HOW TO USE THE WATER QUALITY BLUEPRINT WEB MAP

Introduction

This web map is intended for watershed managers, conservation practitioners, landowners, and others to view and interact with the results of the **Water Quality Blueprint**. The final products as well as the source and intermediate datasets are included to help users understand how the values in final products were produced.

The three final products of the Water Quality Blueprint include:
- **Conservation Value**: An estimate of the relative importance of natural assets that will benefit from protection and restoration.
- **Water Quality Impact Value**: Locations that are impaired or at risk of impairment or that may filter known sources of pollution.
- **Combined Conservation and Water Quality Layer**: Highlights locations with both high conservation and water quality impact value.

The **Conservation** and **Water Quality Impact Layers** are combinations of 13 and 5 component layers, respectively. Component layers, in turn, are based on multiple source datasets. Only locations within the **Analysis Area** (riparian and wetland-related areas) were analyzed. Final products, components, and sources are nested hierarchically in the map in group layers (map layers that contain other map layers) in a way that reflects how the Blueprint was created.

Users are encouraged to explore the values of the component layers in order to understand which ones are important for particular sites. Values of component layers and their data sources will help practitioners develop conservation and restoration plans. Detailed descriptions and methodologies are included for each layer and group layer in the map. A report will be available that will explain the methodology and results in detail. Component layers are listed below.

Conservation Value Components	Water Quality Impact Components
Proximity to Water-Related Natural Communities	Phosphorous Yield
Proximity to Water-Related RTEU Species	Possible Impaired-Stressed Waters Source Areas
Proximity to Conserved Lands	River Sensitivity Coarse Screen
Catchments with Brook Trout	Fluvial Process
Natural Land Cover	Potential Wetland Restoration
Riparian Connections Between Habitat Blocks	
Proximity to Water-Related TNC Terrestrial Portfolio	
Proximity to Aquatic Portfolio, Exemplary Waters & Representative Lakes	
Wetlands	
Floodable Soils	
River Corridors	
Valley Walls	
Riparian Connectivity	

These instructions will help you learn how to use the map by guiding you through a typical workflow. The most important features are treated first. Browse the **bolded and underlined** headers to find sections of interest, or follow all instructions to learn about all features of the map. Names of layers and group layers are **bolded** in the text. Internet Explorer is used in these instructions, but the user experience should be similar with other browsers. Red text refers to red annotation in the explanatory map images.

Splash Screen

When the web map is first opened a splash screen will appear. Read the text on the splash screen and the legal disclosures and privacy statements. _The data presented in this map are not intended to be prescriptive. Field work and direct knowledge of the landscape are essential to making good conservation decisions._ If you accept the Terms of Use and Website Privacy policy and understand the data access and constraints, click the check box on the lower left and then click "OK" on the lower right.

After accepting the Terms of Use and Website Privacy policy, a map will appear with a red outline depicting the Vermont portion of the Lake Champlain Basin.

Widget Panel

A widget panel is visible on the upper left side of the screen. Widgets allow you to interact with the map. The names of the widgets are visible while hovering the mouse over them.
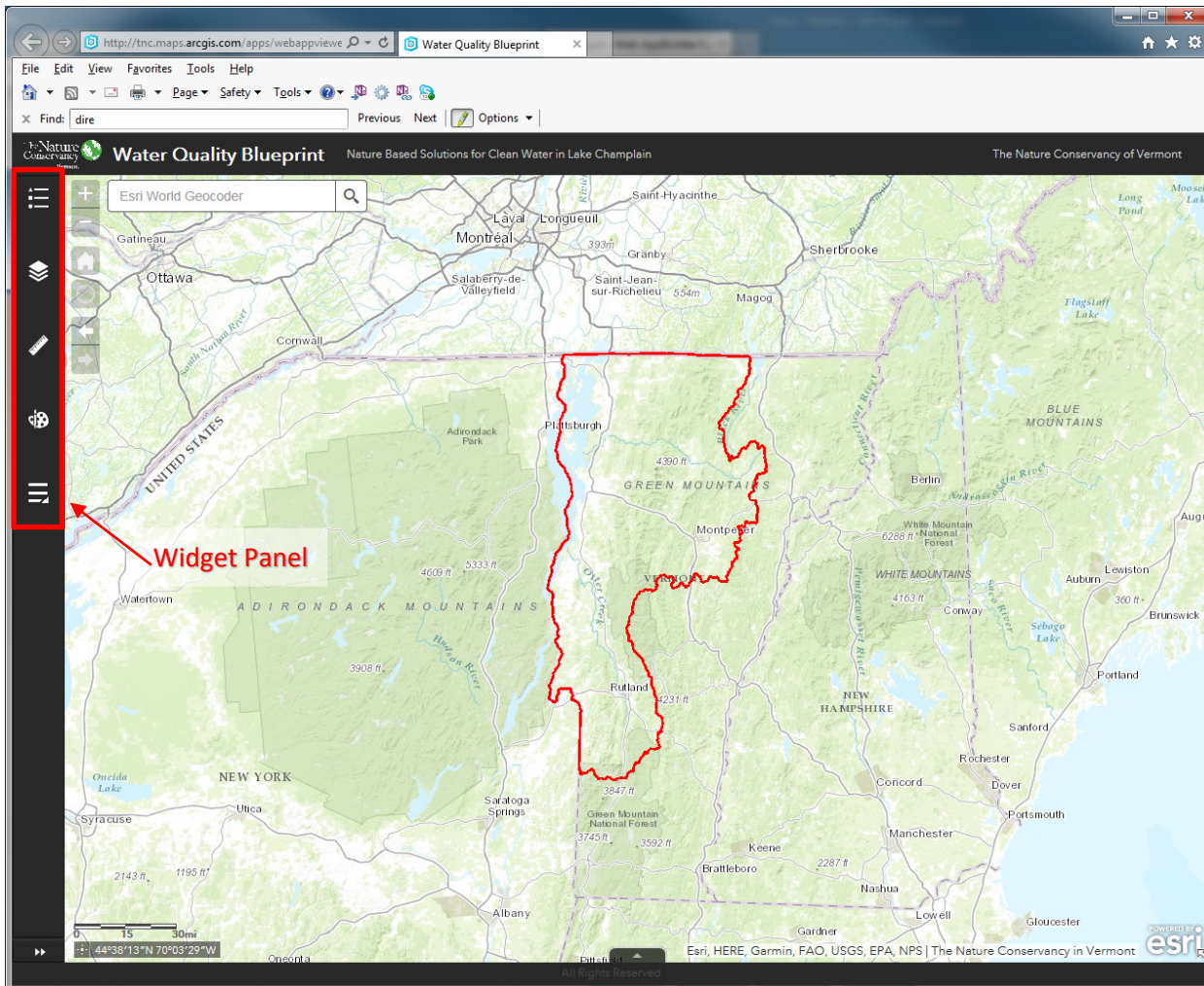
Using Layers and Group Layers

The second widget from the left is the Layer List. Clicking the Layer List widget will display the group layers and layers available for viewing in the map. After opening the Layer List, notice that the widget panel is now horizontal.

A group layer is a layer in the map that contains additional layers and/or other group layers.

Initially, only the **Water Quality Blueprint** group layer is visible in the list.

Click the small triangle on the left side of the group layer to reveal additional group layers.
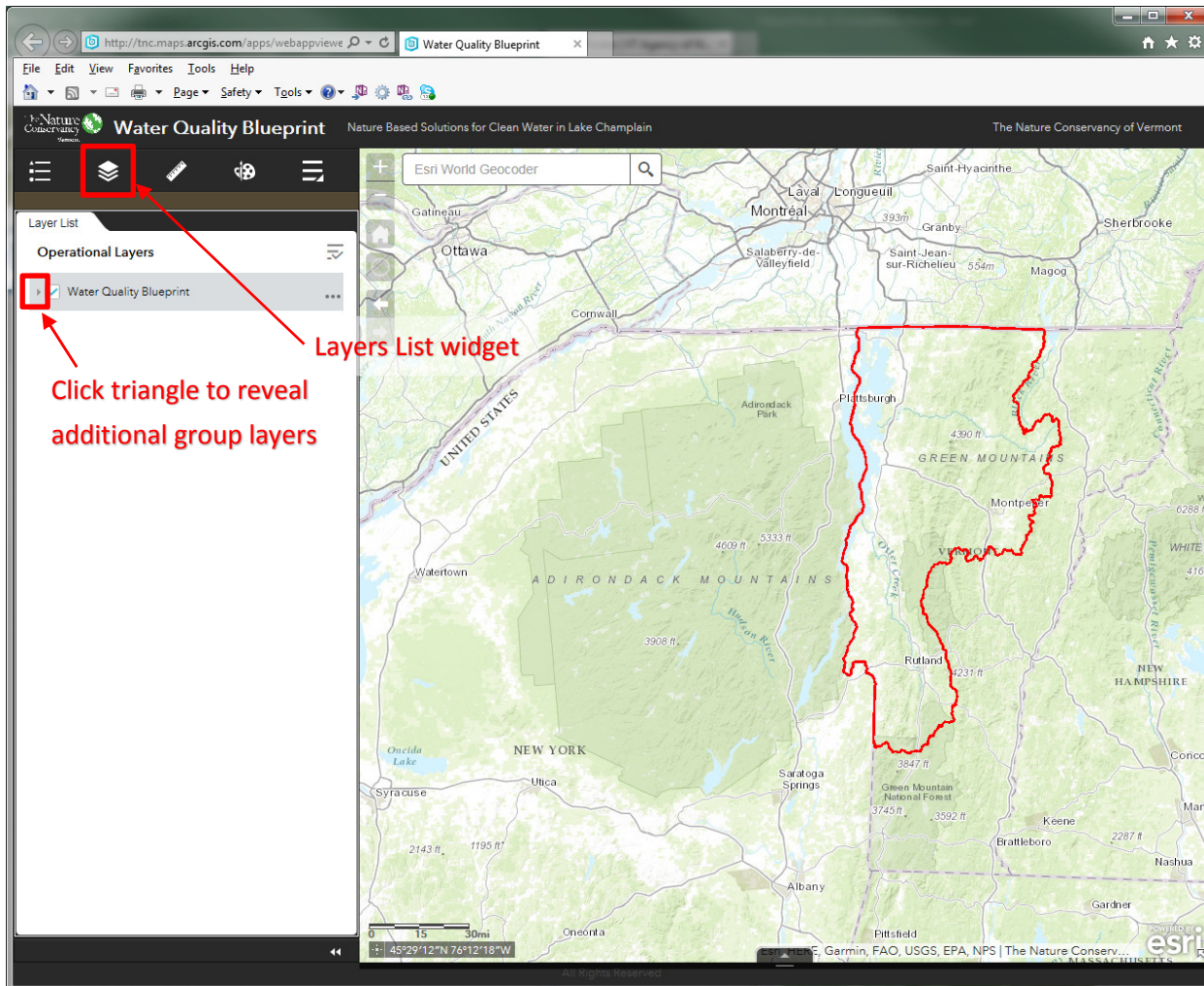
Five additional group layers will appear.

Clicking any of the check boxes to left side of these group layers will display those group layers on the map.

Only check the boxes for the top four group layers one at a time to see them individually.

- The **Base Data** and **Water Quality Blueprint** group layers are checked by default.
- The **Water Quality Blueprint** group layer at the top must be checked to see any of the layers or group layers.
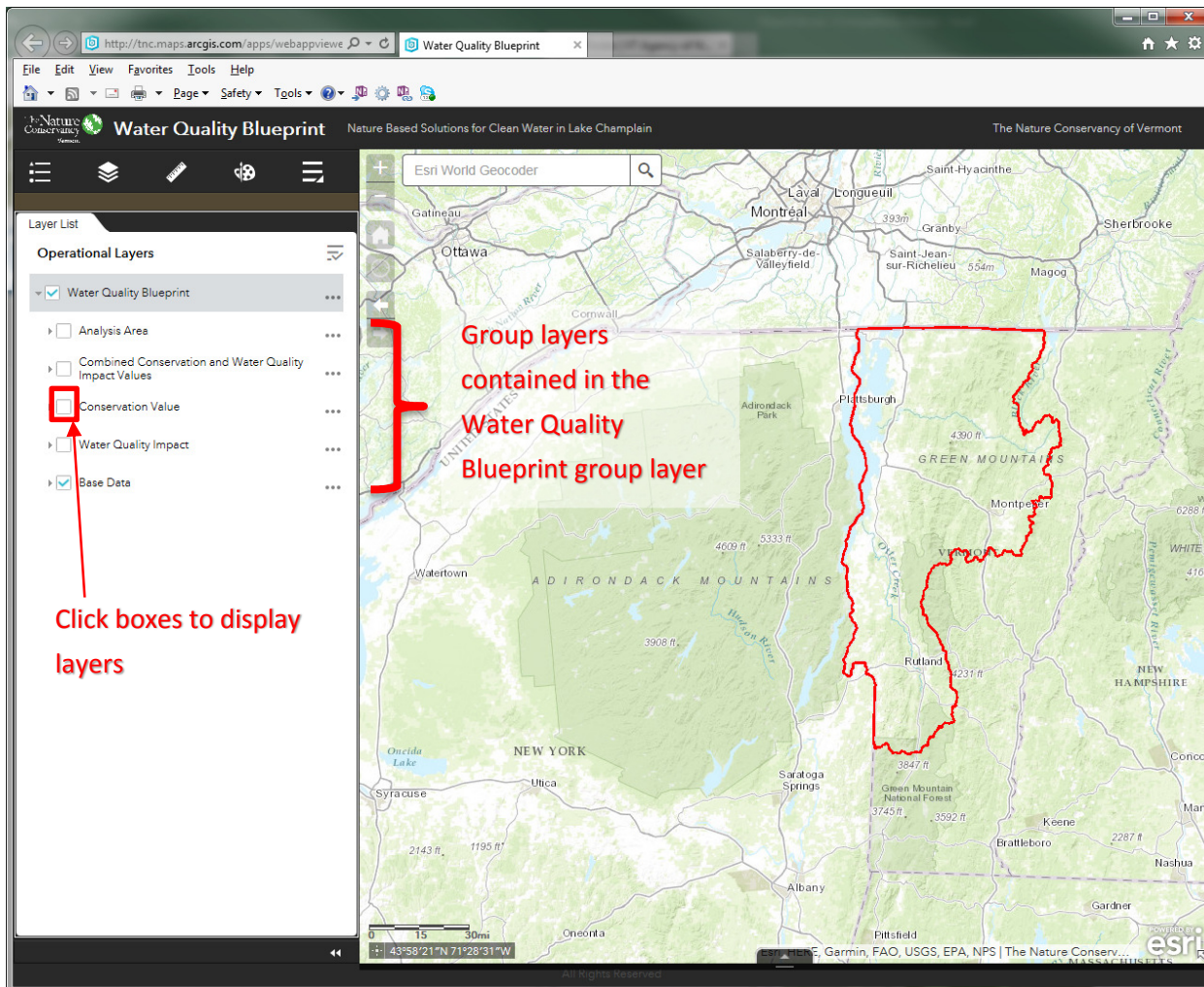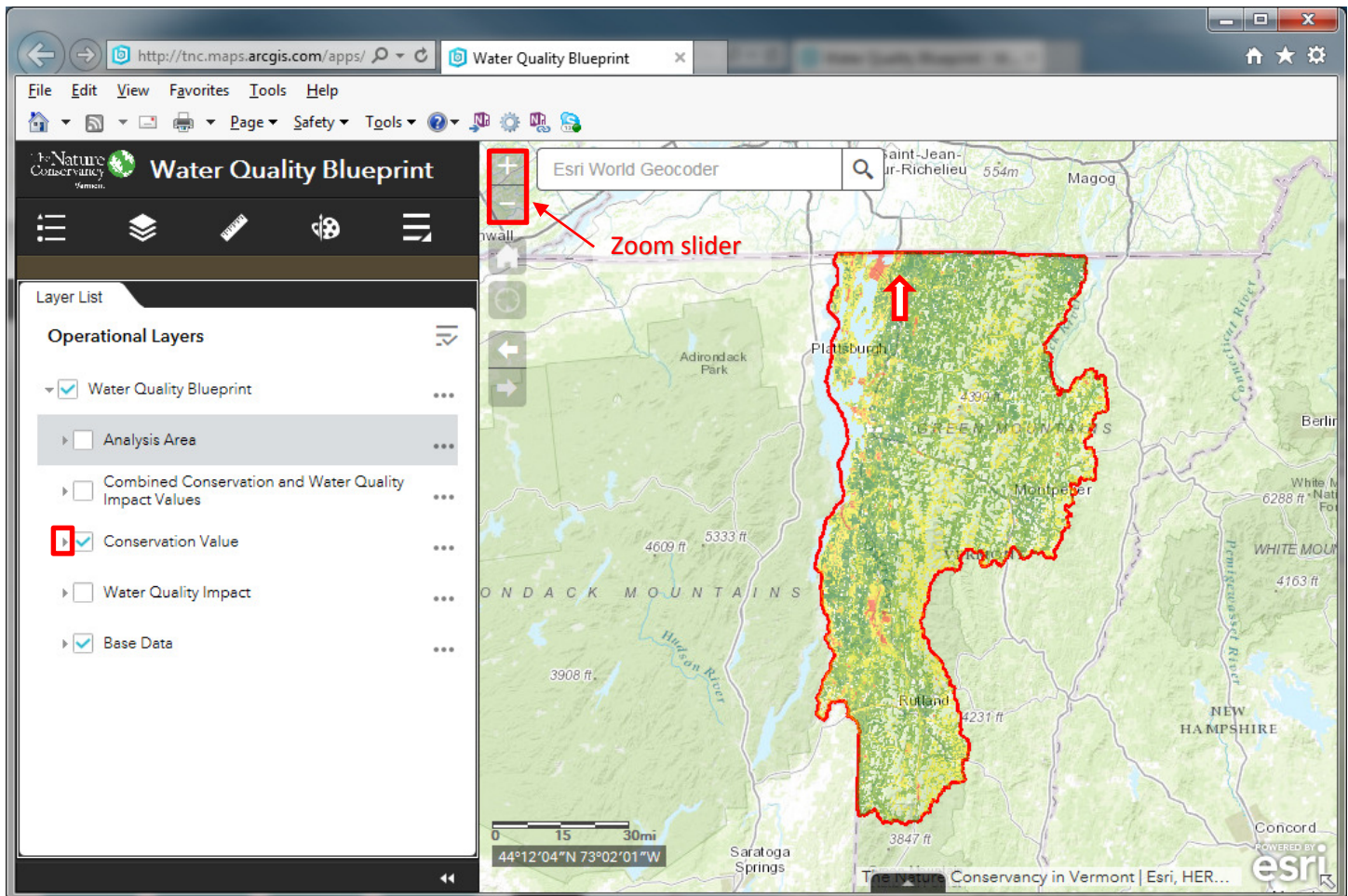
Exploring the Conservation Value Group Layer

After clicking the check box next to **Conservation Value**, the **Conservation Value** layer appears as a semi-transparent layer symbolized from green to yellow to red. Semi-transparent layers allow the user to see other layers or the basemap below.

Note: Red areas have higher value for conservation, green areas have lower values, and yellow areas are in between.

Move the mouse to hover over an area of interest in the mouse, and double click or rotate the mouse wheel forward until you are zoomed in sufficiently. Or click the '+' sign on the zoom slider in the upper right corner of the map and pan to the area of interest by clicking and dragging on the map.

In this example, we will zoom in to the area indicated by the arrow on the map below.
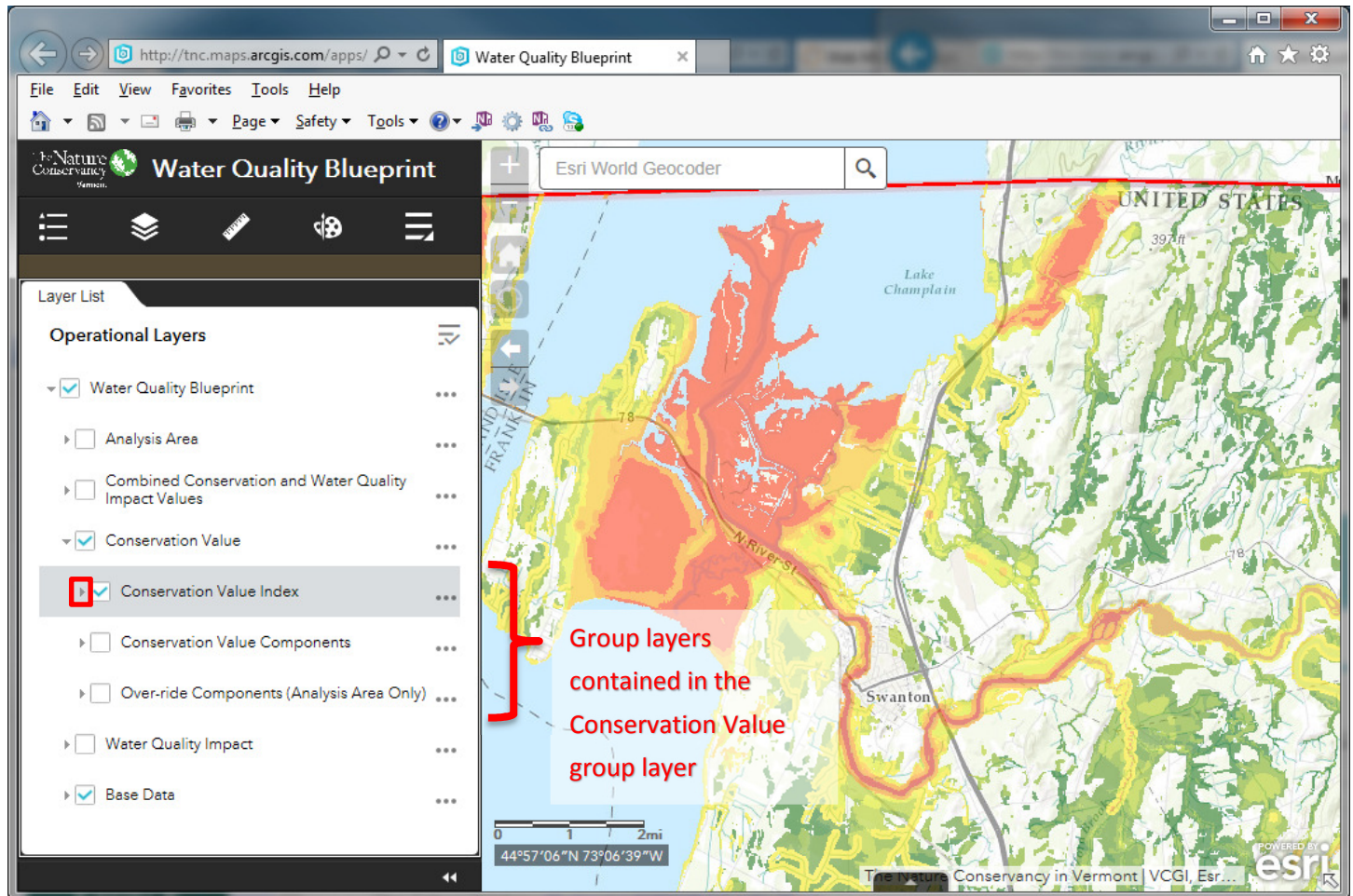
After zooming to your area of interest, click the small triangle on the left side of the **Conservation Value** group layer to reveal additional group layers beneath. The image below shows three additional group layers beneath the **Conservation Value** group layer.

Note that the **Conservation Value Index** group layer is checked by default.

Throughout the web map, the most relevant and useful layers and group layers are checked by default.

Click the small triangle on the left side of the **Conservation Value Index** group layer to reveal three layers beneath.

The image below shows three layers beneath the **Conservation Value Index** group layer.

Notice that the **Final Conservation Value Index with Overrides (semi-transparent)** layer is turned on by default. This is the layer that is shown on the map. This layer and the three group layers that contain it (shown with blue check marks in the image below) must be checked in order to see this layer on the map.

View Layer Symbology

Click the small triangle on the left side of the **Final Conservation Value Index with Overrides (semi-transparent)** layer (or the layer name) to show the layer symbology.

Note: Layers (unlike group layers) do not contain additional layers.
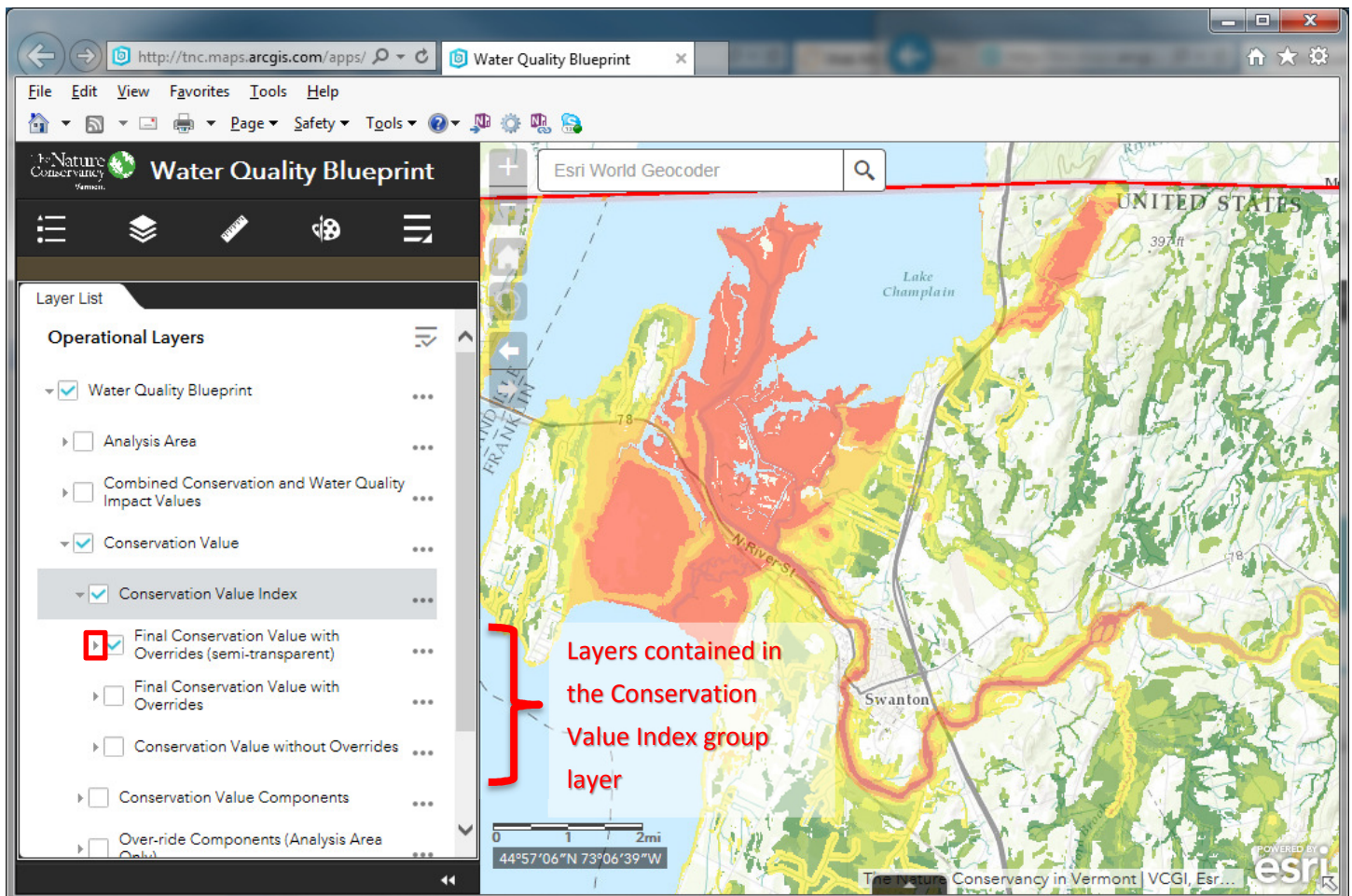
The symbology indicates that values vary from 0 to 100 and are displayed in 10 equal interval classes.

- Higher values have higher conservation value.
- Red areas have the highest conservation value.
- Many layers in the map have this symbology (0-100, and green to yellow to red) so that they are easy to compare.

View Layer Descriptions

Click the three dots on the right side of the **Final Conservation Value Index with Overrides (semi-transparent)** layer to display options for the layer.
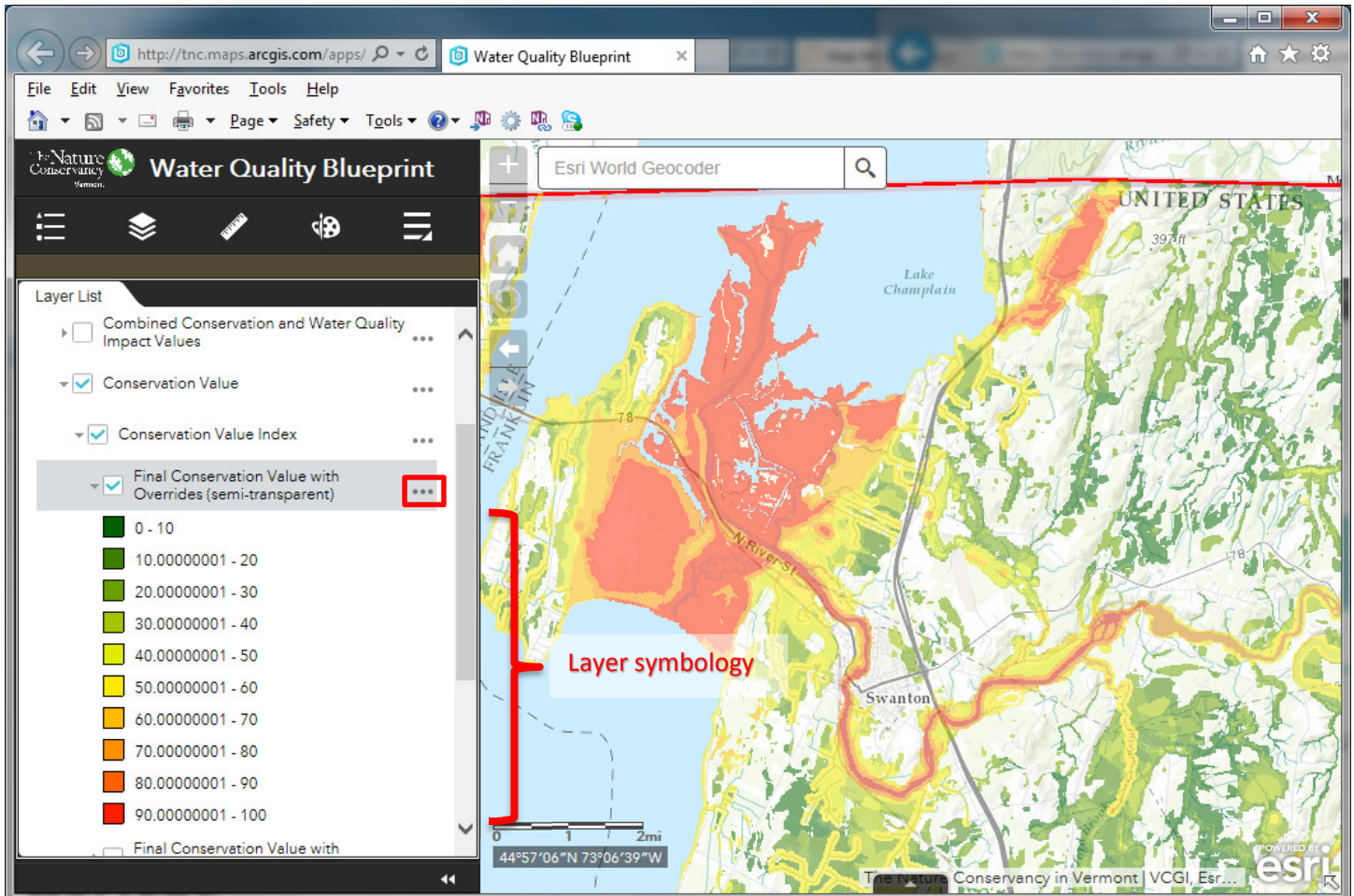
A small pop-up window appears. For this layer, the only option is to show the layer Description. Click the word "Description" to see it.
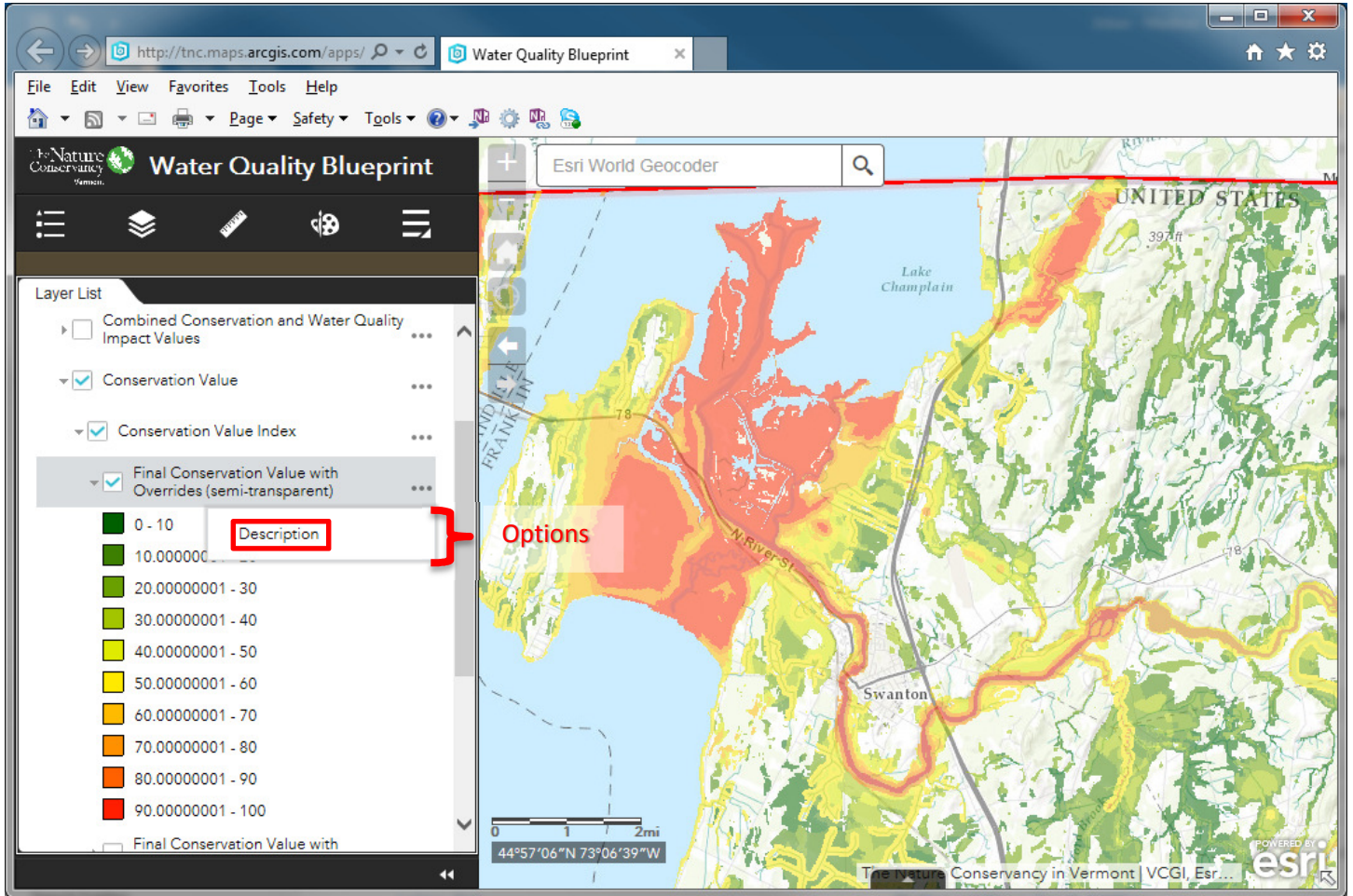
A document opens in a new browser tab. The description of the layer appears after the word "Description." "Copyright Text" shows the organization or organizations that are responsible for creating the layer.

Notes:

- Description documents are available for all layers and group layers.
- A summary description of the layer usually appears in the first few sentences of the descriptions.
- A more technical explanation usually appears after the summary.
- A report will be made available that describes in more detail how the Water Quality Blueprint was developed.

Close the description tab by clicking only the "X" on the description tab at the top.

After closing the Description tab, the Water Quality Blueprint web map will reappear.

Exploring Additional Layers

Close the symbology for the **Final Conservation Value Index with Overrides (semi-transparent)** layer by clicking on the layer name.

Turn off the **Final Conservation Value Index with Overrides (semi-transparent)** layer by clicking the box to the left of the layer name.

Turn on the **Final Conservation Value Index with Overrides layer** by clicking the box to the left of the layer name.

Note that the **Final Conservation Value Index with Overrides** layer contains the same values as the layer above it, but it is opaque, not semi-transparent.
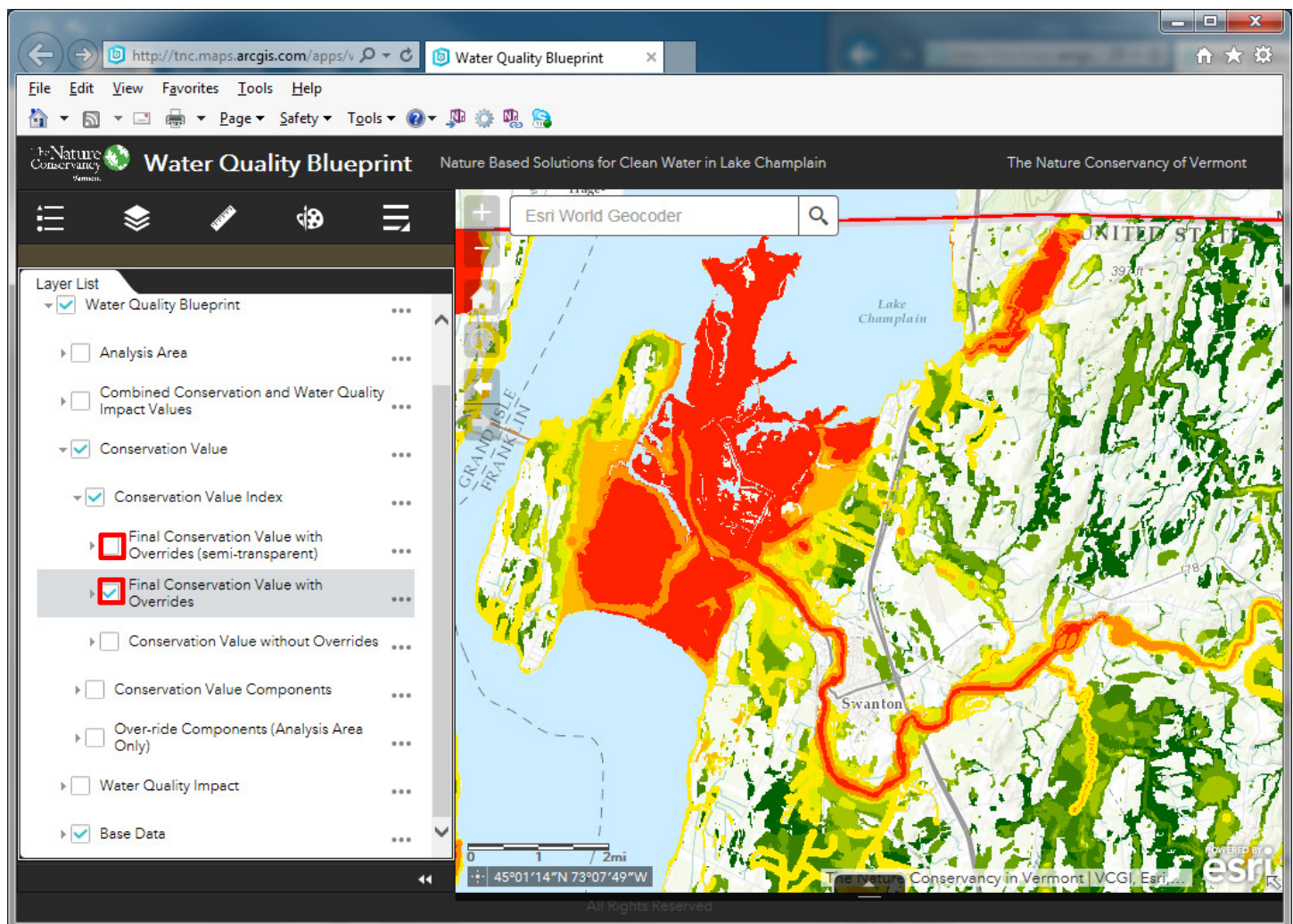
Turn off the **Final Conservation Value Index with Overrides** layer, and turn on the **Final Conservation Value Index with Overrides (semi-transparent)** layer again.

Changing Basemaps

Click the "more" widget on the right side of the widget panel.
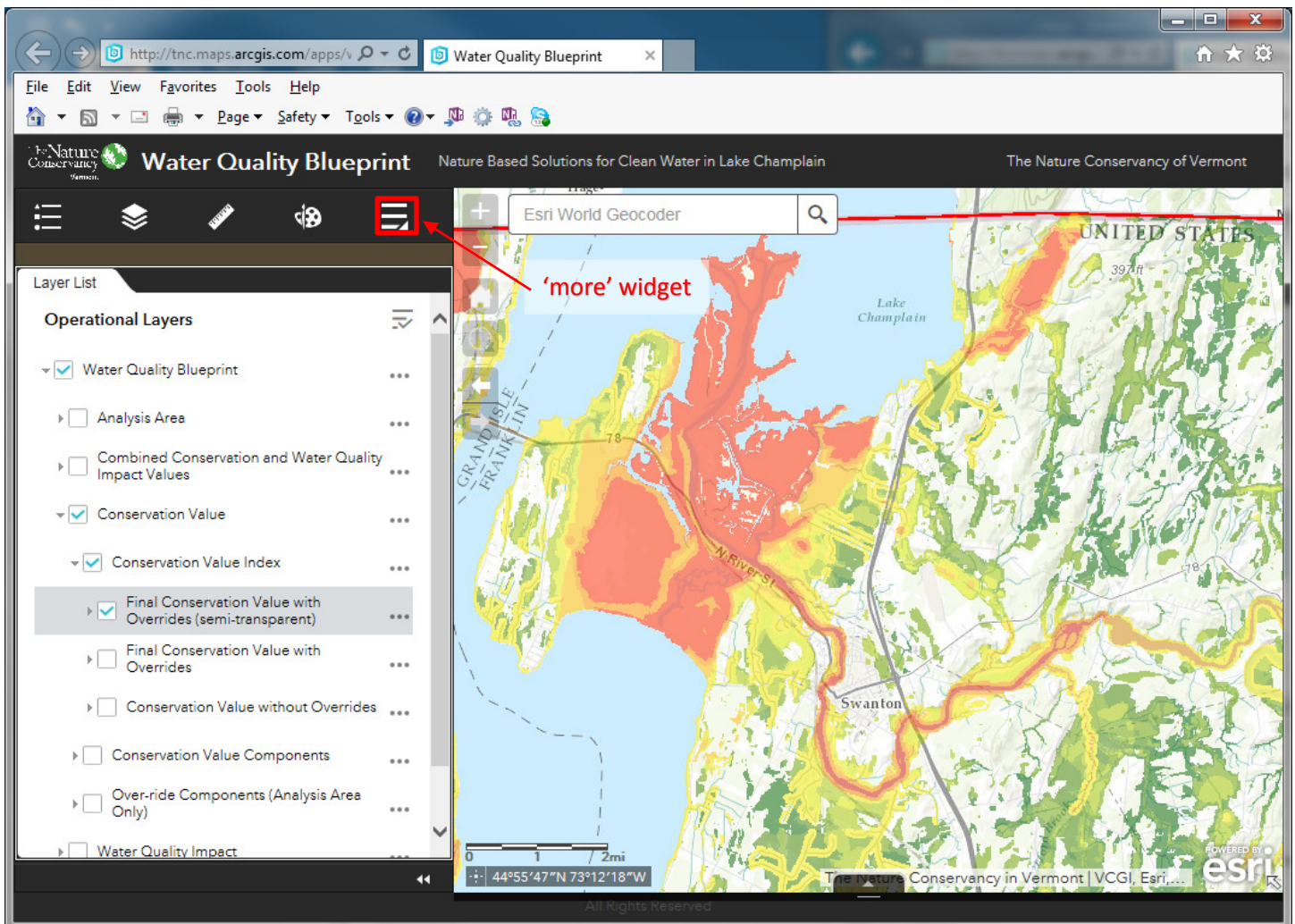
Addition widgets appear on the left side of the map.

Click the Basemap Gallery widget.
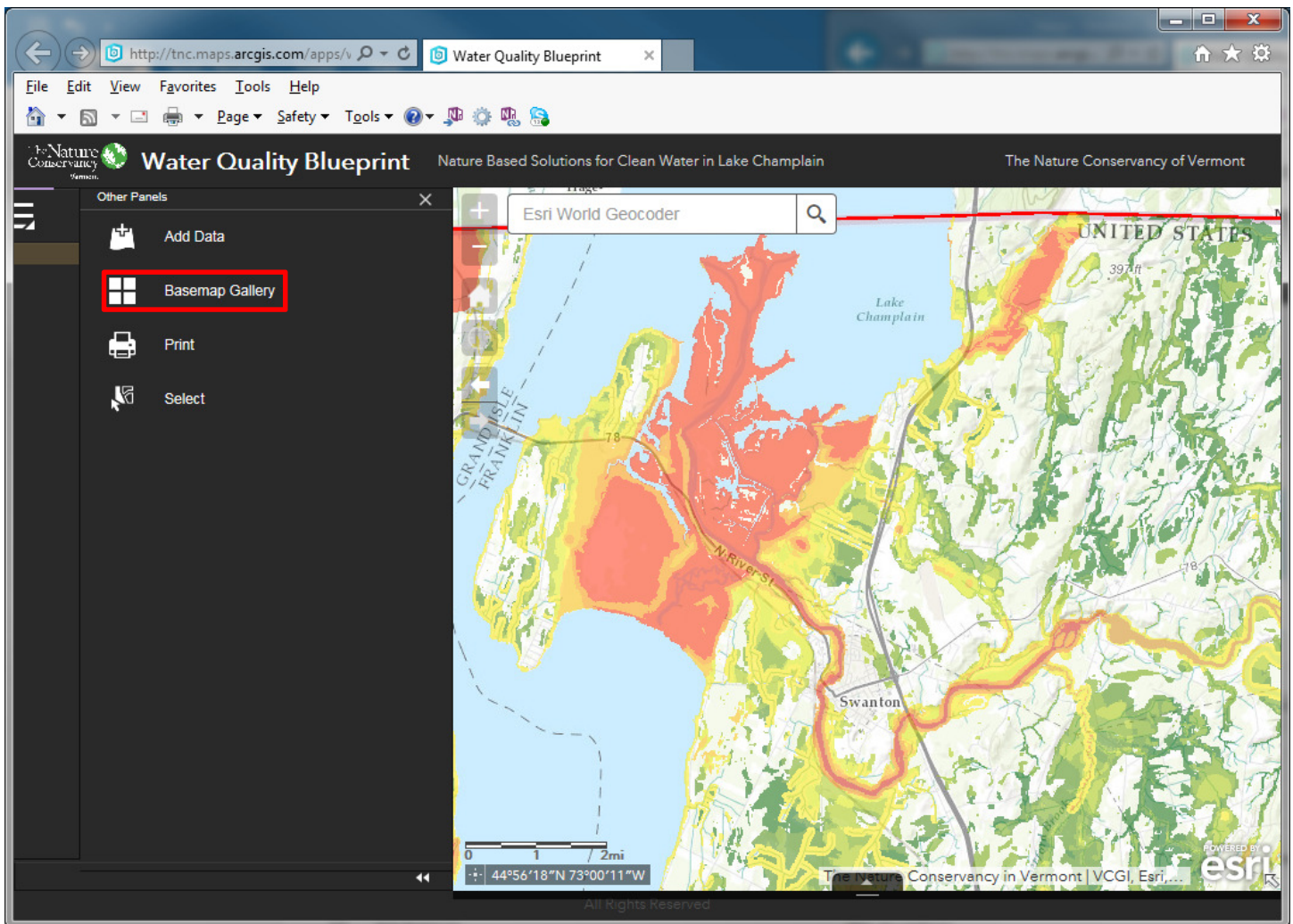
Click the **Imagery with Labels** basemap, then zoom in further to see more detail.

- The **Topographic** basemap is loaded by default.
- A total of 5 basemaps are available.

Click the **Topographic** basemap again, click the Layer List widget, and click the Back Arrow to zoom to the previous extent.

- The Back Arrow and Forward Arrow is a convenient way to zoom to multiple previous and next extents.
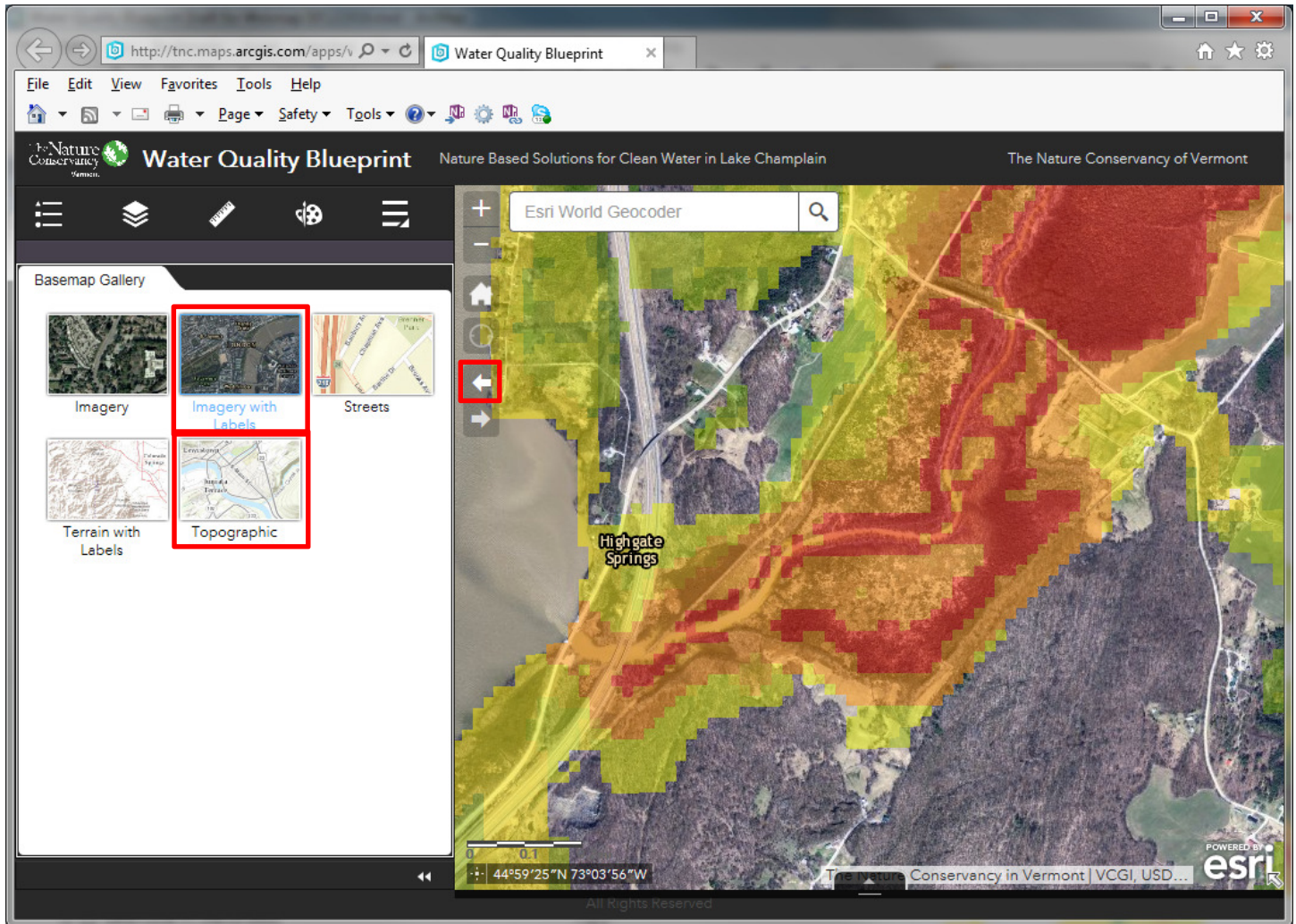
Hiding Layers and Group Layers in the List

Hide the layers and group layers under the **Conservation Value Index** group layer by clicking the small triangle on the left side of the **Conservation Value Index** layer.
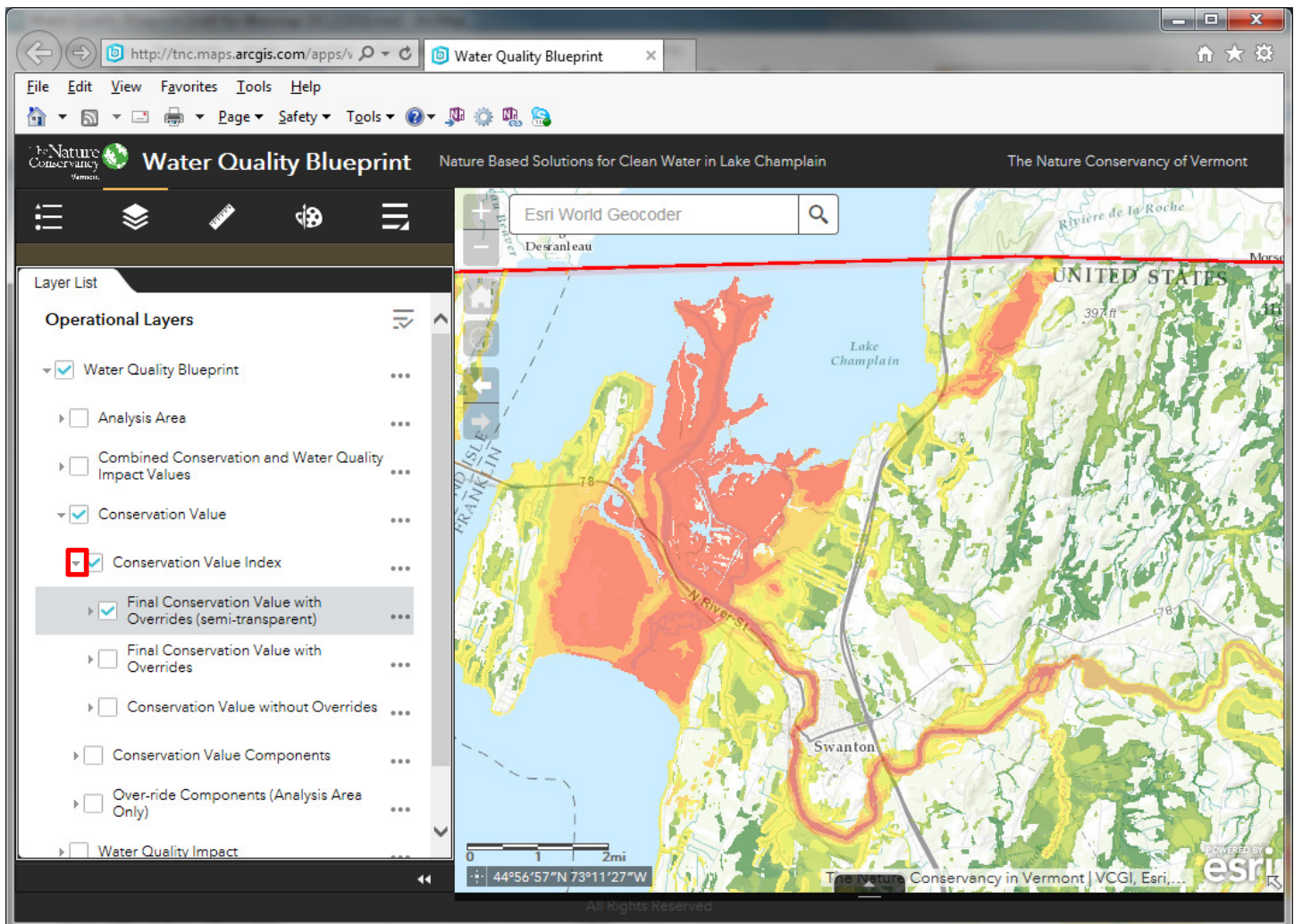
Explore the Conservation Value Components

Turn off the **Conservation Value Index** group layer by clicking the box to the left of the layer name to remove the check mark.

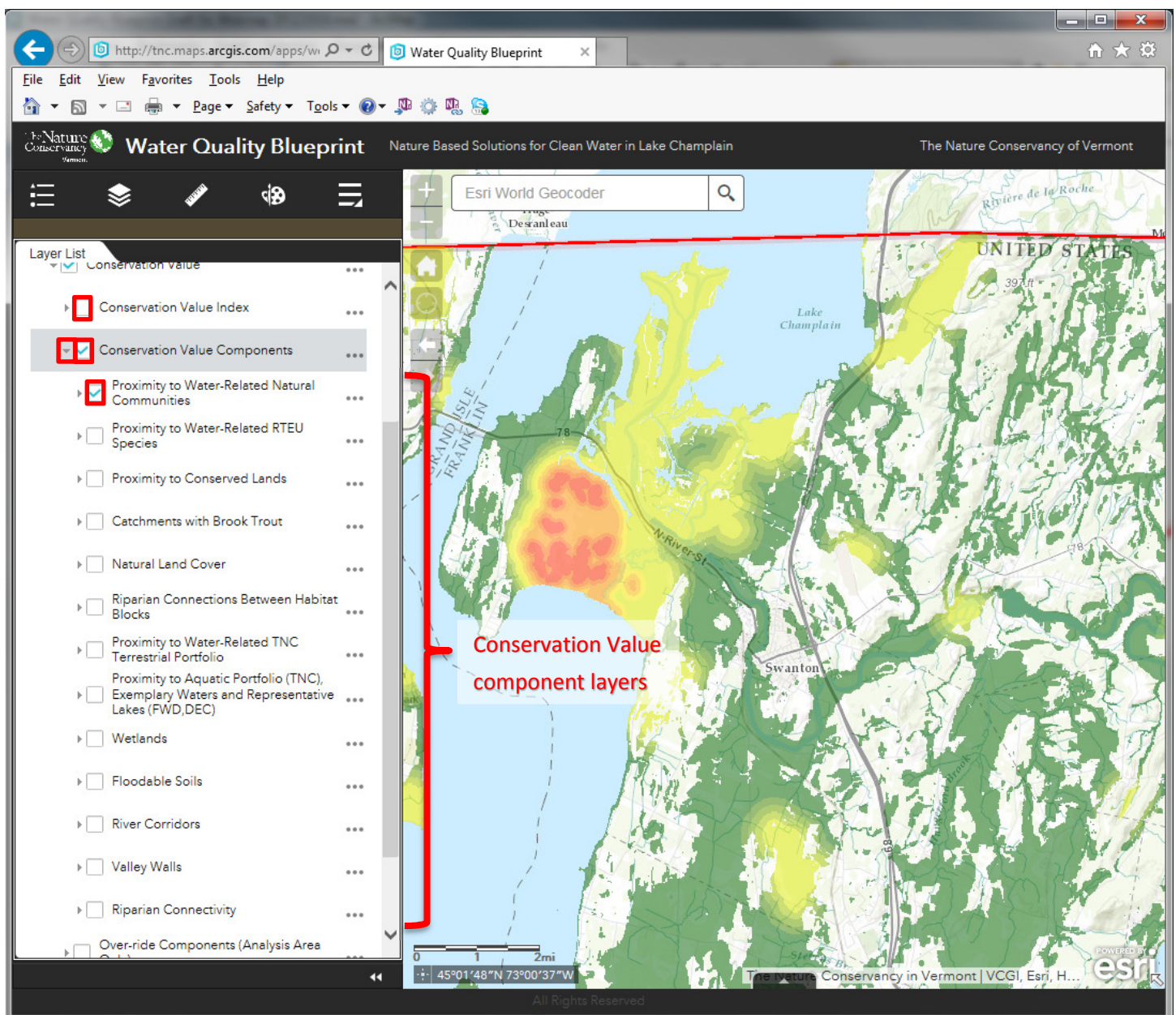Reveal conservation value component group layers and layers by clicking the small triangle on the left side of the **Conservation Value Components** group layer. The 13 components appear.

Turn on the **Conservation Value Components** group layer by clicking the box to the left of the layer name.

Turn on the first component group layer, **Proximity to Water-Related Natural Communities,** by clicking the box to the left of the layer name.

The layer appears in the map. This component is based on proximity to occurrences of water-related, state significant natural communities.

Click the small triangle on the left side of the **Proximity to Water-Related Natural Communities** layer (or the layer name) to show the layer symbology for the component layer.

Note that it is identical to the **Final Conservation Value with Overrides (semi-transparent)** symbology. The symbology indicates that values vary from 0 to 100 and are displayed in 10 equal interval classes. Red areas contribute the most to the conservation value layer.

Turn on the **State Significant Natural Communities - Water-Related (VTDFW 3/3/16)** and **Uncommon Communities - Water-Related (VTDFW 3/3/16)** layers (source layers for the component) by clicking the boxes to the left of the layer names.

Click the small triangles on the left side of these layers (or the layer name) to show the layer symbology.

The two source layers for the component appear on the map in green and purple beneath the component layer. View the descriptions and source organizations for each of the layers as described in the **View Layer Descriptions** section above.
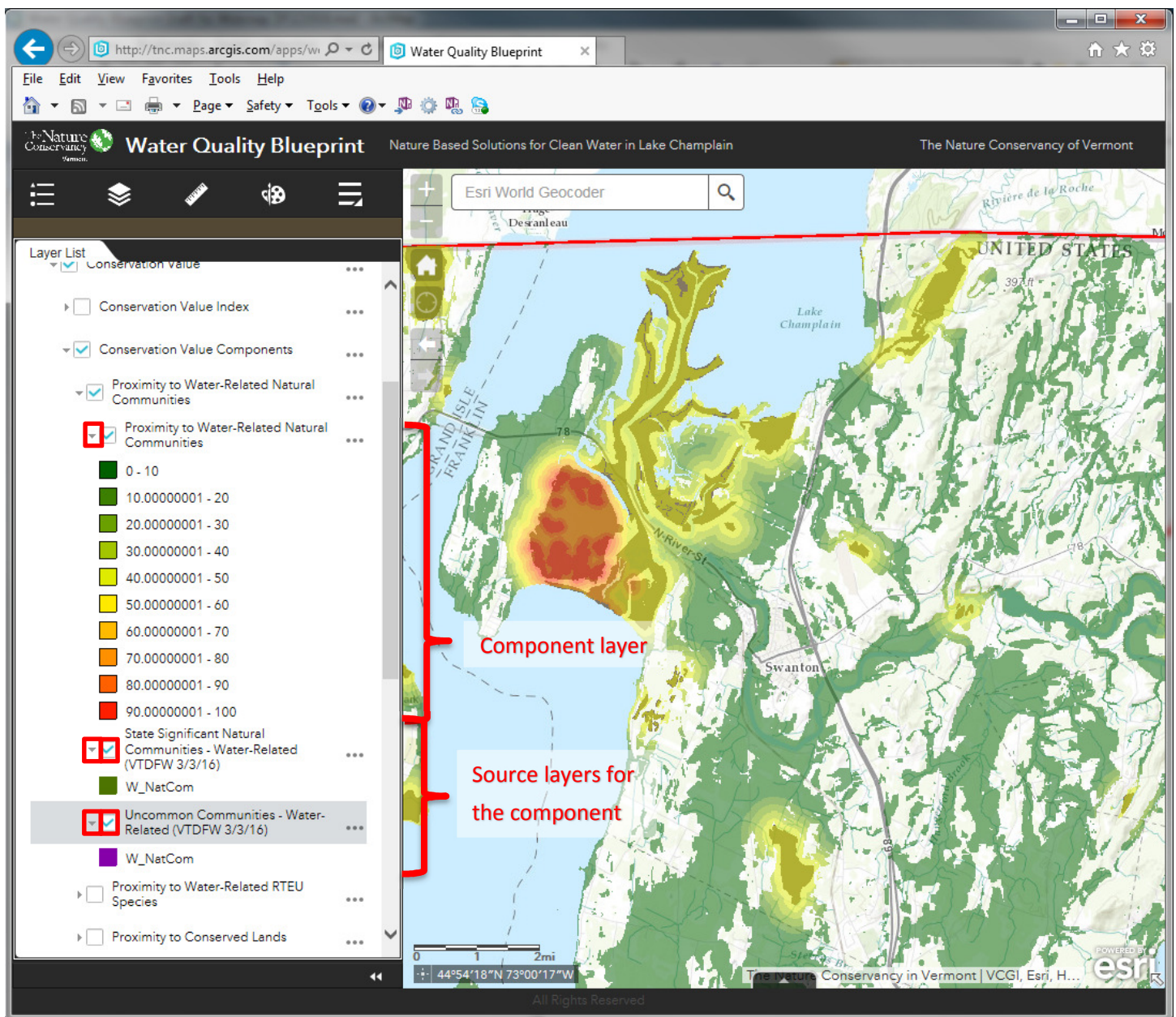
Explore additional Conservation Value components and sources by hiding and revealing nested layers and symbology, turning on and off group layers and layers, and opening and reading descriptions and citations.

Do the same for the other major group layers: **Analysis Area**, **Combined Conservation and Water Quality Impact Values**, **Water Quality Impact**, and **Base Data**.

How to Use Other Widgets

Map Overview: show the map overview by clicking the arrow in the extreme lower right corner of the map.
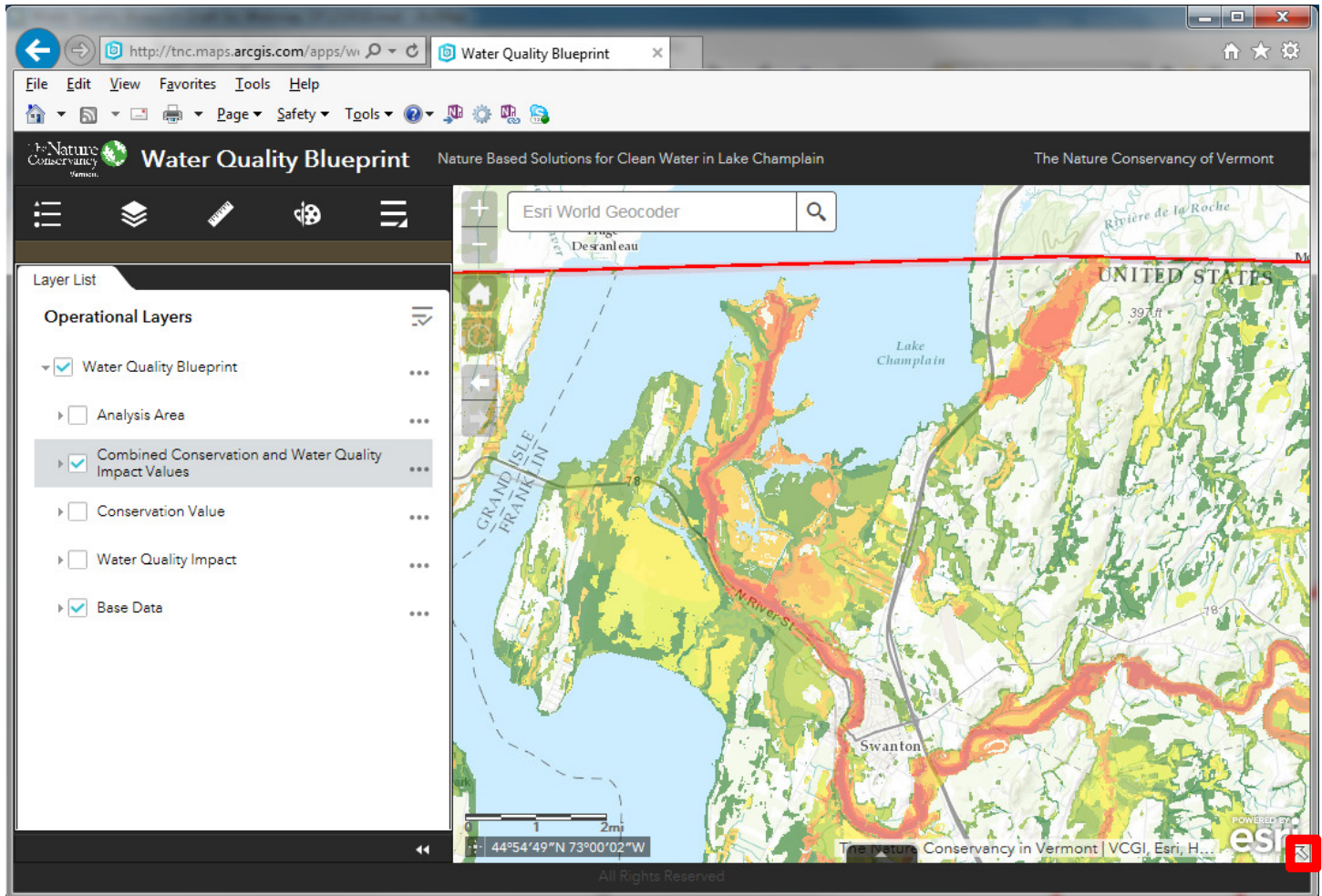
Instructions for additional functionality and widgets will be available here soon. Please revisit the web map at a later time to find updated instructions in this same location!