Tips & Tricks for the New Data Sheets



US Army Corps of Engineers BUILDING STRONG_®

Now that you've seen Avatar...



US Army Corps of Engineers Savannah District

Hi and welcome to the US Army Corps of Engineers Savannah District Regulatory Training Module. If you are considering a project in or near a lake, river, stream, or wetland within the State of Georgia, you'll find that our website provides all the information and resources necessary to pursue a permit for your proposed project.

The following modules will help you apply for a Jurisdictional Determination and the appropriate permit. In addition, these modules will help you determine mitigation requirements. And finally, we will discuss the process for developing and operating a commercial mitigation bank.

You will find application forms, checklists, related links and other resources designed to make the process simpler.

And remember, you can always contact us directly by email or phone if you have any questions or need any additional information.

This module is a central source for information on the Savannah District's Regulatory Program

Mitigation

Jurisdictional Determination

Permitting

Develop Commercial Mitigation Bank

The JD process helps to identify wetlands and other waterbodies, such as lakes, rivers, and streams that are subject to US Army Corps of Engineer's jurisdiction. The JD is essential for planning purposes and determining if a permit is required for any work you may want to perform on a particular property. There are three types of JDs used by the Savannah District. They are Preliminary JDs, Expanded Preliminary JDs, and Approved JDs.

Learn More

10



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region



STRONG®

Expanded Preliminary Jurisdictional Determination (EPJD) Checklist US Army Corps of Engineers Savannah District

This checklist is to assist you in submitting complete and proper information. Please keep in mind that this is not an exhaustive list. Each project has unique components and more or less information may be required by the project manager to complete the EPJD on any given project. However, this list contains information typically necessary for this office to issue an EPJD. We appreciate your cooperation in providing this information at the time of your request. Failure to provide this information may delay our response to you.

- Written request indicating an EPJD on the two page form, "REQUEST FOR JURISDICTIONAL DETERMINATION FOR PROPERTY LOCATED WITHIN THE STATE OF GEORGIA" available at: <u>http://www.sas.usace.army.mil/regulatory/JDs.html</u>. The form must be filled out completely and include all contact information and written permission (signature) from the property owner or the owner's legal representative for USACE personnel to access the property.
 - <u>Name, address, and phone number of applicant</u>, current property owner(s), and agent/consultant (if applicable).
 - Location of property or review area (road names, cross streets, nearest town, etc).

IV OT VI

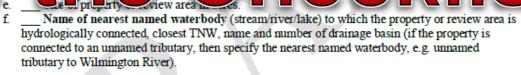
include d

c. Directions to the property or review area from the nearest interstate highway. Also include a Mar Due Google, or other map with the state of the

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in d

al de



- Completed EPJD form (Appendix D) for all waters including wetlands that may be jurisdictional waters on-site available at: <u>http://www.sas.usace.army.mil/regulatory/documents/PrelimAppendixD.pdf</u>. The first three pages must be filled out in their entirety, the fourth page only if applicable.
- Complete the EPJD form (Appendix E) for any on-site water or wetland you believe to be nonjurisdictional or isolated, available at: <u>http://www.sas.usace.army.mil/regulatory/documents/PrelimAppendixE.pdf</u>. The first page must be filled out in it's entirety, the second page only if applicable.
- Project name. The name of the subdivision or project (e.g. Lakeview Subdivision, Wally World expansion).
- 5. ____ Past Actions including JDs, Permits, etc with the Corps Action ID number.

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- 6. ___ Property record(s) for the property or review area.
- Photographs should be representative of the site and may include pictures of the wetlands, soils, tributaries, etc... on the site. Photographs will help in determining the need for a site visit.

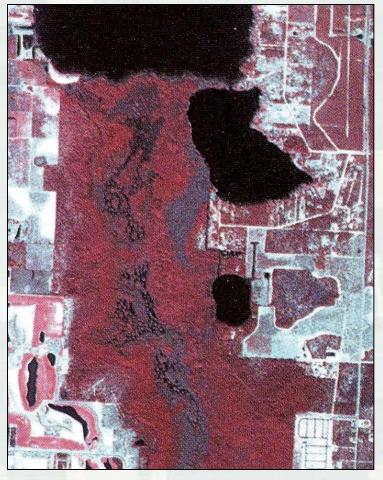


LDING STRONG_®

Preliminary Data Gathering

Off-site sources of information are used to plan and carry out an on-site investigation.



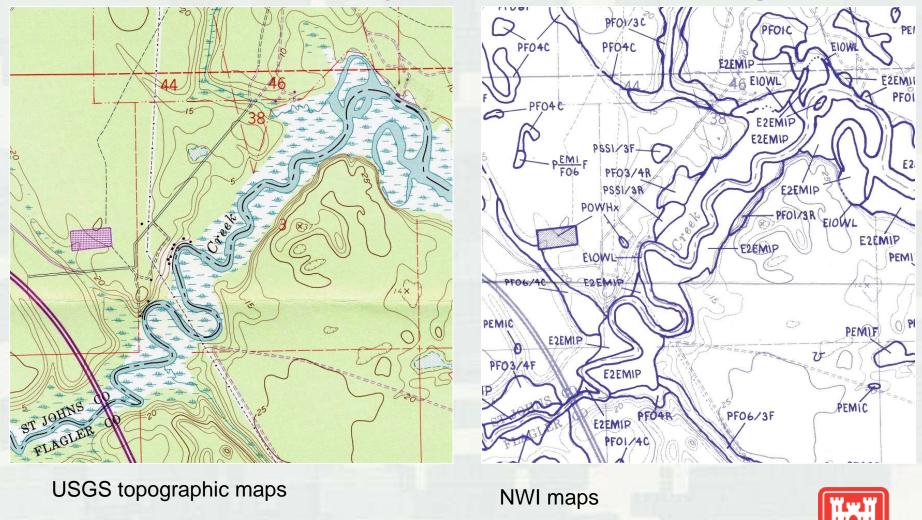


CIR aerial photography



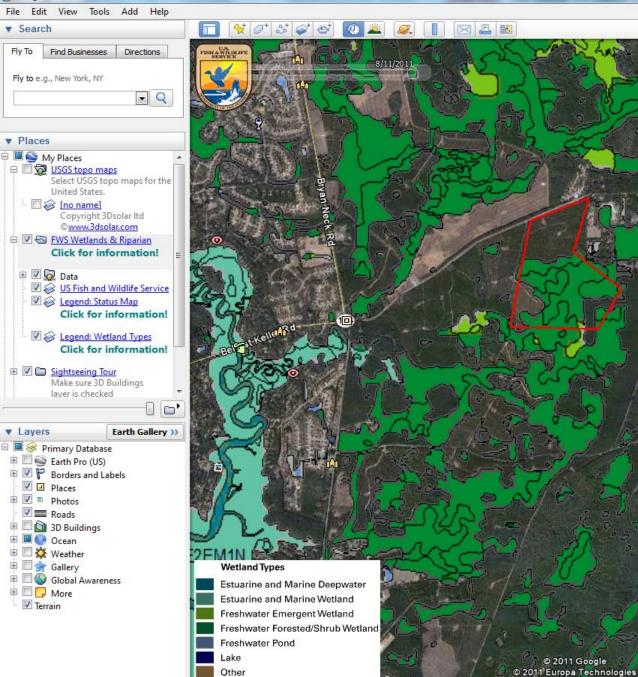
Virtual Earth bird's-eye view

Preliminary Data Gathering



Google Earth Pro





Riverine

2 1993

lat 31.833621° lon -81.207067° elev 19 ft

Status Map

Digital (vector data) Scan (raster data) Non-Digital (hardcopy only) No Data



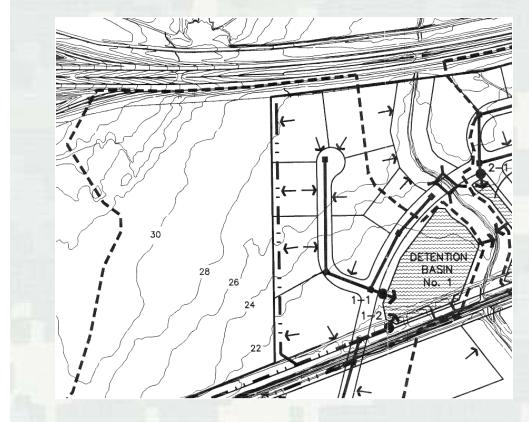
Preliminary Data Gathering



NUREG-1947

Final Supplemental Environmental Impact Statement for Combined Licenses (COLs) for Vogtle Electric Generating Plant Units 3 and 4

Final Report



Engineering plans



Existing environmental documents

Office of New Reactors

HYDROLOGY

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is requ	uired; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	 Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	 Drainage Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	Oxidized Rhizospheres along Living R	costs (C3) Dry-Season Water Table (C2)
 Sediment Deposits (B2) 	Presence of Reduced Iron (C4)	 Crayfish Burrows (C8)
 Drift Deposits (B3) 	 Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	 Geomorphic Position (D2)
Iron Deposits (B5)	 Other (Explain in Remarks) 	 Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
 Water-Stained Leaves (B9) 		Sphagnum moss (D6) (LRR T, U)
Field Observations:		
Surface Water Present? Yes	No Depth (inches):	
Water Table Present? Yes	No Depth (inches):	
Saturation Present? Yes (includes capillary fringe)	No Depth (inches):	Wetland Hydrology Present? Yes No
	nonitoring well, aerial photos, previous inspect	tions), if available:
Remarks:		

R

Evaluating Normal Rainfall WETS Tables



Search NWCC

About Us

Natural Resources

Conservation Service

Products Publications News

Enter Keywords GO

Wetlands climate information has been updated through Calendar Year 2001 and uses an improved procedure to analyze arid regions and low monthly precipitation totals.

Contact Us

Climate Analysis for Wetlands by County

Water and Climate Information

Water Supply

NWCC Home

- Water Supply
- Forecasts
- Reservoirs
- Surface Water
- Climate

Climate Monitoring

- SNOTEL Data
- SCAN Data
- Snow Course Data
- Data Search NEW
- Soil Search NEW

Climate Interpretation

- Climate Analysis
- PRISM
- Climate Data
- General Information
- Snow Survey Programs by State
- Find a Service Center
- States and Regions
- National Centers

Back to Top

 Select desired region: 						
Connecticut	*					
Delaware	(E)					
Florida						
Georgia						
Hawaii	-					
Go to County Selection						

Partnerships

Retrieval of Wetlands Climate Evaluation Dataset

http://www.wcc.nrcs.usda.gov/climate/wetlands.html

WETS Station : SAVANNAH WSO AIRPORT, GA7847 Creation Date: 09/04/2002
Latitude: 3208 Longitude: 08112 Elevation: 00050
State FIPS/County(FIPS): 13051 County Name: Chatham
Start yr. - 1971 End yr. - 2000

February 64.1 42.0 53.1 2.93 1.81 3.54 4 0.2 March 71.1 48.8 59.9 3.67 2.39 4.41 5 0.1 April 77.7 54.1 65.9 3.31 1.94 4.02 4 0.0 May 84.3 62.7 73.5 3.61 2.25 4.36 5 0.0 June 89.4 69.5 79.5 5.47 3.34 6.63 7 0.0 July 92.4 73.0 82.7 5.93 3.90 7.12 8 0.0 August 90.4 72.3 81.3 6.93 4.54 8.32 8 0.0 September 86.0 68.2 77.1 5.20 2.63 6.35 6 0.0 October 78.0 57.0 67.5 2.95 0.99 3.59 3 0.0 December 62.3 41.2 51.8 2.78 1.76 3.35 5 0.2												
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August 90.4 72.3 81.3 6.93 4.54 8.32 8 0.0 September 86.0 68.2 77.1 5.20 2.63 6.35 6 0.0 October 78.0 57.0 67.5 2.95 0.99 3.59 3 0.0 November 70.4 48.4 59.4 2.37 1.31 2.90 3 0.0 December 62.3 41.2 51.8 2.78 1.76 3.35 5 0.2 Annual 44.04 53.26 Average 77.2 56.4 66.8 Total 49.12 64 0.5	June	89.4	69.5	79.5	5.47	3.34	6.63	7	0.0			
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Annual 44.04 53.26 Average 77.2 56.4 66.8 Total 49.12 64 0.5	November	70.4	48.4	59.4	2.37	1.31	2.90	3	0.0			
Annual 44.04 53.26 Average 77.2 56.4 66.8 Total 49.12 64 0.5	December	62.3	41.2	51.8	2.78	1.76	3.35	5	0.2			
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iiiiii												
	Total				49.12			64	0.5			
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									i			
GROWING SEASON DATES												
Temperature			1		1	[emperatu	re					

| 24 F or higher | 28 F or higher | 32 F or higher

30 Year Rang of Normal for area in question:

44.04"- 53.26"

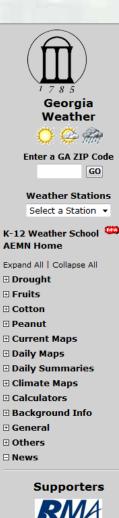


BUILDING STRONG®

Probability

Georgia Rainfall Data

(for use with WETS Tables)



GEORGIA FORESTRY

COMMISSION



WARNING:

WARNING: The AEMN and this website are currently scheduled to be **shutdown in late Summer 2011 due to a shortfall in funding**. Unless substantial blocks of dedicated funding are committed by early July 2011, we will begin the process of decommissioning weather stations at that time. Once a weather station is decommissioned, current data will no longer be available. For more information <u>click here</u>.

- 🔹 Georgia Weather Net is under threat 🕮
- UGA seeks funds to keep weather monitors online
- UGA seeks funds to keep weather monitors online
- Georgia weather network struggles to survive
- Ending weather reports worries Ga. farmers
- K-12 Weather School for Georgia educators
- Recent new stations: <u>Ducker</u>... <u>more news</u>
- To print a "printer-friendly" web page, simply select "File" and then "Print" or Click #

For current weather conditions, historical weather data and applications, please select a site on the map:

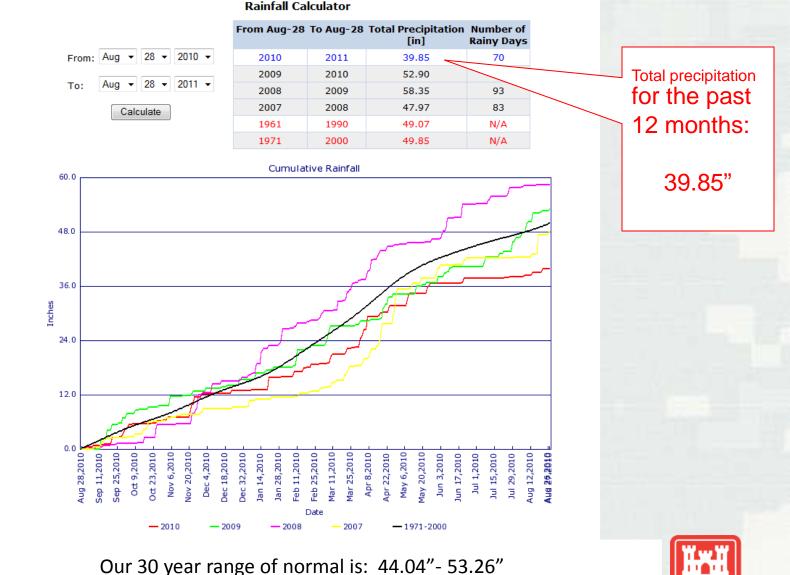




http://www.georgiaweather.net/

BUILDING STRONG_®

Change the dates to look at the past 12 months of rainfall data.



The sum for the past 12 months is: 39.85"

Therefore: 44.04"-39.85" = We are 4.19" below the range of normal for the past **STRONG**_®

12 months.



	Absolute D	ominant Indicator	Dominance Test worksheet:					
Stratum (Plot size:)		Species? Status	Number of Dominant Species		VEGETATION (Five Strata) – Use scientific nan	nes of plants.	Sampling Point:
			That Are OBL, FACW, or FAC:	(A)			Absolute Dominant Indicator	Dominance Test worksheet:
			Total Number of Dominant		Tree Stratum (Plot size:)	% Cover Species? Status	Number of Dominant Species
			Species Across All Strata:	(B)	1			That Are OBL, FACW, or FAC:
			Percent of Dominant Species		2			Total Number of Dominant
			That Are OBL, FACW, or FAC:	(A/B)	3			Species Across All Strata:
			Prevalence Index worksheet		4			Percent of Dominant Species
			Total % Cover of: Multiply by:		e			That Are OBL, FACW, or FAC:
			OBL species x 1 -		0		= Total Cover	Prevalence Index worksheet:
(Shrub Stratum (Plot size:)		Total Cover	FACW species x 2 -			50% of total cover:	20% of total cover:	Total % Cover of:Multiply by:
(FAC species x 3 -	_	Sapling Stratum (Plot size:)		OBL species x1 =
			FACU species x 4 -		1			FACW species x 2 =
			UPL species x 5 -		2			FAC species x 3 =
			Column Totals: (A)	(B)	3			FACU species x 4 =
					4			UPL species x 5 =
			Prevalence Index = B/A =					Column Totals: (A)
			Hydrophytic Vegetation Indicators:					Prevalence Index = B/A =
			 1 - Rapid Test for Hydrophytic Vegetation 				= Total Cover	Hydrophytic Vegetation Indicators:
			2 - Dominance Test is			of total cover:	20% of total cover:	1 - Rapid Test for Hydrophytic Vegetation
			3 - Preval noe Ind		retum (e)		2 - Dominance Test is >50%
	-1	Total Cover	gica attended so mar separate she	up,				3 - Prevalence Index is \$3.0 ¹
atum (Plot size:)				Nain)	3			Problematic Hydrophytic Vegetation' (Ex
					4			¹ Indicators of hydric soil and wetland hydrolog
			of soil and wetland hydrolog be prevent, u isturbed or problematic.	/ must	5			be present, unless disturbed or problematic.
			Vegetation Strata:		6			Definitions of Five Vegetation Strata:
						50% of total cover;	= Total Cover	Tree - Woody plants, excluding woody vines
			Tree – woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), rega		Herb Stratum (Plot size:		20% of total cover.	approximately 20 ft (6 m) or more in height an (7.6 cm) or larger in diameter at breast height
			height.	ulebo Ul	1	/		Continue littlende alente anatodiae oracitado
			Sapling/Shrub - Woody plants, excluding vin	ac locs	2			Sapling – Woody plants, excluding woody vir approximately 20 ft (6 m) or more in height an
			than 3 in. DBH and greater than 3.28 ft (1 m) t		3.			than 3 in. (7.6 cm) DBH.
			Herb - All herbaceous (non-woody) plants, re	andlass	4			Shrub - Woody plants, excluding woody vine
			of size, and woody plants less than 3.28 ft tail.	Jardiess	5			approximately 3 to 20 ft (1 to 6 m) in height.
					6			Herb - All herbaceous (non-woody) plants, in
	-1	Total Cover	Woody vine – All woody vines greater than 3. height.	26 π in	7.			herbaceous vines, regardless of size, and wo plants, except woody vines, less than approxi-
Vine Stratum (Piot size:)					8			3 ft (1 m) in height.
					9			Woody vine - All woody vines, regardless of
					10			the day time of the day times, regarated a
					11			
			Hydrophytic				= Total Cover	
			Vegetation Present? Yes No			50% of total cover:	20% of total cover:	
		Total Cover	Present? Yes No		Woody Vine Stratum (Plot size:	;		
		Total Cover			1			
c (Include photo numbers here or on a separate s	ineet.)				2			
					4			
					5			Mudan balla
							= Total Cover	Hydrophytic Vegetation
						50% of total cover:	20% of total cover:	Present? Yes No
					Remarks: (If observed, list morp		w').	1

BUILDING STRONG_®

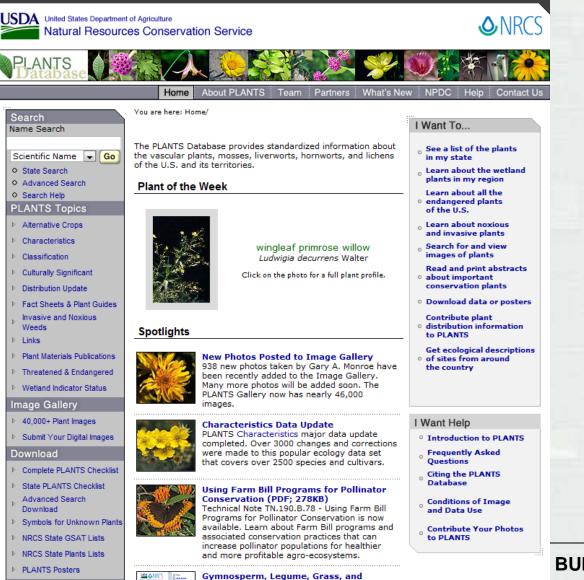
Hydrophytic Vegetation

- Great guidance in the Regional Supplement for your area! <u>http://www.usace.army.mil/cecw/pages/reg_supp.aspx</u>
- Utilize local herbariums and Universities (see handout)
- USDA Plant Database



Plant Database

http://plants.usda.gov/java/



Wetland Monocot Keys for All 50 States

Interactive plant identification keys are now

Related Tools



Hydrophytic Vegetation Determination

- Indicator 1: Rapid Test (All dominants are OBL or FACW)
- Indicator 2: Dominance Test (50/20 Rule)
- Indicator 3: Prevalence Index

An area is considered to be vegetated if it has 5% or more total plant cover during peak growing season.

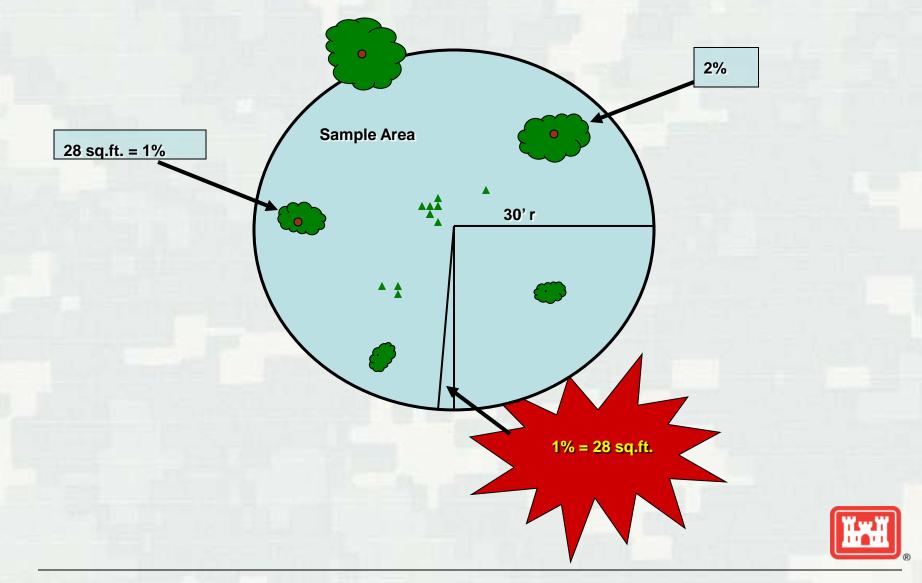


Plot and Sample Sizes

- 30-foot radius for <u>all strata</u>
- The sizes and shapes of sampling plots may be modified as appropriate to adapt to site conditions
 - Variations from recommendations in the Corps Manual or the Supplement should be recorded on the data sheet.



Absolute Percent Cover



A Note about Absolute Percent Cover

★ Due to overlapping plant canopies, the sum of absolute cover values for all species in a community or stratum may be <u>LESS THAN OR</u> <u>GREATER THAN 100%</u>.



The Strata

- 1. <u>Tree stratum</u>: Woody plants, excluding woody vines, 20 feet or more in height and 3 inches or more DBH.
- 2. **Sapling stratum**: Woody plants, excluding woody vines, 20 feet or more in height and 3 inches or less DBH.
- 3. <u>Shrub stratum</u>: Woody plants, excluding woody vines, 3 to 20 feet in height.
- 4. <u>Herb stratum</u>: Herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody species, except woody vines, less than 3 feet in height.
- 5. **Woody vines**: Consists of all woody vines, regardless of height.



SOIL

Sampling Point:

	ription: (Describe to	o the depth			dicator o	or confirm	the absence	e of indicato	rs.)	
Depth	Matrix			x Features						
<u>(inches)</u>	Color (moist)	%	Color (moist)		Type ¹				Remark	(5
1Tumo: 0=0									a M-Matri	
	oncentration, D=Deple	A BIL	Iced MS	S=Masked	Sand Gra	iins.	² Location: Pl			
Black Hi Hydroge Stratified 2 cm Mu Depleted Thick Da Sandy M MLRA	(A1) bipedon (A2) stic (A3) In Sulfide (A4) Layers (A5) lock (A10) (LRR N) Below Dark Surface ark Surface (A12) fucky Mineral (S1) (LF A 147, 148)		Redox Depre Iron-Mangan MLRA 13	low Surface inface d f fix (ix inface (r 6 x Surface (essions (F8) ese Masses 6))) (F7)) s (F12) (I	47 8) _RR N,		2 cm Muck (A Coast Prairie (MLRA 14 Piedmont Flo (MLRA 13 Red Parent N /ery Shallow Other (Explai	A10) (MLR/ Redox (A1 7, 148) odplain So 6, 147) Material (TF Dark Surfa n in Reman	16) ils (F19) 2) ace (TF12) rks)
Sandy G	leyed Matrix (S4)		Umbric Surfa					-		vegetation and
	edox (S5) Matrix (S6)		Piedmont Flo	odplain So	ils (F19)	(MLRA 14	-	vetland hydr Inless disturl		· ·
	Layer (if observed):									
	ches):		_				Hydric Soi	I Present?	Yes	No
Remarks:										

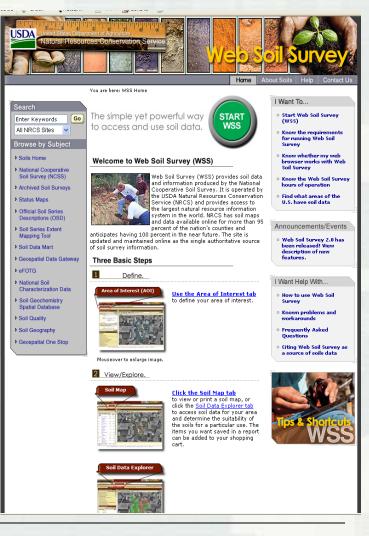
R

Web Soil Survey

- Contains the latest soils data SUPERCEDES HARDCOPY SURVEYS
- Data include: soil series in your area, hydric soil status, water features, depth to restrictive layer, drainage class, and much more.

http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

Let's get started!



Hydric Soil Indicators

United States Department of Agriculture

> NRCS

Natural Resources Conservation Service

In cooperation with

the National Technical

Committee for Hydric Soils

Field Indicators of Hydric Soils in the United States A Guide for Identifying and Delineating

A Guide for Identifying and Delineating Hydric Soils, Version 7.0, 2010



Indicators presented in Regional Supplements are subsets of the NTCHS "Field Indicators of Hydric Soils in the United States"

All delineations MUST document the observation of one or more of these hydric soil indicators in order to confirm a wetland determination, unless it is a Problem Area.

http://soils.usda.gov/use/hydric/



Hydric Soil- A soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.



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CAUTIONS AND USER NOTES

Heed the CAUTIONS AND USER NOTES statements that accompany each indicator

*Concentrate your sampling efforts near the wetland edge and, if these soils are hydric, assume that soils in the interior portions of the wetland are also hydric even if they lack an indicator.



COMING FALL 2011

Wetlands Among Us: A Field Partnering Meeting

Details: TBD

Consultants only please!

