

Appendix I—California plant community types represented in Forest Service research natural areas

Community types and codes (Holland 1986) are in boldface; research natural area names (with ecological survey names in parentheses, if different from the research natural area names) are in plain type.

Scrub and Chaparral

- Central coastal scrub (32200):** Cone Peak Gradient (Limekiln Creek)
- Venturan coastal sage scrub (32300):** Cone Peak Gradient (Limekiln Creek)
- Diegan coastal sage scrub (32500):** Cahuilla Mountain, King Creek
- Diablan sage scrub (32600):** Wagon Caves
- Riversidian sage scrub (32700):** Millard Canyon, Organ Valley
- Great basin scrub (35100):** Broom Flat (Broom Flat Ridge), Sentinel Meadow
- Big sagebrush scrub (35210):** Babbitt Peak, Cahuilla Mountain, Indiana Summit, Mud Lake (Mud Lake-Wheeler Peak), Raider Basin (Raider Creek), Sentinel Meadow, Whippoorwill Flat
- Subalpine sagebrush scrub (35220):** McAfee (White Mountain Summit), Raider Basin (Raider Creek), Whippoorwill Flat, White Mountain (White Mountain Natural Area)
- Sagebrush steppe (35300):** Devil's Garden
- Rabbitbrush scrub (35400):** Cahuilla Mountain, Cub Creek, Devil's Garden, Indiana Summit
- Northern mixed chaparral (37110):** American Canyon, Big Pine Mountain, Cahuilla Mountain, Cleghorn Canyon, Cone Peak Gradient (Limekiln Creek), Devil's Basin, Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Fern Canyon, Frenzel Creek, Grizzly Mountain (Big Grizzly Mountain), Guatay Mountain, Hale Ridge, Indian Creek, Jawbone Ridge, Millard Canyon, Organ Valley, Twin Rocks
- Southern mixed chaparral (37120):** Cleghorn Canyon, Organ Valley
- Chamise chaparral (37200):** Black Butte, Cahuilla Mountain, Cleghorn Canyon, Cone Peak Gradient (Limekiln Creek), Fern Canyon, Guatay Mountain, Hale Ridge, Jawbone Ridge, Junipero Serra Peak, Millard Canyon, Organ Valley, Wagon Caves, Wilder Ridge
- Semi-desert chaparral (37400):** Cleghorn Canyon, Long Canyon
- Montane chaparral (37500):** Big Pine Mountain
- Mixed montane chaparral (37510):** Antelope Creek Lakes, Babbitt Peak, Bishop Creek Ponderosa Pine (Merced River), Cedar Basin, Clark Fork, Cub Creek, Falls Canyon, Green Island Lake, Haypress Meadows, Horse Meadow, Indian Creek Brewer Spruce, Manzanita Creek (Trelorita), Moses Mountain, Mount Pleasant, Mud Lake (Mud Lake-Wheeler Peak), North Trinity Mountain, Onion Creek, Pearch Creek, Red Butte-Red Fir Ridge (Shasta Red Fir), Rock Creek Butte, Ruth, Shasta Mud Flow (Mount Shasta Mud Flow), Soda Ridge, South Mountaineer Creek (Mountaineer Creek), Sugar Creek, Sugar Pine Point, Teakettle Creek
- Montane manzanita chaparral (37520):** Aqua Tibia (Eagle Crag), Bishop Creek Ponderosa Pine (Merced River), Broom Flat (Broom Flat Ridge), Cahuilla Mountain, Grizzly Mountain (Big Grizzly Mountain), Hall Canyon, Iron Mountain (Graham Pinery), Junipero Serra Peak, Mayfield, Millard Canyon, Mount Pleasant, Peavine Point, Red Butte-Red Fir Ridge (Shasta Red Fir), Rock Creek Butte
- Montane ceanothus chaparral (37530):** Cleghorn Canyon, Fern Canyon, Hale Ridge, Hall Canyon, Lyon Peak/Needle Lake, Shasta Mud Flow (Mount Shasta Mud Flow), Upper Goose Creek

- Shin oak brush (37541):** Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Doll Basin, Indian Creek, Iron Mountain (Graham Pinery), Long Canyon, Ruth
- Huckleberry oak chaparral (37542):** Cedar Basin, Mount Pleasant, Onion Creek, Peach Creek, Rock Creek Butte, William B. Critchfield (Bourland Meadow)
- Bush chinquapin chaparral (37550):** Lyon Peak/Needle Lake
- Serpentine chaparral (37600):** Frenzel Creek, L. E. Horton (Stone Corral-Josephine Peridotite), Smoky Creek
- Buck brush chaparral (37810):** Grizzly Mountain (Big Grizzly Mountain), Indian Creek, Iron Mountain (Graham Pinery), Manzanita Creek (Trelorita), Smoky Creek
- Blue brush chaparral (37820):** Cone Peak Gradient (Limekiln Creek)
- Scrub oak chaparral (37900):** Cahuilla Mountain, Cleghorn Canyon, Indian Creek, King Creek
- Interior live oak chaparral (37A00):** Backbone Creek, Black Butte, Cahuilla Mountain, Cleghorn Canyon, Fern Canyon, Indian Creek, Millard Canyon
- Upper Sonoran manzanita chaparral (37B00):** Twin Rocks
- Mesic north slope chaparral (37E00):** Frenzel Creek, Hale Ridge, Iron Mountain (Graham Pinery)
- Coastal sage-chaparral scrub (37G00):** Cone Peak Gradient (Limekiln Creek)
- Lava flow scrub (no Holland equivalent):** Mayfield
- Mountain mahogany (*Cercocarpus*) scrub (no Holland equivalent):** Babbitt Peak, Crater Creek, Raider Basin (Raider Creek), Sentinel Meadow, Sugar Creek, Whippoorwill Flat

Grassland, Vernal Pools, Meadows, and other Herb Communities:

- Coastal terrace prairie (41100):** Cone Peak Gradient (Limekiln Creek)
- Bald hills prairie (41200):** Soldier, Twin Rocks
- Valley and foothill grassland (42000):** Big Pine Mountain
- Valley needlegrass grassland (42110):** American Canyon, Cahuilla Mountain, Cone Peak Gradient (Limekiln Creek), Fern Canyon, Indian Creek, King Creek, Organ Valley, Wagon Caves
- Non-native grassland (42200):** Cahuilla Mountain, Cleghorn Canyon, Cone Peak Gradient (Limekiln Creek), Indian Creek, Jawbone Ridge, Long Canyon, San Joaquin Experimental Range, Soldier, Twin Rocks, Wagon Caves, Wilder Ridge
- Wildflower field (42300):** Wagon Caves
- Northern basalt flow vernal pool (44131):** Devil's Garden, Timbered Crater
- Montane meadow (45100):** Antelope Creek Lakes, Bell Meadow, Cedar Basin, Cub Creek, Doll Basin, Grass Lake, Green Island Lake, Haypress Meadows, Home Camp Creek, Horse Meadow, Lyon Peak/Needle Lake, Mount Eddy, North Trinity Mountain, Onion Creek, Preacher Meadows, Raider Basin (Raider Creek), Red Butte-Red Fir Ridge (Shasta Red Fir), San Emigdio Mesa, Sawmill Mountain, Smoky Creek, Soda Ridge, South Mountaineer Creek (Mountaineer Creek), Sugar Creek, Teakettle Creek, William B. Critchfield (Bourland Meadow)
- Wet montane meadow (45110):** Moses Mountain, Mount Pleasant, Mud Lake (Mud Lake-Wheeler Peak)
- Dry montane meadow (45120):** Bell Meadow, Haypress Meadows, Moses Mountain, Mount Pleasant, Mud Lake (Mud Lake-Wheeler Peak), Red Butte-Red Fir Ridge (Shasta Red Fir), Teakettle Creek
- Subalpine and alpine meadow (45200):** Snow Canyon
- Wet subalpine or alpine meadow (45210):** Antelope Creek Lakes, Clark Fork, Grass Lake, Harvey Monroe Hall, Highland Lakes, Last Chance

Meadow, Lyon Peak/Needle Lake, McAfee (White Mountain Summit), Mount Pleasant, Mount Eddy, Red Butte-Red Fir Ridge (Shasta Red Fir), Sugar Creek, White Mountain (White Mountain Natural Area)

Dry subalpine or alpine meadow (45220): Clark Fork, Harvey Monroe Hall, Highland Lakes, Last Chance Meadow, Lyon Peak/Needle Lake, White Mountain (White Mountain Natural Area)

Freshwater seep (45400): Bridge Creek, Cahuilla Mountain, Church Dome, Doll Basin, Indian Creek, King Creek, Millard Canyon, Rock Creek Butte, Rough Gulch (South Fork Mountain, Yolla Bolla), Ruth, Smoky Creek, Soda Ridge, Station Creek (Bald Mountain), Twin Rocks

Bog and Marsh:

Sphagnum bog (51110): Grass Lake, Mount Pleasant, Sugar Creek

Darlingtonia bog (51120): Cedar Basin, L. E. Horton (Stone Corral-Josephine Peridotite), Mount Eddy, Preacher Meadows

Fen (51200): Grass Lake, Mount Pleasant, Sugar Creek

Montane freshwater marsh (52430): Antelope Creek Lakes, Bell Meadow, Cedar Basin, Grass Lake, Green Island Lake, Harvey Monroe Hall, Mud Lake (Mud Lake-Wheeler Peak), Smoky Creek, Sugar Creek, William B. Critchfield (Bourland Meadow)

Riparian and Bottomland Habitat:

Red alder riparian forest (61130): Rough Gulch (South Fork Mountain, Yolla Bolla), Upper Goose Creek, Yurok

Central coast riparian forest (61200): Wagon Caves

Central coast cottonwood-sycamore riparian forest (61210): Cone Peak Gradient (Limekiln Creek), Wagon Caves

Central coast live oak riparian forest (61220): American Canyon, Big Pine Mountain

Southern coast live oak riparian forest (61310): Aqua Tibia (Eagle Crag), Fern Canyon, Guatay Mountain, King Creek, Organ Valley

Southern cottonwood-willow riparian forest (61330): Big Pine Mountain, Falls Canyon, Fern Canyon

Montane riparian forest (61500): Big Pine Mountain

White alder riparian forest (61510): Adorni, Big Pine Mountain, Bridge Creek, Cleghorn Canyon, Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Doll Basin, Falls Canyon, Fisherman's Camp, Grizzly Mountain (Big Grizzly Mountain), Hennessy Ridge, Indian Creek, Junipero Serra Peak, King Creek, Long Canyon, Manzanita Creek (Trelorita), Peach Creek, Peavine Point, Rough Gulch (South Fork Mountain, Yolla Bolla), Ruth, Shasta Mud Flow (Mount Shasta Mud Flow), Smoky Creek, Twin Rocks

Aspen riparian forest (61520): Bell Meadow, Grass Lake, Mud Lake (Mud Lake-Wheeler Peak), Onion Creek

Montane black cottonwood riparian forest (61530): Bell Meadow, Raider Basin (Raider Creek), Shasta Mud Flow (Mount Shasta Mud Flow), Soda Ridge

Southern sycamore-alder riparian woodland (62400): Cleghorn Canyon

Mule fat scrub (63310): Wagon Caves

Southern willow scrub (63320): Cleghorn Canyon

Montane riparian scrub (63500): Antelope Creek Lakes, Bell Meadow, Big Pine Mountain, Bridge Creek, Clark Fork, Doll Basin, Grass Lake, Green Island Lake, Hall Canyon, Harvey Monroe Hall, Haypress Meadows, Lyon Peak/Needle Lake, Manzanita Creek (Trelorita), Moses Mountain, Mount Pleasant, Mud Lake (Mud Lake-Wheeler Peak), Onion Creek, Peach Creek, Rock Creek Butte, Shasta Mud Flow (Mount Shasta Mud Flow),

Snow Canyon, Soda Ridge, South Mountaineer Creek (Mountaineer Creek), Station Creek (Bald Mountain), Sugar Creek, Sugar Pine Point, Teakettle Creek

Serpentinite riparian and valley bottom (no Holland equivalent): Frenzel Creek

Non-serpentinite riparian (no Holland equivalent): Frenzel Creek

Rocky bottomed pools (no Holland equivalent): Timbered Crater

Woodland:

Oregon oak woodland (71110): Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Manzanita Creek (Trelorita), Ruth, Soldier, Twin Rocks, William's Point

Black oak woodland (71120): Cahuilla Mountain, Devil's Basin, Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Grizzly Mountain (Big Grizzly Mountain), Indian Creek, Iron Mountain (Graham Pinery), Ruth, Sugar Pine Point

Valley oak woodland (71130): Wagon Caves

Blue oak woodland (71140): American Canyon, Devil's Basin, Indian Creek, Jawbone Ridge, Wagon Caves

Interior live oak woodland (71150): Cahuilla Mountain, Fern Canyon, Indian Creek, Millard Canyon

Coast live oak woodland (71160): Black Butte, Cone Peak Gradient (Limekiln Creek), Fern Canyon, Guatay Mountain, Organ Valley

Open Engelmann oak woodland (71181): King Creek, Organ Valley

Dense Engelmann oak woodland (71182): Organ Valley

Foothill (Digger) pine woodland (71300): Long Canyon

Open foothill (digger) pine woodland (71310): Jawbone Ridge

Serpentine foothill (digger) pine-chaparral woodland (71321): Frenzel Creek

Non-serpentine foothill (digger) pine-chaparral woodland (71322): Bishop Creek Ponderosa Pine (Merced River), Frenzel Creek, Indian Creek, Iron Mountain (Graham Pinery), Jawbone Ridge, Manzanita Creek (Trelorita)

Foothill (Digger) pine-oak woodland (71410): Indian Creek, Jawbone Ridge, San Joaquin Experimental Range, Soldier, Twin Rocks, Wilder Ridge

Mixed north slope cismontane woodland (71420): Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Twin Rocks

Northern juniper woodland (72110): Devil's Garden, Raider Basin (Raider Creek)

Great basin pinyon-juniper woodland (72121): Broom Flat (Broom Flat Ridge), Whippoorwill Flat

Great basin pinyon woodland (72122): Church Dome, Whippoorwill Flat

Mojavean pinyon woodland (72210): Long Canyon, San Emigdio Mesa

Mojavean juniper woodland and scrub (72220): San Emigdio Mesa

Cismontane juniper woodland and scrub (72400): Long Canyon

Madrone/Canyon live oak (no Holland equivalent): Aqua Tibia (Eagle Crag)

Forest:

Mixed evergreen forest (81100): Adorni, Black Butte, Bridge Creek, Cone Peak Gradient (Limekiln Creek), Cone Peak Gradient (South Fork of Devil's Canyon), Craig's Creek, Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Hennessy Ridge, L. E. Horton (Stone Corral-Josephine Peridotite), Manzanita Creek (Trelorita), Peach Creek, Rough Gulch (South Fork Mountain, Yolla Bolla), Ruth, Upper Goose Creek, William's Point

- California bay forest (81200):** Cone Peak Gradient (Limekiln Creek)
- Coast live oak forest (81310):** Cone Peak Gradient (Limekiln Creek), Fern Canyon, Organ Valley
- Canyon live oak forest (81320):** Aqua Tibia (Eagle Crag), Big Pine Mountain, Bridge Creek, Cone Peak Gradient (Limekiln Creek), Cone Peak Gradient (South Fork of Devil's Canyon), Craig's Creek, Devil's Basin, Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Doll Basin, Falls Canyon, Fern Canyon, Grizzly Mountain (Big Grizzly Mountain), Hall Canyon, Indian Creek, Iron Mountain (Graham Pinery), Jawbone Ridge, Junipero Serra Peak, King Creek, Millard Canyon, Pearch Creek, Peavine Point, Specimen Creek, William's Point
- Interior live oak forest (81330):** Cahuilla Mountain, Fern Canyon, Indian Creek, Millard Canyon
- Black oak forest (81340):** Cahuilla Mountain, Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Grizzly Mountain (Big Grizzly Mountain), Hall Canyon, Iron Mountain (Graham Pinery), Peavine Point, Ruth, Sugar Pine Point
- Tan-oak forest (81400):** Adorni, Bridge Creek, Cone Peak Gradient (Limekiln Creek), Hennessy Ridge, Pearch Creek, Upper Goose Creek
- Cherry forest (81800):** Broom Flat (Broom Flat Ridge), Raider Basin (Raider Creek)
- Red alder forest (81A00):** Craig's Creek, Upper Goose Creek, Yurok
- Aspen forest (81B00):** Babbitt Peak, Bell Meadow, Sentinel Meadow, White Mountain (White Mountain Natural Area), William B. Critchfield (Bourland Meadow)
- Western hemlock forest (82200):** Upper Goose Creek
- Alluvial redwood forest (82310):** Cone Peak Gradient (Limekiln Creek), Yurok
- Upland redwood forest (82320):** Cone Peak Gradient (Limekiln Creek), Craig's Creek, Yurok
- Douglas-fir forest (82400):** Craig's Creek
- Upland Douglas-fir forest (82420):** Bridge Creek, Hennessy Ridge, L. E. Horton (Stone Corral-Josephine Peridotite), Manzanita Creek (Trelorita), Pearch Creek, Rough Gulch (South Fork Mountain, Yolla Bolla), Soldier, Specimen Creek, Upper Goose Creek, William's Point
- Port-orford-cedar forest (82500):** Cedar Basin, L. E. Horton (Stone Corral-Josephine Peridotite)
- Knobcone pine forest (83210):** Black Butte, Bridge Creek, Craig's Creek, Frenzel Creek, Hale Ridge, Manzanita Creek (Trelorita), Mayfield, Pearch Creek, Rock Creek Butte, Timbered Crater
- Northern interior cypress forest (83220):** Frenzel Creek, Mud Lake (Mud Lake-Wheeler Peak), Timbered Crater
- Southern interior cypress forest (83330):** Guatay Mountain, King Creek, Long Canyon
- Coast range mixed coniferous forest (84110):** Cone Peak Gradient (South Fork of Devil's Canyon), Cub Creek, Devil's Basin, Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Doll Basin, Hale Ridge, Junipero Serra Peak, Manzanita Creek (Trelorita), Pearch Creek, Rock Creek Butte, Ruth, Smoky Creek, Specimen Creek, Twin Rocks
- Santa Lucia fir forest (84120):** Cone Peak Gradient (Limekiln Creek), Cone Peak Gradient (South Fork of Devil's Canyon)
- Upland coast range ponderosa pine forest (84131):** Cone Peak Gradient (Limekiln Creek), Devil's Rock-Hosselkus (Devil's Rock, Hosselkus Limestone), Manzanita Creek (Trelorita)
- Coulter pine forest (84140):** American Canyon, Big Pine Mountain, Cahuilla Mountain, Cone Peak Gradient (Limekiln Creek), Fisherman's Camp, Hall Canyon, King Creek, Millard Canyon

- Bigcone spruce-canyon oak forest (84150):** Aqua Tibia (Eagle Crag), Big Pine Mountain, Cleghorn Canyon, Falls Canyon, Fern Canyon, Millard Canyon
- Ultramafic white pine forest (84160):** L. E. Horton (Stone Corral-Josephine Peridotite), Mount Eddy
- Northern ultramafic Jeffrey pine forest (84171):** L. E. Horton (Stone Corral-Josephine Peridotite), Smoky Creek
- Ultramafic mixed coniferous forest (84180):** Cedar Basin, Green Island Lake, Preacher Meadows
- Westside ponderosa pine forest (84210):** Bishop Creek Ponderosa Pine (Merced River), Fern Canyon, Fisherman's Camp, Grizzly Mountain (Big Grizzly Mountain), Hall Canyon, Iron Mountain (Graham Pinery), Peavine Point, Soda Ridge, Sugar Creek
- Eastside ponderosa pine forest (84220):** Blacks Mountain, Mayfield, Shasta Mud Flow (Mount Shasta Mud Flow), Timbered Crater
- Sierran mixed coniferous forest (84230):** Big Pine Mountain, Cub Creek, Doll Basin, Falls Canyon, Hale Ridge, Hall Canyon, Millard Canyon, Moses Mountain, Mud Lake (Mud Lake-Wheeler Peak), Peavine Point, Ruth, Shasta Mud Flow (Mount Shasta Mud Flow), Soda Ridge, Station Creek (Bald Mountain), Sugar Creek, Sugar Pine Point, Teakettle Creek
- Sierran white fir forest (84240):** Babbitt Peak, Bell Meadow, Bridge Creek, Clark Fork, Cub Creek, Doll Basin, Haypress Meadows, Home Camp Creek, Indiana Summit, Manzanita Creek (Trelorita), Moses Mountain, Mount Pleasant, Mud Lake (Mud Lake-Wheeler Peak), North Trinity Mountain, Onion Creek, Peach Creek, Raider Basin (Raider Creek), Ruth, Shasta Mud Flow (Mount Shasta Mud Flow), Soda Ridge, South Mountaineer Creek (Mountaineer Creek), Station Creek (Bald Mountain), Sugar Creek, Sugar Pine Point, Teakettle Creek
- Big tree forest (84250):** Moses Mountain
- Jeffrey pine forest (85100):** Bell Meadow, Big Pine Mountain, Broom Flat (Broom Flat Ridge), Church Dome, Grass Lake, Indiana Summit, Long Canyon, Sawmill Mountain, Sentinel Meadow, Smoky Creek, Sugar Creek
- Upper montane mixed coniferous forest (85200):** South Mountaineer Creek (Mountaineer Creek)
- Jeffrey pine-fir forest (85210):** Babbitt Peak, Bell Meadow, Church Dome, Grass Lake, Horse Meadow, Indiana Summit, Lyon Peak/Needle Lake, Sawmill Mountain, Sugar Creek, Teakettle Creek
- Washoe pine-fir forest (85220):** Babbitt Peak, Raider Basin (Raider Creek)
- Upper montane fir forest (85300):** William B. Critchfield (Bourland Meadow)
- Red fir forest (85310):** Antelope Creek Lakes, Babbitt Peak, Bell Meadow, Cedar Basin, Clark Fork, Cub Creek, Doll Basin, Grass Lake, Green Island Lake, Haypress Meadows, Home Camp Creek, Indian Creek Brewer Spruce, Moses Mountain, Mount Pleasant, Mud Lake (Mud Lake-Wheeler Peak), North Trinity Mountain, Onion Creek, Peach Creek, Red Butte-Red Fir Ridge (Shasta Red Fir), Rock Creek Butte, South Mountaineer Creek (Mountaineer Creek), Sugar Creek, Teakettle Creek, William B. Critchfield (Bourland Meadow)
- Southern California white fir forest (85320):** Hall Canyon, Horse Meadow, Sawmill Mountain
- Siskiyou enriched coniferous forest (85410):** Indian Creek Brewer Spruce, Rock Creek Butte
- Salmon-Scott enriched coniferous forest (85420):** Cedar Basin, Sugar Creek
- Lodgepole pine forest (86100):** Bell Meadow, Grass Lake, Harvey Monroe Hall, Home Camp Creek, Indiana Summit, Last Chance Meadow, Lyon

- Peak/Needle Lake, Mount Pleasant, Mud Lake (Mud Lake-Wheeler Peak), Sentinel Meadow, South Mountaineer Creek (Mountaineer Creek), Sugar Creek, Teakettle Creek, William B. Critchfield (Bourland Meadow)
- Sierran mixed subalpine coniferous forest (86200):** Home Camp Creek, Snow Canyon
- Whitebark pine-mountain hemlock forest (86210):** Antelope Creek Lakes, Cedar Basin, Crater Creek, Harvey Monroe Hall, Highland Lakes, Lyon Peak/Needle Lake, Red Butte-Red Fir Ridge (Shasta Red Fir), Sugar Creek
- Whitebark pine-lodgepole pine forest (86220):** Crater Creek, Harvey Monroe Hall, Sentinel Meadow
- Foxtail pine forest (86300):** Crater Creek, Last Chance Meadow, Mount Eddy, Sugar Creek
- Bristlecone pine forest (86400):** Whippoorwill Flat, White Mountain (White Mountain Natural Area)
- Southern California subalpine forest (86500):** Horse Meadow
- Whitebark pine forest (86600):** Antelope Creek Lakes, Crater Creek, Harvey Monroe Hall, Raider Basin (Raider Creek), Sentinel Meadow, Sugar Creek
- Limber pine forest (86700):** Last Chance Meadow, Sentinel Meadow, Whippoorwill Flat, White Mountain (White Mountain Natural Area)
- Brewer spruce woodland (no Holland equivalent):** Sugar Creek
- Incense-cedar gully forest (no Holland equivalent):** Doll Basin
- Western white pine (no Holland equivalent):** Babbitt Peak, Snow Canyon, South Mountaineer Creek (Mountaineer Creek)

Alpine Habitats:

- Sierra Nevada fell-field (91120):** Clark Fork, Harvey Monroe Hall, Highland Lakes, Lyon Peak/Needle Lake
- Southern California fell-field (91130):** Sawmill Mountain
- White Mountains fell-field (91140):** McAfee (White Mountain Summit), White Mountain (White Mountain Natural Area)
- Alpine talus and scree slope (91200):** Antelope Creek Lakes, Cedar Basin, Church Dome, Clark Fork, Harvey Monroe Hall, Highland Lakes, Lyon Peak/Needle Lake, McAfee (White Mountain Summit), Moses Mountain, Mount Eddy, Mount Pleasant, Onion Creek, Red Butte-Red Fir Ridge (Shasta Red Fir), Snow Canyon, Sugar Creek
- Alpine snowbank margin (91300):** Harvey Monroe Hall, McAfee (White Mountain Summit), Red Butte-Red Fir Ridge (Shasta Red Fir), Sugar Creek
- Alpine dwarf scrub (94000):** Snow Canyon
- Artemisia cana* ssp. *bolanderi*-*Carex douglasii* (no Holland equivalent):** Indiana Summit
- Haplopappus bloomeri*-*Gayophytum diffusum* (no Holland equivalent):** Indiana Summit

Others (no Holland equivalent):

- Holodiscus microphyllus* (no Holland equivalent):** Manzanita Creek (Trelorita)
- Limestone outcrop (no Holland equivalent):** Long Canyon
- Mountain talus (no Holland equivalent):** Falls Canyon
- Rock outcrop (no Holland equivalent):** Big Pine Mountain, Craig's Creek, Home Camp Creek, Indian Creek Brewer Spruce, Junipero Serra Peak, Millard Canyon, Mount Eddy, Peach Creek, Rock Creek Butte, Wagon Caves
- Rock outcrop and talus slopes (no Holland equivalent):** Soda Ridge
- Rocky herbaceous association (no Holland equivalent):** Sugar Pine Point
- Serpentinite barrens (no Holland equivalent):** Frenzel Creek
- Shale barrens (no Holland equivalent):** Big Pine Mountain
- Subalpine barren and bedrock (no Holland equivalent):** Snow Canyon

Appendix 2—Explanation of rare species protection status

Federal listing: species listed under the Endangered Species Act (Federal Register, 50 CFR 17.11 & 17.12)

Endangered - listed as endangered by Federal government

Threatened - listed as threatened by Federal government

Proposed - proposed for listing, rule-making is in effect

State listing: species protected under the state law: the California Endangered Species Act, The Native Plant Protection Act, the California Environmental Quality Act, and the Natural Communities Conservation Planning Act

Endangered (E) - the prospect of survival and reproduction is in immediate jeopardy from one or more causes

Threatened (T) - although not presently threatened with extinction, it is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts

Rare (R) - although not presently threatened with extinction, it occurs in such small numbers throughout its range that it may become endangered if its present environment worsens

Candidate (C) - a taxon that has been officially noticed by the California Fish and Game Commission as being under review by the Department of Fish and Game for addition to the rare, threatened, or endangered species list

Other State listing: Species of Special Concern (for animal species only) – an informal designation used by the California Department of Fish and Game

Forest Service listing:

Sensitive - species known or highly suspected to occur on Forest Service lands that are considered valid candidates for Federal threatened or endangered classification under the Endangered Species Act

California Native Plant Society (CNPS) listing: based on California Native Plant Society Inventory of Rare and Endangered Vascular Plants (Skinner and Pavlik 1994)

List 1A: plants presumed extinct in California

List 1B: plants rare, threatened, or endangered in California and elsewhere

List 2: plants rare, threatened, or endangered in California, but more common elsewhere

List 3: plants about which CNPS needs more information

List 4: plants of limited distribution

The Forest Service, U.S. Department of Agriculture, is responsible for Federal leadership in forestry. It carries out this role through four main activities:

- Protection and management of resources on 191 million acres of National Forest System lands;
- Cooperation with State and local governments, forest industries, and private landowners to help protect and manage non-Federal forest and associated range and watershed lands;
- Participation with other agencies in human resource and community assistance programs to improve living conditions in rural areas; and
- Research on all aspects of forestry, rangeland management, and forest resources utilization.

The Pacific Southwest Research Station

- Represents the research branch of the Forest Service in California, Hawaii, American Samoa, and the western Pacific.



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Research Natural Areas in California

