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Wildlife Habitats - California Wildlife Habitat Relationships System

About the CWHR Habitat Classification Scheme

The CWHR habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly-occurring birds, mammals, reptiles and amphibians. When first published in 1988, the classification scheme had 53 habitats. These habitats, except the non-vegetated Barren habitat, are described in detail in the CWHR publication entitled:

A Guide to Wildlife Habitats of California. 1988.
 Edited by Kenneth E. Mayer and William F. Laudenslayer, Jr.
 State of California, Resources Agency,
 Department of Fish and Game
 Sacramento, CA. 166 pp.

The entire original publication is available online with updates (see below).

At present, there are 59 wildlife habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated ([download Habitat Range shapefiles \(.zip\) \(ftp://ftp.wildlife.ca.gov/BDB/CWHR/GIS/CWHR_Habitats_GIS2014.zip\)](ftp://ftp.wildlife.ca.gov/BDB/CWHR/GIS/CWHR_Habitats_GIS2014.zip)). Please note: the 59 habitats described below were designed for use with a predictive model for terrestrial vertebrate wildlife species. They do not represent a comprehensive classification scheme for the conservation and mapping of California's terrestrial vegetation* or its marine and estuarine habitats**.

- **Stages** are defined for virtually all habitats. A stage is a combination of size and cover class for tree-dominated habitats, age and cover class for shrub habitats, height and cover class for herb habitats, and depth and substrate for aquatic habitats. A field sampling protocol is well-established for determining stages in all vegetated habitats.
- **Special habitat elements** are also defined. They include live and decadent vegetation elements such as snags, physical elements such as banks and burrows, aquatic elements, vegetative and animal diet elements and human-made elements.

The predictive model for each species has expert-applied suitability ratings for three life-requisites – breeding, cover and feeding. For each species, each habitat stage is rated as high, medium, low or unsuitable for each of these life requirements. Each special habitat element is also assessed as essential, secondarily essential, preferred or not rated for the species.

* Notes on Classification and Mapping of Terrestrial Vegetation in California

- Information on classification and mapping of terrestrial vegetation is available from the [Vegetation Classification and Mapping Program \(VegCAMP\) \(/Data/VegCAMP\)](#), CDFW Biogeographic Data Branch.
- Field sampling for CWHR habitat stages has been incorporated into the California Native Plant Society (CNPS) Rapid Assessment Protocol, to increase the utility of the resulting vegetation maps for wildlife modeling and conservation. Information and links to field forms are available on the [CNPS website \(http://www.cnps.org/cnps/vegetation/protocol.php\)](http://www.cnps.org/cnps/vegetation/protocol.php).
- Crosswalks to the CWHR habitat classification scheme are included in all of California's major vegetation and land cover mapping efforts.

** Notes on Classification of Marine and Estuarine Habitats in California

- A classification scheme for the conservation and management of marine and estuarine habitats was developed in cooperation with the CWHR Program in 2002. It includes descriptions for 22 marine and 19 estuarine habitats. At present, it does not include suitability ratings to habitat stages or special habitat elements for the terrestrial amphibians, reptiles, birds and mammals currently in the CWHR System.
- The new classification includes crosswalks to other important, recent classifications regarding coastal waters. Included are crosswalks to Wetlands of the Central and Southern California Coast and Coastal Watersheds; a methodology for their classification and description (Ferren et al., 1996), Baylands Ecosystem Habitat Goals: a report of habitat recommendations (U.S. Environmental Protection Agency, 1999), A classification scheme for deep sea floor habitats (Greene et al., 1999), and Wildlife-habitat relationships in Oregon and Washington (Johnson and O'Neil, 2001). Also included are crosswalks to a national scheme for marine and estuarine ecosystems and habitat classification published by the National Oceanic and Atmospheric Administration (NOAA) in 2002 and a classification for habitats of the Channel Islands drafted in 2000 by the Channel Island National Marine Sanctuary (CINMS).

[Revision to Marine and Estuarine Habitats of the California Wildlife Habitat Relationships System \(2002\) \(PDF\) \(https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65848&inline\)](https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65848&inline)

A Guide to Wildlife Habitats of California (1988)

Guide Section	Updates
Contributing Authors, Acknowledgements, and Preface (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65849&inline)	

Guide Section	Updates
<p>Introduction and Scope (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65850&inline)</p> <p>Includes:</p> <ul style="list-style-type: none"> • How to Use the Guide • How to Classify Habitats • Special Habitat Elements • Available Habitat Stages 	<p>Revised Classification Rules (2005) (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65851&inline)</p> <p>Wooded Habitat Sampling Datasheet (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65852&inline)</p> <p>Analysis of Wooded Habitat Sampling Data (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65853&inline)</p> <p>Non-Wooded Habitat Sampling Datasheet (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65855&inline)</p> <p>Analysis of Non-Wooded Habitat Sampling Data (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65854&inline)</p> <p>Habitat Element Checklist (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65856&inline)</p> <p>Available Habitat Stages for Agricultural Habitats (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65857&inline)</p> <p>Definition of Added Human Element - Mine (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65858&inline)</p> <p>Clarification of the Measurement of California Wildlife Habitat Relationships (CWHR) System Size Class 5 and 6 for Tree Habitats (2007) (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67342&inline)</p>
<p>Crosswalk Between WHR and California Vegetation Classifications (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65859&inline)</p>	<p>CWHR Crosswalked with CNPS Vegetation Classification (2005) (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65860&inline)</p> <p>CWHR Crosswalked with CalVeg Classification (2005) (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65861&inline)</p> <p>UNESCO Formations Within CWHR (1998) (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65862&inline)</p> <p>CWHR Crosswalked with DWR Land Use Types (2008) (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65863&inline)</p>
<p>Literature Cited (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65864&inline)</p>	
<p>Plants and Animals Referenced in Text (PDF) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=65865&inline)</p>	

Habitat Types

Tree Dominated Habitats

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Subalpine Conifer (SCN)	Engelmann Spruce, Subalpine Fir, Mountain Hemlock	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67305&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67306&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87266&inline)
Red Fir (RFR)	Red Fir, White Fir, Lodgepole Pine	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67307&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67308&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87263&inline)
Lodgepole Pine (LPN)	Lodgepole Pine, Aspen, Mountain Hemlock	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67309&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67310&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87248&inline)
Sierran Mixed Conifer (SMC)	Douglas Fir, Ponderosa Pine, White Fir <i>New! updated description of range</i>	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67311&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67312&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87269&inline)

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
White Fir (WFR)	White Fir, Douglas Fir, Sugar Pine New! <i>corrected range map</i>	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67313&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67314&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87274&inline)
Klamath Mixed Conifer (KMC)	White Fir, Douglas Fir, Ponderosa Pine New! <i>updated description</i>	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67316&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67317&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87246&inline)
Douglas Fir (DFR)	Douglas Fir, Tanoak, Ponderosa Pine	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67318&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67319&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87228&inline)
Jeffrey Pine (JPN)	Jeffrey Pine, Ponderosa Pine, Sugar Pine	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67320&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67321&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87243&inline)
Ponderosa Pine (PPN)	Ponderosa Pine, Jeffrey Pine, Douglas Fir	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67322&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67323&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87261&inline)
Eastside Pine (EPN)	Ponderosa Pine, Jeffrey Pine, White Fir	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67324&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67325&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87236&inline)
Redwood (RDW)	Redwood, Grand Fir, Sitka Spruce	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67326&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67327&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87262&inline)
Pinyon-Juniper (PJN)	Pinyon Species, Juniper Species, Mountain Mahogany Species	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67328&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67329&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87259&inline)
Juniper (JUN)	Juniper Species, White Fir, Jeffrey Pine	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67330&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67331&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87245&inline)
Aspen (ASP)	Aspen, Willows, Alders	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67332&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67333&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87217&inline)
Closed-Cone Pine-Cypress (CPC)	Sargent Cypress, Monterey Cypress, Monterey Pine	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67334&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67335&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87225&inline)
Montane Hardwood-Conifer (MHC)	Ponderosa Pine, Incense Cedar, California Black Oak	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67336&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67337&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87253&inline)
Montane Hardwood (MHW)	Canyon Live Oak, California Black Oak, Oregon White Oak	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67338&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67339&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87254&inline)
Blue Oak Woodland (BOW)	Blue Oak, Interior Live Oak, California Buckeye	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67340&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67341&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87222&inline)

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Valley Oak Woodland (VOW)	Valley Oak, California Walnut, California Sycamore	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67342&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67343&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87272&inline)
Coastal Oak Woodland (COW)	Coast Live Oak, Engelmann Oak, Island Oak <i>New! updated description of dominants</i>	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67344&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67345&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87224&inline)
Blue Oak-Foothill Pine (BOP)	Foothill Pine, Blue Oak, Interior Live Oak	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67346&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67347&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87221&inline)
Eucalyptus (EUC)	Blue Gum, Red Gum	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67348&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67349&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87238&inline)
Montane Riparian (MRI)	Black Cottonwood, Bigleaf Maple, White Alder	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67350&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67351&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87255&inline)
Valley Foothill Riparian (VRI)	Cottonwood, Sycamore, Valley Oak	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67352&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67353&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87273&inline)
Desert Riparian (DRI)	Tamarisk, Mesquite, Fremont Cottonwood	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67354&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67355&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87231&inline)
Palm Oasis (POS)	Fan Palm, Velvet Ash, California Sycamore	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67356&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67357&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87260&inline)
Joshua Tree (JST)	Joshua Tree, Juniper Species, Mojave Yucca	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67358&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67359&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87244&inline)

Shrub Dominated Habitats

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Alpine Dwarf-Shrub (ADS)	Oceanspray, Greene Goldenweed, Mountain Heather	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67360&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67361&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87215&inline)
Low Sage (LSG)	Low Sagebrush, Black Sagebrush, Rabbitbrush Species	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67362&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67363&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87249&inline)
Bitterbrush (BBR)	Bitterbrush Species, Big Sagebrush, Rubber Rabbitbrush	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67364&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67365&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87220&inline)
Sagebrush (SGB)	Sagebrush Species, Rabbitbrush Species, Horsebrush	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67366&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67367&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87268&inline)

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Montane Chaparral (MCP)	Ceanothus Species, Manzanita Species, Bitter Cherry	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67368&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67369&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87252&inline)
Mixed Chaparral (MCH)	Scrub Oak, Ceanothus Species, Manzanita Species	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67370&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67371&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87251&inline)
Chamise-Redshank Chaparral (CRC)	Chamise, Redshank, Ceanothus Species	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67372&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67373&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87223&inline)
Coastal Scrub (CSC)	Coyotebush, California Buckwheat, Sage Species	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67374&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67375&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87227&inline)
Desert Succulent Shrub (DSS)	Ocotillo, Mojave Yucca, Desert Agave	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67376&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67377&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87233&inline)
Desert Wash (DSW)	Paloverde Species, Desert Ironwood, Mesquite	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67378&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67379&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87234&inline)
Desert Scrub (DSC)	Creosotebush, Catclaw Acacia, Desert Agave	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67380&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67381&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87232&inline)
Alkali Desert Scrub (ASC)	Allscale, Saltbush Species, Shadscale	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67382&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67383&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87214&inline)

Herbaceous Dominated Habitats

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Annual Grassland (AGS)	Wild Oats, Soft Chess, Brome Species New! updated range map and description of range	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67384&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67385&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87216&inline)
Perennial Grassland (PGS)	California Oatgrass, Hairgrass, Sweet Vernalgrass New! updated range map and description of range	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67386&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67387&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87258&inline)
Wet Meadow (WTM)	Sedge Species, Rush Species, Tufted Hairgrass	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67388&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67389&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87275&inline)
Fresh Emergent Wetland (FEW)	Cattail, Bulrush, Redroot Nutgrass	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67390&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67391&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87239&inline)

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Saline Emergent Wetland (SEW)	Cordgrass, Pickleweed, Bulrush	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67392&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67393&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87267&inline)
Pasture (PAS)	Bermuda Grass, Ryegrass, Tall Fescue	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67394&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67395&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87257&inline)

Aquatic Habitats

See also: "Notes on Classification of Marine and Estuarine Habitats" (#Marine)

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Riverine (RIV)	Water Moss, Algae, Duckweed	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67396&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67397&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87265&inline)
Lacustrine (LAC)	Plankton, Duckweed, Water Lilies	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67398&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67399&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87247&inline)
Estuarine (EST)	Plankton, Algae, Eel Grass	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67400&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67401&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87237&inline)
Marine (MAR)	Plankton, Algae, Kelp	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67402&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67403&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87250&inline)

Developed Habitats

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Cropland (CRP)	Tomatoes, Corn, Wheat <i>** Replaced by DGR, IGR, IRH, IRF, RIC **</i>	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93797&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93795&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87226&inline)
Dryland Grain Crops (DGR)	Cereal Rye, Barley, Wheat	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67404&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67405&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87229&inline)
Irrigated Grain Crops (IGR)	Corn, Dry Beans, Safflower	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67406&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67407&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87240&inline)
Irrigated Hayfield (IRH)	Alfalfa, Hay	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67408&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67409&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87242&inline)
Irrigated Row and Field Crops (IRF)	Tomatoes, Cotton, Lettuce	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67410&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67411&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87241&inline)
Rice (RIC)	Rice	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67412&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67413&inline)	 (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87264&inline)

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Orchard - Vineyard (OVN)	Apples, Oranges, Grapes <i>** Replaced by DOR, EOR, VIN **</i>	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93798&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93796&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87256&inline
Deciduous Orchard (DOR)	Almonds, Walnuts, Peaches	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67414&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67415&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87230&inline
Evergreen Orchard (EOR)	Oranges, Avocados, Lemons	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67416&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67417&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87235&inline
Vineyard (VIN)	Grapes, Kiwi Fruit, Boysenberries	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67418&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67419&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87271&inline
Urban (URB)	Grass Lawns, Ornamental Trees, Hedges	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67420&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67421&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87270&inline

Non-vegetated Habitats

HABITAT TYPE	PRIMARY SPECIES REFERENCED IN TEXT	1988 Text Account	Range Map	Photo
Barren (BAR)	Rock, Gravel, Soil	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67422&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67423&inline	 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87218&inline  https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=87219&inline

Biogeographic Data Branch ([/Explore/Organization/BDB](#))
(916) 322-2493 | BDB@wildlife.ca.gov (<mailto:BDB@wildlife.ca.gov>)

[CWHR \(https://www.wildlife.ca.gov/Data/CWHR\)](https://www.wildlife.ca.gov/Data/CWHR)

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[https://www.wildlife.ca.gov/Data/CWHR/Life-History-Accounts-and-Range-Maps \(/Data/CWHR/Life-History-and-Range\)](https://www.wildlife.ca.gov/Data/CWHR/Life-History-Accounts-and-Range-Maps)

[Guide to Wildlife Habitats of California \(/Data/CWHR/Wildlife-Habitats\)](https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats)

[FAQ \(/Data/CWHR/FAQ\)](https://www.wildlife.ca.gov/Data/CWHR/FAQ)

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