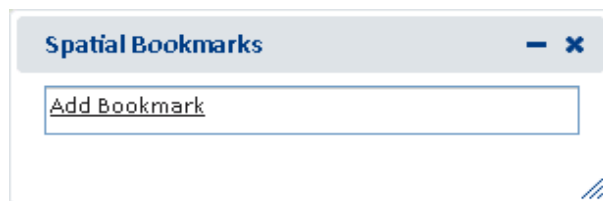
5. Click **Zoom**. A red diamond indicates the location on the map. This is removed when the dialog is closed.
 - If only a new map scale is selected, the map viewer will automatically zoom in or out to the selected scale, while remaining in the same location.
 - If only coordinates are edited (regardless of a change in projection), the map viewer will zoom to the location defined by the coordinates but remain at the same scale.
 - If both map scale and coordinates were changed, the map viewer adjusts location and scale accordingly.



Spatial Bookmarks

Bookmark the map at a particular extent and location to return to for later use during the same logged in session.

Steps:

1. Within the *Map* menu, navigate to the desired location.
2. Click the **Spatial Bookmarks**  icon located in the upper right corner of the map title bar.
3. Within the *Spatial Bookmark* dialog:



- **Add a bookmark** by clicking **Add Bookmark** to enter a name for the bookmark. Hit the TAB or ENTER key on the keyboard to save the bookmark.
- **Edit a bookmark** name by clicking the **Edit icon**  and editing the name of the bookmark. Hit the TAB or ENTER key on the keyboard to save the bookmark.
- **Remove a bookmark** by clicking the **Remove icon** 



- **Zoom** to an existing spatial bookmark by clicking its name.

Section 3: Tools

Topics covered in this section:


- **Switch Basemap**
- **Identify**
- **Details**
- **Measure**
- **Snapping Settings**
- **Print**
- **Draw/Edit**
 - **Draw Shape**
 - Default Draw
 - Freehand Draw
 - **Edit Shape**
 - **Edit Entire Shape/Vertices**
 - **Erase Inside Drawn Area**
 - **Crop Outside drawn area**
 - **Upload Shapes**
- **Buffer Shape**
- **Additional Mapping options**
 - **Map Layers**
 - **Make A Map**
 - **Coordinates**
- **Other Draw/Edit Tools**

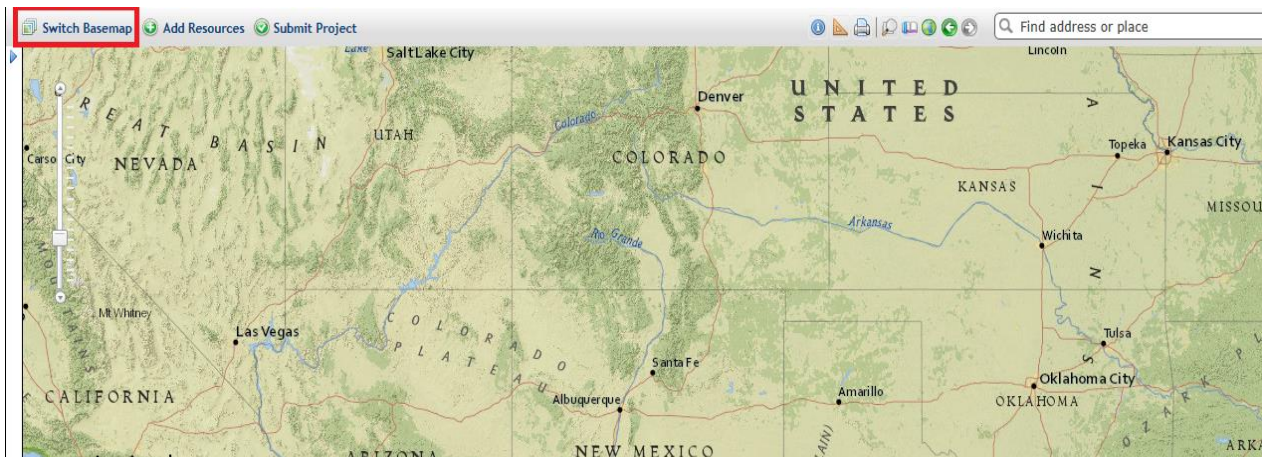
Switch Basemap

A basemap provides a background geographical context for the content displayed on a map. Within the map viewer, the basemap can be changed at any time by choosing a layer from the basemap gallery (e.g., topography, imagery, streets) or made invisible.

NOTE: Upon initiating the **Create Project** processes, the Switch Basemap tool becomes unavailable. If you wish to change the basemap during these processes, open the Switch Basemap tool prior to initiating the process and leave it open or minimize it until needed.

Steps:

1. Within the Map, click the **Switch Basemap**  **Switch Basemap** button, located in the upper left corner of the map title bar.



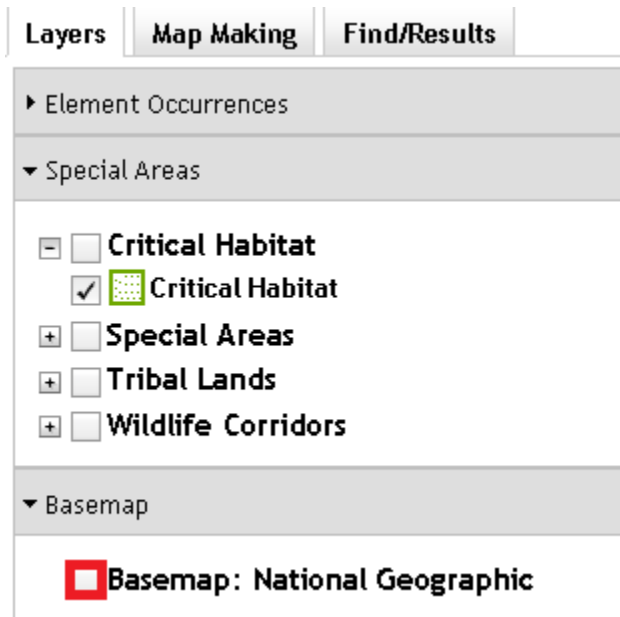
2. Within the *Switch Basemap* dialog, click the thumbnail of the basemap to be used in the map.



3. The basemap in the main map will change accordingly.

NOTE: The overview map retains the National Geographic basemap in order to ensure that there is always a geographic context, which may not be so evident using the other basemaps.

4. To turn off or make the base map invisible, uncheck the toggle box associated with the **Basemap** layer within the *Basemap* accordion section of the *Layers* tab.




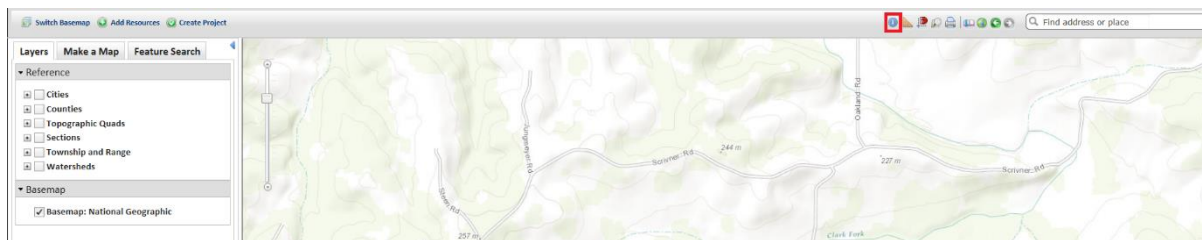
Identify

The Identify tool is used to display the details of the geographic feature(s) or place(s) selected in the Map.

NOTE: The Identify tool cannot be used with cached map services published from ArcGIS Online because such services do not support all of the capabilities of those published through ArcGIS Server.

Steps:

1. Within the Map, click the  icon located in the upper right corner of the map title bar.



2. Within the Identify dialog,
 - **Select a resource:** Select to **Identify Visible Resources** or a specific resource from the dropdown list. If a specific resource is selected, it will be displayed on the map if it was not previously visible.

NOTE: Cached map services published from ArcGIS Online will not be available within the dropdown list because such services do not support all of the capabilities of those published through ArcGIS Server.

- **Identify On:** indicate whether the Identify should be applied to All Layers in Resource, Visible Layers in Resource, or Top Visible Layer in Resource. NOTE: Results will only differ when a Resource contains multiple layers.
- **Identify By:** select means (**Point, Box, Polygon, Line**) of indicating the area to identify
 - **Use Freehand:** provides the ability to digitize a Polygon or Line feature freehand rather than by clicking to add individual vertices.
- **Use Buffer:** indicate to apply a buffer to the location of interest. Enter the desired buffer distance and select the distance unit from the dropdown. A dashed-line graphic will illustrate the buffered area utilized for Identifying.

NOTE: A positive distance will buffer outside the feature whereas a negative distance will buffer within the feature. Negative distances cannot exceed the size of the shape, nor can they be used with Point or Line features. The following error will be displayed when the negative distance exceeds the size of the shape.

- **Show Identify Graphic:** indicate to display the spatial feature utilized to demarcate the identifiable area. Uncheck to clear the spatial graphic representing the search area.

Identify
? - x

Select a resource and click on map to identify

Sections

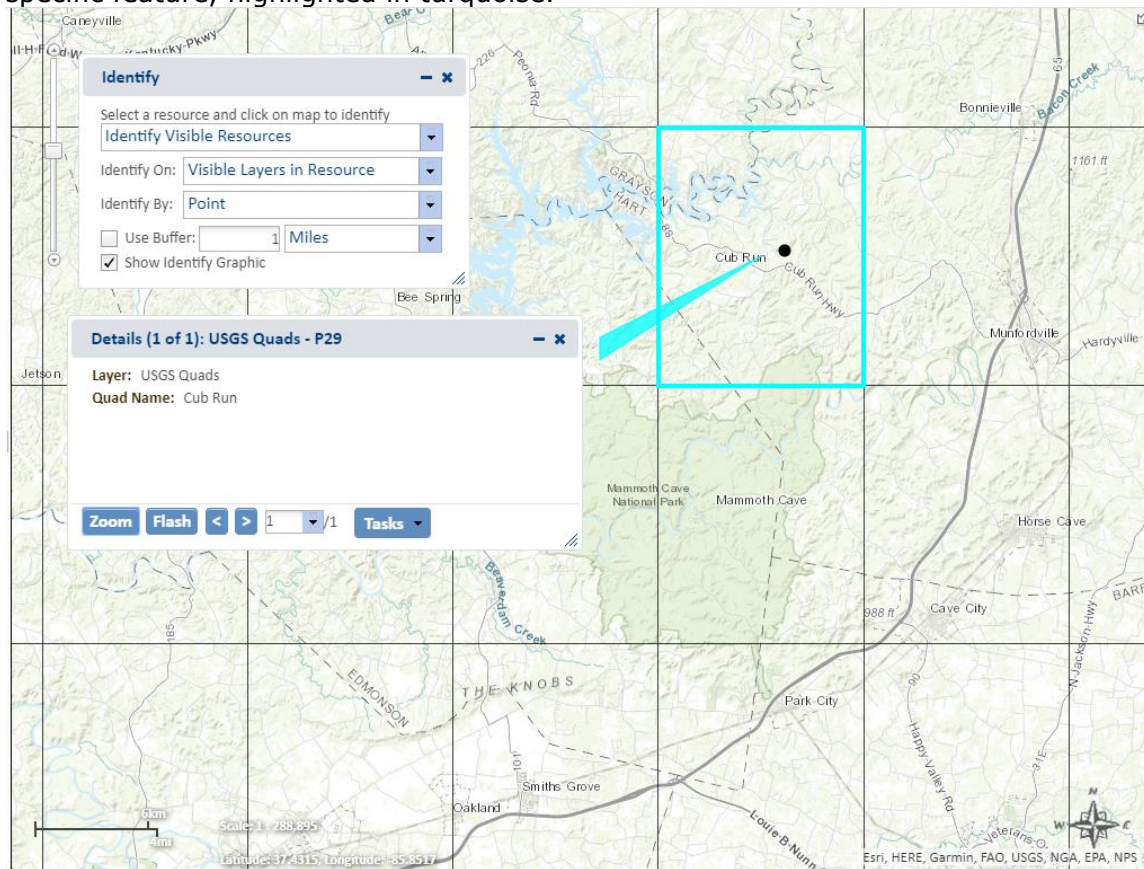
Identify On: All Layers in Resource

Identify By: Box

☒ Use Buffer: 2 Miles

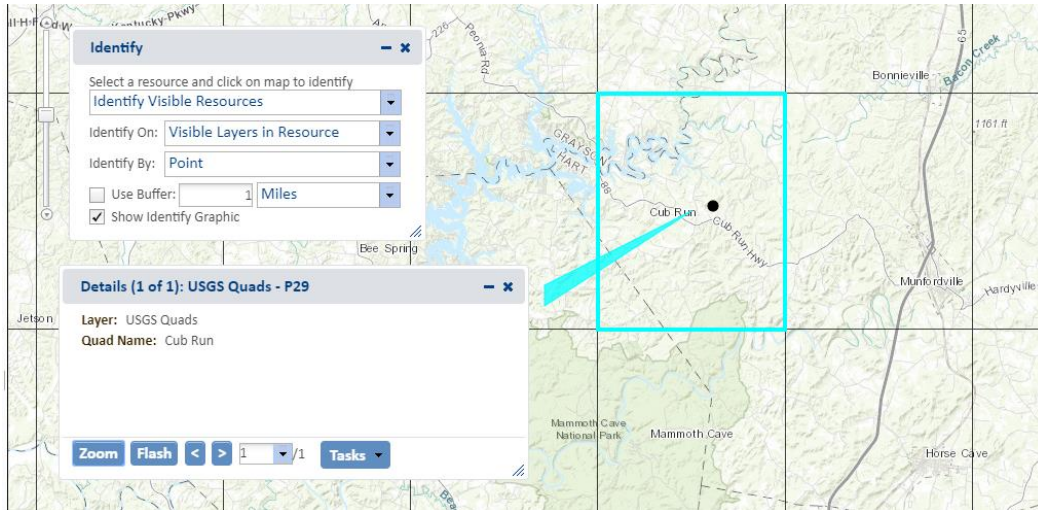
☒ Show Identify Graphic






- Click on the feature/location to be identified.
- The *Details dialog* displays attributes of the target feature(s). A turquoise callout points to the specific feature, highlighted in turquoise.



Details

The *Details* dialog displays the results of the **Identify** and **Feature Search** tools, and indicates the feature associated with each dialog by highlighting and pointing with a turquoise call-out.



- **Zoom** to feature 
- **Flash** feature 
- **Navigate** between features using *Details* dialogs, if more than one, by:
 - Stepping backward or forward   through the set of dialogs
 - Selecting the desired feature dialog from the dropdown list 
- **Tasks** menu
 - **Show Results in Table:** allows the **Results** to be displayed within a table format. In addition to the same **Zoom** and **Flash** functionality above, the table format also enables the user to **Print to PDF** and **Export as CSV**.

Attribute Table: Sections (40 features shown)

| <input type="checkbox"/> | TWP | RNG | SEC | TR5 |
|--------------------------|------|------|-----|-------------|
| <input type="checkbox"/> | T43N | R14W | 13 | T43NR14WS13 |
| <input type="checkbox"/> | T43N | R13W | 18 | T43NR13WS18 |
| <input type="checkbox"/> | T43N | R13W | 17 | T43NR13WS17 |
| <input type="checkbox"/> | T43N | R13W | 16 | T43NR13WS16 |
| <input type="checkbox"/> | T43N | R13W | 15 | T43NR13WS15 |
| <input type="checkbox"/> | T43N | R13W | 14 | T43NR13WS14 |
| <input type="checkbox"/> | T43N | R13W | 13 | T43NR13WS13 |
| <input type="checkbox"/> | T43N | R14W | 24 | T43NR14WS24 |


Close Zoom Flash Print to PDF Export as CSV

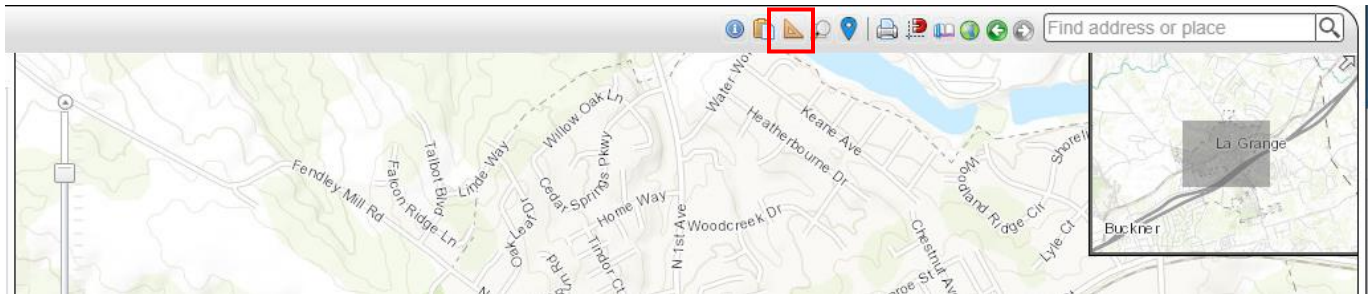
- **Remove from Include List** - removes the selected feature from the list.

Measure

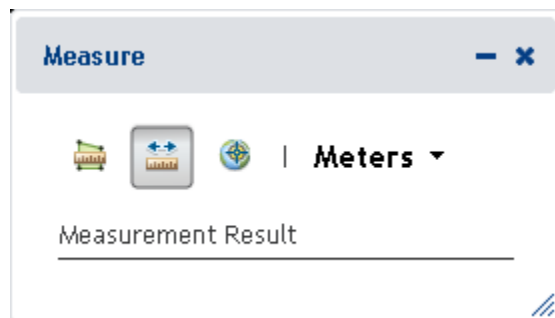
The measure tool is used to determine the size of a designated area, the distance of a digitized line, and the coordinates of a specific location.




Steps:

1. Within the map, click the **Measure**  icon, located in the upper right corner of the map title bar.

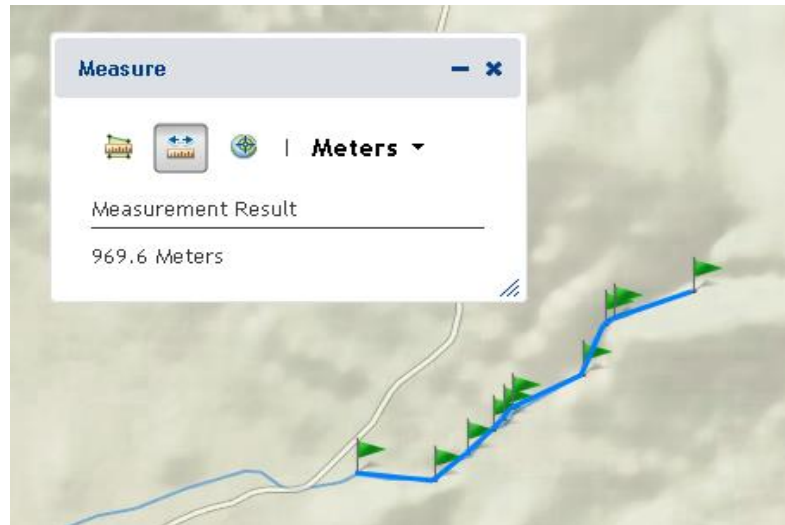


2. Select the desired measurement tool and the appropriate unit of measure from the dropdown list.

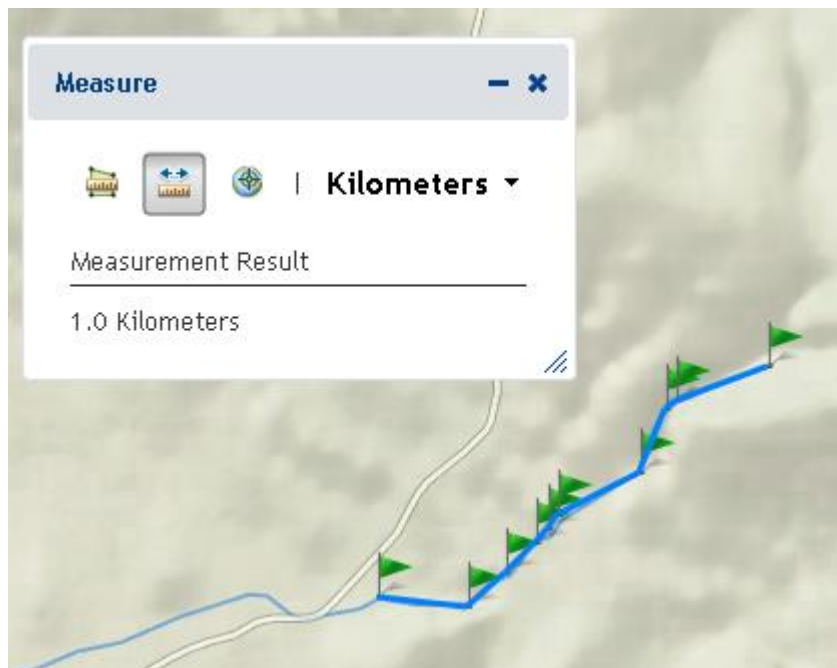


- Area 
- Distance 
- Location 

3. Digitize the feature to be measured:
 - **Point** - click the desired location
 - **Line** - digitize a line, double-clicking to complete the feature
 - **Polygon** - digitize a polygon, double-clicking to complete the feature
4. The *Measurement Result* is reported in the specified units once the line/polygon has been completed.



NOTE: The measurement unit can be changed after the feature has been digitized and the measurement result will be displayed in the newly selected unit.




Snapping Settings

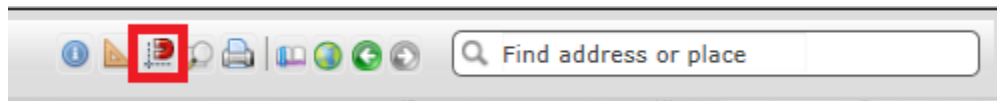
Snapping allows you to create features that connect to each other so your edits are more accurate, with fewer errors. When snapping is turned on, your pointer will jump, or snap to, edges, vertices, and other geometric elements when your pointer is near them and within a certain tolerance. This enables you to position a feature easily in relation to the locations of other features.


Snapping is not limited to being used while editing, as it is utilized in other areas such as the Measure tool on the Tools toolbar.

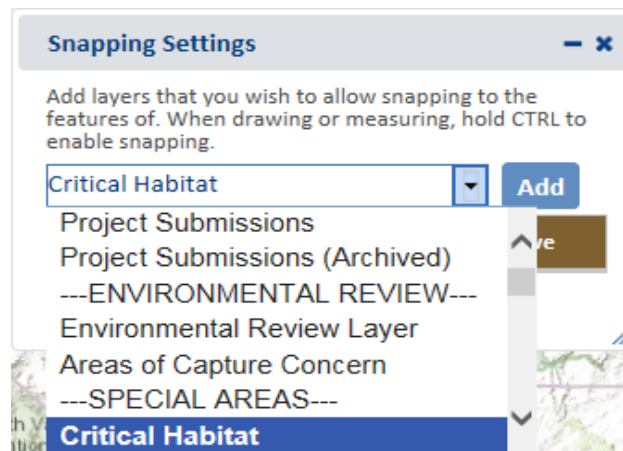
Snapping is useful with many editing operations, such as creating polygons that do not overlap or have gaps between them, drawing lines that connect to each other, or placing a point exactly along an existing line.

Steps:

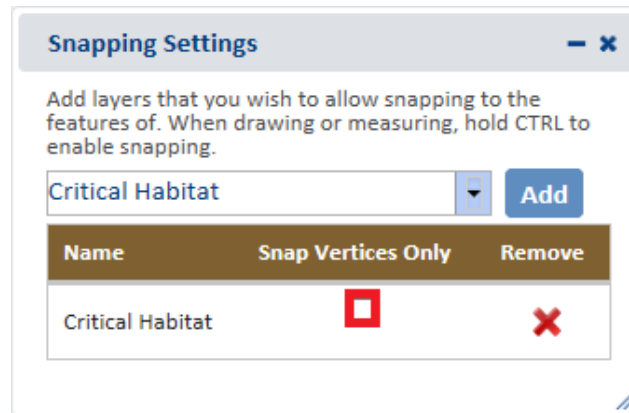
1. Within the Map, click the  icon located in the upper right corner of the map title bar, or from the *Tools* menu, select **Snapping Settings**.



2. Within the *Snapping Settings* dialog, all feature layers listed within the **Layers** tab of the Map are available for snapping. Select the layer(s) to which you want to snap from the dropdown menu and click **Add** . Repeat this step until each of the layers to which should be snapped have been added.



3. If the snapping should be limited to vertices only, indicate the **Snap Vertices Only** checkbox.





4. Select the tool with which to snap (i.e. [Create Project](#), [Make a Map](#), [Measure](#)).
5. Hold **CTRL** to enable snapping.
6. As you move your pointer around the map, the pointer will snap to various geometric locations as you move over them, as indicated by an aqua cross .
7. Once the cursor has snapped, click to place a vertex or point or perform the edit as desired. Double-click to complete the spatial feature.
8. Within the *Snapping Settings* dialog, **Remove** the layer(s) which is no longer desired for use with snapping.



Print

Allows the user to create a printable version of the map view.

Steps:

1. Within the *Map* menu, click the  icon located in the upper right corner of the map title bar.
2. Within the *Print Map* dialog, enter pertinent information within the **Title**, **Author**, and **Copyright** text boxes only if intending to print to **Landscape Layout**. This information is not utilized by the **Map Only** print options and hence need not be included if printing the Map Only.



3. From the **Print** dropdown menu , select the desired print option:
 - **Landscape Layout (PDF)** - provides a PDF of the map including the Title, Author, and Copyright information provided.
 - **Map Only (PDF)** - provides a PDF just of the map itself. Neither Title, Author, nor Copyright information is utilized.
 - **Map Only (PNG)** - provides a PNG just of the map itself. Neither Title, Author, nor Copyright information is utilized.
 - **Map Only (JPG)** - provides a JPG just of the map itself. Neither Title, Author, nor Copyright information is utilized.
4. The Print dropdown reflects **Printing**  while the map is being generated.
5. The map opens in a separate tab within the web browser.

NOTE: The printed map cannot be opened in a new tab unless the pop-up blocker is turned off. If prompted, choose to **Always allow** pop-ups from this site.

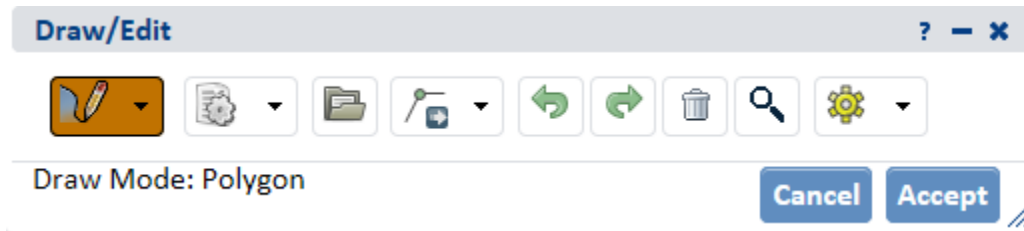
Title



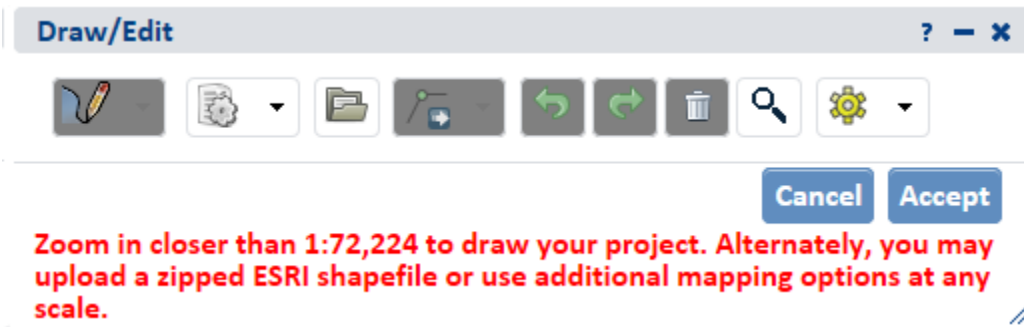
- From the *File* menu of the web browser, select **Save As** and indicate where (and with what name) the map document should be saved.

Draw/Edit

The *Draw/Edit* toolbar opens automatically upon choosing to [Create a Project](#) or add a spatial feature via [Make a Map](#).



If accessed via [Create a Project](#) and the map is not zoomed in closer than 1:72,224, only the [Upload Shapes](#) tool will be available. To access the other draw tools, zoom in to 1:72,224 or closer using the [Scale Bar](#) or [Zoom to Coordinates or Scale](#) tool.




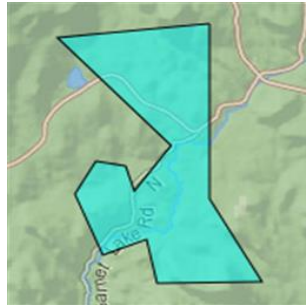
A number of different tools are provided on the *Draw/Edit* toolbar, enabling various actions ranging from digitizing a shape, to moving boundaries, to removing an area from within feature, to buffering a polygon. Some of these tasks require different modes, which are displayed on the lower left of the toolbar.

Draw Shape

Features can be digitized using either the default drawing tool, which utilizes vertices, or a freehand tool.

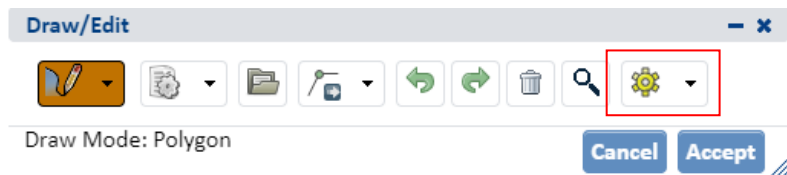
Use default Draw Shape tool:

1. If not already in Draw mode, click the  **Draw Shape** icon.
2. Single click on map to draw a point.
3. For lines and polygons, click every location a vertex is to be placed and double-click to complete feature.

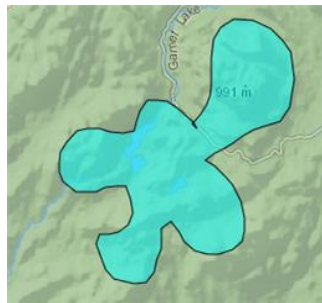


Use Freehand drawing tool:

1. From the *Draw Settings* dropdown, select **Use Freehand**.




2. Holding down the mouse button, draw the feature.
3. Release the mouse button to finish digitizing the feature.

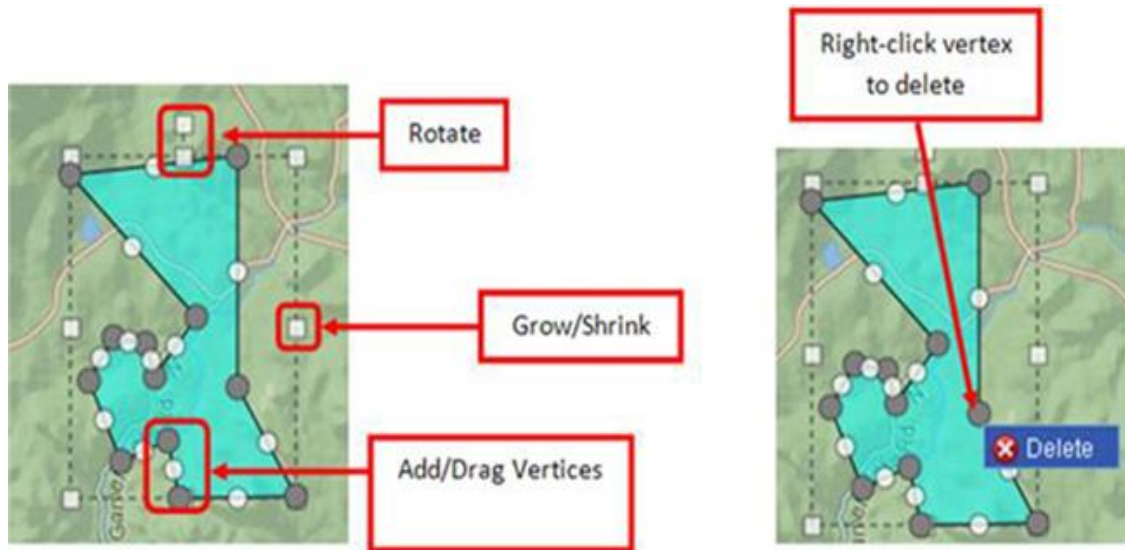


4. Click **Accept** to complete the feature.
5. Alternatively, use the edit tools described in the following sections to make changes to the feature before clicking **Accept** to save.



Edit Shape

Edit Entire Shape and/or Vertices

1. Enter Edit mode by clicking the  **Edit** icon and selecting the **Edit Shape** option. The vertices and extent of the feature will be displayed.
2. Edit feature by:
 - Dragging, rotating, expanding, or shrinking the entire feature
 - Adding, deleting, or dragging vertices.





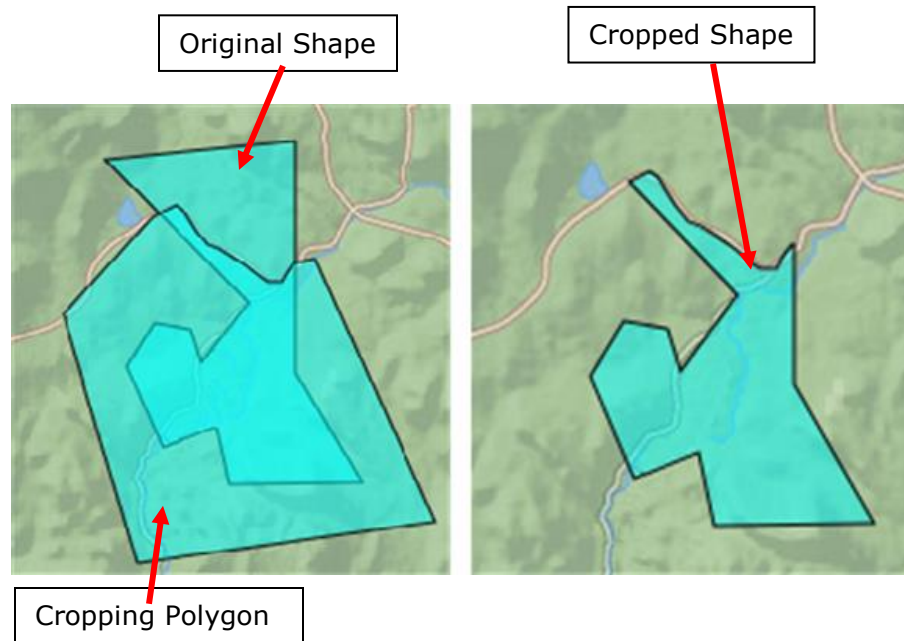
Erase Inside Drawn Area

1. Enter **Erase** mode by clicking the  **Edit menu**, and selecting  **Erase** icon.
2. Digitize a polygon circumscribing the area to be cut from the feature by single-clicking to add each vertex, and double-clicking to complete the polygon.
3. The area circumscribed by the polygon will be clipped from the original feature.



Crop Outside Drawn Area

1. Enter **Crop** mode by clicking the  **Edit menu**, and selecting  **Crop** icon.
2. Digitize a polygon that contains the portion of the feature to be retained, by single-clicking to add each vertex, and double-clicking to complete the polygon.
3. The area within the polygon drawn in Crop mode will be retained, while that portion of the feature outside the polygon will be deleted.
4. Polygon drawn overlapping feature... area of feature within polygon remains after cropping.



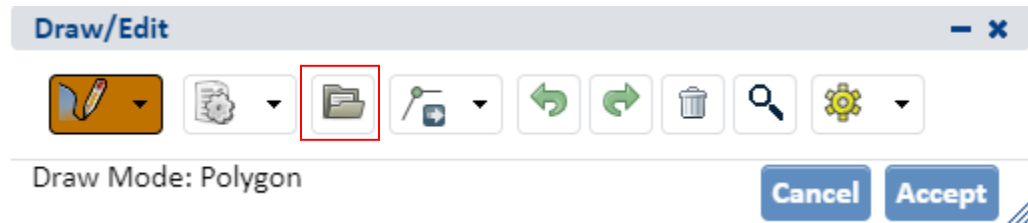
Upload Shapes

Current functionality allows for ESRI shapefiles to be added.

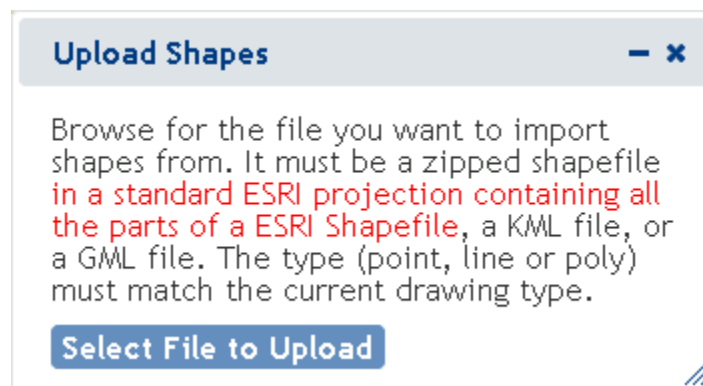
To upload a shapefile:

- All component files **must** be zipped into a zip file with no additional directories or files
- A valid .prj file must be included in the zip file.
- Maximum file size not to exceed 2 GB.

1. Enter *Upload Shapes* mode by clicking the **Upload Shapes**  icon.

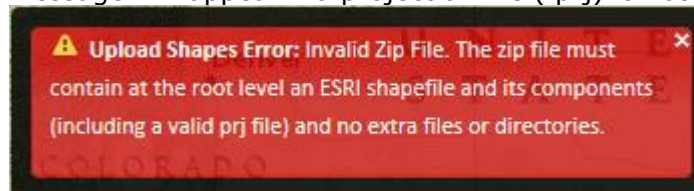


2. Within the *Upload Shapes* dialog, click **Select File to Upload** .

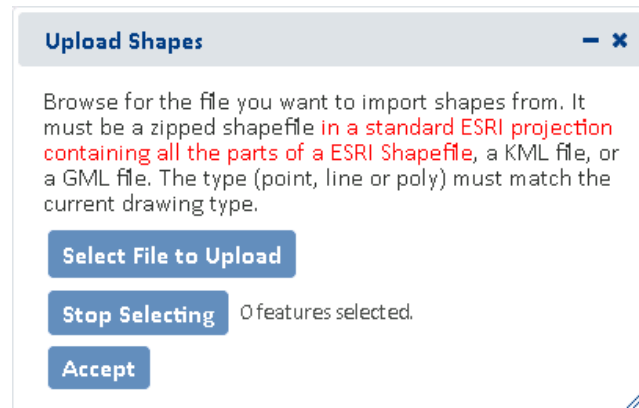


3. Navigate to and select the shapefile to add.

NOTE: The following message will appear if a projection file (.prj) is not included in the zip file.



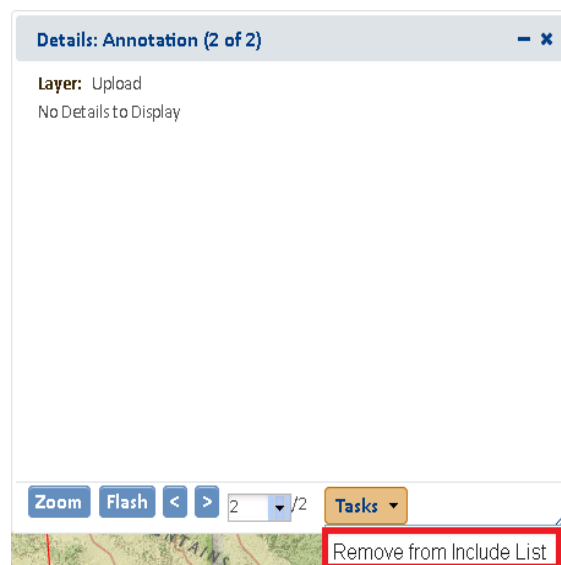
4. The map will zoom to the extent of the spatial feature(s) within the uploaded file.
5. If a file with multiple shapes has been selected, draw a box on the map to select the desired feature(s) within the uploaded layer.



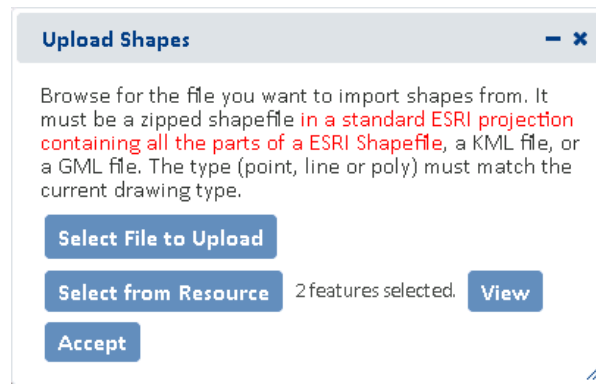
6. The *Details* dialog of the selected feature(s) will be displayed.

To remove a feature from the selection, from the *Tasks* menu, select **Remove from Include List**.

Once removed, the option to **Add to Include List** becomes available in the *Tasks* menu.



7. The number of features selected will be displayed in the section to the right of the *Select From Resource* button along with a **View** button, which allows the user access to the *Details* dialog again if they need to remove additional features from the selection. Alternatively, create a new selection by clicking the **Select from Resource** button again (return to Step 5 for instructions).





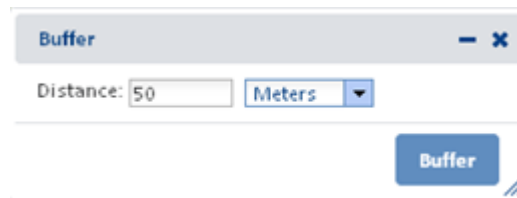
8. Click **Accept** within the *Upload Shapes* dialog.
9. In the *Draw/Edit* toolbar click **Accept**.

Buffer Shape

The Buffer Shape tool can be used in conjunction with the [Draw Shape](#) tool or [Additional Mapping Options](#).

1. Either draw a shape using the [Draw Shape](#) tool or create a shape using the [Additional Mapping Options](#) tool.

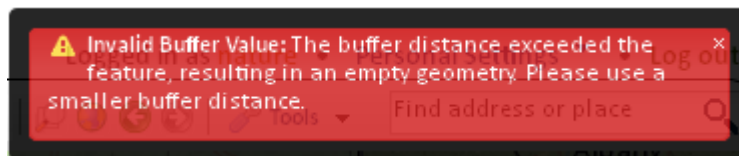
2. Enter Buffer mode by clicking the  **Edit menu**, and selecting  **Buffer Shape** icon.
3. In the *Buffer* dialog, enter a buffer *Distance* and select the desired distance unit from the dropdown. Click **Buffer**.



Use of Buffers


- A positive distance will buffer outside the feature
- A negative distance will buffer within the feature

Note: Negative distances cannot exceed the size of the shape, nor can they be used with Point or Line features. The following error will be displayed when the negative distance exceeds the size of the shape.



- Buffers are **additive**. Thus, if one distance is used to buffer a polygon and then another distance is entered, the second buffer will be added to the first buffer rather than to the original feature.

For example, if a feature is first buffered by 5000 m, and then a second buffer distance of 2500 m is specified, the original feature ends up being buffered by 7500 m; the second distance **does not** replace the first.

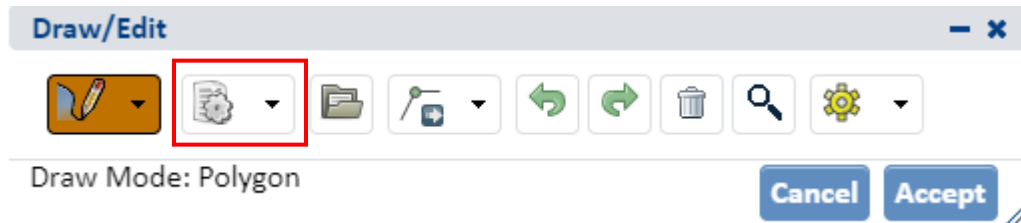
To apply different buffers to a polygon without combining them,  **Undo Last Drawing Change** must be used before specifying the second buffer distance. This will cause the original buffer to be removed prior to applying the second.

4. The buffer will be applied and the user is returned to the *Draw/Edit* toolbar to further modify the feature, if desired. Click **Next** to continue the process.

Additional Mapping Options

The **Additional Mapping Options** dialog allows the user to:

- copy a shape from [Map Layers](#)
- copy shapes created via [Make a Map](#)
- enter Coordinates
- access Spatial Clipboard



This tool can be used reiteratively for multiple edits and use of various tools within a given editing session. As such, the *Additional Mapping Options Tool* is used to indicate how to use the new shape:

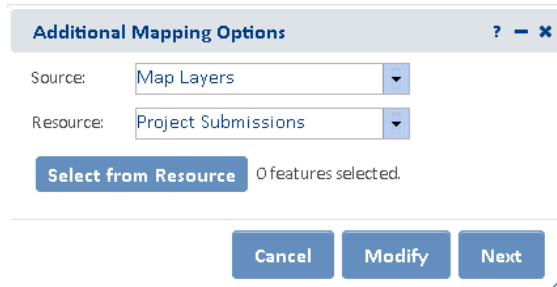
- **Add to original drawing**
- **Replace original drawing**
- **Erase areas of overlap**
- **Crop to copied feature**

Following are the instances when this dialog will be displayed:

- If there is a drawing in the primary draw toolbar whose feature type (point, line, polygon) is the same as the current shape, then the **Add to original drawing** and **Replace original drawing** options will be available.
- If there is a drawing in the primary draw toolbar and the feature type of the current shape is a polygon, then the **Erase areas of overlap** and **Crop to copied feature** options will be available.
- If the feature type of the drawing in the primary draw toolbar is polygon, as is that of the current shape, then all 4 options will be available.

Map Layers

1. Click the **Additional Mapping Options Menu**  icon to bring up the dropdown menu, select **Map Layers**.



Additional Mapping Options ? - x

Source: Map Layers

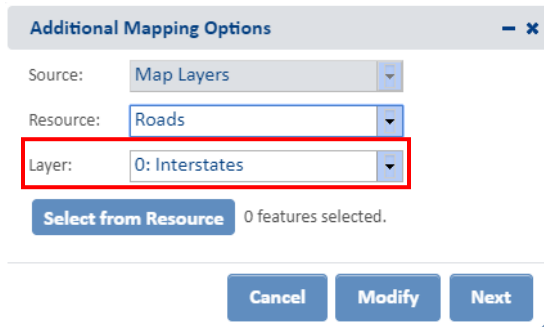
Resource: Project Submissions

Select from Resource 0 features selected.

Cancel Modify Next

2. From the *Resource* dropdown menu, select the map resource from which to copy the shape(s). The options depend on the layers available within the **Layers** section of the map.

NOTE: If the chosen Resource is comprised of multiple layers, an additional *Layer* dropdown list will be displayed from which to select the given layer to copy the shape(s).



Additional Mapping Options - x

Source: Map Layers

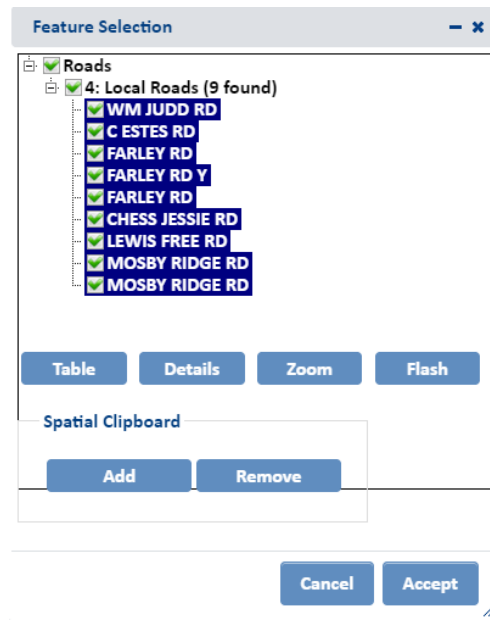
Resource: Roads

Layer: 0: Interstates

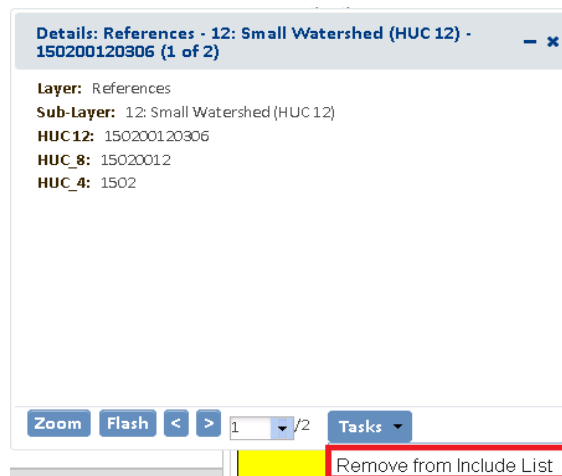
Select from Resource 0 features selected.

Cancel Modify Next

3. Click the **Select from Resource** button. Holding the **Ctrl** button and the mouse button down, draw a box on the map to select the desired feature(s) within the Resource/Layer. Alternatively, individually click on the desired feature to select them.
4. Once you have selected the features the *Feature Selection* dialog will be displayed. Click the **Details** button to open the *Details* dialog. The *Details* dialog of the selected feature(s) will be displayed.



- To **remove a feature** from the selection, from the *Tasks* menu, select **Remove from Include List**. Once removed, the option to **Add to Include List** becomes available in the *Tasks* menu

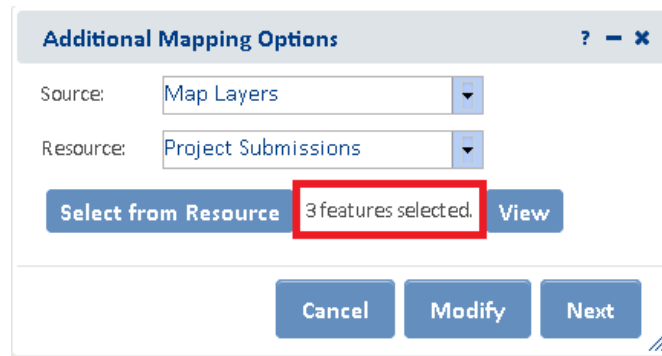


- Close the *Details* dialog box after reviewing; this will bring you back to the *Feature Selection* dialog. Click the **Accept** button if the selections are correct.

Note: If the feature selected is a point or a line, a buffer must be added. The *Buffer* dialog will automatically come up if a buffer is needed. Select a buffer width and click the **Accept** button. Otherwise, continue to step 6.

- The number of features selected will be displayed to the right of the *Select From Resource*

button along with a **View** button, which allows the user access to the *Feature Selection* dialog again if they need to remove additional features from the selection. Alternatively, create a new selection by clicking the **Select from Resource** button again (return to Step 3 for instructions).



7. To further modify the selected features, click **Modify** or **Next** to use the features as they exist.


8. *Use shape from other Source to* Dialog will be displayed with a drop down list of actions to choose for the selected features. Choose the appropriate action and click **Accept**.

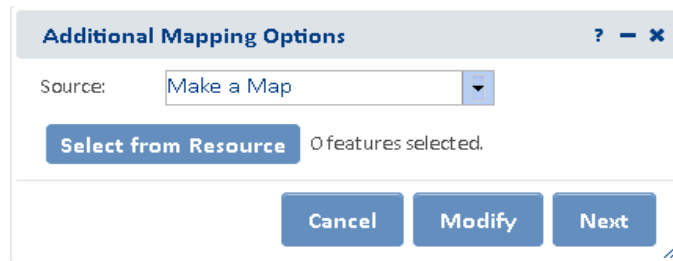
- Add to original drawing
- Replace original drawing
- Erase areas of overlap
- Crop to copied feature

9. In the *Draw/Edit* toolbar click **Accept** unless further edits are needed.

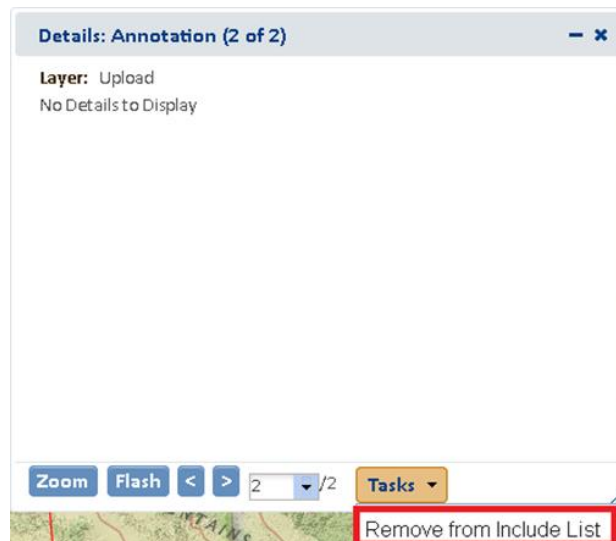
Make a Map

Allows user to add features drawn in **Make A Map** to a project.

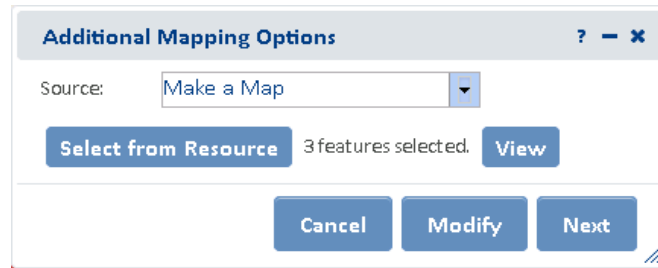
1. Click the **Additional Mapping Options Menu**  icon, select **From Make a Map**.
2. Click the **Select from Resource** button and draw a box around the desired feature(s).



3. The *Details* dialog will automatically pop up upon selection. The user can **remove** or **add** features from the **Task** menu. Close the *Details* dialog once done to return to the *From Make A Map* dialog.




4. The number of features selected will be displayed in the Spatial Search section to the right of the *Select From Resource* button along with a **View** button, which allows the user access to the *Details* dialog again if they need to remove additional features from the selection. Alternatively, create a new selection by clicking the **Select from Resource** button again (return to Step 2 for instructions).



5.To further modify the selected features, click **Modify** or **Next** to use the features as they exist.

6.In the *Draw/Edit* toolbar click **Accept** unless further edits are needed.

Coordinates

1. Click the **Additional Mapping Options Menu**  icon, select **Coordinates**.
2. Select the desired **Projection** and enter in the formats shown:

Coordinates can be entered in the following projections in the formats shown:

- **Latitude/Longitude (DMS)**
Latitude (Northing): 42d 42' 44"
Longitude (Easting): -75d 38' 38"
- **Latitude/Longitude (Decimal)**
Latitude (Northing): 42.712326430204115
Longitude (Easting): -75.64402639639827
- **UTM Zone 16 or UTM Zone 17**
Latitude (Northing): 4254911.012366921
Longitude (Easting): -2346228.775082956
- **Define Projection**
NOTE: WKID and WKT values can be found [here](#).
 - **By Well Known ID (WKID)**: 3857
Latitude (Northing): 5268287
Longitude (Easting): -8420654.5
 - **By Well Known Text (WKT)**: The WKT can be copied directly from a projection file (.prj). Below is an example.

```
PROJCS["WGS_1984_Web_Mercator_Auxiliary_Sphere",GEOGCS["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROID["WGS_1984",6378137.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Mercator_Auxiliary_Sphere"],PARAMETER["False_Easting",0.0],PARAMETER["False_Northing",0.0],PARAMETER["Central_Meridian",0.0],PARAMETER["Standard_Parallel_1",0.0],PARAMETER["Auxiliary_Sphere_Type",0.0],UNIT["Meter",1.0],AUTHORITY["ESRI","102100"]]
```

Latitude (Northing): 5268287
Longitude (Easting): -8420654.5

Additional Mapping Options
? - x

Source: Coordinates

Projection: Define Projection

Define By: By Well Known Text (WKT)

Well-Known String:

```

PROJCS["WGS_1984_Web_Mercator_Auxiliary_Sphere",GE
OGCS["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROI
D["WGS_1984",6378137.0,298.257223563]],PRIMEM["Gree
nwich",0.0],UNIT["Degree",0.0174532925199433]],PROJEC
TION["Mercator_Auxiliary_Sphere"],PARAMETER["False_Ea
sting",0.0],PARAMETER["False_Northing",0.0],PARAMETER[
"Central_Meridian",0.0],PARAMETER["Standard_Parallel_1"
,0.0],PARAMETER["Auxiliary_Sphere_Type",0.0],UNIT["Met
er",1.0],AUTHORITY["ESRI","102100"]]

```

Latitude (Northing): 4094979.374992865

Longitude (Easting): -12581114.003746616




☒ Click the Map for Coordinates

Zoom and Preview

Cancel Modify Next

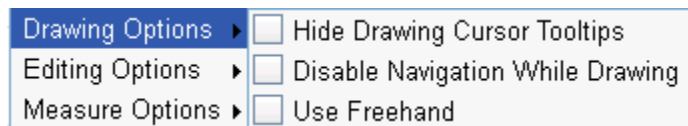
- Click **Zoom and Preview**.
- To further modify the selected features click, **Modify** or **Next** to use the features as they exist.
Note: If adding a point or line, a buffer must be added. The Buffer dialog will automatically populate. Choose your Buffer and click Next.
- Use shape from other Source to* Dialog will be displayed with a drop down list of actions to choose for the selected features. Choose the appropriate action and click **Accept**.
 - Add to original drawing
 - Replace original drawing
 - Erase areas of overlap
 - Crop to copied feature
- In the *Draw/Edit* toolbar click **Next** unless further edits are needed.

Other Draw/Edit Tools

- **Undo** 
- **Redo** 
- **Clear Shape** 
- **Draw Settings** 

The Draw Settings dropdown menu includes three options:

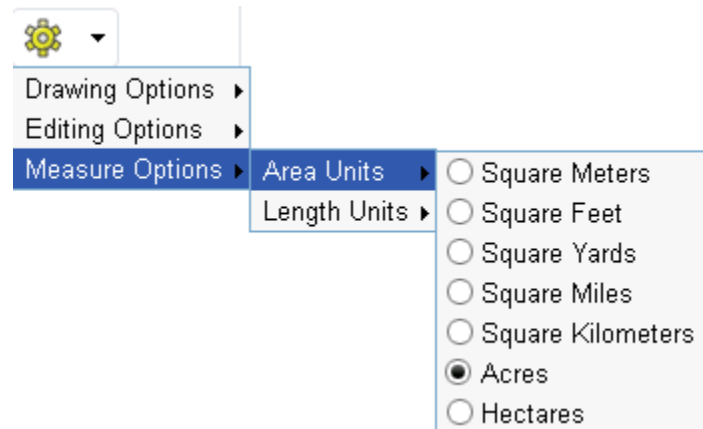
1. **Drawing Options**, which are enabled/disabled by clicking the corresponding checkbox, include:
 - **Hide Drawing Cursor Tooltips**: disables the display of tooltips to prevent the tooltip from obscuring the view
 - **Use Freehand**: provides the ability to digitize a feature freehand rather than by clicking to add individual vertices.
 - **Disable Navigation while Drawing**: - a setting that is on by default - improves drawing performance by switching map navigation (i.e., pan and zoom functionality) off once the first vertex of a shape has been placed, and re-enabling navigation when the shape is closed. Leaving this draw setting enabled prevents the application from interpreting a longer touch on the cursor while digitizing as an attempt to pan, which would cause the map to be refreshed and any vertices digitized to be lost.



2. **Editing Options**, which are enabled/disabled by clicking the corresponding checkbox, include:
 - **Allow Vertices Moving**
 - **Allow Adding and Removing Vertices**
 - **Allow Moving Geometry**
 - **Allow Rotating Geometry**
 - **Allow Scaling Geometry**
 - **Scale Uniformly to Maintain Aspect**



3. **Measure Options** allow the user to select the desired Area Units & Length Units in which to display the measurements.



Section 4: Make a Map

Topics covered in this section:


- **Polygons**
- **Lines**
- **Points**
- **Text**
- **Annotation Layer Settings**

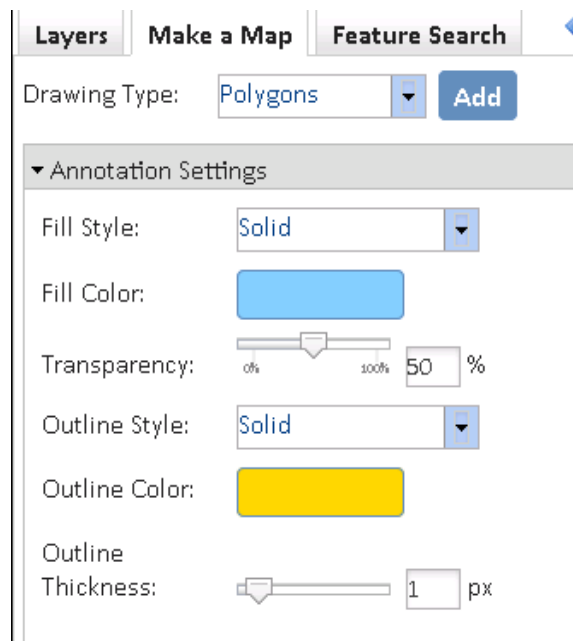
Make A Map

The *Make a Map* tab within the map enables the addition of annotation (**graphics and text**) to the map. These annotations can be used to **Create Project**. The contents of the tab are segregated into accordion sections which can be contracted by clicking the ▾ button or expanded by clicking the ▸ button.

- [Polygons](#)
- [Lines](#)
- [Points](#)
- [Text](#)
- [Annotation Layer Settings](#)

Polygons

1. Zoom to the area of interest.
2. From the **Drawing Type** dropdown, select **Polygons**.
3. Click **Add**  to start drawing. The *Draw/Edit* toolbar and *Annotation Settings* section will appear.
4. Within the *Annotation Settings* section, select the desired **Fill Style**, **Fill Color**, **Transparency**, **Outline Style**, **Outline Color** and **Outline Thickness**.




The screenshot shows the 'Make a Map' tab in a software interface. At the top, there are three tabs: 'Layers', 'Make a Map' (which is active), and 'Feature Search'. Below the tabs, there is a 'Drawing Type:' dropdown menu set to 'Polygons' and an 'Add' button. Below this is an 'Annotation Settings' section, which is expanded. It contains several settings: 'Fill Style' is set to 'Solid'; 'Fill Color' is a light blue color swatch; 'Transparency' is a slider set to 50%; 'Outline Style' is set to 'Solid'; 'Outline Color' is a yellow color swatch; and 'Outline Thickness' is a slider set to 1 px.

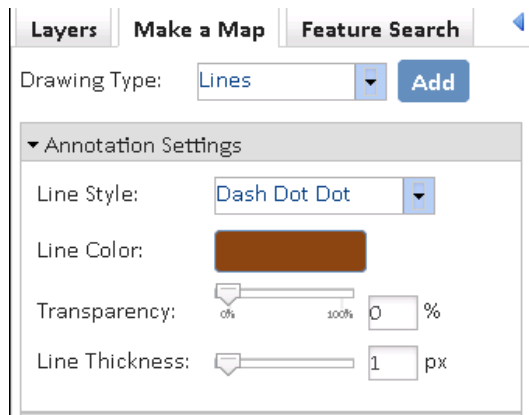
5. Draw a polygon(s) or use the [Additional Mapping Options](#) tool to copy a polygon(s) from an existing **Map resource**.
6. Within the *Draw/Edit* toolbar, click **Accept**.



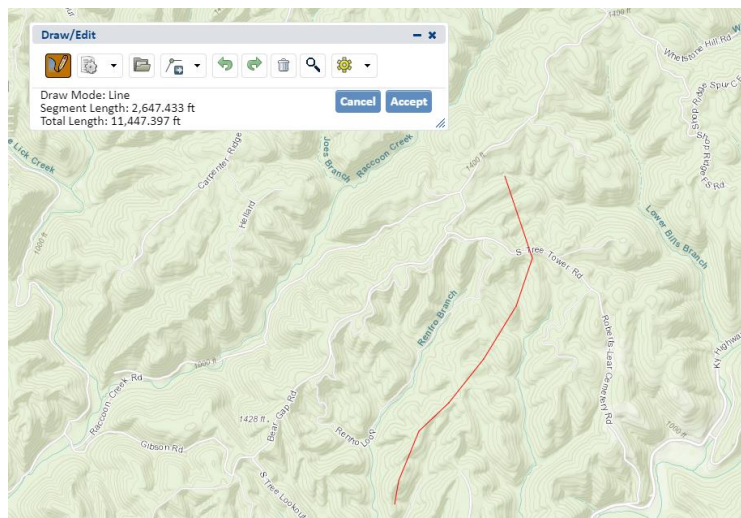
7. To change the annotation, click the **Edit Annotations** [Edit Annotations](#) button within the *Annotation Layer Settings* section and click the annotation to edit.

Lines

1. Zoom to the area of interest.
2. From the **Drawing Type** dropdown, select **Lines**.
3. Click **Add**  to start drawing. The *Draw/Edit* toolbar and *Annotation Settings* section will appear.
4. Within the *Annotation Settings* section, select the desired **Line Style**, **Line Color**, **Transparency**, and **Line Thickness**.



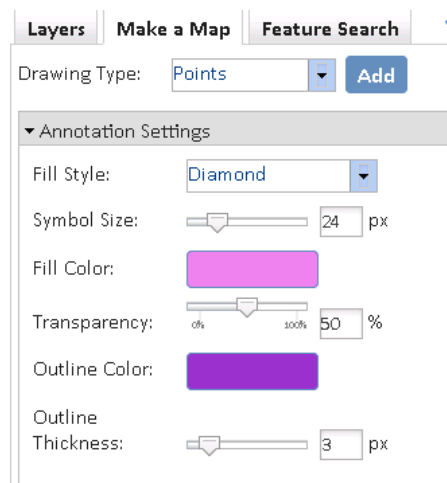
5. Draw a line(s) or use the [Additional Mapping Options](#) tool to copy a line(s) from an existing **Map resource**.
6. Within the *Draw/Edit* toolbar, click **Accept**.



7. To change the annotation, click the **Edit Annotations**  button within the *Annotation Layer Settings* section and click the annotation to edit.

Points

1. Zoom to the area of interest.
2. From the **Drawing Type** dropdown, select **Points**.
3. Click **Add** Add to start drawing. The *Draw/Edit* toolbar and *Annotation Settings* section will appear.
4. Within the *Annotation Settings* section, select the desired **Fill Style**, **Symbol Size**, **Fill Color**, **Transparency**, **Outline Color** and **Outline Thickness**.



5. Click the map to place the point(s) on the map or use the [Additional Mapping Options](#) tool to copy a point(s) from an existing **Map resource**.
6. Within the *Draw/Edit* toolbar, click **Accept**.



7. To change the annotation, click the **Edit Annotations** Edit Annotations button within the *Annotation Layer Settings* section and click the annotation to edit.

Text

1. Zoom to the area of interest.
2. From the **Drawing Type** dropdown, select **Text**.
3. Within the *Annotation Settings* section, enter the **Text to Add** within the text box and then select the desired **Text Color**, **Text Size**, **Text Align**, **Text Angle**, **Text Style**, and **Text Weight**.

Layers | Make a Map | Feature Search

Drawing Type: Text Add

▼ Annotation Settings

Text to Add:
WaterSpigot

Text Color: Blue

Text Size: 20 Pixels

Text Align: Center

Text Angle: 0 360° 0°

Text Style: Normal

Text Weight: Bold

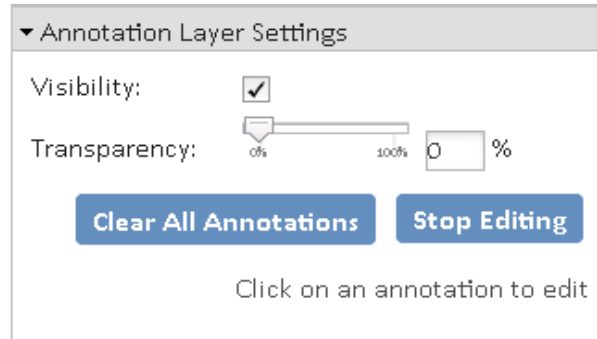
4. Click **Add** Add and then click on the map where you would like the text placed.



5. Repeat steps 3 & 4 to add the same text in multiple locations or enter different text.
6. To change the annotation, click the **Edit Annotations** Edit Annotations button within the Annotation Layer Settings section and click the annotation to edit.

Annotation Layer Settings

The configurations within the *Annotation Layer Settings* section apply to all annotations added to the map.



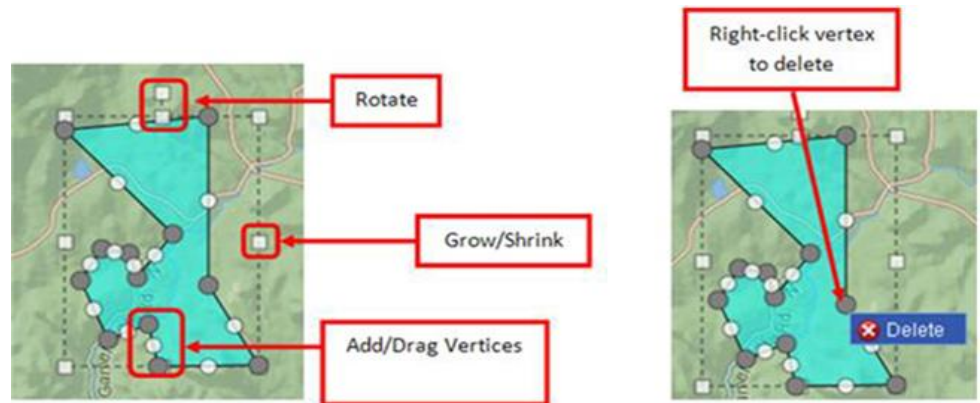
- **Visibility** - set to display annotation by default. Uncheck the Visibility checkbox to turn off all annotation.

Visibility: ☒

- **Transparency** - allows the transparency of the layer to be adjusted by sliding the indicator along the bar.

Transparency: 0% 100% %

- **Clear All Annotations** - [Clear All Annotations](#) removes all annotations from the map.
- **Edit Annotations** - [Edit Annotations](#) allows for editing of individual annotations:
 1. Click the **Edit Annotations** button
 2. Select the desired annotation to edit - the accordion section for the annotation type will be expanded to provide access to the appropriate settings.
 - **Point** - change the settings of the Point or change its location by clicking on it and dragging the point to the desired location.
 - **Line** - change the settings of the Line or change its location by clicking on it and editing the spatial feature.
 - **Polygon** - change the settings of the Line or change its location by clicking on it and editing the spatial feature.
 3. **Edit spatial feature** by:
 - Dragging, rotating, expanding, or shrinking the entire feature; and/or by
 - Adding, deleting, or dragging vertices.





- **Text** - change the Alignment or Color of the Text or change its location/angle by clicking and dragging the text to the desired location.
4. Click **Stop Editing** Stop Editing after making the desired changes or the **Delete Annotation** Delete Annotation button to delete the feature.

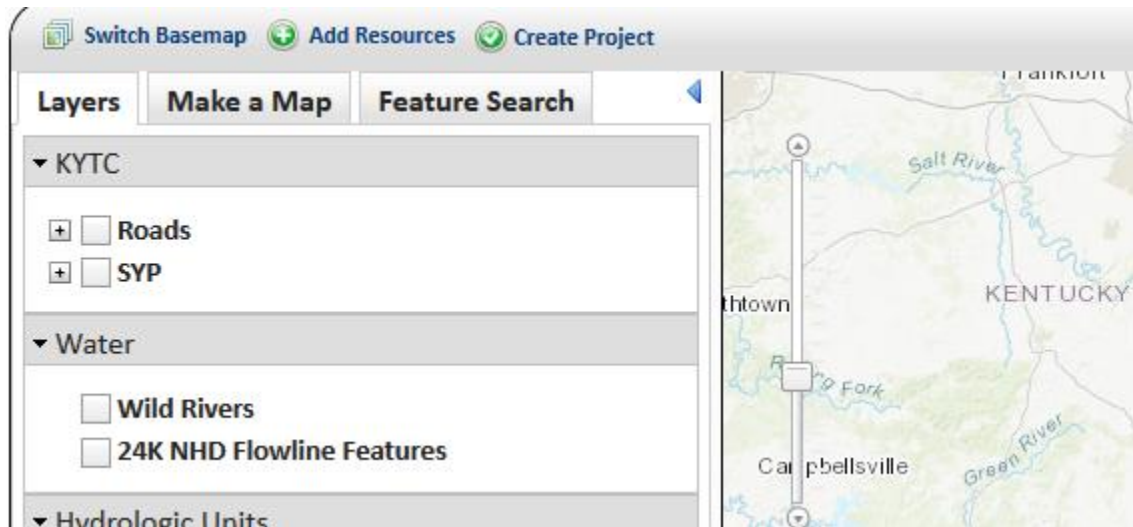
Section 5: Layers

Topics covered in this section:

- **Layers**
- **Feature Search**
 - **Attribute Search**
 - **Spatial Search**
 - **Results**
- **Filter**
 - **Create filter**
 - **Modify or Remove Filter**
- **Build a Query**
 - **Strings**
 - **Wildcard characters**
 - **Null Values**
 - **Querying Numbers**
 - **Calculations**
 - **Operator precedence**
 - **Combining expressions**
 - **Querying dates**

Layers

Within the *Layers* tab of the map, layers are segregated into accordion sections. These accordion sections can be contracted by clicking the  button or expanded by clicking the  button. Individual layers can be made visible/invisible, their symbology displayed, transparency altered, zoomed to, and details viewed.




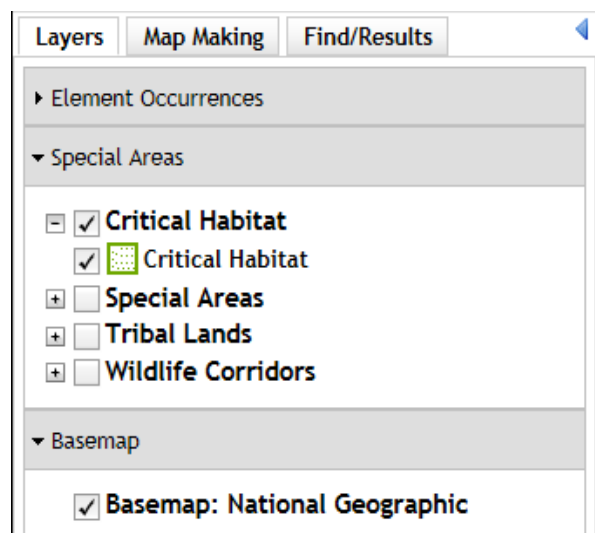
Steps:



1. Within the Map, navigate to the Layers tab, if not already there.
2. Make a layer visible/invisible by clicking the checkbox left of its name.

 ☒ **Critical Habitat**

NOTE: Certain layers are only visible at certain map scales. If a map is not available at a given map scale, the layer will be grayed out. To determine the minimum and maximum scale at which a scale will be displayed, View Details.

3. Click the  icon to expand a layer to view its symbology.

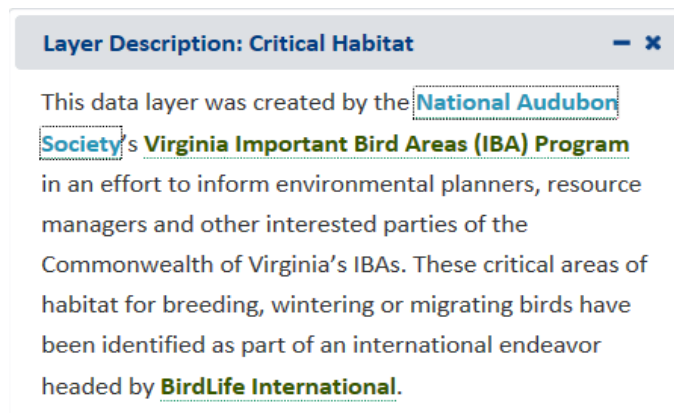


4. Collapse the layer by clicking the  icon.
5. Hover over a layer name and click the dropdown  icon to the right to view the tasks available for the layer.

- **Transparency** – allows the transparency of the layer to be adjusted by sliding the indicator along the bar.




- **Zoom To** – zooms to the full extent of the layer.
- **Remove** - removes the layer from the map. NOTE: this option is only available for layers added by the user.
- **Filter** - limits the spatial features displayed on the map to those that meet the filter definition/criteria. Once a Filter has been applied to a layer, the label (Filtered) will be displayed next to the Layer name. It is only available if the Visualization Layer has been configured to Use Filter.
- **Clear Filter** - removes the filter applied to the layer so that all spatial features are visible. This option is displayed only when a Filter is applied to the layer.
- **View Details** – opens the details for the layer within the ArcGIS Services Directory. If a secured service, a user name and password will be required to view the information. See the **Min Scale** and **Max Scale** values to determine a layers scale dependency.
- **View Description** - if information has been configured within the Layer Description section of the **Layer**, the description (metadata) will be displayed in the Layer Description dialog.



Feature Search

The **Feature Search** tool provides the ability to identify features in a layer, including those added to the Map via the [Add Resources](#) tool, according to criteria specified by a query.

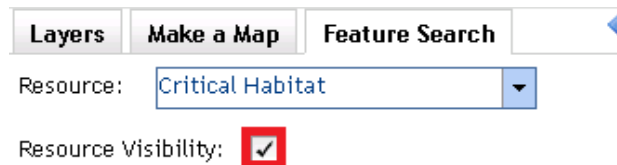
Once a search has been completed, the search criteria is saved for your convenience. Therefore, the next time the *Feature Search* tab is opened, the previously used search criteria still applies. If you want to define a new search, click **Reset** .

NOTE: The Feature Search option is not available for cached map services published from ArcGIS Online because such services do not support all of the capabilities of those published through ArcGIS Server.

Steps:

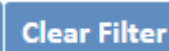
1. Within the Map, navigate to the **Feature Search** tab (on the left side of the screen).
2. In the *Feature Search* tab, select the **Resource**, the layer on which the search is to be performed, from the dropdown menu.
3. The layer will automatically be displayed and the **Resource Visibility** checkbox indicated.

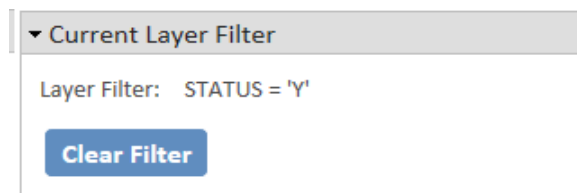
NOTE: If the default **Resource** is the desired layer, manually indicate the **Resource Visibility** checkbox to display the layer.



The screenshot shows the 'Feature Search' tab in the top navigation bar. Below it, the 'Resource' dropdown menu is set to 'Critical Habitat'. Underneath, the 'Resource Visibility' checkbox is checked, indicated by a red square with a white checkmark.


NOTE: If a [Filter](#) has been applied to the Resource (i.e. Layer), a *Current Layer Filter* accordion section is displayed, defining the filter applied and the option to **Clear Filter**

.



The screenshot shows an accordion section titled 'Current Layer Filter'. Inside, it displays 'Layer Filter: STATUS = 'Y''. Below this, there is a blue button labeled 'Clear Filter'.

4. Define search criteria according to an [Attribute Search](#) and/or designating a location in which to perform a [Spatial Search](#).
5. To clear the defined expression, click the **Reset**  button.

NOTE: A green check mark  icon on a section indicates that criteria have been defined within that section of the *Feature Search* tab.

Attribute Search:

The fields in the Attributes section differ according to the layer specified in **Resource** dropdown.

1. If not already expanded, click the **Attributes** label to expand the section.
2. Define the search criteria by selecting a value(s) from the various field dropdown menus.
3. Select Values
 - Select multiple values by holding down the SHIFT key and selecting the values
 - Select specific values by depressing the CTRL key and selecting the values.

The screenshot shows a software interface with three tabs: **Layers**, **Make a Map**, and **Feature Search**. The **Feature Search** tab is selected. Below the tabs, there is a **Resource:** dropdown menu with **Wildlife Corridors** selected. Below that is a **Resource Visibility:** checkbox which is checked. The **Attribute Search** section is expanded, indicated by a green checkmark in the top right corner of the section. Inside this section, there is a **Name:** label above a dropdown menu. The dropdown menu is open, showing four options: **Select All**, **Coyote - Ironwood - Tucson Linkage D**, **Galiuro - Pinaleno - Dos Cabezas Link**, and **Gila Bend - Sierra Estrella Linkage De**. The first option, **Select All**, is currently highlighted.

Spatial Search:

The **Spatial Search** enables selection of *Resource* features based on their location in relation to the selected features defined within *Search By*; in an ad-hoc manner.

1. **Click Spatial Search** to expand the accordion section.
2. From the **Search By** dropdown, select how the search area will be defined.
 - a. **Box, Polygon, Point, or Line** - digitize the search area according to the tooltip instructions.

- i. To re-define the search area, click the **Select by Drawing** button to digitize the search area.

Select by Drawing

b. **Features from map resource:**

- i. From the *Resource* dropdown menu, select the layer from which to copy the shape(s).

NOTE: If the chosen Resource is comprised of multiple layers, an additional Layer dropdown list will be displayed from which to select the given layer to copy the shape(s).

- ii. Click the **Select From Resource** button.

Select from Resource

▼ Spatial Search ✓

Search By: Features from map reso ▼

Resource: Critical Habitat ▼

Select from Resource 2 features selected


View

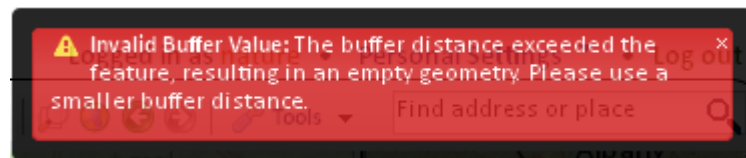
☐ Use Buffer: 1 Miles ▼

Search Type: Intersects ▼

Search Reset


- iii. Holding the mouse button down, draw a box on the map to select the features within the layer.
 - iv. The *Details* dialog of the selected features will be displayed. To remove a feature from the selection, within the *Details* dialog, from the Tasks menu select **Remove from Include List**.

- v. The number of features selected will display in the Spatial Search section to the right of Select From Resource.
 - vi. To display the Details dialog of the selected features again, click the **View**  button.
 - vii. Indicate **Use Buffer** to buffer the selected spatial feature(s). Enter the desired buffer distance and select the distance unit from the dropdown. A graphic will display the buffered area.
1. **NOTE:** A positive distance will buffer outside the feature whereas a negative distance will buffer within the feature. Negative distances cannot exceed the size of the shape, nor can they be used with Point or Line features. The following error will be displayed when the negative distance exceeds the size of the shape.

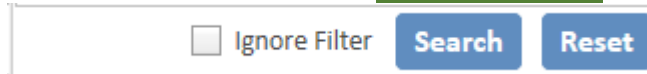




- viii. From the **Search Type** dropdown, define how features within the **Resource** will be selected by the shape(s) specified within the Spatial Search:
 - **Intersects** - selects features from the **Resource** which are crossed by or are contained within the search selection
 - **Contains** - selects features from the **Resource** which are completely contained by the search selection (nothing outside the search selection).
 - **Within** - selects features from the **Resource** which the search selection falls entirely within (nothing outside the Resource shape).
 - **Touches** - selects features from the **Resource** which the search selection touches, even by sharing a border or vertex.
- ix. To clear the spatial graphic representing the search area, uncheck the Show Spatial Graphic ☒ Show Spatial Graphic checkbox.

Results

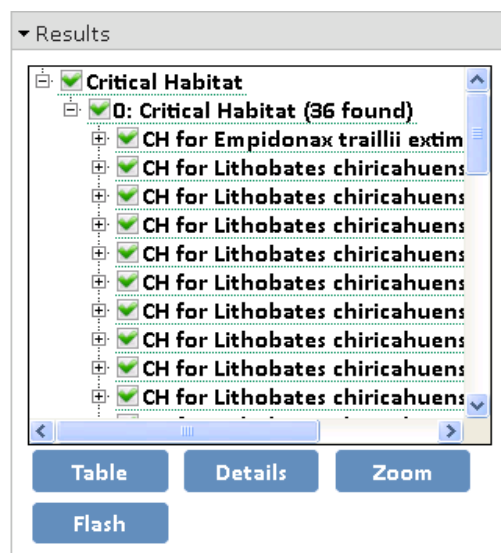
1. Click **Search**  to run the search based on the defined criteria.

NOTE: If a **Filter** has been applied to the Resource (i.e. Layer), an **Ignore Filter** checkbox is displayed. Checking this will return results of the search while ignoring the applied filter. If the checkbox is not checked, the results returned will only reflect those which meet both the **Feature Search** criteria AND the **Filter** criteria.



☐ Ignore Filter  

2. The search results will be displayed within the **Results** accordion section at the bottom of the *Feature Search* tab.
3. The **Results** section provides the following functionality, which will be applied to selected records. Select/deselect records by checking/unchecking individual records. Alternatively, select/deselect all records within a level of the tree by checking/unchecking the higher level entry.





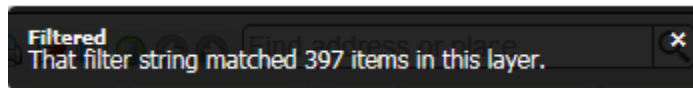
- a. **Table** - displays the results within a table format. In addition to the same Zoom and Flash functionality below, the table format also enables the user to Print to PDF and Export as CSV.

Attribute Table: Critical Habitat (36 features shown)

| <input type="checkbox"/> | Name | Common Name |
|--------------------------|-----------------------------------|--|
| <input type="checkbox"/> | CH for Empidonax traillii extimus | Southwestern willow flycatcher Designated Critical Habitat |
| <input type="checkbox"/> | CH for Lithobates chiricahuensis | Chiricahua leopard frog Designated Critical Habitat |
| <input type="checkbox"/> | CH for Lithobates chiricahuensis | Chiricahua leopard frog Designated Critical Habitat |
| <input type="checkbox"/> | CH for Lithobates chiricahuensis | Chiricahua leopard frog Designated Critical Habitat |
| <input type="checkbox"/> | CH for Lithobates chiricahuensis | Chiricahua leopard frog Designated Critical Habitat |
| <input type="checkbox"/> | CH for Lithobates chiricahuensis | Chiricahua leopard frog Designated Critical Habitat |
| <input type="checkbox"/> | CH for Lithobates chiricahuensis | Chiricahua leopard frog Designated Critical Habitat |
| <input type="checkbox"/> | CH for Lithobates chiricahuensis | Chiricahua leopard frog Designated Critical Habitat |


Close Zoom Flash Print to PDF Export as CSV

- b. **Details** – to view the **Details** dialog of the indicated feature(s).
- c. **Zoom** to indicated feature(s) 
- d. **Flash** indicated feature(s) 
- e. **Filter By** uses the Attribute Search criteria to limit the spatial features displayed, thereby **Filtering** the Resource. A message will be displayed indicating the Resource has been Filtered according to the Attribute Search criteria. If Filter By is not applied, all the spatial features will be displayed with the Search results highlighted.



NOTE: Feature Search results are limited to a given number of records (i.e. 1000) whereas the Filter is not. So, if an Attribute Search is applied and the results exceed the record limit and Filter By is chosen, more features may be displayed than highlighted by the Feature Search.

NOTE: Because **Filters** cannot be defined spatially, the Filter By option is only available when an Attribute Search has been applied. If both an Attribute and Spatial Search have been applied and Filter By is chosen, the Filter will be limited to the Attribute Search criteria.

NOTE: The search criteria is saved, for your convenience. Therefore, the next time the Feature Search tab is opened, the previously used search criteria still applies. If you want to define a new search, click Reset .


Filter

The **Filter** tool is available for specific layers. A filter can be applied to individual layers (with the exception of cached map services published from ArcGIS Online) in order to limit the features displayed on the map to those that meet the filter definition/criteria. More specific details on how to develop queries that define filter criteria (e.g., querying numbers, combining expressions, using nulls), are provided in the [Build a Query](#) topic.

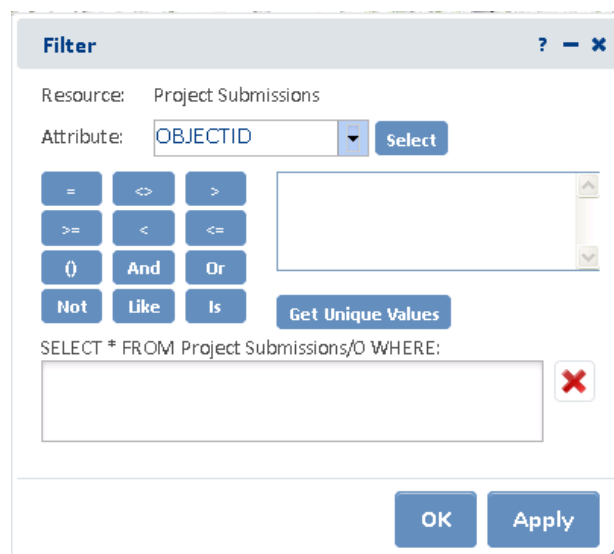
- [Create Filter](#)
- [Modify or Remove Filter](#)

NOTE: The **Filter** option is not available for cached map services published from ArcGIS Online because such services do not support all of the capabilities of those published through ArcGIS Server.

Create a Filter

1. Within the *Layers* tab of the **Map**, click the dropdown  icon to the right of the service to be filtered and choose **Filter** from the available options.

NOTE: The Filter option is not available with cached map services, only dynamic services.

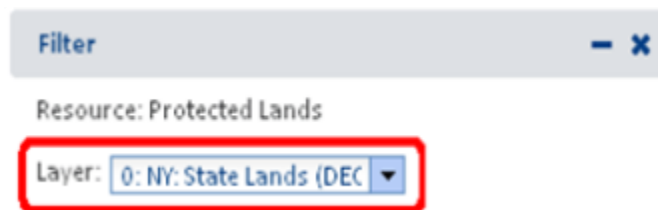


The screenshot shows the 'Filter' dialog box with the following elements:

- Resource:** Project Submissions
- Attribute:** A dropdown menu showing 'OBJECTID' with a 'Select' button next to it.
- Operators:** A grid of buttons including '=', '<>', '>', '>=', '<', '<=', '()', 'And', 'Or', 'Not', 'Like', and 'Is'.
- Expression Field:** An empty text box for entering the filter expression.
- Get Unique Values:** A button to retrieve unique values for the selected attribute.
- SQL Syntax:** A text box containing the SQL query: 'SELECT * FROM Project Submissions/O WHERE:'. There is a red 'X' icon to the right of this box.
- Buttons:** 'OK' and 'Apply' buttons at the bottom right.

2. If the Resource contains multiple layers, a dropdown identifying the layers will be displayed. Select the layer to be filtered from the *Layer* dropdown list.

NOTE: If the Resource contains only a single layer, the *Layer* dropdown will not be displayed.



The screenshot shows the 'Filter' dialog box with the following elements:

- Resource:** Protected Lands
- Layer:** A dropdown menu showing '0: NY: State Lands (DEC)' is highlighted with a red rectangle.

3. Select the attribute to use in the query from the *Attribute* dropdown, and then click **Select**.

The screenshot shows the 'Filter' dialog box with 'Resource' set to 'Project Submissions'. The 'Attribute' dropdown is open, showing a list of attributes: OBJECTID, ProjTitle, ProjURL, ProjTypeP (highlighted), ProjTypeS, ProjTypeT, and LsrProjNum. The 'Select' button is visible next to the dropdown. Below the dropdown, there are buttons for operators (=, <>, >, >=, <, <=, (), And, Or, Not, Like, Is) and a 'Get Unique Values' button. The query field contains 'SELECT * FROM Project Submissions/O WHERE:'. At the bottom are 'OK' and 'Apply' buttons.

4. Click an operator (=, <>,...)

The screenshot shows the 'Filter' dialog box with 'Resource' set to 'Project Submissions'. The 'Attribute' dropdown is set to 'OBJECTID'. A red box highlights the operator buttons: =, <>, >, >=, <, <=, (), And, Or, Not, Like, and Is. The 'Get Unique Values' button is also visible. The query field contains 'SELECT * FROM Project Submissions/O WHERE:'. At the bottom are 'OK' and 'Apply' buttons.

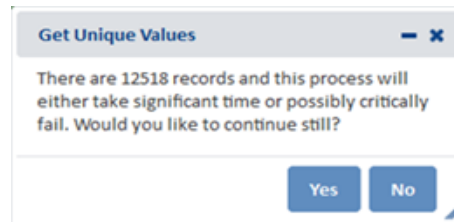
5. To see a list of values for the attribute, click **Get Unique Values**. Double-click one of the values or alternatively, type an expression directly into the query field.

The screenshot shows the 'Filter' dialog box with 'Resource' set to 'Project Submissions'. The 'Attribute' dropdown is set to 'ProjTypeP'. The 'Get Unique Values' button is highlighted. A list of values is shown: Agricultural Operations, Communication, and Development Outside Municipality. The query field contains 'SELECT * FROM Project Submissions/O WHERE: ProjTypeP = 'Agricultural Operations''. At the bottom are 'OK' and 'Apply' buttons.

NOTE: If **Get Unique Values** returns no records for lack of data in the attribute, a message will be displayed to indicate that **No unique values were found for this attribute.**



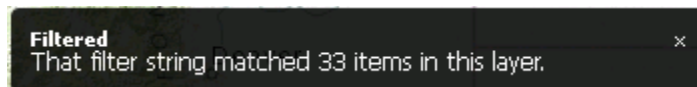
NOTE: If **Get Unique Values** is used on a layer with many records, the following message is likely to be displayed. Respond **Yes** to continue or **No** to cancel the search for unique values.



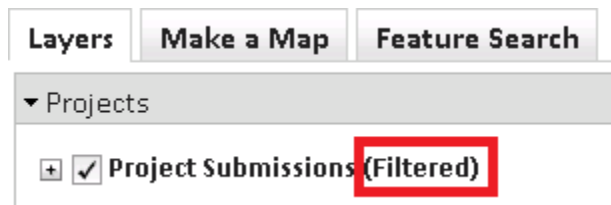
6. Click **Apply** to apply the filter and keep the *Filter* dialog open or click **OK** to apply the filter and close the *Filter* dialog.

NOTE: If there is a typographical error, or the filter has been improperly defined (i.e., 'Vascular plant' instead of 'Vascular Plant'), no records will be displayed.




7. The number of records resulting from the **Filter** will be reported.



8. Within the *Map Resources* dialog, **(Filtered)** will be displayed next to the service name to indicate that the service has been filtered.



Modify or Remove Filter

1. To change or remove a filter, in the *Layers* tab, click the dropdown  icon to the right of the layer that is filtered, and choose **Filter** from the available options.
 - a. To **remove** the filter:
 - i. Hover over the layer name and click the dropdown  icon to the right to view the tasks available for the layer. Select **Clear Filter**.
 - ii. Alternatively, within the *Filter* dialog, click the **Clear Attribute Filter Parameters**  icon in the *Filter* dialog.
 - b. To **modify** any part of the filter expression:
 - i. Place the cursor within the sequence and use either the <**Delete**> or <**Backspace**> keys to remove the desired part(s).
 - ii. Click **Apply** to apply the revised filter and keep the *Filter* dialog open, or click **OK** to apply the filter and close the *Filter* dialog.

Build a Query

A query enables the identification of records that meet criteria specified for selected attribute(s) of a resource (layer).

Strings

Strings **must** always be enclosed within single quotes. For example:

```
PC_NAME_EN = 'Ivvavik National Park of Canada'
```

Strings in expressions are **case sensitive**.

To make a case insensitive SQL search, an **UPPER** or **LOWER** function can be used to convert all values to the same case.

For example, the following expression will select managed area names stored as either BIRD ISLANDS SANCTUARY or Bird Islands Sanctuary.

```
UPPER(MANAGED_AR) = 'Bird Islands Sanctuary'
```

The **LIKE** operator (instead of the = operator) is used to build a partial string search.

For example, the following expression would select both New Brunswick, and Newfoundland and Labrador among CA province names:

```
NAME Like 'Ne%'
```

Greater than (>), less than (<), greater than or equal (>=), less than or equal (<=), and **BETWEEN** operators can be used to select string values based on sorting order.

For example, the expression below will select all provinces in a resource that have names starting with the letters R to Z:

```
NAME >= 'R'
```

The not equal (<>) operator can also be used in query strings.

Wildcard Characters

A wildcard character is a symbol that stands for one or more unknown characters.

- When searching file-based data, a '%' wildcard is used to indicate that anything is acceptable in its place: one character, multiple characters, or no character.
- Alternatively, a '_' wildcard is used to represent a single character in a search.

For example, the expression below would select any National Park name starting with the letters Au, such as Aulavik and Auyuittuq:

PC_NAME_EN Like 'Au%'

Null Values

If a column (attribute) of a type that supports null values is selected, and if that column contains any null values in the records displayed in the **Values** list of the *Feature Search* dialog, the second entry from the top of the list will be ''.

Double-clicking this value will add it to the expression and, by using the = operator, the query on the column will select all records with a null value for the attribute.

For example, Element Occurrence records with a null value for ELCODE would be returned with the following expression.

ELCODE = ''

To select all records for which an attribute is not null, the <> (not equal) operator is used. The query shown below would return all occurrences that have ELCODE values, that is, where the ELCODE attribute is not null.

ELCODE <> ''

Querying numbers

Numbers can be included in a query using the equal (=), not equal (<>), greater than (>), less than (<), greater than or equal to (>=), and less than or equal to (<=) operators.

The example below would return the provinces having 2001 populations that were greater than 100,000.

POP_2001 > 100000

A point is always used as the decimal delimiter regardless of regional settings. However, the comma **cannot** be used as a decimal or thousands delimiter in a query.

Calculations

Calculations can be included in queries using the arithmetic operators for addition (+), subtraction (-), multiplication (*), and division (/).

Calculations can be performed between fields and numbers.

In the example below, any feature having an area greater than or equal to its length multiplied by 100 would be returned by the query.

```
SHAPE_AREA >= SHAPE_LEN * 100
```

Calculations can also be performed between fields.

For example, to find the provinces with a population density of less than or equal to 25 people per square kilometer, the following expression could be used:

```
POP_2001 / AREA_KM <= 25
```

Operator precedence

Expressions are evaluated according to standard operator precedence rules. For example, the part of an expression enclosed in parentheses is evaluated **before** the part that is not enclosed.

This example:

```
HOUSEHOLDS > MALES * POP90_SQMI + AREA
```

is evaluated differently, and thus produces different results, than:

```
HOUSEHOLDS > MALES * (POP90_SQMI + AREA)
```

To use parentheses in a query expression, either click to add the parentheses and then enter the expression to be enclosed, or highlight the existing expression to be enclosed and then press the Parentheses button to enclose it.

Combining expressions

Expressions can be combined together with the **AND** and **OR** operators.

When the **AND** operator is used, both of the expressions separated by the **AND** operator must be true for a record to be selected.

```
AREA_KM > 100000 AND DWELL_2001 < 50000
```

When the **OR** operator is used, at least one of the two expressions separated by the **OR** operator must be true for a record to be selected.

```
AREA_KM > 100000 OR POP_2001 > 750000
```

Use the **NOT** operator at the beginning of an expression to find features or records that do not match the specified expression. **NOT** expressions can be combined with **AND** and **OR**.

```
AREA_KM > 100000 AND NOT POP_2001 < 750000
```

Querying dates

The syntax required for querying dates depends on the data type. True DATE fields will be stored in the format: '**yyyy-mm-dd hh:mm:ss**'. Specify the format within your query as shown below.

Given the format, even a single date requires querying for a range, due to the inclusion of time. Utilize the following query to return data mapped on July 1, 2013:

```
DIGITAL_MAPPING_DATE >= DATE '2013-07-01 00:00:00' AND DIGITAL_MAPPING_DATE <= DATE '2013-07-01 23:59:59'
```

Similarly, to find data mapped anytime in July 2013:

```
DIGITAL_MAPPING_DATE >= DATE '2013-07-01 00:00:00' AND DIGITAL_MAPPING_DATE <= DATE '2013-07-31 23:59:59'
```

Section 6: Map Information

Topics covered in this section:

- **Add Resources**
 - **URL**
 - **File**
- **Map Services**
 - **Projection**
 - **Cached Map Services**
 - **Dynamic Map Services**
 - Comparison
 - **Test Map/Feature Services**
- **Saved Maps**
 - **Save A Map**
 - **Load a Saved Map**
 - **Update a saved Map**
 - **Delete a Saved Map**

Add Resources

Content can be added to the map viewer from:

- a map service (via its [URL](#))
- [File](#) (shapefile or geodatabase)

Steps:

1. Within the map, click the **Add Resources**  **Add Resources** button, located in the upper left corner of the map title bar.



2. The resulting *Add Resource* dialog provides options to add resources to the map, either a map service via its [URL](#) or a shape[File](#).

Add Resource ? - X

☒ URL ☐ File

URL of Map Or Feature Service to Add:

Unique Title for Resource:

Add Resource

URL:

Both Map Services and Image Services are available for use:


- ArcGIS Online
- GIS servers that are available on a local machine or network
- Servers publicly available on the Internet

Cached services **must** be in the WGS 84 Web Mercator (Auxiliary Sphere) projection, because ArcGIS Server cannot reproject cached services, and use the standard scale levels supported by Google, Bing, and ESRI's [arcgis.com](#). To test the map/feature service prior to adding it to the map viewer, see the [Test Map/Feature Service](#) help topic.

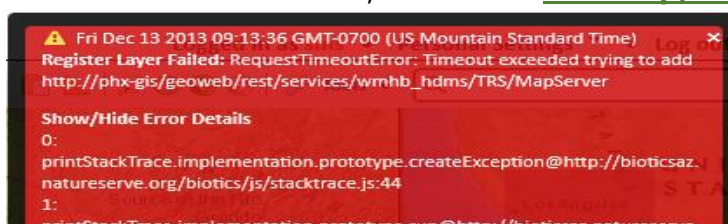
NOTE: Cached map services published through ArcGIS Online do not support all of the capabilities of cached map services published through ArcGIS Server. Since the underlying data is not retained, the Identify tool is not supported.

STEPS

1. On the *Add Resource* dialog, select the **URL** button, if not already selected.
2. Enter the **URL of Map or Feature Service to Add**
 - a. (i.e., <http://services.nationalmap.gov/ArcGIS/rest/services/USGSTopoLarge/MapServer>).
3. Enter a **Unique Title for Resource**.

4. Click **Add Resource**  button to add the service to the map.

NOTE: If the map service does not successfully add to the map (i.e. the spinner spins endlessly and the map service is not added to the map viewer or a **Register Layer Failed: RequestTimeout** error is received, consult the [Test Map/Feature Service](#) help topic.



File:

Current functionality allows for these to be added:

- shapefiles
- file geodatabases (containing < 11 layers)

Both shapefiles and file geodatabases, including all component files, **must** be zipped into a zip file with **no** additional directories or files.

A valid .prj file must be included in the zipped shapefile file and all layers within the file geodatabase **must be projected**. The projection must be a **Projected Coordinate System** (NOT Geographic) which is recognized by ESRI.

Geodatabases must be <10 MB in size whereas shapefiles cannot exceed 2 GB.

NOTE: In at least one instance, when a zipped shapefile was viewed in the Map, some spatial features could not be detected via the Identify tool nor a spatial Feature Search. These spatial features could be found via an Attribute Search via the **Feature Search** tool and imported successfully even though they appeared to be missing (were not visually displayed). This problem was linked to the indexes and therefore can easily be avoided by excluding the .sbn and .sbx files from the zipped shapefile (i.e. only include the .shp, .shx, .dbf, and .prj files) prepared for use in the Map.

NOTE: Uploaded file geodatabases are handled by converting them to shapefiles and therefore the data within uploaded geodatabases are constrained by the 254 character limit of a shapefile. Hence, if the geodatabase has data exceeding 254 characters, when viewed in the Map, the data will be truncated.

STEPS

1. On the *Add Resource* dialog select the **File** button, if not already selected.
2. Enter a **Unique Title for Resource**.

Add Resource ? — ✕

☐ URL ☒ **File**


Browse to the zip file containing the data to be uploaded. The zip file must contain at the root level, either:

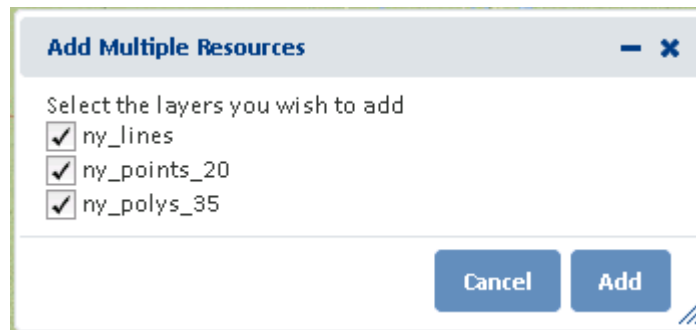
- a File Geodatabase: named <name>.gdb.zip and containing a single ESRI file geodatabase (gdb). The geodatabase must have <11 (projected) feature layers and be <10 MB in size.
- a Shapefile: containing all the components of a single ESRI shapefile, including the .prj file.

In both cases, the projection utilized must be a standard ESRI projection.

Unique Title for Resource:

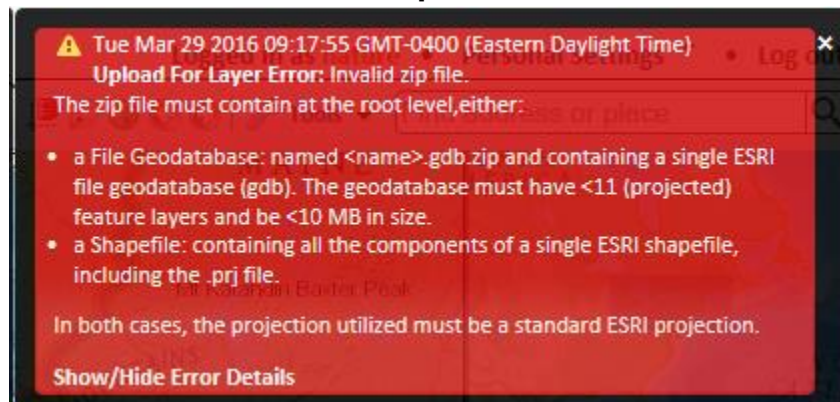
Select File to Upload

3. Click **Select File to Upload** button  and navigate to the file containing the layer to add to the map viewer.
4. If a geodatabase containing multiple layers is selected, within the *Add Multiple Resources* dialog select all layers within the geodatabase are selected to be added to the Map by default. If any layer(s) should not be added to the Map, deselect the appropriate layer(s). Click **Add**.

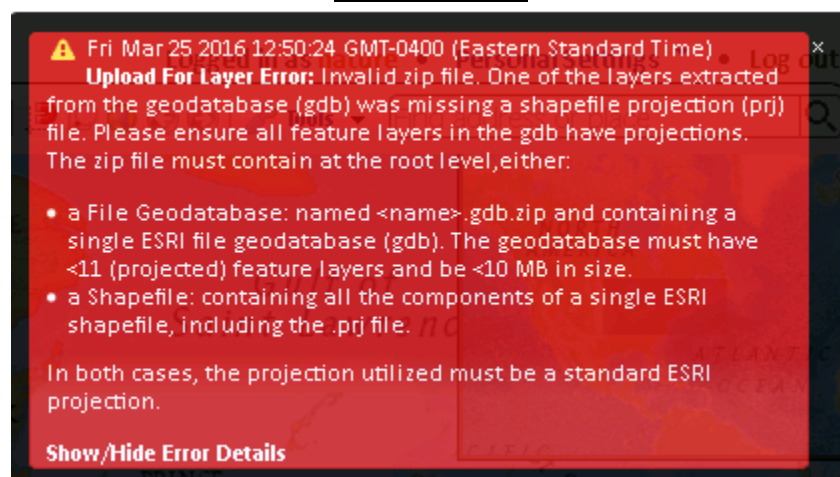



Note: If the uploaded zip file does not contain all components of the geodatabase or shapefile, including a valid projection, the following error will be displayed:

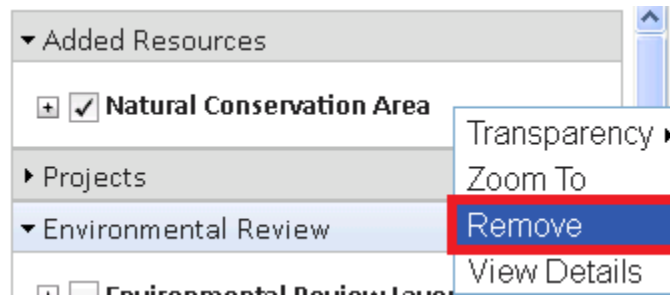
Shapefile



Geodatabase



5. To remove a map service from the map, click on the dropdown  icon to the right of the resource in the *Map Resources* dialog and choose **Remove**.



NOTE: The uploaded file will only persist in the Map during the logged in session.

Map Services

The following overview of map services includes some things to keep in mind when investigating map services published by you or others, that you may wish to add.

Projection

The Map displays data using:

WGS_1984_Web_Mercator_Auxiliary_Sphere projection (EPSG code/spatial reference ID 3857)

This is the map projection used by most online basemap services, including ArcGIS, Bing, and Google.

Any map services that will be displayed as reference layers **must** be capable of being displayed in this projection. Dynamic ArcGIS map services can be reprojected on-the-fly; however, this does negatively impact performance.

Performance will be best if you use map services published in the Web Mercator projection.

Cached map services are typically only available in the projection in which they were cached.

Cached Map Services

The best way to create fast map services is to cache them. With a cached map service, the server draws the map at a set of predefined scale levels and saves the images. When the server receives a request for a map, it's much quicker to return one of these cached images than to draw the map again. Caching is appropriate for basemaps and maps that don't change often.

- Benefit:
 - improved performance
- Limitation:
 - does not allow filtering
 - does not allow layer visibility to be altered (ie. can't be turned on or off)
 - Cached map services published from ArcGIS Online will not be available with the Filter, Identify, or Feature Search tools.
- Projection: Must use same projection as basemaps – ArcGIS Server cannot reproject cached services.
 - WGS 84 Web Mercator (Auxiliary Sphere) projection enables the map services to be used in conjunction with any of the major online base maps (Esri, Bing, Google).
 - Cached services in the WGS 84 Web Mercator (Auxiliary Sphere) projection will provide the best performance
 - Cached maps must use the standard scale levels supported by Google, Bing, and ESRI's arcgis.com.
 - If cached services are in a different projection, they can be created as dynamic services, which will allow them to be reprojected; however, we don't know enough about the underlying data sets to know what performance will be like. It's possible that this won't be sufficient, and you'll still need to provide cached services in the target projection.
 - It is not necessary to reproject all of the individual layers but just alter the projection of the map documents. Then republish the map documents as a second service (second to what you're using for your purposes), and build the cache.

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Dynamic map services

Layers published as dynamic map services can be rescaled and re-projected on the fly.

- Benefit:
 - Allows filtering
 - Allows layer visibility to be altered (ie. can be turned on or off)
- Limitation:
 - Decreased performance because needs to draw map on the fly
- Projection:
 - any projection for which there is a built-in Esri transformation from the source projection to the target projection. This can be verified through ArcMap - if ArcMap can handle it, it should be fine.
 - Performance will be better, though, if the source projection already matches the target projection.
- Operations Allowed: when publishing the map service, indicate Map, Query, and Data as Operations Allowed or not all the tools indicated below will be available for use with the map service.

Comparison: Cached vs. Dynamic map services

| | Cached | Dynamic |
|--------------------|--|--|
| Application | Base maps | Reference Layers |
| Performance | ✓ Improved performance | ✗ Decreased performance because needs to draw map on the fly |
| Projection | ✗ Typically cannot be <u>reprojected</u> | ✓ Can be <u>reprojected</u> on the fly ✗ <u>Reprojection</u> negatively affects performance |
| Limitations | ✗ Alter visibility of layers ✗ Filter ✗ Copy | ✓ Alter visibility of layers ✓ Filter ✓ Copy |

Test Map/Feature Service

Prior to adding a map or feature service, **test** the map/feature service to verify it functions. If the service is not functioning, it will not work in the Kentucky Biological Assessment Tool.

Indications that the map/feature service may not be functioning include:

- the spinner spinning non-stop and the service never adding to the Map
- the following type of error is received:

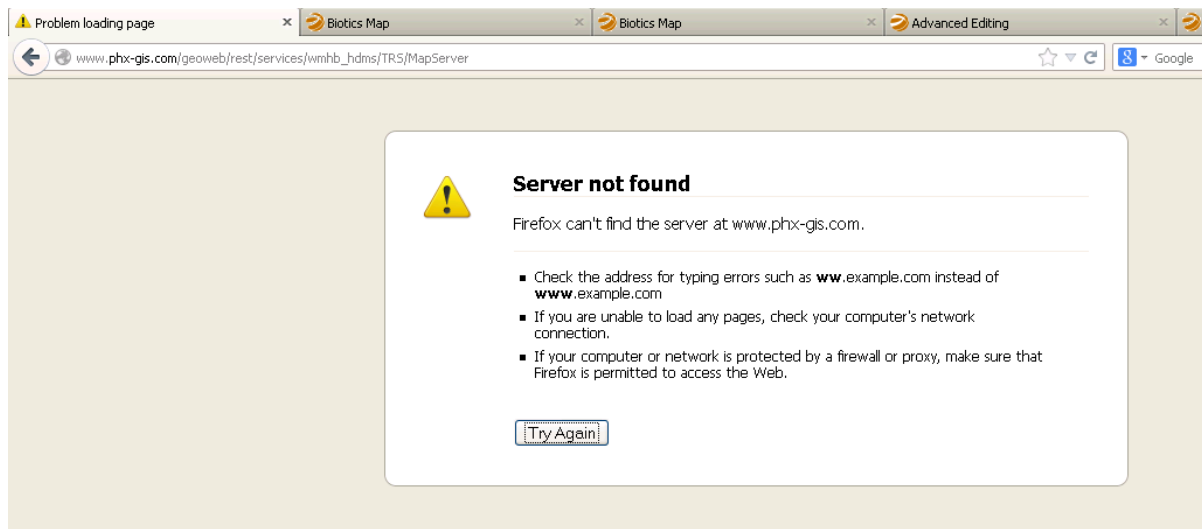
Register Layer Failed: RequestTimeoutError... This error indicates that the service is not available.



Steps:

1. Copy the URL of the map/features service into a web browser.

If an error, such as that shown below, is received the map/feature service is not functioning correctly - contact the host of the map/feature service to resolve it. In this state, the map/feature service will not work within the Kentucky Biological Assessment Tool.

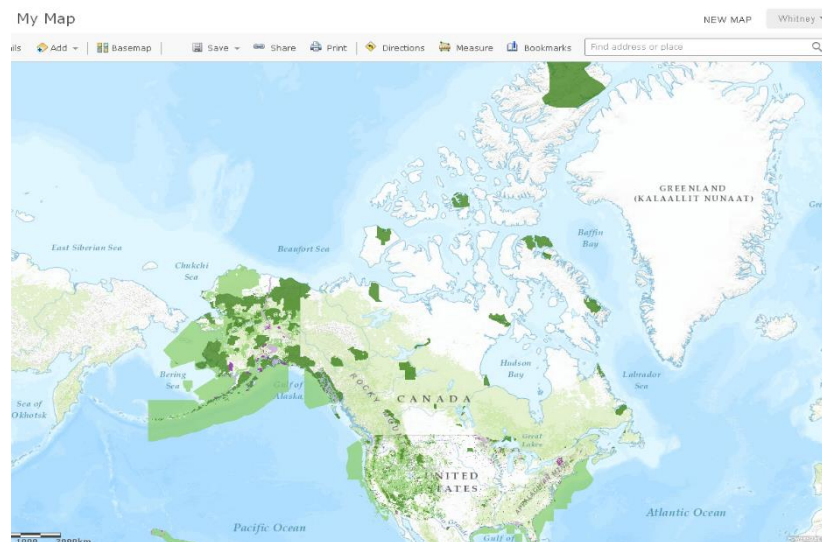


2.If you connect to the map/feature service details successfully (as shown below), then the map/feature service exists.



3.Within the map/feature service details window (shown above) of the *ArcGIS Rest Services Directory*, click the **ArcGIS.com Map** link to verify that the map/feature service is functional in the ArcGIS.com Map. If it does not work in the ArcGIS.com Map, it will not work in Kentucky Environmental Review Tool.

NOTE: You may need to log in to ArcGIS.com to view the map/feature service.



4.Once successfully tested in the ArcGIS.com Map, as shown above, add the map/feature service to the Biotics 5 map viewer via the **Add Resource** tool.

Saved Maps


This tool enables the state of the Map to be saved for use by the logged in user. These saved settings apply to:

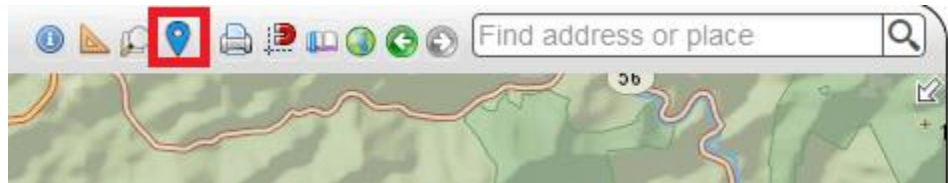
- Zoom
- [Basemap](#)
- [Overview map](#)
- configuration of Map Resources:
 - Visibility (turned on or off),
 - Transparency
 - [Filter](#)
 - expansion
 - sub-layers
 - order

NOTE: Files (shapefile or geodatabase) uploaded to the Map via **Add Resource via File** will not persist in the Saved Map as these files are only maintained on the server using the logged in session; whereas map services uploaded to the Map via **Add Resource via URL** will persist in the Saved Map.

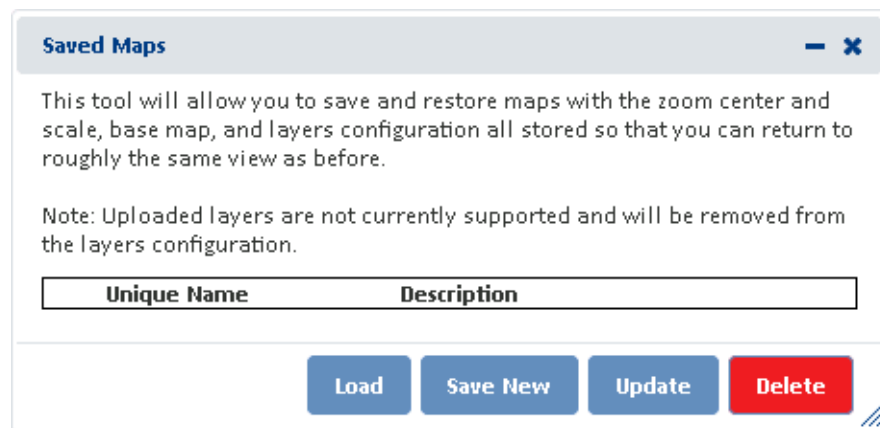
Save a Map

Configure the Map, adding the desired Map Resources, zooming to the preferred location, etc.

1. Within the Map click the  icon, located in the upper right corner of the map title bar.

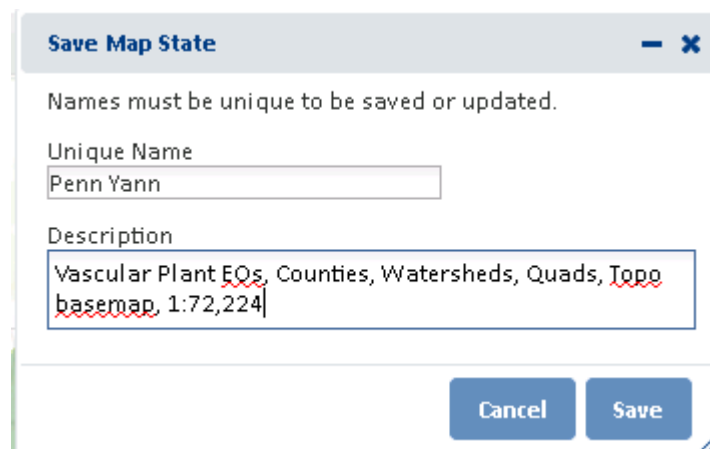


2. Within the *Saved Maps* dialog click the Save New  button:

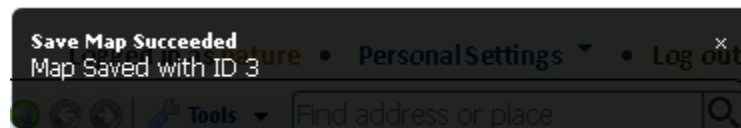


3. Within the *Save Map State* dialog, enter a **Unique Name** for the saved map and optionally, a **Description**. Click **Save**.

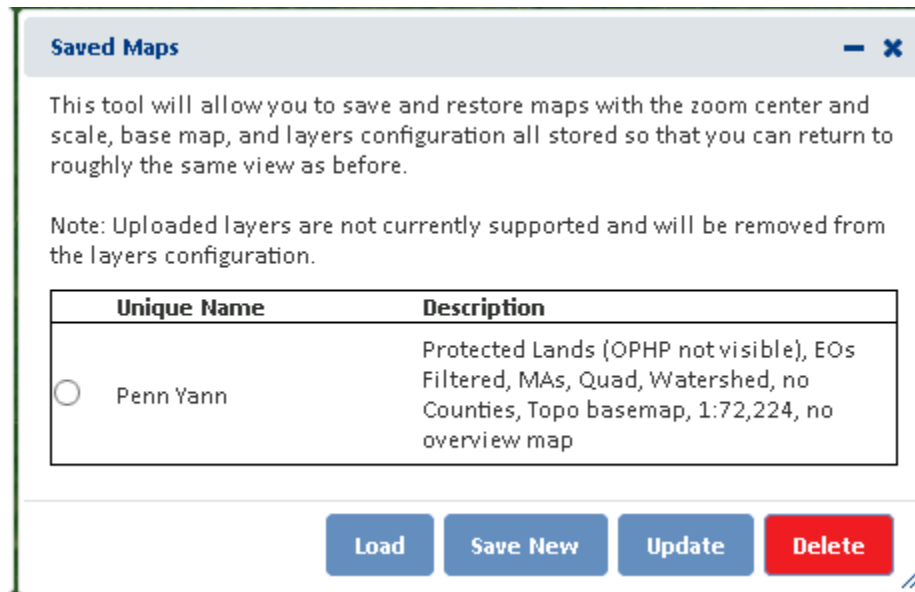
NOTE: Because uploaded files cannot be preserved within Saved Maps, within the **Description** field, consider including the path and name of uploaded shapefile(s)/map services and the queries applied to them via Feature Search/Filter for future use. This will facilitate re-adding them.




4. A notice will be displayed indicating that the map state was saved successfully

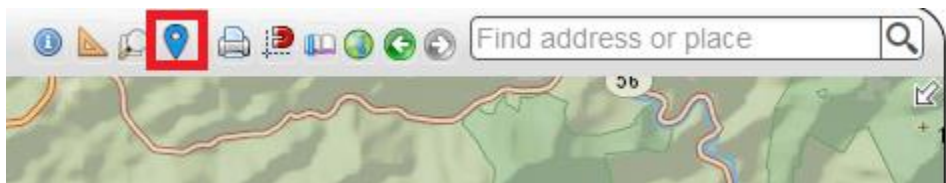


5. The newly saved map will be listed in the *Saved Maps* dialog.



Load a Saved Map


1. Within the Map click the  icon, located in the upper right corner of the map title bar.

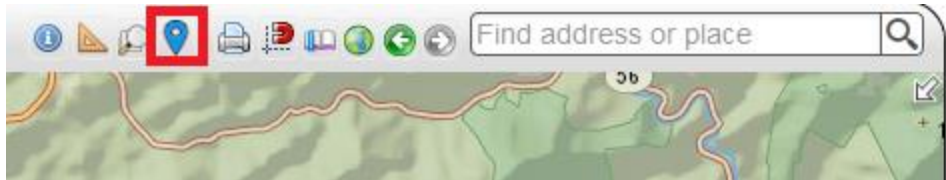


2. Within the *Saved Maps* dialog, select the desired map and click **Load**.

Update a Saved Map

Configure the Map, adding the desired Map Resources, zooming to the preferred location, etc.

1. Within the Map click the  icon, located in the upper right corner of the map title bar.



2. Within the *Save Maps* dialog, select the desired map and click **Update**.

Saved Maps
—
×

This tool will allow you to save and restore maps with the zoom center and scale, base map, and layers configuration all stored so that you can return to roughly the same view as before.

Note: Uploaded layers are not currently supported and will be removed from the layers configuration.

| Unique Name | Description |
|--|--|
| <input type="radio"/> Penn Yann | Protected Lands (OPHP not visible), EOs Filtered, MAs, Quad, Watershed, no Counties, Topo basemap, 1:72,224, no overview map |
| <input checked="" type="radio"/> Sears Bellows | Protected Lands (OPHP), EOs Filtered, 1:4514, Overview map, Imagery basemap |
| <input type="radio"/> Protected Lands | Protected Lands map service and filtered EOs |

Load

Save New

Update

Delete

3. Within the *Save Map State* dialog update the **Unique Name** and **Description** if appropriate and click **Save**.

NOTE: Because uploaded files cannot be preserved within Saved Maps, within the **Description** field, consider including the path and name of uploaded shapefile(s)/map services and the queries applied to them via Feature Search/Filter for future use. This will facilitate re-adding them.

Save Map State

Names must be unique to be saved or updated.

Unique Name

Penn Yann

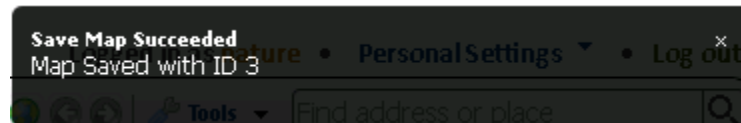
Description

Vascular Plant EOs, Counties, Watersheds, Quads, Topo basemap, 1:72,224

Cancel

Save

4. A notice will be displayed indicating that the map state was saved successfully.



5. The updated map will be listed in the *Saved Maps* dialog

Saved Maps

This tool will allow you to save and restore maps with the zoom center and scale, base map, and layers configuration all stored so that you can return to roughly the same view as before.

Note: Uploaded layers are not currently supported and will be removed from the layers configuration.

| Unique Name | Description |
|---------------------------------|--|
| <input type="radio"/> Penn Yann | Protected Lands (OPHP not visible), EOs Filtered, MAs, Quad, Watershed, no Counties, Topo basemap, 1:72,224, no overview map |


Load

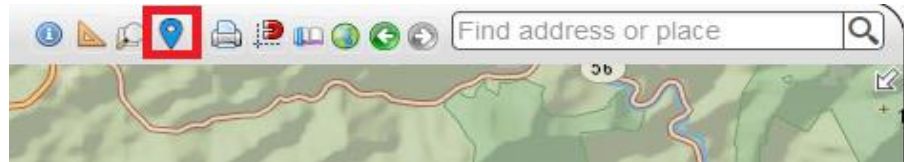
Save New

Update

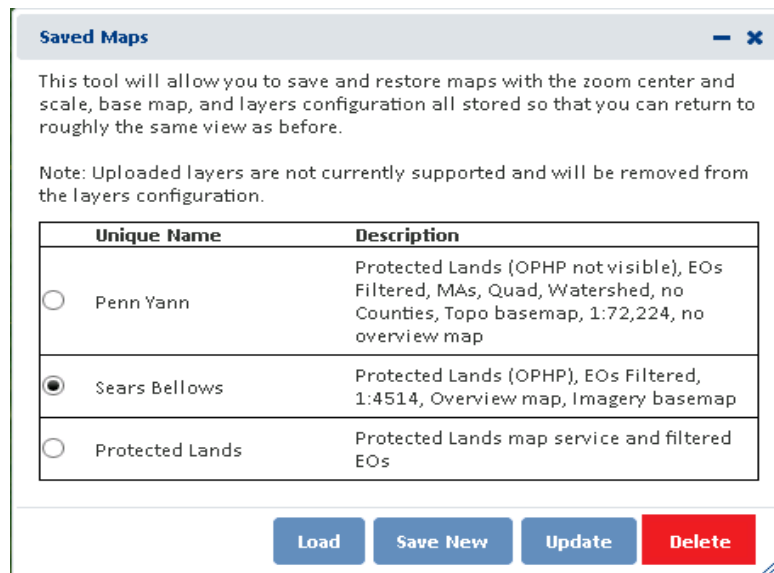
Delete

Delete a Saved Map

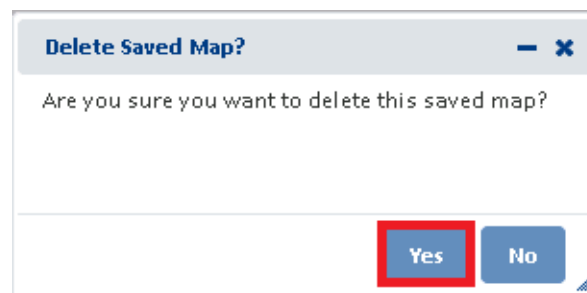
1. Within the Map click the  icon, located in the upper right corner of the map title bar.



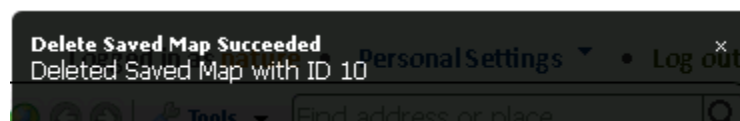
2. Within the *Saved Maps* dialog, select the desired map and click **Delete**.



3. Within the *Delete Saved Map?* dialog, confirm the deletion of the saved map by clicking **Yes**.



4. A notice will be displayed indicating the saved map has been successfully deleted.



Section 7: Create a Project

Topics covered in this section:


- **Draw/Edit Toolbar**
- **Make a Map**
- **Create Project**

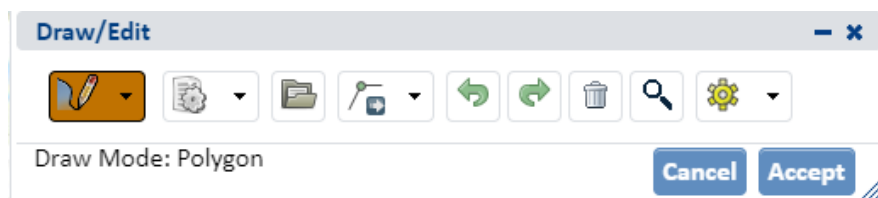
Create Project

Create Project can be initiated on its own or after adding features to the map within the [Make a Map](#) section.

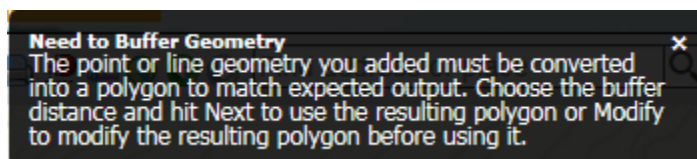
- use the [Draw/Edit](#) toolbar
- use features drawn via [Make a Map](#)

Draw/Edit toolbar

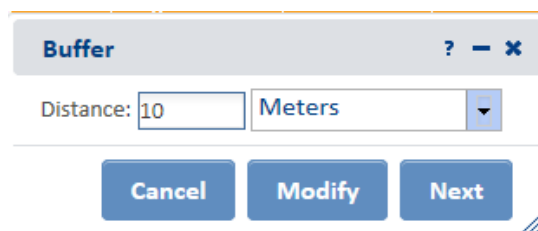
1. Within the *Map*, click **Create Project** .
2. The *Draw/Edit* toolbar opens.
3. Use the various tools available within the [Draw/Edit](#) toolbar to define the spatial parameters of the project area and click **Accept**.



NOTE: If the project boundary is defined with a Point or Line, the feature(s) must be converted into a polygon to match the expected output of Polygon.




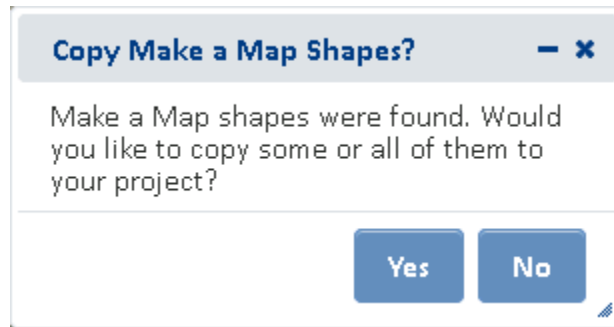
In the *Buffer* dialog, accept or edit the default buffer distance and click **Next**. Alternatively, choose **Modify** to modify the spatial feature.



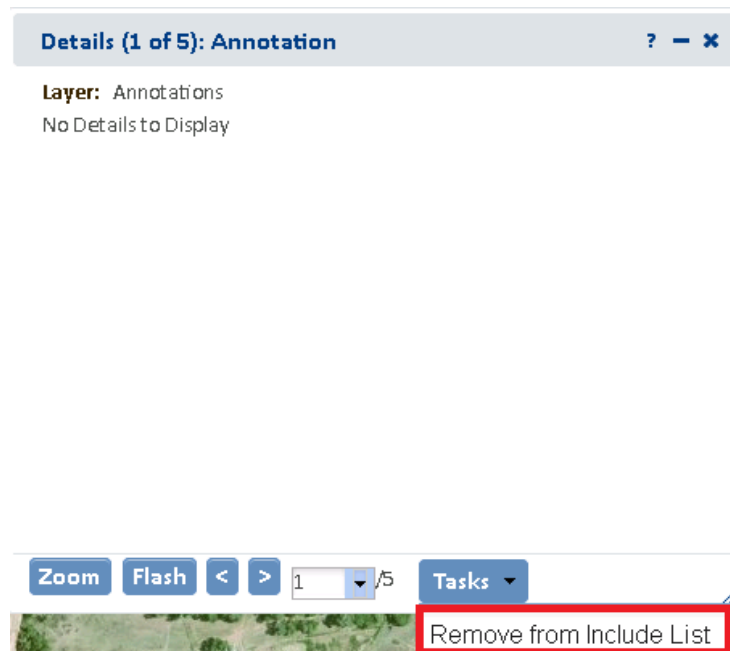
4. **Continue to the *Create Project* dialog.**




Make a Map

1. Within the *Map*, click **Create Project** .
2. A prompt will ask if you would like to copy some or all of the shapes to create the project boundary. Click **Yes** to use the shapes previously drawn or **No** to utilize the [Draw/Edit toolbar](#).





3. The *Details* dialog of the Make a Map feature(s) are displayed. To remove a feature from the selection, from the *Tasks* menu, select **Remove from Include List**. Once removed, the option to **Add to Include List** becomes available in the *Tasks* menu.

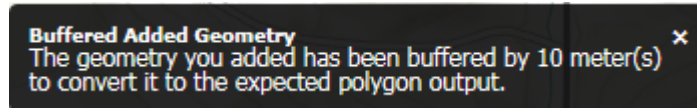


4. After completing the selection of which features to include, close the *Details* dialog using the  in the upper right corner.
5. Within the *Additional Mapping Options* dialog, the number of features selected is displayed to the right of the **Select From Resource**  button.
 - a. **View**  button: allows the user access to the *Details* dialog again to add/remove additional features to/from the selection.

b. **Select from Resource** : allows the user to create a new selection (return to Step 4 for instructions).

c. Click **Next**  to use the features as they exist or **Modify**  to further modify the selected features.

4. **NOTE:** If the Make a Map feature(s) is/are a Point or Line, a default buffer is added to convert the feature to a polygon.



6. In the *Draw/Edit* toolbar click **Accept** unless further edits are needed.

7. **Continue to the *Create Project* dialog.**

Create Project

1. After clicking **Accept** in the *Draw/Edit* toolbar, the *Create Project* dialog opens.

2. Within the *Create Project* dialog, enter the following information to describe the project.

NOTE: required fields are labeled with a red asterisk *.

- **Project Title*** - title which will help to distinguish it from other project submissions
- **Project Type*** - defines the type of project and the buffer area around the project which will be included in the review

| Project Type Name | Buffer | Fee |
|--------------------------|------------|--------|
| Standard 1 mile buffer | 1 mile | \$120 |
| Standard 2.5 mile buffer | 2.5 mile | \$250 |
| Standard 5 mile buffer | 5 mile | \$450 |
| Standard 10 mile buffer | 10 mile | \$850 |
| Other | Negligible | \$120 |
| County | Negligible | Varies |
| Watershed | Negligible | Varies |

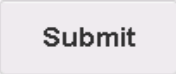
- **Project Description*** - succinctly describes the proposed work within the project area (e.g., residential subdivision)
- **Contact information*** - this data will be auto-populated according to the information associated with the logged in user. Change as appropriate. The e-mail will be used to notify the logged in user once the review has been completed.
- **File attachments** - photographs, survey documents, site plans, etc. can be uploaded and attached to the project form. Choose the desired file(s)

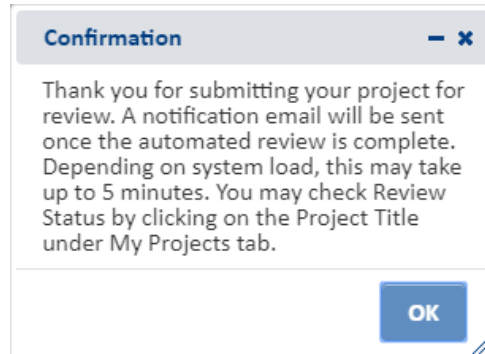
Choose File

and then click Upload

Upload

NOTE: Files must be less than 2 MB in size. Files with the following extensions may be uploaded: doc jpg jpeg gif png txt doc xls pdf ppt pps odt ods odp docx.xlsx zip kml kmz.

3. Click **Submit**  to submit the project for review.
4. A message will be displayed indicating that the project has been successfully submitted and that the results will be e-mailed to the address provided.



5. Navigate to the *My Projects* menu to view the **Submission Status** of each of your projects.

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My Projects

Project Title Contains

User Project Number(s) Contains

Project Submitted Between (CCYY-MM-DD)

And

Apply Reset

| Title | Date Submitted | User Project Number(s) | Project Description | Project Status |
|-------|---------------------|------------------------|---------------------|----------------|
| Test | 2019-04-10 12:04 PM | | Test Project | Saved |

6. After the initial review of the project has been completed, an e-mail containing a link to the project report is sent. Click on the link within the e-mail to view the project report. Alternatively, access the project report via **My Projects**.

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Test

View Map

Project Review Results

| Revision date | Report Status | Report File | Boundary Shapefile |
|-----------------------|---------------|---|--|
| 4/10/2019 12:04:46 PM | Generated |  project_report_test_645_645.pdf |  project_shapefile_test_645_645.zip |

Submitted by kendallbrookemc... on Wed, 04/10/2019 - 12:04

Project ID: 19-0095

Project Type:

- Standard (*customers will be invoiced)
 - 1 mile buffer (\$120 fee)**

Project Review Results

Each **Project Review** will generate a report pdf and a shapefile of the project that are available for download.

Report File

The report file contains a letter in response to the submitted project as well as data for federally and state listed species, exemplary natural communities, public and private conservation lands, areas of biodiversity significance, and other natural resources known to occur within your project area for which the Office of Kentucky Nature Preserves maintains data.

| Standard Occurrence Report KNP monitored species within 1 Miles of Project Area | | | | | | | | | | | | | |
|--|------------------------------|----------------------|-------|-----------|-------|------|------|---------------|-----------|---------|--------------------|---|---|
| EO ID | Scientific Name | Common Name | GRank | SRank | SPROT | USES | STWG | Last Obs Date | Precision | EO Rank | Lat / Lon | Directions | Habitat |
| 11920 | <i>Ardea alba</i> | Great Egret | G5 | S2B | T | | Y | 2007-05-09 | S | CD | 37.2118 / -87.024 | Forested wetland at SE end of S1 road on Sinclair WMA. | Marshes, swampy woods, tidal estuaries, lagoons, mangroves, along streams, lakes, and ponds. |
| 8211 | <i>Asio flammeus</i> | Short-eared Owl | G5 | S1B,S2N | E | | Y | 1989-05-25 | S | NR | 37.2261 / -87.0114 | Peabody Sinclair surface mine, ca 2.0 mi ENE of Drakesboro. | Open country: Prairie, meadows, tundra, moorlands, marshes, savanna, dunes, fields, open woodland. Roosts by day on ground, on low open perch, under low shrub, or in conifer. Reported from "forest" habitats in HI. |
| 4620 | <i>Centronyx henslowii</i> | Henslow's Sparrow | G4 | S3B | S | SOMC | Y | 2007-04-28 | S | E | 37.2453 / -87.0235 | Sinclair portion of Peabody WMA, near Goose Lake (059A), along WMA rd S1 and near jct S1 and S2 (059B), best colony at end of WMA rd S5 (059C), and along WMA rd s3 (059D). | Open fields & meadows with relatively thick/dense grass interspersed with weeds or shrubby vegetation. |
| 2107 | <i>Circus hudsonius</i> | Northern Harrier | G5 | S1S2B,S4N | T | | Y | 2003-SU | S | B | 37.2341 / -87.0087 | Peabody Sinclair surface mine, ca 2.0 mi ENE of Drakesboro. | Marshes, meadows, grasslands, and cultivated fields. Perches on ground or on stumps or posts. Winter roosts in undisturbed fields or marshes (B82EVA01NA). |
| 10729 | <i>Cistothorus platensis</i> | Sedge Wren | G5 | S3B | S | | Y | 2003-08-14 | S | E | 37.2381 / -87.0166 | Sinclair Unit Peabody WMA, in native grass stands along S-1 (035A), along margin of S-5 marsh (035B), on NE side of S-3, ca. 0.2 rd mi SE of jct S-1 (035C), and on SE side of S-3, ca 0.75 rd mi SW of jct S-2 (035D). | Grasslands and savanna, especially where wet or boggy, sedge marshes, locally in dry cultivated grainfields. In migration and winter also in brushy grasslands. (B83COM01NA) |
| 3357 | <i>Gallinula galeata</i> | Common Gallinule | G5 | S1S2B | T | | Y | 1995-08-31 | M | D | 37.2403 / -86.9958 | Peabody WMA, just SW of Paradise steam plant. | Freshwater marshes, canals, quiet rivers, lakes, ponds, mangroves, primarily in areas of emergent vegetation and grassy borders; taro patches in HI. |
| 11914 | <i>Hyla avivoca</i> | Bird-voiced Treefrog | G5 | S3S4 | N | | Y | 2007-05-24 | S | C | 37.2345 / -86.9853 | TVA Paradise Power Plant, at W end of S-most of impoundments ca 1.7 air mi SW of plant (032A), Sinclair WMA, beaver-maintained wetland along | In Kentucky, the species appears to be restricted to floodplain wetlands, especially those dominated by bald cypress, water tupelo, green ash, and |

Project ID: 19-0095

Page 3 of 5

April 10, 2019

Office of Kentucky Nature Preserves Standard Occurrence Report Key

KNP Monitored Species within x Miles of Project Area

Federally and state listed species, species of conservation concern, and exemplary natural communities known to occur within the project area.

- **EO:** Element Occurrence; Specific example of a species at a geographic location
- **EO ID:** Kentucky Nature Preserves unique identifier for the Element Occurrence
- **Scientific Name:** Scientific name used by Kentucky Nature Preserves
- **Common Name:** Common name used by Kentucky Nature Preserves
- **GRANK:** Estimate of species abundance on a global scale

| | | | |
|----|---|------|---|
| GX | Presumed extinct: Not located despite intensive searches and rediscovery unlikely | G#G# | Range rank; numeric range rank used to indicate uncertainty about the exact status of the taxon |
| GH | Possibly extinct: Missing; known from only historical occurrences but still hope of rediscovery | GNR | Not ranked |
| G1 | Extremely Rare | GU | Unrankable due to lack of information or substantially conflicting information |
| G2 | Rare | ? | Qualifier that may be added to the rank to indicate uncertainty |
| G3 | Uncommon | T # | May be appended to ranks for infraspecific taxa |
| G4 | Common | Q | Qualifier that indicates questionable taxonomy |
| G5 | Very Common | | |

- **SRANK:** Estimate of species abundance in Kentucky

| | | | |
|----|---|------|--|
| SX | Presumed extirpated: Not located despite intensive searches and rediscovery unlikely | S#S# | Range rank - numeric range rank used to indicate uncertainty about the exact status of the taxon |
| SH | Possibly extirpated: Known from historical occurrences only but still hope of rediscovery | SNR | Not ranked |
| S1 | Extremely Rare | SU | Unrankable due to lack of information or substantially conflicting information |
| S2 | Rare | SNA | Not Applicable; may be non-native, hybrid, or long distance migrant |
| S3 | Uncommon | ? | Qualifier that may be added to the rank to indicate uncertainty |

| | | | |
|----|------------------|---|--|
| S4 | Many Occurrences | B | Qualifier to indicate breeding population of the element |
| S5 | Very Common | N | Qualifier to indicate non-breeding population of the element |

- **SPROT:** Office of Kentucky Nature Preserves species state status

| | |
|------------|-----------------|
| E | Endangered |
| T | Threatened |
| S | Special Concern |
| H | Historic |
| X | Extirpated |
| N or blank | None |

- **USESA:** U.S. Fish and Wildlife status

| | |
|------------|--|
| C | Candidate |
| PE | Proposed Endangered |
| PT | Proposed Threatened |
| LT | Listed as Threatened |
| LE | Listed as Endangered |
| SOMC | Species of Management Concern |
| LTNL | Listed Threatened in part of its range, but not listed in Kentucky |
| Delisted | Delisted |
| N or blank | None |

- **STWG:** Species included in the Kentucky Department of Fish and Wildlife's State Wildlife Action Plan as Species of Greatest Conservation Need under the State and Tribal Wildlife Grants program

| | |
|-------|-----|
| Y | Yes |
| Blank | No |

- **Last Obs Date:** Date the species was last observed to be extant at the site

- **Precision:** The precision of the record

| | |
|---|---|
| S | Seconds; Can be accurately mapped within a 3-second radius (approximately 100 ft) |
| M | Minutes; Can be mapped within a 1-minute radius (approximately 1.5 miles) |
| G | General; Only known to a place name (within about 5 miles) |
| C | County; Only known to the county |
| Q | Quad; Only known to the county |

- **EO Rank:** Rank of the Element Occurrence based on assessment of viability

| | | | |
|----|--|----|--|
| A | Excellent estimated viability | D | Poor estimated viability |
| A? | Possibly excellent estimated viability | D? | Possibly poor estimated viability |
| AB | Excellent or good estimated viability | E | Verified extant (viability not assessed) |
| AC | Excellent, good, or fair estimated viability | F | Failed to find |
| B | Good estimated viability | F? | Possibly failed to find |
| B? | Possibly good estimated viability | H | Historical |
| BC | Good or fair estimated viability | H? | Possibly historical |
| BD | Good, fair, or poor estimated viability | X | Extirpated |
| C | Fair estimated viability | X? | Possibly extirpated |
| C? | Possibly fair estimated viability | U | Unrankable |
| CD | Fair or poor estimated viability | NR | Not ranked |

- **Lat/Long:** Coordinates of the centroid of the Element Occurrence
- **Directions:** Directions to the Element Occurrence
- **Habitat:** Habitat the species is typically associated with

Critical Habitats within x Miles of Project Area

Designated Endangered Species Act critical habitats known to occur within the project area.

Managed Areas within x Miles of Project Area

Areas managed for conservation known to occur within the project area.

Areas of Significant Biodiversity within x Miles of Project Area

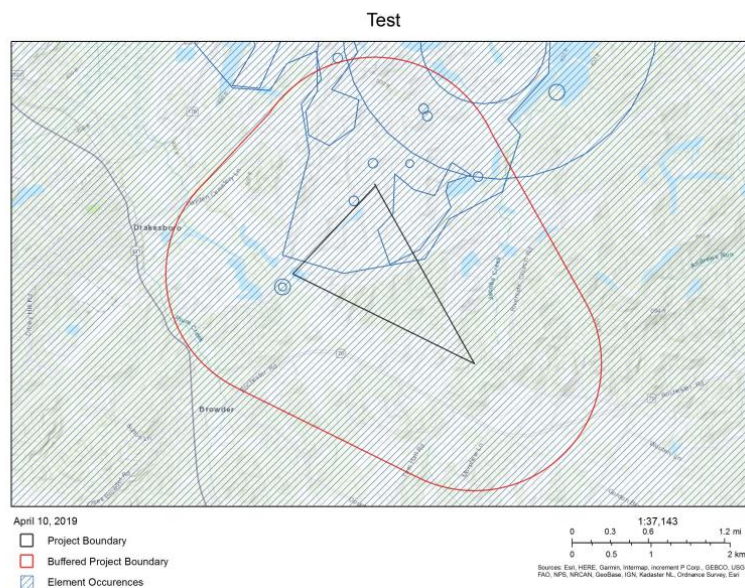
Areas occurring within the project area that have identified by biologists and ecologists as being of significant value because of a high level of biodiversity and/or containing significant occurrences of rare plants, animals, or natural communities.

Bat Habitats within x Miles of Project Area

USFWS known Indiana bat and Northern Long-Eared Bat habitats that occur within the project area.

Project Shapefile

The Boundary Shapefile is created upon submission of a project for the project area that was defined in the map and is available for download.



Glossary

Attribute - Nonspatial information about a geographic feature. For example, attributes of a river might include its name, length, and sediment load at a gauging station

Basemap - collection of GIS data and/or imagery that form the background setting for a map. Ex: Imagery, Street Map, Topographic Map, etc.

Cached - short-term computer memory where information is stored for easy retrieval

Dialog Box - a menu consisting of a tool's parameters

Extant - in existence; still existing; not destroyed or lost

Extent - defines the geographic boundaries for displaying map information within a data frame

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

Filter - limits the spatial features displayed on the map to those that meet the filter definition/criteria

Flash - quickly and temporarily highlights a selected feature for easy spatial reference

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

Null Value - The absence of a recorded value for a field. A null value differs from a value of zero in that zero may represent the measure of an attribute, while a null value indicates that no measurement has been taken

Operator - The symbolic representation of a process or operation performed in an expression, such as "+" (plus, or addition) and ">" (greater than). When evaluated, operators return a value as their result. If multiple operators appear in an expression, they are evaluated in order of their operator precedence

Projection - A method by which the curved surface of the earth is portrayed on a flat surface. This generally requires a systematic mathematical transformation of the earth's lines of longitude and latitude onto a plane. Every map projection distorts distance, area, shape, direction, or some combination thereof

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

Shapefile - A vector data storage format for storing the location, shape, and attributes of geographic features. A shapefile is stored in a set of related files and contains one feature class

Snapping - The process of moving a feature to match or coincide exactly with another point or feature's coordinates when your pointer is within a specified distance (tolerance). Commonly used to increase accuracy when using a variety of tools

Spatial data - Information about the locations and shapes of geographic features and the relationships between them, usually stored as coordinates and topology

Strings - A sequence of letters or numbers, or both, sometimes with a fixed length

Vertex (Vertices pl.) - One of a set of coordinates that define the shape of a line or polygon feature

Viability - capable of living, developing, or reproducing

Wildcard - symbol that stands for one or more unknown character

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