

Module 3

Recognizing Wetlands in the Field



LDA

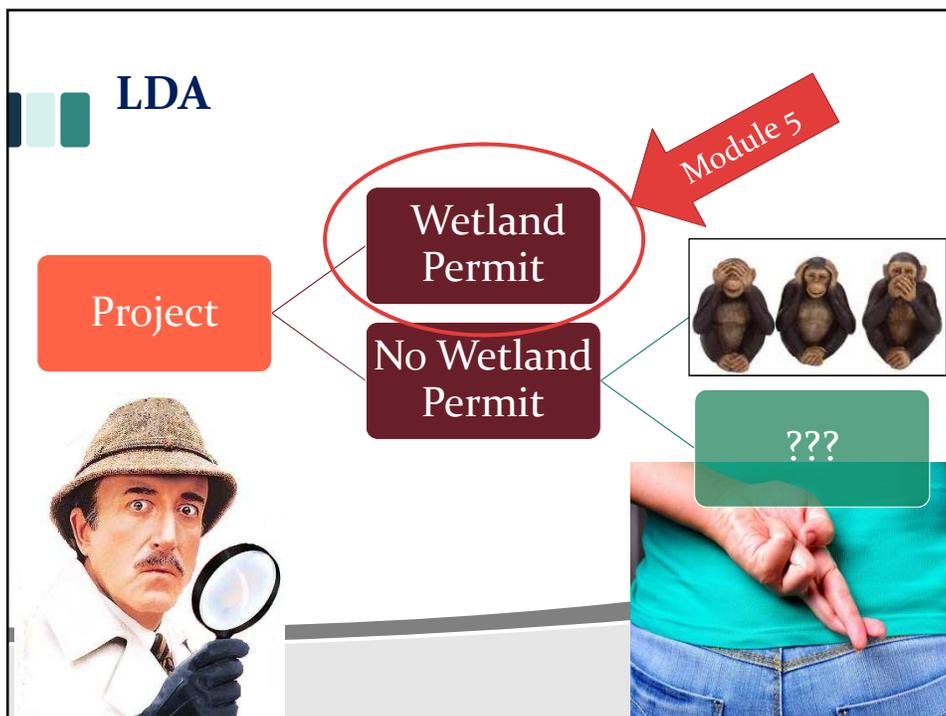
Project

- Wetland Permit
- No Wetland Permit



???

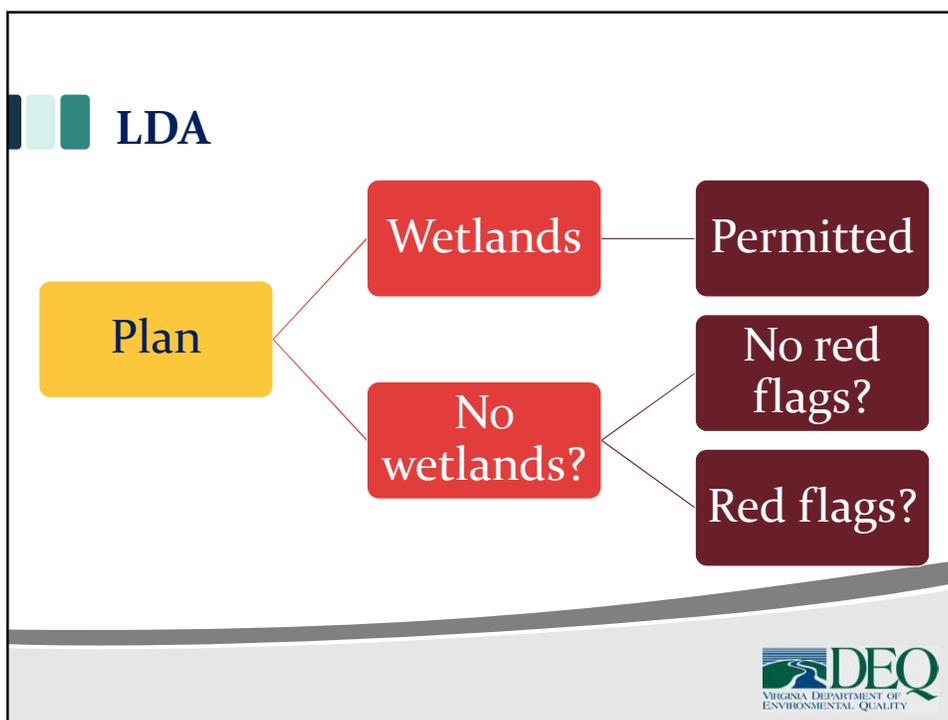
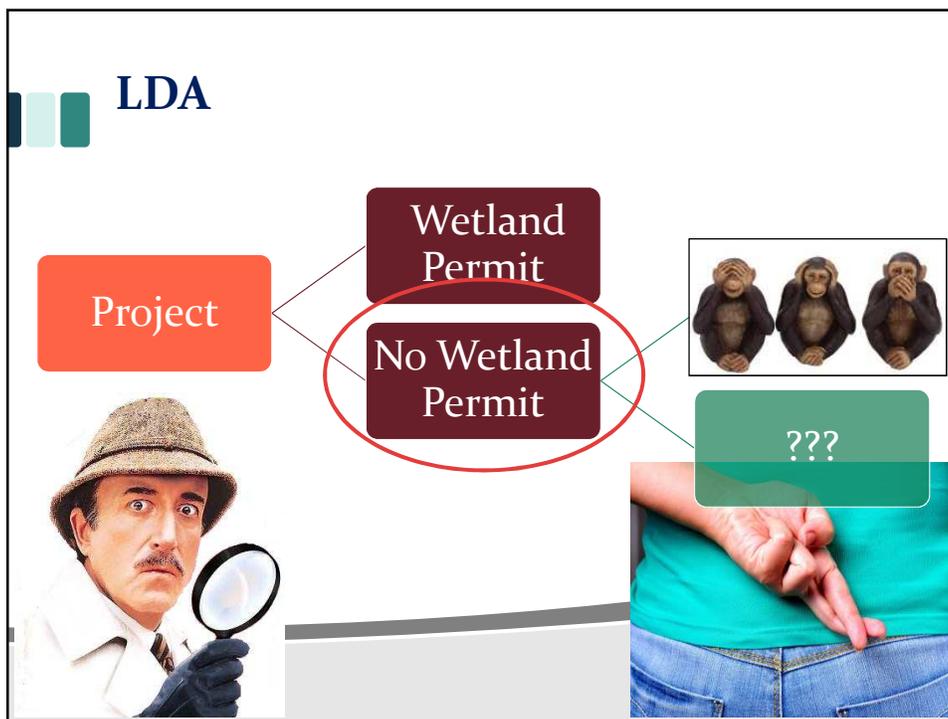




Things to look for (at the beginning of a project)

- Are the wetlands flagged?
- Are they flagged correctly?
- Are they protected with appropriate protection (i.e., sediment fence/tree protection fence/temporary diversions)?
- Is the side signed in the field?
- Will the appropriate side be cleared/filled?





Plan Reviewers/Inspectors

Check:

- Topographic maps
- County's Digital Ortho Photography
- NFWS National Wetlands Inventory Maps (NWI)
- Google Earth (also has historic photographs)
- Soil Survey (digital or printed)



<http://www.fws.gov/wetlands/>

The screenshot shows the National Wetlands Inventory website. At the top, it features the U.S. Fish & Wildlife Service logo and the title 'National Wetlands Inventory'. Below the title is a search bar and a navigation menu with links for 'ES Home', 'About Us', 'Species', 'Wildlife and Habitat Conservation', 'Development and Energy', 'FWS Regions', 'Library', and 'Newsroom'. The main content area is divided into several sections: 'Overview' with a text update about new wetlands data; 'Shortcuts to Most Frequent Pages' with icons for 'Wetlands Mapper', 'Wetland Codes', 'Google Earth', 'Download Data', 'Status and Trends', and 'Web Map Services'; and 'Latest News and Reports' featuring a map of the United States with a text box about new data added to the Mapper. A sidebar on the left contains links for 'NW Menu', 'Wetlands Data', 'Status and Trends', 'Wetlands Layer', 'Other Topics', 'National Wetlands Inventory', 'Contact Information', 'Help and Contacts', 'Frequently Asked Questions', 'Contact Us', and 'Search Engine'. The DEQ logo is visible in the bottom right corner of the screenshot.

U.S. Fish & Wildlife Service
National Wetlands Inventory
 Ecological Services

Search NWI Website

ES Home | About Us | Species | Wildlife and Habitat Conservation | Development and Energy | FWS Regions | Library | Newsroom

NWI Menu
 NWI Home
 Wetlands Data »
 Status and Trends »
 Wetlands Layer »
 Other Topics »
 National Wetlands Inventory
 Contact Information »

Wetlands Mapper
 The Wetlands Mapper integrates digital map data with other resource information to produce timely and relevant management and decision support tools. We recommend looking at the following prior to launching a map:

- 1** Please read the [Disclaimer](#), [Data Limitations, Exclusions and Precautions](#), and the [Wetlands Geodatabase User Caution](#).
- 2** Refer to the following links for documentation and answers to frequently asked questions:
 - [Wetlands Mapper Documentation and Instructions Manual](#) (PDF)
 - [Frequently Asked Questions: Wetlands Mapper](#) (PDF)
 - [Frequently Asked Questions web page Printing maps with the Wetlands Mapper](#) (PDF)
 - [Mapper Introduction](#)
 - [VIDEO: How to find and use the U.S. Fish and Wildlife Service's Wetlands Mapper](#)
- 3**  [Click Here to Open the Wetlands Mapper*](#)
 (data last modified on May 28, 2015, best viewed by maximizing your browser window)

New on the Wetlands Mapper!
 Digital Data Additions

 Historic Wetlands Data Coverage


Help and Contacts
 Frequently Asked Questions
 Contact Us

Please note:

- When in the wetlands mapper, you can change major geographic regions by using the "Zoom to: select" pull down menu located at the upper right side corner.
- Adobe Flash™ is required to access the Wetlands Mapper. Please visit the Adobe Flash Player website (<http://www.adobe.com/products/flashplayer/>) to download the latest version of the player. Adobe Flash is a trademark from Adobe Systems Incorporated.

* If you have trouble viewing or printing the mapper data, please see [this FAQ](#).

Last updated: June 12, 2015
 U.S. Fish and Wildlife Service | Department of Interior | USA.gov | About the U.S. Fish and Wildlife Service
 Accessibility | Privacy | Notices | Disclaimer | FOIA

I accept the terms and conditions

Wetlands Mapper
 U.S. Fish and Wildlife Service
 National Wetlands Inventory

Tools | Print Map | Streets | Imagery/Labels | Topo | USGS Topo

Find Location | Zoom to: select

Zoom History

Available Layers

- Wetlands
- Riparian
- Riparian Mapping Areas
- Data Source
- Source Type
- Image Scale
- Image Year
- Areas of Interest
- FWS Refuges
- Historic Wetland Data

Wetlands

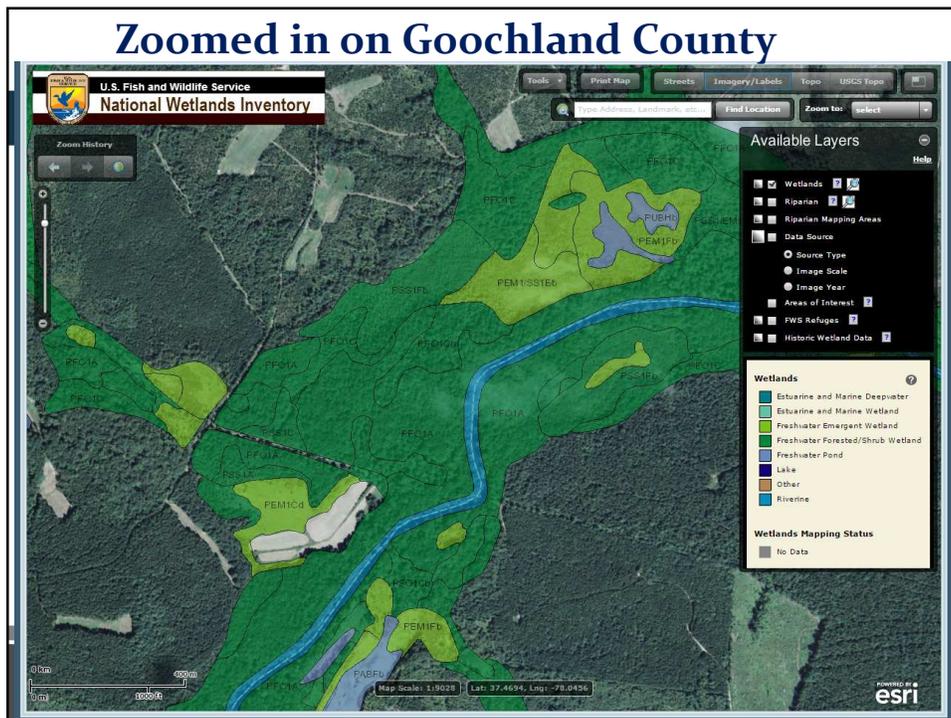
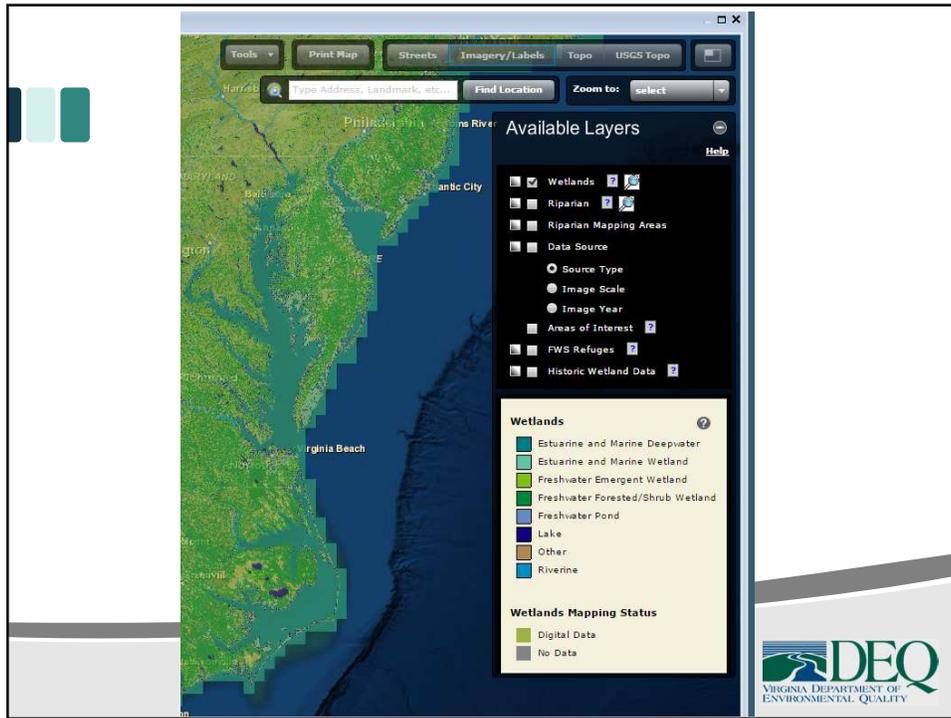
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Wetlands Mapping Status

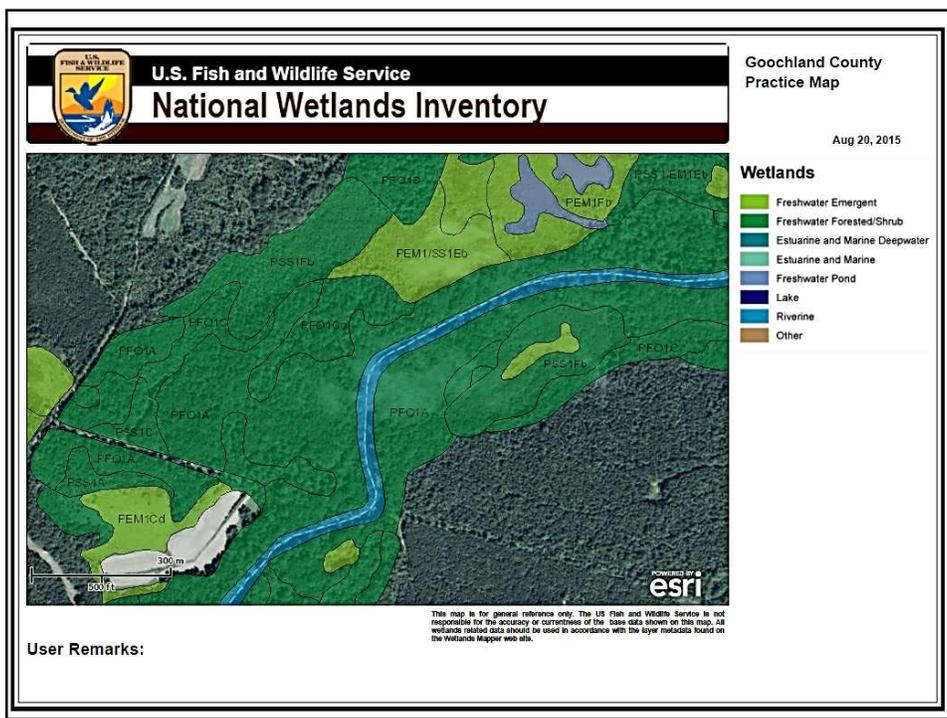
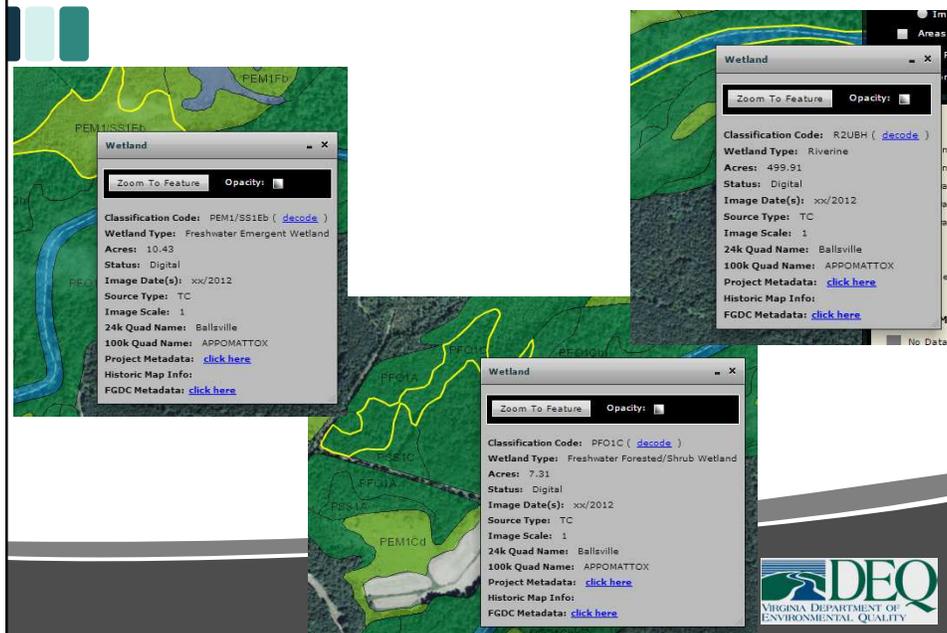
- Digital Data
- No Data

Map Scale: 1:26978399 | Lat: 21.2075, Lng: -128.1006

esri



Zoomed in on Goochland County



Limitations of NWIs

- NWI maps are based on aerial photograph interpretation and not on ground-truthing
- Scale is an issue (i.e., exact location of boundary, small wetlands)
- Age of the photographs but also the time of year they were taken



Web Soil Survey: <http://websoilsurvey.sc.egov.usda.gov>

The screenshot shows the Web Soil Survey website interface. At the top, there is a navigation bar with links for Home, About Soils, Help, and Contact Us. Below this is a search bar with the text "Enter Keywords" and a "Go" button. A "START WSS" button is prominently displayed in the center. The main content area includes a "Welcome to Web Soil Survey (WSS)" section with a brief description of the service and a "Four Basic Steps" section. The first step is "Define Area of Interest (AOI)". The page also features a sidebar with "Browse by Subject" and a "I Want To..." section with various links.



SDA United States Department of Agriculture
Natural Resources Conservation Service

Contact Us | Subscribe | Archived Soil Surveys | Soil Survey Status | Glossary | Preferences | Link | Logout | Help

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Search

Area of Interest

Import AOI

Quick Navigation

Address

State and County

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

Bureau of Land Management

Department of Defense

Forest Service

National Park Service

Hydrologic Unit

Area of Interest Interactive Map

View Extent: Contiguous U.S.

Scale: [not to scale]

FOIA | Accessibility Statement | Privacy Policy | Non-Discrimination Statement | Information Quality | USA.gov | White House

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Search

Area of Interest

Import AOI

Quick Navigation

Address

State and County

View

State: Virginia

County (optional): Goochland

View

Soil Survey Area

Latitude and Longitude

PLSS (Section, Township, Range)

Bureau of Land Management

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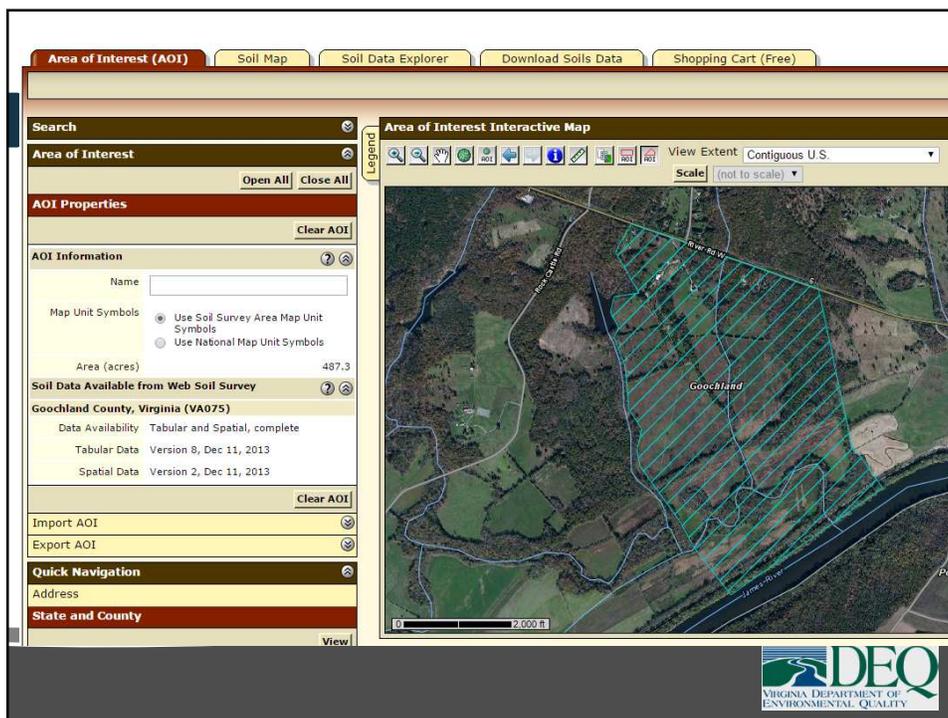
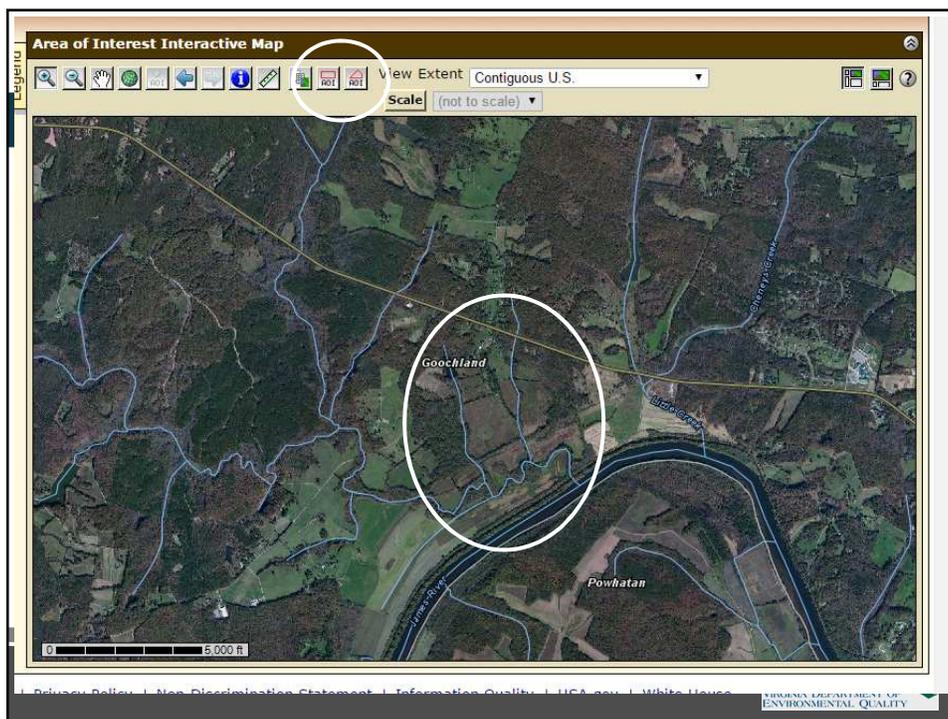
Hydrologic Unit

Area of Interest Interactive Map

View Extent: Contiguous U.S.

Scale: [not to scale]

IDEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY



Area of Interest (AOI) | Soil Map | **Soil Data Explorer** | Download Soils Data | Shopping Cart (Free)

View Soil Information By Use: All Uses | Printable Version | Add to Shopping Cart

Intro to Soils | **Suitabilities and Limitations for Use** | Soil Properties and Qualities | Ecological Site Assessment | Soil Reports

Search | Map — Hydric Rating by Map Unit

Suitabilities and Limitations Ratings

Open All | Close All

- Building Site Development
- Construction Materials
- Disaster Recovery Planning
- Land Classifications
 - Conservation Tree and Shrub Group
 - Ecological Site ID
 - Ecological Site Name
 - Farmland Classification
 - Hydric Rating by Map Unit**

View Options

- Map
- Table
- Description of Rating
- Rating Options
 - Detailed Description

Advanced Options

View Description | View Rating

Irrigated Capability Class

Irrigated Capability Subclass

Tables — Hydric Rating by Map Unit — Summary By Map Unit

Summary by Map Unit — Goochland County, Virginia (VA075)

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Tables — Hydric Rating by Map Unit — Summary By Map Unit

Summary by Map Unit — Goochland County, Virginia (VA075)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3A	Bolling soils, 0 to 2 percent slopes	0	26.8	5.5%
3B	Bolling soils, 2 to 7 percent slopes	0	14.3	2.9%
6B2	Cecil fine sandy loam, 2 to 7 percent slopes, eroded	0	1.1	0.2%
13A	Fork variant soils, 0 to 2 percent slopes	5	116.3	23.9%
17B2	Madison fine sandy loam, 2 to 7 percent slopes, eroded	0	8.2	1.7%
17C2	Madison fine sandy loam, 7 to 15 percent slopes, eroded	0	5.2	1.1%
18B3	Madison clay loam, 2 to 7 percent slopes, severely eroded	0	12.8	2.6%
18C3	Madison clay loam, 7 to 15 percent slopes, severely eroded	0	13.8	2.8%
18D3	Madison clay loam, 15 to 25 percent slopes, severely eroded	0	11.3	2.3%
23	Monacan silt loam	0	105.4	21.6%
27B2	Pacolet fine sandy loam, 2 to 7 percent slopes, eroded	0	4.0	0.8%
27C2	Pacolet fine sandy loam, 7 to 15 percent slopes, eroded	0	2.7	0.6%
28B3	Pacolet clay loam, 2 to 7 percent slopes, severely eroded	0	2.1	0.4%
28C3	Pacolet clay loam, 7 to 15 percent slopes, severely eroded	0	34.7	7.1%
28D3	Pacolet clay loam, 15 to 25 percent slopes, severely eroded	0	13.2	2.7%
29A	Pamunkey loam, 0 to 4 percent slopes	0	11.8	2.4%
33	Roanoke silt loam	85	24.4	5.0%
37	Tuckahoe soils	5	72.8	14.9%
44C2	Wedowee fine sandy loam, 7 to 15 percent slopes, eroded	0	2.1	0.4%
W	Water	0	4.4	0.9%
Totals for Area of Interest			487.3	100.0%

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Into the field



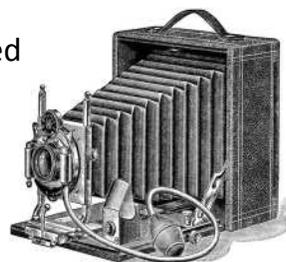
- Are the onsite and offsite wetlands identified?
- Are the onsite wetlands permitted and/or protected?



Identifying wetlands

Pre-Construction Meeting

1. Walk the perimeter
2. Make sure that adjacent wetlands are marked (especially down gradient)
3. Make sure that buffers are marked
4. Are on-site wetlands and buffers marked
5. Take before photographs
6. Are we missing any wetlands?





**Wetland Indicators - Water
Stained Leaves**

Wetland Indicators – Water
Stained Leaves



Wetland
Indicators

Flooding lines (a.k.a. water marks) & moss trim lines & sparsely vegetated concave surface



Wetland Indicators





Wetland Indicators

Sphagnum and other wetland vegetation



Note! Not all ferns indicate there is a wetland



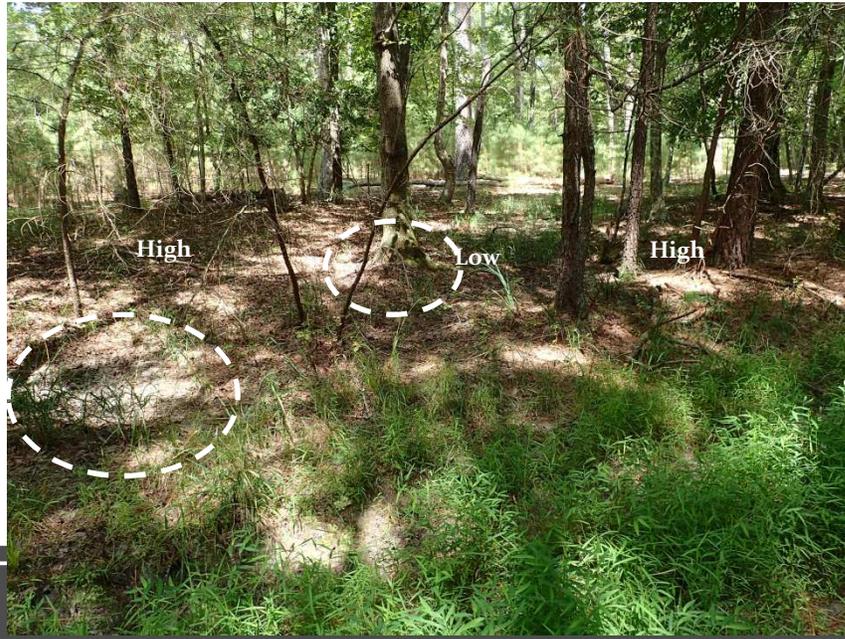
Flow path



Drift lines



Normal woods?



Water stained Leaves



Drainage Pattern



Red Flags, What to do?

Ask for more information

Is information satisfactory?

Yes

• Proceed with project

No

• Contact COE and/or DEQ to determine if a jurisdictional determination would be needed before proceeding with the project





End of Module 3.

Questions?

