



WETLAND INDICATORS FOR THE 2011 NATIONAL WETLAND CONDITION ASSESSMENT

PORTLAND, OREGON
MARCH 11-13, 2008

The purpose of the workshop is to discuss environmental indicators - and associated metrics and assessment methods - for use in EPA's 2011 National Wetland Condition Assessment. The workshop will be structured around a few key presentations and facilitated discussion.

Work Shop Goal: The goal of this work shop is to prioritize Level 3 indicators of wetland condition and establish a plan to refine those indicators in advance of the 2011 National Wetland Condition Assessment.

Work Shop Objectives:

- Thoroughly vet all potential Level 3 biological and physical structure indicators of wetland condition.
- Thoroughly vet all potential Level 3 wetland stressor indicators.
- Prioritize the broad categories of Level 3 indicators that should be considered for the national survey.
- Identify targeted research needs, including efforts to develop new condition indicators.
- Develop a plan to convene indicator development workgroups to refine the prioritized list of indicators after the work shop. Solicit volunteers to lead and/or participate in the work groups.

Anticipated Work Shop Products:

- Analytical process for selecting and prioritizing indicators of wetland condition
- List of indicators that will not be included in the National Survey
- Prioritized list of potential indicators to be included in the National Survey
- List of research and testing needs
- Preliminary work groups to refine the prioritized list of potential indicators

Work Shop Structure: We will form two groups: one with experience in tidal wetland systems, the other in non-tidal wetlands. The groups will meet concurrently to discuss the broad categories of biological, physical structure, and stressor indicators. The groups will then reconvene to compare notes and prioritize indicators for consideration in the national survey.

PRE-WORKSHOP WEBINARS

Webinar # 1: February 7, 2008, 1-3pm EST

- **Attendees:** All Work Shop Invitees, NWMAWG, EMAP Wetlands Team, OWOW Survey Team
- **Background Presentations:**
 - o Indicators and Reporting in the Wadable Streams Assessment – Ellen Tarquinio
 - o Logistic Realities of National Survey Field Work – Ellen Tarquinio
 - o Goals and Objectives of the March Work Shop – Michael Scozzafava
 - o A Straw Proposal – selection criteria – Michael Scozzafava
- **Discussion Question:**
 - o What are some important considerations for selecting indicators of wetland condition for the National Survey?
 - Discussion Lead: Michael Scozzafava

Webinar # 2: March 6, 2008, 1-3pm EST

- **Attendees:** All Work Shop Invitees, NWMAWG, EMAP Wetlands Team, OWOW Survey Team
- **Discussion Continued:**
 - o What are some important considerations for selecting indicators of wetland condition for the National Survey?
 - Discussion Lead: Michael Scozzafava
- **Decision-Making:**
 - o Building a Analytical Process for Selecting Indicator
 - Discussion Lead: Michael Scozzafava

Webinar Discussion Flow

- **Presentations:**
 - o Goal: To provide participants the necessary background information to participate in the discussion
 - o Participants will have the opportunity to ask clarifying questions
- **Discussion:**
 - o Goal: To brainstorm some ideas on important considerations for selecting indicators of wetland condition for the National Survey
 - o Participants should share all ideas – all ideas are good
- **Decision-Making:**
 - o Goal: Based on the brainstorm, build a framework for indicators selection
 - o Participants should consider the relative utility of all brainstormed ideas based on the information presented during the background presentations.

WORK SHOP
MARCH 11-13, 2008

Facilitators: Marty Chintala, US EPA; Ken Elstein, US EPA
EPA HQ Programmatic Leads: Mike Scozzafava, Chris Faulkner, and Rich Sumner, US EPA
EPA ORD Technical Leads: Mary Kentula and Charles Lane, US EPA
Inland Subject Matter Lead: Mike Bourdaghs, MN PCA
Coastal Subject Matter Lead: Amy Jacobs, DE DNREC

Day 1

- 8:30am** **Introductions**
- 9:00** **Objectives of the 2011 National Wetland Condition Assessment**
- 1. National Reporting – *Michael Scozzafava***
 a. Purpose of the Surveys and Use of the Information
 b. Reporting format
- 2. State Capacity Building – *Rich Sumner and Regina Poeske***
 a. Technology transfer of indicators/methods
 b. Intensification of sampling design
- 3. Build wetland science on ecosystem services – *Mary Kentula***
 Correlate wetland condition to the delivery of ecosystem services
- 10:00** **Presentation - *Survey Design for the 2011 Assessment* – *Mary Kentula***
 - Target Population, Sampling Frame, Field Constraints
- 10:30** **Break**
- 10:50** **Presentation – *Use of the 3-Level Framework* – *Mike Scozzafava, Rich Sumner***
 and Chris Faulkner
- 11:20** **Presentation -- *Core Indicators for Level 2 Assessment***
 - *Siobhan Fennessey and Josh Collins*
- 12:00** **Lunch**
- 1:00** **Criteria for Indicator Selection and Charge to the Work Group**
 - *Gregg Lomnický, Dynamac; Teresa Magee, Dynamac*
- 1:30** **Overview of Level 3 indicators/metrics and Charge to the Work Group**
 – *Elizabeth Riley, US EPA*
- 2:00** **Concurrent Breakout Sessions: *Level 3 Biological Indicators – Plants***
- 5:15** **Reconvene – Taking Stock of Where We Are; Adjustments as Needed**
- 5:30** **Adjourn**

Day 2 *Two Concurrent Sessions on Indicator/Metric Evaluation*

- 8:30am** **Reconvene** – Charge to the Work Groups
- 8:45am** **(Concurrent) Level 3 Biological Indicators** -- *Other (including macroinvertebrates, algae, birds, fish, amphibians)*
- 10:45** **Break**
- 11:00** **(Concurrent) Level 3 Physical Habitat Condition Indicators** -- *Hydrology*
- 12:00** **Lunch**
- 1:00pm** **(Concurrent) Level 3 Physical Habitat Condition Indicators** -- *Hydrology (con't) and Soils/Geomorphology*
- 3:00** **Break**
- 3:20** **(Concurrent) Level 3 Stressor Metrics** – *physio-chemical, land use, habitat*
- 5:00** **Reconvene** – Taking Stock of Where We Are; Adjustments as Needed
- 5:15** **Adjourn**

Day 3

- 8:30am** **Reconvene work groups** -- Presentations/results from breakout sessions
-Lead: *Designated Representative from Coastal and Inland Breakout Teams*
- 10:30** **Break**
- 10:50** **Prioritization of Level 3 indicators/metrics**
- Lead: Facilitators
- Discussion Question #1: *Based on the selection criteria, which indicators best serve the survey objectives?*
- Discussion Question #2: *Based on the selection criteria, which indicators are not appropriate for this project?*
- 12:00** **Working Lunch** – *Planning for the Coming Year*
- *Indicator Work Groups, Expectations, Volunteers*
- 1:00pm** **Prioritization of Level 3 indicators/metrics** (continued)
- Lead: Facilitators
- Continue Discussion Questions #1 and #2
- Discussion Question #3: *What indicators require further discussion and refinement?*
- Discussion Question #4: *What indicators require additional research?*
- 3:00** **Adjourn**

POST WORK-SHOP ACTIVITIES

- **Targeted Indicator Work Groups:** *April – September 2008*
 - Wetland type-specific metrics
 - Regionally-specific metrics
 - Metric Roll-up
 - Indicator Development Relative to Classification

- **Special Research Projects**
 - Development of USA Rapid Assessment Method
 - Development of Specific Condition Indicator (e.g., Hydro-geomorphology)

MEETING PRINCIPLES

1. **Everyone shares the responsibility for making the meeting a success:** This meeting is a true collaboration between all attendees, including the facilitators. Your participation is critical. If you have an idea about either discussion content or process suggestions, please share it orally and/or in writing through a posted note.
2. **Stay on topic:** Start from the “big picture” before moving into details. Jumping to details prematurely can consume a lot of time on a topic that the group may later decide is unnecessary. A “Feed Lot” is available to post ideas/comments to ensure that they are addressed at the appropriate time.
3. **Listen and understand:** All participants bring to this meeting a diversity of experiences, ideas, knowledge, and perspectives. Inquire of others to draw them out and seek to understand their comments before advocating your own.
4. **Be transparent:** Our assumption is that all participants are coming to this meeting with the intent of working collaboratively with other participants to achieve the meeting goals. Those with individual goals should make those goals known to their group. Such openness should be encouraged and is necessary to a high-performing meeting environment.
5. **First brainstorm, then critique:** The most creative ideas emerge through an uninterrupted accumulation of participant comments built upon the suggestions of others in the group. Often the seemingly wildest ideas stretch thinking to tangible innovations. Avoid premature critiquing that can unintentionally shut down the creative process.
6. **Provide everyone an equal opportunity to speak:** Part of our diversity includes variations in how we prefer to express ourselves. Freely offer your perspectives and allow others the space to express theirs. Self-managing our air time benefits the discussion by allowing a variety of perspectives and insights to be heard including some that have not occurred to others.
7. **Commit to being fully present.** Please turn off all cell phones; put away the laptop computers/Palm Pilots/Blackberrys. You can always check them during breaks.

WORKGROUP DISCUSSION FRAMEWORK GENERAL GUIDELINES

Discussion Format:

The indicator discussions will occur in two concurrent sessions: one focused on inland systems, the other on coastal systems. Each session will have a facilitator, a HQ programmatic lead, a notetaker, and a subject matter lead. The respective roles of each participant include:

- *Facilitator:* Direct conversation and keep the group on topic without inhibiting constructive dialogue
- *HQ Programmatic Lead:* Answer questions relevant to EPA policy, programmatic goals, national survey logistics, and resource constraints.
- *Subject Matter Lead:* Work with the facilitator to help direct the breakout group discussions. Serve as the primary point of contact for technical questions. Provide clarity on whether a particular discussion is pertinent or off-topic.
- *Work Group Participants:* Actively participate; consider all perspectives, don't be afraid to share your thoughts.

The discussion groups will consider all potential indicators under each designated category, and the merits of those indicators relative to the selection criteria. EPA, in conjunction with the states, tribes, and work shop participants, will construct an analytical process to guide the discussion of each proposed indicator. This process will outline important selection criteria, and direct the discussion groups to consider the merits of each proposed indicator in the context of these criteria. For example, for each proposed indicator, the discussion groups could discuss its relative merits in terms of: how much time is required in the field; how much does it cost; who can analyze the data; what level of expertise is needed; etc. The discussion groups will be instructed to fill out an analytical sheet for each indicator, and then report the results to the whole work shop on day 3.

During the Discussion:

- Consider the scope of the project (a national scale probabilistic condition assessment of all wetland types across the conterminous U.S.)
 - Let your local expertise inform – but not direct - the discussion
 - Consider Scalability: indicators should be applicable on national, regional, state, and tribal levels
- Stay focused on discussion questions set forth by the work group facilitator
- The following topics are outside the scope of discussion
 - Whether a particular indicator type is better suited for a Level 1 or Level 2 approach.

- The utility of functionally-derived assessment endpoints (*assessments of wetland 'functions' or 'ecosystem services' may be constructed from the monitoring data during analysis, but are not the focus of this assessment*)
 - The utility of alternative sampling frame/design options
 - Wetland types not included in the target population
- This is a challenging topic. You are encouraged to think “out of the box” and offer innovative thoughts and ideas.

BREAK-OUT GROUPS

	Coastal Team	Inland Team
Facilitator	Marty Chintala	Ken Elstein
Program Lead	Mike Scozzafava, EPA HQ	Chris Faulkner, EPA HQ
Subject Matter Lead	Amy Jacobs, DE DNREC	Mike Bourdaghs, MN PCA
Note Taker	Jeanne Voorhees, EPA R1	Elizabeth Riley, EPA HQ
ORD Lead	Mary Kentula, EPA ORD	Chuck Lane, EPA ORD
	Josh Collins, SFEI	Siobhan Fennessy, Kenyon College
	Jan Stevenson, MSU	Shawn Dekeyser, NDSU
	Paul Adamus, OSU	Denice Wardrop, PSU
	Rick Rheinhardt, ECU	Joe Rocchio, WA NHP
	John Mack, Cleveland Metroparks	Vince Evelsizer, IA DNR
	Jenneke Visser, LSU	Linda Vance, MT NHP
	Jan Smith, Mass Bays	Paul Jones, EPA R9
	Kathy Verble, OR DSL	Rich Sumner, EPA ORD
	Annet Trebitz, EPA ORD	Rick Savage, NC DEQ
	Cathy Wigand, EPA ORD	Mary Moffet, EPA ORD
	Janet Nestlerode, EPA ORD	Michael Vepraskas, NCSU
	Gregg Lomnicky, Dynamac Corp.	Teresa Magee, Dynamac Corp
		Regina Poeske, EPA R3