Hydrogeomorphic (HGM) Guidebooks to Ecosystem Assessment

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Background:

- HGM developed as a method to assess wetland functions in 1997
- Classification developed by Brinson (1993) based on:
  - Geomorphic setting
  - Hydrodynamics
  - Wetlands regional subclasses

Purpose:

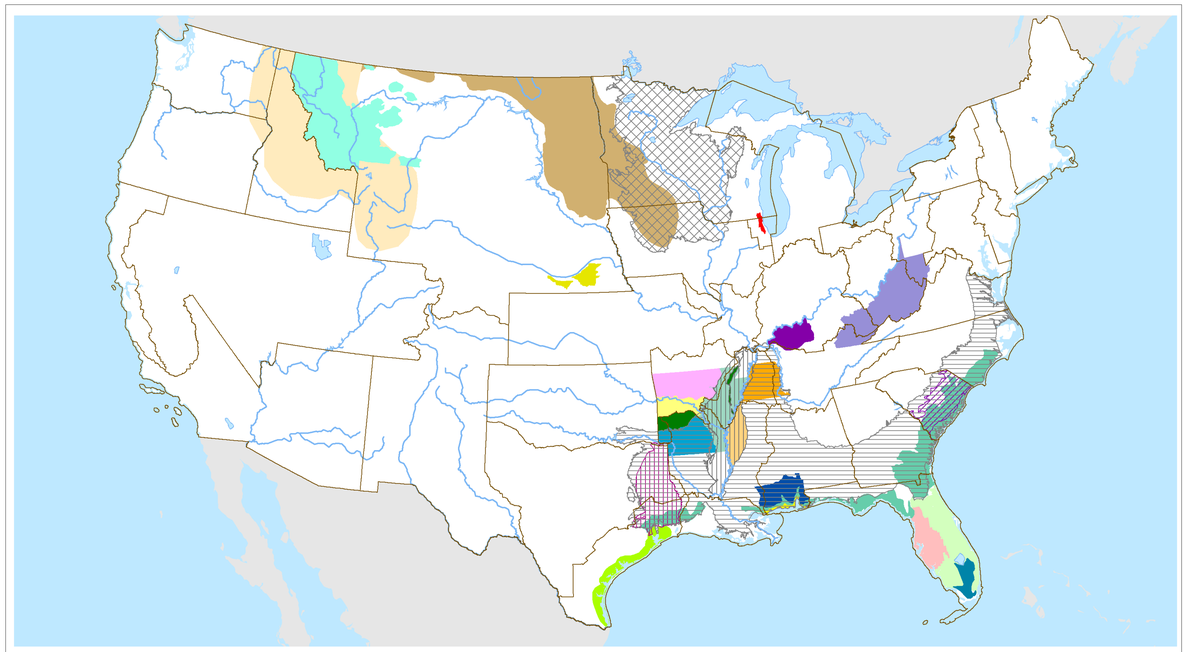
- Rapid method (1/2 day or less) to assess wetland functions
- Apply nearly any time of the year
- Easily applied with limited training
- Consistent results between groups

Application of HGM Regional Guidebooks:

- Comparison of current condition
- Compare pre-project condition to post-project condition
- Determine mitigation requirements
- Assess mitigation results
- Assess enhancement/restoration results
- Compare condition of two or more wetlands of the same subclass
- Impact avoidance and minimization
- Planning tool

Contents of a HGM Regional Guidebook:

- Background of HGM Approach
- Description of the geographic region where the assessment applies
- Description of indices (variables) measured
- Description of Functions used to assess wetland subclasses
- Models used to determine a Functional Capacity compared to Reference Standard wetlands
- Assessment protocol
- Data forms



Domains Of Published and In Prep (Open Grey Symbols) HGM Guidebooks

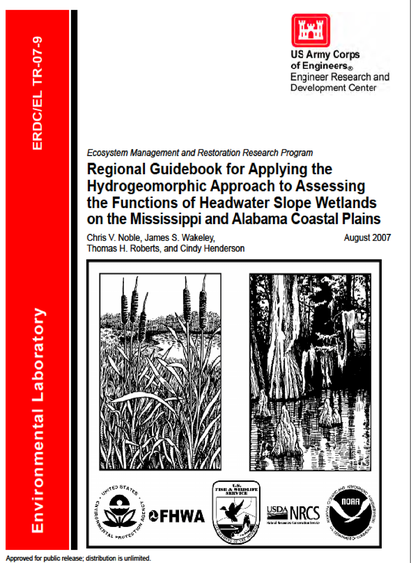
- District Boundaries
- Lower Mississippi Valley*
- Southeastern Coastal Plain*
- MN/WI Organic Flats
- East TX Alluvial Valleys*
- SC Headwater Slopes
- KY/WV High Gradient Streams
- Intermontane Prairie Potholes
- Rocky Mountain Riverine Floodplains
- Prairie Potholes
- Upper Des Plaines Basin Depressions
- Rain Water Basins
- W-KY Riverine
- W-TN Low Gradient Riverine
- AR Ozarks*
- AR Arkansas Valley*
- AR Ouachitas & Crowleys Ridge*
- AR Coastal Plain*
- AR Delta*
- Yazoo Basin*
- MS/AL Fringe
- Wet Pine Mineral Flats
- MS/AL Headwater Slopes
- NW Gulf Tidal Fringe
- Everglades Marl & Rocky Organic Flats
- FL Low Gradient Blackwater Hardwood Forests
- FL Cypress & Herbaceous Depressions

* Multiple subclasses included.

HGM Classification – based on geomorphic position, water source, and hydrologic flow (Brinson 1993):

Depression	Depression wetlands occur in topographic depressions that allow the accumulation of surface water. Prairie potholes, vernal pools, and cypress domes are examples of depression wetlands.
Tidal Fringe	Tidal fringe wetlands occur along coasts and estuaries and are under the influence of sea level. *Spartina alterniflora* salt marshes are an example of tidal fringe wetlands.
Lacustrine Fringe	Lacustrine fringe wetlands are adjacent to lakes where the water elevation of the lake maintains the water table in the wetland. Unimpounded marshes bordering the Great Lakes are an example of lacustrine fringe wetlands.
Slope	Slope wetlands are found in association with the discharge of groundwater to the land surface or sites with saturated overflow with no channel formation. Fens are an example of slope wetlands.
Mineral Soil Flats	Mineral soil flats are most common on interfluves, extensive relic lake bottoms, or large floodplain terraces where the main source of water is precipitation. Pine flatwoods with hydric soils are an example of mineral soil flat wetlands.
Organic Soil Flats	Organic soil flats, or extensive peatlands, differ from mineral soil flats in part because their elevation and topography are controlled by vertical accretion of organic matter. Portions of the Everglades and northern Minnesota peatlands are examples of organic soil flat wetlands.
Riverine	Riverine wetlands occur in floodplains and riparian corridors in association with stream channels. Bottomland hardwoods on floodplains are an example of riverine wetlands.

Published HGM Regional Guidebooks:	Date
Low Gradient Riverine Wetlands in Western Kentucky	1999
Multiple Subclass within the Yazoo Basin, Lower MS River Alluvial Valley	2002
Tidal Fringe Wetlands of Northwest Gulf of Mexico	2002
Low-Gradient Riverine Wetlands in Western Tennessee	2002
Prairie Pothole Wetlands in the Northern Rocky Mountains	2002
Wet Pine Flats on Mineral Soils in the Atlantic and Gulf Coastal Plains	2002
Flats Wetlands in the Everglades	2002
Riverine Wetlands in the Northern Rocky Mountains	2002
Low-Gradient, Blackwater Riverine Wetlands in Peninsular Florida	2003
Depressional Wetlands in Peninsular Florida	2004
Rainwater Basin Depressional Wetlands in Nebraska	2004
Forested Wetlands in the Delta Region of Arkansas	2004
Forested Wetlands in the West Gulf Coastal Plain Region of Arkansas	2005
Depressional Wetlands in the Upper Des Plaines River Basin	2006
Prairie Potholes in the Northern Great Plains	2006
Wetland and Riparian Forested in the Ouachita Mountains and Crowley's Ridge Region of Arkansas	2006
Tidal Fringe Wetlands Along the Mississippi and Alabama Coastal Plains	2007
Headwater Slope Wetlands in Mississippi and Alabama	2007
Forested Wetlands in the Arkansas Valley Region of Arkansas	2008
Forested Wetlands and Riparian Areas in the Ozark Mountains Region of Arkansas	2008
High-Gradient Headwater Ephemeral and Intermittent Streams in Eastern Kentucky and Western West Virginia	2010
Headwater Slope Wetlands in South Carolina	2010
Riverine and Depressional Wetlands in Eastern Texas	2010
Low-gradient Riverine Wetlands in the Coastal Plain	2012
Organic Flats Wetlands in Minnesota and Wisconsin	2012
Flats and Depressional Wetlands in Central Tennessee	2012
Lower Mississippi Valley	2012



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For information and updates

http://el.erdc.usace.army.mil/wetlands/hgmhp.html