Regionalizing the Corps of Engineers Wetland Delineation Manual

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Funded by the Wetland Regulatory Assistance Program
Why?

- Regional variability in wetland conditions due to climate, geology, landforms, altitude, and biogeography
- Failure to regionalize can result in:
  - Inconsistent and controversial wetland determinations
  - Proliferation of “Problem Area” situations
Why?

- To be technically and legally defensible, the manuals should reflect the state-of-the-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

- Western Mountains, Valleys, and Coast
- Arid West
- Great Plains
- Northcentral and Northeast
- Eastern Mountains and Piedmont
- Atlantic and Gulf Coastal Plain
- Caribbean Islands
Regional Supplements to the Corps of Engineers Wetland Delineation Manual by District Regulatory Boundaries

Corps District Regulatory Areas and Corresponding Land Resource Regions

<table>
<thead>
<tr>
<th>District</th>
<th>Land Resource Regions</th>
<th>District</th>
<th>Land Resource Regions</th>
<th>District</th>
<th>Land Resource Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albuquerque</td>
<td>E, G, H, I</td>
<td>Los Angeles</td>
<td>C, D</td>
<td>Portland</td>
<td>A, B, D, E</td>
</tr>
<tr>
<td>Baltimore</td>
<td>H, R, S, T</td>
<td>Louisville</td>
<td>M, N</td>
<td>Rock Island</td>
<td>K, M, L</td>
</tr>
<tr>
<td>Buffalo</td>
<td>J, M, N, P</td>
<td>Memphis</td>
<td>N, O, P</td>
<td>Sacramento</td>
<td>C, D, E</td>
</tr>
<tr>
<td>Charleston</td>
<td>M, P, T</td>
<td>Mobile</td>
<td>N, P, T</td>
<td>San Francisco</td>
<td>A, D, C</td>
</tr>
<tr>
<td>Chicago</td>
<td>M, K, L</td>
<td>Nashville</td>
<td>P, N</td>
<td>Savannah</td>
<td>N, P, T</td>
</tr>
<tr>
<td>Fort Worth</td>
<td>O, H, I, J, P, T</td>
<td>New Orleans</td>
<td>O, P, T</td>
<td>St. Louis</td>
<td>M, N</td>
</tr>
<tr>
<td>Jacksonville</td>
<td>P, T, U</td>
<td>Omaha</td>
<td>D, E, F, G, H, M</td>
<td>Vicksburg</td>
<td>O, P</td>
</tr>
<tr>
<td>Kansas City</td>
<td>M, J, W, H</td>
<td>Pittsburgh</td>
<td>E, S, N</td>
<td>Walla Walla</td>
<td>B, D, E</td>
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</table>
Regional Supplements
**Publication Schedule:**

<table>
<thead>
<tr>
<th>Regional Supplement</th>
<th>Target Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>Published</td>
</tr>
<tr>
<td>Arid West</td>
<td>Published</td>
</tr>
<tr>
<td>Western Mountains, Valleys, and Coast</td>
<td>Published</td>
</tr>
<tr>
<td>Great Plains</td>
<td>Published</td>
</tr>
<tr>
<td>Midwest</td>
<td>Published</td>
</tr>
<tr>
<td>Atlantic and Gulf Coastal Plain</td>
<td>Published</td>
</tr>
<tr>
<td>Caribbean Islands</td>
<td>Published</td>
</tr>
<tr>
<td>Northcentral and Northeast</td>
<td>Published</td>
</tr>
<tr>
<td>Hawaii and Pacific Islands</td>
<td>Published</td>
</tr>
<tr>
<td>Eastern Mountains and Piedmont</td>
<td>Published</td>
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</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Replaced Portions of the Corps Manual (Environmental Laboratory 1987)</th>
<th>Replacement Guidance (this Supplement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrophytic Vegetation Indicators</td>
<td>Paragraph 35, all subparts, and all references to specific indicators in Part IV</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>Hydric Soil Indicators</td>
<td>Paragraphs 44 and 45, all subparts, and all references to specific indicators in Part IV</td>
<td>Chapter 3</td>
</tr>
<tr>
<td>Wetland Hydrology Indicators</td>
<td>Paragraph 49(b), all subparts, and all references to specific indicators in Part IV</td>
<td>Chapter 4</td>
</tr>
<tr>
<td>Growing Season Definition</td>
<td>Glossary</td>
<td>Chapter 4, Growing Season; Glossary</td>
</tr>
<tr>
<td>Hydrology Standard for Highly Disturbed or Problematic Wetland Situations</td>
<td>Paragraph 48, including Table 5 and the accompanying User Note in the online version of the Manual</td>
<td>Chapter 5, Wetlands that Periodically Lack Indicators of Wetland Hydrology, Procedure item 3(h)</td>
</tr>
</tbody>
</table>
## 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
**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

**Project Site:** [Field Project Site]  
**City/County:** [Field City/County]  
**Sampling Date:** [Date]

**Investigator:** [Name]  
**Site:** [Site Code]  
**Land Use:** [Use]  
**Location:** [Location]  
**Substrate:** [Substrate Type]  
**Landform:** [Landform Type]  
**Mall:** [Mall Type]

**Soil Map Unit Name:** [Unit Name]

**HYDROLOGY**

<table>
<thead>
<tr>
<th>Primary Indicator</th>
<th>Secondary Indicator</th>
<th>Other Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Water (A)</td>
<td>[Type]</td>
<td>[Type]</td>
</tr>
<tr>
<td>Groundwater (B)</td>
<td>[Type]</td>
<td>[Type]</td>
</tr>
<tr>
<td>Surface Drainage</td>
<td>[Type]</td>
<td>[Type]</td>
</tr>
</tbody>
</table>

**Vegetation**

<table>
<thead>
<tr>
<th>Sampling Unit</th>
<th>[Type]</th>
<th>[Indication]</th>
<th>[Type]</th>
<th>[Indication]</th>
<th>[Type]</th>
<th>[Indication]</th>
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</thead>
<tbody>
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</table>

**Sediment:**

**Vegetation Present:** Yes  
**Soil Substrate:** [Substrate]  
**Hydrology Present:** Yes  
**Vegetation:** [Type]

**SOIL**

<table>
<thead>
<tr>
<th>Soil Description</th>
<th>[Description]</th>
<th>[Soil Type]</th>
<th>[Soil Color]</th>
<th>[Soil Texture]</th>
<th>[Soil Structure]</th>
<th>[Soil Moisture]</th>
</tr>
</thead>
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</tbody>
</table>

**Sedimentary Rock:** Yes  
**Geologic:** [Type]  
**Hydrologic:** [Type]  

**LEGEND**

- [Legend]

**NOTES**

- [Notes]

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**BUILDING STRONG**
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.
National Technical Committee for Wetland Vegetation

Paul Minkin

5 June 2012
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.
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.
NCTCWV documents

- Housed on NWPL website: http://wetland_plants.usace.army.mil

- 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
Defining Hydrophytes for Wetland Identification and Delineation

Ralph W. Tiner

January 2012
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
Growing Season Definition 
and Use in Wetland Delineation

A Literature Review

Karen Malone and Hans Williams

August 2010

Approved for public release; distribution is unlimited.
Vegetation Sampling for Wetland Delineation
A Review and Synthesis of Methods and Sampling Issues
Edward Gage and David J. Cooper

July 2010
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