Coastal Wetlands Monitoring Workgroup

March 17, 2016

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Agenda

- Re-cap from the February Meeting
  - Definition of Coastal Wetlands
  - Discussion of data to be included in database
  - Overview of Database designs
- Organizations and Monitoring Programs
  - March to April – identify and collect information
- Stations and Parameters
  - Start with small set of data
  - Present finding in April
  - April – May – data collection
- Planning for next in-person meeting
  - Tentative locations

Participants in February meeting

Remote Participants:

Brandon Puckett
Bryan Rabon
Chuck Jacoby
Kelly Reiss
Peter Kalla
Rhonda Evans
Rick Viso
Ryan Moyer
Tancred Miller
Liz Sullivan (RTI)

Thank you to Denise for being our host!

In-person Participants:

J. Cho
Cyndi Karoly
David Chestnut
Dean Carpenter
Denise Sanger
Dominic Guadagnoli
Jan MacKinnon
Jessica O'Connell
Kara Radabaugh
Katy Smith
Kristine Cherry
Nicole Rankin
Rusty Wenerick

Coastal Wetland Definition

- **Broadly defined as:**
  - saltwater and freshwater wetlands located within USGS 8-digit hydrologic unit watersheds
  - (Used by EPA and NOAA)

Includes:

- SAV
- Oyster reefs
- Mitigation sites
- Impoundments

Cowardin et al (1979)

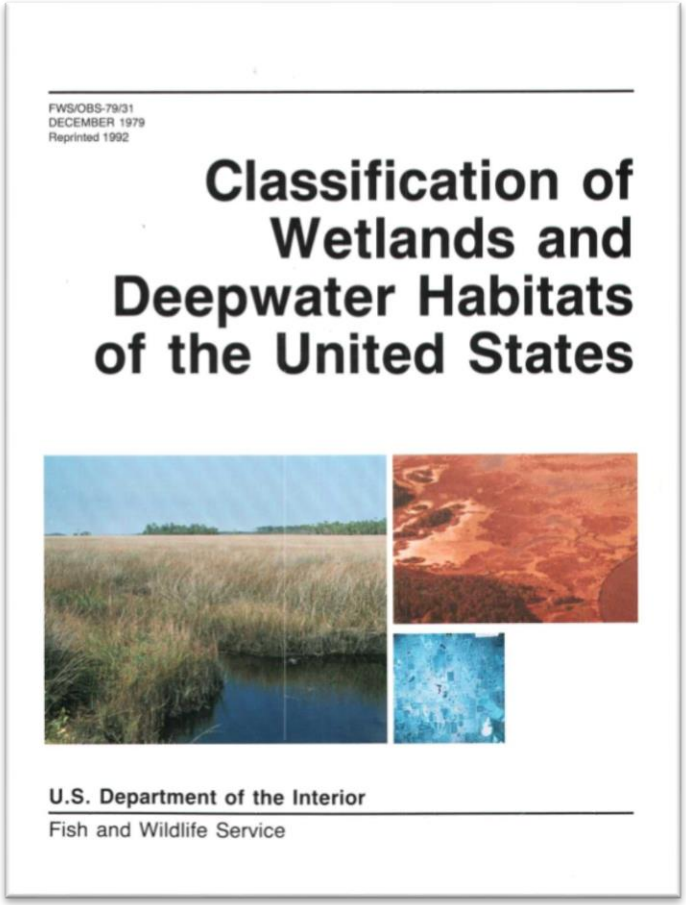
WETLANDS are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must have one or more of the following three attributes:

(1) at least periodically, the land supports predominantly hydrophytes;'

(2) the substrate is predominantly undrained hydric soil; and

(3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

vs. Deepwater Habitat

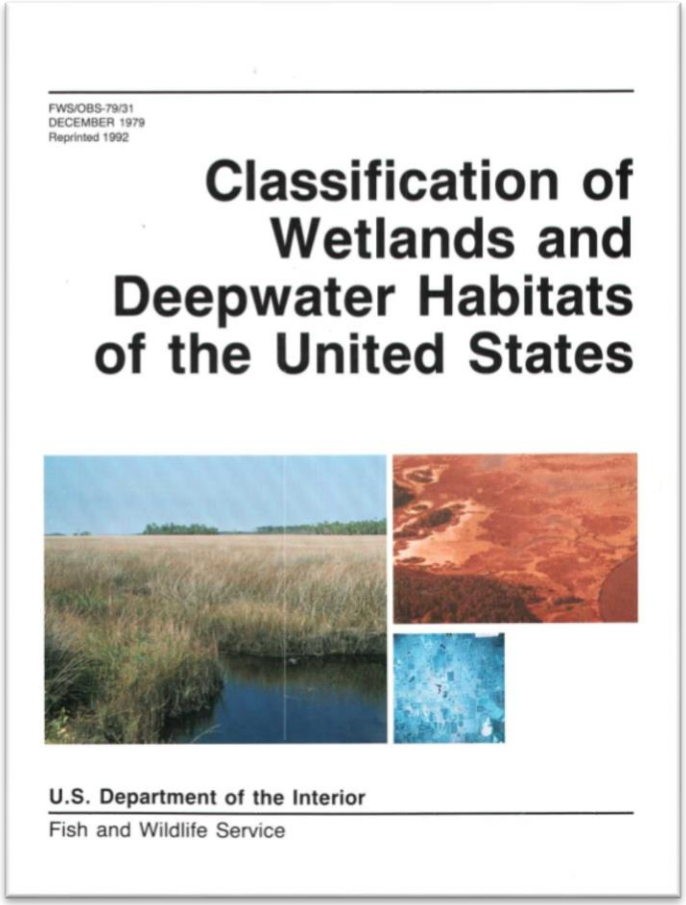


http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf

Cowardin et al (1979)

DEEPWATER HABITATS are permanently flooded lands lying below the deepwater boundary of wetlands .

Deepwater habitats include environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live, whether or not they are attached to the substrate . As in wetlands, the dominant plants are hydrophytes; however, the substrates are considered nonsoil because the water is too deep to support emergent vegetation.



http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf

Cowardin et al (1979)

UPLAND LIMIT

The upland limit of wetland is designated as (1) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover; (2) the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric ; or (3) in the case of wetlands without vegetation or soil, the boundary between land that is flooded or saturated at some time during the growing season each year and land that is not.

Open Water LIMIT

The boundary between wetland and deepwater habitat in the *Marine and Estuarine Systems* coincides with the elevation of the extreme low water of spring tide; permanently flooded areas are considered deepwater habitats in these Systems.

The boundary between wetland and deepwater habitat in the *Riverine and Lacustrine Systems* lies at a depth of 2 m (6.6 feet) below low water; however, if emergents, shrubs, or trees grow beyond this depth at any time, their deepwater edge is the boundary.

http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf

Decision Point

- HOWEVER, rather than limit the database to just “wetland” data, the group decided that the database should include data not only for coastal wetlands but also **monitoring data associated with coastal wetlands such as nearby water quality from deep water habitats and oyster reefs.**

- Each station will be identified as “wetland” or “non-wetland”.

- Priority is on wetland data, but non-wetland data is not excluded from the database.

Overview of Database Structure

Components	Description
Organization	Main agency or organization that administers or oversees the monitoring program
Monitoring Program	Individual division or unit within the organization that is responsible for collecting the monitoring data
Station or Site Information	Specific information about the wetland and sites within the wetland
Parameters	List of data or information collected at the station or site

Organization or Owner Information

Field Name	Field Description	Required (y/n)
OrgName	Official Name of the organization	y
Acronym	Abbreviation or acronym of organization	y
WebsiteURL	Link to website of Owner Organization	y
Description	Short paragraph describing the Owner Organization	y
Type	government, education, non-profit, other	y
ContactName	First and last name of contact person	y
ContactPhone	Phone number for the organization	y
ContactEmail	Email address for the organization	y
ContactName2	Secondary Contact Name	n
ContactPhone2	Phone number for the organization	n
ContactEmail2	Email address for the organization	n
Owner_updated	Date Owner Information was last reviewed/updated.	y* (autogenerated)

Monitoring Program

Field Name	Field Description	Required (y/n)
OrgID	Auto generated, unique ID number	y*
ProgramName	Monitoring Program under which the site or station is operate	y
ProgramAcronym	Abbreviation or acronym of Monitoring Program	y
ProgramDescription	Short paragraph describing the Monitoring Program	y
ProgramURL	Address (URL) for a webpage for the Monitoring Program	n
ProgramScale	Scale of program: regional (multi-state), state, or local	n
ProgramQA	Quality of data: Does the program have an EPA-approved QAPP; were standard protocols used, etc.	n

Station Information

Field Name	Field Description	Required (y/n)
OrgID	Auto generated	y*
SiteName	Full name of the site of station	y
SiteCode	Code or short name used as the site or station identifier within the monitoring program	y
Description	Description of the site or station - Add explanation of Lat/Long.	y
State	Two letter abbreviation of the state where the station is located	y
CountyFIPS	County where the station is located (ability to have more than one county since station could occur on boundary or area is multiple counties)	n
LatDD	Latitude of station in Decimal Degree - How accurate should the locations be? Station location may be sensitive. Could bound the entire area by a box.	y
LongDD	Longitude of station in decimal degree	y
Waterbody Name	Potentially finer resolution than name of the HUC8. Suggest using USGS official place name.	n
Waterbody classification	Based on state classification system - Use classes. i.e., regulatory classification.	n
HUC8	8-digit Hydrologic Unit Code - could be autogenerated based on HUC8	n
HUC10	10-digit Hydrologic Unit Code - could be autogenerated	n
HUC12	12-digit Hydrologic Unit Code - could be autogenerated	n
Wetland	Is the station a wetland?	y
WetlandType	General type of wetland - similar to NCWAM classification of wetlands	y
CowardinType	Wetland classification codes are a series of letters and numbers that are used by the National Wetlands Inventory and defined by Cowardin et al (1979). More information: http://www.fws.gov/wetlands/data/wetland-codes.html	n
HGM_Type	The hydrogeomorphic approach to assessing wetland function. Seven wetland classes defined by Brinson (1993): depression, riverine, mineral flats, organic flats, tidal fringe, lacustrine fringe, slopes. More information: http://el.erdc.usace.army.mil/wetlands/class.html	n
DateStart	Date the monitoring activity started	y
DateEnd	Date the monitoring activity ended (blank for ongoing)	y
DateUpdated	Date the information was uploaded or revised; Auto generated	y*
Sample_Design	Design of the Monitoring program - could be at a higher level?	y
Sample_Design_Description	Provide additional information about the sample design	
StnPurpose	Additional description of the purpose of the monitoring station; for example, long-term trend, condition assessment; reference site; etc.	n
StnURL	Address (URL) for a webpage or FTP sites for obtaining data from the site or station	n
PropertyOwnership	Land ownership of the monitoring station - public, private, land trust	

Initial Focus: Organizations and Monitoring Programs

- North Carolina Department of Environmental Quality, Division of Water Resources
  - Data collected from 2004-2014 (mostly non-tidal wetlands)
  - 184 monitoring stations, database development in progress
  - Cyndi Karoly and Kristie Gianopulos

- Florida's Coastal Habitat integrated Mapping and Monitoring (CHIMP)
  - Program focuses on mangroves, salt marsh, and seagrasses
  - Kara Radabaugh

- U.S. Fish and Wildlife Service, National Wildlife Refuge System
  - Nicole Rankin

- Guana Tolomato Matanzas National Estuarine Research Reserve
  - Data collected since early 2000s
  - Vegetation, weather and water quality data
  - Contained in existing database
  - Nikki Dix

Considerations and Prioritization

- Should their be any time limits on age of the data or monitoring program?
  - NO
- Should their be a limit on the type of organizations and programs in the data base. For example, federal and state funded programs or only data with a Quality Assurance program?
  - There should not be a limit, but the database should identify if the monitoring program has a QA program.
- Should their be an emphasis on governmental agencies?
  - There will be an emphasis on capturing all state agencies.
- Can an organization or program be listed even if they don't want to share station information?
  - Yes.

Monitoring Programs

North Carolina

- North Carolina DEQ: DWR Water Science Branch
- North Carolina DEQ: Recreational Water Quality and Shellfish Sanitation Monitoring
- North Carolina NERRS Monitoring Program
- Albemarle-Pamlico NEP
- NOAA (Morehead City)
- Marine Corps Base, Camp Lejeune

South Carolina

- Ace Basin NERR Monitoring Program
- South Carolina Ambient Surface Physical and Chemical Water Monitoring Network
- South Carolina DHEC Beach Monitoring Program
- South Carolina DHEC Shellfish Sanitation Program
- South Carolina Estuarine and Coastal Assessment Program (SCECAP)
- North Inlet Winyah Bay NEERS

Georgia

- Georgia EPD Wetland Monitoring
- Georgia DNR Nutrient Monitoring in Coastal Rivers, Sounds and Estuaries
- Georgia DNR Shellfish Water Quality
- Sapelo Island NERR Monitoring Program
- GCE LTER
- University of Georgia's MAREX
- NCCOS: Georgia Coastal Analysis Partnership
- NCCOS: National Benthic Inventory Program

Florida

- Guana Tolomato Matanzas NERR Monitoring Program
- FL St. Johns River Water Management District
- Florida DEP Integrated Water Resource Monitoring Network
- Florida's South Florida Water Management District (SFWMD)
- Florida Fish & Wildlife Research Institute

Multi-state

- EPA NARS
- National Park Service

What programs are missing?
What about universities? Should they be targeted for data?

Next Steps for Database Development

- March 17 – Workgroup Teleconference
- Late March – April
  - Focus on limited group of monitoring programs and parameters
  - Obtain Organization and Monitoring information
- April 21
  - Review classification of limited group
  - Refine list of target monitoring programs and organizations
- April – May
  - Develop database and contact organizations and monitoring programs
- June
  - Present the draft database

June Meeting

Purpose:

- Provide comments on the “Beta” version of the database
- Review of state wetland monitoring efforts

Discussion Topics:

- What information would you like to know from other states/agencies?
- How would this information enhance your program?

Logistics:

- Kim will send a doodle to obtain availability
- Possible locations to host the meeting
  - Point Verde, FL (GTM NEERS)
  - Raleigh, NC
  - Other suggestions? [Note: The third meeting in the Fall would be in Georgia.]