![CTECO logo] **Connecticut Environmental Conditions Online**
Maps and Geospatial Data for Planning, Management, Education and Research
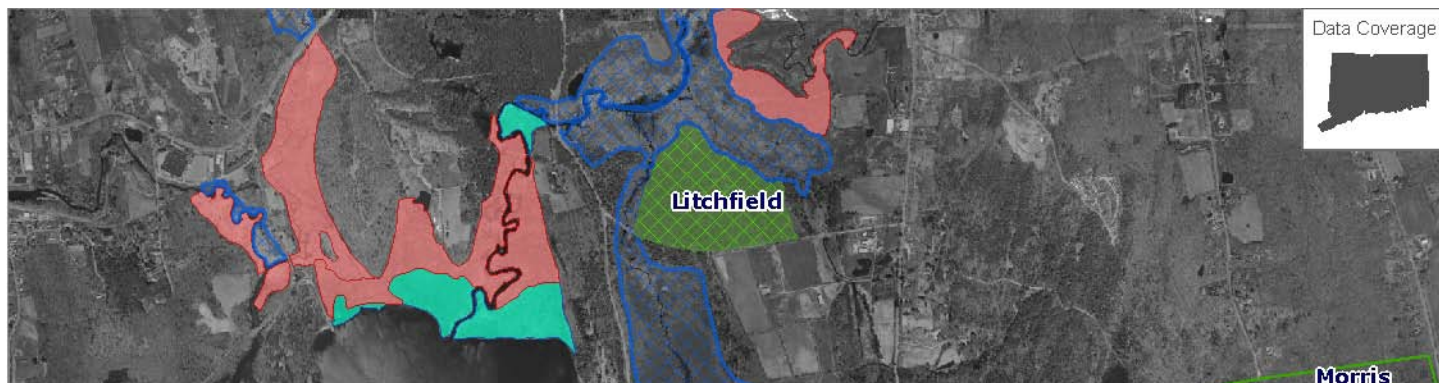
CT ECO
Complete
Resource Guide

Connecticut Critical Habitats

Description

Connecticut Critical Habitats depicts the classification and distribution of twenty-five rare and specialized wildlife habitats in the state. It represents a compilation of ecological information collected over many years by state agencies, conservation organizations and many individuals. Examples of critical habitats include Acidic Atlantic White Cedar Swamps, Sand Barrens, Dry Subacidic Forests and Intertidal Marshes. Connecticut Critical Habitats is the result of a project, which took place from 2007-2009, to create habitat maps to be used in land use planning and natural resource protection. Critical habitats range in size from areas less than 1 acre to areas that are 10's of acres in extent. Connecticut Critical Habitats is best represented when viewed with high resolution imagery at scales between 1:2,000 and 1:12,000.

Connecticut's landscape ranges from the coast of Long Island Sound to the mountain ridges and marble valleys in the northwestern hills, separated by the broad Central Valley and the Metacomet Ridge. The state's varied climate, geology, soil types, topography, and watersheds support a wide range of vegetative communities that provide diverse habitats for its wildlife. Many of Connecticut's wildlife species are considered to be of conservation significance due to their rarity and/or association with specialized habitats. The 25 non-aquatic habitat types mapped here were chosen from the "key habitats of greatest conservation need" identified in the Connecticut Comprehensive Wildlife Conservation Strategy (CWCS). These habitat types have a long history of conservation interest and have been documented and studied as being among the most rare, unique, and threatened, habitats in the state.

Purpose

Connecticut Critical Habitats provides the identification and distribution of a subset of important wildlife habitats identified in the Connecticut Comprehensive Wildlife Conservation Strategy. Connecticut Critical Habitats can be used in conjunction with other environmental and natural resource information to provide a more thorough understanding of the physical characteristics of each habitat. The spatial relationships between

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these areas and data such as land ownership and past, present and projected land use can be analyzed. The Connecticut Critical Habitats information can serve to highlight ecologically significant areas and to target areas of species diversity for land conservation and protection. Biologists may use this data to target further research on associated plant and animal species.

The need for this type of data at the state level is underscored in the Comprehensive Wildlife Conservation Strategy and in the "Connecticut Green Plan, Guiding Land Acquisition and Protection 2007 – 2012". The Connecticut Department of Environmental Protection's Green Plan places high importance and assigns acquisition priority to ecological communities that maintain biological integrity and diversity in Connecticut.
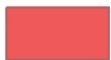
Governor M. Jodi Rell's Executive Order 15 on Responsible Growth, which provided the majority of the funding for the Connecticut Critical Mapping project, identifies a broader use for regional planning agencies, municipalities, nongovernmental organizations and other public interests. This data will assist stakeholders "…to better identify sensitive ecological areas and unique features, guide acquisition and preservation efforts, support local build-out maps and assessments…"
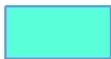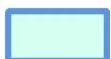
Legend Description

The legend is a composite of three fields (Group_Legend, CommType and Label) in the attribute table that can be used to organize and categorize the critical habitats. The Group_legend field is used to categorize and simplify the legend. Community types may contain multiple subtypes, as listed in the descriptions below. These subtypes are too numerous to include in a comprehensive legend. When a user sees adjoining polygons of the same community type, those polygons would have different community subtypes, which can be viewed in the attributes.
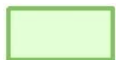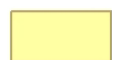
Symbol	Description	Label
ESTUARINE - includes salt, brackish and freshwater tidal marshes. Also included are intertidal beaches and shores and their associated sand dunes.		
	Beachshore – Subtype Salt. Windswept and wave washed sandy beaches and their associated sand dunes.	B
	Intertidal Marsh - Regularly and irregularly flooded marshes influenced by water with varying salinity. Subtypes - Freshwater marsh has salinity less than 0.5 ppt., and includes tidal woodlands. Brackish marsh has a salinity range of 0.5 to 18 ppt. Salt marsh has a salinity range greater than 18 ppt.	IM
PALUSTRINE FORESTED - includes swamps that are seasonally and/or permanently flooded by freshwater. Forest habitats are characterized by a dominance of trees with overlapping crowns forming between 60-100% canopy cover.		

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Symbol	Description	Label
	Acidic Atlantic White Cedar Swamp - Evergreen forested and /or shrub swamps dominated by Atlantic white cedar with stagnant or slow-moving water; in topographically defined basins; on decomposed peats and mucks. Subtypes include cedar, cedar/hardwood, cedar/great laurel, and other /unique.	AAWCS
	Acidic Red/Black Spruce Basin Swamp - Evergreen forested and /or shrub swamps dominated by red and/or black spruce with stagnant or slow-moving water; in topographically defined basins; on decomposed peats and mucks.	AcR/BSS
	Circumneutral Northern White Cedar Swamp - Evergreen forested and /or shrub swamps dominated by Northern white cedar with base-rich stagnant or slow-moving water; in topographically defined basins; on decomposed peats and mucks.	CirNWCS
	Floodplain Forest - Mesic forests and associated open, alluvial wetlands influenced by seasonal inundation, with flood deposited sandy or nutrient-rich silty soils. Subtypes high floodplain, low floodplain forest, alluvial swamp, undifferientated, and other/unique are included in the Palustrine Forested category.	FF
PALUSTRINE NON-FORESTED - includes marshes, bogs and fens that are seasonally and/or permanently flooded by freshwater. Also included are riverine beach strands that are exposed during low-flow conditions along the banks of major rivers. Non-forested habitats are characterized by a dominance of shrubs and herbaceous plants, with or without scattered trees.		
	Beachshore – Subtype Riverine. Windswept and wave washed sandy beaches and their associated sand dunes.	B
	Circumneutral Spring Fen - Naturally open wetlands occupying high pH groundwater discharge sites; peat accumulation minimal. Subtypes include sedge, shrub thicket, phragmites, woodland, and other/unique.	CirSF
	Floodplain Forest – Subtype Alluvial Marsh. Open alluvial wetlands influenced by seasonal inundation, with flood deposited sandy or nutrient-rich silty soils.	FF
	Freshwater Aquatic – Subtype "Coastal Plain Pond." Primarily "sandy substrate" ponds that experience a seasonal fluctuation in water level.	FA

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Symbol	Description	Label
	Medium Fen - Natural peatlands occupying topographically defined basins; often flooded by acidic surface water; on deep, poorly decomposed peats; dominated by sedges and/or shrubs. Subtypes include sedge, shrub thicket, and other/unique.	MF
	Poor Fen - Natural peatlands (bogs) occupying topographically defined basins; influenced by acidic ground water; on deep, poorly decomposed peats; dominated primarily by ericaceous shrubs. Subtypes include dwarf shrub, shrub thicket, saturated woodland, and other/unique.	PF
	Rich Fen - Natural peatlands occupying topographically defined basins; influenced by base-rich waters; on deep, poorly decomposed peats; restricted to the western marble valleys. Subtypes include sedge, shrub thicket, dwarf shrub, woodland, phragmites, and other/unique.	RF
	Sea Level Fen - Herbaceous fens occurring on salt marsh-upland transitions; influenced by groundwater discharge; on saturated mineral soils; dominated by sedges and sphagnum mosses.	SFL
TERRESTRIAL FORESTED - includes upland forests and woodlands that are not influenced by surface or groundwater flooding. Forest habitats are characterized by a dominance of trees with overlapping crowns forming between 60-100% canopy cover.		
	Coastal Woodland/Shrubland - Dry to moist open woodlands on or near the coast; often stunted by wind or salt deposition from coastal storms. Subtypes include shrubland, woodland, woodland/shrubland and other/unique.	CWS
	Dry Acidic Forest - Poorly growing deciduous forests often dominated by oaks with various mixtures of pine often with dwarf ericaceous shrubs. The only sites mapped were those occurring on stratified sand and gravel.	DAF
	Dry Circumneutral Forest - Dry, rich forests often dominated by oaks and sugar maple, generally with a diverse herbaceous layer, on marble bedrock. Subtypes include cedar woodlands and maple/ yellow oak.	DCF
	Dry Subacidic Forest - Slow-growing forests, primarily on or near the summit of basalt or other mafic rocks; often dominated by white ash, hickories and hophornbeam, with few shrubs and an open grassy ground cover. Subtypes include ash/hickory woodland and other/unique.	DSF

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Symbol	Description	Label
	Old Growth Forest- Second growth forests that have not undergone human disturbance during their developmental cycle. Subtypes include white pine, white pine/spruce, hemlock, and other/unique.	OGF
	Subacidic Cold Talus Forest/Woodland - Dry to moist open woodlands or forests on coarse colluvial deposits of primarily basalt and other mafic rocks; with soil and humus in pockets between the rocks, cold air drainage maintains "northern" plant associations.	SubCTFW

TERRESTRIAL NON-FORESTED - includes upland shrublands and herbaceous and/or sparsely vegetated areas that are not influenced by surface or groundwater flooding. Non-forested habitats are characterized by a dominance of shrubs and herbaceous plants, with or without scattered trees.

Symbol	Description	Label
	Acidic Rocky Summit Outcrop - Dry to xeric exposed summits, ledges, and other outcrops with a vegetation of small trees, low shrubs, grasses and herbs. (gneiss, schist, granite, sandstone). Subtypes include grassy glade/bald, pitch pine, scrub oak, and other/unique.	AcRSO
	Alluvial Grassland/Outcrop - Flood-scoured, rocky ledges and other outcrops with a vegetation of small trees, low shrubs, grasses and herbs. Subtypes include grassland, outcrop, and other/unique.	AllG/O
	Circumneutral Rocky Summit Outcrop - Dry to xeric exposed summits, ledges, and other outcrops (marble) with a vegetation of small trees, low shrubs, grasses and herbs; on marble bedrock. Subtypes include grassy glade/bald, cedar woodland, Scrub oak and other/unique.	CirRSO
	Coastal Bluffs and Headlands - Dry seaside cliffs, bluffs and other open headlands, exposed to winds and salt spray. Subtypes include pitch pine/post oak, cedar bluff, outcrop, and other/unique.	CBH
	Coastal Grassland - Open grasslands dominated by warm season species in close proximity to Long Island Sound, exposed to wind and salt spray.	CG
	Sand Barren - Dry sandy deposits with woody or grassy vegetation maintained by fire. Subtypes include sparsely vegetated sand, sandplain grassland, pitch pine scrub, riverine dredge spoils, and other/unique.	SB

Symbol	Description	Label
	Subacidic Rocky Summit Outcrop - Dry to xeric exposed summits, ledges, and other outcrops (primarily basalt and other mafic rocks) with a vegetation of low shrubs, grasses and herbs. Subtypes include grassy glades/balds, cedar woodlands, scrub oak, and other/unique.	SubRSO

Use Limitations

Connecticut Critical Habitats is not a comprehensive map of all critical habitat types in Connecticut. It represents a subset of the key habitats of greatest conservation need identified in Connecticut's Comprehensive Wildlife Conservation Strategy. The following CWCS key habitat types are not included in this dataset: most coniferous forests, freshwater marshes, sparsely vegetated inland wetlands, most freshwater and estuarine aquatic habitats with the exception of coastal plain ponds, offshore islands, and intensively managed habitats.

For the chosen habitat types, sites were mapped according to their known distribution. For some habitats the distribution may not be complete since no state-wide exhaustive surveys have been conducted. When the Connecticut Critical Mapping project was completed, some sites remained generally mapped as point locations in the Critical Habitat Additional Sites. This supplemental information can be used in conjunction with the Connecticut Critical Habitats to display a more complete distribution of critical habitats.

Some of the information used to define the critical habitat boundaries was based on features appearing on, or otherwise derived from, a variety of aerial photographs (orthophotography) and collateral information such as geological and soils maps. Most critical habitat sites were not field visited and publically available oblique imagery such as the Bing Maps web mapping service was used as a surrogate for field investigation. Caution is advised when using this information without field verifying the habitat delineation and characterization for accuracy. Since many of these areas occur on private property, visiting these sites will require permission from the landowner for access.

Displaying Connecticut Critical Habitats at map scales larger and more detailed than 1:2,000 scale may result in minor locational differences and inaccuracies. Beachshores and sand barrens are among the habitats that experience episodic ecological processes, such as erosion and succession, and will likely exhibit distributional and vegetation changes over time. Differences in these habitat areas will be apparent to the user if the sites are viewed with imagery other than the original data source. Critical habitat boundaries indicate a transition between habitat types that on the ground may be more ambiguous than implied. Community type and subtype definitions are simplified descriptions of the most common elements found in each habitat, but other combinations and exceptions may exist.

Related Information

Connecticut Department of Energy and Environmental Protection, Natural Diversity Data Base

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Metzler, Kenneth J. and Juliana P. Barrett. *The Vegetation of Connecticut - A Preliminary Classification*. 2006. State Geological and Natural History Survey of Connecticut. Report of Investigations #12. Hartford

Data Collection Date

Data was collected, reviewed and compiled from July 2007 to December 2009. Refer to the Publication Date information in the Connecticut Critical Habitat GIS Metadata for the most recent time period these data are currently available for. For site boundaries derived from aerial photographs, the data reflect ground conditions of the source data found in the DATA_SOURC field.

Status

This information may be updated as needed to include additional critical habitat areas as they are verified, mapped, and/or as made available.

Map Scale

Connecticut Critical Habitats is best represented when viewed with high-resolution imagery at scales between 1:2,000 and 1:12,000.

Contact

For more on Critical Habitat mapping, contact Karen Zyko CT DEEP, Wildlife Division, (860) 424-3011.

Additional Documentation

Connecticut Critical Habitats - CT ECO Basic Data Guide

GIS Metadata– Contains technical documentation describing these data and the data sources, process steps, and standards used to collect, digitize, and store this information in a geographic information system (GIS).

Connecticut's Comprehensive Wildlife Conservation Strategy

CT DEEP Green Plan

Governor M. Jodi Rell's Executive Order No. 15

Originators

CT Department of Energy and Environmental Protection, Bureau of Natural Resources, Kenneth Metzler, Ecologist, working in partnership with Dr. Daniel Civco, University of Connecticut in a project agreement

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entitled "Mapping of Key Habitats for Species of Greatest Conservation Need," completed December 2009.

GIS Data Download

Connecticut Critical Habitat data is downloadable from DEEP GIS Data.

Connect GIS and AutoCAD software to this information online using the Habitat CT ECO Map Service.

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