

The following summarizes the Cowardin classification coding system and the letters and numbers used to define the USFWS NWI wetland types and subtypes:

Freshwater Wetlands and Ponds

System:

(P) Palustrine – The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics:

- are less than eight hectares (20 acres);
- do not have an active wave-formed or bedrock shoreline feature;
- have at low water a depth less than two meters (6.6 feet) in the deepest part of the basin; and
- have a salinity due to ocean-derived salts of less than 0.5 ppt.

Class:

(EM) Emergent – Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

(FO) Forested – Characterized by woody vegetation that is six meters (20 feet) or taller.

(SS) Scrub-Shrub – Includes areas dominated by woody vegetation less than six meters tall. The species include true shrubs, young trees (saplings) and trees or shrubs that are small or stunted because of environmental conditions.

(UB) Unconsolidated Bottom – Includes all wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones (less than six to seven cm diameter) and a vegetative cover less than 30 percent.

(AB) Aquatic Bed – Includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Aquatic beds generally occur in water less than two meters (6.6 feet) deep.

Subclass: (under Emergent Class)

(1) Persistent – Dominated by species that normally remain standing at least until the beginning of the next growing season in most years. This subclass is found only in the Estuarine and Palustrine systems.

Subclass: (under Forested and Scrub-Shrub Class)

(1) Broad-leaved deciduous – Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season.

(2) Needle-leaved Deciduous – Woody gymnosperms (trees or shrubs) with needle-shaped or scale-like leaves that are shed during the cold or dry season.

(3) Broad-leaved Evergreen – Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that generally remain green and are usually persistent for a year or more.

(4) Needle-leaved Evergreen – Woody gymnosperms with green, needle-shaped, or scale-like leaves that are retained by plants throughout the year.

Subclass: (under Aquatic Bed Class)

(4) Floating Vascular – Beds of floating vascular plants occur mainly in the Lacustrine, Palustrine, and Riverine Systems and in the fresher waters of the Estuarine System. The plants float freely either in the water or on the water surface and are found primarily in protected portions of slow-flowing rivers. These plants are moved about by wind or water currents and cover a large area of water, particularly in the southeast.

Water Regime:

(A) Temporarily Flooded – Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface. Plants that grow both in uplands and wetlands may be characteristic of this water regime.

(B) Saturated – The substrate is saturated to the surface for extended periods during the growing season, but surface water is seldom present.

(C) Seasonally Flooded – Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.

(F) Semipermanently Flooded – Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface.

(H) Permanently Flooded – Water covers the land surface throughout the year in all years.

(R) Seasonal-Tidal – No definition given (as stated).

(S) Temporary-Tidal – No definition given (as stated).

Special Modifiers:

(d) Partly Drained/Ditched – The water level has been artificially lowered, but the area is still classified as wetland because soil moisture is sufficient to support hydrophytes. Drained areas are not considered wetland if they can no longer support hydrophytes. This modifier is also used to indicate extensive ditch networks in wetlands where, due to the extreme number and narrow width of the ditches, individual delineation is impossible.

(h) Diked/Impounded – Created or modified by a man-made barrier or dam which obstructs the inflow or outflow of water.

(x) Excavated – Lies within a basin or channel excavated by man.

Estuarine and Marine Wetlands and Deepwater

System:

(E) Estuarine – The Estuarine System describes deepwater tidal habitats and adjacent tidal wetlands with low energy and variable salinity, influenced and often semi-enclosed by land.

Subsystem:

(1) Subtidal – These habitats and associated substrates are continuously submerged, even during extreme low water.

(2) Intertidal – This is defined as the area from extreme low water to extreme high water and associated splash zone.

Class: (under Subtidal Subsystem)

(UB) Unconsolidated Bottom – Includes all wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones (less than six to seven cm in diameter) and vegetative cover less than 30 percent.

Class: (under Intertidal Subsystem)

(EM) Emergent – Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

(US) Unconsolidated Shore – Includes all wetland habitats having the following three characteristics:

- unconsolidated substrates with less than 75 percent aerial cover of stones, boulders, or bedrock;
- less than 30 percent aerial cover of vegetation other than pioneering plants; and
- any of the following water regimes: irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, intermittently flooded, saturated, seasonal-tidal, temporary-tidal, or artificially flooded.

*Intermittent or intertidal channels of the Riverine System or Intertidal channels of the Estuarine System are classified as Streambed. Landforms such as beaches, bars, and flats are included in the Unconsolidated Shore class.

(SS) Scrub-Shrub – Includes areas dominated by woody vegetation less than six meters (20 feet) tall. The species include true shrubs, young trees (saplings) and trees or shrubs that are small or stunted because of environmental conditions.

Subclass: (under Emergent Class)

(1) Persistent – Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

Subclass: (under Scrub-Shrub Class)

(1) Broad-leaved Deciduous – Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season.

Water Regime:

(L) Subtidal – The substrate is permanently flooded with tidal water.

(N) Regularly Flooded – Tidal water alternately floods and exposes land surface at least once daily.

(P) Irregularly Flooded – Tidal water floods the land surface less often than daily.

Special Modifiers:

(x) Excavated – Lies within a basin or channel excavated by man.

(s) Spoil – Wetland or deepwater habitat where the substrate is a result of the deposition of spoil materials.