

Reference site selection for wetland condition assessments: Integrating best professional judgement and objective selection criteria

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The National Wetlands Condition Assessment (NWCA), one of a series of water assessments being conducted by states, tribes, the U.S. Environmental Protection Agency (EPA), and other partners, surveyed over 900 wetland sites across the lower 48 states during Summer 2011. The NWCA is designed to assess ecological integrity at regional and national scales, plus survey, identify and rank the stressors most commonly associated with poor conditions. As deviation from the reference condition may be used as a measure of the effect of stressors on the assessment area, selection and evaluation of reference sites that represent the best attainable (or least disturbed) watershed condition, habitat structure, water quality and biological parameters are critical components of this assessment. Over 1000 handpicked candidate reference sites across six select coastal and inland wetland types were obtained from state, university, and other federal monitoring programs. These candidate reference sites were critically reviewed with a set of explicit criteria, using a combination of ground reconnaissance, aerial photography interpretation, and soil and vegetation maps to yield 100 sites selected for reference site sampling. We discuss issues related to this reference site selection process and present observations from select reference sites in coastal wetland settings.

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