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Standard Guide for Assessment of Wetland Functions[1]

This standard is issued under the fixed designation E 1983; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide covers assisting wetland managers by prescribing a sequence of steps for defining and assessing wetland functions. This guide also identifies properties that must be considered in the selection of a wetland assessment procedure to determine whether it will assist in satisfying the requirements of wetland regulatory programs or produce valid design criteria for planned wetlands, or both. This guide can help wetland managers use existing assessment procedures more effectively during the decision-making process. The outcome of the assessment is dependent on many factors including the selected procedure, the sampling design, and assumptions; therefore, decisions and assumptions made should be documented throughout the process. While this guide is developed to assist in satisfying the requirements of wetland regulatory programs, it can also be used in a variety of planning, management, and educational situations.

1.2 The guide is not intended for use in assigning values to wetland functions in terms of economic (for example, dollars) or other value units. However, the information that is gathered while assessing wetland functions may be useful in meeting this objective when used in conjunction with other information (for example, see Refs **(1)**[2] and **(2)**).

1.3 This guide applies to assessment procedures designed for application at the ecosystem scale. It does not address the less commonly used landscape level models or the use of wetland assessment procedures for cumulative impacts analysis **(3-5)**.

1.4 *Limitations*—This guide does not include a standard wetland assessment procedure or models for assessing function. This guide has been written primarily to complement and to aid in the selection of current procedures. There are several procedures for quantifying wetland functions and each has been developed for specific purposes. The suitability of a procedure depends on assessment objectives, wetland type, availability of applicable models given the wetland type and objectives, and policy of local decision makers. There are continuous efforts to develop new and improved methods that could override any one recommended standard procedure.

1.5 The values stated in inch-pound units are to be regarded as the standard. The SI units given in parentheses are for information only.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Terminology

2.1 *Definitions:*

2.1.1 *wetland assessment procedure*, *n*—a definitive procedure for identifying, characterizing, or measuring the functions that a wetland performs, or a combination thereof.

2.1.2 *wetland functions*, *n*—the physical, chemical, and biological processes or attributes that contribute to the self-maintenance of wetland ecosystems **(6)** and **(7)**. Wetland functions result directly from the characteristics of a wetland ecosystem and the surrounding landscape and their interaction.

2.1.2.1 *Discussion*—A wetland function is distinguished from wetland value. Wetland functions are a direct result of the characteristics of a wetland and the surrounding landscape. Examples of functions include the removal of dissolved substances, cycling of nutrients, maintenance of plant and animal communities, and short-term storage of surface water. These functions provide benefits, goods, and services which may be assigned a value (economic or noneconomic) describing the relative importance of a wetland function to an individual or group of people. The values of wetlands are estimates, usually subjective, of the worth, merit, quality, or importance of wetland functions **(8)**.

2.2 *Definitions of Terms Specific to This Standard*—Most of the following definitions are from Refs **(9)** and **(10)**.

2.2.1 *assessment model*, *n*—a simple model that defines the relationship between ecosystem and landscape scale variables and functional capacity of a wetland; it is used to derive a measure of functional capacity (that is, the functional capacity index).

[1] This specification is under the jurisdiction of ASTM Committee E50 on Environmental Assessment and is the direct responsibility of Subcommittee E50.02 on Commercial Real Estate Transactions.

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[2] The boldface numbers given in parenthesis refer to a list of references at the end of the text.

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