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Forest Service Research Natural Areas in California



• Adorni • Agua Tibia • American Canyon • Antelope Creek Lakes • Babbitt Peak • Backbone
Creek • Bell Meadow • Big Pine Mountain • Bishop Creek Ponderosa Pine • Black Butte •
Blacks Mountain • Bridge Creek • Broom Flat • Cahuilla Mountain • Cedar Basin • Church
Dome • Clark Fork • Cleghorn Canyon • Cone Peak Gradient • Craig's Creek • Crate
Creek • Cub Creek • Devil's Basin • Devil's Garden • Devil's Rock • Devil's Rock-Hosselku
• Doll Basin • Falls Canyon • Fern Canyon • Fisherman's Camp • Frenzel Creek • Gras
Lake • Green Island Lake • Grizzly Mountain • Guatay Mountain • Hale Ridge • Hall Canyon
• Harvey Monroe Hall • Haypress Meadows • Hennessy Ridge • Highland Lakes • Home
Camp Creek • Horse Meadow • Indian Creek • Indiana Summit • Iron Mountain • Jawbone
Ridge • Junipero Serra Peak • King Creek • L. E. Horton • Last Chance Meadow • Long
Canyon • Lyon Peak/Needle Lake • Manzanita Creek • Mayfield • McAfee • Merced
River • Millard Canyon • Moses Mountain • Mount Eddy • Mount Pleasant • Mount Sha

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Abstract

Ecological descriptions of 98 research natural areas (of various statuses) in the Pacific Southwest Region of the USDA Forest Service are summarized in this report. These descriptions, basically based on ecological surveys conducted from 1975 through 2000, provide important but largely unknown information on the ecology of California. For each area, descriptions of location, target elements, distinctive features, physical characteristics, plant communities, plant diversity, and conflicting impacts are provided. Comparisons are made between similar vegetation types at different sites. Summaries of all research natural areas' target elements, plant communities, and ecological units can be found in tables and appendices. Maps and photographs are included.

Retrieval Terms: California vegetation, ecological survey, research natural area

Technical Editor

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Forest Service Research Natural Areas in California

Sheauchi Cheng, Technical Editor

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Introduction

Research Natural Areas (RNAs) in National Forests are public lands protected permanently to maintain biological diversity and provide ecological baseline information, education, and research. Areas representing both widespread and unique ecosystems are selected for RNAs. Only nonmanipulative research and observation are allowed in the RNAs.

In California 52 RNAs have been formally established by the Chief of the USDA Forest Service and are managed to serve the objectives of the RNA system. The oldest is Indiana Summit, established in 1932 on the Inyo National Forest; the most recent is Ruth on the Six Rivers National Forest, established in 1998. More than 40 areas are yet to be established. The Forest Service RNAs in California contain a wide range of habitats, from the coast to the desert and from valley grassland to alpine fell-field.

Since 1975, the USDA Forest Service's Pacific Southwest Region (Region 5) Research Natural Areas Committee has contracted for the ecological surveys of established or proposed RNAs on Forest Service land in California. Typically included in the surveys are descriptions of vegetation communities and successional relationships, detailed plant lists, growth rates of important tree species, and maps of vegetation and soil. Produced by more than 30 plant ecologists and botanists outside the Forest Service, the surveys provide detailed descriptions of many natural plant communities heretofore poorly described in ecological literature. Copies of the completed, unpublished surveys are filed in the USDA Forest Service, Pacific Southwest Research Station at Albany and the Bioscience Library of the University of California, Berkeley, but a few have been published or even alluded to in print (e.g., Keeler-Wolf 1988b, Sawyer, Thornburgh, Griffin 1977). Three established RNAs have no ecological survey (Blacks Mountain, San Joaquin Experimental Range, and Backbone Creek), but have extensive studies conducted on site. Summaries of the ecological conditions of these three RNAs are included.

This publication is intended to bring these ecological data to the attention of scientists and the general public. The original ecological surveys are much too long and detailed to incorporate into a single publication. This report summarizes the most significant information collectively to make up a substantial body of ecological information on California's vegetation, particularly its forests and woodlands.

Of the 98 areas described in this report, 52 are established RNAs, 36 are proposed, candidate or recommended RNAs, and 10 have been dropped from RNA consideration because they duplicate more desirable candidates or are more appropriately classified in some other way (e.g., as Botanical Areas or Special Interest Areas).

Selection of RNAs

The selection of RNAs is based on the identification of "target elements" on all the National Forests in California. These target elements include plant communities described in various ecological references (e.g., Barbour and Major 1977, Eyre 1980, Kuchler 1966, Munz and Keck 1959) and unique ecosystems, such as aquatic and geologically unusual areas. Selection of RNAs is intended to accurately reflect the natural diversity of vegetation types on Forest Service land in California and lead to the long-term study of each.

Most RNAs contain a far greater diversity of vegetation types than just the designated target elements. The representation of these vegetation types within the RNA is as important as the representation of the target elements.

Locations of RNAs are shown in *Figure 1*. *Table 1* summarizes the status, target elements, and date of ecological survey of all the 98 areas. *Figure 2* shows

the ecological sections of California delineated by the Forest Service (Miles and Goudey 1997). Lists of RNAs by ecological subsections are provided in *Table 2. Appendix 1* cross-references the RNAs to the occurrence of vegetation types derived from the Terrestrial Plant Communities in California (Holland 1986).

Ecological Surveys

The following are included in most RNA ecological surveys:

- General overview of topography, geology, soils, climate, and flora of the study area
- Vegetation map and narrative descriptions (area, general characteristics, successional relationships, and scientific/educational values) of the principal plant communities in the study area
- Notation on the occurrence of any endangered, threatened, sensitive, or rare plant and animal species in the study area
- Estimates of composition, density, basal area, and growth rate for representative stands of timber types

Many ecological surveys include more than the above-mentioned information, such as detailed sampling of non-forest vegetation types, recommendations for protection and management, the ecological significance of real or potential human impact, boundary options based on ecological information, and other values (e.g., anthropological, paleontological). They also usually include a list of vascular plants identified during the fieldwork. Depending on the expertise of the researcher, such additional information as detailed lists of vertebrates, bird censuses, or data on mammal trapping may be included.

Format of the Summaries

Summaries of ecological conditions are arranged alphabetically by research natural area name, which may be different from the name used in the ecological survey report. The ecological survey name, if different, is in parentheses following the research natural area name.

Vegetation cannot be expected to remain the same as it is described here, since it is based on the conditions present when the surveys were conducted. For established RNAs, the establishment record usually contains additional, updated information on the area, especially in relation to management implications and conflicts on land use issues. The establishment record may have redefined certain vegetation types, or added to the plant list based on more recent fieldwork. Reference to the ecological survey and establishment record is listed after the name of the area.

Each summary includes:

RNA name with the name used in the ecological survey in parentheses (if different from the RNA name), and citations of the ecological survey and establishment record (when applicable).

Location: Latitude and longitude, distance to nearest town or standard map location, sections, Township and Range, National Forest, USGS 7.5 or 15 minute (depending on availability) topographic quadrangle coverage, and establishment status. Maps of each area are attached. These maps indicate the official (if established) and proposed boundaries (solid line) and the ecological survey study area boundaries (if different, dashed line).

Target Element(s): Target element(s) represented.

Distinctive Features: Important ecological features of plants or plant communities represented, and paleontological, geological, archeological, or

(Continues on page 9)

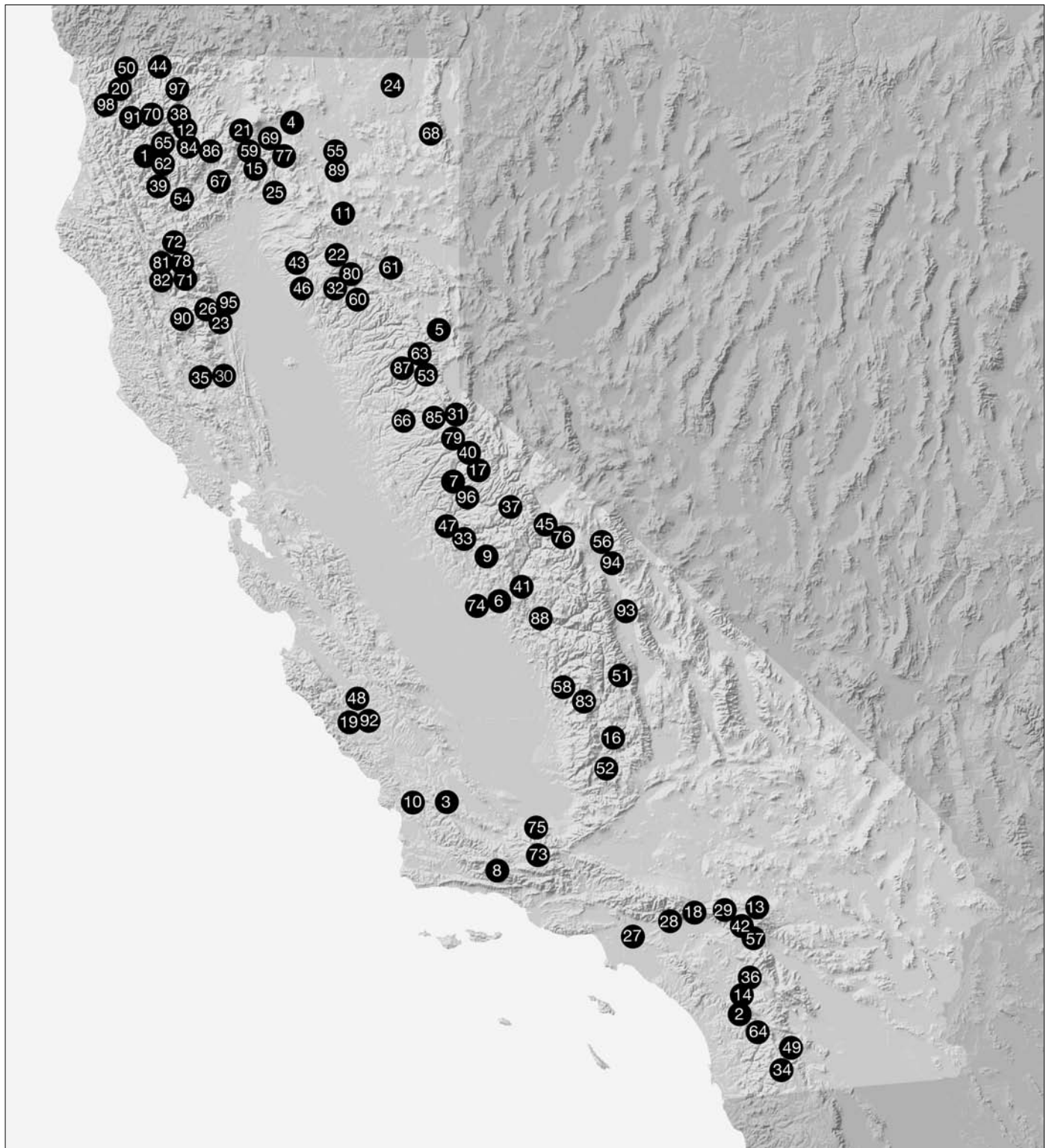


Figure 1—Locations of Forest Service research natural areas in California

Status Definitions for Table 1.

- E**= established
- R**= recommended in forest management plan
- C**= candidate, nominated and approved for establishment but not incorporated in forest management plan
- P**= proposed, recognized but not yet fully reviewed or approved
- D**= dropped for research natural area consideration

Table 1— Forest Service research natural areas in California.

Status	RNA name	National Forest	Target vegetation 1	Target vegetation 2 and other significant value	Ecological survey date
E	1-Adorni	Six Rivers	Port Orford-cedar	tanoak	1981
E	2-Agua Tibia	Cleveland	bigcone Douglas-fir	madrone	1989
E	3-American Canyon	Los Padres	Coulter pine - chaparral	riparian corridors	1989
C	4-Antelope Creek Lakes	Klamath	subalpine wet meadow	mountain hemlock/red fir	1987
E	5-Babbitt Peak	Tahoe/Toiyabe	Washoe pine	mountain mahogany	1977
E	6-Backbone Creek	Sierra	<i>Carpenteria californica</i>	unique ecosystem	no survey
E	7-Bell Meadow	Stanislaus	aspen	montane meadow	1985
C	8-Big Pine Mountain	Los Padres	mixed conifer forest	condor habitat, biogeography	1991
C	9-Bishop Creek	Sierra	Pacific ponderosa pine	—	1979
	Ponderosa Pine				
E	10-Black Butte	Los Padres	knobcone pine	chaparral	1996
E	11-Blacks Mountain	Lassen	interior ponderosa pine	sagebrush	no survey
C	12-Bridge Creek	Klamath	Pacific Douglas-fir	giant chinquapin, Pacific yew	1985
C	13-Broom Flat	San Bernardino	pinyon	pinyon - juniper woodland	1992
E	14-Cahuilla Mountain	San Bernardino	Coulter pine	California black oak	1986
R	15-Cedar Basin	Shasta-Trinity	Port Orford-cedar	mixed conifer, <i>Darlingtonia</i> bog	1982
E	16-Church Dome	Sequoia	Jeffrey pine	—	1989
C	17-Clark Fork	Stanislaus	white fir	red fir	1991
C	18-Cleghorn Canyon	San Bernardino	southern sycamore alder riparian forest	white alder riparian forest, bigcone Douglas-fir - canyon live oak forest	1994
E	19-Cone Peak Gradient	Los Padres	unique ecosystem (Santa Lucia fir, sugar pine, mixed evergreen forest)	—	1977
R	20-Craig's Creek	Six Rivers	knobcone pine	coast redwood	1991
C	21-Crater Creek	Klamath	subalpine forest (foxtail/ mountain hemlock)	mountain mahogany	1987
E	22-Cub Creek	Lassen	mixed conifer forest	—	1978
E	23-Devil's Basin	Mendocino	California black oak	Douglas-fir	1987
E	24-Devil's Garden	Modoc	western juniper	<i>Artemisia</i> shrub-steppe	1984
E	25-Devil's Rock-Hosselkus	Shasta-Trinity	limestone ecosystem	California black oak, canyon live oak	1975
E	26-Doll Basin	Mendocino	mixed conifer forest	archeology	1986
E	27-Falls Canyon	Angeles	bigcone Douglas-fir	canyon live oak	1981
E	28-Fern Canyon	Angeles	chamise chaparral	canyon live oak	1979
E	29-Fisherman's Camp	San Bernardino	Coulter pine	mixed conifer forest	1992
E	30-Frenzel Creek	Mendocino	MacNab cypress	Sargent cypress, serpentine chaparral	1983
E	31-Grass Lake	Eldorado	moss bog	montane meadow	1987
R	32-Green Island Lake	Lassen	moss bog	montane coniferous forest	1986
E	33-Grizzly Mountain	Stanislaus	California black oak	—	1987
P	34-Guatay Mountain	Cleveland	Tecate cypress	gabbro endemics	1980
E	35-Hale Ridge	Mendocino	knobcone pine	serpentinite species	1987
E	36-Hall Canyon	San Bernardino	mixed conifer forest	adjacent to James UC Preserve	1986
E	37-Harvey Monroe Hall	Inyo	alpine meadows, subalpine forest	—	1984
C	38-Haypress Meadows	Klamath	red fir	wet meadow/riparian complex	1988
R	39-Hennessy Ridge	Six Rivers	Pacific Douglas-fir	succession and forest structure	1987
D	40-Highland Lakes	Stanislaus	mountain hemlock forest	—	1988
P	41-Home Camp Creek	Sierra	white fir	red fir	1992
E	42-Horse Meadow	San Bernardino	white fir	subalpine forest	1992

(Continues on next page)

Table I (continued)

Status	RNA name	National Forest	Target vegetation 1	Target vegetation 2 and other significant value	Ecological survey date
R	43-Indian Creek	Lassen	blue oak - foothill pine	—	1986
D	44-Indian Creek Brewer Spruce	Klamath	Brewer spruce	—	1978
E	45-Indiana Summit	Inyo	Jeffrey pine	archeology	1980
P	46-Iron Mountain	Lassen	Pacific ponderosa pine	California black oak	1992
D	47-Jawbone Ridge	Stanislaus	chamise chaparral	—	1986
D	48-Junipero Serra Peak	Los Padres	sugar pine	—	1975
E	49-King Creek	Cleveland	Cuyamaca cypress	gabbro endemics	1978
R	50-L. E. Horton	Six Rivers	<i>Darlingtonia</i> bog	serpentine endemics	1986
E	51-Last Chance Meadow	Inyo	foxtail pine	meadow / stream	1976
C	52-Long Canyon	Sequoia	Piute cypress	California juniper, pinyon pine	1990
E	53-Lyon Peak/Needle Lake	Tahoe	mountain hemlock	subalpine meadow	1988
E	54-Manzanita Creek	Shasta-Trinity	ponderosa pine-Douglas-fir	alder-dogwood, complete watershed	1979
C	55-Mayfield	Lassen	knobcone pine	geology	1991
R	56-McAfee	Inyo	alpine fell-field	—	1993
E	57-Millard Canyon	San Bernardino	interior live oak	bigcone Douglas-fir	1988
E	58-Moses Mountain	Sequoia	giant sequoia	riparian and meadow	1989
E	59-Mount Eddy	Shasta-Trinity	foxtail pine	—	1979
E	60-Mount Pleasant	Plumas	red fir	bog-fen	1981
E	61-Mud Lake	Plumas	Baker cypress	biogeography	1985
R	62-North Trinity Mountain	Six Rivers	white fir	noble fir forest	1981
D	63-Onion Creek	Tahoe	white fir	red fir	1977
E	64-Organ Valley	Cleveland	Engelmann oak	gabbro endemics	1985
D	65-Pearch Creek	Six Rivers	mixed evergreen forest (Douglas-fir - tanoak - Pacific madrone)	—	1987
E	66-Peavine Point	Eldorado	Pacific ponderosa pine	California black oak	1977
E	67-Preacher Meadows	Shasta-Trinity	mixed conifer	<i>Darlingtonia-Cypripedium</i> bog	1978
R	68-Raider Basin	Modoc	white fir	northern juniper woodland	1989
E	69-Red Butte-Red Fir Ridge	Shasta-Trinity	red fir	wet meadow	1988
C	70-Rock Creek Butte	Klamath	Brewer spruce	montane chaparral	1987
C	71-Rough Gulch	Shasta-Trinity	Douglas-fir	—	1975, partial
E	72-Ruth	Six Rivers	ponderosa pine - Douglas-fir	oak-conifer woodland	1981
E	73-San Emigdio Mesa	Los Padres	pinyon-juniper woodland	<i>Quercus turbinella</i> ssp. <i>californica</i>	1993
E	74-San Joaquin Experimental Range	Sierra	blue oak - foothill pine	—	no survey
R	75-Sawmill Mountain	Los Padres	Jeffrey pine	white fir	1993
E	76-Sentinel Meadow	Inyo	lodgepole pine	limber pine	1978
E	77-Shasta Mud Flow	Shasta-Trinity	Pacific ponderosa pine	unique ecosystem	1984
R	78-Smoky Creek	Shasta-Trinity	ponderosa pine - Douglas-fir	serpentine Jeffrey pine	1979
C	79-Snow Canyon	Eldorado	western white pine	subalpine meadow	1992
R	80-Soda Ridge	Lassen	white fir	mixed conifer forest	1980
R	81-Soldier	Six Rivers	Oregon white oak	foothill pine	1988
C	82-South Fork Mountain	Shasta-Trinity	Douglas-fir	—	1975, partial
C	83-South Mountaineer Creek	Sequoia	red fir	montane wet meadow	1991
D	84-Specimen Creek	Klamath	Pacific Douglas-fir	—	1977
E	85-Station Creek	Eldorado	transitional forest type (sugar pine - white fir - rattlesnake orchid)	—	1977

(Continues on next page)

Table I (continued)

Status	RNA name	National Forest	Target vegetation 1	Target vegetation 2 and other significant value	Ecological survey date
C	86-Sugar Creek	Klamath	mixed conifer	enriched conifer	1984
E	87-Sugar Pine Point	Tahoe	mixed conifer forest	montane chaparral	1981
D	88-Teakettle Creek	Sierra	red fir	—	1975
R	89-Timbered Crater	Lassen	Baker cypress	vernal pool	1990
D	90-Twin Rocks	Mendocino	foothill woodland	—	1987
R	91-Upper Goose Creek	Six Rivers	Douglas-fir - western hemlock	Port Orford-cedar	1987
R	92-Wagon Caves	Los Padres	valley oak woodland	alder - sycamore riparian	1989
E	93-Whippoorwill Flat	Inyo	pinyon - juniper	limber pine	1976
E	94-White Mountain	Inyo	bristlecone pine	limber pine	1979
E	95-Wilder Ridge	Mendocino	chamise chaparral	foothill pine - blue oak woodland	1992
E	96-William B. Critchfield	Stanislaus	red fir	montane meadow	1976
D	97-William's Point	Klamath	Douglas-fir	—	1977
E	98-Yurok	Six Rivers	coast redwood	red alder	1982

zoological distinctions. If extensive information regarding a community type or other feature of the area has been amassed (e.g., vegetation structure, growth rates, successional history) as a result of the survey or other previous study, it is discussed here.

Physical Characteristics: Acreage, elevational range, brief topographical description with principal rock types, soils, and climatic summary.

Association Types: Brief descriptions of all plant associations represented, with Holland (1986) community equivalents, extent (in the surveyed area unless otherwise noted), important species, and data on density, basal area cover, seedling and sapling densities, and sizes of dominant species, if available.

Plant Diversity: Based on numbers of taxa (specific and infraspecific) listed in the area; includes only vascular plants unless otherwise noted.

Conflicting Impacts: Real or potential human impact, which may need consideration in research plans or management of the area to maintain a natural state.

Standards and Conventions

All association types are listed with their Holland (1986) community-type equivalent. A list of Holland types and their representation on the research natural areas is presented as *appendix 1*. Society of American Foresters (Eyre 1980) and Kuchler (1966) types are not specifically listed, as these are not usually as precise as the Holland types.

Rare species: rare species known from an area are listed under the distinctive features section. Protection status of these species and subspecies under the Federal Government, State of California, USDA Forest Service, and California Native Plant Society (CNPS) are included in parentheses. For detailed explanation of each listing, please refer to *appendix 2*.

Plant names: all species names are in accordance with Munz (1968, 1974), unless otherwise noted.

(Continues on page 11)

Figure 2—Ecological sections of California (from Miles and Goudey 1997).

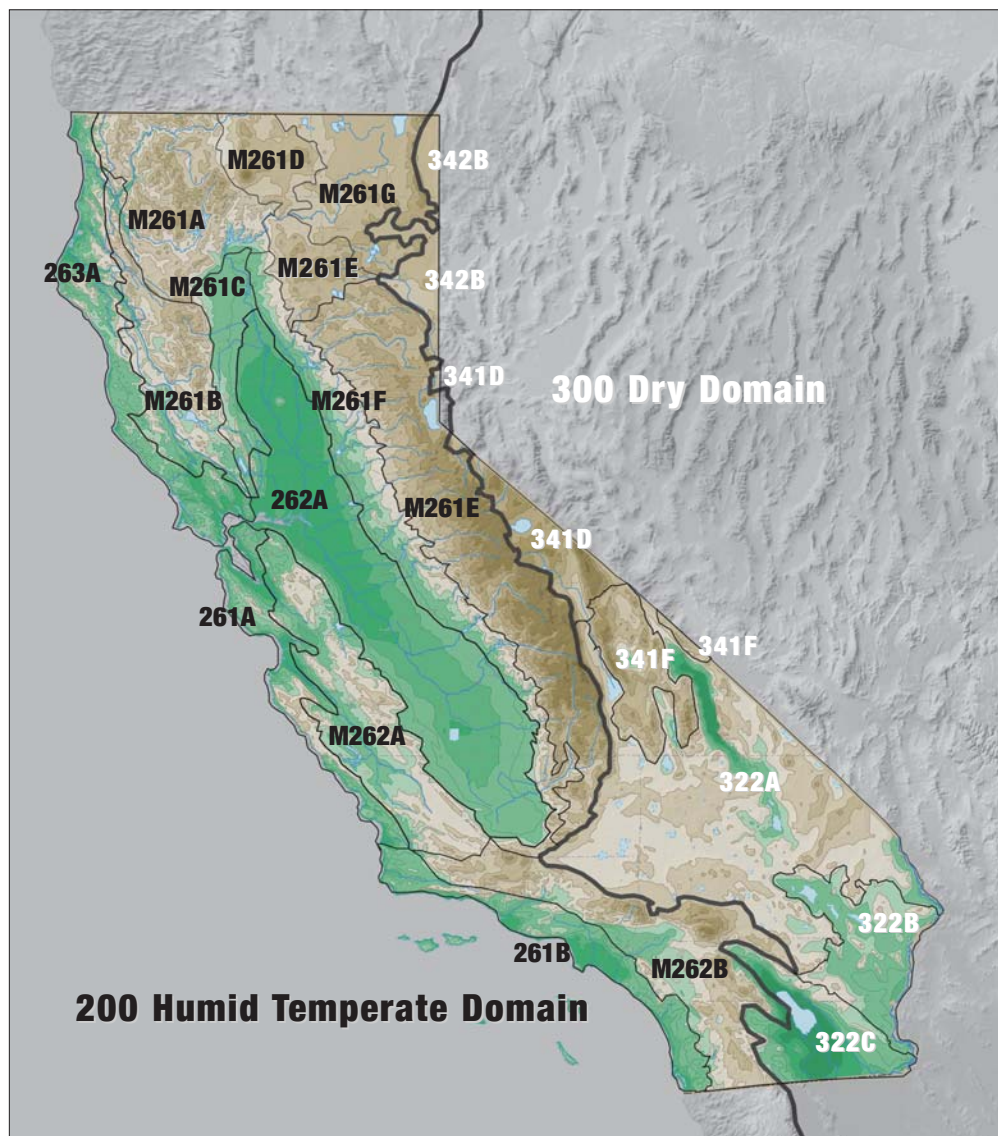


Table 2— Forest Service research natural areas by California’s ecological subsection. Ecological subsection codes and names (Miles and Goudey 1997) are in boldface; research natural area names (with ecological survey area name in parentheses, if different from the research natural area name) are in plain type.

200 Humid Temperate Domain

260 Mediterranean Division

261 California Coastal Chaparral Forest and Shrub Province

- 261A Central California Coast Section**
- 261Aj North Coastal Santa Lucia Range:** Cone Peak Gradient (Limekiln Creek, South Fork of Devil’s Canyon), Junipero Serra Peak, Wagon Caves
- 261Ak South Coastal Santa Lucia Range:** Black Butte

263 California Coastal Steppe – Mixed Forest – Redwood Forest Province

- 263A Northern California Coast Section**
- 263Ab Northern Franciscan:** Yurok

M260 Mediterranean Regime Mountains Division

M261 Sierran Forest – Alpine Meadows Province

- M261A Klamath Mountains Section**
- M261Aa Western Jurassic:** Rock Creek Butte, William’s Point, Craig’s Creek, Hennessy Ridge, Upper Goose Creek
- M261Ab Gasquet Mountain Ultramafics:** Adorni, Craig’s Creek, L. E. Horton (Stone Corral-Josephine Peridotite)
- M261Ad Siskiyou Mountains:** Rock Creek Butte

- M261Af Lower Salmon Mountains:** Bridge Creek, Indian Creek Brewer Spruce, Peach Creek
- M261Ag Upper Salmon Mountains:** Bridge Creek, Haypress Meadows, Sugar Creek
- M261Ai Eastern Klamath Mountains:** Devil’s Rock-Hosselkus (Devil’s Rock, Hosselkus Limestone), Preacher Meadows
- M261Aj Upper Scott Mountains:** Cedar Basin, Crater Creek, Mount Eddy, Preacher Meadows
- M261An Red Butte:** Indian Creek Brewer Spruce
- M261Ap Forks of Salmon:** Specimen Creek
- M261Aq North Trinity Mountain:** North Trinity Mountain, Manzanita Creek (Trelorita)
- M261Ar Trinity Mountain - Hayfork:** Manzanita Creek (Trelorita)
- M261Au Rattlesnake Creek:** Smoky Creek
- M261B Northern California Coast Ranges Section**
- M261Ba Eastern Franciscan:** Adorni, Devil’s Basin, Doll Basin, Hale Ridge, Rough Gulch (Yolla Bolla), South Fork Mountain (Yolla Bolla), Ruth, Twin Rocks
- M261Bb Central Franciscan:** Hale Ridge, Soldier
- M261Bc Stony Creek Serpentine:** Frenzel Creek
- M261C Northern California Interior Coast Ranges Section**
- M261Ca Western Foothills:** Frenzel Creek, Wilder Ridge

- M261D Southern Cascades Section**
- M261Dd Blacks Mountain - Susanville Peak:** Blacks Mountain
- M261Df High Cascades:** Antelope Creek Lakes, Red Butte-Red Fir Ridge (Shasta Red Fir)
- M261Dg McCloud Flat:** Shasta Mudflow (Mount Shasta Mud Flow)
- M261Dh Medicine Lake Lava Flows:** Mayfield, Timbered Crater
- M261Di Shingleton - Paradise:** Cub Creek, Iron Mountain (Graham Pinery)
- M261Dm Lassen - Almanor:** Cub Creek, Green Island Lake, Soda Ridge
- M261E Sierra Nevada Section**
- M261Ea Diamond Mountains - Crystal Peak:** Mud Lake (Mud Lake-Wheeler Peak)
- M261Eb Fredonyer Butte - Grizzly Peak:** Mud Lake (Mud Lake-Wheeler Peak)
- M261Ed Greenville - Graeagle:** Mount Pleasant
- M261Ee Bucks Lake:** Mount Pleasant
- M261Eg Upper Foothills Metamorphic Belt:** Grizzly Mountain (Big Grizzly Mountain), Jawbone Ridge
- M261Eh Upper Batholith and Volcanic Flows:** Bell Meadow, Clark Fork, Lyon Peak/Needle Lake, Onion Creek, Station Creek (Bald Mountain), Sugar Pine Point, William B. Critchfield (Bourland Meadow)
- M261Ej Tahoe - Truckee:** Babbitt Peak

Editorial Policy

Summaries of 68 areas in this report are based on the Forest Service's 1990 publication, GTR-PSW-125, "Ecological Surveys of Forest Service Research Natural Areas in California" (Keeler-Wolf 1990e). For these 68 areas, in addition to some revisions, updated information on significant events, such as fire or scientific discoveries, is included.

Literature citations are few. The principal references (ecological survey and establishment record) are cited at the beginning of the summary, next to each area's name. Additional references in the text are cited only to substantiate the distinctiveness of an area's particular feature(s); they are listed at the end of the summary. Detailed references can be found in the original surveys and establishment records.

Use of RNAs

The USDA Forest Service welcomes research and educational use of RNAs from interested parties within and outside the Forest Service. Use of an RNA or candidate RNA requires permission from the District Ranger on the Forest in which the RNA is located, and notification (with justifications) of the Director, Pacific Southwest Research Station, P. O. Box 245, Berkeley, CA 94701.

M261Ek	Glaciated Batholith and Volcanic Flows: Grass Lake, Highland Lakes, Snow Canyon	M261Gn	Big Valley Mountains: Timbered Crater	300	Dry Domain
M261Em	Batholith and Volcanic Flows: Peavine Point	M262	California Coastal Range Shrub – Forest – Meadow Province	340	Temperate Desert Division
M261Eo	Glaciated Batholith: Harvey Monroe Hall, Last Chance Meadow	M262A	Central California Coast Ranges Section	341	Intermountain Semi-Desert and Desert Province
M261Ep	Lower Batholith: Bishop Creek Ponderosa Pine (Merced River)	M262Ae	Interior Santa Lucia Range: American Canyon	341D	Mono Section
M261Eq	Upper Batholith: Home Camp Creek, Moses Mountain, South Mountaineer Creek (Mountaineer Creek), Teakettle Creek	M262B	Southern California Mountains and Valleys Section	341Dj	White Mountains: McAfee (White Mountain Summit), White Mountain White Mountain Natural Area),
M261Es	Tehachapi-Piute Mountains: Long Canyon	M262Ba	San Rafael-Topatopa Mountains: Big Pine Mountain	341DI	Glass Mountain: Indiana Summit, Sentinel Meadow
M261Eu	Kern Plateau: Church Dome	M262Bb	Northern Transverse Ranges: San Emigdio Mesa, Sawmill Mountain	341F	Southeastern Great Basin Section
M261F	Sierra Nevada Foothills Section	M262Bd	San Gabriel Mountains: Falls Canyon, Fern Canyon	341Fb	Inyo Mountains: Whippoorwill Flat
M261Fa	Tuscan Flows: Indian Creek, Iron Mountain (Graham Pinery)	M262Bg	San Gorgonio Mountains: Cleghorn Canyon, Millard Canyon	342	Intermountain Semi-Desert Province
M261Fc	Lower Granitic Foothills: Backbone Creek, San Joaquin Experimental Range	M262Bh	Upper San Gorgonio Mountains: Broom Flat (Broom Flat Ridge), Fisherman's Camp, Horse Meadow	342B	Northwestern Basin and Range Section
M261Fd	Southern Granitic Foothills: Long Canyon	M262Bm	San Jacinto Mountains: Cahuilla Mountain, Hall Canyon	342Ba	Surprise Valley: Raider Basin (Raider Creek)
M261G	Modoc Plateau Section	M262Bn	Western Granitic Foothills: King Creek, Organ Valley		
M261Gb	Devil's Garden: Devil's Garden	M262Bo	Palomar-Cuyamaca Peak: Agua Tibia (Eagle Crag), Guatay Mountain, King Creek		
M261Gf	Warner Mountains: Raider Basin (Raider Creek)				