



**RESOURCE**

# Developing the scientific basis for assessing cumulative effects of wetland loss and degradation on landscape functions: Status, perspectives, and prospects

**Author(s)**

Bedford, Barbara L. Preston, Eric M.

**Description / Abstract**

The incongruity between the regional and national scales at which wetland losses are occurring, and the project-specific scale at which wetlands are regulated and studied, has become obvious. This article presents a synthesis of recent efforts by the US Environmental Protection Agency and the Ecosystems Research Center at Cornell University to bring wetland science and regulation into alignment with the reality of the cumulative effects of wetland loss and degradation on entire landscapes and regions. The synthesis is drawn from the other articles in this volume, the workshop that initiated them, and the scientific literature. It summarizes the status of our present scientific understanding, discusses means by which to actualize the existing potential for matching the scales of research and regulation with the scales at which effects are observed, and provides guidelines for building a stronger scientific base for landscape-level assessments of cumulative effects. It also provides the outlines for a synoptic and qualitative approach to cumulative effects assessment based on a reexamination of the generic assessment framework we proposed elsewhere in this volume.

The primary conclusion to be drawn from the articles and the workshop is that a sound scientific basis for regulation will not come merely from acquiring more information on more variables. It will come from recognizing that a perceptual shift to larger temporal, spatial, and organizational scales is overdue. The shift in scale will dictate different—not necessarily more—variables to be measured in future wetland research and considered in wetland regulation.

**Publication year**

1988

**Publisher**

Environmental Management

**Keywords**

assessing cumulative effects wetland loss

**Thematic Tagging**

Climate Gender Transboundary Urban Water services Youth

Language English

View resource

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**Source** <https://beta.toolbox.venthic.com/resource/developing-scientific-basis-assessing-cumulative-effects-wetland-loss-and-degradation>  
**URL:**