

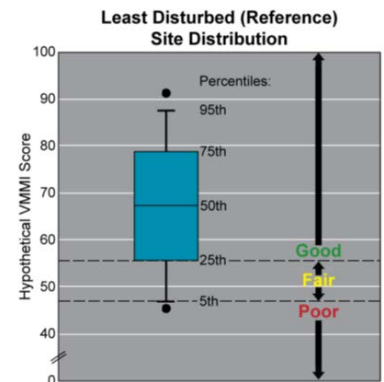
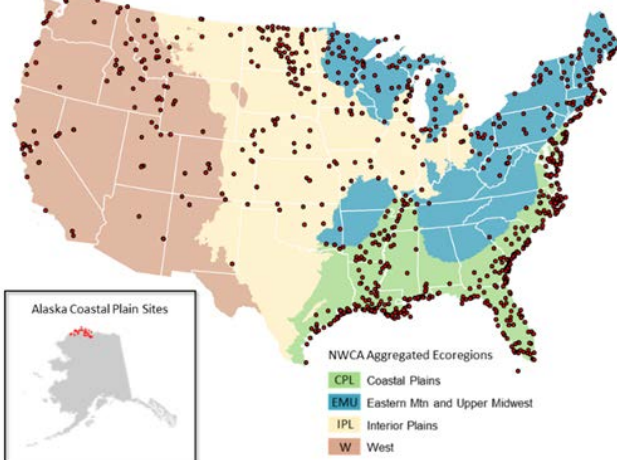
Accessing and using NWCA data

NEBAWWG-MAWWG Joint Meeting

Gregg Serenbetz

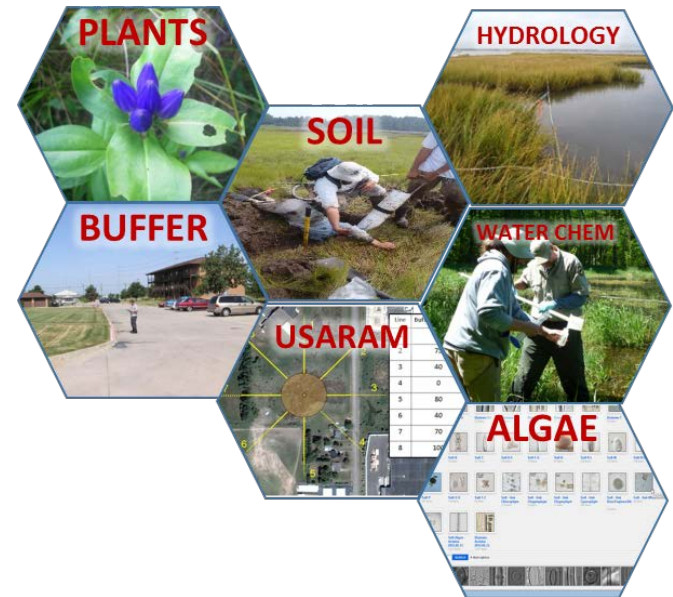
US EPA Wetlands Division

NWCA 2011 Sampled Sites



NWCA data overview

- Field and lab data collected in 2011
 - Plants
 - Soils
 - Hydrology
 - Water
 - Algae
 - Buffer/USA Ram
- Derived datasets
 - Site Information
 - Reference condition
 - Screening criteria scores
 - Indicators of condition/stress
 - All 2011 report indicators and sub-metrics
 - Vegetation metrics
 - 500+ metrics calculated by T. Magee
 - List is in technical report (brought print-outs)
 - Landscape metrics
 - GIS derived metrics
 - NLCD, NADP, PRISM climate data, geology....



Accessing NWCA data

Data from the National Aquatic Resource Surveys

To download the data: The following data are available for download as comma separated values (.csv) files. Sort the table using the pull down menus or headers to more easily locate the data. Right click on the file name and select *Save Link As* to save the file to your computer. Make sure to also download the companion metadata file (.txt) for the list of field labels. See the [survey technical document](#) for more information on the data analyses.

Filter data by survey: Wetlands 2011

Filter data by indicator: All Indicators

Survey	Indicator	Data	Metadata
Wetlands 2011	Algal Toxin	NWCA 2011 Algal Toxin - Data (CSV) (1 pg, 53 K)	NWCA 2011 Algal Toxin - Metadata (TXT) (1 pg, 782 B)
Wetlands 2011	All Indicators	NWCA 2011 Condition and Stressor Indicator Values - Data (CSV) (1 pg, 351 K)	NWCA 2011 Condition and Stressor Indicator Values - Metadata (TXT) (1 pg, 7 K)
Wetlands 2011	Buffer	NWCA 2011 Buffer Characterization	NWCA 2011 Buffer Characterization

Exploring data

- Combining datasets
 - UID is key!
 - Site_ID is not unique
- Structure of data
 - One row of data per UID
 - Summary results
 - Multiple rows per UID
 - Vegetation (plots)
 - Soil profiles (pits/horizons)
 - Be aware when sorting
- EPA looking to develop “best of” datasets

UID	ECO_X_WETGRP	SITE_ID	VISIT_NO
2812	ALL-EH	NWCA11-1002	1
3473	ALL-EH	NWCA11-1002	2
3796	CPL-PRLW	NWCA11-1003	2
3955	CPL-PRLW	NWCA11-1003	1
3981	ALL-EW	NWCA11-1005	1
2776	CPL-PRLW	NWCA11-1006	1
5055	CPL-PRLW	NWCA11-1007	1
5059	ALL-EW	NWCA11-1009	1
3562	ALL-EH	NWCA11-1010	1
3265	CPL-PRLW	NWCA11-1011	1
3239	CPL-PRLW	NWCA11-1014	1
5060	CPL-PRLW	NWCA11-1015	1
3471	ALL-EH	NWCA11-1017	1
3982	ALL-EW	NWCA11-1019	1
3738	CPL-PRLW	NWCA11-1020	1
3469	ALL-EH	NWCA11-1021	1
5061	ALL-EW	NWCA11-1023	1
3980	ALL-EW	NWCA11-1027	1
3795	CPL-PRLW	NWCA11-1028	1

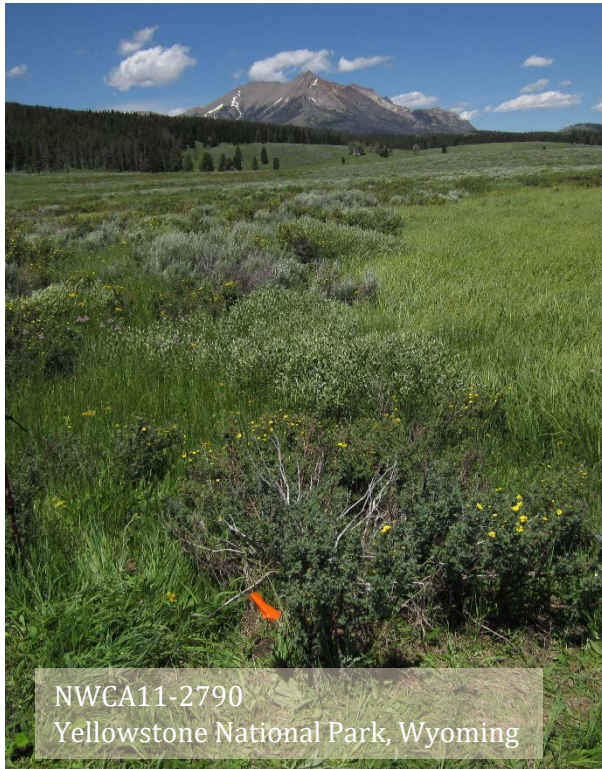
Example

- Combining vegetation metrics with disturbance data
 - 500+ vegetation metrics calculated for each NWCA sampling location
 - https://www.epa.gov/sites/production/files/2016-10/nwca2011_vegmetrics.csv
 - Sampling locations categorized by field and lab-based disturbance data
 - 4 categories (minimally, least, intermediate, and most disturbed)
 - Screening criteria applied for all sampled locations (probability and hand-picked “reference”)
 - Contained in Site Information file
 - https://www.epa.gov/sites/production/files/2016-10/nwca2011_siteinfo.csv

Further Uses of NWCA data

- Soil data
 - Carbon
 - Profile data
 - Indirect measures of hydrology
 - Evidence of disturbance
- Evaluation of current wetland field indicators
 - development of new field indicators?
- Validating FWS S&T and NWI maps
- Reference condition
 - Establishing reference networks
 - Evaluating compensatory mitigation, voluntary restoration sites

Reference Condition in NWCA



- Defined as least-disturbed
- All sampled sites are considered as possible reference sites for data-analysis
 - Probability-based and “hand-picked”
 - Handpicked sites not automatically deemed reference
- Sites screened using data collected in NWCA from both field and lab
 - No outside datasets (i.e., NLCD, LDI)
 - Same screening criteria used for all sites but regionally-based
- Used to
 - Test metrics for indicators of condition and stress
 - Set thresholds for condition/stress categories (i.e., good, fair, poor or low, moderate, high)

Applying reference data from NWCA for other purposes

- NWCA reference designations are for specific locations, not specific wetlands
 - ½ hectare sampling area in wetland that is 100s of hectares large may be in least-disturbed reference condition but does not mean entire wetland is (and vice-versa for most-disturbed)
- NWCA provides ample data on characteristics of wetland locations across the spectrum of condition gradients
 - Extensive plant and soil data
 - 1000 sites nationally after 2011
 - 1800 sites nationally after 2016
 - Possible changes in condition at 200+ sites sampled in both 2011 and 2016



NWCA 2016 Summary

- Last site sampled Friday (southern FL)
- 1,164 sampling events
 - 1,063 unique sites
 - 200+ repeat sites from 2011
 - 59 state, tribal, EPA and contract crews
- 28,500 samples collected
 - Water samples at 65% of sites
 - Soil samples at 98% of sites
 - Plants samples at 99% of sites