

Texas Field Office Technical Guide – Section II

E. Special environmental concerns

5. Wetlands

Wetland definition

Two authorities direct NRCS activities in and around wetlands: the agency's protection of wetlands policy ([NRCS eDirectives - 410.26 Protection of Wetlands](#)); and the wetland conservation provisions of the Food Security Act of 1985, as amended. Agency policy relative to the food security act is promulgated in the National Food Security Act Manual (NFSAM) at <http://directives.sc.egov.usda.gov/> (click on Manuals then Title 180 – Conservation planning and application).

Regardless of the authority under which a planner is operating, NRCS defines all wetlands as land or areas having all of the following criteria:

1. Hydric soils,
2. Wetland hydrology, and
3. Hydrophytic vegetation.

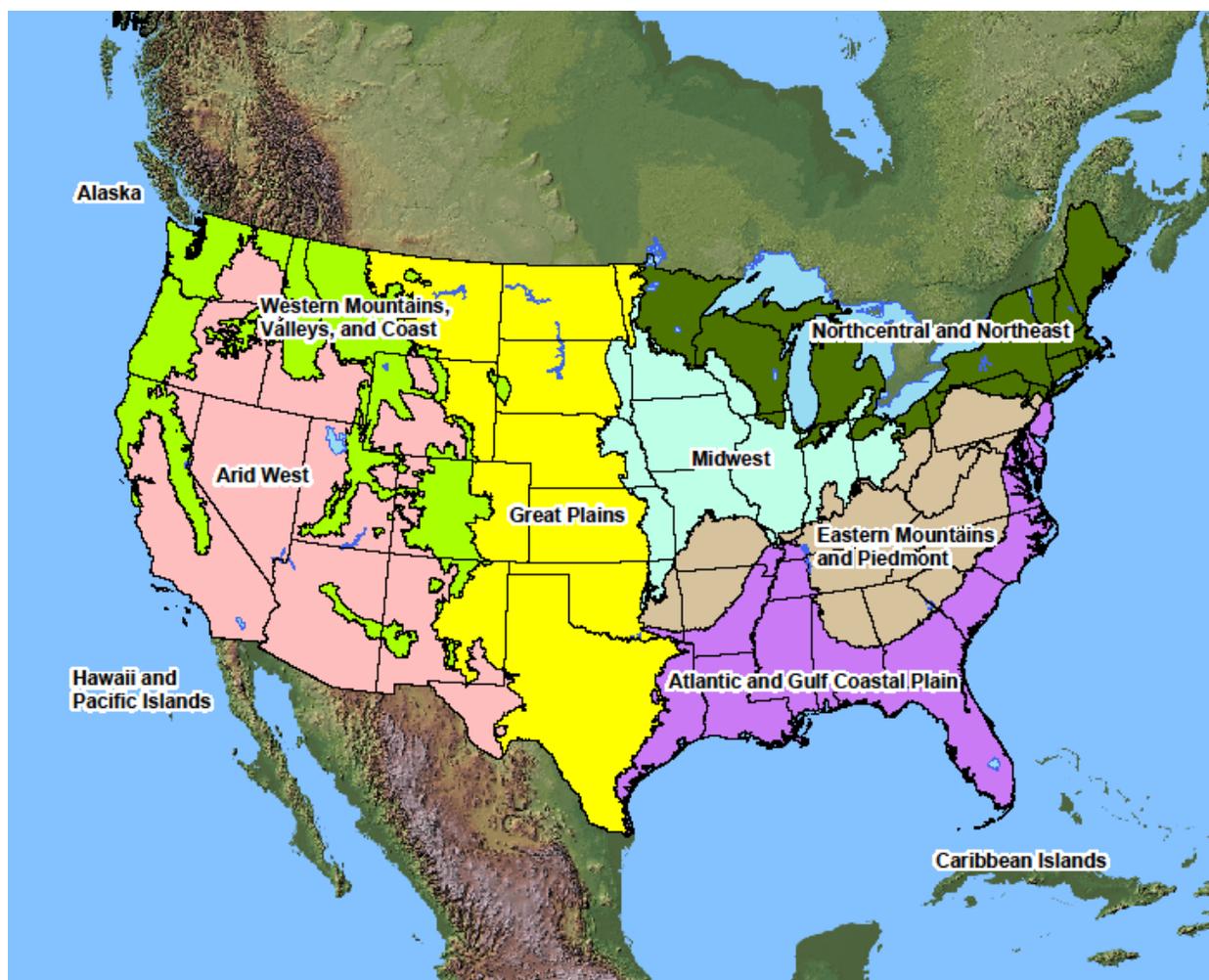
All three wetland criteria have to be evident or present at the same place at the same time for the land or area to be considered a wetland. If one of the criteria is lacking or absent, the area is not a wetland.

Wetland delineation

To identify wetlands, NRCS uses methods “agreed to by the US Army Corps of Engineers (COE), Environmental Protection Agency, Fish and Wildlife Service, and NRCS,” i.e., the most current wetland delineation procedures. See [Hydric Soils | NRCS Soils](#) and [Technical and Biological Information](#).

Wetland delineation manuals

In 2007, COE began developing regional supplements to its 1987 wetlands delineation manual (WDM). NRCS utilizes the appropriate regional supplement covering a state once that regional supplement has been released in a non-draft version. All regional supplements which together cover the area encompassed by the state of Texas have been released in an interim or non-draft version. The map below depicts boundaries for each regional supplement.



Combined, four regional supplements cover the state of Texas. They are the arid west, Atlantic and gulf coastal plain, Great Plains, and western mountains, valleys, and coast regions. Each regional supplement contains a map showing its boundaries in greater detail. Regional supplement boundaries are based on those of land resource regions.

Copies of the regional supplements plus other general information relative to them can be accessed and downloaded from [Regional Supplements to Corps Delineation Manual](#).

The methodology for determining whether each wetland criteria is present at a site is described in the various chapters of each regional supplement. Pertinent chapters are:

Chapter	Title	Chapter	Title
1	Introduction	4	Wetland hydrology indicators
2	Hydrophytic vegetation indicators	5	Difficult wetland situations
3	Hydric soil indicators		

Western mountains, valleys, and coast region

The western mountains, valleys, and coast regional supplement is included here because there may be instances when a wetland determination might be required in certain higher-elevation areas in the Trans-Pecos region of Texas. Because their environmental conditions are more appropriate for application of the western mountains, valleys, and coast regional supplement, the following areas are excluded from the arid west region:

*Mountain ranges supporting mainly coniferous forests on lower slopes and open coniferous woodlands, shrub-lands, meadows, and hardwood riparian woodlands in valleys, down to the lower elevation limits of the ponderosa pine (*Pinus ponderosa*) zone or its local equivalent.*

If a NRCS wetland issue arises in such an area, the delineator should use the western mountains, valleys, and coast regional supplement to delineate the wetland.

Hydric soils

Hydric soils

Formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

Overall, the hydric soil concept is that of a soil sufficiently wet in the upper part to develop an anaerobic condition during the growing season and includes soils:

- Developed under sufficiently wet conditions to support growth and regeneration of hydrophytic vegetation;
- Sufficiently wet because of artificial measures; and
- In which hydrology has been artificially modified. They are considered hydric if the soil, in an unaltered state, was hydric.

Some series, designated as hydric, have non-hydric phases depending on water table, flooding, and ponding characteristics.

Field indicators

NRCS uses Field indicators of hydric soils in the United States: a guide for identifying and delineating hydric soils, version 7.0, 2010 as a guide to identify and delineate hydric soils in the field. For access and down-load see [Hydric Soils | NRCS Soils](ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric_Soils/FieldIndicators_v7.pdf) or ftp://ftp-fc.sc.egov.usda.gov/NSSC/Hydric_Soils/FieldIndicators_v7.pdf.

In conducting certified wetland determinations, NRCS identifies the hydric soils component of wetlands using hydric soil field indicators. These are characteristic soil

structure and form properties documented to be strictly associated only with soils that meet the definition of a hydric soil. The presence of one or more field indicators suggests that processes associated with hydric soil formation have taken place on the site being observed. Once formed, they persist in the soil during both wet and dry seasonal periods. Field indicators are:

- An efficient on-site means to confirm the presence of hydric soil; and
- Designed to identify hydric soils without further data collection.

There are hydric soils lacking any of the currently listed indicators. Hydric soils exist for which no field indicators have yet been recorded and documented. The lack of a listed indicator does not prevent classification of the soil as hydric. Commonly referred to as “problem soils,” identifying these soils as hydric requires gathering evidence to demonstrate the definition is met. Each regional supplement has a chapter devoted to difficult wetland situations, including “problematic hydric soils.”

Hydric soils lists

Lists of hydric soils along with soil survey maps are off-site, supplementary tools to assist in wetland determinations. As **predictive** tools, they are:

- **Never** a substitute for on-site observations; and
- Recommended only for preliminary use in making wetland determinations.

Field indicators must be used for all on-site hydric soil determinations.

The food security act of 1985 directed

The Secretary shall develop criteria for identification of hydric soils and lists of such soils.

On a county-by-county basis nation-wide, hydric soils lists are available from and maintained at Soil Data Mart ([Soil Data Mart - Home.](#))

Hydric soils lists are generated using National Soil Information System (NASIS) database selection criteria developed by the [National Technical Committee for Hydric Soils](#). These criteria are selected soil properties documented in *Soil Taxonomy* and designed primarily to generate a list of potentially hydric soils from NASIS databases. The primary purpose of these selection criteria is to generate a list of soil map unit components **likely** to meet the hydric soil definition.

Caution must be used when comparing the list of hydric components to soil survey maps. Ranges in water table depths allow soil components to range from hydric to non-hydric depending on a soil’s location within a landscape.

Only criteria 1, 3, and 4 can be used in the field to determine hydric soils; however,

proof of anaerobic conditions must also be obtained for criteria 1, 3, and 4 either through data or best professional judgment.

Hydrophytic vegetation

Hydrophytic vegetation is:

Vegetation typically adapted for life in saturated soil conditions; or

A plant growing in: water or a substrate at least periodically deficient in oxygen during a growing season as a result of excessive water content.

Each regional supplement describes the methodology for determining whether the vegetation found at a site can be considered hydrophytic for wetland delineation purposes.

Wetland status indicators

Indicator code	Wetland	
	Type	Occurrence under natural conditions (estimated probability)
OBL	Obligate wetland	Almost always (99%)
FACW	Facultative wetland	Usually (67%-99%)
FAC	Facultative	Equally likely in wetlands or non-wetlands (34%-66%)
FACU	Facultative upland	Usually in non-wetlands (67%-99%)
UPL	Obligate upland	Almost always (99%) in non-wetlands

Wetland status indicators reflect the range of estimated probabilities, expressed as a frequency of occurrence, of a plant species occurring in wetlands versus non-wetland. For example, a frequency of 67%-99% (facultative wetland) means that 67%-99% of sample plots containing the species randomly selected across the range of the species would be wetland.

Wetland indicator categories should not be equated to degrees of wetness. Many obligate wetland species occur in permanently or semi-permanently flooded wetlands, but other obligates occur in and are restricted to wetlands only temporarily or seasonally flooded. Facultative upland species include a diverse collection of plants ranging from weedy species adapted to environmentally stressful or disturbed sites, including wetlands, to species in which an ecotype always occurs in wetlands. Both the weedy species and ecotype representative occur in seasonally and semi-permanently flooded wetlands.

Each regional supplement has a chapter devoted to difficult wetland situations, including "problematic hydrophytic vegetation."

Wetland hydrology

Wetland hydrology is

Inundation or saturation by surface- or ground-water at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

Generally, hydric soils and hydrophytic vegetation reflect a site's medium- to long-term wetness history. Wetland hydrology indicators provide evidence of a continuing wetland hydrologic regime, i.e., soils and vegetation are not relics of a past hydrologic regime.

Hydrology indicators are the most ephemeral of wetland indicators. Direct observation of surface water or saturated soils is usually possible only during the normal wet portion of the growing season and may not be possible during the dry season or drier-than-normal years. Therefore, lack of an indicator is not evidence for the absence of wetland hydrology. Conversely, some indicators could be present on a non-wetland site immediately after a heavy rain or during a period of unusually high precipitation, river stages, runoff, or snowmelt. An understanding of normal seasonal and annual variations in rainfall, temperature, and other climatic conditions is essential in interpreting hydrology indicators.

Each regional supplement has a chapter devoted to wetland hydrology indicators. The various indicators applicable to that region are described. Cautions and user notes for each indicator are available along with at least one picture of what that indicator might look like. Each regional supplement has a chapter devoted to difficult wetland situations, including "wetlands that periodically lack indicators of wetland hydrology."

Relationship with section 404 of the clean water act

In a memorandum to the field on February 25, 2005, the US Army Corps of Engineers and the NRCS issued "Joint guidance on conducting wetland determinations for the food security act of 1985 and section 404 of the clean water act." The procedures outlined in the 2005 memorandum replaced the coordination procedures outlined in the 1994 memorandum of agreement between the departments of agriculture, army, and interior, and the EPA.

According to the 2005 MOU, NRCS conducts wetland determinations on land for participants, or persons intending to become participants, in USDA programs. Questions regarding applicability of section 404 of the clean water act on agricultural land will be answered by the local Corps of Engineers office. The 2005 MOU can be accessed and downloaded at http://www.usace.army.mil/CECW/Documents/cecwo/reg/mou/foodsecurity_cleanwateract.pdf.