Regionalizing the Corps of Engineers Wetland Delineation Manual

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Why?

Regional variability in wetland conditions due to climate, geology, landforms, altitude, and biogeography Failure to regionalize can result in : Inconsistent and controversia determinations Proliferation of "Problem Area" situations



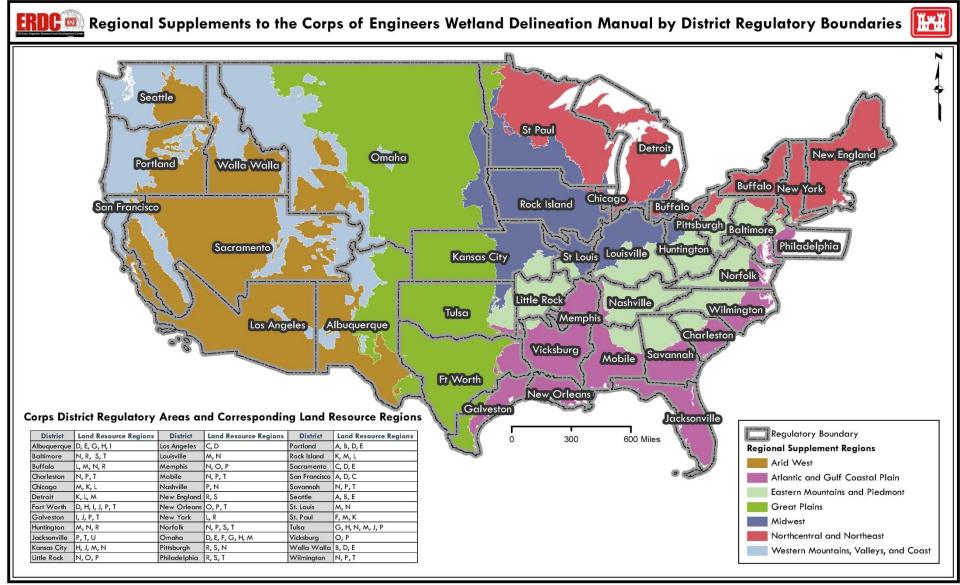
Why?

- To be technically and legally defensible, the manuals should reflect the state-ofthe-science
- Work with National Technical Committees to incorporate the best available procedures and approaches
- In a 1995 report, the National Academy of Sciences recommended that the Corps Manual be updated and regionalized



Regional Supplements







Regional Supplements





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Publication Schedule:

Regional Supplement

- Alaska
- Arid West
- Western Mountains, Valleys, and Coast
- Great Plains
- Midwest
- Atlantic and Gulf Coastal Plain
- Caribbean Islands
- Northcentral and Northeast
- Hawaii and Pacific Islands
 - **Eastern Mountains and Piedmont**

Published Published Published Published Published Published Published Published Published Published



Target Date

Steps in the development and implementation of a Regional Supplement

- Form a Regional Working Group of wetland experts
- Draft the Regional Supplement
- Review of the draft supplement by the interagency National Advisory Team (NAT)
- Review by an Independent Peer-Review Team
- Field test the draft supplement
- Release the draft supplement for public comment
- Finalize and publish
- Corps Districts in the region release Public Notices implementing the "interim" supplement for a 1-year trial
- Revise and publish Version 2.0
- Release Public Notices for final Regional Supplement implementation



Table 1. Sections of the Corps Manual replaced by this Regional Supplement for applications in the Atlantic and Gulf Coastal Plain Region.

ltem	Replaced Portions of the Corps Manual (Environmental Laboratory 1987)	Replacement Guidance (this Supplement)
Hydrophytic Vegetation Indicators	Paragraph 35, all subparts, and all references to specific indicators in Part IV	Chapter 2
Hydric Soil Indicators	Paragraphs 44 and 45, all subparts, and all references to specific indicators in Part IV	Chapter 3
Wetland Hydrology Indicators	Paragraph 49(b), all subparts, and all references to specific indicators in Part IV	Chapter 4
Growing Season Definition	Glossary	Chapter 4, Growing Season; Glossary
Hydrology Standard for Highly Disturbed or Problematic Wetland Situations	Paragraph 48, including Table 5 and the accompanying User Note in the online version of the Manual	Chapter 5, Wetlands that Periodically Lack Indicators of Wetland Hydrology, Procedure item 3(h)

Contents of a Regional Supplement

- 1. Description of the region
- 2. Hydrophytic vegetation indicators
- 3. Hydric soil indicators
- 4. Wetland hydrology indicators
- 5. Guidance for "difficult wetland situations" in the region
- 6. Data form, Glossary, References, Appendices



Supplement Datasheet

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site:			City/County:		Sampling	g Date:
Applicant/Owner:				State:	Sampling	Point:
investigator(s):			Section, Town	ship, Range:		
Landform (hillslope, terrace,	etc.):		Local relief (cr	incave, convex, none)		_ Slope (%):
Subregion (LRR or MLRA):		Lat		Long:		Datum:
Soil Map Unit Name:				N	WI classification:	
Are climatic / hydrologic con	ditions on the site typical	for this time of	year? Yes	No (if no.)	xplain in Remarks.)	
Are Vegetation, Soil	or Hydrology	significar	itly disturbed?	Are "Normal Circu	nstances" present?	Yes No
Are Venetation Soil	or Hydrology	naturally	problematic?	(If needed, explain	any answers in Rem	arks.)

Hydrophytic Vegetation Present?	Yes	No	Is the Sampled Area		
Hydric Soil Present?	Yes	No	within a Wetland?		
Wetland Hydrology Present?	Yes	No	within a wetlands	res	
Remarks:					

HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required						
Primary Indicators (minimum of one is rec	Surface Soil Cracks (B6)						
Surface Water (A1) High Water Table (A2) Saturation (A3) Wiater Marks (B1)		Water-Stained Leaves (B9)		Sparsely Vegetated Concave Surface (B8)			
		Aquatic Fauna (B13)		Drainage Patterns (B10)			
		Mari Deposits (B15) (LRR U)		Moss Trim Lines (B16) Dry-Season Water Table (C2)			
		Hydrogen Sulfide Odor (C1)					
Sediment Deposits (B2)		Oxidized Rhizospheres on Living	Roots (C3)	Crayfish Burrows (C8)			
Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)		Presence of Reduced Iron (C4)		Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)			
		Recent Iron Reduction in Tilled S	oils (C6)				
		Thin Muck Surface (C7)		Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery	(87)	 Other (Explain in Remarks) 		FAC-Neutral Test (D5)			
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			

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Atlantic and Gulf Coastal Plain Region - Interim Version

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?		Dominance Test wo		
1				Number of Dominant That Are OBL, FACW		(A)
2				Total Number of Dom	inant	
3				Species Across All St	rata:	(8)
4				Percent of Dominant :	Sponies	
5				That Are OBL, FACW	, or FAC:	(A/B
6			<u> </u>	Prevalence Index we		
7					Mutiply	100
and the second		= Total Cov	er	OBL species		
Saping Stratum (Plot size)				FACW species		
1		-				
2				FAC species		
3				FACU species		
4				UPL species		
5				Column Totals:	(A)	(B)
6				Prevalence Inde	ex = B/A =	
7				Hydrophytic Vegetal		
Shrub Stratum (Plot size)		= Total Cove	ər	Dominance Test		
				Prevalence Index		
1				Problematic Hydr	conhutic Vegetation ¹	(Evolain)
2				_ restance right	oprijue vegetation	(expany
3				¹ Indicators of hydric s	oil and wattand budy	ningu munt
4				be present, unless dis		
5				100000000000000000000000000000000000000		
6				Definitions of Veget	ation Strata:	
7				Tree - Woody plants,	excluding woody vi	nes,
Herb Stratum (Plot size:)		= Total Cove	er	approximately 20 ft (6 (7.6 cm) or larger in d	i m) or more in heigh liameter at breast he	t and 3 in. ight (DBH).
				Sapling - Woody pla	nts, excluding wood	vines.
2				approximately 20 ft (6	m) or more in heigh	t and less
3			<u> </u>	than 3 in. (7.6 cm) DE	BH.	
4				Shrub - Woody plant		
5				approximately 3 to 20	Ift (1 to 6 m) in heigh	M.
6				Herb - All herbaceou	s (non-woody) plant	s including
7				herbaceous vines, res	gardless of size. Inc	ludes woody
8				plants, except woody R (1 m) in height.	vines, less than app	roximately 3
9				and and an a survey		
10				Woody vine - All wo	ody vines, regardles	s of height.
11						
12						
		Total Cove	or			
Woody Vine Stratum (Plot size:)						
1						
2						
3						
4		22		Hydrophytic		
5				Vegetation		
		= Total Cove	er	Present? Y	res No	
Remarks: (If observed, list morphological adaptations be	low)		0			11

Atlantic and Gulf Coastal Plain Region - Interim Version

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	needed to document the indicator or confirm	
Nepth Matrix nches) Color (moist) %	Redox Features Color (moist) % Type Loc ²	Texture Remarks
	leduced Matrix, CS=Covered or Coated Sand Gra	
ydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Polyvalue Below Surface (S8) (LRR S, T, U)	
 Histic Epipedon (A2) 	Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black Histic (A3)	Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
_ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified Layers (A5)	Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic Bodies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	(MLRA 163B) Red Parent Material (TF2)
5 cm Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U)	 Depleted Dark Surface (F7) Redox Depressions (F8) 	Ked Parent Material (1F2) Very Shallow Dark Surface (TF12) (LRR T, U)
1 cm Muck (A9) (LRR P, T)	Mari (F10) (LRR U)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Iron-Manganese Masses (F12) (LRR O. P. 1	Indicators of hydrophytic vegetation and
Coast Prairie Redox (A16) (MLRA 150A)		wetland hydrology must be present,
Sandy Mucky Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)	unless disturbed or problematic.
Sandy Gleyed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)	
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 149	A)
Stripped Matrix (S6)	Anomalous Bright Loamy Soils (F20) (MLRA	
Dark Surface (S7) (LRR P, S, T, U)		
estrictive Layer (if observed):		
Type:		
Depth (inches):	-	Hydric Soil Present? Yes No
emarks:		Hydric Soil Present? Yes No

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Relationship to SWANCC and Rapanos

- Will have no effect on questions regarding Section 404 jurisdiction.
- Purpose of regionalizing the Corps Manual is to provide the most current scientific and technical information for identifying wetlands and determining their boundaries.
- Whether or not a wetland is regulated under Section 404 is an entirely different and separate issue.



Thanks to all of our partners in this effort Over 275 individuals participated!

State and Local

- Alaska Department of Environmental Conservation
- Arkansas Highway and Transportation Department
- Arkansas Multi-Agency Wetland Planning Team
- Florida Department of Environmental Protection
- Hawaii Department of Land and Natural Resources
- Indiana Department of Environmental Management
- Iowa Department of Transportation
- Lake County Illinois Forest Preserve
- Louisiana Department of Natural Resources
- Maine Department of Agriculture
- Maryland Department of the Environment
- Minnesota Board of Water and Soil Resources
- Minnesota Department of Environmental Quality
- Nebraska Game and Parks Commission
- New York Department of Environmental Conservation
- Ohio Environmental Protection Agency
- Oregon Department of State Lands
- Puerto Rico Department of Natural and Environmental Resources
- Southeast Wisconsin Planning Commission
- Tennessee Department of Environment and Conservation
- Texas Department of Transportation
- Texas Parks and Wildlife Department
- Toledo Ohio Metropolitan Park District
- Washington Department of Ecology

Federal

- US Army Corps of Engineers
- USDA Natural Resources Conservation Service
- US Environmental Protection Agency
- US Fish and Wildlife Service
- US Forest Service

University

- Austin Peay State University
- Colorado State University
- Stephen F. Austin State University
- Tennessee Tech University
- Texas A&M University
- University of Alaska
- University of Hawaii, Manoa

Other

Approximately 75 people, mostly private-sector experts, have served on independent peer-review teams for each Regional Supplement.





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National Technical Committee for Wetland Vegetation

Paul Minkin

5 June 2012



US Army Corps of Engineers – New England District

National Technical Committee for Wetland Vegetation (NTCWV)

- Established in 2007 to evaluate various technical and scientific vegetation topics related to wetland delineation
- Supports the process of the regionalization and update of the USACE Wetland Delineation Manual
- Supports the National Wetland Plant List (NWPL)

Responsibilities

Improving plant science in the wetlands regulatory programs by providing continuing technical leadership in the evaluation, formulation, and application of wetland vegetation sampling protocols, study design, and calculation methods for hydrophytic vegetation as used in Federal wetland delineation methods

Responsibilities (cont.)

 Advise and interact with the NWPL National Panel on concepts for assigning indicator statuses, lend support on technical issues (including indicator status challenges), and interact on needs for updates

NTCWV documents

Housed on NWPL website: <u>http://wetland_plants.usace.army.mil</u>

Meeting minutes

Publications

Products

Recommendations to USACE Headquarters and the National Advisory Team for Wetland Delineation concerning vegetation issues related to the identification of wetlands and the update and regionalization of the USACE Wetland Delineation Manual Technical support to the NWPL through the update process

Products (cont.)

Make recommendations for needed research and devise ways for such research to be undertaken.

- Work of full committee
- Work of committee subgroup
- Work of individual committee members and their parent organization
- Inter-university collaboration



ERDC/CRREL CR-12-1

and Engineering Laboratory

Cold Regions Research



US Army Corps of Engineers_® Engineer Research and Development Center

Defining Hydrophytes for Wetland Identification and Delineation

Ralph W. Tiner

January 2012

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US Army Corps of Engineers® Engineer Research and Development Center

Wetlands Regulatory Assistance Program

The Use of Bryophytes as Indicators of Hydric Soils and Wetland Hydrology during Wetland Delineations in the United States

Jennifer J. Gillrich and Keith C. Bowman

September 2010



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Growing Season Definition and Use in Wetland Delineation

A Literature Review

Karen Malone and Hans Williams

August 2010

Cold Regions Research and Engineering Laboratory

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Vegetation Sampling for Wetland Delineation

A Review and Synthesis of Methods and Sampling Issues

Edward Gage and David J. Cooper

July 2010

Cold Regions Research and Engineering Laboratory

Current Efforts

Developing appropriate, unbiased sampling methods for determining hydrophytic vegetation for the update of the USACE Wetland Delineation Manual

Designing challenge studies for NWPL indicator status challenges

