Aquatic Resource Management

**Statewide Wetlands Inventory Data Acquisition and Symbolization**

The Statewide Wetlands Inventory (SWI) web site includes a web map consisting of GIS datasets that have been configured by the Oregon Department of State Lands (DSL) specifically for the SWI map. The services may be accessed with desktop GIS software by following the directions below. DSL has chosen to host these services for the purposes of efficiency, performance, and availability. The services are updated annually and published on December 1 each year. These can be accessed from the Layer List in the DSL SWI web map, you can find the map here https://www.oregon.gov/dsl/WW/Pages/SWI.aspx.

To add the internet map services that DSL publishes for the SWI web map in your own desktop GIS maps follow the instructions below.

For each of the layer groups in the SWI map, you can click on the ellipse (…) to the right of the group name and in the drop down select "Show item details".
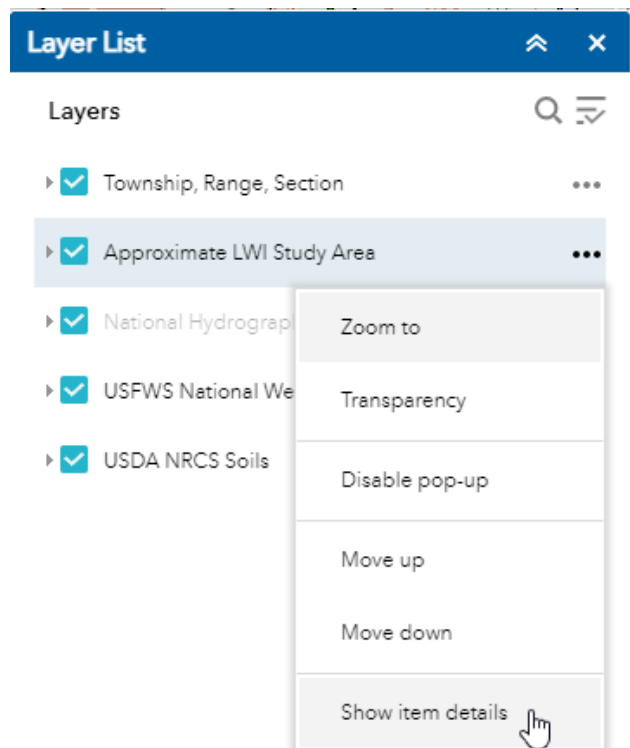

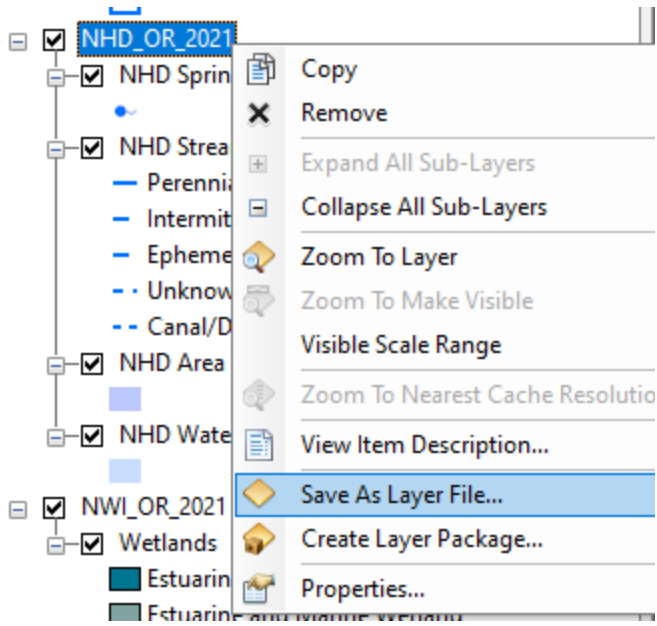This will open the service information page that will appear as below.
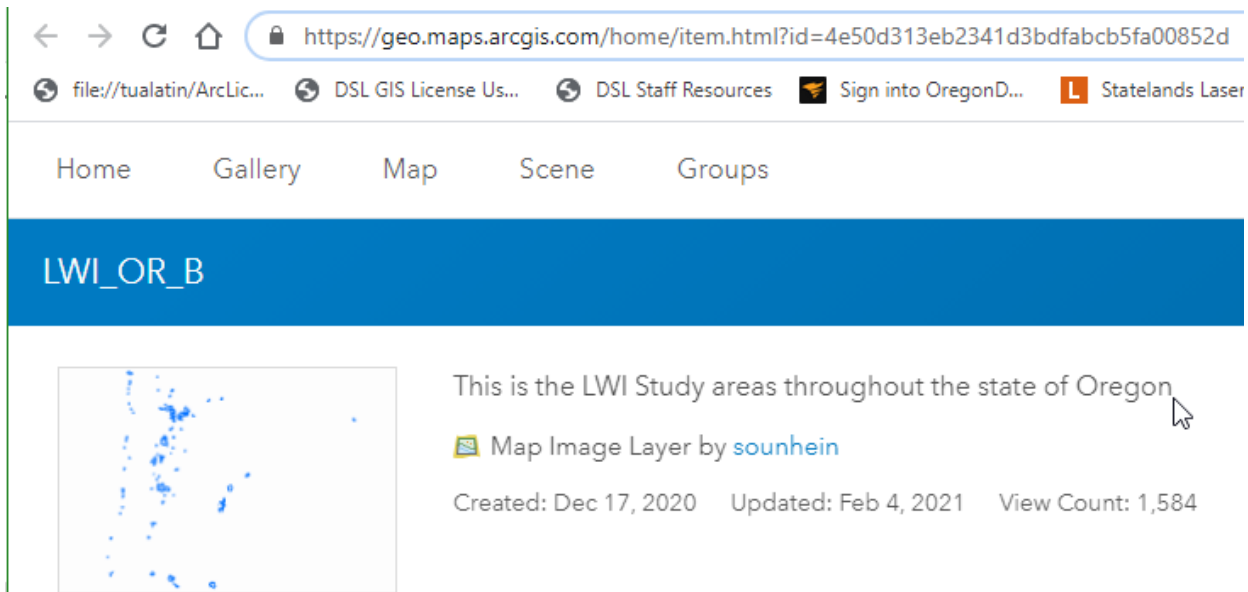
Under the "Open in ArcGIS Desktop" drop down menu you can choose to download a file that opens in ArcMap or one that opens in ArcGIS Pro, download the option that fits your software of choice.
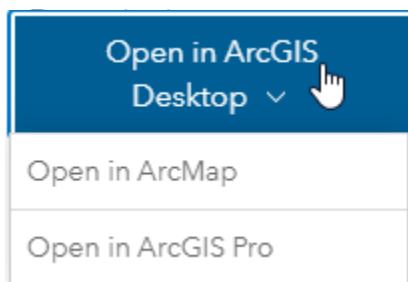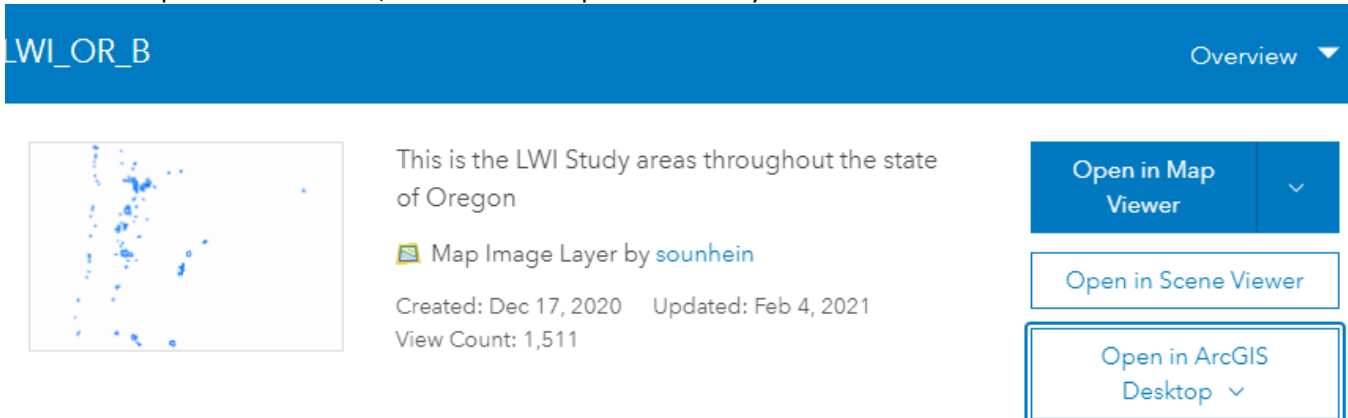
This will download a file that looks like "item.pitem" for use in ArcMap and like "item.pitemx" for use in ArcGIS Pro. These files are opened by clicking or double clicking on them in a File Explorer window, you can also right click and select Open. This will start an ArcMap or ArcGIS Pro session and load the layer.
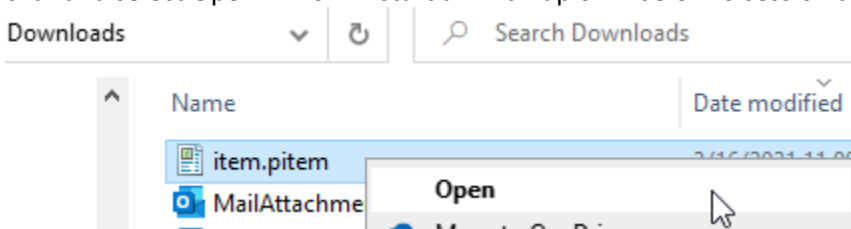
The layer in the table of contents can then be saved as a Layer File for use in other Esri maps.

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	Expand All Sub-Layers
	Collapse All Sub-Layers
	Zoom To Layer
	Zoom To Make Visible
	Visible Scale Range
	Zoom To Nearest Cache Resolutio
	View Item Description...
	Save As Layer File...
	Create Layer Package...
	Properties...

To download the data and configure the data that DSL uses for the SWI web map in your own desktop GIS maps follow the instructions below.

For users who wish to add datasets to their own Esri ArcGIS Desktop GIS software, the instructions below describe the configuration needed to view the data as it is seen in the SWI web map. The data is acquired from the US Geological Survey (USGS) for the National Hydrography Dataset (NHD), the US Fish & Wildlife Service (USFWS) for the National Wetlands Inventory (NWI), and the Oregon Spatial Data Library for the US Department of Agriculture (USDA) Natural Resource Conservation Service's (NRCS) combined SSURGO-STATSGO soils dataset for Oregon.

The SWI from DSL is the official version of the map. DSL provides the following instructions to facilitate others interested in creating their own version of the SWI map. DSL does not provide GIS technical assistance beyond these instructions.

**USDA Natural Resources Conservation Service (NRCS) Soils**

To configure this data to display "Predominantly Hydric Soil Map Units" and "Agate-Winlo Soil, Jackson County":
1. Download dataset from Oregon Spatial Data Library, https://spatialdata.oregonexplorer.info/geoportal/search;q=*soils*.

2. Join the "muaggatt" table to the MUPOLYGON feature class.
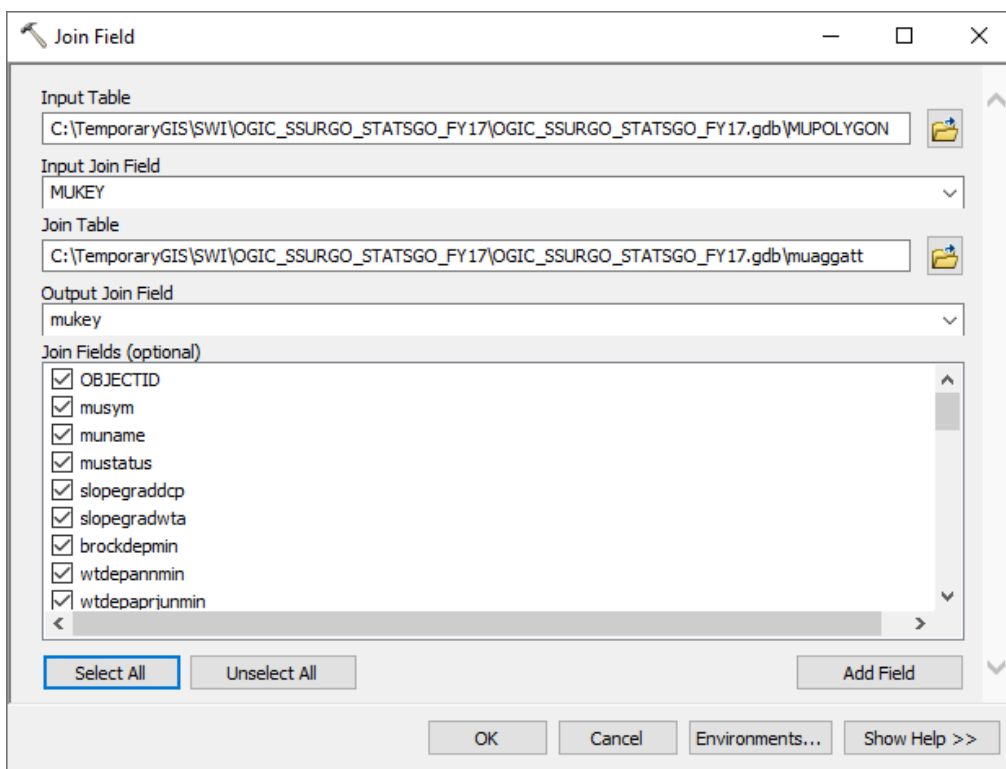
The muaggatt table has a field called "hydrclprs" that holds a numeric value indicating the percentage of the components that meet the NRCS hydric soil criteria. This field has an alias of "Hydric Classification – Presence" that might be better described as the "Percentage Hydric Components". The field is a text field, but a numeric field is required to symbolize appropriately in ArcMap.

3. Add a field for "Percentage Hydric Components", in this case an attribute called "PercentHy", with a Data Type of "Long Integer".
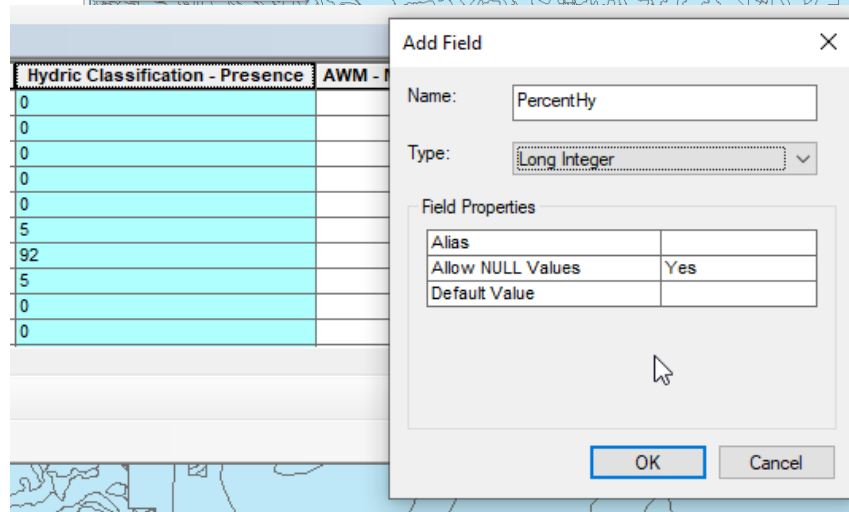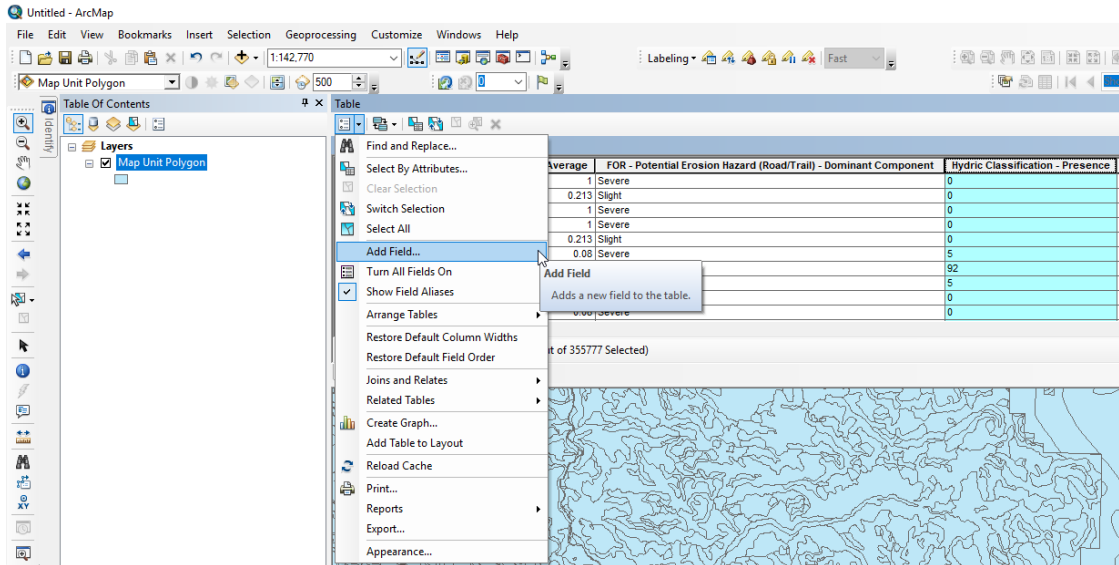
4. Populate the new field with the values in "hydclprs" field (this field has an Alias of "Hydric Classification – Presence").
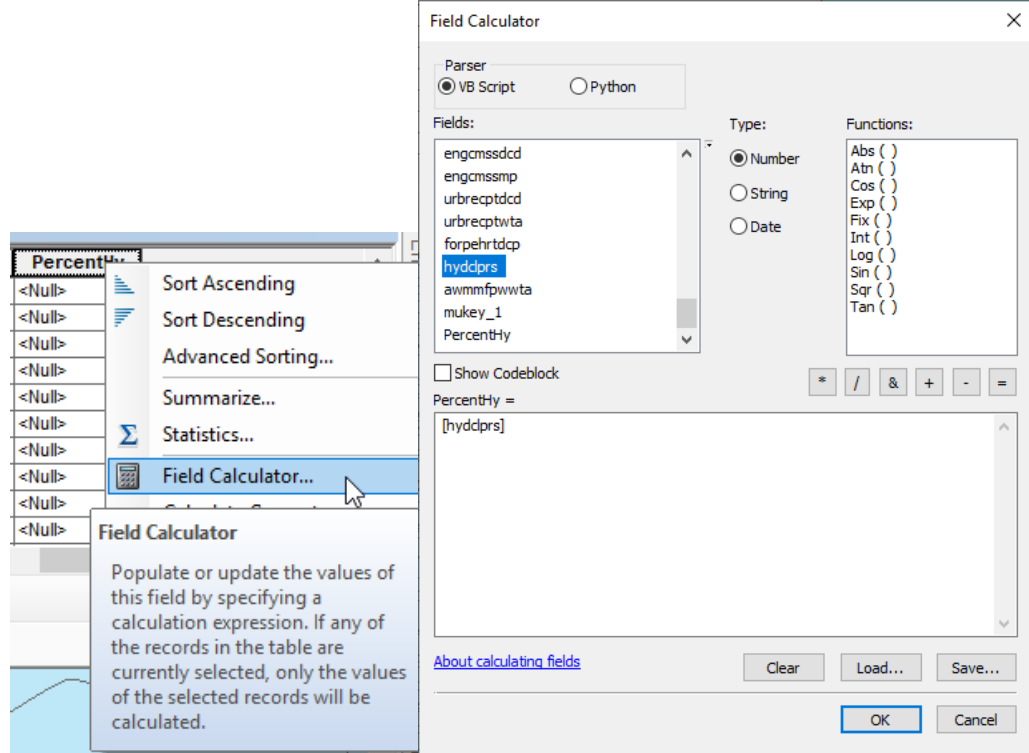
5. For Predominantly Hydric Soils, place a Definition Query on the Soils layer on the new field greater than 50% (PercentHy > 50) and display as a single polygon fill symbol.
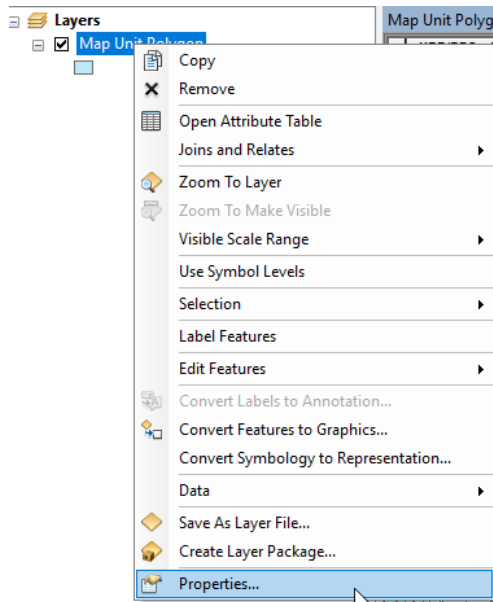
6. Copy and Paste the Hydric Soils layer in the map's table of contents to create the Agate-Winlo layer.
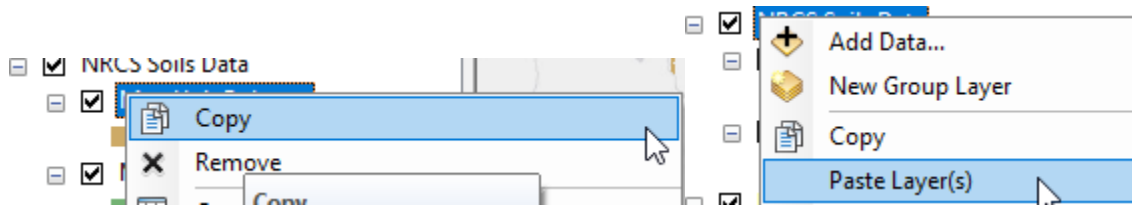
7. Next, for the Agate-Winlo soils, in the Layer Properties, place a Definition Query of "muname_1 = 'Agate-Winlo complex, 0 to 5 percent slopes'" and display as a single polygon fill symbol.
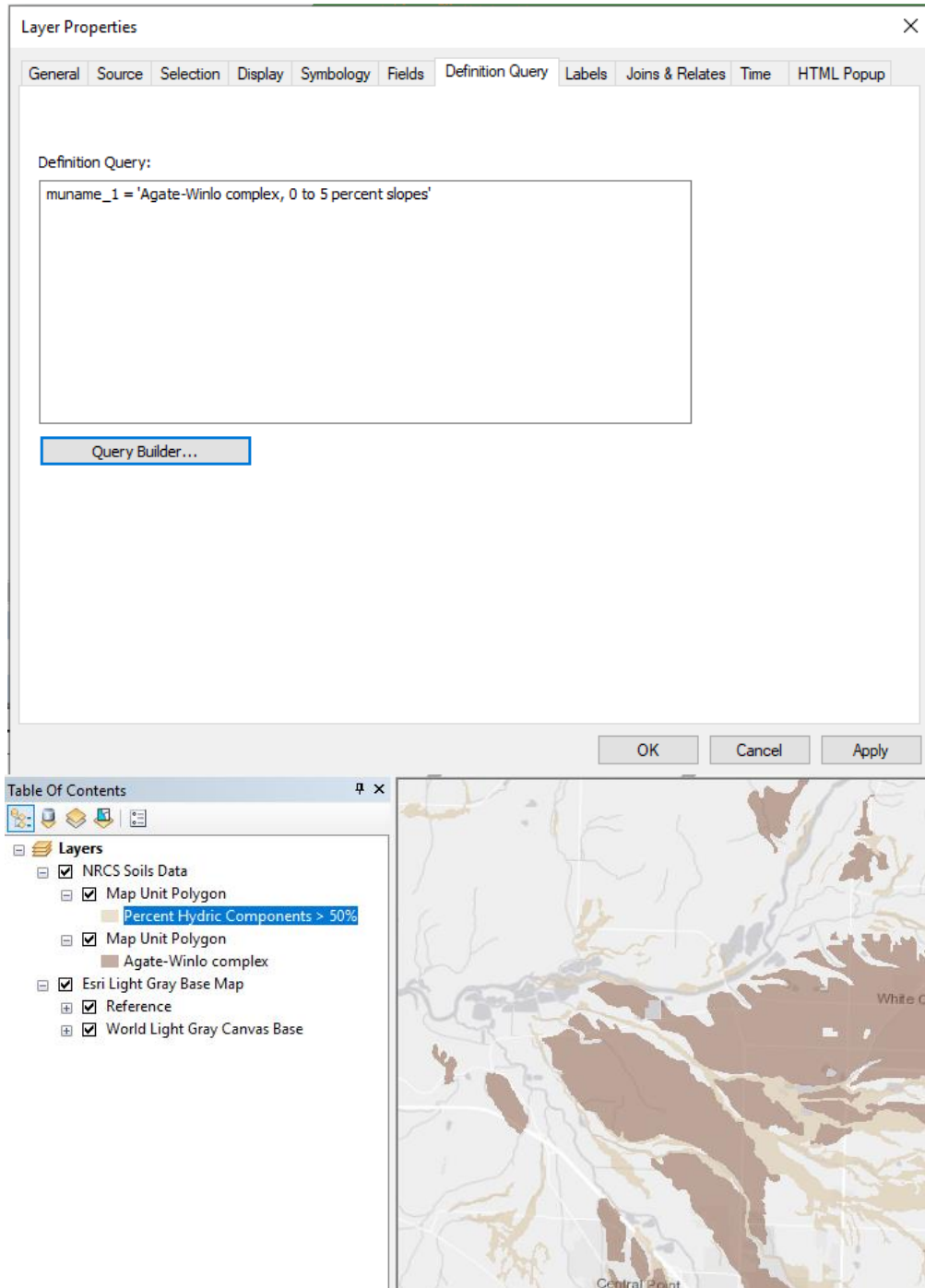
US Geological Survey (USGS) National Hydrography Dataset (NHD)

To render National Hydrography Dataset layers:
1. Download the data from the USGS, https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products.
2. Four of the NHD layers are used; NHDPoint, NHDFlowline, NHDArea, and NHDWaterbody.
    a. NHD Point data is filtered with the following Definition Query, specifically for Springs/Seeps or "FType" code of 458:
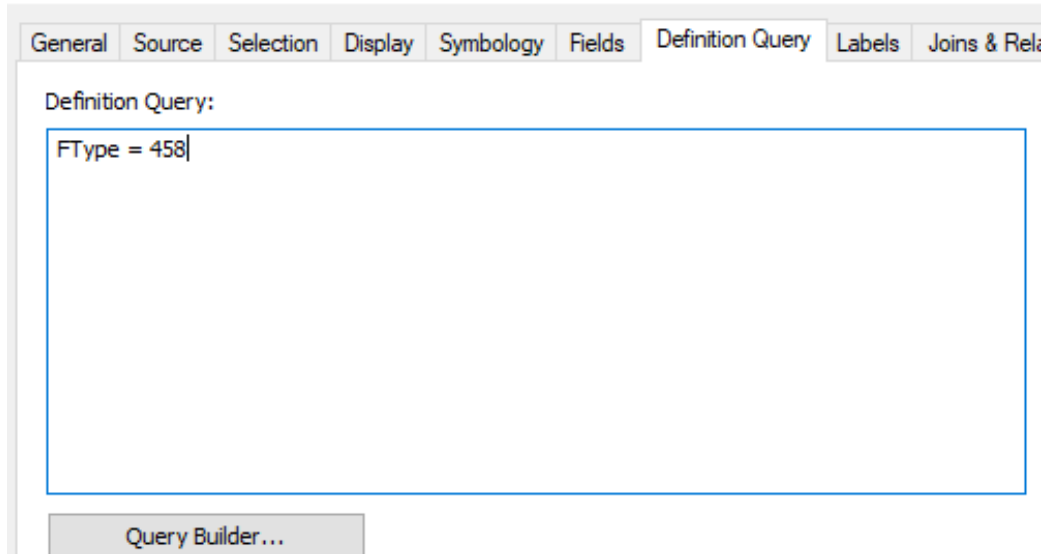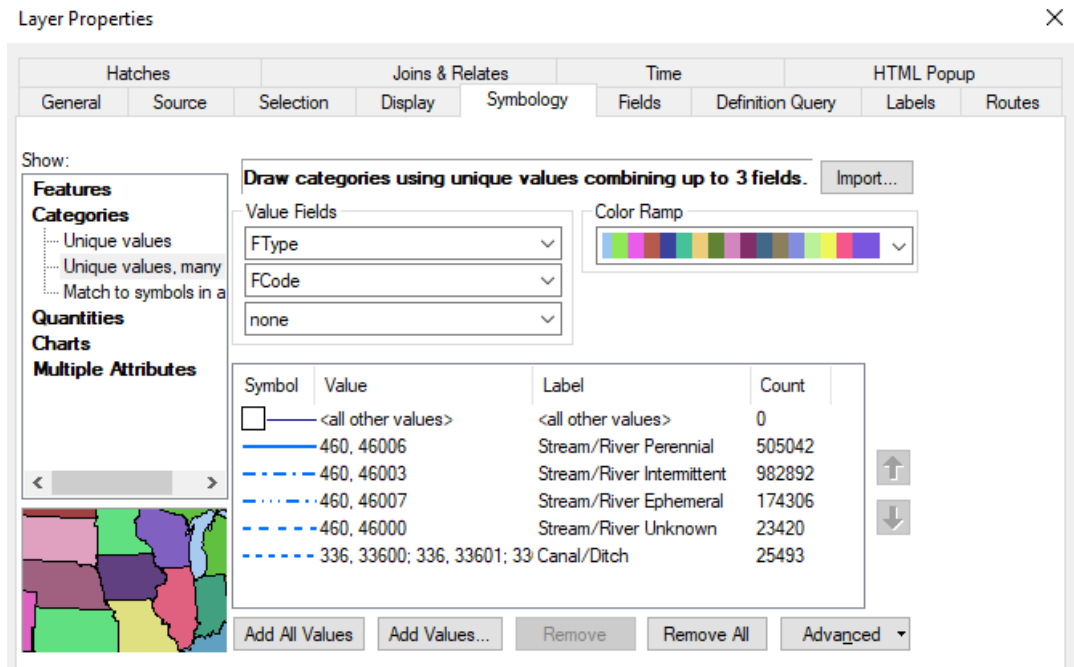

All points are then symbolized with one marker.

    b. NHD Flowline is filtered to show Stream/River (FType = 336) and Canal/Ditch (FType = 460) lines with a Definition Query as follows:
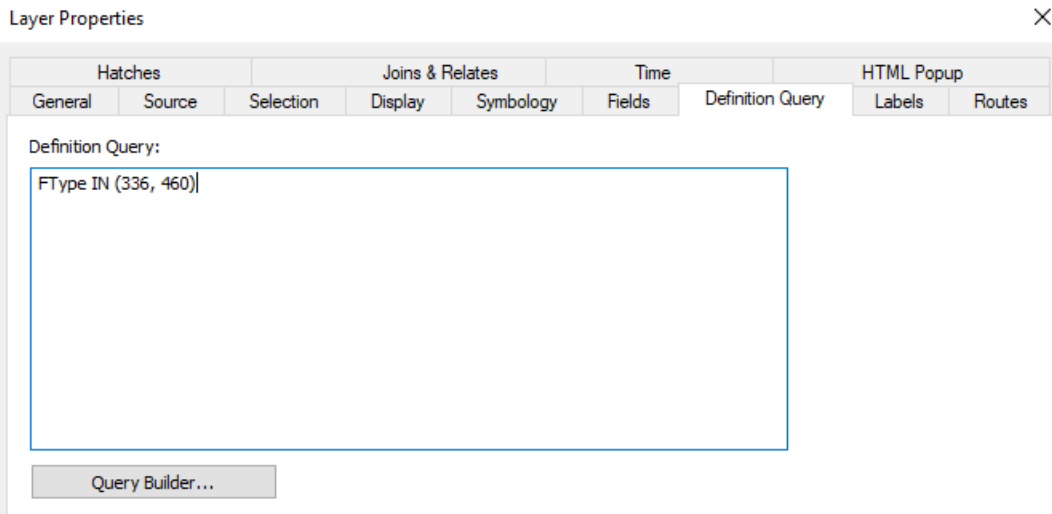
c. NHD Flowline is symbolized as follows:

d. NHD Area is filtered to <u>remove</u> polygons identified as "Area to be Submerged", "Bridge", "DamWeir", and "Levee" (these are FType = 307, 318, 343, and 568) polygons with a Definition Query as follows:
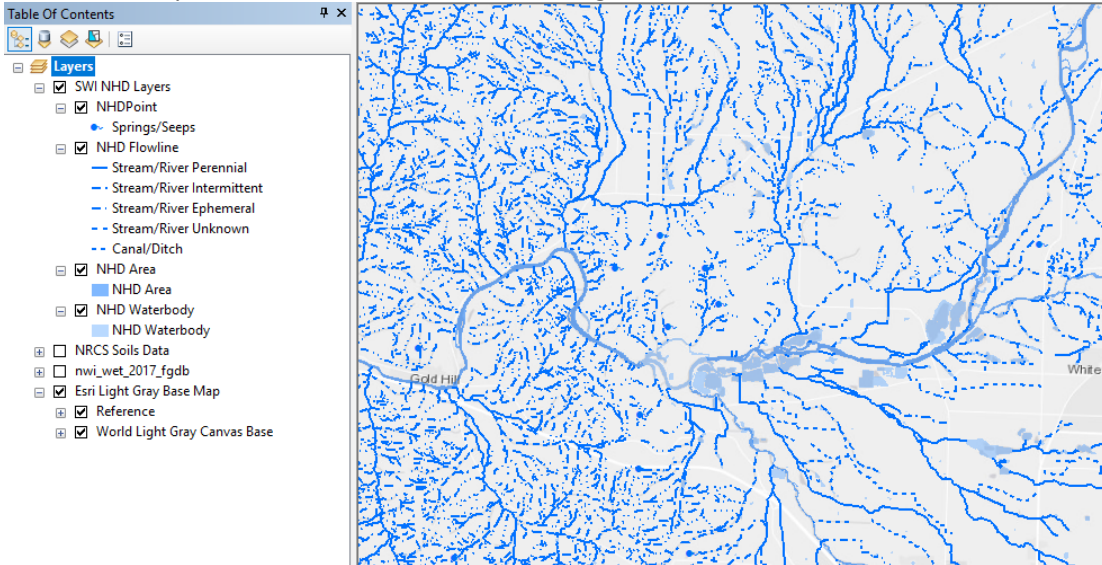

All polygons are then symbolized with one fill color.

e. NHD Waterbody is filtered to <u>remove</u> polygons identified as "Ice Mass" (FType = 378) with a Definition Query as follows:
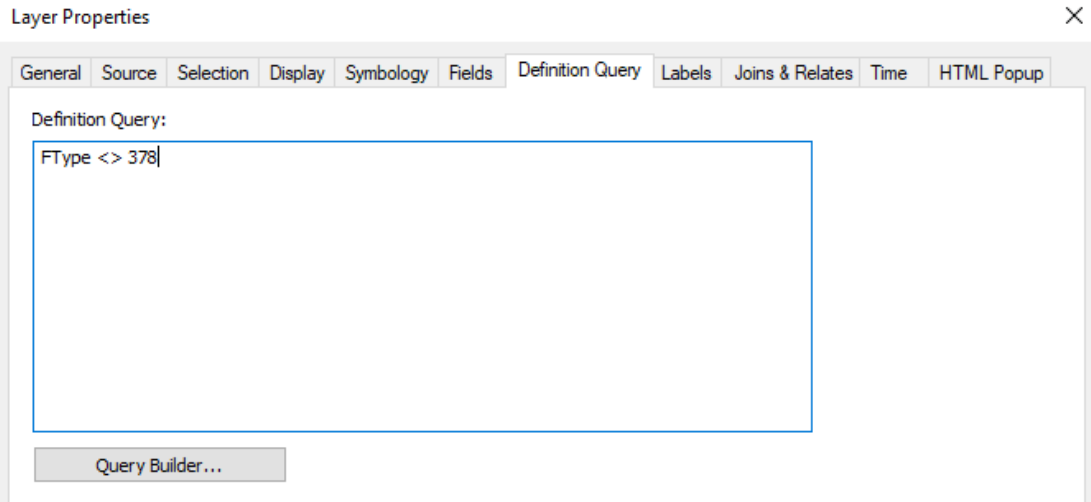
All polygons are then symbolized with one fill color.

3.   The final symbolization looks like the following:

US Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI)

To render USFWS National Wetlands Inventory layers:
1.   Download the data from the USFWS, https://www.fws.gov/wetlands/Data/Data-Download.html.
2.   Symbolized as close as possible to the colors set by the US Fish and Wildlife Service.
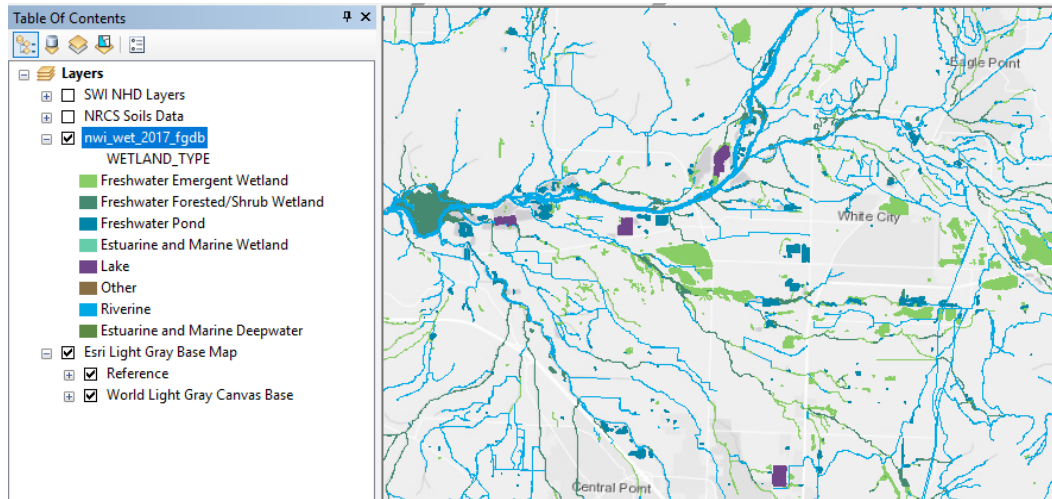
DSL's Local Wetland Inventory GIS data:

The LWI datasets will be displayed on the SWI web map and available for download in the future. Approved LWIs are currently available at https://www.oregon.gov/dsl/WW/Pages/Inventories.aspx and have GIS datasets available.