

Appendix C
Wetland Classifications

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COWARDIN CLASSIFICATION

PALUSTRINE

Palustrine wetlands are non-tidal and tidal-freshwater wetlands in which vegetation is predominantly trees (forested wetlands); shrubs (scrub-shrub wetlands); persistent or non-persistent emergent, erect, rooted herbaceous plants (persistent and non-persistent-emergent wetlands); or submersed and (or) floating plants (aquatic beds). Palustrine wetlands also include intermittently to permanently flooded open-water bodies of less than 20 acres in which water is less than 6.6 feet deep. Palustrine wetlands can be further divided based on the dominant plant life form or the physiography and composition of the substrate (e.g., aquatic bed, emergent, forested, scrub-shrub, unconsolidated bottom, or unconsolidated shore) and the seasonal water regime (e.g., intermittently exposed, semipermanently flooded, seasonally flooded, saturated, or temporarily flooded).

Palustrine wetlands within the corridor occur in a variety of forms, size, depth, and type/classification. The wetlands can range from a few feet across and only inches deep, to basins 500 acres in size with depths of up to six feet. Most of the plants within the small to medium sized seasonal wetlands support facultative wetland species (FACW) interspersed with a few obligate (OBL) species in the deeper portions of the basin.

RIVERINE

Riverine wetlands are non-tidal and tidal-freshwater wetlands within a channel. Vegetation, when present, is predominantly non-persistent emergent plants (non-persistent-emergent wetlands), or submersed and (or) floating plants (aquatic beds), or both. Riverine wetlands, defined by their close associations with perennial streams, occur along stream channels and are often associated with riparian areas. These areas are also supported by groundwater drainage associated with floodplains and by periodic flooding events. Riverine wetlands are divided into categories based on the nature of the adjacent stream (e.g., upper perennial or intermittent). Riverine wetlands can be further divided based on the dominant plant life form of the physiography and composition of the substrate (e.g., unconsolidated bottom unconsolidated shore, or streambed) and the seasonal water regime (e.g., permanently flooded, semi-permanently flooded, seasonally flooded, or temporarily flooded).

There are three types of stream systems in the region: perennial, intermittent, and ephemeral. Perennial streams have visible water flowing above the streambed year-round; intermittent streams have water that appears both above and below the streambed; and ephemeral streams or watercourses flow only in response to precipitation. Vegetation growing along intermittent streams often has access to the water table or at least a greater quantity of soil moisture due to the proximity of the water table. Therefore, this creates distinct hydrologic characteristics and vegetation composition differences that distinguish intermittent streams from ephemeral streams. Generally, only perennial and intermittent streams can support riparian areas, while ephemeral streams generally do not possess the hydrologic conditions that allow riparian vegetation to grow. Although water flows down ephemeral streams periodically, the water table does not occur sufficiently close to the soil surface to allow hydrophytic vegetation to become

established. Vegetation growing along ephemeral watercourses may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but generally there are no dramatic compositional differences between the two.

CIRCULAR 39 CLASSIFICATION

TYPE 1: SEASONALLY FLOODED BASIN, FLOODPLAIN FOREST

Wetlands in seasonally flooded basins or forest floodplains include soils covered with water, or soil waterlogged during variable seasonal periods but usually well-drained during much of the growing season. This type is found both in upland depressions and in overflow bottomlands. In uplands, basins or flats may be filled with water during periods of heavy rain or melting snow. Vegetation varies greatly according to season and duration of flooding: from bottomland hardwoods to herbaceous plants. Where the water has receded early in the growing season, smartweeds, wild millet, fall panicum, redroot cyperus, and weeds (i.e. marsh elder, ragweed, and cocklebur) are likely to occur. Shallow basins that are submerged only temporarily usually develop little or no wetland vegetation.

TYPE 2: WET MEADOW, FRESH WET MEADOW, WET TO WET-MESIC PRAIRIE, SEDGE MEADOW, AND CALCAREOUS FEN

Wet meadow, fresh wet meadow, wet to wet-mesic prairie, sedge meadow, and calcareous fen wetlands include soils usually without standing water during most of the growing season, but waterlogged within at least a few inches of the surface. Meadows may fill shallow basins, sloughs, or farmland sags, or these meadows may border shallow marshes on the landward side. Vegetation includes grasses, sedges, rushes and various broad-leaved plants. In the North, representative plants are sedges, rushes, redtop, reedgrasses, manna grasses, prairie cordgrass, and mints. Other wetland plant community types include low prairies, sedge meadows, and calcareous fens.

TYPE 3: SHALLOW MARSH

Shallow marsh wetlands include soil usually waterlogged early during the growing season and often covered with as much as six inches or more of water. Shallow marshes may nearly fill shallow lake basins or sloughs, or may border deep marshes on the landward side. Seep areas on irrigated lands often develop as shallow marshes. Common vegetation includes grasses, bulrushes, spikerushes, and various other marsh plants such as cattails, arrowhead, pickerelweed, and smartweeds.

TYPE 4: DEEP MARSH

Deep marsh wetlands include soil usually covered with six inches to three feet or more of water during the growing season. Deep marshes may completely fill shallow lake basins, potholes, limestone sinks and sloughs, or they may border open water in such depressions. Vegetation includes cattails, reeds, bulrushes, spikerushes and wild rice. In open areas, pondweeds, naiads, coontail, watermilfoils, waterweeds, duckweed, water lilies, or spatterdocks may occur.

TYPE 5: SHALLOW OPEN WATER

Shallow ponds and reservoirs include water depths less than 10 feet deep and fringed by a border of emergent vegetation similar to open areas of Type 4. Vegetation (mainly at water depths less than six feet), includes pondweeds, naiads, wild celery, coontail, watermilfoils, muskgrass, waterlilies, and spatterdocks.

TYPE 6: SHRUB SWAMP; SHRUB CARR, ALDER THICKET

In areas of shrub swamp, shrub carr, and alder thicket, the soil is usually waterlogged during the growing season and is often covered with as much as six inches of water. Shrub swamps occur mostly along sluggish streams and occasionally on floodplains. Vegetation includes alders, willows, buttonbush, dogwoods and swamp-privet.

TYPE 7: WOODED SWAMPS; HARDWOOD SWAMP, CONIFEROUS SWAMP

In areas of wooded swamps, the soil is waterlogged at least to within a few inches of the surface during the growing season and is often covered with as much as one foot of water. Wooded swamps occur mostly along sluggish streams, on old riverine oxbows, on floodplains, on flat uplands, and in very shallow lake basins. Forest vegetation includes tamarack, arborvitae (cedar), black spruce, balsam fir, red maple, and black ash. Deciduous swamps frequently support beds of duckweeds, smartweeds, and other herbs.

TYPE 8: BOGS; CONIFEROUS BOGS, OPEN BOGS

Bogs include soil usually waterlogged and supporting a spongy covering of mosses. Bogs occur mostly in shallow lake basins, on flat uplands and along sluggish streams. Vegetation is woody or herbaceous or both. Typical plants are heath shrubs, sphagnum moss, and sedges.

TYPE 9: RIVERINE

Riverine systems (rivers, creeks and streams) are contained in natural or artificial channels periodically or continuously containing flowing water. Upland islands or palustrine wetlands may occur in the channel, but they are not part of the riverine system.

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