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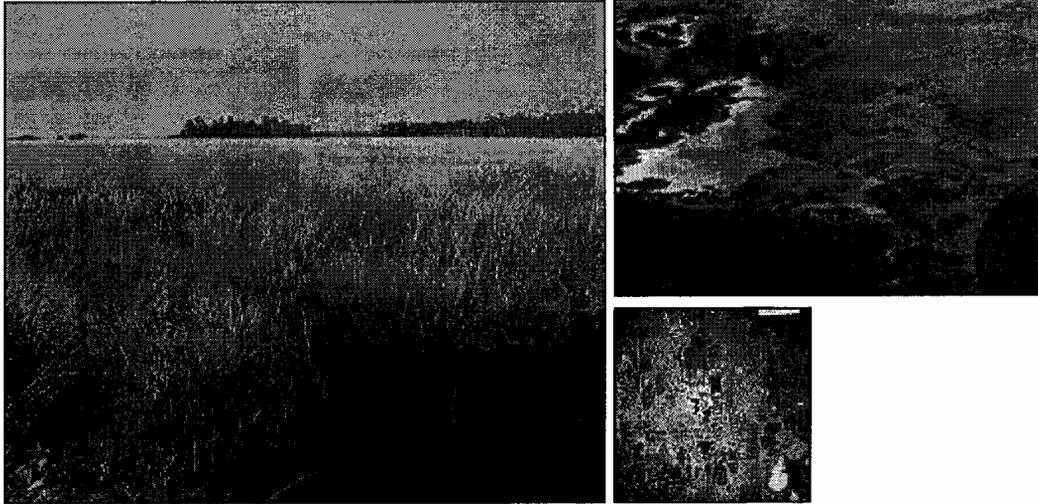


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Classification of Wetlands and Deepwater Habitats of the United States



By

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Abstract

This classification, to be used in a new inventory of wetlands and deepwater habitats of the United States, is intended to describe ecological taxa, arrange them in a system useful to resource managers, furnish units for mapping, and provide uniformity of concepts and terms. Wetlands are defined by plants (hydrophytes), soils (hydric soils), and frequency of flooding. Ecologically related areas of deep water, traditionally not considered wetlands, are included in the classification as deepwater habitats.

Systems form the highest level of the classification hierarchy; five are defined--Marine, Estuarine, Riverine, Lacustrine, and Palustrine. Marine and Estuarine Systems each have two Subsystems, Subtidal and Intertidal; the Riverine System has four Subsystems, Tidal, Lower Perennial, Upper Perennial, and Intermittent; the Lacustrine has two, Littoral and Limnetic; and the Palustrine has no Subsystems.

Within the Subsystems, Classes are based on substrate material and flooding regime, or on vegetative life form. The same Classes may appear under one or more of the Systems or Subsystems. Six Classes are based on substrate and flooding regime: (1) Rock Bottom with a substrate of bedrock, boulders, or stones; (2) Unconsolidated Bottom with a substrate of cobbles, gravel, sand, mud, or organic material; (3) Rocky Shore with the same substrates as Rock Bottom; (4) Unconsolidated Shore with the same substrates as Unconsolidated Bottom; (5) Streambed with any of the substrates; and (6) Reef with a substrate composed of the living and dead remains of invertebrates (corals, mollusks, or worms). The bottom Classes, (1) and (2) above, are flooded all or most of the time and the shore Classes, (3) and (4), are exposed most of the time. The Class Streambed is restricted to channels of intermittent streams and tidal channels that are dewatered at low tide. The life form of the dominant vegetation defines the five Classes based on vegetative form: (1) Aquatic Bed, dominated by plants that grow principally on or below the surface of the water; (2) Moss-Lichen Wetland, dominated by mosses or lichens; (3) Emergent Wetland, dominated by emergent herbaceous angiosperms; (4) Scrub-Shrub Wetland, dominated by shrubs or small trees; and (5) Forested Wetland, dominated by large trees.

The Dominance Type, which is named for the dominant plant or animal forms, is the lowest level of the classification hierarchy. Only examples are provided for this level; Dominance Types must be developed by individual users of the classification.

Modifying terms applied to the Classes or Subclasses are essential for use of the system. In tidal areas, the type and duration of flooding are described by four Water Regime Modifiers: subtidal, irregularly exposed, regularly flooded, and irregularly flooded. In nontidal areas, eight Regimes are used: permanently flooded, intermittently exposed, semipermanently flooded, seasonally flooded, saturated, temporarily flooded, intermittently flooded, and artificially flooded. A hierarchical system of Water Chemistry Modifiers, adapted from the Venice System, is used to describe the salinity of the water. Fresh waters are further divided on the basis of pH. Use of a hierarchical system of soil modifiers taken directly from U.S. soil taxonomy is also required. Special modifiers are used where appropriate: excavated, impounded, diked, partly drained, farmed, and artificial.

Regional differences important to wetland ecology are described through a regionalization that combines a system developed for inland areas by R. G. Bailey in 1976 with our Marine and Estuarine provinces.

The structure of the classification allows it to be used at any of several hierarchical levels. Special data required for detailed application of the system are frequently unavailable, and thus data gathering may be prerequisite to classification. Development of rules by the user will be required for specific map scales. Dominance Types and relationships of plant and animal communities to environmental characteristics must also be developed by users of the classification. Keys to the Systems and Classes are furnished as a guide, and numerous wetlands and deepwater habitats are illustrated and classified. The classification system is also compared with several other systems currently in use in the United States.

This resource is based on the following source (Northern Prairie Publication 0421):

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131pp.

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