

## **Session H2: Results from State and Regional Wetlands Assessments**

Room A106  
8:00 – 9:30 am

**0059**  
**H2-1**

### **CRAM Results from the 2011 NWCA Sampling Season**

Cara Clark and Kevin O'Connor

*Moss Landing Marine Laboratories, Moss Landing, Calif., USA*

California's implementation of the 2011 National Wetland Condition Assessment (NWCA) included monitoring using the California Rapid Assessment Method (CRAM) as well as the standard parameters. CRAM is a tool designed to assess the habitat condition of wetlands and riparian areas. The method has four universal attributes which quantify overall condition: Buffer and Landscape Context, Hydrology, Physical and Biotic Structure. Each attribute has two or more metrics used to assess condition, and the attribute scores are averaged to yield an overall index score which reflects the condition of the wetland. CRAM has been used to characterize wetland condition within watersheds, regions and the entire state using a probabilistic ambient survey which results in a cumulative frequency distribution (CFD) for the area surveyed. The study sites from NWCA will be used to generate a CFD of CRAM index scores, although it should be noted that limitations in the sample selection process may mean this is not representative of California. The CRAM methodology for delineating an Assessment Area (AA) will be compared to the NWCA AA delineation rules. Future work will involve developing a stressor index similar to USA RAM to be used with CRAM. The data from NWCA 2011 may be used as part of a larger effort to validate the CRAM depressional wetland module by looking for correlations between CRAM metrics, attributes and index scores and level three data collected for NWCA.

**0060**  
**H2-2**

### **Evaluating the Range of Natural Variability in Wetlands: Lessons Learned from the Rocky Mountain ReMAP Project**

Linda Vance<sup>1</sup>, Joanna Lemly<sup>2</sup> and Karen Newlon<sup>1</sup>

<sup>1</sup>*Univ. of Montana, Montana Natural Heritage Program, Helena, Mont., USA,* <sup>2</sup>*Colorado State Univ., Colorado Natural Heritage Program, Fort Collins, Colo., USA*

The EPA-funded Rocky Mountain ReMAP project was designed to 1) identify reference standard wetlands in four Level III ecoregions in Montana, Utah, Wyoming and Colorado; 2) evaluate the range of natural variability for four wetland ecological systems (riparian shrublands, fens, marshes and wet meadows) and 3) identify whether commonly-used wetland assessment metrics have the potential to discriminate between signal and noise. We used a GIS-based landscape integrity screen to identify minimally disturbed landscapes, then used a Generalized Random Tessellation Stratified sampling design to select field sites. Metrics for field surveys were refined from ecological integrity assessment methods developed in Colorado and Montana. Field crews assessed sites in 2010 and 2011. Survey data were analyzed to identify patterns and correlations between indicators and environmental gradients, and to determine the sensitivity of individual metrics. In this presentation, we will offer a summary of our findings, then discuss lessons learned for future wetland assessments, with an emphasis on design, sampling strategies, metric selection and data analysis.

**0196**  
**H2-3**

### **Ohio's Intensification of the National Wetland Condition Assessment**

Brian Gara<sup>1</sup>, Bill Schumacher<sup>1</sup> and Martin Stapanian<sup>2</sup>

<sup>1</sup>*Ohio EPA, Groveport, Oh., USA,* <sup>2</sup>*US Geological Survey, Great Lakes Science Center, Sandusky, Oh., USA*

The Ohio EPA Wetland Ecology Group is conducting an intensification of the National Wetland Condition Assessment (NWCA) by monitoring a total of 50 wetlands located throughout Ohio over a three year period (2011- 2013). The Ohio intensification incorporates the NWCA protocols, as well as those for the Level 2 (Ohio Rapid Assessment Method for Wetlands) and Level 3 (Vegetation Index of Biotic Integrity) assessment techniques which have been critical elements in Ohio's 401 regulatory program for the last 10 years. This intensification project also includes a detailed survey of bryophytes to investigate the utility of this taxonomic group for assessing the ecological condition of wetlands. The end product of this randomized design survey will be the first statewide "scorecard" of wetland

condition. Additionally, the Ohio intensification will provide a comparison between the NWCA assessment methods and those developed specifically to monitor Ohio's wetland resources.

**0405**  
**H2-4**

### **A Comparison the North Carolina Rapid Assessment Method with the Ohio Rapid Assessment Method Using the National Wetland Condition Assessment Sites**

Rick Savage, Virginia Baker, James Graham and Anthony Scrabraugh *North Carolina Dept. of Natural Resources, Raleigh, N.C., USA*

North Carolina had 47 wetland sites to survey for the National wetland Condition Assessment (NWCA). Given that the EPA funded Southeast Wetlands Monitoring Intensification Grant, is to be conducted next summer using various rapid assessment tools, it was decided to use the North Carolina Wetland Assessment Method (NCWAM) and the Ohio Rapid Assessment Method (ORAM) to begin to analyze how the two methods compared along with some observations about how the USA-RAM seems to compare.

The NCWAM was developed to provide a rapid wetland assessment tool that resulted in an evaluation of the wetland function. Three major sub functions are assessed: Water Quality, Hydrology, and Habitat. A score of High, Medium or Low is provided for each sub function as well as an overall score of the wetland's function. The ORAM has been around for several years and has an excellent reputation and has been used as a basis for many other state rapid assessment methods. NCWAM however was developed from the expertise of wetland scientists from North Carolina working for various state and federal agencies.

The Southeast Wetlands Monitoring Intensification Grant, to be conducted during the summer of 2012, will also use NCWAM and ORAM, as well as USA-RAM with the intent of using that data to form the basis for a regional rapid assessment. Since NCWAM puts emphasis on the sub functions of water quality, hydrology, and habitat, comparisons will be made with ORAM where its subsections correspond to NCWAM's sub functions. This will allow a more detailed assessment of the two rapid assessment tools. It will be noted how some of the sections of USA-RAM may relate to the sub functions of NCWAM (and ORAM), with the understanding that a scoring method for USA-RAM has not been finalized.

Correlations will be performed between the two rapid assessments and their various subcomponents to help determine how they relate. Differences and similarities will be discussed as well as how USA-RAM may relate. Finally, some discussion will be made as to how the southeast region may begin to develop a regional rapid assessment.