Session G2: Improving State/Tribal Monitoring Programs Using the National Aquatic Resource Surveys

Room A106
3:30 – 5:00 pm

0145
G2-1

State-scale Statistically-valid Surveys NARS and State Programs Concordance and Discord

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In 2001 the South Carolina Department of Health and Environmental Control implemented separate state-scale statistically-valid surveys for rivers and streams, lakes and reservoirs, and estuaries. SCDHEC worked closely with EPA EMAP staff in developing the designs to answer the State's specific questions. The designs were built around the existing SCDHEC monitoring strategy and resource constraints. These questions and restrictions do not always coincide with the intent of the NARS. One of the express intents was for the monitoring of the probability sites to conform with the Department's §303(d) assessment methodology so the potential existed for individual sites to be included on the list of impaired waters. The NARS designs and parameters generally do not provide the data necessary for those decisions.

The State's identified resource population (sample frame) and unequal weight distribution of sites within those populations are designed for the State-specific questions and interests. Generally these are at odds with the focus of the NARS designs, but in some instances they still work.

This presentation will provide some examples of the differences and some of the overlaps.

0121
G2-2

Nebraska's Wetland Assessment Intensification Study as Part of the National Wetland Condition Assessment Project

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In 2011-2013, ten wetlands will be visited in each of 11 priority wetland complexes in Nebraska as part of an "intensification study" to the EPA's National Wetland Condition Assessment (NWCA). The indicators that will be evaluated include vegetation, algae, amphibians, water quality, soils, and hydrology. Data were collected in 2011 and some preliminary results may be available. Outcomes of this project will be an improved understanding of the condition of Nebraska's wetlands, track invasive species distribution changes, evaluate potential climate change effects on wetlands, and describe the range of conditions for wetland complexes in the state.

0219
G2-3

National Coastal Condition Assessment: Lessons Learned in Michigan

Dawn Roush

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The National Coastal Condition Assessment (NCCA) is part of a series of probability-based National Aquatic Resource Surveys coordinated by the United States Environmental Protection Agency. These surveys are broadly designed to estimate the condition of our Nation's waters while objectives specific to the NCCA are to study water quality indicators including water chemistry for nutrients, benthos community condition, sediment quality, and fish tissue in coastal waters. In 2010 the NCCA was extended to include the Great Lakes coast. The Michigan Department of Environmental Quality (MDEQ) participated in the 2010 surveys and was tasked with 117 surveys in four Great Lakes, covering more than 3000 miles of shoreline. The MDEQ does not have a routine monitoring program for coastal waters and so had to build capacity for the survey effort as well as design and implement a plan for these surveys to be conducted within the sample frame of the NCCA. Lessons learned during the NCCA will be discussed, including

what worked, what did not, and how we improved our efficiency in a process that was new to our monitoring staff and program. Focus will be given to desktop reconnaissance strategy, equipment procurement from purchase to inter-agency loan, fish collection techniques, and field work efficiency.

0537
G2-4

Integrating Random Probabilistic Design Surveys into Legacy Statewide Rotating Integrated Basin Studies

Alexander Smith, Margaret Novak, Diana Heitzman, Brian Duffy and Jeff Lojpersberger

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Legacy statewide monitoring programs, such as that of New York State, have been collecting and reporting on the status of biological condition in surface waters since the early 1970s. A rotating schedule throughout the state is typically used to carry out monitoring activities targeted to meet department objectives and to fulfill reporting requirements to the USEPA. These objectives often compete for limited monitoring budget resources and range from describing general basin wide conditions, identification of stressor source, characterization of reference condition, water quality trend analyses, assessment of unassessed waters, and assessment of SPDES compliance, invasive species and biodiversity. In replacement of many of these targeted objectives the USEPA has advocated for the use of probabilistic design surveys for the general characterization of statewide conditions, which can be used for comparison at the national level. New York State has successfully integrated random probabilistic design monitoring into its complex rotational monitoring program since 2008. Since this time, severe budget and staff cuts have become an ever more frequent occurrence in the State. As a result, fulfilling program objectives are increasingly more reliant on the information provided by probabilistic monitoring strategies due to their use of fewer sampling events and need for fewer resources to make a statistically based description. This has even begun to find its way into county based monitoring programs as resources diminish at the State level, reducing geographic coverage and sample frequency.