



Vermont Significant Wetlands Inventory Edit Instructions

This document provides information on how to request and review edits to the Vermont Significant Wetlands Inventory (VSWI) for public noticing. Individuals from multiple programs are aiding in the editing of the VSWI. Those individuals creating edits are called Editors throughout the document.

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Vermont Significant Wetlands Inventory Overview

The Vermont Significant Wetlands Inventory layer (VSWI), is the Wetlands Program's inventory of known regulated wetlands (Class I and Class II). The layer was first created in 1990 from a copy of the National Wetlands Inventory. In 2010, the inventory was updated with changes to the National Wetlands Inventory and in 2012 the Program was given the ability to reclassify wetlands and modify the VSWI accordingly. The Program did not regularly start making edits to the VSWI until 2018, and those edits were primarily polygon additions rather than edits to existing polygons to improve the extent and location of the known wetland. Many wetlands that are Class II are not on the VSWI, which causes confusion amongst the regulated community.

The Wetlands Program started contracting professionals to update wetland mapping using aerial interpretation in 2018 and is scheduled to have a statewide update completed by 2025. These edits are important for catching many wetlands that have not been previously identified, but will not capture many wetlands at the project scale. This is why the Wetlands Program is still committed to adding wetlands to the maps on and project by project basis. Currently, the Program is focusing project-specific edits for projects involving permits. Focusing on permitted projects allows us to ensure that wetlands with proximate human activities are identified on the VSWI.

VSWI Edit Dashboards

The [map edits dashboard](#) includes lists of the map edits that are underway. This dashboard only includes those edits that were entered into the database in 2021 to present. Those edits on the Admin Incomplete list need application review. Projects on the "not mapped or needs edit" list need mapping work in the VSWI edits layer. These are on the list to draw onto the VSWI edit layer for the first time or because the Ecologist reviewed the drawing and has additional edits. The determination description field includes information on next steps. Projects that are ready to be drawn have in the determination description the wetland cover type (eg. PEM1), delineation date, and indication that the shapefile is in the project folder or on the Advisory layer (eg. "shapefile in folder"). Staff assisting in drafting edits are assigned to projects with their names in the determination description. If Editors are finding their list of assignments are low, they will inform the Lead Editor to receive more assignments.

Not Mapped or Needs Edits

(Admin Complete Date is present. Mapped checkbox is unchecked.)

Determination Number	Determination Type	Project Name	Applicant	Admin Complete Date	Map Date	Determination Description	Ecologist
2000-357.E	VSWI Removal	MotoVermont-Milton		6/13/2022	8/4/2022	petition to remove mapped wetland on parcel. Shapefile needed (applicant unable to provide). Need to remove corner of VSWI wetland on project parcel Waiting for VSWI edits in Feb/ March 2023 to make this edit (Brock's old project)	Julie Follensbee
2012-205.02.D	Class III to Class II (map addition)	Essex Alliance Chu			5/24/2023	Categorical Class II wetland. Shapefiles are in project folder>decisions>2012-205.02>REVISEDApplication Wetland A & B: PEM1 Delineation: 11/9/22	Tina Heath
2017-215.D	Class III to Class II (map addition)	Cersosimo Restor Brattleboro			5/24/2023	shapefile in application complete folder Delineated: 5/2/2017 PSS1	Rebecca Chalmers
2020-693.E	VSWI Changes	Ellis Orchard Road-C	C/O Chris Cresci, Chair		7/19/2022	contiguous to VSWI: shapefile provided.	Zapata Courage
2020-710.D	Class III to Class II (map addition)	613 Mechanicsville Road Hinesburg	Joe Laster	4/20/2023	5/24/2023	Shapefiles in folder. delineated: 10/23/2020 wetlands A, P & O: PFO1, wetland I:PEM1, wetland G: PFO1/4,	Laura Lapierre
2020-711.E	VSWI Changes	Pomfret Rd Woodstock solar		10/18/2021	7/25/2023	change advisory layer to VSWI contiguous	Rebecca Chalmers
2020-754.E	Class III to Class II (map addition)	169AutumnPondWay-Essex	Amber Lanterns, LLC C/O Jeff Rubman	1/5/2023	5/24/2023	Currently on advisory layer. TH approves. TH took screenshot and added arrows to impact areas for Kelcie. Placed in decisions folder for Kelcie to review.	Tina Heath
2020-817.E	VSWI Changes	43 East St-trail-Vergennes	City of Vergennes	12/20/2021	7/25/2023	**advisory polygon to be added to VSWI** KJ noticed wetland is on Advisory, waiting for approval to VSWI	Zapata Courage

Use this column to find assignments, shapefile, edit notes, and attribute information.

[The wetlands determinations with no final date, application received prior to 1/1/21](#) is a list of wetlands added into the database prior to 2021. This is our backlog list from before we had the capacity to add wetlands to the VSWI that are associated with permits. These are lower priority than the previously mentioned list. Staff working on this list will be given specific instructions. Not all wetlands on this list may be categorically Class II, many do not have shapefiles, and may need additional work before they can be added to the VSWI edit layer.

Use of ArcGIS Pro and AGOL

VSWI Editors will use an ArcGIS Pro project to import shapefiles/geodatabases and edit the VSWI Edit layer. They will not create a separate ArcGIS Pro project for each polygon/wetland project. ArcGIS Online (AGOL) will not be used to create or edit polygons in the VSWI edit layer because edits do not always properly save when multiple people are working on the same layer in AGOL. District Wetlands Ecologists will use AGOL to view VSWI Edits for review.

For instructions on how to set up an ArcPro project and refresher on adding and editing layers, see **Appendix A**.

Data for Polygon Creation

All VSWI edits requested/added after 2021 will have a shapefile or geodatabase to copy/paste from in the project folder. Some requests may be on the list before the shapefile/geodatabase is added. All projects with an available shapefile will include a note in the determination description field (eg. "shapefile in folder"). Most often the shapefile will be in the decisions folder as a zip folder. If the applicant provided

the shapefile, it may be in the Administratively Complete folder. Editors should not begin the creation of a polygon in the VSWI edit layer unless there is a shapefile in the folder.

Editors may at times need to request a new shapefile, if for example it does not project properly on the map (e.g. appears on blank background), or if it is a partial line file. Partial or line polygons should be ok, if the Editor is confident determining where the wetland boundary should be (you may be able to use Lidar and the Advisory layer as guides to determine where the wetland extends to). Editor should reach out the Lead Editor or Program Editor if they need assistance figuring out where the wetland boundary is. Reach out to Lead Editor if a new shapefile is needed, so the Lead Editor can request one from the consultant.

VSWI edits requested/added before 2021 may or may not have a shapefile. These may require the Editor to create an edit based on site plans or sketches.

Polygon Creation Guidance

In general, Editors should use the polygon drawn by the DWE (district wetland ecologist) or shapefile/geodatabase in the Admin Complete file from the consultant. In some cases, the consultant shapefile may be a small sliver of the wetland with an “open end” with no defined boundaries where the wetland continues. The open-ended features can be distinguished by a flat end to a polygon that matches a property line or the side of a wetland polygon in the perfect shape of an arrow. Linear projects (eg. Powerline, road corridor) often show wetlands ending at the extent of their Right-of-Way (ROW). The Editor may complete the open ends of wetland boundaries freehand by using Lidar or other layers to inform their mapping (to “see” the wetland), to create a more logical boundary. Whatever is not an “open end” needs to be followed exactly. The extent of freehand allowed is dependent on the edit type in the database. Edits (Type “VSWI change”, “VSWI removal”) must remain contained within the project parcel boundary unless there are no permit applications in the file. It would be reasonable to end a polygon at the extent of a cover type (eg. map a marsh to the tree line but not into the forest). You may wish to get guidance from the DWE before extending the open end. Where you are unsure or otherwise want DWE guidance, map only what is from the files provided, check “mapped” in the database and add text in “Description” field to request their guidance. It is OK if the wetland is factually bigger than what is added to the VSWI. Some mapped wetland is better than none, after all.

Polygon drafting guidance by edit type

The variety of different public noticing requirements for the different edit types means that the polygon drafting needs to follow guidelines dependent on the edit type. Failure to follow guidance may result in an edit that did not provide the public due process and can be contested in court¹. Guidance by edit type is provided below.

General Determinations (Type Class III to Class II): These **cannot** be connected to any existing VSWI polygons. If there is a connection to an existing VSWI polygon, then the edit needs to be a “VSWI Edit” type. Contact the DWE by checking the “mapped” box and adding a note in the description field in the database. Polygons may extend past the project’s parcel boundaries but should not go beyond where the DWE viewed the wetland (seen from roads, parcel boundaries, vegetation signatures from aerial match community types seen in field). You would only know this if

¹ Very few VSWI edit decisions have been appealed and only one has gone to court.

you asked the DWE. DWE have instruction to not go beyond what they viewed, but you may want to have them confirm if they are asking for a very large area. The DWE may like to extend it further but will need to keep the edits contained to what is defensible in court.

VSWI Changes with permit: VSWI changes are for existing VSWI polygons. If the VSWI change is for a file that has a permit application on record, the VSWI change cannot extend beyond the project parcel. For ROW projects, the Editor may map onto the parcels associated with/ adjacent to the ROW but not beyond, as only adjoining landowners were provided notice of the activity.

Edits should be accomplished by changing the existing VSWI polygon rather than creation of an additional polygon that touches the existing VSWI, unless that addition is a separate cover type (eg. VSWI is PFO and the addition is PEM). This will allow the DWE to keep track of the original adoption date of the VSWI for potential enforcement or legacy purposes. There are two ways to do this: 1) copy/paste the VSWI polygon into VSWI Edits layer and make edits from there (move vertices or draw overlapping polygon and merge); 2) if the edit is drastically different it may be simpler to draw an entirely new polygon and copy/past just the attributes from the original VSWI polygon. Ryan will be creating a demo video for assistance.

VSWI Changes, no permit: Follow the same guidelines as “VSWI changes with permit” above, but the Editor may map beyond the project parcel but should not go beyond where the DWE viewed the wetland (seen from roads, parcel boundaries, vegetation signatures from aerial match community types seen in field).

Individual Determination (Type: “Class III to Class II”, ‘send to ENB’ box checked): These can be connected to existing VSWI polygons. Polygons cannot extend beyond the project parcel’s boundaries.

Adding Attributes to Polygons

The VSWI contains various attributes to aid in keeping track of edits, approval process, and basic information about the wetland. The following tables explain the various fields in the attributes table of the VSWI edit layer and how the Editor should fill the fields.

Field Name	Description	What to do
NWI Code	National Wetlands Inventory Code	Enter code from determination description field if it is there, otherwise leave it blank for DWE to fill out. See chart and table in appendix B for more information about the codes.
LLWW	Landscape position, Landform, Water flow path, and Waterbody type code.	Leave blank. This is information provided by watershed-wide efforts
VSWI Class	Wetland classification	Always add the intended final classification.
Adoption date	Date of determination decision or map correction/revision decision date	Leave blank in edit layer. Will add adoption date once final decision is issued.
Mapping Organization	Organization that created the map	Use VT Agency of Natural Resources. Fills out automatically.

Issue mapping change authority	Lists reasons in Rule for the edit or addition of the polygon.	Must be filled out based on “determination type” in database. See “issue mapping change” table below for further instructions.
Potential map changes	For draft work that isn’t called out in the database and we need to study further to learn our authority to add.	Leave blank
Mapping Date	The date you drew the map on the layer OR date the delineation or digitizing took place.	Date is included in determination description field by Ecologist if nothing in the field, leave blank for DWE to write in. Date information was collected, if mapping method is field related or when map was created if digitized from screen.
Program file number	Program file number	Must be filled out. Add file number from the database.
Vegetation Assemblage	Open field for describing the vegetation cover.	Leave blank
Status	Status of map change	Must be filled out. Should default to pending.
Notes	Open field. Public can view	None required. Can add where the delineation file was from (consultant name), but not required.
Internal Notes	Notes to add that are not public.	Leave blank
Acres	Size of wetland polygon	Leave blank (field autofills)

Issue mapping change authority options	Reason to use
★ General Determination	Type: “Class III to Class II” and <u>not</u> checked in “Send to ENB”. You’ll use this one the most.
Section 8.5biii Mapping Corrections - delineation	Type: “VSWI changes with Permit” and we have a delineation shapefile.
Section 8.5bii Mapping Corrections – contiguity	Type: “VSWI changes”. When we are adding area to a wetland.
Section 7 – Rule Making Petition	Type: “Class II to Class I” Class I Only.
Section 8 Determination – Buffer zone adjustment	Type: “Buffer zone adjustment” Change in buffer zone width
Section 8.5a Mapping Corrections – polygon deletion	Type: “Removal” or “Removal with permit” For polygons created of area to be deleted. The polygon will not ultimately be added to the VSWI, but will be used to guide the clipping of the existing VSWI once approved. Vgj`
Section 8.5bi Mapping Corrections – registration error	For polygons that need to be shifted to the side to overlay on feature in aerial. Seldom used.
Section 8 Determination – Class III to Class II	Type: “Class III to Class II” and “Send to ENB” Checked. Formal individual determinations only.

Section 8 Determination – Class II to Class III	Type: “Class II to Class III”
Section 4.6 presumption – Map Addition	N/A

Database Entry for Ecologist review

Once the draft VSWI polygon has been created/edited, you may now request District Ecologist Review through the database. If there are multiple wetlands associated with the edit, make all edits before changing the database.

Determination

Determination Information [Back to Project](#)

Edit **Delete**

Number: 2015-199.E
Name: 1363Route128-Westford
Type: VSWI Changes
Mapped:
Description: updates to a mapped VSWI class II wetland

Go to the Determination tab within the project in the database and select the edit you have completed. Add an administratively complete date and check the “mapped” box. This will move the edit from the administrative list of edits to the list on the District Ecologist’s dashboard.

If the Ecologist cannot approve the polygon(s), they will add a note in the determination description with the edits needed and uncheck the “mapped” box to place the edit back on to the administrative list (“not mapped or needs edit” list). If the edit is approved by the Ecologist and the edit is not an individual determination, the Ecologist will add a technically complete date. If the edit is an individual determination, the Ecologist will add a tech complete date, uncheck “mapped” and check “send to ENB” (if not already).

District Wetland Ecologist Review

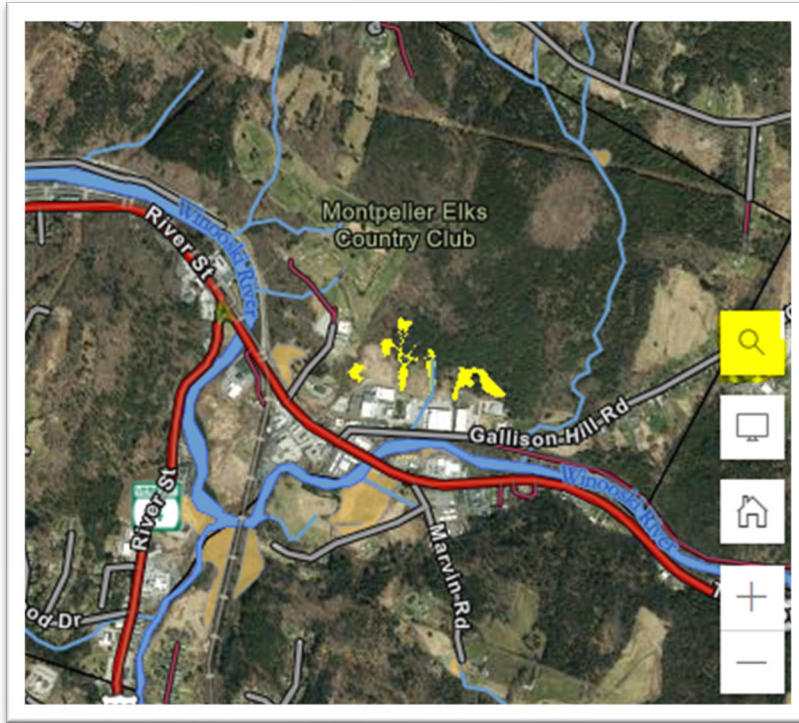
Once the polygon(s) are created for a project and the mapped box is checked in the database, the District Wetlands Ecologist will review the polygon and attributes for accuracy. Ecologists will primarily complete these review when other work is less pressing and will have the most time to review during the months of November-March.

Locating a polygon on VSWI Review layer

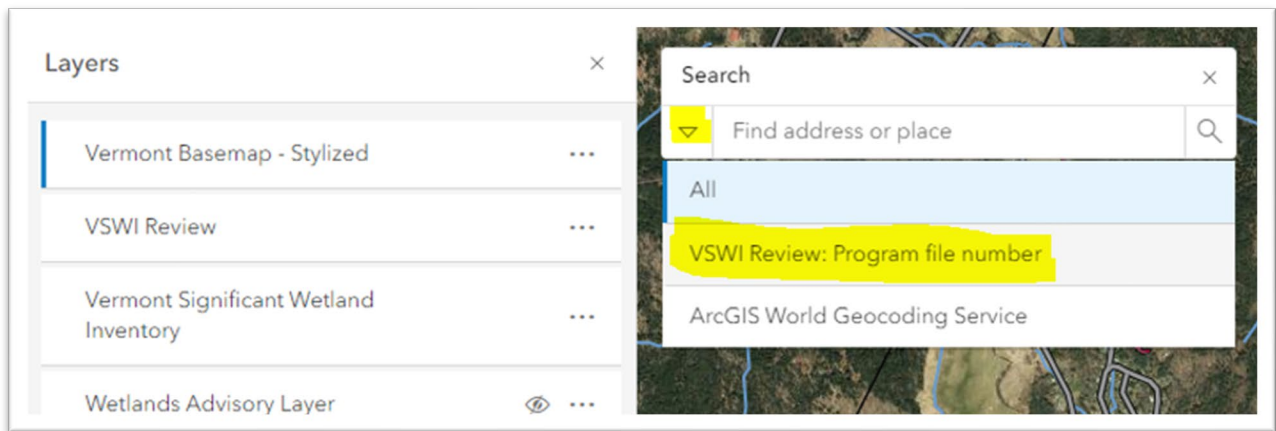
Once the VSWI polygon is created, you will be able to search for it at any time on the VSWI Review map (web-based copy of the Edit layer) using the wetland project #. This is the primary way the District Wetlands Ecologists will review the draft maps.

Navigate to the VSWI Review map: <https://vtanr.maps.arcgis.com/apps/mapviewer/index.html?webmap=b4d12ade774144a7b83df146b8b27131>

Click on the magnifying glass on righthand side of the map window:



Click the down arrow and select “VSWI Review: Program file number”



Type the project number in the search bar and hit Enter. You will be zoomed to the location of the wetland polygon. Here, you can also review the attributes associated with the polygon:



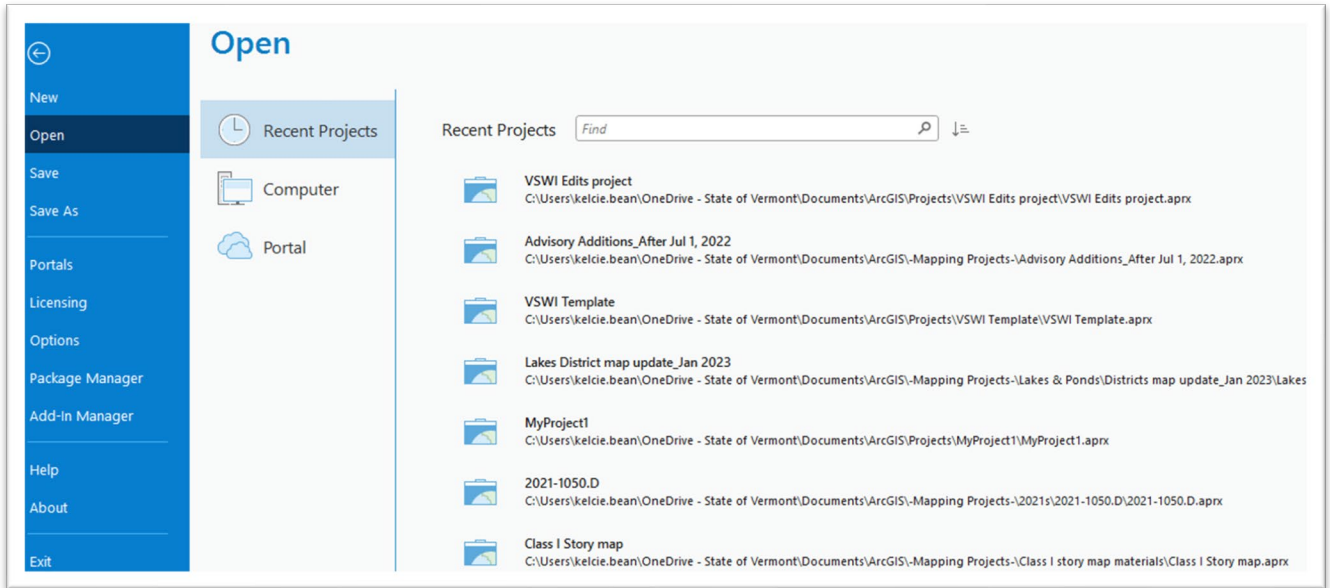
Moving approved VSWI edits to the official VSWI (lead Editor only)

This is completed by the Lead Editor only.

Appendix A: Starting an ArcPro Project and polygon edit basics

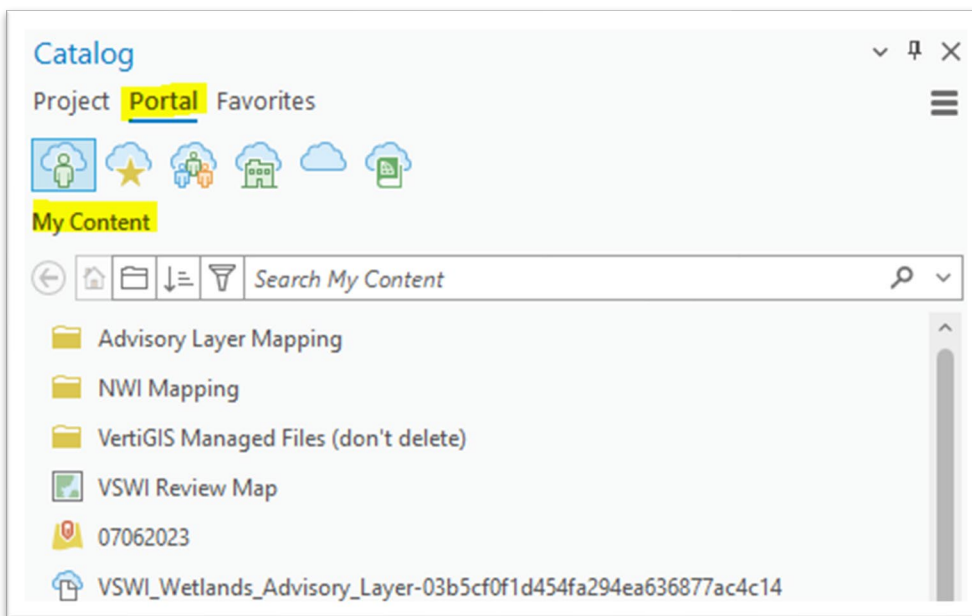
First you will need to open and sign into ArcPro (desktop app) using your username and password.

The picture below is the screen of Arc after you sign in. If this is your first time using ArcPro, create a new project/map. Otherwise, open your desired project by clicking Open on the far left and then view your list of recent projects:



Adding data layers to a new project

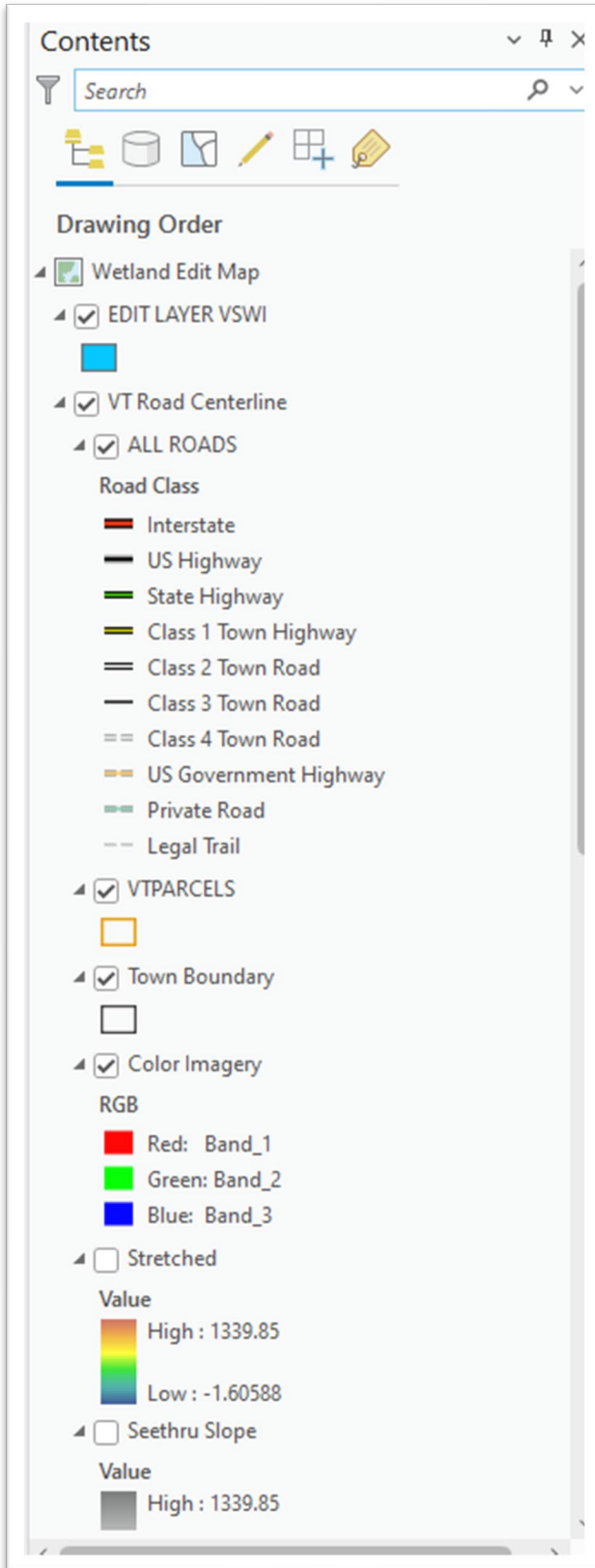
If you're starting a brand-new project, you'll need to add several data layers to it before you can begin mapping. **Note:** You can import layouts, maps and other files from the Project tab (see screenshot below). You can also find helpful map layers via the Portal tab (such as Town boundaries, parcel boundaries, Lidar layers, the VSWI Edit layer we will be saving all our edits to, etc.). Once you click on the Portal, you will see everything hosted under 'My Content'. You can also click on the other icons (My Groups, My Organization, etc.) to find layers you need. These layers can be added to your project by dragging them into the mapping window. The desktop app and ArcGIS Online are connected to share data easily.



The Contents pane is the most useful way to visualize the data layers you have in your mapping project, and to see whether they are turned on/off (checking box toggles layer on). **Note:** The order of your layers matters as the

layers that are on top will overlap the layers below. Below is a screen shot of a project file's Contents pane.

If you are creating a new project, try to mimic the image below by adding the appropriate data to your project.

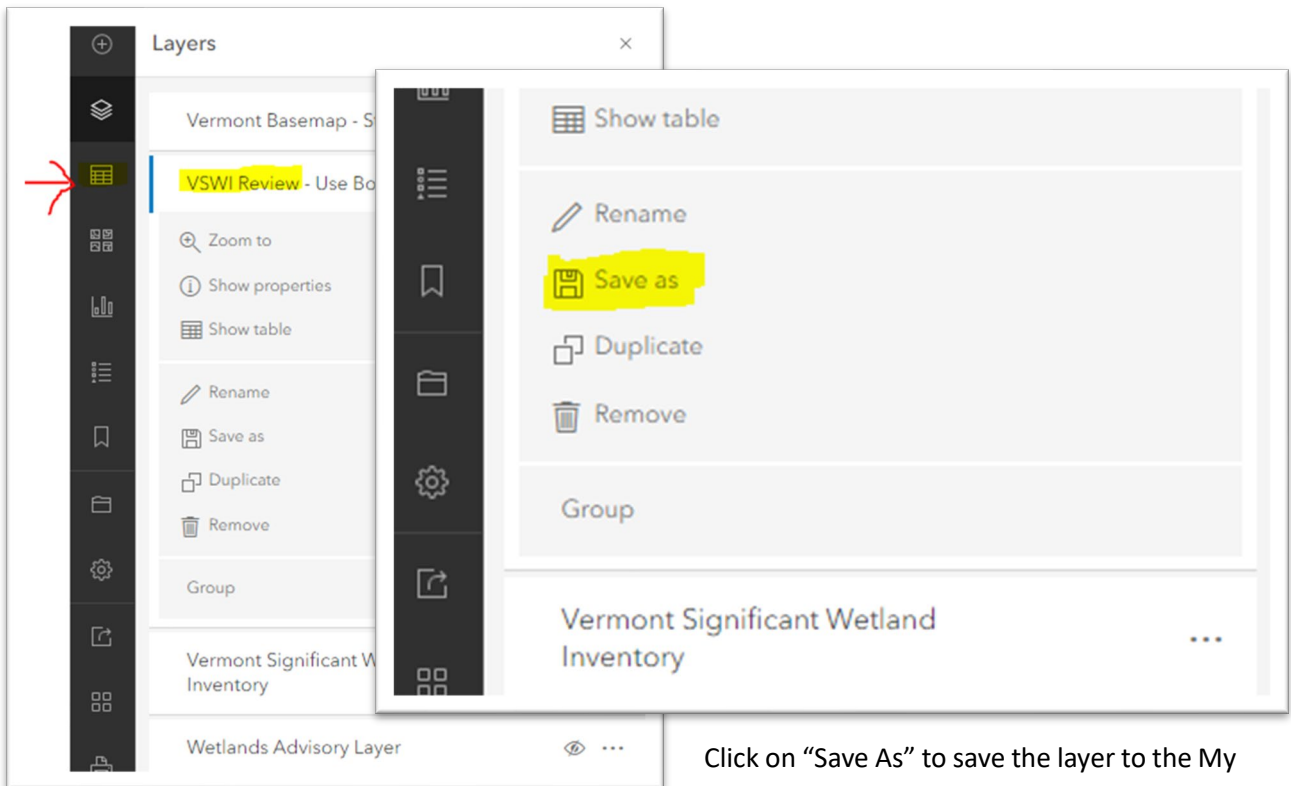


Once you have your project set up, you are ready to start adding new polygons to the VSWI edit layer.

Get template from AGOL to use in Arc Pro

Navigate to [ArcGIS Online](#) (AGOL).

Locate the “VSWI Review” layer by clicking on the Layers icon on the left ribbon. Click the 3-dot icon to open the menu for that layer:



Click on “Save As” to save the layer to the My Content library in ArcGIS

A new window will appear, showing you that the layer will be saved to My Content. Click Save.

Create item ×

Title

Folder

Categories
 × ▼

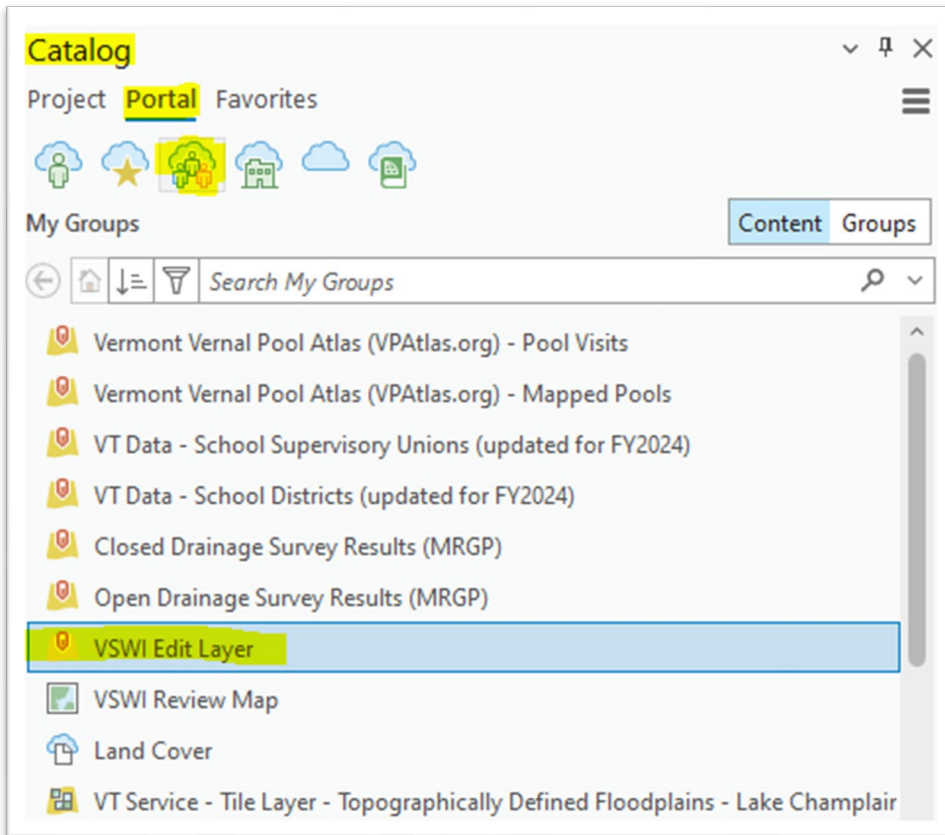
Tags
 × ▼

Summary

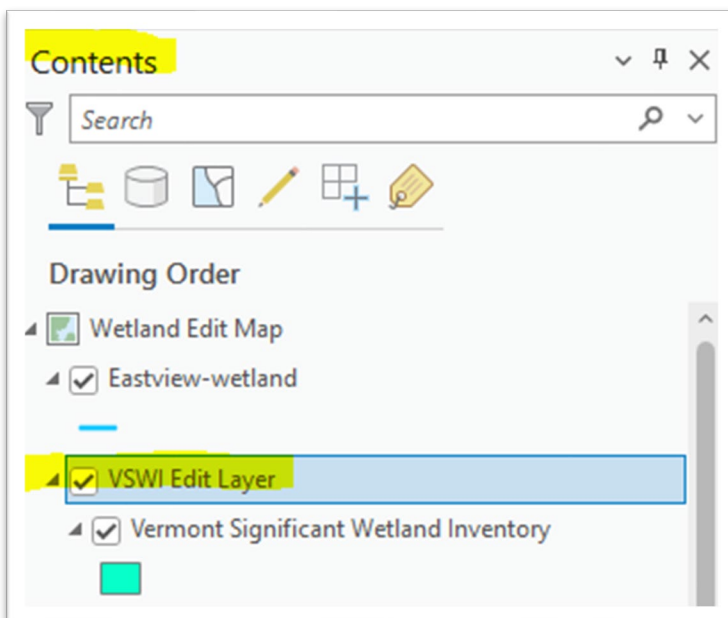
Characters left: 1801

Layer properties will be stored in a new item in My Content. The new item will become the source for the layer in this map. [Learn more](#)

You will then be able to import the layer into your project via the My Content library in ArcGIS. To find this library, go to Catalog > Portal > My Groups in ArcPro:

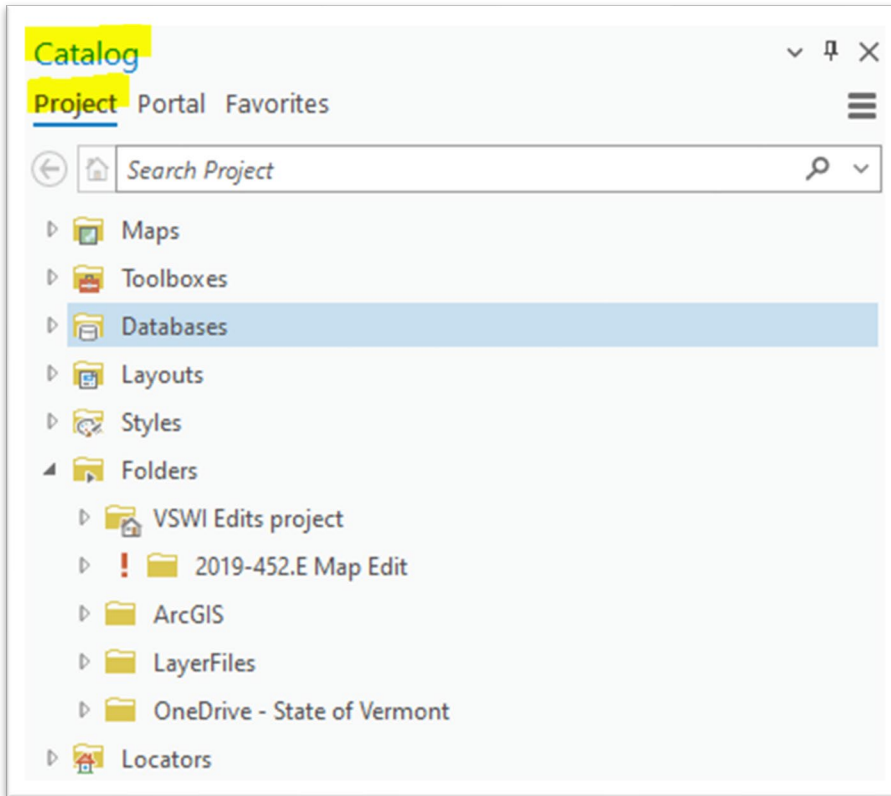


To add the layer to your map, click and drag it into the map frame. You will see that it has been added to the Contents pane (lefthand side of screen):

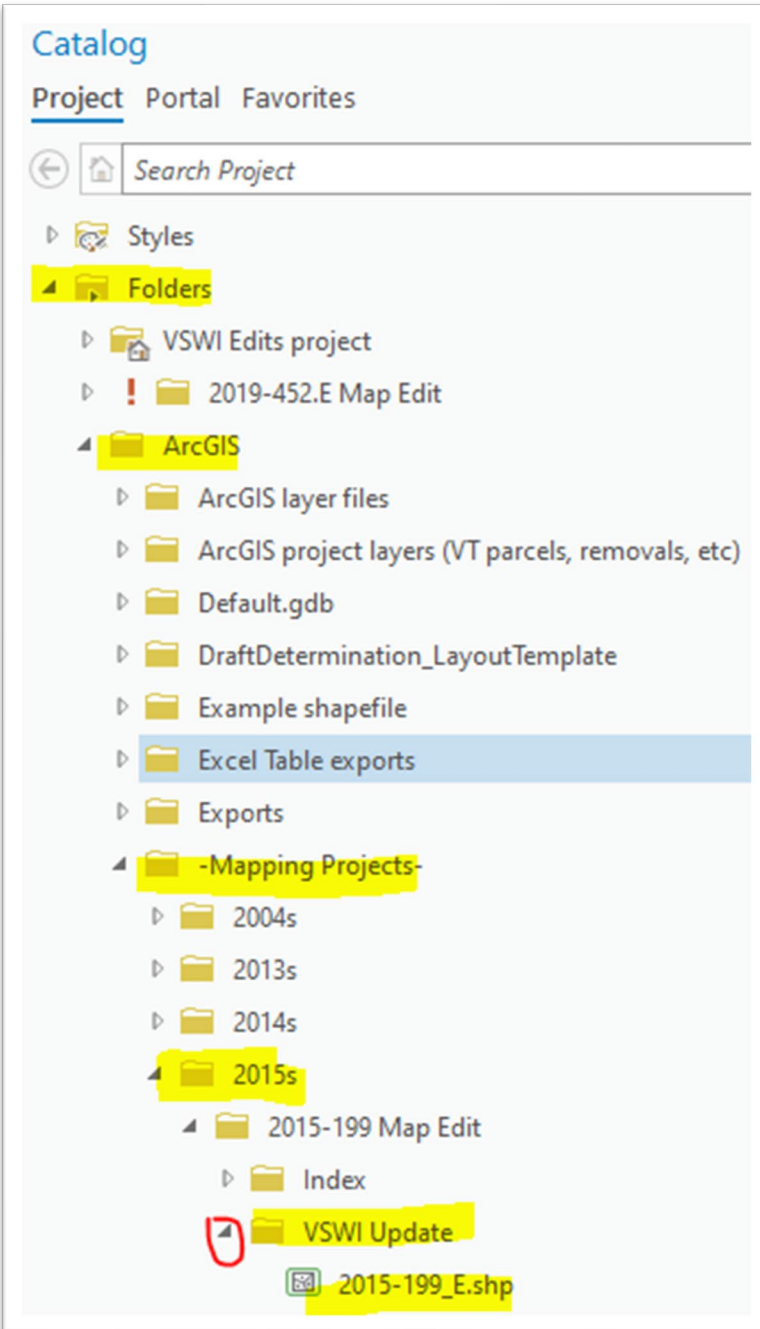


Adding and editing polygons

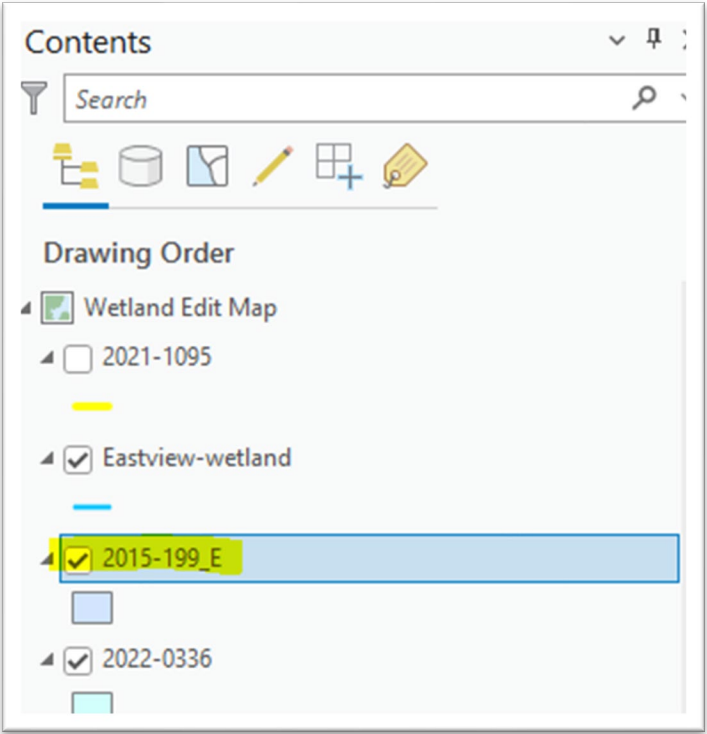
To add a new polygon to the edit layer, you will often need to import a shapefile (provided by either the wetland consultant or the ecologist- will be in the Y drive project folder) into ArcGIS. To import a shapefile, navigate to the Catalog pane (far righthand side of window), and click on the Project tab:



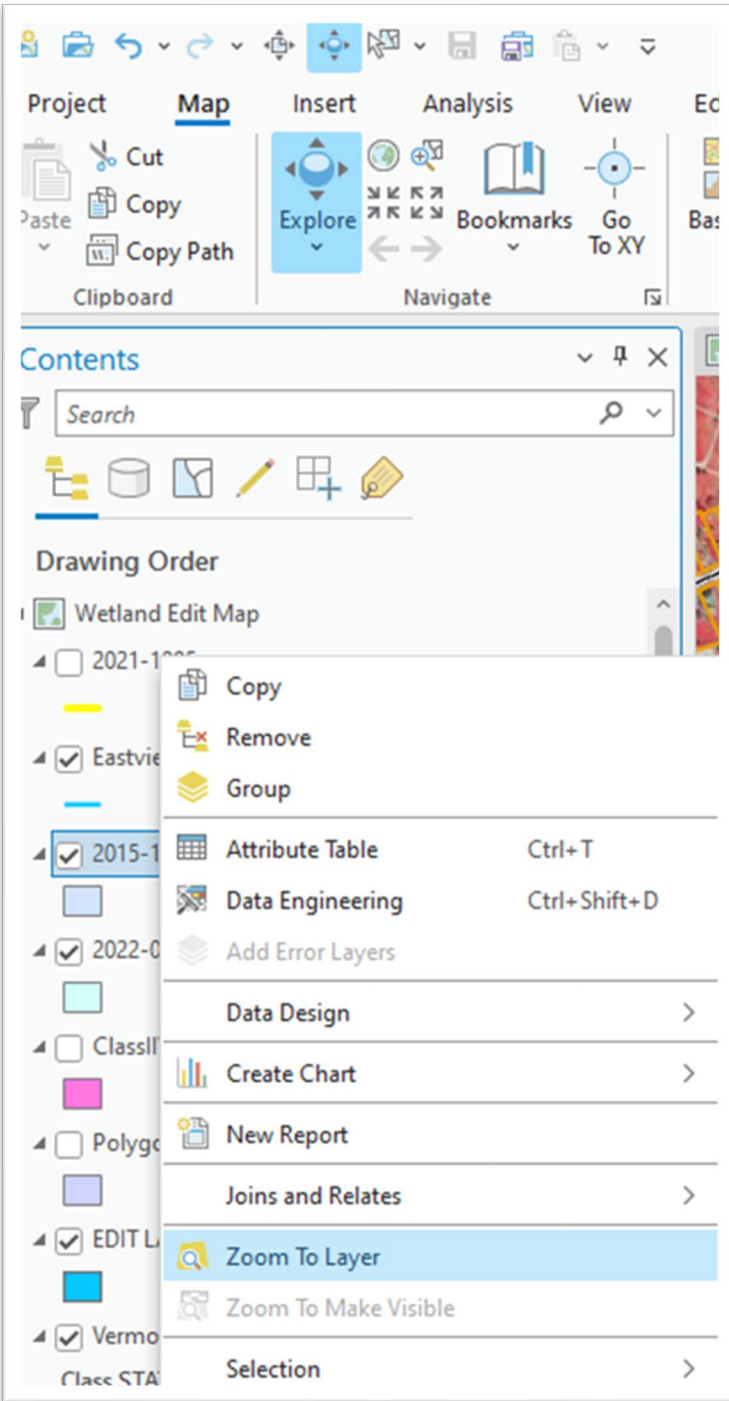
To find your shapefile, click on the Folders branch and navigate to the folder where the shapefile is saved to your computer (in this example, the user has created an ArcGIS folder in Documents, and then a subfolder for shapefiles organized by wetland project #). Click the small triangle next to each subfolder until you open the shapefile itself, which will contain a polygon (has a little green icon to the left that looks like a puzzle):



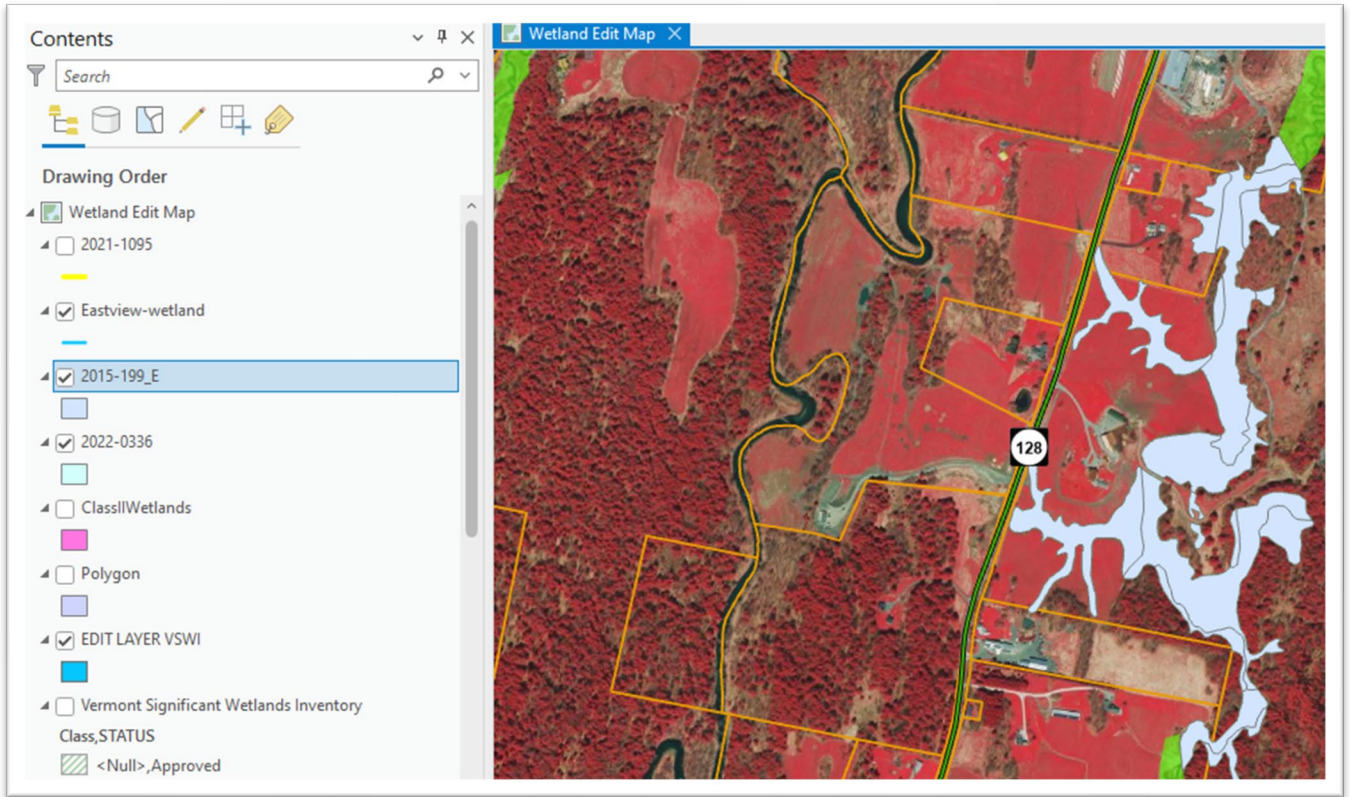
To import the shapefile into your map, click and drag it over into the mapping window. When you drag it over the top of your map, you'll see a little + sign in a white box, indicating that the shapefile is being added. Once you add the shapefile, you'll see it in the Contents pane on the lefthand side of your map window:



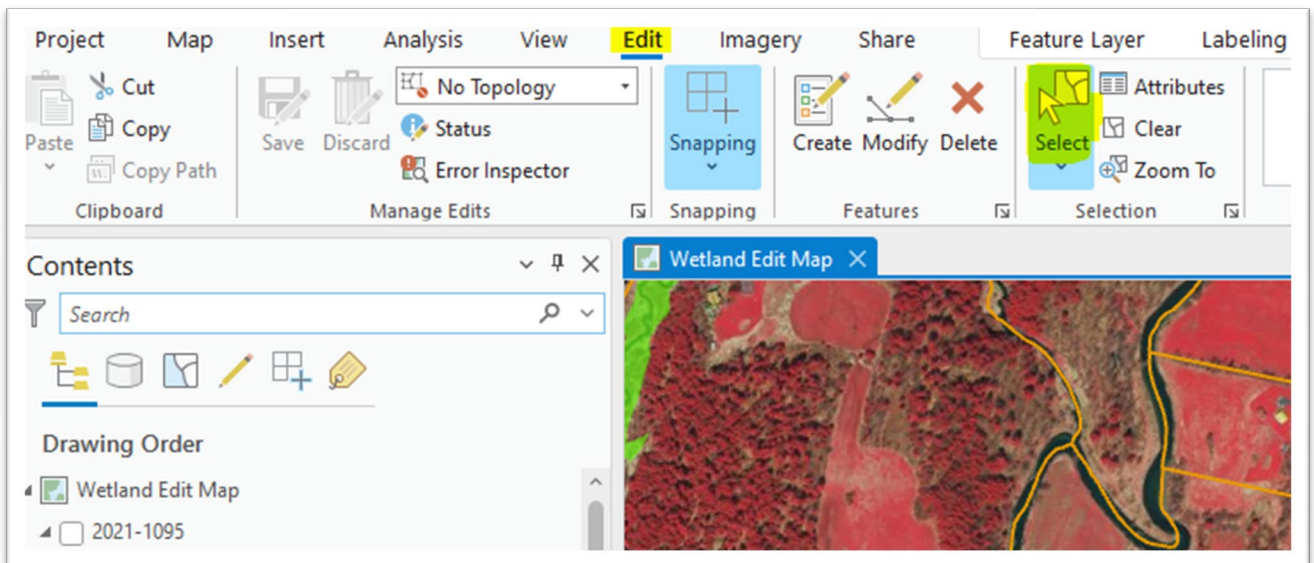
Right-click on the shapefile name in the Contents pane, and then click “Zoom to Layer” to zoom to its location on the map:



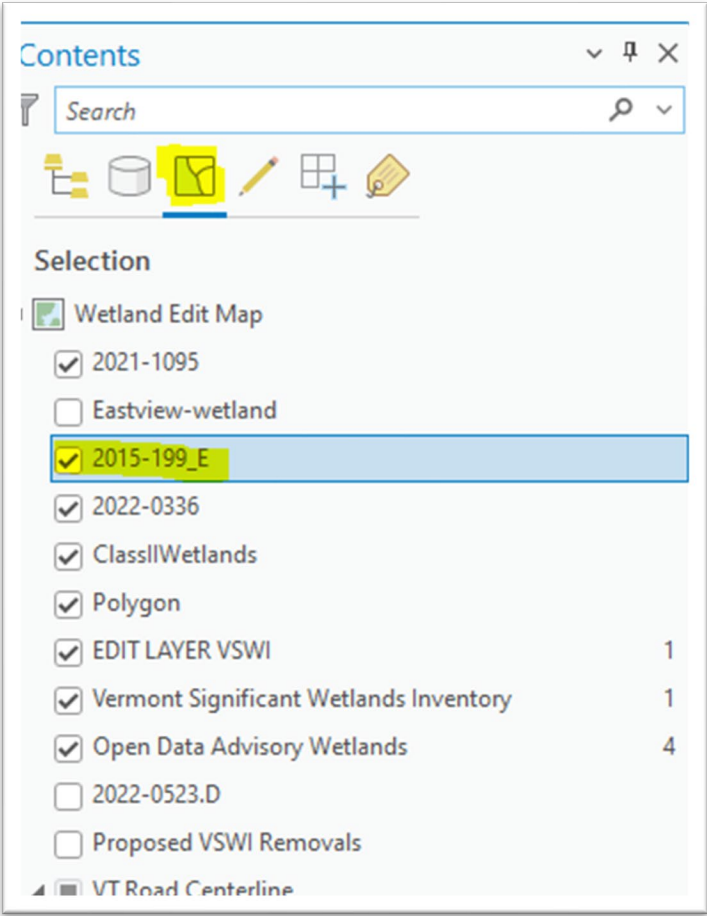
Now you can see that the shapefile is visible (light blue). You can modify the color of the shapefile if you wish, by right clicking it in the Contents pane and selecting Symbology. This most likely won't be necessary, unless the color blends in with the background or you need to distinguish the shapefile from another mapping layer (ex: Advisory layer below is light green):



You can now copy/paste the shapefile to your desired map layer (in this case, “EDIT LAYER VSWI” which we will use for all our wetland edits). First, select the shapefile by clicking the Select tool in the Edit tab:



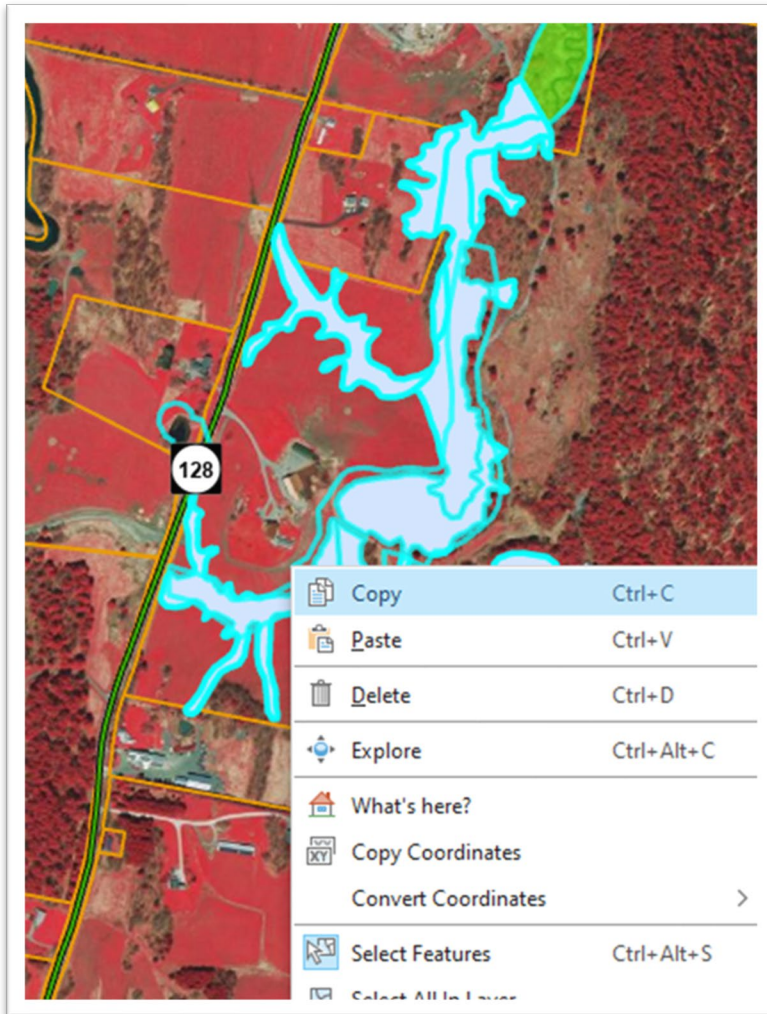
Draw a rectangle around the shapefile to select it. If you are unable to select the shapefile, you may have to change your selection settings in the Selection tab of the Contents pane, which is an icon that looks like a puzzle. Click the checkbox next to your shapefile to make it selectable:



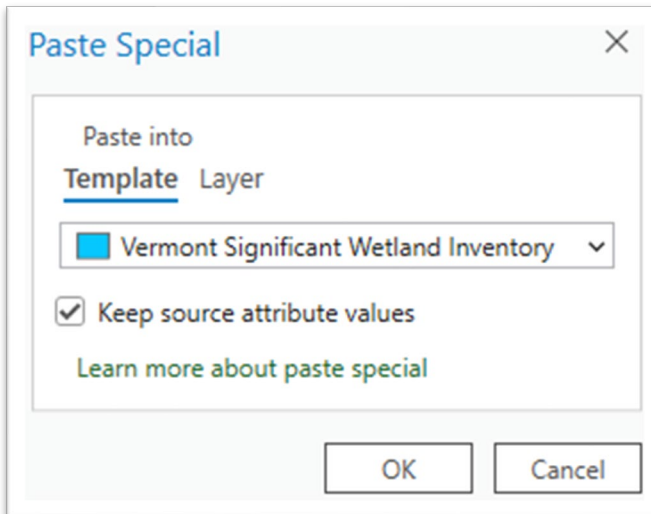
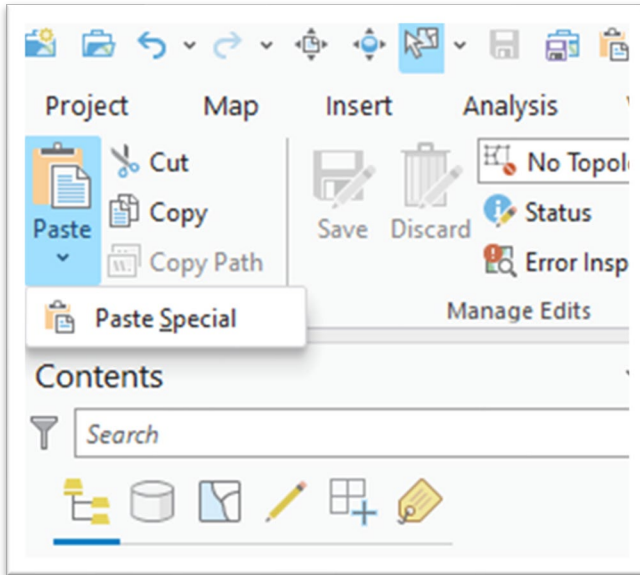
Now you should be able to select the shapefile either by clicking it, or by drawing a rectangle around it (especially useful if the shapefile contains multiple polygons as in the example):



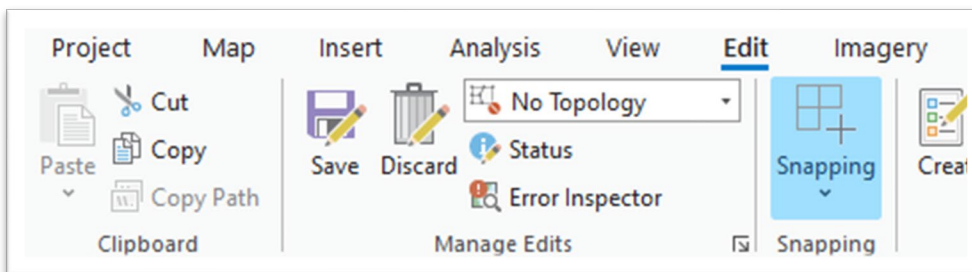
Once selected, you can copy/paste the shapefile to the VSWI Edit layer. Right click on your selected shapefile and click "Copy"



The shapefile is now copied to the clipboard. To paste it to your desired layer, select Paste and then Paste Special in the upper lefthand corner of the Edit tab. Choose the layer you wish to paste it to (VSWI Edit layer) and then click Ok:



You will now see that the shapefile has been copied to the VSWI Edit layer. Save your edits early and often! To save your edits thus far, click on Save in the Edit tab (tip: if the Save icon appears in color, it means you have unsaved edits):



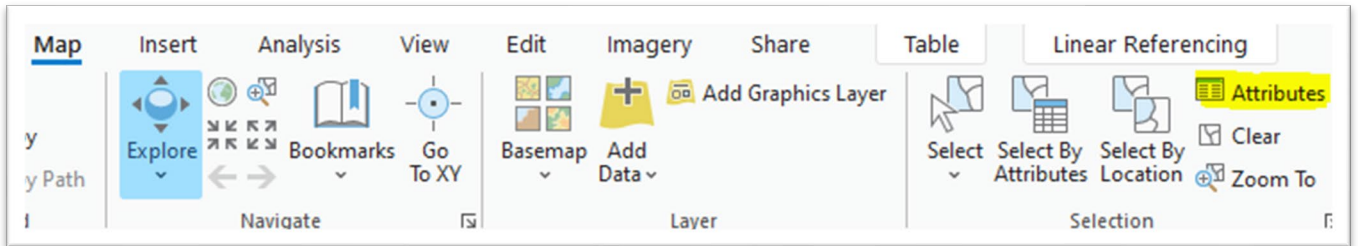
Next, add attributes (see details and table in “Adding Attributes to Polygons” section earlier in this guide) to the newly copied polygons by right clicking on the VSWI Edit layer and navigating to the Attribute table. You will see the attribute table pop up in the pane at the bottom of the screen:

The screenshot displays the ArcGIS software interface. On the left, the 'Project' menu is open, showing options like 'Remove', 'Group', 'Attribute Table' (with keyboard shortcuts Ctrl+T and Ctrl+Shift+D), 'Data Engineering', 'Add Error Layers', 'Data Design', 'Create Chart', 'New Report', 'Joins and Relates', 'Zoom To Layer', 'Zoom To Make Visible', 'Selection', 'Label', 'Labeling Properties...', 'Convert Labels', 'Symbology', 'Disable Pop-ups', 'Configure Pop-ups', 'Data', 'Sharing', 'View Metadata', 'Edit Metadata', and 'Properties'. Below the menu is a legend for 'Wetland' layers, including 'Open Data Advisory Wetlands' (Advisory Wetland) and 'Proposed VSWI Removals'. The main map area shows a satellite-style map with various colored overlays representing wetlands and roads. A road labeled '128' is visible. The bottom right shows a data table for 'EDIT LAYER VSWI' with columns for OBJECTID, GlobalID, and NWI Code.

OBJECTID *	GlobalID *	NWI Code
1	{02b9a331-b2ea-4f82-968a-95e318d508e1}	PEM1
2	{a69592a9-2646-4be4-9542-2be80a6c819f}	PEM1/SS4
3	{b728bb52-ea9d-4efb-ab70-621f1f36ff0d}	PFO4
4	{90303992-fae0-4cd0-8c80-5b67354aa652}	PEM

There are certain attribute categories that are required, and others that are optional or not needed (refer to “Adding Attributes to Polygons”). You can either edit attributes directly in the Attribute table at the

bottom of the screen (some fields are open text such as the Project File # or NWI Code, whereas others are dropdown), or you can add them by sticking the Attribute table to the far righthand side of your screen. This option also allows you to Ctrl + click on multiple polygons and add attributes to multiple at once. To open the attribute table on the righthand side, click on the Attributes icon in the Map tab:



You will need to pin the attributes pane to the righthand side of your screen by clicking the pushpin icon. You can then edit attributes for one or multiple polygons at a time by ctrl + selecting them from the top menu:

Attributes ? v

Selection Layers

Change the selection.

VSWI Live: Vermont Significant Wetland Inventory LIVE (3)

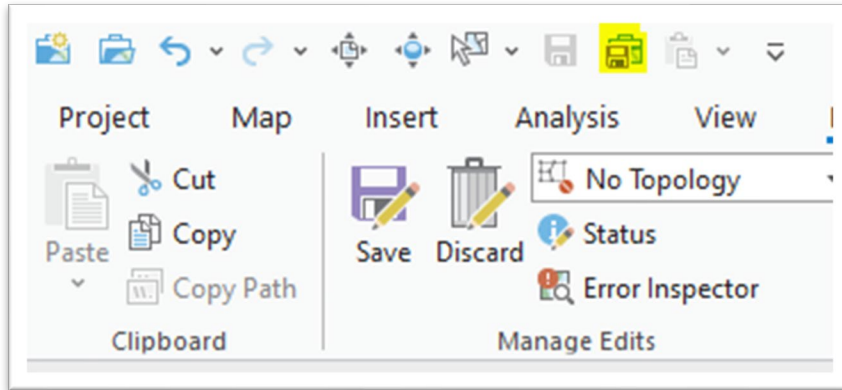
- PEM1E
- PFO1A
- PUBFB

Attributes Geometry

OBJECTID	5
GlobalID	{6C985ED2-F8E7-461C-BD28-AB7E0EAAE321}
NWI Code	PEM1E
LLWW	LS4BATI
VSWI Class	Class II Wetland
Adoption date	2/23/1990
Mapping organization	University or College
Issue mapping change authority	General Determination
Potential map changes	<Null>
Mapping date	7/8/2019 4:00:00 AM
Program file number	<Null>
Vegetation assemblage	<Null>
Status	Approved

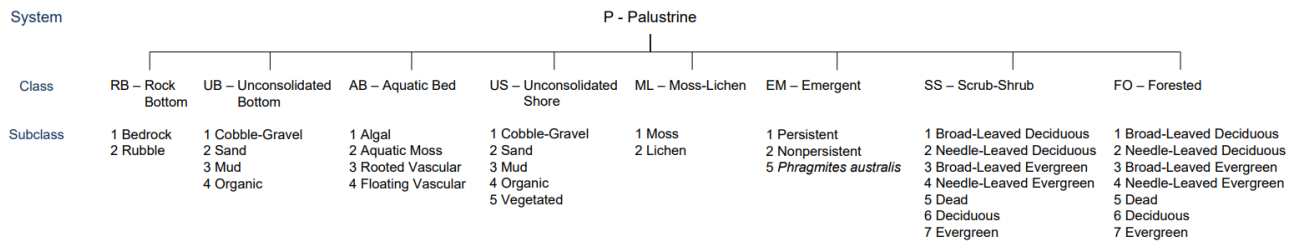
Edits that have NOT been reviewed by a wetland ecologist must have a “Pending” status (default). Use the Program file number field to enter the wetland project #. If you have questions about attributes, refer to table in section above, or ask another Editor.

Once you’ve added attributes, save your edits again. It also doesn’t hurt to save your project so that when you come back to it, you’ll be zoomed to the same location:



Appendix B: Cowardin Codes

The following chart is from [Wetlands and Deepwater Habitats Classification chart \(fws.gov\)](http://fws.gov) Note there is an additional Water Regime code D for permanently saturated that has since been added after the chart was made.



MODIFIERS							
In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.							
Water Regime			Special Modifiers	Water Chemistry			Soil
Nontidal	Saltwater Tidal	Freshwater Tidal		Coastal Halinity	Inland Salinity	pH Modifiers for all Fresh Water	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded-Tidal	b Beaver	1 Hyperhaline	7 Hypersaline	a Acid	g Organic
B Saturated	M Irregularly Exposed	R Seasonally Flooded-Tidal	d Partly Drained/Ditched	2 Euhaline	8 Eusaline	t Circumneutral	n Mineral
C Seasonally Flooded	N Regularly Flooded	T Semipermanently Flooded-Tidal	f Farmed	3 Mixohaline (Brackish)	9 Mixosaline	i Alkaline	
E Seasonally Flooded/Saturated	P Irregularly Flooded	V Permanently Flooded-Tidal	h Diked/Impounded	4 Polyhaline	0 Fresh		
F Semipermanently Flooded			r Artificial	5 Mesohaline			
G Intermittently Exposed			s Spoil	6 Oligohaline			
H Permanently Flooded			x Excavated	0 Fresh			
J Intermittently Flooded							
K Artificially Flooded							

National Wetlands Inventory Code:

Symbol	Current Definition
P	Palustrine
PUB	Palustrine, Unconsolidated Bottom
PUB1	Palustrine, Unconsolidated Bottom, Cobble Gravel substrate
PUB2	Palustrine, Unconsolidated Bottom, Sand substrate

PUB3	Palustrine, Unconsolidated Bottom, Mud substrate
PUB4	Palustrine, Unconsolidated Bottom, Organic substrate
PAB1	Palustrine, Aquatic Bed, Algal
PAB2	Palustrine, Aquatic Bed, Aquatic Moss
PAB3	Palustrine, Aquatic Bed, Rooted Vascular
PAB4	Palustrine, Aquatic Bed, Floating Vascular
PEM1	Palustrine, Emergent, Persistent
PEM2	Palustrine, Emergent, nonpersistent
PSS1	Palustrine, Scrub-Shrub, Broad-Leaved Deciduous
PSS2	Palustrine, Scrub-Shrub, Needle-Leaved Deciduous
PSS3	Palustrine, Scrub-Shrub, Broad-Leaved Evergreen
PSS4	Palustrine, Scrub-Shrub, Needle-Leaved Evergreen
PSS5	Palustrine, Scrub-Shrub, Dead
PSS6	Palustrine, Scrub-Shrub, Deciduous
PSS7	Palustrine, Scrub-Shrub, Evergreen
PFO1	Palustrine, Forested, Broad-Leaved Deciduous
PFO2	Palustrine, Forested, Needle-Leaved Deciduous
PFO4	Palustrine, Forested, Needle-Leaved Evergreen
PFO5	Palustrine, Forested, Dead
PFO6	Palustrine, Forested, Deciduous
PFO7	Palustrine, Forested, Evergreen
Water Regime Modifier	NWI definition
A	Temporarily Flooded
B	Seasonally Saturated
C	Seasonally Flooded
D	Continuously Saturated
E	Seasonally Flooded/Saturated
F	Semipermanently Flooded
G	Intermittently Exposed
H	Permanently Flooded
J	Intermittently Flooded
K	Artificially Flooded

Water regime modifier goes after the standard code (eg. PFO1D)

Type Modifier Code	NWI Definition
a	Acid
i	Alkaline
g	Organic soil
n	Mineral soil
b	Beaver influenced
d	Partially drained/ditched
f	farmed
h	Diked/impounded

r	Artificial substrate
s	Spoil
e	Excavated

Type modifier goes after the water regime modifier (e.g. PFO1Db)

Appendix C: Basic VSWI edit process flowchart

