



CRGIS Map Tools

This tutorial will teach you about the tools available in CRGIS. In addition to basic map navigation, these tools include the Spatial Search, Measure, Feedback and more.

Table of Contents

Getting Started	2
Understanding the Map	2
Tools	3
Map Window Tools.....	3
Legend Tools.....	5
Search Box Tools.....	10
Spatial Search.....	14
New Tools for Registered Users	17



CRGIS Map Tools

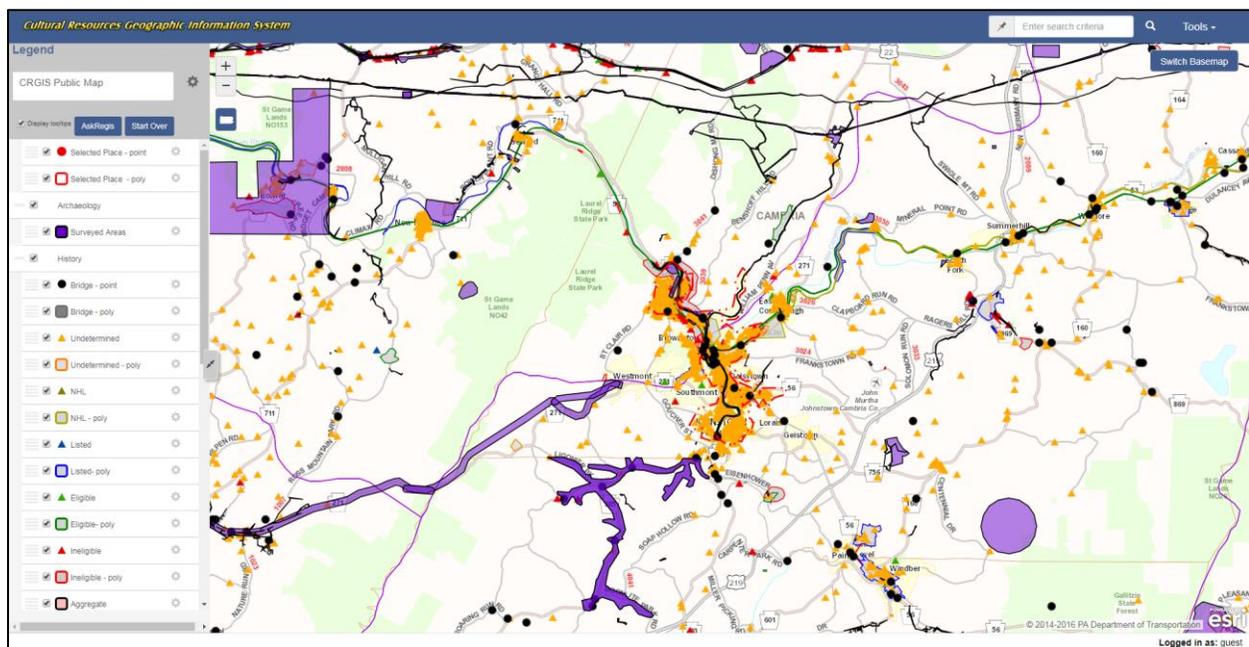
Getting Started

To access the CRGIS map tools, log in to CRGIS. Choose an area of interest on the Area of Interest (AOI) page, and generate your map. If you need help registering, signing in, selecting the AOI, or generating a map, please see Tutorial 1: Sign In, Register, and Begin.

Understanding the Map

There are many features to understand on the map interface that shows on your screen. These will be explained with the example below.

In this example we have chosen Johnstown, Cambria County.



At the left side of the screen there is a **Legend** box. This box includes the map title, print map, **AskReGIS** and **Start Over** links, and the map legend.

Along the top of the screen at the upper right corner are the **Search Bar** and the **Tools** dropdown menu. The options in the dropdown menu include the Overview Map toggle, Spatial Search Tool, Measurement, Feedback, and Help.

Within the map window, you can change the basemap, the scale of the map, or find information about features in the map. In the upper right corner below the Tools dropdown is the **Switch Basemap** menu. **Zoom In** (plus sign) and **Zoom Out** (minus sign) buttons and **Zoom to Statewide Extent** (outline of PA) are located in the upper left corner next to the Legend box.

Clicking an object in the map will bring up the Layer Information box, allowing you to view basic information, switch between overlapping objects, and access full CRGIS reports.

The **Logged In** bar at the bottom will display your user name if you are logged in.



CRGIS Map Tools

Tools

Below is a description of the tools available through the map interface discussed on the previous page.

Map Window Tools

Some of the most basic navigation and map view tools are found within the map window itself, in the upper right and upper left corners.



In the upper left corner are the **Zoom In** (the plus sign +) and **Zoom Out** (the minus sign -) buttons. These will change the map scale at set increments.

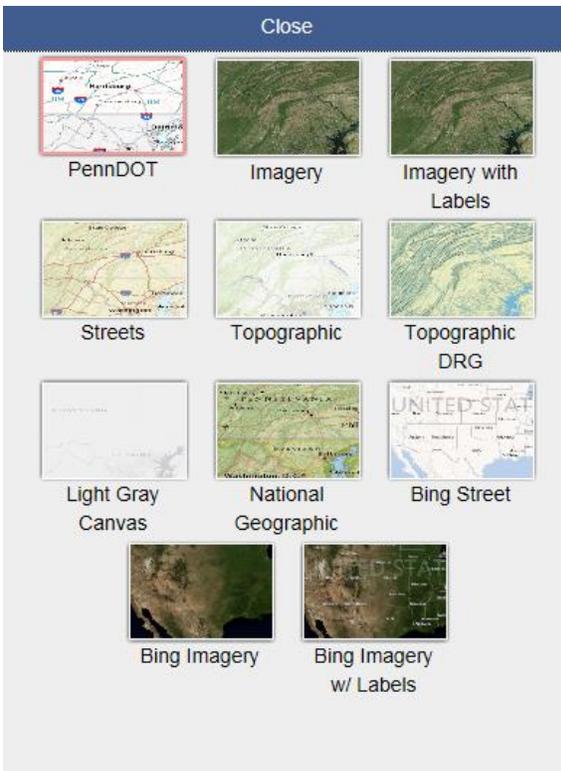
Users can now also zoom in and out using your mouse's roller wheel. Users can also zoom in by double clicking on the map.



Below the zoom buttons is **Zoom to Statewide Extent** button. Clicking this button will zoom out the map until the whole state is visible.

Switch Basemap

This button in the upper right corner brings up a menu that allows you to **Switch Basemap**.

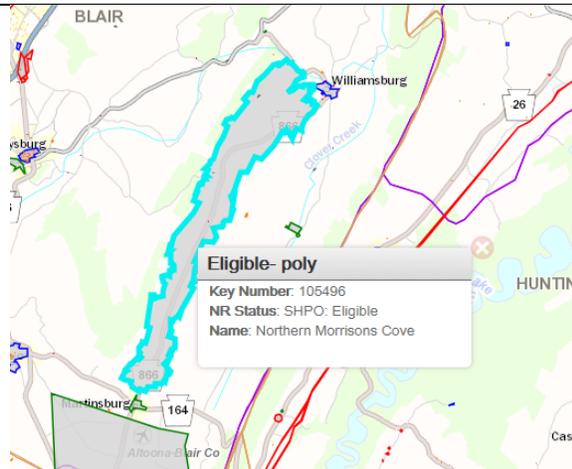


CRGIS defaults to the PennDOT basemap every time you open the program, but users can choose from ten other basemaps. Options are shown in the photo to the right.

Note: The Topographic DRG is very similar to the topo basemap in the previous version of CRGIS, but it will not display if you are zoomed in too far.



CRGIS Map Tools



Some more tools appear when you hover over or click on an object in the map.

When you hover over an object on the map, it will be selected in blue and a **Tooltip** box appears that will give you basic information, such as an ER number, watershed name, soil type. Tooltips for historic resources include the Key Number, NR Status, and Name.

Layer Information: ✕

Ineligible - poly
Type: Polygon | Result: 4 of 6
< >

Key Number: 096246

Name: General Refractories: Company Housing

NR Status: SHPO: Not Eligible

[View Report](#)

Clicking on a map object brings up the **Layer Information** box. This displays an abbreviated record for each feature, and usually contains more information than the **Tooltip**. Near the top of the box are arrows that allow you to scroll through all of the features that are located where you clicked. As you scroll through the features, the selection within the map window changes. This way, you can always access resources and layers even if they are “hidden” by larger polygons such as districts or survey areas.

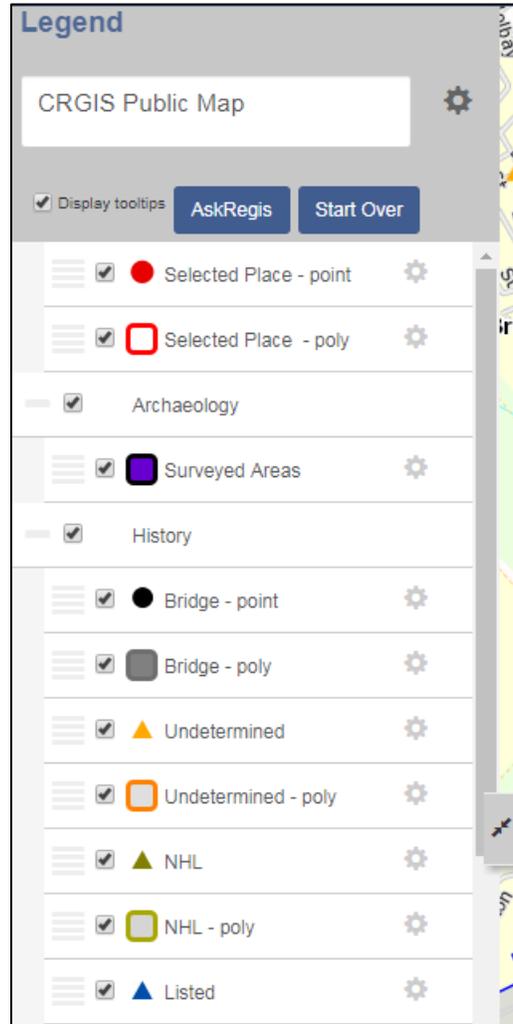
If a feature has more detailed information available, you can click **View Report** at the bottom of the box to see the full record.



CRGIS Map Tools

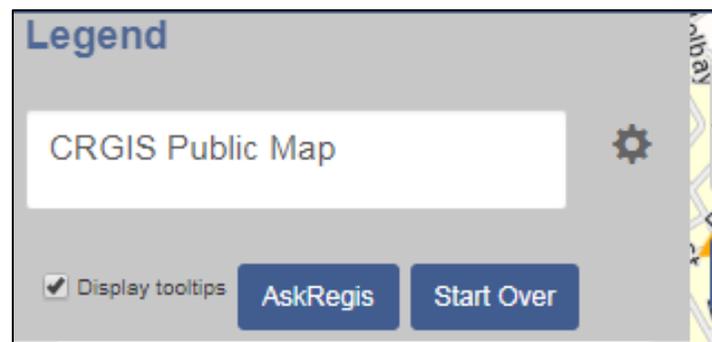
Legend Tools

There are many tools located within the Legend box: in the gray box at the top and within the legend key below.



Legend Top Box

The following tools are found in the gray box at the top of the legend:

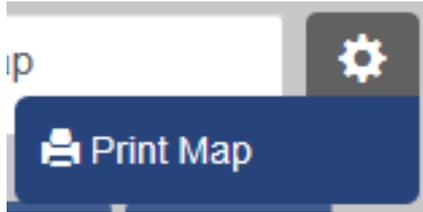




CRGIS Map Tools



The default **Map Title** will always indicate your access level. You can type in this box to change the map name during your current session.



Clicking the gear next to the Map Title will bring up a link to **Print Map**.

The printing tool within CRGIS provides step-by-step instructions for setting your print area, customizing the layout, and adding map elements like a title, author, and legend.



The default setting is set to **Display Tooltips** when you hover over a feature on the map.

You can turn off the boxes that pop up when you hover over a feature by unchecking **Display Tooltips**.



The **AskRegis** button will open the database query tool in a new tab or window.

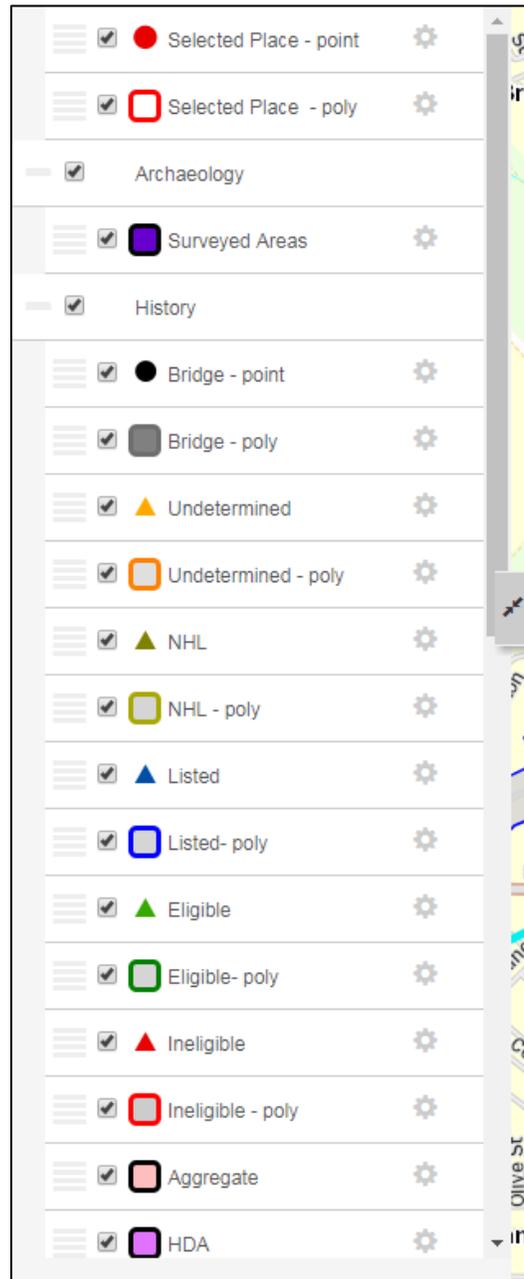


Clicking the **Start Over** button will close your map window and allow you to begin a new search using the AOI page. However, you no longer need to start over for most new searches. See the new **Search Bar** described in Additional Tools below. Archaeological sites can only be searched from the AOI page.



This button allows you to **Hide** or **Show** the legend. Or, if you place your cursor over the right edge of the legend until a horizontal double-arrow appears, you can click and drag the legend to resize it.

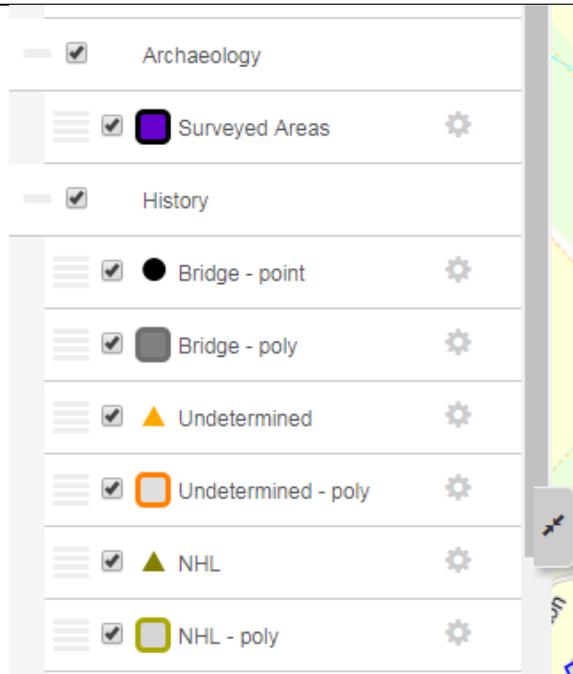
Legend Key



The legend box shows all of the available layer groups and sublayers. For example, the above image shows the Archaeology layer group expanded to include Surveyed Areas, and the History layer group is **expanded** to show all of the sublayers. The History layer group and the sublayers reflecting different resource types and eligibility determinations are **enabled**.



CRGIS Map Tools



The legend includes six layer groups: Archaeology, History, Transportation, Political Boundaries, Local/Gov Boundaries, and Environmental.

On the legend, these groups are indicated by a plus (+) or minus (-) sign and the name.

Within each layer group, there are one or more sublayers. They are slightly indented below the layer group name and include the name of the sublayer and a preview of the layer's symbol.

For single resources, triangles or dots are used. For larger resources, polygons are used. The color corresponds to the status and/or type of resource.



There are 2 tools for managing layer groups within the legend.

The + and - signs at the far left can be used to **Expand** (plus sign +) and **Collapse** (minus sign -) the layer groups within the legend. This will not affect how layers are displayed in the map.

The checkbox between the + and - signs and the layer group name will **disable/enable** all of the layers within the group.

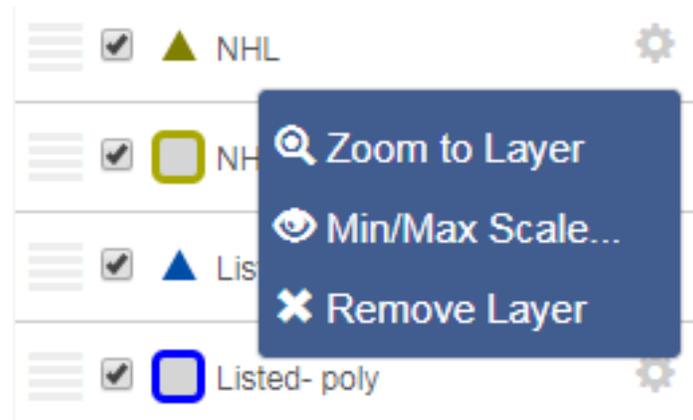
A checkmark in the box means that the layer is **enabled**, or visible. When you **enable** a group, the layers within it are not automatically turned on; you will still have to check them individually.

A box without a checkmark is **disabled**, or invisible. When you **disable** a whole group, none of the layers will display in the map and you will not be able to turn individual layers on or off until you enable the group.

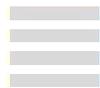


CRGIS Map Tools

In addition to the checkbox that allows you to turn layers on and off, there are 5 layer tools that can be accessed within the legend.



The tools in the blue box (above) are accessed by clicking on the gear to the right of the layer name.



This button allows you to **Drag** to change the order of the layers. When you rearrange layers, it will change their display order in the map. Layers can only be moved within their layer group in the legend.



If you click on the symbol, it will bring up a **Customize Symbol** box where you can change colors, size, fill or outline type, and opacity. Default symbols will be restored any time you click **Start Over** or end your session.



Zoom to Layer zooms to the extent of the entire layer.



Our layers are set to turn off after you zoom out to a certain extent, because they can clutter the map and are hard to read. If you need to see a layer even when you are zoomed out, you can turn off the **Min/Max Scale** rules with this button.



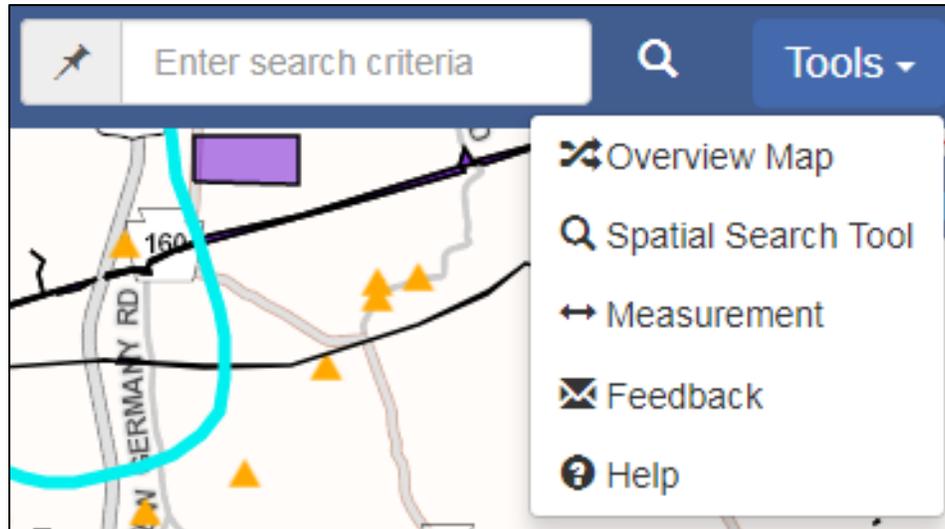
Clicking **Remove Layer** will take it out of the map and the legend. Be careful! You cannot add it back to the map unless you **Start Over**. It may be better to disable (uncheck) a layer you do not wish to see.



CRGIS Map Tools

Search Box Tools

Some important tools can be found in the upper right corner of the interface:



The new **Search Bar** tool offers an easy to find historic resources, survey areas, places, roads, street addresses, and latitude/longitude coordinates without having to **Start Over** and lose your map customization. The only thing you cannot find using the search bar is archaeological sites.



Type your search term in the box. In this example, we will search for Eckley Historic District.

Searching Hints:

- Survey Area – Search by ER number
- Historic Resource – Search by name or key number
- Bridges – Search by name, key number, bridge key, or BMS number
- City or Town – After the name of the town, add a comma and “PA”



CRGIS Map Tools

Eckley

FEATURES 14 LAYERS 0 MAPS 0

Eckley Rd and Entr To Eckley Vil Museum
Foster Township
Luzerne county
Intersections
POINT

Eckley Miners' Village, 2 Eckley Main St, Weatherly, PA, 18255, USA
ADDRESS

Name: Eckley Historic District
Key Number: 000737
CRGIS Historic Resource
POLYGON

Name: Eckley, B.
Key Number: 057443
CRGIS Historic Resource
POLYGON

Buck Mtn Rd and Eckley Rd
Lausanne Township
Carbon county
Intersections
POINT

As you are typing, CRGIS will find any features that match your search term.

In this example, the results come from many different layers, including intersections, addresses, and CRGIS historic resources. If you are having trouble finding what you need, change your search term to be more specific.

FEATURES 14 LAYERS 0 MAPS 0

POLYGON

Name: Eckley Historic District
Key Number: 000737
CRGIS Historic Resource

Add To Map Back to results

After you find the place or resource you are looking for, click that item in the results list. This will bring up a new box where you can either **Add to Map** or go **Back to results**.

Eckley Historic District

When you click **Add to Map**, the map will pan and zoom to the resource or place that you selected. The feature you selected will be added to CRGIS as a new map layer, and it will appear at the bottom of your legend.

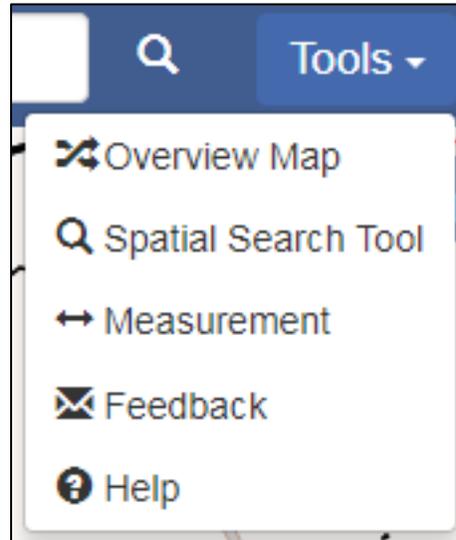
Until you close CRGIS or **Start Over**, this layer will be available so you can **Zoom to Layer** to return to that area.



CRGIS Map Tools

Tools Dropdown Menu

To the right of the search bar is a **Tools** menu that will allow you to toggle the overview map, conduct spatial searches, take measurements, and send feedback.



Overview Map



If you click **Overview Map**, a small overview map showing the location and extent of your map view will appear in the lower left corner.

The overview map is turned off by default when you first open CRGIS.

Spatial Search Tool

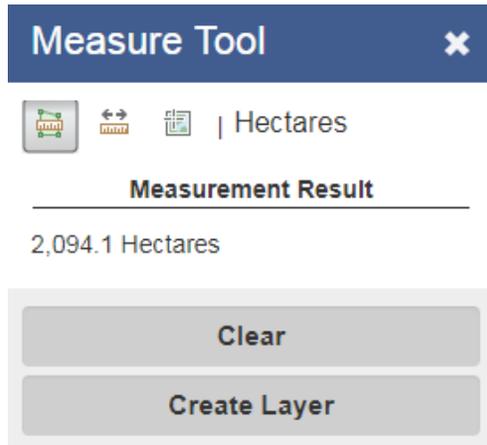
The **Spatial Search Tool** can be found under this menu. Please see below for detailed instructions.

Measurement

Clicking this button will open the **Measure Tool** as a separate box with various options.

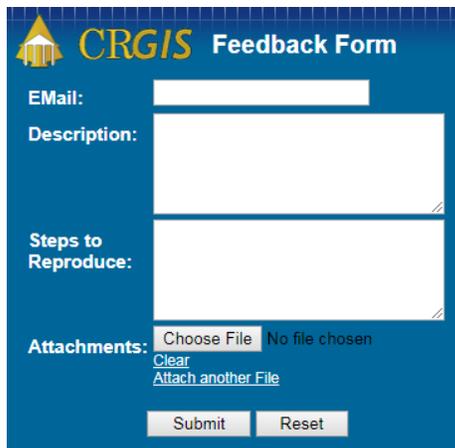
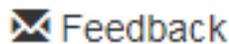


CRGIS Map Tools



The three symbols in the upper left allow you to measure **Area**, **Distance**, or coordinate **Location**. The units of measure can be changed by clicking on the menu to the right of the symbols. The measurement will appear in the middle of the box and it is dynamically updated as you draw your measurement area.

If you wish to save your measurement area for more use during your current map session, you can click **Create Layer** at the bottom of the box.



The **Feedback** tool allows you to submit information, questions, or errors to the CRGIS Staff. Clicking on the button will open a new window.

Fill out this form and click on the submit button. If you would like to erase what you have filled out without submitting, click on the reset button.

Attachments such as screenshots or pictures are encouraged.

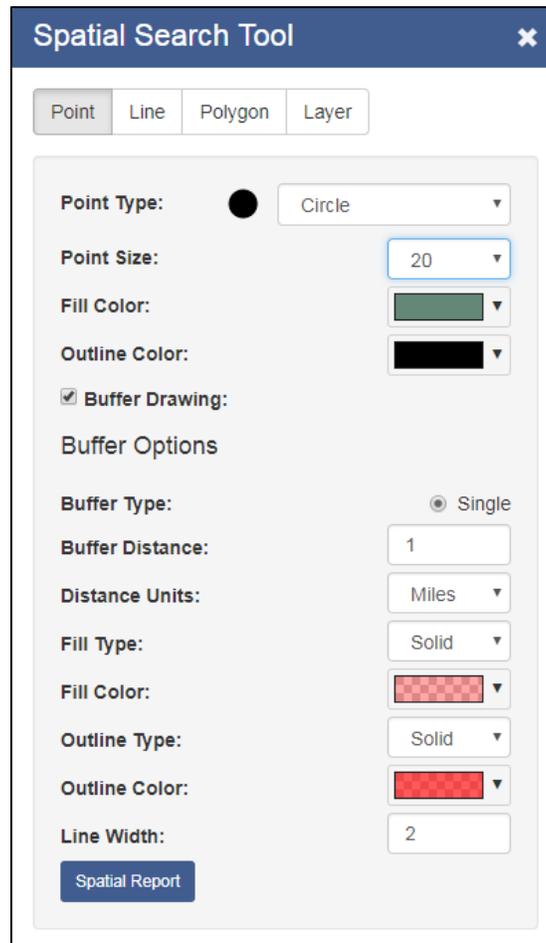


When you click on the **Help** tool a new window will open to the PA SHPO's CRGIS webpage.

Here users can view all of the tutorials, register for CRGIS access, read our Data Quality Statement, or learn how to Record Resources with our office.

Spatial Search

The Spatial Search tool is found in the **Tools** menu in the upper right corner of the map interface. This tool allows you to select a specific area, by drawing a shape or choosing a preset area, to generate a list of resources found within that area. Those users with Archaeological or Planner access will see a list of archaeological sites in their Spatial Summary. Public users will not see this information.



The screenshot shows the 'Spatial Search Tool' dialog box. It has a title bar with a close button. Below the title bar are four tabs: 'Point', 'Line', 'Polygon', and 'Layer'. The 'Point' tab is selected. The tool is configured with the following settings:

- Point Type:** Circle (selected)
- Point Size:** 20
- Fill Color:** Green
- Outline Color:** Black
- Buffer Drawing:**
- Buffer Options:**
 - Buffer Type:** Single (selected)
 - Buffer Distance:** 1
 - Distance Units:** Miles
 - Fill Type:** Solid
 - Fill Color:** Red (with a checkerboard pattern)
 - Outline Type:** Solid
 - Outline Color:** Red
 - Line Width:** 2
- Spatial Report** button

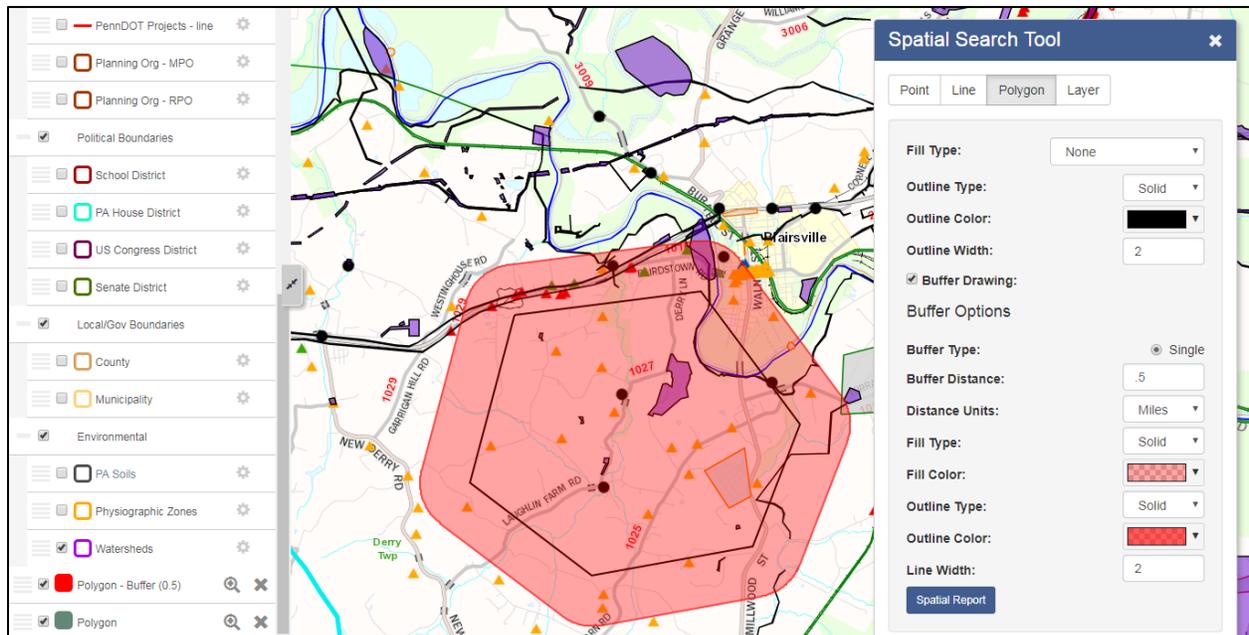
There are several choices for your Spatial Search. You can draw a point, a line, or a polygon. These three options can all have a buffer zone added to them. In addition, you can generate a Spatial Search based on the following layers: Congressional districts, PA House districts, and PA Senate districts. A polygon or buffered search will result in mapped resources that fall within the boundaries of your drawing. A line will result in resources that intersect your drawing. A point will give you the nearest of each resource type.

For point, line, and polygon searches: Once you have selected the type of search area, customized the display, and set a buffer, you can then draw your search area on the map. New layers representing the drawn search area and the buffer will be added to the map and legend. Similarly, once you select a district layer to search by, it will also be added as a layer.



CRGIS Map Tools

The new layer(s) will remain in the map and legend until you start a new Spatial Search:



After you've drawn your search area, click **Spatial Report**. This will open a new window to display the Spatial Summary. It may take some time for the report to load depending on the size of your search area and the number of resources located within it. If there is a problem, an error message will appear.

Once the results load, it will look like this:

Category	Results	Resources	Action
+ Historic Sites (Non-Linear)	83 results	72 resources	Click to view records.
+ Linear Historic Sites	4 results	1 resource	Click to view records.
+ Local Historic District Certified under Historic	0 results	0 resources	Click to view records.
+ Unmapped Historic Sites	36 results	35 resources	Click to view records.
+ Watershed summary of archaeological resources	1 result	1 report	Click to view records.
+ Archaeological Survey Reports	10 results	10 reports	Click to view records.

Please close this report window before drawing another spatial search.

The Historic Sites results are broken down into 4 categories: Non-Linear (Mapped), Linear, Local HDAs, and Unmapped.

- The mapped Non-Linear Historic Sites, Linear Historic Sites, Local Historic Districts, and Archaeological Survey Reports are the results that are contained by (polygon or buffer), intersect (line), or are nearest to (point) your search area.



CRGIS Map Tools

- Unmapped Historic site results include the historic resources that are unmapped within the township(s) that your search area touches.
- Archaeological Sites are not included for public users, but will be a part of Spatial Summaries for users with Planner or Archaeologist access.
- Archaeological Sites by Watershed is a summary of sites with the watershed(s) that your search area touches.

To search for Historic Structures reports, use the AskReGIS feature.

You can expand each of these rows to see the specific resources in each category:

CRGIS Spatial Summary Export												
- Historic Sites (Non-Linear) (83 results for 72 resources)											Click to view records.	
Inventory	Key #	ID	Address	Municipality	County	Historic Name	National Register Status	Tax Parcel	Resource Category	Material	Date Built	Bridge
	047588	47474		Derry Township	Westmoreland	Baird House	SHPO: Eligible		Building	Brick,Stone	Asphalt	N
	047571	47477	Old William Penn Hwy.	Derry Township	Westmoreland	Burkley House	Insufficient Information to Evaluate		Building	Brick	c1802	N
	047579	47485		Derry Township	Westmoreland	Gray House	Insufficient Information to Evaluate		Building	Brick	c1880;c1899	N
	047585	47492		Derry Township	Westmoreland	McChesney House	Insufficient Information to Evaluate		Building	Brick	c1874	N
	047599	47505		Derry Township	Westmoreland	Weaver House	Insufficient Information to Evaluate		Building	Shingle	c1880;c1899	N
	047618	47524		Derry Township	Westmoreland	Brenizer Zone	Insufficient Information to Evaluate		Building		c1880;c1899	N
	047629	47535		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1820;c1839	N
	047653	47559		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1880;c1879	N
	047680	47588		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1840;c1859	N
	047671	47577		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1840;c1859	N
	047680	47588		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1820;c1839	N
	047699	47595		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1820;c1839	N
	047694	47600		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1880;c1899	N
	047699	47605		Derry Township	Westmoreland		Insufficient Information to Evaluate		Building		c1887	N

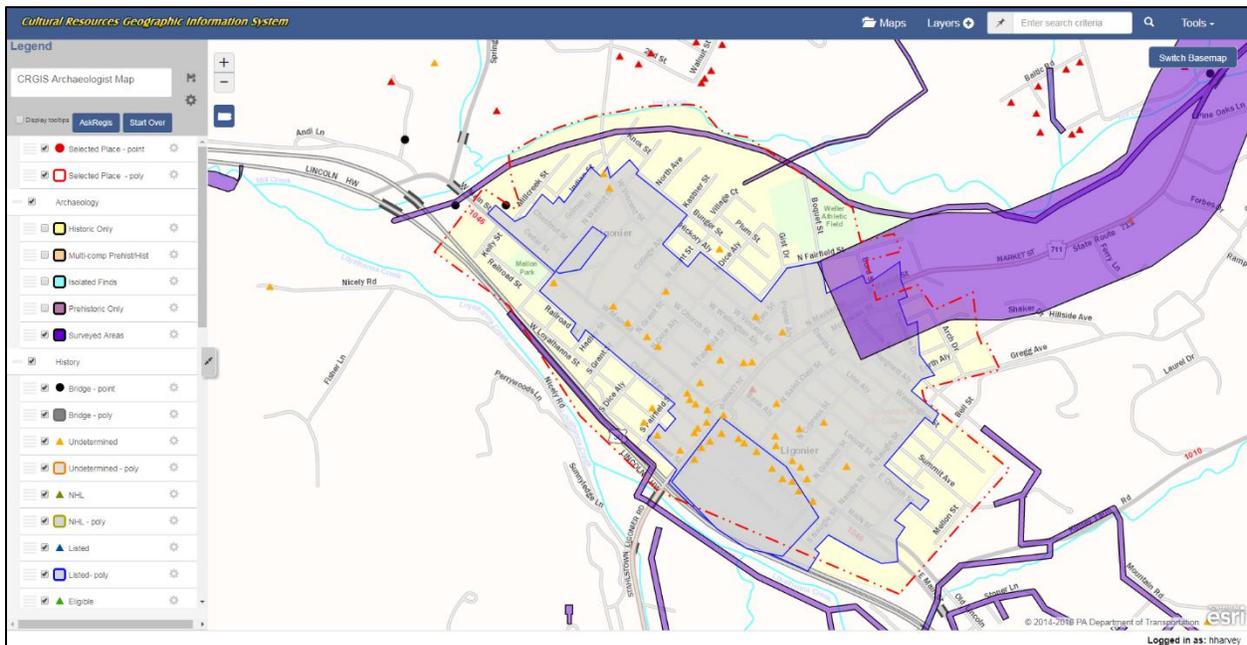
To view the individual records, click on one of the rows.

You can save the results of your search by clicking on the Export at the top of the page. The expanded results will be saved as a CSV file. This can be opened and viewed as a spreadsheet in Microsoft Excel.

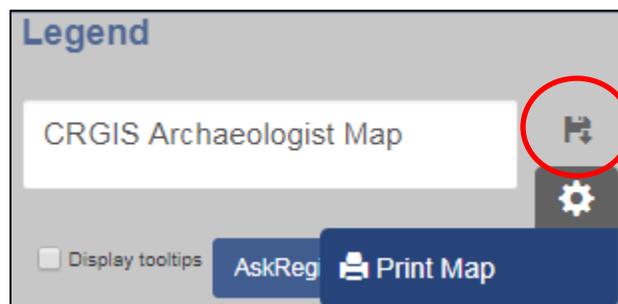
New Tools for Registered Users

If you are a registered user with Submitter, Planner, or Archaeologist access, you have access to additional tools in CRGIS.

They can be found in two places: right of the map title in the legend and left of the search bar at the top. These tools allow you to save and share maps, and add additional data layers.



The **Save Map** tool is located in the gray box at the top of the legend to the right of the map title. The tool icon looks like a disc with an arrow pointing downward.



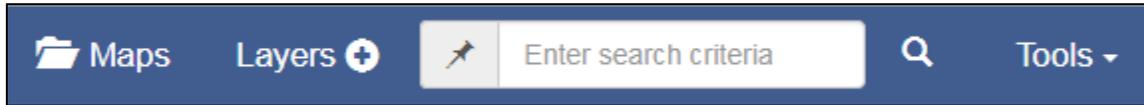
The **Save Map** button allows you to save your current map view and activated layers for future retrieval or sharing.

Once you have saved a map, the **Map Title** tool at the top of the legend will show the name of your saved map. *Caution!* Once you have saved a map or have opened a map, any time you click **Save Map** within the same map session it will edit the map that is open. If you want to create multiple maps, you must **Start Over** each time.



CRGIS Map Tools

The following tools are located in the top blue bar, to the left of the Search Bar:



This button opens a **Maps** window where you can manage saved and shared maps. Within this interface, you can create folders to organize your maps, share with other users, open, and delete your maps.



The **Layers** button opens a window where you can add a variety of other layers that are accessible within PennDOT's map applications. These include bridge projects, some utilities, wetlands, state-owned lands, and drilling locations.

If you find layers that you would like to add to your map, you will have the option to filter the results so that the information loads more quickly.

This concludes CRGIS Tutorials #2 Map Tools.

**To learn more about the AskReGIS Search,
see CRGIS Tutorial # 3: AskReGIS.**