
APPENDIX 2.A

DELAWARE WILDLIFE HABITAT CLASSIFICATION



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Habitat Category	Cowardin (1979) Class.	Type	Habitat Level 1	Habitat Level 2	Description	Crosswalk
Aquatic	Estuarine	Ecological System	Estuarine Coastal		Salinity >0.5, depth to 4 m	CMECS Subsystem: Estuarine Coastal
Aquatic	Estuarine	Ecological System	Estuarine Open Water		Salinity >0.5, depth > 4 m	CMECS Subsystem: Estuarine Open Water:Tr
Aquatic	Marine	Ecological System	Marine Nearshore		< 30 m depth	CMECS Subsystem: Marine Nearshore
Aquatic	Marine	Ecological System	Marine Oceanic		shelf break to deep ocean	CMECS Subsystem: Marine Oceanic
Aquatic	Marine	Ecological System	Marine Offshore		30 m depth to continental shelf break	CMECS Subsystem: Marine Offshore
Aquatic	Marine/ Estuarine	Biotic Feature	Marine and Estuarine Shellfish Beds	Tidal Freshwater Mussel Bed		
Aquatic	Marine/ Estuarine	Biotic Feature	Marine and Estuarine Shellfish Beds	Oyster aggregations/reef	Structures formed by the Eastern oyster (<i>Crassostrea virginica</i>) that provide the dominant structural component of the benthos and whose accumulated mass provides significant vertical relief (> 0.5 m). (ACFHP 2009)	CMECS Biotic Group: Oyster Reef and Biotic Group: Oyster Bed

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Aquatic	Marine/ Estuarine	Biotic Feature	Marine and Estuarine Shellfish Beds	Scallop beds	Areas of dense aggregations of scallops on the ocean floor. Common Atlantic coast species include: 1) the large Atlantic sea scallop (<i>Placopecten magellanicus</i>) which ranges from Newfoundland to North Carolina; 2) the medium-sized Atlantic calico scallop (<i>Argopecten gibbus</i>) which is found in waters south of Delaware; and 3) the bay scallop (<i>Argopecten irradians</i>) which occurs from Cape Cod to Florida as well as in the Gulf of Mexico (ACFHP 2009)	CMECS Biotic Group: Scallop Bed
Aquatic	Marine/ Estuarine	Biotic Feature	Marine and Estuarine Shellfish Beds	Hard clam beds	Dense aggregations of the hard clam (<i>Mercenaria mercenaria</i>) found in the subtidal regions of bays and estuaries to approximately 15 meters in depth. Clams are generally found in mud flats and firm bottom areas consisting of sand or shell fragments. (ACFHP 2009)	CMECS Biotic Group: Clam Bed
Aquatic	Marine/ Estuarine	Biotic Feature	Marine and Estuarine Shellfish Beds	Shell accumulations	Shells of dead mollusks sometimes accumulate in sufficient quantities to provide important habitat. Accumulations of Eastern oyster shells are a common feature in the intertidal zone of many southern estuaries. (ACFHP 2009)	CMECS Substrate Class: Shell Substrate

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Aquatic	Marine/ Estuarine	Biotic Feature	Marine and Estuarine Shellfish Beds	Mussel reef	Areas dominated by the ridge- or mound- like structures formed by the colonization and growth of mussels that are attached to a substrate of live and dead conspecifics. (CMECS)	CMECS Biotic Group: Mussel Reef
Aquatic	Marine/ Estuarine	Biotic Feature	Coral and Live/Hard Bottom	Tubeworm Reef	Areas dominated by relatively stable, ridge- or mound-like aggregations of living and non-living material formed by the colonization and growth of worm species (e.g., sabellariids) (CMECS)	CMECS Biotic Group: Sabellariid Reef
Aquatic	Marine/ Estuarine	Biotic Feature	Macroalgae	Fucus spp., Ulva Laminaria spp., Ulva lactuca	Large marine multi-cellular macroscopic algae (seaweeds). (ACFHP 2009)	CMECS Biotic Group: Algal Rafts and Biotic Group: Algal Particles
Aquatic	Marine/ Estuarine	Biotic Feature	Coldwater Corals			CMECS Biotic Subclass: Deepwater/Coldwater Coral Reef Biota and Biotic Group: Attached Corals
Aquatic	Marine/ Estuarine	Biotic Feature	Sulfur Sponge			CMECS Biotic Group: Attached Sponges and Biotic Group: Mineral Boring Fauna

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Aquatic	Estuarine / Riverine	Biotic Feature	Submerged Aquatic Vegetation	Tidal fresh & oligohaline plant species	Generally found in areas where salinity ranges from 0.5 to 5.0 ppt. Includes <i>Vallisneria</i> , <i>Ceratophyllum</i> (ACFHP 2009)	CMECS Biotic Group: Freshwater and Brackish Tidal Aquatic Vegetation
Aquatic	Marine/ Estuarine	Biotic Feature	Submerged Aquatic Vegetation	Mesohaline & polyhaline plant species	Generally found in areas where salinity ranges from 5.0 ppt up to 30 ppt. Includes <i>Zostera</i> , <i>Ruppia</i> (ACFHP 2009)	CMECS Biotic Group: Seagrass Bed
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Unvegetated Coastal Bottom	loose fine bottom - sandy		ACFHP Loose Fine Bottom; CMECS Substrate Groups: Sand and Muddy Sand
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Unvegetated Coastal Bottom	Loose fine bottom - silty		ACFHP Loose Fine Bottom; CMECS Substrate Groups: Mud, Sandy Mud
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Unvegetated Coastal Bottom	Loose coarse bottom - gravel, cobble		ACFHP Loose Coarse Bottom; CMECS Substrate Subclass: Coarse Unconsolidated Substrate
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Unvegetated Coastal Bottom	Firm hard bottom - embedded rock, bedrock		ACFHP Firm Hard Bottom; CMECS Substrate Class: Rock Substrate
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Unvegetated Coastal Bottom	Structured sand habitat	Linear narrow sand features that develop where a stream or ocean current promotes deposition of sand (ACFHP 2009)	CMECS Geform: Bank, Geform: Shoal

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Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Artificial Substrate	Breakwater/Jetty		CMECS Geoform: Breakwater/Jetty
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Artificial Substrate	Bulkhead		CMECS Geoform: Bulkhead
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Artificial Substrate	Riprap Shoreline		CMECS Geoform: Bulkhead
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Artificial Substrate	Artificial Reef / Wreck		CMECS Geoform: Artificial Reef
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Artificial Substrate	Dock/Pier/Piling		CMECS Geoform: Dock/Pier
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Artificial Substrate	Dredged / Excavated Channel		CMECS Geoform: Dredged / Excavated Channel
Aquatic	Marine/ Estuarine / Riverine	Substrate Type	Artificial Substrate	Dredge Deposit		CMECS Geoform: Dredge Deposit
Aquatic	Riverine	Ecological System	Coastal Plain Headwaters and Creeks			NEAHCS Cool or Warm, Low or Moderate Gradient, Acidic, Headwaters and Creeks
Aquatic	Riverine	Ecological System	Coastal Plain Small and Medium River			NEAHCS Warm, Low or Moderate Gradient, Acidic, Small and Medium River
Aquatic	Riverine	Ecological System	Freshwater Tidal Coastal (Rivers, Creeks)		Salinity <0.5, depth to 4 m, upstream to head of tide	CMECS Subsystem: Estuarine Tidal Riverine Coastal

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Aquatic	Riverine	Ecological System	Freshwater Tidal Open Water		Salinity <0.5, depth > 4 m, upstream to head of tide	CMECS Subsystem: Estuarine Tidal Riverine Open Water
Aquatic	Riverine	Ecological System	Piedmont Headwaters and Creeks		Cold or Cool, High or Moderate Gradient, Buffered Headwaters and Creeks	NEAHCS Cool or Warm, High or Moderate Gradient, Buffered, Headwaters and Creeks
Aquatic	Riverine	Ecological System	Piedmont Small and Medium River			NEAHCS Cool or Warm, Moderate Gradient, Small and Medium River
Aquatic	Riverine	Biotic Feature	Non-tidal Shellfish Beds	Non-tidal Freshwater Mussel Bed	Freshwater mussel beds located above tidal influence (ACFHP 2009)	
Aquatic	Riverine	Biotic Feature	Submerged Aquatic Vegetation	Tidal fresh & oligohaline plant species		
Upland	Terrestrial	Modified System	Agricultural	Buffers/Filter Strips		NETWHCS Macrogroup: Agricultural
Upland	Terrestrial	Modified System	Agricultural	Fallow		NETWHCS Macrogroup: Agricultural
Upland	Terrestrial	Modified System	Agricultural	Hay / Pasture		NETWHCS Macrogroup: Agricultural, System: Pasture/Hay
Upland	Terrestrial	Modified System	Agricultural	Orchard/Nursery		NETWHCS Macrogroup: Agricultural
Upland	Terrestrial	Modified System	Agricultural	Pasture		NETWHCS Macrogroup: Agricultural, System: Pasture/Hay

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Upland	Terrestrial	Modified System	Agricultural	Planted Warm Season Grasses		NETWHCS Macrogroup: Agricultural
Upland	Terrestrial	Modified System	Agricultural	Row Crops		NETWHCS Macrogroup: Agricultural, System: Cultivated Crops
Upland	Terrestrial	Modified System	Agricultural	Turf		NETWHCS Macrogroup: Agricultural
Upland	Terrestrial	Modified System	Agricultural	Vegetables		NETWHCS Macrogroup: Agricultural, System: Cultivated Crops
Upland	Terrestrial	Modified System	Modified Uplands	Coastal Plain Modified / Successional Forests	Coastal Plain Forests that have been heavily modified in their species composition by a history of clearing and agriculture, followed by subsequent invasion. Loblolly pine and sweetgum are often dominant.	NETWHCS Macrogroup: Plantation and Ruderal Forest, System: Ruderal Forest
Upland	Terrestrial	Modified System	Modified Uplands	Conifer Plantation		NETWHCS Macrogroup: Plantation and Ruderal Forest, System: Managed Tree Plantation
Upland	Terrestrial	Modified System	Modified Uplands	Piedmont Modified / Successional Forests	Piedmont Forests that have been heavily modified in their species composition by a history of clearing and agriculture, followed by subsequent invasion by non-native vines and other invasives.	NETWHCS Macrogroup: Plantation and Ruderal Forest, System: Ruderal Forest

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Upland	Terrestrial	Modified System	Modified Uplands	Developed: Commercial / Industrial	>80% impervious	NETWHCS Macrogroup: Urban/Suburban Built, System: Commercial / Industrial
Upland	Terrestrial	Modified System	Modified Uplands	Developed: High Intensity Residential	50-80% impervious	NETWHCS Macrogroup: Urban/Suburban Built, System: Residential - High Intensity
Upland	Terrestrial	Modified System	Modified Uplands	Developed: Medium Intensity Residential	25-50% impervious	NETWHCS Macrogroup: Urban/Suburban Built, System: Residential - Medium Intensity
Upland	Terrestrial	Modified System	Modified Uplands	Developed: Low Intensity Residential	15-25% impervious	NETWHCS Macrogroup: Urban/Suburban Built, System: Residential - Low Intensity
Upland	Terrestrial	Modified System	Modified Uplands	Developed: Rural / Sparse Residential	<15% impervious	NETWHCS Macrogroup: Urban/Suburban Built, System: Residential - Rural / Sparse
Upland	Terrestrial	Modified System	Modified Uplands	Developed: Urban/Recreational Grasses	<20% impervious	NETWHCS Macrogroup: Maintained Grasses and Mixed Cover, System: Urban & Recreational Grasses

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Upland	Terrestrial	Modified System	Modified Uplands	Extractive: Sand/Gravel Active		NETWHCS Macrogroup: Extractive, System: Quarries / Pits / Stripmines
Upland	Terrestrial	Modified System	Modified Uplands	Extractive: Sand/Gravel Inactive		NETWHCS Macrogroup: Extractive, System: Quarries / Pits / Stripmines
Upland	Terrestrial	Ecological System	Natural Forested Uplands	Basic Mesic Forest	Moist, species-rich forest that develops over mafic substrate in the Piedmont or rich soils in the Coastal Plain, characterized by the presence of tulip poplar and a rich herb layer.	Ecological System near Northern Atlantic Coastal Plain Calcareous Ravine (CES203.069)
Upland	Terrestrial	Ecological System	Natural Forested Uplands	Coastal Plain Oak-Pine Forest	Dry hardwood forests on acidic sandy soils, largely dominated by oaks, sometimes with pine as a codominant	Ecological System Northern Atlantic Coastal Plain Hardwood Forest (CES203.475) (in part)
Upland	Terrestrial	Ecological System	Natural Forested Uplands	Maritime Forest and Shrubland	A forest-shrubland mosaic encompassing a range of woody vegetation defined by proximity to maritime environment	Ecological System Northern Atlantic Coastal Plain Maritime Forest (CES203.302) (in part)
Upland	Terrestrial	Ecological System	Natural Forested Uplands	Mesic Mixed Hardwood Forest	Moist forest characterized by a mix of tulip poplar, beech, oaks and hickories	Ecological System Southern Atlantic Coastal Plain Mesic Hardwood Forest (CES203.242)

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Upland	Terrestrial	Ecological System	Natural Forested Uplands	Piedmont Oak Forest	Dry to dry-mesic oak forests of Piedmont ridges and upper slopes. This habitat combines two ecological systems, both oak-dominated	Ecological System Northeastern Interior Dry-Mesic Oak Forest (CES202.592), Central Appalachian Dry Oak-Pine Forest (CES202.591)
Upland	Terrestrial	Ecological System	Natural Forested Uplands	Inland Xeric Sand Forest	Extremely dry forests and woodlands dominated by a mix of oaks, Virginia or shortleaf pine, and sand hickory, found on inland sandy soils and sand ridges.	Ecological System Northern Atlantic Coastal Plain Hardwood Forest (CES203.475) (in part)
Upland	Terrestrial	Ecological System	Natural Unforested Uplands	Early Successional Herbaceous		NETWHCS Macrogroup: Ruderal Shrubland & Grassland
Upland	Terrestrial	Ecological System	Natural Unforested Uplands	Early Successional Shrubland		NETWHCS Macrogroup: Ruderal Shrubland & Grassland
Upland	Terrestrial	Ecological System	Natural Unforested Uplands	Early Successional Young Forest		
Upland	Terrestrial	Ecological System	Natural Unforested Uplands	Maritime Dune and Grassland	Graminoid-dominated dune grassland and shrubland	Ecological System (in part) Northern Atlantic Coastal Plain Dune and Swale (CES203.264)

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Upland	Terrestrial	Ecological System	Natural Unforested Uplands	Serpentine Barren	A mosaic of sparse woodlands, shrublands, and grass-savannas that develop over shallow soils formed from ultramafic bedrock containing serpentinite	Ecological System Eastern Serpentine Woodland (CES202.347)
Upland	Terrestrial	Ecological System	Natural Unforested Uplands	Unvegetated Sandy Beach	Unvegetated estuarine and marine sandy beach	Ecological System Northern Atlantic Coastal Plain Sandy Beach (CES203.301)
Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Bald Cypress Swamp	Forested swamp characterized by bald cypress and swamp black gum found along millponds and blackwater rivers.	Ecological System Northern Atlantic Coastal Plain Stream and River (CES203.070) (in part)
Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Coastal Plain Flatwood and Depression Swamp	Forested swamps and flatwoods of poorly drained, relatively shallow depressions that are often groundwater-influenced, but are also often configured in large patches along streams and rivers, especially in headwater settings.	Ecological System Northern Atlantic Coastal Plain Basin Swamp and Wet Hardwood Forest (CES203.520)

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Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Coastal Plain Seepage Swamp	Forested, groundwater-fed wetlands that occur where seepage flows from the base of moderate slopes within narrow stream corridors	Ecological System North-Central Interior and Appalachian Rich Swamp (CES202.605)
Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Coastal Plain Stream and River Floodplain	Intermittently flooded habitat mosaics of low-gradient coastal plain floodplains	Ecological System Northern Atlantic Coastal Plain Riverine Peat Swamp (CES203.070)
Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Coastal Plain White Cedar Peat Swamp	A forested swamp of peat-accumulating basins. Atlantic white cedar is characteristic and often dominant	Ecological System Northern Atlantic Coastal Plain Basin Peat Swamp (CES203.522)
Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Bayshore Swamp	Freshwater forested or shrub-dominated wetlands of back-dune depressions and low-lying flats bordering tidal marsh.	Ecological System Northern Atlantic Coastal Plain Maritime Forest (CES203.302) (in part)
Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Piedmont Seepage Swamp	Forested, acidic Piedmont seepages on floodplains and lower slopes	Ecological System North-Central Appalachian Acidic Swamp (CES202.604)

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Wetland	Palustrine	Ecological System	Forested Nontidal Wetlands	Piedmont Stream and River Floodplain	Intermittently flooded forests and woodlands of Piedmont stream and small river valleys, dominated by characteristic floodplain species like sycamore, silver maple, willow, ash, river birch, and box elder	Ecological System Central Appalachian River Floodplain (CES202.608), Central Appalachian Stream and Riparian (CES202.609)
Wetland	Palustrine	Ecological System	Modified Wetlands	Dredge Spoil Disposal Area		
Wetland	Estuarine / Palustrine	Ecological System	Modified Wetlands	Impoundment		
Wetland	Lacustrine	Ecological System	Modified Wetlands	Lake/Reservoir		
Wetland	Lacustrine	Ecological System	Modified Wetlands	Mill Pond		
Wetland		Ecological System	Modified Wetlands	Sewage Treatment Ponds		
Wetland		Ecological System	Modified Wetlands	Small Pond		
Wetland		Ecological System	Modified Wetlands	Stormwater/Retention Basins		
Wetland	Palustrine	Ecological System	Open Nontidal Wetlands	Coastal Plain Seasonal Pond	Shallow, usually elliptical, seasonally flooded depression wetlands	Ecological System Northern Atlantic Coastal Plain Pond (CES203.518)
Wetland	Palustrine	Ecological System	Open Nontidal Wetlands	Coastal Plain Seepage Fen	Graminoid-dominated seepage wetlands associated with non-tidal headwater streams	Ecological System (in part) Northern Atlantic Coastal Plain Basin Peat Swamp (CES203.522)

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Wetland	Palustrine	Ecological System	Open Nontidal Wetlands	Emergent Freshwater Marsh	Herbaceous freshwater marshes that occur in closed or open basins that are generally flat and shallow. They are associated with lakes, ponds, slow-moving streams, and/or impoundments or ditches and are generally permanently or semi-permanently flooded	Ecological System Laurentian-Acadian Freshwater Marsh (CES201.594)
Wetland	Palustrine	Ecological System	Open Nontidal Wetlands	Freshwater Shrub Swamp	Shrub-dominated freshwater wetlands occurring in a variety of settings, often associated with impoundments, ponds, and other artificial settings and are permanently or semi-permanently flooded	
Wetland	Palustrine	Ecological System	Open Nontidal Wetlands	Interdunal Wetlands	Small, seasonally flooded grasslands in low swales between secondary dunes, characterized by perched water tables and shallow seasonal flooding by rainfall. Although they are predominately freshwater wetlands, periodic saltwater intrusion may occur in some swales during storm surges.	Ecological System (in part) Northern Atlantic Coastal Plain Dune and Swale (CES203.264)
Wetland	Palustrine	Ecological System	Open Nontidal Wetlands	Piedmont Seepage Meadow	Open, graminoid-dominated meadows and shrub swamps scattered throughout low stream valleys of the Piedmont. They are common features at the toeslopes of rolling hills and margins of floodplains	Ecological System Laurentian-Acadian Wet Meadow-Shrub Swamp (CES201.582)

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Wetland	Estuarine	Ecological System	Open Nontidal Wetlands	Sea Level Fen	Herb-dominated seepage wetlands that occur on the edges of salt marshes where there is enough acidic groundwater seepage to "push back" brackish water creating a freshwater environment.	Ecological System (in part) Northern Atlantic Coastal Plain Tidal Salt Marsh (CES203.519)
Wetland	Estuarine	Ecological System	Tidal Wetlands	Brackish Tidal Marsh and Shrubland	Tidal marsh and shrub ecotones occurring at the transitional salinity zone of 5-18 ppt.	Ecological System Northern Atlantic Coastal Plain Brackish Tidal Marsh (CES203.894)
Wetland	Estuarine / Riverine	Ecological System	Tidal Wetlands	Fresh and Oligohaline Tidal Marsh and Shrubland	Tidally-influenced marsh and shrubland with salinities less than 5 ppt (oligohaline) and often less than 0.5 ppt (fresh), characterized by diverse herbaceous vegetation near the tidal channel and usually bordered by a diverse shrub zone toward the upland edge	Ecological System Northern Atlantic Coastal Plain Fresh and Oligohaline Tidal Marsh (CES203.516)
Wetland	Riverine	Ecological System	Tidal Wetlands	Freshwater Tidal Swamp	Tidally flooded hardwood forest and shrubland in the upper reaches of tidal river floodplains, typically dominated by hardwoods	Ecological System Northern Atlantic Coastal Plain Tidal Swamp (CES203.282)
Wetland	Estuarine/ Riverine	Ecological System	Tidal Wetlands	Intertidal Mud Flat	Intertidal flats that are best developed in shallow protected estuarine bays, pools, and along small tidal creeks and guts	Ecological System Northern Atlantic Intertidal Mudflat (CES201.050)

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Wetland	Estuarine	Ecological System	Tidal Wetlands	Intertidal Sand Flat	Sandy flats along the Delaware Bay and Atlantic Ocean beaches are inundated at high tide and exposed at low tide.	Ecological System Northern Atlantic Tidal Sand Flat (CES201.049)
Wetland	Estuarine	Ecological System	Tidal Wetlands	Tidal Salt Marsh (Low)	The more seaward of the coastal salt marshes, these habitats are flooded for longer periods of time during daily tidal cycles and are dominated by <i>Spartina alterniflora</i> .	Ecological System Northern Atlantic Coastal Plain Tidal Salt Marsh (CES203.519)
Wetland	Estuarine	Ecological System	Tidal Wetlands	Tidal Salt Marsh and Shrubland (High)	The more landward of the coastal low marshes, high marshes occur at a slightly higher elevation where they are subjected to a shorter period of tidal inundation and are often dominated by <i>Spartina patens</i> .	Ecological System Northern Atlantic Coastal Plain Tidal Salt Marsh (CES203.519)
		Habitat Feature Modifier	Karst		Underground drainage system formed from the dissolution of soluble rocks such as limestone, marble, dolomite, and gypsum.	NETWHCS Modifier
		Habitat Feature Modifier	Springhead / Springhouse		Natural springheads where groundwater reaches the surface at a	
		Habitat Feature Modifier	Borrow Pit / Fishless Pond		Often the result of small-scale or isolated sand, gravel, or fill removal, these are small, artificial ponds that are not colonized by predatory fish.	
		Habitat Feature Modifier	Quarry Face / Road Cut / Outcrop		Man-made vertical cliffs or rock outcrops	

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		Habitat Feature Modifier	Buildings / Structures		Buildings, bridges, or other built structures	
		Habitat Feature Modifier	Vernal Pool		Small (~0.1-2 ha) ephemeral forested wetlands	
		Habitat Feature Modifier	Intertidal Mud Bank		Muddy, sloping banks of intertidal creeks	
					Shallow depressions or flats, often occurring in and adjacent to marshes in the high intertidal zone that receive saltwater inflow on an infrequent basis. They often are unvegetated and can have encrustations of salt left by evaporation. (CMECS)	CMECS Geofom: Panne
		Habitat Feature Modifier	Salt Panne		Regularly flooded, unvegetated depressions in salt marsh.	
		Habitat Feature Modifier	Salt Marsh Pond		Linear features in agricultural and occasionally residential landscapes dominated by trees or shrubs.	
		Habitat Feature Modifier	Hedgerow		Bar of course cobble or gravel within the channel of a river or stream.	
		Habitat Feature Modifier	Floodplain Cobble Bar		Electrical or other utility transmission corridors that are maintained in early successional habitat by periodic vegetation management.	NETWCS Macrogroup: Ruderal Shrubland & Grassland, System: Powerline Right-of-Way
		Habitat Feature Modifier	Utility Right-of-way			

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		Habitat Feature Modifier	Roadside		Transportation corridors that are maintained in early successional habitat by periodic vegetation management.	
		Habitat Feature Modifier	Clearcut			
		Seral Stage Modifier	Early Successional Forest (Seedling/Sapling)		Regenerating forest after clearcut, fire, or other disturbance. At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and saplings; and at least 2/3 of the canopy cover is in trees less than 5.0 inches DBH/DRC	USFS Forest Service Forest Inventory and Analysis: Seedling/Sapling
		Seral Stage Modifier	Mid-Successional Forest (Poletimber)		At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and saplings; and at least 1/3 of the canopy cover is in trees greater than 5.0 inches DBH/DRC and the plurality of the canopy cover is in softwoods between 5.0 – 8.9 inches diameter and/or hardwoods between 5.0 – 10.9 inches DBH, and/or woodland trees 5.0 – 8.9 inches DRC.	USFS Forest Service Forest Inventory and Analysis: Poletimber

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		Serai Stage Modifier	Mature Forest (Sawtimber)		<p>At least 10 percent stocking (or 10 percent canopy cover if stocking standards are not available) in trees, seedlings, and saplings; and at least 1/3 of the canopy cover is in trees greater than 5.0 inches DBH/DRC and the plurality of the canopy cover is in softwoods between ≥9.0 inches diameter and/or hardwoods ≥1.0 inches DBH, and for woodland trees ≥9.0 inches DRC.</p>	<p>USFS Forest Service Forest Inventory and Analysis: Sawtimber</p>

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					Forest with a preponderance of old trees, and that exhibits most of the following characteristics: 1. Shade tolerant species are present in all age/size classes. 2. There are randomly distributed canopy gaps. 3. There is a high degree of structural diversity characterized by multiple growth layers (canopy, understory trees, shrub, herbaceous, ground layers) that reflect a broad spectrum of ages. 4. There is an accumulation of dead wood of varying sizes and stages of decomposition, standing and down, accompanied by decadence in live dominant trees. Pit and mound topography can be observed, if the soil conditions permit it. (MD DNR)	
		Seral Stage Modifier	Old Growth Forest			
		Seral Stage Modifier	Early Successional Herbaceous		Early successional habitat with less than 10 percent stocking of trees, dominant vegetation is grass/forb	USFS Forest Service Forest Inventory and Analysis: Nonstocked
		Seral Stage Modifier	Early Successional Shrubland		Early successional habitat with less than 10 percent stocking of trees, dominant vegetation is shrubs	USFS Forest Service Forest Inventory and Analysis: Nonstocked
Aquatic		Tidal Modifier	Supratidal			CMECS Tidal Zone: Supratidal

Delaware Wildlife Action Plan

Habitat Category	Cowardin (1979) Class.	Type	Habitat Level 1	Habitat Level 2	Description	Crosswalk
Aquatic		Tidal Modifier	Intertidal			CMECS Tidal Zone: Intertidal
Aquatic		Tidal Modifier	Subtidal			CMECS Tidal Zone: Subtidal
Aquatic		Salinity Modifier	Fresh and Oligohaline		0-5 ppt	CMECS Salinity Subcomponent: Oligohaline
Aquatic		Salinity Modifier	Mesohaline		5-18 ppt	CMECS Salinity Subcomponent: Mesohaline
Aquatic		Salinity Modifier	Polyhaline		18-30 ppt	CMECS Salinity Subcomponents Lower Polyhaline (18 to <25) and Upper Polyhaline (25 to <30)
Aquatic		Salinity Modifier	Ocean		30 ppt +	CMECS Salinity Subcomponents Euhaline (30 to <40) and Hyperhaline (≥ 40)
Aquatic	Riverine	pH Modifier	Acidic			NEAHCS Acidic
Aquatic	Riverine	pH Modifier	Buffered			NEACHS Buffered
Aquatic	Riverine	Temperature Modifier	Cold			NEAHCS Cold
Aquatic	Riverine	Temperature Modifier	Cool			NEAHCS Transitional Cool

APPENDIX 2.A: Delaware Wildlife Habitat Classification

Habitat Category	Cowardin (1979) Class.	Type	Habitat Level 1	Habitat Level 2	Description	Crosswalk
Aquatic	Riverine	Temperature Modifier	Warm			NEAHCS Warm
Aquatic	Riverine	Gradient Modifier	High			NEAHCS High Gradient
Aquatic	Riverine	Gradient Modifier	Moderate			NEAHCS Moderate Gradient
Aquatic	Riverine	Gradient Modifier	Low			NEAHCS Low Gradient
Upland	Terrestrial	Structural Modifier	Abundant Coarse Woody Debris			
Upland	Terrestrial	Structural Modifier	High Snag Density			
Upland	Terrestrial	Structural Modifier	Well-developed Shrub Layer			NETWHCS Modifier
Upland	Terrestrial	Structural Modifier	Diverse Herb Layer			
Upland	Terrestrial	Structural Modifier	Exposed Upland Sands			
Upland	Terrestrial	Structural Modifier	Treefalls / Forest Light Gaps			
Upland	Terrestrial	Structural Modifier	Vegetation Edge			
Upland	Terrestrial	Structural Modifier	Vegetation Interior			
Upland	Terrestrial	Structural Modifier	Frequently or Recently Burned			NETWHCS Modifier