

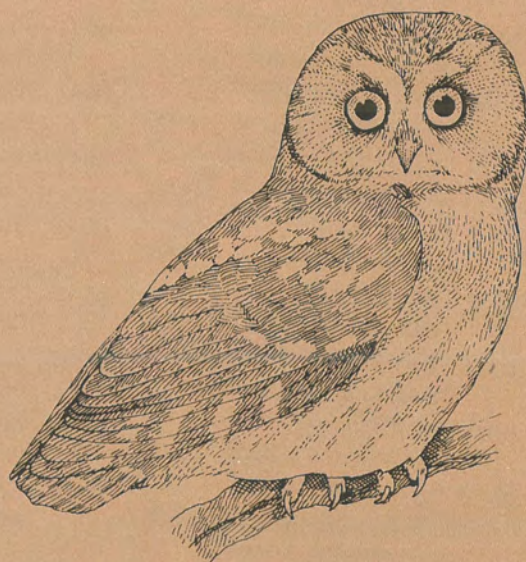
Birds

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This chapter offers information on the status, distribution (by habitat type and seral stage), and basic life history for each of 208 species of birds that are found in the western Sierra Nevada. Many of the data came from the literature, although the professional ornithologists involved with this project drew upon extensive personal experience with birds in the Sierra Nevada. Knowledge of the details of bird life in the western Sierra Nevada is scanty at best. Pertinent data on life histories of many species simply were unavailable, while for a majority of those species for which data are presented, the studies cited were done somewhere other than in the western Sierra Nevada. Even assignment of species to habitat types and seral stages was based less on solid information available in the literature, and more on the field experience and judgment of those involved in the project. Therefore, the information reported here is subject to refinement, correction, and revision.

At least 57 additional bird species have been reported five or fewer times in the western Sierra Nevada, and these are simply listed as "accidentals" in the section on Rare Species. The accidental list, of course, will never be complete, as birds are highly mobile animals that not uncommonly turn up well beyond the limits of their normal range. We see no need to manage our lands with such accidentals in mind.

Classification and nomenclature followed here are based on the Checklist of North American Birds (American Ornithologists' Union Checklist Committee 1957) and supplements 32 and 33 (A.O.U. Checklist Committee 1973, 1976). The species are arranged in phylogenetic order and numbered in sequence, with the prefix "B", for purposes of internal cross-referencing and computer access coding.



Species List

B001	Eared Grebe <i>Podiceps nigricollis</i>	B025	Hooded Merganser <i>Lophodytes cucullatus</i>	B049	Turkey <i>Meleagris gallopavo</i>
B002	Western Grebe <i>Aechmophorus occidentalis</i>	B026	Common Merganser <i>Mergus merganser</i>	B050	Virginia Rail <i>Rallus limicola</i>
B003	Pied-billed Grebe <i>Podilymbus podiceps</i>	B027	Turkey Vulture <i>Cathartes aura</i>	B051	American Coot <i>Fulica americana</i>
B004	Great Blue Heron <i>Ardea herodias</i>	B028	California Condor <i>Gymnogyps californianus</i>	B052	Killdeer <i>Charadrius vociferus</i>
B005	Green Heron <i>Butorides striatus</i>	B029	White-tailed Kite <i>Elanus leucurus</i>	B053	Common Snipe <i>Capella gallinago</i>
B006	Black-crowned Night Heron <i>Nycticorax nycticorax</i>	B030	Goshawk <i>Accipiter gentilis</i>	B054	Spotted Sandpiper <i>Actitis macularia</i>
B007	Whistling Swan <i>Olor columbianus</i>	B031	Sharp-shinned Hawk <i>Accipiter striatus</i>	B055	American Avocet <i>Recurvirostra americana</i>
B008	Canada Goose <i>Branta canadensis</i>	B032	Cooper's Hawk <i>Accipiter cooperi</i>	B056	Wilson's Phalarope <i>Steganopus tricolor</i>
B009	Snow Goose <i>Chen caerulescens</i>	B033	Red-tailed Hawk <i>Buteo jamaicensis</i>	B057	California Gull <i>Larus californicus</i>
B010	Mallard <i>Anas platyrhynchos</i>	B034	Red-shouldered Hawk <i>Buteo lineatus</i>	B058	Ring-billed Gull <i>Larus delawarensis</i>
B011	Pintail <i>Anas acuta</i>	B035	Swainson's Hawk <i>Buteo swainsoni</i>	B059	Band-tailed Pigeon <i>Columba fasciata</i>
B012	Green-winged Teal <i>Anas crecca</i>	B036	Golden Eagle <i>Aquila chrysaetos</i>	B060	Mourning Dove <i>Zenaida macroura</i>
B013	Cinnamon Teal <i>Anas cyanoptera</i>	B037	Bald Eagle <i>Haliaeetus leucocephalus</i>	B061	Roadrunner <i>Geococcyx californianus</i>
B014	American Wigeon <i>Anas americana</i>	B038	Marsh Hawk <i>Circus cyaneus</i>	B062	Barn Owl <i>T'yto alba</i>
B015	Northern Shoveler <i>Anas clypeata</i>	B039	Osprey <i>Pandion haliaetus</i>	B063	Screech Owl <i>Otus asio</i>
B016	Wood Duck <i>Aix sponsa</i>	B040	Prairie Falcon <i>Falco mexicanus</i>	B064	Flammulated Owl <i>Otus flammeolus</i>
B017	Redhead <i>Aythya americana</i>	B041	Peregrine Falcon <i>Faico peregrinus</i>	B065	Great Horned Owl <i>Bubo virginianus</i>
B018	Ring-necked Duck <i>Aythya collaris</i>	B042	Merlin <i>Falco columbarius</i>	B066	Pygmy Owl <i>Glaucidium gnoma</i>
B019	Canvasback <i>Aythya valisineria</i>	B043	American Kestrel <i>Falco sparverius</i>	B067	Burrowing Owl <i>Athene cunicularia</i>
B020	Lesser Scaup <i>Aythya affinis</i>	B044	Blue Grouse <i>Dendragapus obscurus</i>	B068	Spotted Owl <i>Strix occidentalis</i>
B021	Barrow's Goldeneye <i>Bucephala islandica</i>	B045	White-tailed Ptarmigan <i>Lagopus leucurus</i>	B069	Great Gray Owl <i>Strix nebulosa</i>
B022	Bufflehead <i>Bucephala albeola</i>	B046	California Quail <i>Lophortyx californicus</i>	B070	Long-eared Owl <i>Asio otus</i>
B023	Harlequin Duck <i>Histrionicus histrionicus</i>	B047	Mountain Quail <i>Oreortyx pius</i>	B071	Short-eared Owl <i>Asio flammeus</i>
B024	Ruddy Duck <i>Oxyura jamaicensis</i>	B048	Chukar <i>Alectoris chukar</i>	B072	Saw-whet Owl <i>Aegolius acadicus</i>

B073	Poor-will <i>Phalaenoptilus nuttallii</i>	B097	Black Phoebe <i>Sayornis nigricans</i>	B122	Bushtit <i>Psaltiriparus minimus</i>
B074	Common Nighthawk <i>Chordeiles minor</i>	B098	Say's Phoebe <i>Sayornis Bayer</i>	B123	White-breasted Nuthatch <i>Sitta carolinensis</i>
B075	Black Swift <i>Cypseloides niger</i>	B099	Willow Flycatcher <i>Empidonax traillii</i>	B124	Red-breasted Nuthatch <i>Sitta canadensis</i>
B076	Vaux's Swift <i>Chaetura vauxi</i>	B100	Hammond's Flycatcher <i>Empidonax hammondii</i>	B125	Pygmy Nuthatch <i>Sitta pygmaea</i>
B077	White-throated Swift <i>Aeronautes saxatalis</i>	B101	Dusky Flycatcher <i>Empidonax oberholseri</i>	B126	Brown Creeper <i>Certhia familiaris</i>
B078	Black-chinned Hummingbird <i>Archilochus alexandri</i>	B102	Western Flycatcher <i>Empidonax difficilis</i>	B127	Wrentit <i>Chamaea fasciata</i>
B079	Anna's Hummingbird <i>Calypte anna</i>	B103	Western Wood Pewee <i>Contopus sordidulus</i>	B128	Dipper <i>Cinclus mexicanus</i>
B080	Allen's Hummingbird <i>Selasphorus Basin</i>	B104	Olive-sided Flycatcher <i>Nuttallornis borealis</i>	B129	Winter Wren <i>Troglodytes troglodytes</i>
B081	Rufous Hummingbird <i>Selasphorus rufus</i>	B105	Horned Lark <i>Eremophila alpestris</i>	B130	House Wren <i>Troglodytes aedon</i>
B082	Calliope Hummingbird <i>Stellula calliope</i>	B106	Violet-green Swallow <i>Tachycineta thalassina</i>	B131	Bewick's Wren <i>T'hryomanes bewickii</i>
B083	Belted Kingfisher <i>Megaceryle alcyon</i>	B107	Tree Swallow <i>Iridoprocne bicolor</i>	B132	Long-billed Marsh Wren <i>Cistothorus palustris</i>
B084	Common Flicker <i>Colaptes auratus</i>	B108	Rough-winged Swallow <i>Stelgidopteryx ruficollis</i>	B133	Cañon Wren <i>Catherpes mexicanus</i>
B085	Pileated Woodpecker <i>Dryocopus pileatus</i>	B109	Barn Swallow <i>Hirundo rustica</i>	B134	Rock Wren <i>Salpinctes obsoletus</i>
B086	Acorn Woodpecker <i>Melanerpes formicivorous</i>	B110	Cliff Swallow <i>Petrochelidon pyrrhonota</i>	B135	Mockingbird <i>Mimus polyglottos</i>
B087	Lewis' Woodpecker <i>Melanerpes lewis</i>	B111	Steller's Jay <i>Cyanocitta stelleri</i>	B136	California Thrasher <i>T'oxostoma redivivum</i>
B088	Yellow-bellied Sapsucker <i>Sphyrapicus varius</i>	B112	Scrub Jay <i>Aphelocoma coerulescens</i>	B137	American Robin <i>T'urdus migratorius</i>
B089	Williamson's Sapsucker <i>Sphyrapicus thyroideus</i>	B113	Black-billed Magpie <i>Pica pica</i>	B138	Varied Thrush <i>Ixoreus naevius</i>
B090	Hairy Woodpecker <i>Picoides villosus</i>	B114	Yellow-billed Magpie <i>Pica nuttalli</i>	B139	Hermit Thrush <i>Catharus guttata</i>
B091	Downy Woodpecker <i>Picoides pubescens</i>	B115	Common Raven <i>Corvus corax</i>	B140	Swainson's Thrush <i>Catharus ustulata</i>
B092	Nuttall's Woodpecker <i>Picoides nuttallii</i>	B116	Common Crow <i>Corvus brachyrhynchos</i>	B141	Western Bluebird <i>Sialia mexicana</i>
B093	White-headed Woodpecker <i>Picoides albolarvatus</i>	B117	Piñon Jay <i>Gymnorhinus cyanocephalus</i>	B142	Mountain Bluebird <i>Sialia currucoides</i>
B094	Black-backed Three-toed Woodpecker <i>Picoides arcticus</i>	B118	Clark's Nutcracker <i>Nucifraga columbiana</i>	B143	Townsend's Solitaire <i>Myadestes townsendi</i>
B095	Western Kingbird <i>Tyrannus verticalis</i>	B119	Mountain Chickadee <i>Parus gambeli</i>	B144	Blue-gray Gnatcatcher <i>Poliophtila caerulea</i>
B096	Ash-throated Flycatcher <i>Myiarchus cinerascens</i>	B120	Chestnut-backed Chickadee <i>Parus rufescens</i>	B145	Golden-crowned Kinglet <i>Regulus satrapa</i>
		B121	Plain Titmouse <i>Parus inornatus</i>	B146	Ruby-crowned Kinglet <i>Regulus calendula</i>

B147	Water Pipit <i>Anthus spinoletta</i>	B172	Northern Oriole <i>Icterus galbula</i>	B197	Rufous-crowned Sparrow <i>Aimophila ruficeps</i>
B148	Cedar Waxwing <i>Bombycilla cedrorum</i>	B173	Brewer's Blackbird <i>Euphagus cyanocephalus</i>	B198	Black-throated Sparrow <i>Amphispiza bilineata</i>
B149	Phainopepla <i>Phainopepla nitens</i>	B174	Brown-headed Cowbird <i>Molothrus ater</i>	B199	Sage Sparrow <i>Amphispiza belli</i>
B150	Loggerhead Shrike <i>Lanius ludovicianus</i>	B175	Western Tanager <i>Piranga ludoviciana</i>	B200	Dark-eyed junco <i>Junco hyemalis</i>
B151	Starling <i>Sturnus vulgaris</i>	B176	Black-headed Grosbeak <i>Pheucticus melanocephalus</i>	B201	Chipping Sparrow <i>Spizella passerine</i>
B152	Hutton's Vireo <i>Vireo huttoni</i>	B177	Blue Grosbeak <i>Guiraca caerulea</i>	B202	Brewer's Sparrow <i>Spizella breweri</i>
B153	Bell's Vireo <i>Vireo bellii</i>	B178	Lazuli Bunting <i>Passerina amoena</i>	B203	Black-chinned Sparrow <i>Spizella atrogularis</i>
B154	Solitary Vireo <i>Vireo solitarius</i>	B179	Evening Grosbeak <i>Hesperiphona vespertina</i>	B204	White-crowned Sparrow <i>Zonotrichia leucophrys</i>
B155	Warbling Vireo <i>Vireo gilvus</i>	B180	Purple Finch <i>Carpodacus purpureus</i>	B205	Golden-crowned Sparrow <i>Zonotrichia atricapilla</i>
B156	Orange-crowned Warbler <i>Vermivora celata</i>	B181	Cassin's Finch <i>Carpodacus cassinii</i>	B206	Fox Sparrow <i>Passerella iliaca</i>
B157	Nashville Warbler <i>Vermivora ruficapilla</i>	B182	House Finch <i>Carpodacus mexicanus</i>	B207	Lincoln's Sparrow <i>Melospiza lincolnii</i>
B158	Yellow Warbler <i>Dendroica petechia</i>	B183	Pine Grosbeak <i>Pinicola enucleator</i>	B208	Song Sparrow <i>Melospiza melodic</i>
B159	Yellow-rumped Warbler <i>Dendroica coronata</i>	B184	Gray-crowned Rosy Finch <i>Leucosticte tephrocotis</i>		
B160	Black-throated Gray Warbler <i>Dendroica nigrescens</i>	B185	Pine Siskin <i>Carduelis pinus</i>		
B161	Townsend's Warbler <i>Dendroica townsendi</i>	B186	American Goldfinch <i>Carduelis tristis</i>		
B162	Hermit Warbler <i>Dendroica occidentalis</i>	B187	Lesser Goldfinch <i>Carduelis psaltria</i>		
B163	MacGillivray's Warbler <i>Oporornis tolmiei</i>	B188	Lawrence's Goldfinch <i>Carduelis lawrencei</i>		
B164	Common Yellowthroat <i>Geothlypis trichas</i>	B189	Red Crossbill <i>Loxia curvirostra</i>		
B165	Yellow-breasted Chat <i>Icteria virens</i>	B190	Green-tailed Towhee <i>Pipilo chlorurus</i>		
B166	Wilson's Warbler <i>Wilsonia pusilla</i>	B191	Rufous-sided Towhee <i>Pipilo erythrophthalmus</i>		
B167	House Sparrow <i>Passer domesticus</i>	B192	Brown Towhee <i>Pipilo fuscus</i>		
B168	Western Meadowlark <i>Sturnella neglecta</i>	B193	Savannah Sparrow <i>Passerculus sandwichensis</i>		
B169	Yellow-headed Blackbird <i>Xanthocephalus xanthocephalus</i>	B194	Grasshopper Sparrow <i>Ammodramus savannarum</i>		
B170	Red-winged Blackbird <i>Agelaius phoeniceus</i>	B195	Vesper Sparrow <i>Poocetes gramineus</i>		
B171	Tricolored Blackbird <i>Agelaius tricolor</i>	B196	Lark Sparrow <i>Chondestes grammacus</i>		

	Special Judicial Magistrate	Judge
Finality, lakhs, no large penalty (i.e., thousands or more)		

Put key on this matrix, per figure 1.

Optimum habitat (1F)
 Suitable habitat (2F)
 Marginal habitat (3F)
 Spring
 Summer
 Fall
 W (year)

Code	Species	Special Habitat Requirements	Point
B001	Least Grebe	Fresh, lakes, no large pools or streams or rivers	37
B002	Western Grebe	Lakes	34
B003	Pied-billed Grebe	Muddy; pond, lake, or pond in river or stream	45
B004	Great Blue Heron	Ponds, lakes, streams, rivers, swamps, or wet prairies	36
B005	Green Heron	Ponds, lakes, or slow-moving streams or rivers with tree borders	37
B006	Black-crowned Night Heron	Muddy, lakes, swamps, slow streams or rivers with pools	39
B007	Whistling Swan	Lakes—shallow and productive	39
B008	Canada Goose	Lakes	39
B009	Score Goose	Lakes	31
B010	Mallard	Fresh, lakes, slow-moving streams or rivers	32
B011	Pintail	Fresh, lakes	33
B012	Green-winged Teal	Fresh, lakes, or streams	34
B013	Cinnamon Teal	Muddy, lakes, slow-moving streams or rivers	35
B014	American Wigeon	Muddy, lakes, or slow-moving streams or rivers	36
B015	Northern Shoveler	Fresh, lakes, or slow-moving streams or rivers	37

Special habitat key: 1F, 2F, 3F, 4F, 5F, 6F, 7F, 8F, 9F, 10F, 11F, 12F, 13F, 14F, 15F, 16F, 17F, 18F, 19F, 20F, 21F, 22F, 23F, 24F, 25F, 26F, 27F, 28F, 29F, 30F, 31F, 32F, 33F, 34F, 35F, 36F, 37F, 38F, 39F, 40F, 41F, 42F, 43F, 44F, 45F, 46F, 47F, 48F, 49F, 50F, 51F, 52F, 53F, 54F, 55F, 56F, 57F, 58F, 59F, 60F, 61F, 62F, 63F, 64F, 65F, 66F, 67F, 68F, 69F, 70F, 71F, 72F, 73F, 74F, 75F, 76F, 77F, 78F, 79F, 80F, 81F, 82F, 83F, 84F, 85F, 86F, 87F, 88F, 89F, 90F, 91F, 92F, 93F, 94F, 95F, 96F, 97F, 98F, 99F, 100F, 101F, 102F, 103F, 104F, 105F, 106F, 107F, 108F, 109F, 110F, 111F, 112F, 113F, 114F, 115F, 116F, 117F, 118F, 119F, 120F, 121F, 122F, 123F, 124F, 125F, 126F, 127F, 128F, 129F, 130F, 131F, 132F, 133F, 134F, 135F, 136F, 137F, 138F, 139F, 140F, 141F, 142F, 143F, 144F, 145F, 146F, 147F, 148F, 149F, 150F, 151F, 152F, 153F, 154F, 155F, 156F, 157F, 158F, 159F, 160F, 161F, 162F, 163F, 164F, 165F, 166F, 167F, 168F, 169F, 170F, 171F, 172F, 173F, 174F, 175F, 176F, 177F, 178F, 179F, 180F, 181F, 182F, 183F, 184F, 185F, 186F, 187F, 188F, 189F, 190F, 191F, 192F, 193F, 194F, 195F, 196F, 197F, 198F, 199F, 200F, 201F, 202F, 203F, 204F, 205F, 206F, 207F, 208F, 209F, 210F, 211F, 212F, 213F, 214F, 215F, 216F, 217F, 218F, 219F, 220F, 221F, 222F, 223F, 224F, 225F, 226F, 227F, 228F, 229F, 230F, 231F, 232F, 233F, 234F, 235F, 236F, 237F, 238F, 239F, 240F, 241F, 242F, 243F, 244F, 245F, 246F, 247F, 248F, 249F, 250F, 251F, 252F, 253F, 254F, 255F, 256F, 257F, 258F, 259F, 260F, 261F, 262F, 263F, 264F, 265F, 266F, 267F, 268F, 269F, 270F, 271F, 272F, 273F, 274F, 275F, 276F, 277F, 278F, 279F, 280F, 281F, 282F, 283F, 284F, 285F, 286F, 287F, 288F, 289F, 290F, 291F, 292F, 293F, 294F, 295F, 296F, 297F, 298F, 299F, 300F, 301F, 302F, 303F, 304F, 305F, 306F, 307F, 308F, 309F, 310F, 311F, 312F, 313F, 314F, 315F, 316F, 317F, 318F, 319F, 320F, 321F, 322F, 323F, 324F, 325F, 326F, 327F, 328F, 329F, 330F, 331F, 332F, 333F, 334F, 335F, 336F, 337F, 338F, 339F, 340F, 341F, 342F, 343F, 344F, 345F, 346F, 347F, 348F, 349F, 350F, 351F, 352F, 353F, 354F, 355F, 356F, 357F, 358F, 359F, 360F, 361F, 362F, 363F, 364F, 365F, 366F, 367F, 368F, 369F, 370F, 371F, 372F, 373F, 374F, 375F, 376F, 377F, 378F, 379F, 380F, 381F, 382F, 383F, 384F, 385F, 386F, 387F, 388F, 389F, 390F, 391F, 392F, 393F, 394F, 395F, 396F, 397F, 398F, 399F, 400F, 401F, 402F, 403F, 404F, 405F, 406F, 407F, 408F, 409F, 410F, 411F, 412F, 413F, 414F, 415F, 416F, 417F, 418F, 419F, 420F, 421F, 422F, 423F, 424F, 425F, 426F, 427F, 428F, 429F, 430F, 431F, 432F, 433F, 434F, 435F, 436F, 437F, 438F, 439F, 440F, 441F, 442F, 443F, 444F, 445F, 446F, 447F, 448F, 449F, 450F, 451F, 452F, 453F, 454F, 455F, 456F, 457F, 458F, 459F, 460F, 461F, 462F, 463F, 464F, 465F, 466F, 467F, 468F, 469F, 470F, 471F, 472F, 473F, 474F, 475F, 476F, 477F, 478F, 479F, 480F, 481F, 482F, 483F, 484F, 485F, 486F, 487F, 488F, 489F, 490F, 491F, 492F, 493F, 494F, 495F, 496F, 497F, 498F, 499F, 500F, 501F, 502F, 503F, 504F, 505F, 506F, 507F, 508F, 509F, 510F, 511F, 512F, 513F, 514F, 515F, 516F, 517F, 518F, 519F, 520F, 521F, 522F, 523F, 524F, 525F, 526F, 527F, 528F, 529F, 530F, 531F, 532F, 533F, 534F, 535F, 536F, 537F, 538F, 539F, 540F, 541F, 542F, 543F, 544F, 545F, 546F, 547F, 548F, 549F, 550F, 551F, 552F, 553F, 554F, 555F, 556F, 557F, 558F, 55

LEGEND
 Openness: Habitat 111
 Habitat 125
 Marginal Habitat 131
 Swamp
 Savanna
 Hill
 Wetland

Map key to show margins, see Figure 2.

Species resistance and utilization, by habitat stage

Code	Species	Species Habitat Requirements	Page	Openness	Habitat 111	Habitat 125	Marginal Habitat 131	Swamp	Savanna	Hill	Wetland
B016	Wool Duck	Peeds, slow-moving streams or rivers; open habitats, also	108								
B017	Redhead	Lakes with deep water	109								
B018	Ring-necked Duck	Peeds, lakes	110								
B019	Canada Duck	Lakes	111								
B020	Totter Swan	Peeds, lakes	112								
B021	Barnes's Grebe	Peeds, lakes, some vegetation (not too dense)	113								
B022	Redhead	Peeds, lakes, slow-moving streams (not too fast)	114								
B023	Herringbone Duck	Peeds, lakes, slow-moving streams (not too fast)	115								
B024	Black Duck	Peeds, lakes	116								
B025	Hooded Merganser	Peeds, lakes, slow-moving streams or rivers	117								
B026	Common Merganser	Peeds, lakes, slow-moving streams or rivers	118								
B027	Golden Plover	Open areas for nesting	119								
B028	Canada Goose	Open areas for nesting; large areas or rivers for roosting	120								
B029	Swamp Sparrow	Open areas for nesting	121								
B030	Canada Goose	Open areas for nesting; large areas or rivers for roosting	122								

LEGEND: Openness Habitat (1)
Savanna Habitat (2)
Shrubland Habitat (3)
Spring
Summer
Fall
Winter

Species occurrence and distribution, by habitat season

Code	Species	Special Habitat Requirements	Page	Openness	Savanna	Shrubland	Spring	Summer	Fall	Winter
B001	Striped-throated Hummingbird	Tropical/Subtropical	138							
B002	Cowbird	Tropical/Subtropical or semi-arid/semi-arid, moist (probably wooded) upland, low	139							
B003	Red-eyed Vireo	Large trees or cliffs for nesting and roosting; large openings for foraging	140							
B004	Red-shouldered Hawk	Large canopy of upland deciduous (low moisture) for foraging	141							
B005	Swainson's Hawk		142							
B006	Golden Eagle	CLIM or scattered large trees	143							
B007	Bald Eagle	Large water, stream, or river; large trees for roosting; low habitat disturbance	144							
B008	Marsh Hawk		145							
B009	Coyote	Large, open areas for hunting; large trees or cliffs for denning	146							
B010	White-tailed Kite	Openness for foraging; cliffs for roosting	147							
B011	Ring-billed Gull	Large for roosting and perching; marshy areas or river	148							
B012	Merlin		149							
B013	American Crow	Most suitable to trees or bushes; large, scattered patches, open areas	150							
B014	Ring-billed Gull	Medium to large forest openings; shrubby areas	151							
B015	White-collared Pigeon	Rock outcrops, probably scrubby areas	152							

See key to this matter, on page 2.

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LEGEND

Centrum Halonia (1)
 Scutella Halonia (2)
 Marginal Halonia (3)
 Spring
 Summer
 Fall
 Winter

FIGURE 2
 Map of the Sacramento-San Joaquin River Delta showing the distribution of the four species of Halonia. The map is divided into 100 10' x 10' cells. The legend indicates the distribution of the four species of Halonia (1, 2, 3, 4) and the four seasons (Spring, Summer, Fall, Winter). The map shows that the distribution of Halonia is highly variable, with different species dominating different areas and seasons.

Distinguished Hallmark (1)
 Starbuck Hallmark (2)
 Margaret Holbert (1)
 Spring
 Southwest
 Fall
 Winner

Savatke Habitat (2)
 Marginal Habitat (1)
 Spring
 Summer
 Fall
 Winter

Code	Species	Special Habitat Requirements	Page
0001	Redbreasted Noddy	Noddy roost	153
0002	Belted Owl	CLIM, crevices, avoid buildings	154
0003	Scrub Owl	Oak, near oaks	155
0004	Hairy Woodpecker	Yellow pines or black oaks in nesting habitat; near oaks	156
0005	Great Horned Owl	Large openings for foraging	157
0006	Pileated Owl	Deep nesting	158
0007	Howling Owl	Grassland	159
0008	Spotted Owl	Woods, probably mixed, large trees	160
0009	Great Gray Owl	Timberline, high in mountains in distribution	161
0010	Long-eared Owl	Timberline, high in mountains in distribution	162
0011	Great Horned Owl	Grassland, mixed in trees	163
0012	Great Horned Owl	Timberline, high in mountains in distribution	164
0013	Great Horned Owl	Timberline, high in mountains in distribution	165
0014	Great Horned Owl	Timberline, high in mountains in distribution	166
0015	Great Horned Owl	Timberline, high in mountains in distribution	167

LIGHTING

Chatterjee, Subhasmita, 1997

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100% (100%)

(f) *unsubstantiated* (unsubstantiated)

Books

Supplement

100

has been in study since its debut in

Code	Species	Special Habitat Requirements	Page
B0170	White-bellied Woodpecker	Yellow white or orange for hanging	168
B0171	White-bellied Woodpecker	Yellow for hanging	168
B0172	Black-chinned Woodpecker	Yellow white or orange for hanging	170
B0173	Anna's Woodpecker	Yellow white or orange for hanging	171
B0174	Anna's Woodpecker	Yellow white or orange for hanging	171
B0175	Anna's Woodpecker	Yellow white or orange for hanging	171
B0176	Anna's Woodpecker	Yellow white or orange for hanging	171
B0177	Anna's Woodpecker	Yellow white or orange for hanging	171
B0178	Anna's Woodpecker	Yellow white or orange for hanging	171
B0179	Anna's Woodpecker	Yellow white or orange for hanging	171
B0180	Anna's Woodpecker	Yellow white or orange for hanging	171
B0181	Anna's Woodpecker	Yellow white or orange for hanging	171
B0182	Anna's Woodpecker	Yellow white or orange for hanging	171
B0183	Anna's Woodpecker	Yellow white or orange for hanging	171
B0184	Anna's Woodpecker	Yellow white or orange for hanging	171
B0185	Anna's Woodpecker	Yellow white or orange for hanging	171
B0186	Anna's Woodpecker	Yellow white or orange for hanging	171
B0187	Anna's Woodpecker	Yellow white or orange for hanging	171
B0188	Anna's Woodpecker	Yellow white or orange for hanging	171
B0189	Anna's Woodpecker	Yellow white or orange for hanging	171
B0190	Anna's Woodpecker	Yellow white or orange for hanging	171

LEGEND

Openness (Habitat 1)
 Scattered Habitat (2)
 Marginal Habitat (3)
 Spring
 Summer
 Fall
 Winter

Species Occurrence and Utilization, by Habitat Stage

Code	Species	Special Habitat Requirements	Page
H001	Downy Woodpecker	Sings or runs with soft heartbeats	101
H002	Scarlet's Woodpecker	Sings	101
H003	White-headed Woodpecker	Sings	101
H004	Black-backed Three-toed Woodpecker	Sings or runs with soft heartbeats	101
H005	Western Kingbird	Observed perches	101
H006	Ash-bellied Flycatcher	New saplings	100
H007	Black Flycatcher	Waxes (young) with old foliage, 101 or higher for nesting	101
H008	So's Flycatcher	Carnivorous old foliage, 101 or higher for nesting	101
H009	Willow Flycatcher	Willow (bark)	101
H010	Hairywood Flycatcher		102
H011	Dusky Flycatcher	Threats	101
H012	Western Flycatcher	Waxes, spring, or new foliage, 101 or higher for nesting	101
H013	Willow Wood Pecker		101
H014	Chimney Flycatcher	Translucent or translucent bark	100
H015	Harvest Hawk		101

LEGEND



See key to this journal, see Figure 2

Species occurrence and distribution, by habitat stage

Code	Species	Special Habitat Requirements	Page
B110	White-plumaged Swallow	Nest territories in open areas, mudnest in large openings, on open terrain	258
B111	Tree Swallow	Nest in cavities in ground, hole, crevice, river's bank, in over-awning	259
B112	Rough-winged Swallow	Terrestrial bank	259
B113	Bank Swallow	Cliffs, old buildings, or ledges for nesting; usually above the road	261
B114	Chestnut Swallow	Cliffs, old buildings, or ledges for nesting; usually water for mud-gathering	262
B115	Swallow's Nest		263
B116	Scrub Jay	On or adjacent to trees	264
B117	Black-bellied Magpie	Water in dry season; nesting	265
B118	Yellow-bellied Magpie	Open terrain; trees; water in dry season	266
B119	Common Raven	Large openings in open terrain; (also in trees for nesting)	267
B120	Common Crow	Large openings in open terrain; trees for nesting	268
B121	Pileated Jay	Overhang	269
B122	Clark's Nutcracker	Tree	270
B123	Mexican Chickadee	Nest in trees	271
B124	Chimney Swift	Shale caverns	272

DISCUSSION

Wie hier in den meisten, so findet auch

Destiny's Child

University of Michigan, 1997

Marginal: Halim: (70)

Spring
Charles C. Thomas, Publisher, Ltd.

21

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FIGURE 1
 Relative abundance of bird species by season stage.

For key to this matrix, see page 2.

Code	Species	Spring	Summer	Fall	Winter
B121	Plain Titmouse	1	1	1	1
B122	Robin	1	1	1	1
B123	White-throated Sparrow	1	1	1	1
B124	Red-breasted Nuthatch	1	1	1	1
B125	Pyrrhuloxia	1	1	1	1
B126	Blue Grosbeak	1	1	1	1
B127	Starling	1	1	1	1
B128	Titmouse	1	1	1	1
B129	Winter Wren	1	1	1	1
B130	House Wren	1	1	1	1
B131	House Wren	1	1	1	1
B132	House Wren	1	1	1	1
B133	House Wren	1	1	1	1
B134	House Wren	1	1	1	1
B135	House Wren	1	1	1	1

LEGEND

Oryzopsis Halimolobos (1)
 Solidus Halimolobos (2)
 Margaria Halimolobos (3)
 Spring
 Summer
 Fall
 Winter

The legend for patterns is given in Figure 1.

Pattern occurrence and utilization by Salween region

Code	Species	Special Habitat Requirements	Page	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter
B151	Swallow Vireo	These territories, openings at apex of forest	243								
B152	Hummer Vireo	Large, open, wooded areas	244								
B153	Red Vireo	Open, wooded areas (terrestrial) — only the eastern side	245								
B154	Swallow Vireo		246								
B155	Wooded Vireo		247								
B156	Orange-crowned Warbler	Open fields for nesting	248								
B157	Hermit Warbler	Open fields	249								
B158	Yellow Warbler	Open fields, mostly near water	250								
B159	Yellow-crowned Warbler		251								
B160	Black-chinned Flycatcher	Open, wooded areas	252								
B161	Forster's Warbler		253								
B162	Hermit Warbler	Large trees	254								
B163	MacGillivray's Warbler	Open fields and near water for nesting	255								
B164	Common Yellowthroat	Marsh or open fields near water for nesting	256								
B165	Yellow-crowned Warbler	Open, wooded areas	257								

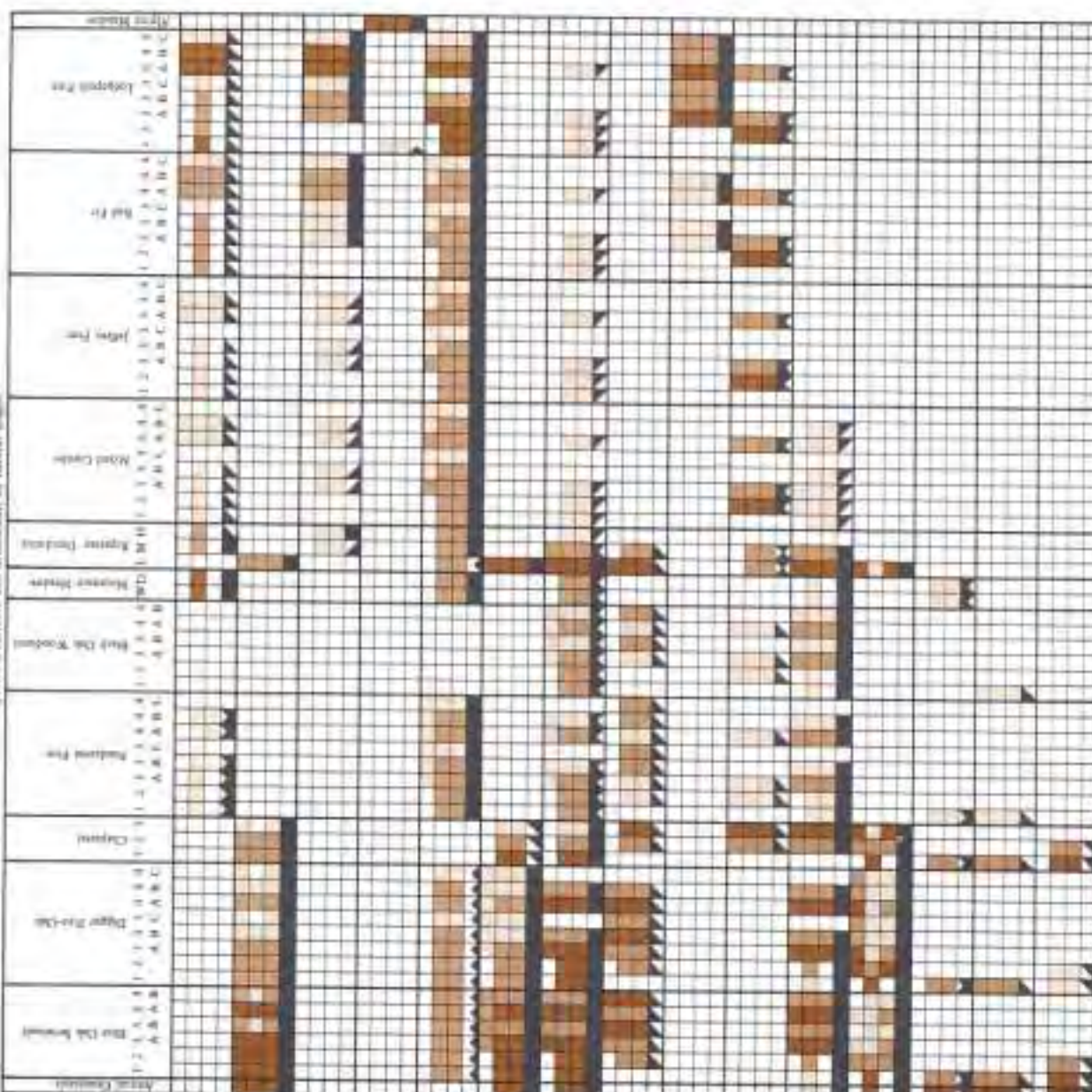
LEGEND:

Optimal Habitat (1)
Suitable Habitat (2)
Marginal Habitat (3)
Spring
Summer
Fall
Winter

For key to this matrix, see page 3

Code	Species	Age of Habitat Requirement	Page
B181	Canada's Thrush	Tree-jungles-kahla	271
B182	House Finch	Exposed patches	274
B183	Blue Grosbeak	Shrubby woodlands or vineyards	275
B184	Gray-crowned Raim	Creeks, ridges, or oak-entirely (up 476) low crest	276
B185	Pink Siskin		277
B186	American Goldfinch	Shrubs adjacent to open (grass)	278
B187	Lesser Goldfinch	Tree-jungles, along shrubs, water, 279 or knowledge	279
B188	Lutescent Goldfinch	Shrub, water to knowledge	280
B189	Red Crossbill	Abundant near crop to knowledge	281
B190	Green-winged Teal	Deep shrubs	282
B191	Red-winged Teal	Deep shrubs, water	283
B192	Blue Jay	Deep shrubs, knowledge-kahla	284
B193	Scarlet Tanager		285
B194	Gray-crowned Sparrow		286
B195	Vesper Sparrow		287

Optimal Habitat and Marginal Habitat, for habitat matrix



Eared Grebe

B001 (*Podiceps nigricollis*)

STATUS: No official listed status. Uncommon migrant in late summer and fall; rare winter and spring visitor.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands through alpine meadows.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, or large pools in streams or rivers.

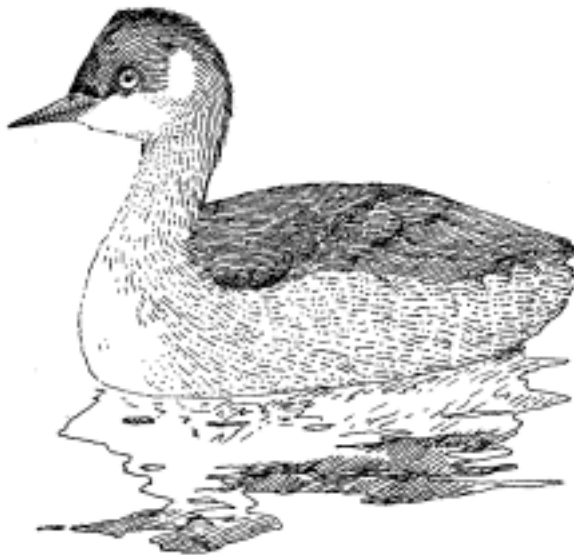
BREEDING: Does not breed on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: No data available on home range; not territorial during nonbreeding season.

FOOD HABITS: Major food items: aquatic insects, small crustaceans, small fishes, leech eggs, mollusks, and amphibians. Forages underwater by diving. Grasps prey in bill (does not pierce); gleans land insects from surface water.

OTHER: Susceptible to biological concentration of hard pesticides in watersheds draining into its aquatic habitats.

REFERENCES: McAllister 1958, Palmer 1962.



Western Grebe

B002 (*Aechmophorus occidentalis*)

STATUS: No official listed status. On Audubon Society Blue List for 1978. Rare migrant during late spring and summer.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands through red fir.

SPECIAL HABITAT REQUIREMENTS: Lakes.

BREEDING: Does not breed on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: No data on home range. Territorial only during breeding season. When feeding, "territoriality" operates to space individuals about 200 ft (61 m) apart during breeding season (Lawrence 1950).

FOOD HABITS: Feeds mainly on small fish, also on insects underwater. Dives for prey and pierces fish with bill; some prey grasped rather than pierced.

OTHER: Susceptible to biological concentration of hard pesticides in watersheds draining into its aquatic habitats.

REFERENCES: Lawrence 1950, Palmer 1962.



Pied-billed Grebe

B003 (*Podilymbus podiceps*)

STATUS: No official listed status. Rare resident.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands through Jeffrey pine.

SPECIAL HABITAT REQUIREMENTS: Marsh and open water.

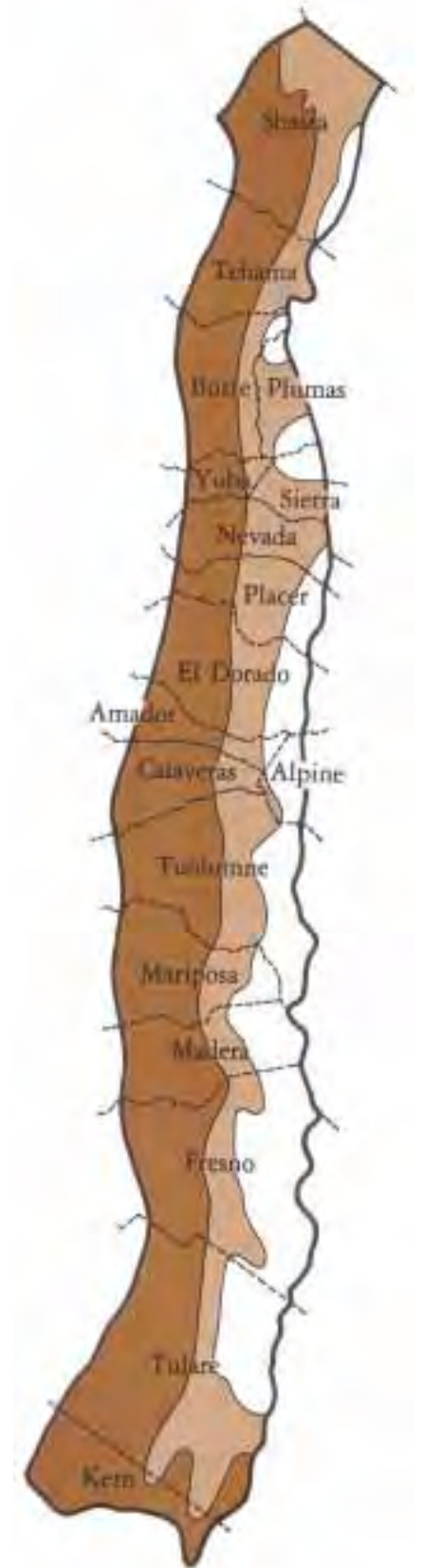
BREEDING: Breeds from mid-March to late September, with peak from early June to late July. Nest usually floating, but sometimes built up from bottom of a pond in aquatic vegetation near open water. Clutch size from 2 to 10 eggs, with 6 most common. Few nesting records from Shasta County; breeds along length of west slope (Grinnell and Miller 1944).

TERRITORY/HOME RANGE: In Iowa, for 44 breeding territories, the "arc" around nests averaged 150 ft (46 m). Home range was twice this size (Glover 1953a).

FOOD HABITS: Dives for insects, crustaceans, and small fish.

OTHER: Susceptible to biological concentration of hard pesticides on watersheds draining into its aquatic habitats.

REFERENCES: Grinnell and Miller 1944, Glover 1953a, Palmer 1962, Chabreck 1963.



Great Blue Heron

B004 (*Ardea herodias*)

STATUS: No official listed status. Uncommon resident.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands through lodgepole pine. Regularly moves upslope after breeding, rarely up to treeline. Some nonbreeding individuals present year-round up to 4000 ft (1220 m).

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, streams, rivers, marshes, or wet meadows.

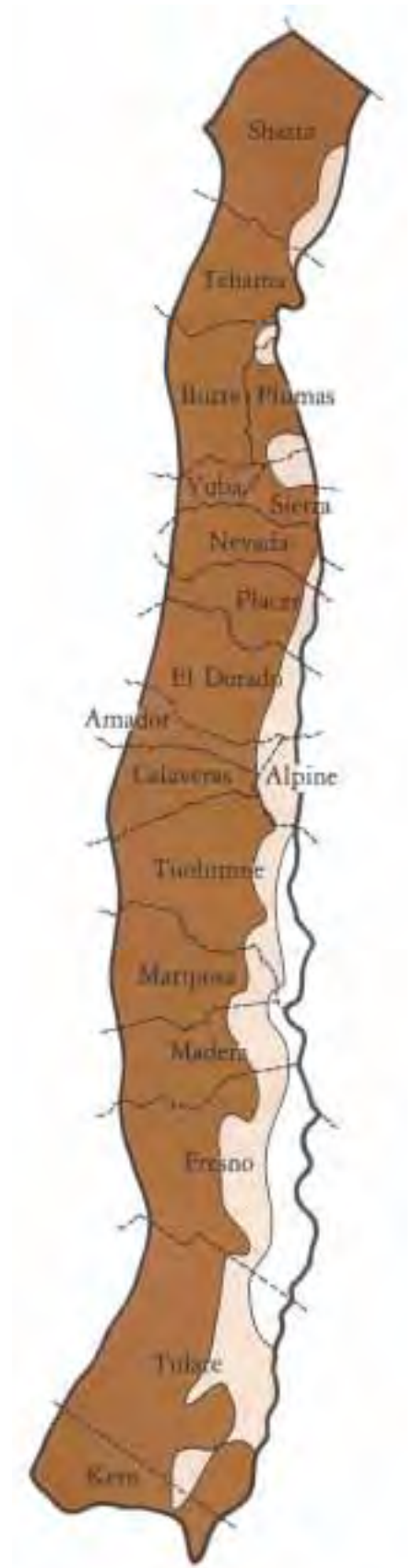
BREEDING: Breeds from mid-February to early September, with peak from early April to early July. Nests in live or dead trees, on cliffsides, or sequestered spots in marshes. Will nest on ground; prefers tops of tall trees often above 50 ft (15.2 m). Only one active rookery known on west slope, in a riparian deciduous woodland along Kern River, Kern County, at 3000 ft (915 m) elevation. Clutch size from 1 to 8 eggs, with 3 or 4 most common.

TERRITORY/HOME RANGE: Breeding territory limited to nest and immediate surroundings. Feeding territories may be defended in nonbreeding season (Palmer 1962), particularly in linear habitats-along ditches, streams, and fence rows (Krebs 1974). May travel as far as 10 mi (16 km) from nest sites to foraging areas (Krebs 1974).

FOOD HABITS: Feeds on fish, crustaceans, insects, aquatic plants, and rodents. Forages in shallow water, along banks of a body of water, and in open fields. Stands and waits or walks slowly, standing upright.

OTHER: Susceptible to biological concentration of hard pesticides on watersheds draining into its aquatic habitats.

REFERENCES: Palmer 1962, Pratt 1970, Wilburn 1971, Jackman and Scott 1975.



Green Heron

B005 (*Butorides striatus*)

STATUS: No official listed status. A rare summer visitor and migrant; may breed in scattered locations.

DISTRIBUTION/HABITAT: Found mainly in riparian deciduous zones, more common in the foothills below 1000 ft (305 m), but may be found regularly above that elevation.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, or slow-moving streams or rivers with tree border.

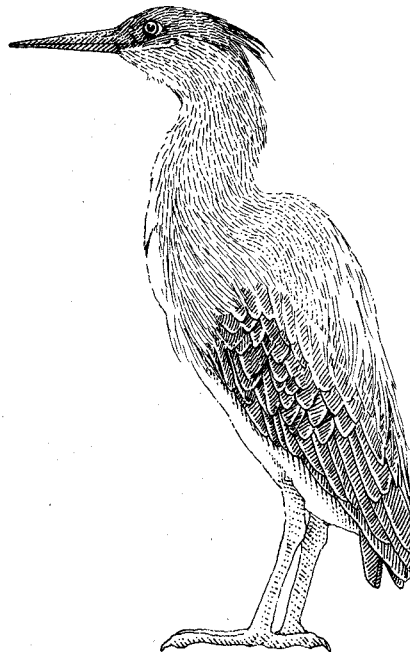
BREEDING: Breeds from late March to mid-August, with peak from early June to late July. Nests in trees, often willows, usually near water and often in dense tangles in crowns of middle-aged trees from near ground to more than 30 ft (9 m). Clutch size from 3 to 6, with 3 or 4 most usual.

TERRITORY/HOME RANGE: No data available on home range. Breeding territory on Long Island, New York, averaged 60 ft (18.3 m) in radius. Territory shrinks from 60 ft (18.3 m) to 3 ft (0.9 m) radius after pair formation. Some also defend a feeding territory of unknown size (Meyerriecks 1960).

FOOD HABITS: Eats primarily small fish, crustaceans, and insects, obtained by standing and waiting, or walking slowly, typically in crouched position. Feeds in shallow water.

OTHER: Susceptible to biological concentration of hard pesticides on watersheds draining into its aquatic habitats.

REFERENCES: Meyerriecks 1960, Palmer 1962.



Black-crowned Night Heron

B006 (*Nycticorax nycticorax*)

STATUS: No official listed status. On the 1978 Audubon Society Blue List. Rare summer visitor and migrant; may winter below 40° latitude.

DISTRIBUTION/HABITAT: Found in annual grasslands through chaparral and riparian deciduous types. Primarily found under various canopy closures of pole, medium, and large tree stages. More common in foothills below 1000 ft (305 m); a few recorded above this elevation, and may be found there regularly; breed in a few localities.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, marshes, slow streams with pools, or rivers.

BREEDING: Breeds from early April to mid-September, with peak from early June to early August. Nests in small to very large colonies in trees or sometimes in reeds or cattails 0 to 160 ft (0 to 49 m) above the ground. Clutch size from 1 to 6, with 3 to 5 most usual.

TERRITORY/HOME RANGE: No data available on home range. On Long Island, New York, breeding territory was less than 3 ft (1 m) around the nest (Allen and Mangels 1940). Some have winter roost territory, or feeding territory, or both, but size unknown.

FOOD HABITS: Feeds at night, mainly on small fish, crustaceans, aquatic insects, and frogs. Forages in shallow water by standing and waiting or walking slowly.

OTHER: Susceptible to biological concentration of hard pesticides on watersheds draining into its aquatic habitats.

REFERENCES: Allen and Mangels 1940, Palmer 1962, Ives 1972.



Whistling Swan

B007 (*Olor columbianus*)

STATUS: No official listed status. Rare winter visitor to large, freshwater lakes at low elevations.

DISTRIBUTION/HABITAT: Reported in winter on suitable lakes from annual grassland region to as high as ponderosa pine and black oak regions in northern portion of the Sierra Nevada. Apparently habitat adjacent to water is unimportant; have been recorded in both open and forested sites.

SPECIAL HABITAT REQUIREMENTS: Shallow and productive lakes.

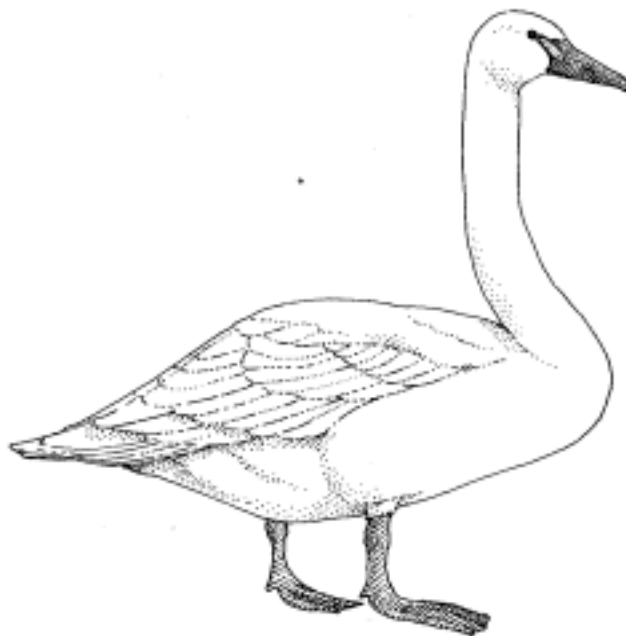
BREEDING: Does not breed on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: Not territorial in winter. Flies 10 to 15 mi (16 to 24 km) from aquatic roosts in Maryland to feed in fields (Bellrose 1976). A radio-tagged bird in Maryland regularly flew 7 to 8 mi (11 to 13 km) between two areas over an 18-day period (Sladen and Cochran 1969).

FOOD HABITS: Aquatic vegetation, grasses, and cultivated crops make up the diet. Gathers food from bottoms of shallow, eutrophic lakes and agricultural fields. Uproots aquatic vegetation, grazes, and tips up, with head underwater.

OTHER:

REFERENCES: Grinnell *et al.* 1918, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Canada Goose

B008 (*Branta canadensis*)

STATUS: No official listed status. Game species., Uncommon spring and fall migrant and winter visitor; rare and localized nester in the northern Sierra Nevada.

DISTRIBUTION/HABITAT: Known to breed at lakes as high as 6000 ft (1830 m) in Lassen region (starred on range map). Migrating flocks traveling between nesting areas in Great Basin and wintering grounds in Central Valley recorded. Flocks infrequently stop briefly to feed and rest in large meadows or lakes throughout the Sierra Nevada.

SPECIAL HABITAT REQUIREMENTS: Lakes.

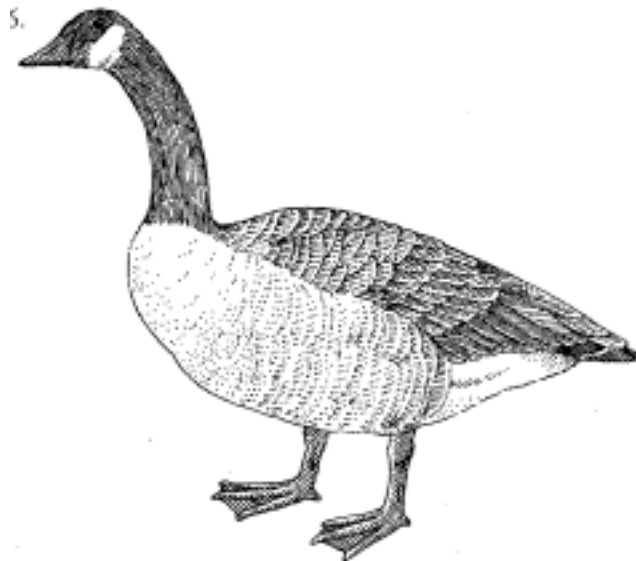
BREEDING: Breeds from mid-March to late July, with peak from mid-May to mid-July. Typically nests on islands on the ground or uses a dry nest foundation, such as stump, platform, or tree. Nest height varies, depending on type of foundation structure available. Clutch size from 4 to 10, with 5 to 7 most frequent.

TERRITORY/HOME RANGE: Breeding territories include nest site and suitable loafing area; size varies with characteristics of vegetation and aggressiveness of gander. In Alberta, a map of territories suggests a size range from about 800 ft² to at least 2.3 acres (70 m² to 0.9 ha) with nest densities of 8.0, 10.7, and 9.2 nests/acre (19.8, 26.4, and 22.7 nests/ha) for a 3-year period (Ewaschuk and Boag 1972). A high nesting density of about 62/acre (153/ha) on an island at Honey Lake Refuge, Lassen County, reported (Naylor 1953). Breeding home range depends on distance from nest to suitable feeding areas. In Utah (Williams and Sooter 1940) and North Dakota (Hammond and Mann 1956), foraged up to 5 mi (8 km) from nest. Broods in Montana moved 2 to 10 mi (3.2 to 16 km) from nest to feeding areas and remained until they could fly (Geis 1956). In winter, foraged at least 30 mi (48 km) from roosting lakes in Texas (Glazener 1946).

FOOD HABITS: Cereal crops, clovers, grasses, aquatic vegetation, snails, tadpoles, and insects are major foods. Obtains food from water by probing in mud, and tipping up, with head underwater, and on ground, by grazing.

OTHER:

REFERENCES: Grinnell *et al.* 1918, Dimmick 1968, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Snow Goose

B009 (*Chen caerulescens*)

STATUS: No official listed status. Game species. Extremely rare fall migrant and winter visitor.

DISTRIBUTION/HABITAT: Most records are of flocks in flight; have been documented as landing on lakes away from timbered areas, from annual grasslands up to chaparral zone.

SPECIAL HABITAT REQUIREMENTS: Lakes.

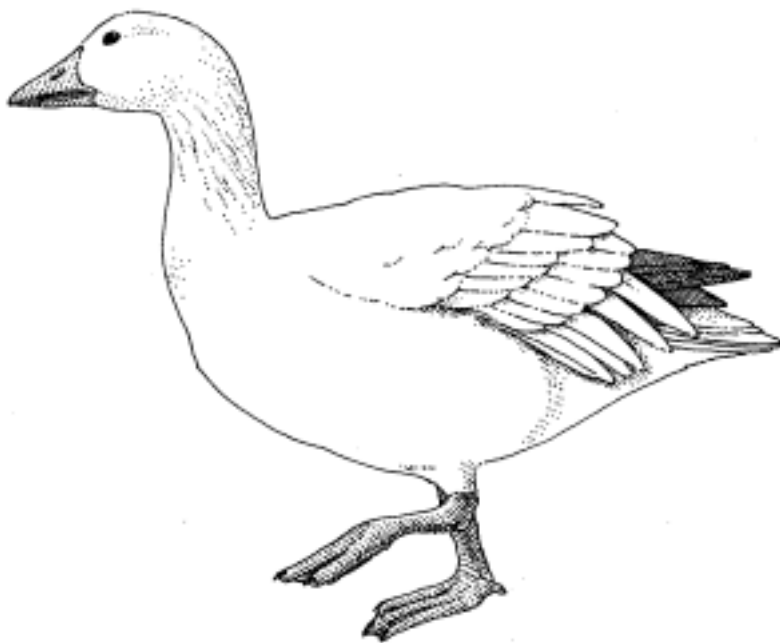
BREEDING: Does not breed on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: Little information on winter home range. In Texas, flew up to 30 mi (48 km) to feeding areas (Glazener 1946). Not territorial in winter.

FOOD HABITS: Feeds on bulrushes, marsh grasses, pasture grasses, and cultivated grains. Food gathered from muddy bottoms of shallow ponds and cultivated fields. Uproots aquatic vegetation and grazes in pastureland.

OTHER: One of the most social of all species of waterfowl.

REFERENCES: Grinnell *et al.* 1918, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Mallard

B010 (*Anas platyrhynchos*)

STATUS: No official listed status. Game species. Uncommon breeder; fairly common winter visitor at low elevations.

DISTRIBUTION/HABITAT: Recorded breeding in Yosemite National Park, west side of the Sierra Nevada, to elevations of 9600 ft (2930 m) (Beedy, unpubl.). Numerous lower elevation nesting records, usually associated with lakes and smooth-flowing rivers, irrespective of surrounding vegetation. Most winter records below 4000 ft (1220 m).

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, slow-moving streams or rivers.

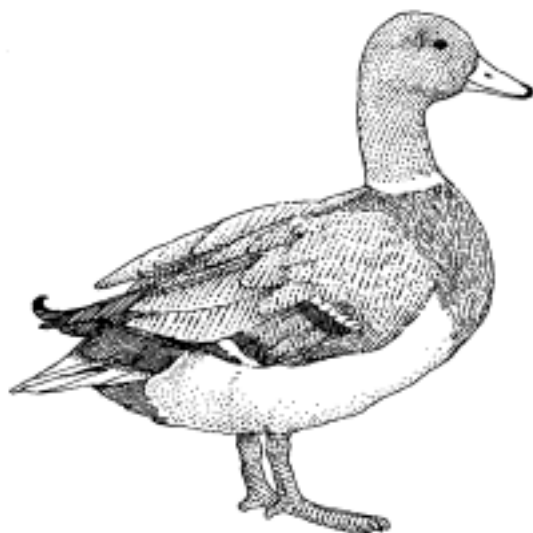
BREEDING: Breeds from mid-March to mid-July, with peak from late April to late June. Nests on the ground, usually in tall, herbaceous vegetation, usually within 328 ft (100 m) of water. Has been noted nesting in dense woods. Clutch size from 1 to 18 (mostly 6 to 12), with mean of 9.

TERRITORY/HOME RANGE: In prairie potholes country of Manitoba, nesting home range size averaged 700 acres (283 ha) (Dzubin 1955). Average breeding home ranges of radio-tagged birds in timbered areas of Minnesota were 519 acres (210 ha) (12 females) and 593 acres (240 ha) (12 males); the range was 163 acres (66 ha) (a female) to 1878 acres (760 ha) (a pair) (Gilmer *et al.* 1975). In winter, may fly up to 30 to 40 mi (48 to 64 km) to forage from roost sites. Does not defend rigid territories, but area immediately surrounding the female usually defended by the male. Nesting density in South Dakota prairie potholes reported as 6.7 pairs/mi² (2.6 pairs/km²) (Drewien and Springer 1969).

FOOD HABITS: Feeds on cultivated grains, pondweeds, grasses, insects, crustaceans, and small fish. Food taken from shallow water ponds and from the ground. Dabbles on water surface, tips up in shallow water, and grazes in fields.

OTHER: Most abundant waterfowl species in the Sierra Nevada.

REFERENCES: Anderson *et al.* 1974, Pospahala *et al.* 1974, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Pintail

B011 (*Anas acuta*)

STATUS: No official listed status. Game species. Very rare spring and fall migrant and winter visitor; accidental in summer.

DISTRIBUTION/HABITAT: No confirmed nesting records in the Sierra Nevada, though pair seen at 8600 ft (2620 m) in Tuolumne meadows, June 4, 1977 (Beedy, unpubl.). Prefers areas of shallow water surrounded by open terrain; generally found only at lower elevations in the Sierra Nevada.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes.

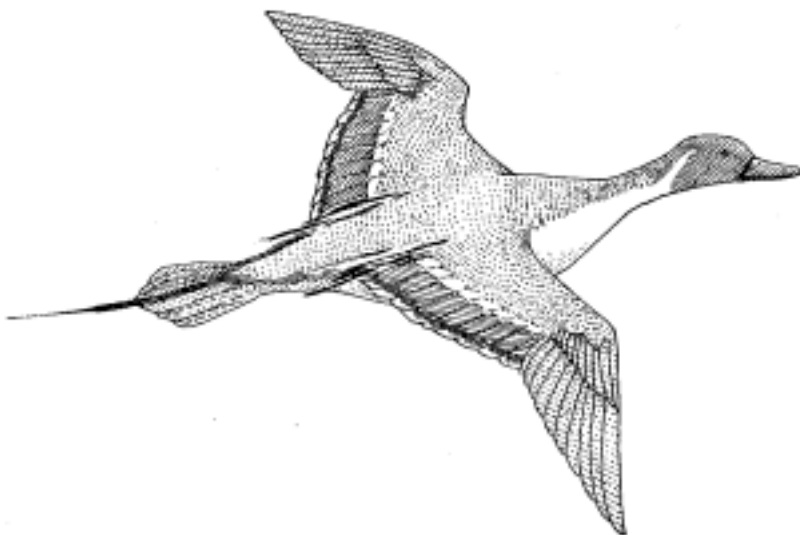
BREEDING: Not known to breed on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: No information on winter home range; not territorial in winter.

FOOD HABITS: Feeds on cultivated grain, seeds of bulrushes, pondweeds, aquatic and terrestrial insects. Food obtained from bottoms of shallow ponds and dry ground. Dabbles at water surface, tips up for bottom feeding, and grazes.

OTHER:

REFERENCES: Fuller 1953, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Green-winged Teal

B012 (*Anas crecca*)

STATUS: No official listed status. Game species. Rare fall and spring migrant and winter visitor.

DISTRIBUTION/HABITAT: Most records of birds in freshwater ponds and marshes at low elevations up to ponderosa pine and black oak woodland zones.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, or marshes.

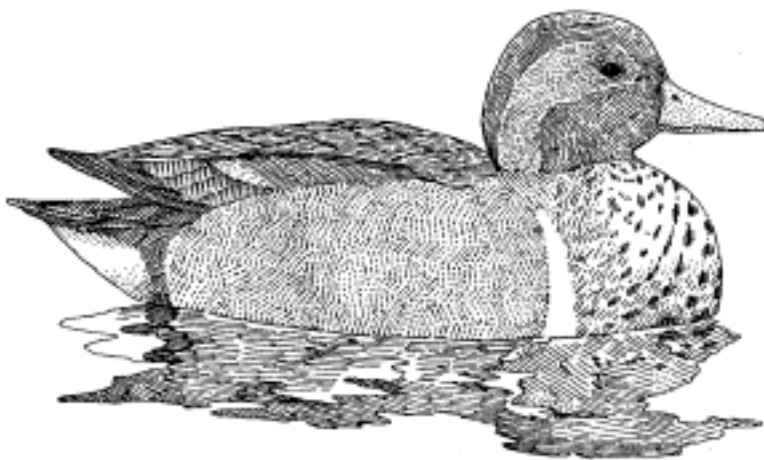
BREEDING: Does not breed on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: No data on winter home range; not territorial in migration or winter.

FOOD HABITS: Feeds on seeds of aquatic plants, grain, weed seed, and mast; also insects, crustaceans, snails, and tadpoles. Food taken from muddy shores of ponds, bottoms of shallow ponds and, occasionally, fields. Probes in the mud, tips up for bottom feeding, grazes in fields.

OTHER:

REFERENCES: Moisan *et al.* 1967, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Cinnamon Teal

B013 (*Anas cyanoptera*)

STATUS: No official listed status. Game species. Rare spring and summer visitor.

DISTRIBUTION/HABITAT: Found in low-elevation ponds and marshes from annual grasslands up to ponderosa pine and black oak woodland zones.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, slow-moving streams, or rivers.

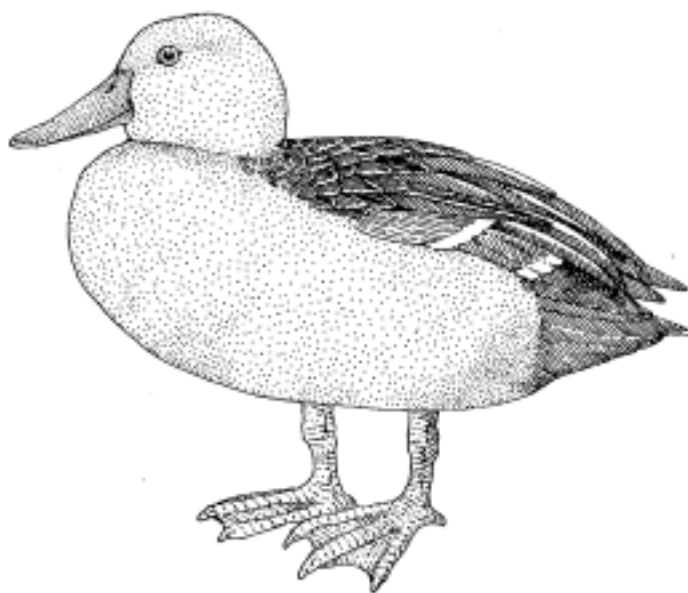
BREEDING: Not known to breed on west slope of the Sierra Nevada; observed nesting in adjacent areas to west and northeast.

TERRITORY/HOME RANGE: No data on home range; territorial only when nesting.

FOOD HABITS: Feeds on seeds and vegetative portions of pondweeds, bulrushes, and sedges; also takes mollusks and insects. Food taken from pond edges, bottoms of shallow ponds, and dry fields. Probes in mud, tips up for bottom feeding, grazes in fields.

OTHER:

REFERENCES: Spencer 1953, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



American Wigeon

B014 (*Anas americana*)

STATUS: No official listed status. Game species. Extremely rare fall and spring migrant and winter visitor.

DISTRIBUTION/HABITAT: More than other members of genus, prefers deeper lakes or wide, slow-moving sections of rivers. Recorded generally at low elevations, up to ponderosa pine and black oak zone, typically in ponds and lakes surrounded by grass/forb or shrub-covered land.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, or slow-moving streams or rivers.

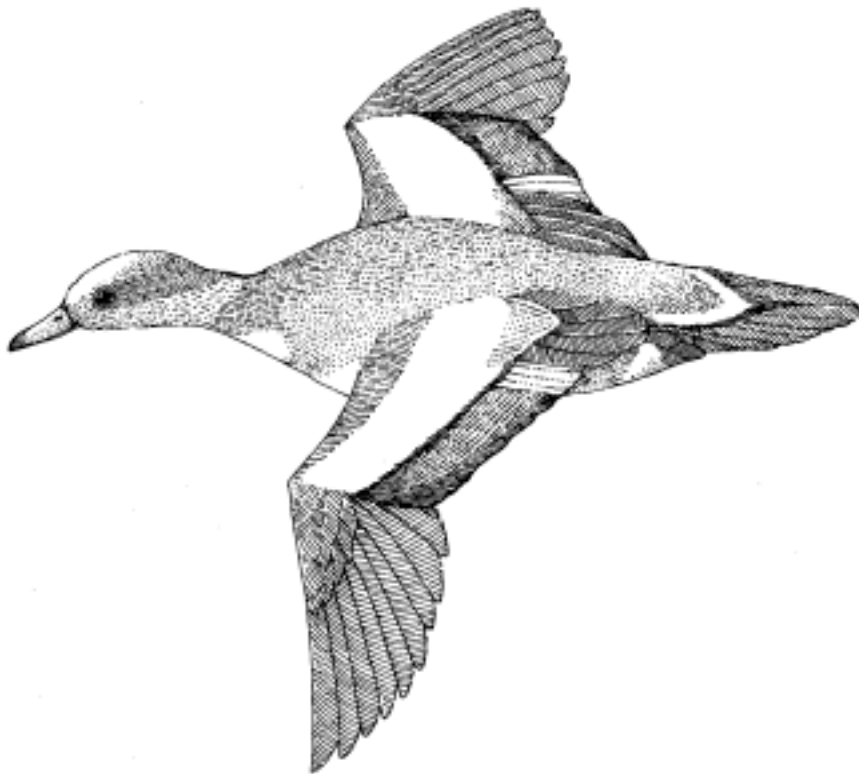
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data on home range; not territorial in winter.

FOOD HABITS: Eats wigeon grass, pondweed, aquatic and terrestrial insects. Feeds in pastureland and fields, often wet, and from the edges and bottoms of ponds. Grazes in fields, probes around pond edges, tips up for bottom feeding, and dives. Recorded stealing aquatic vegetation from diving ducks, such as canvasbacks and redheads (Grinnell *et al.* 1918).

OTHER:

REFERENCES: Grinnell *et al.* 1918, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Northern Shoveler

B015 (*Anas clypeata*)

STATUS: No official listed status. Game species. Extremely rare spring and fall migrant, and winter visitor. Only one nesting record (starred on range map).

DISTRIBUTION/HABITAT: Generally distributed at low elevations, up to ponderosa pine and black oak woodland zone, where found in shallow ponds adjacent to open country. One nesting record reported at Ostrander Lake, at 8600 ft (2620 m), in Yosemite National Park (Gaines 1977).

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, or slow-moving streams or rivers.

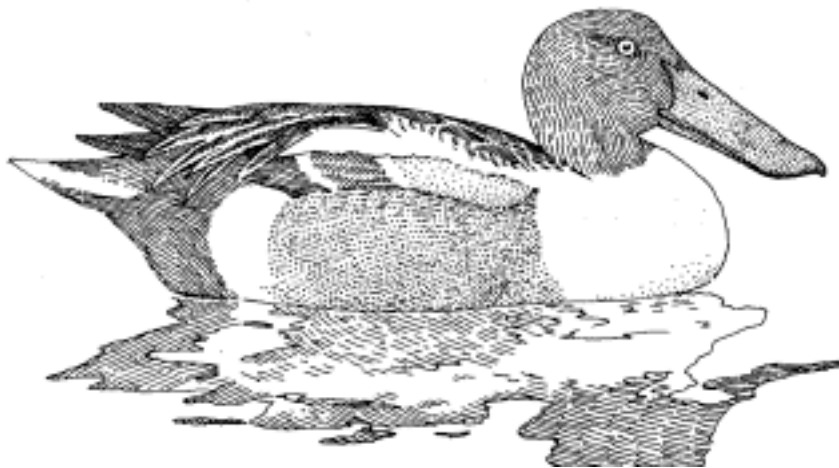
BREEDING: Breeds from mid-May to early August, with peak from mid-June to mid-July. Nest typically placed among short grass within 50 yds (46 m) of water. Clutch size from 5 to 14, with mean of 10 or 11.

TERRITORY/HOME RANGE: Some observers indicate does not defend territories; males defend only small areas around mates (Hori 1963). A defended core area (territory) noted within each pair's breeding home range (Poston 1969, 1974). Territories before egg laying averaged 7.2 acres (2.9 ha) (n= 10), with range from 3.2 to 12.4 acres (1.3 to 5.0 ha) (Seymour 1974). During egg laying and incubation, core area decreased to a mean of 2.2 acres (0.9 ha) and a range of 0.25 to 3.7 acres (0.1 to 1.5 ha). Breeding home ranges from 15 to 90 acres (6 to 36 ha), with a mean of 49.7 acres (18.7 ha) reported in the Midwest (Poston 1969). Breeding home ranges from 20 to 128 acres (8.1 to 52 ha), with an average of 76 acres (31 ha) reported in Alberta (Poston 1974).

FOOD HABITS: Feeds on freshwater clams, aquatic insects, copepods, pondweeds, and bulrushes. Food taken from shallow water and muddy bottoms of ponds. Feeds on water surface, and dabbles in muddy shallows.

OTHER:

REFERENCES: Poston 1969, 1974; Johnsgard 1975b; Bellrose 1976; Palmer 1976.



Wood Duck

B016 (*Aix sponsa*)

STATUS: No official listed status. Game species. Uncommon to fairly common resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds along streams or ponds near oaks, for food and suitable nest cavities, from blue oak savannahs up to ponderosa pine and black oak woodland zones. More abundant in northern California, particularly along the Cosumnes, Mokelumne, Tuolumne, Merced, San Joaquin, and Kings Rivers. High abundances also reported in Shasta and Plumas Counties (Naylor 1960).

SPECIAL HABITAT REQUIREMENTS: Ponds, slow-moving streams; nest cavities; oaks.

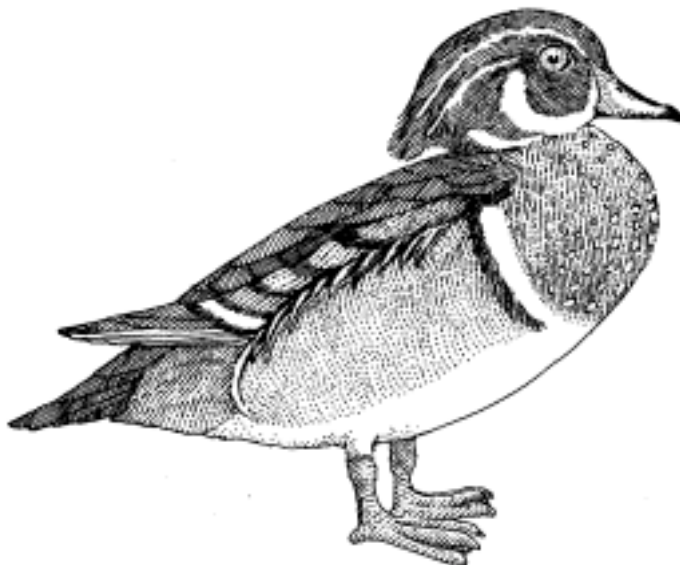
BREEDING: Breeds from mid-April to mid-July, with peak from mid-May to mid-June. Nests in cavity. Optimum natural cavities 20 to 50 ft (6 to 15 m) up, with entrance of 4 in (10 cm) in diameter (McGilvery 1968), situated in stands of willows, cottonwoods, or oaks. Clutch size from 3 to 15, with mean of 12.2.

TERRITORY/HOME RANGE: Does not defend nest; males defend small space around mate (Grice and Rogers 1965). Home range of breeding males averaged 500 acres (200 ha) and of unpaired males 1300 acres (526 ha) in Minnesota (Gilmer 1971). Flightless broods ranged from 0 to 3.5 mi (0 to 5.6 km) along an Ohio river; a brood of fledged young ranged from 0 to 8 mi (0 to 12.8 km) (Stewart 1958).

FOOD HABITS: Eats primarily acorns, insects, aquatic plants, and cultivated grains. Takes acorns from forest floor; in water tips up to feed underwater; sometimes females dive.

OTHER: Numbers markedly reduced in past as result of reduction in suitable wooded riparian habitat by logging. Placement of artificial nest boxes in habitats where natural cavities are limiting resulted in substantial increase in numbers. Such boxes should be "predator proof" (Bellrose 1976), within 400 yds (375 m) of stream (Ball *et al.* 1975), and spaced widely (Jones and Leopold 1967).

REFERENCES: Naylor 1960, Trefethen 1966, Bellrose 1976, Palmer 1976.



Redhead

B017 (*Aythya americana*)

STATUS: No official listed status. Game species. Extremely rare winter visitor.

DISTRIBUTION/HABITAT: Found in fall and winter on deep lakes at low elevations, from annual grassland zone up through the digger pine-oak type; prefers ponds in nontimbered areas.

SPECIAL HABITAT REQUIREMENTS: Lakes with deep water.

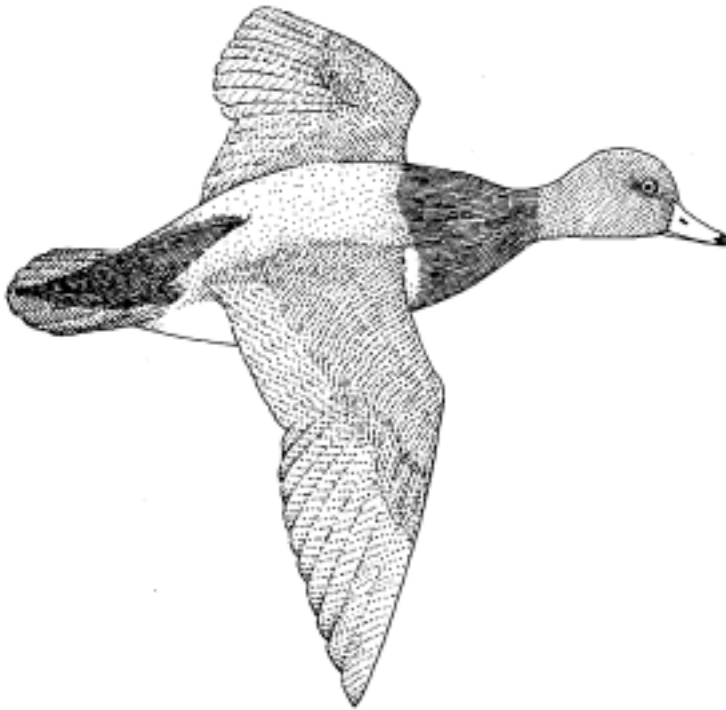
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data available on winter home range; not territorial in the western Sierra Nevada.

FOOD HABITS: Eats seeds and vegetative parts of pondweeds and bulrushes; also algae, insects, fish, frogs, and mollusks. Dives, often to considerable depths, to obtain food.

OTHER:

REFERENCES: Grinnell *et al.* 1918, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Ring-necked Duck

B018 (*Aythya collaris*)

STATUS: No official listed status. Game species. Rare spring and fall migrant and winter visitor; a few nesting records at Buck's Lake (starred on range map) in the northern Sierra Nevada (T. Manolis, pers. commun.).

DISTRIBUTION/HABITAT: Breeds infrequently around ponds with marsh vegetation in mixed-conifer and Jeffrey pine types. In fall and winter, found on shallow ponds of varying size and surrounding vegetation types, from annual grassland areas up to ponderosa pine and black oak woodland types.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes.

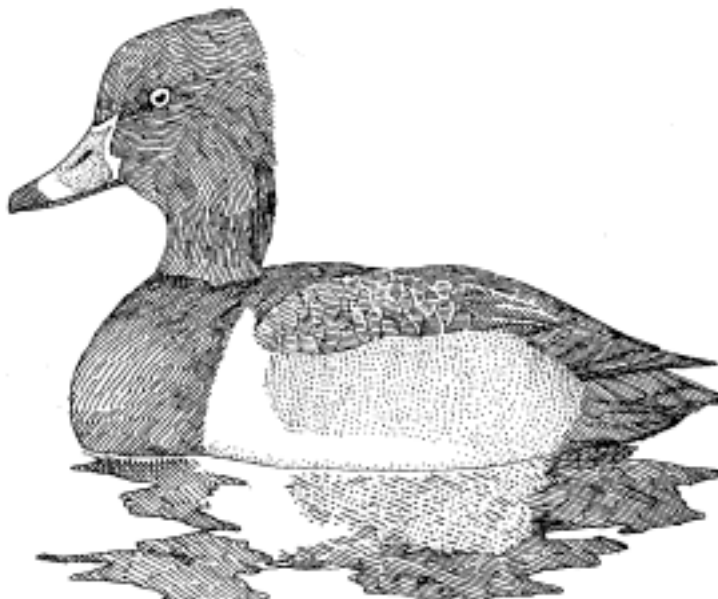
BREEDING: Breeds from early May to early August, with peak from mid-June to mid-July. Nests on reasonably dry spots with suitable cover, usually sedge, on hummocks or clumps of open marsh. Range from 0 to 400 ft (0 to 122 m) from open water, averaging 81 ft (25 m). Clutch size from 5 to 14, with mean of 7.9.

TERRITORY/HOME RANGE: No data on home range. Male defends small space around mate (Mendall 1958). Nesting density in Maine varied from one pair per 1.6 acres (0.6 ha) to one pair per 23 acres (9 ha) (Mendall 1958).

FOOD HABITS: Eats primarily pondweeds, bulrushes, sedges, snails, clams, and aquatic insect larvae. Dives for food, usually to depths of 6 ft (1.8 m) or less. Captures food in water or takes it from the muddy bottom.

OTHER: Nesting reports infrequent enough that could be considered nonbreeder in the western Sierra Nevada. Nearly all sightings between November 21 and March 23.

REFERENCES: Mendall 1958, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Canvasback

B019 (*Aythya valisineria*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Game species. Rare winter visitor; less common in southern than northern Sierra Nevada.

DISTRIBUTION/HABITAT: A fairly common species in winter in many inland areas of California, but rarely seen in the Sierra Nevada. Frequents large, open lakes with large quantities of submerged aquatic vegetation, in annual grassland, blue oak, and digger pine-oak zones. Usually avoids lakes in timbered sections.

SPECIAL HABITAT REQUIREMENTS: Lakes.

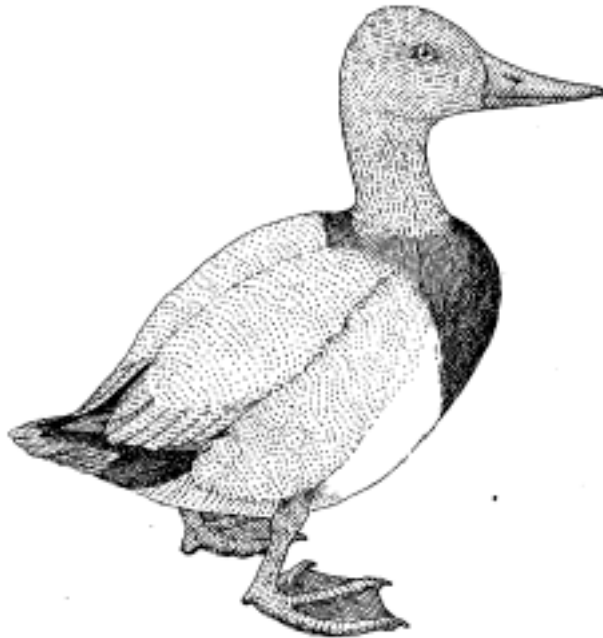
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data on winter home range; not territorial in winter.

FOOD HABITS: Major food items are pondweeds, bulrushes, wigeon grass, mollusks, insects, and fishes. Dives, often to great depths; some food taken from muddy bottom; feeds on water surface as well.

OTHER:

REFERENCES: Erickson 1948, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Lesser Scaup

B020 (*Aythya affinis*)

STATUS: No official listed status. Game species. Rare but regular fall migrant and winter visitor.

DISTRIBUTION/HABITAT: Generally found only on large lakes with much submerged aquatic vegetation, in annual grasslands and in grass/forb and shrub stages of blue oak savannahs and digger pine-oak woodlands. Observed in Yosemite Valley at 4000 ft (1220 m) (Gaines 1977); most sightings below 2000 ft (610 m).

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes.

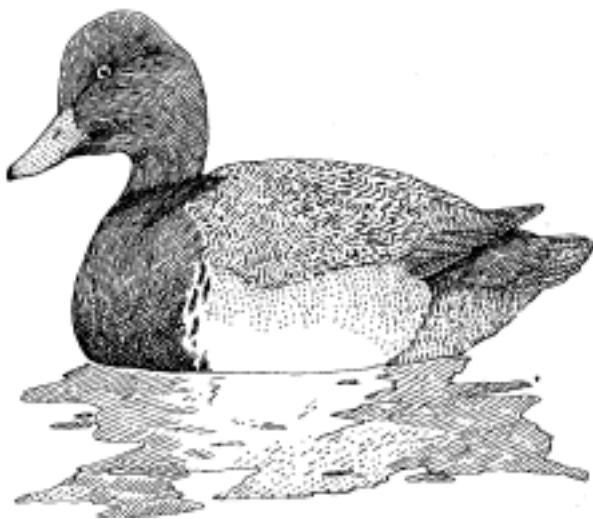
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: Extensive use of large bodies of water, with ill-defined home range (Bellrose 1976); not territorial in winter.

FOOD HABITS: Eats mollusks, insects, fishes, wild celery, pondweeds, and wigeon grass. Dives, often to depths of greater than 25 ft (7.6 m), to obtain food in the water and on the bottom. Does some surface feeding.

OTHER:

REFERENCES: Gehrman 1951, Trauger 1971, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Barrow's Goldeneye

B021 (*Bucephala islandica*)

STATUS: No official listed status. Game species. Rare spring migrant and breeder (at least formerly-see Small 1974).

DISTRIBUTION/HABITAT: Breeds rarely around lakes and along streams from mixed-conifer forests upslope to lodgepole pine type, from Yosemite National Park northward. Reported nesting at a high elevation: 9200 ft (2800 m). Surrounding habitat must have some timber.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes; nest cavities.

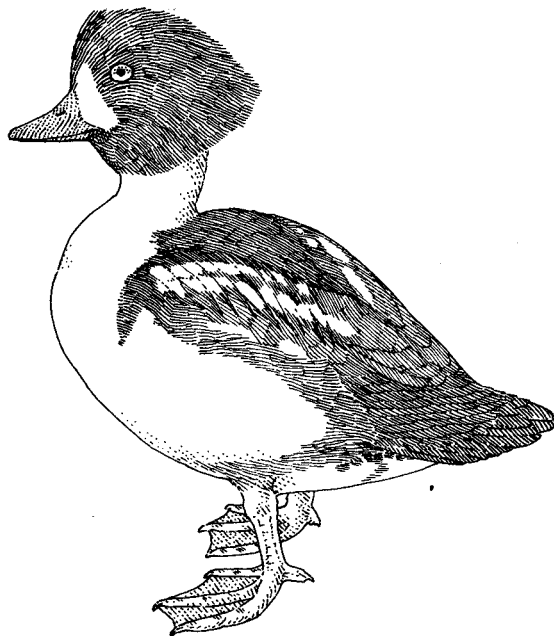
BREEDING: Breeds from mid-April to mid-August, with peak from mid-June to mid-July. Nests in tree cavity; prefers flicker or pileated woodpecker holes. Most often uses pines, aspens, or cottonwoods in the Sierra Nevada. Nests usually within 100 yds (91 m) of water. In absence of nest cavities, uses nest boxes and also rocky crevices along smooth-flowing streams or high-elevation lakes. Clutch size from 4 to 15, with mean of 9.

TERRITORY/HOME RANGE: No data available. Two pairs reported on a 3-acre (1.2-ha) pond in the Cariboo District of British Columbia; territories consisted of 40 to 60 yds (37 to 55 m) of shoreline (Bellrose 1976).

FOOD HABITS: Eats primarily mollusks, isopods, amphipods, aquatic insects, grasses, and various water plants. Dives, usually less than 4 ft (1.2 m), turns over rocks, and probes in mud for food.

OTHER: Has never been common in the Sierra Nevada; main portion of nesting range is northward-in Oregon, Washington, British Columbia, Alaska, and the Rockies.

REFERENCES: Grinnell *et al.* 1918, Johnsgard 19756, Bellrose 1976, Palmer 1976.



Bufflehead

B022 (*Bucephala albeola*)

STATUS: No official listed status. Game species. Rare but regular nester and spring migrant.

DISTRIBUTION/HABITAT: Breeds around small, timber-lined ponds or streams from blue oak savannah zone up to Jeffrey pine forests.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, slow-moving streams; nest cavities.

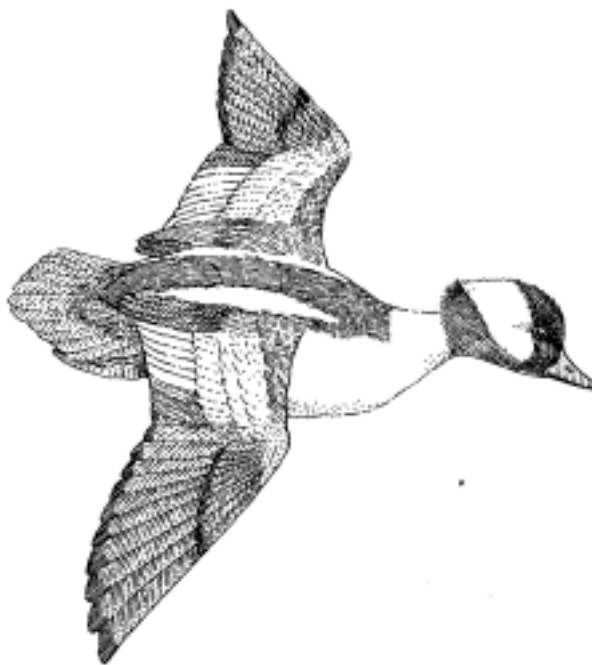
BREEDING: Breeds from late April to early August, with peak from mid-June to mid-July. Nest placed in cavity in tree (commonly aspen), with preference for flicker holes, within 660 ft (200 m) of a lake or pond, and from 2 to 10 ft (0.6 to 3 m) above ground. Clutch size from 5 to 16, with mean of 8.6.

TERRITORY/HOME RANGE: In British Columbia, territories included a pond, or section of lake shoreline, and loafing sites; smallest pond suitable for isolated territory was about 2.5 acres (1 ha) (Erskine 1972). Two nests in some trees, but most nests about 330 yds (100 m) apart. Males seldom exhibited conflict unless females present, though pairs spaced out along the shore. Newly hatched broods moved from nest to feeding areas up to distances greater than 1 mi (1.6 km). Brood home ranges after young were 3 weeks old averaged 9.4 to 13.1 acres (3.8 to 5.3 ha), with range of 2.0 to 59 acres (0.8 to 24 ha).

FOOD HABITS: Eats larvae of aquatic insects, mollusks, crustaceans, and some aquatic vegetation. Obtains food from water and muddy bottom by diving; sometimes feeds on surface.

OTHER: Uncertain how common a nesting species in the Sierra Nevada during early 1900's. Presumably limited today by lack of suitable tree-lined ponds in undisturbed condition. Flickers and starlings significant competitors for nest cavities (Bellrose 1976).

REFERENCES: Erskine 1972, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Harlequin Duck

B023 (*Histrionicus histrionicus*)

STATUS: No official listed status. Game species. Historically a rare but regular nester along several rivers; now almost extinct in the Sierra Nevada.

DISTRIBUTION/HABITAT: Breeds along fast-flowing streams and rivers at high elevations, from 4000 to 9000 ft (1220 to 2740 m) in the central Sierra Nevada. Reported nesting along upper parts of the Merced, Cherry, Stanislaus, Tuolumne, and San Joaquin Rivers (Grinnell *et al.* 1918) but only three breeding records reported since 1927.

SPECIAL HABITAT REQUIREMENTS: Swift streams or rivers.

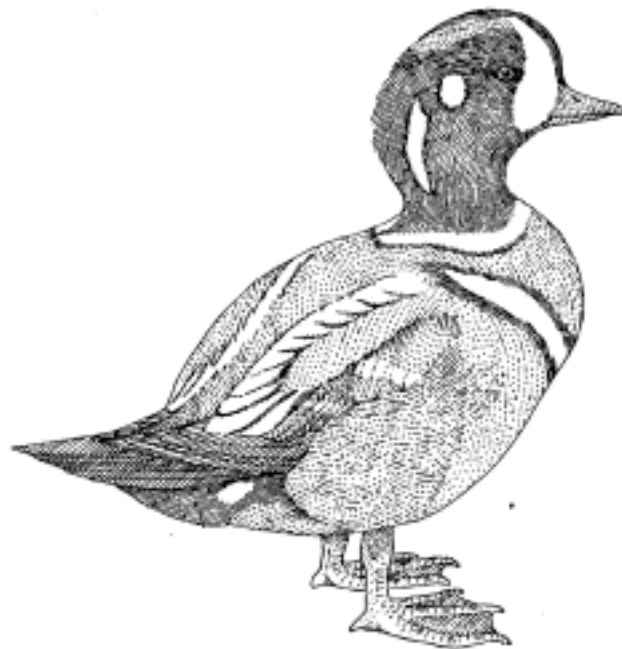
BREEDING: Breeds from mid-May to early August, with peak from mid-June to mid-July. Nests always next to turbulent, cold rivers, typically on the ground, under logs, driftwood, or rocks. Clutch size from 3 to 7, with mean of 5.6.

TERRITORY/HOME RANGE: In Iceland, defended only small area around female; average density 2.1 pairs/mi of stream (1.3 pairs/km) (Bengston 1966b).

FOOD HABITS: Eats insects, mollusks, crustaceans, fishes, and some water plants. Food taken from rocky bottoms of swift streams by diving; sometimes tips up to feed under water surface.

OTHER: Reasons for declining population in the Sierra Nevada unknown. Disturbance of wintering habitat along the coast suggested; also dramatic increase in numbers of fishermen and other human visitors to high mountain streams.

REFERENCES: Bengston 1966a, 1966b; Bellrose 1976; Palmer 1976.



Ruddy Duck

B024 (*Oxyura jamaicensis*)

STATUS: No official listed status. Game species. Rare spring and fall migrant and winter visitor.

DISTRIBUTION/HABITAT: Found on shallow ponds or lakes from annual grasslands up to ponderosa pine and black oak woodland types. Prefers ponds with an abundance of submerged aquatic vegetation; avoids ponds surrounded by dense stands of timber.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes.

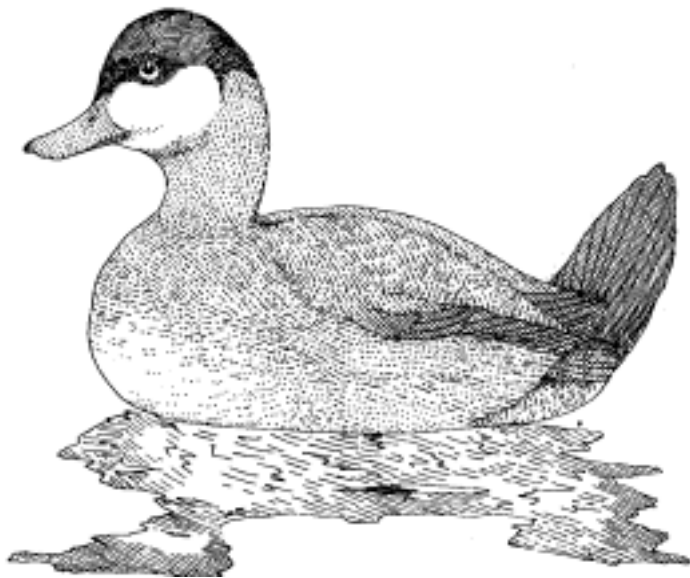
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data on winter home range; not territorial in winter.

FOOD HABITS: Eats pondweeds, sedges, bulrushes, mollusks, and crustaceans. Dives, often to depths of 10 to 20 ft (3.0 to 6.1 m), to feed in the water and on the muddy bottom; sometimes feeds on water surface.

OTHER: Only one spring record located for the western Sierra Nevada: Wilson Lake, Lassen National Park, on March 24, 1927 (Grinnell *et al.* 1930).

REFERENCES: Joyner 1969, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Hooded Merganser

B025 (*Lophodytes cucullatus*)

STATUS: No official listed status. Game species. Rare fall and spring migrant and winter visitor.

DISTRIBUTION/HABITAT: Frequents ponds and slow-moving streams in timbered sections from blue oak savannah up to ponderosa pine and black oak woodland types. Cited as a possible breeder in the Sierra Nevada (Bellrose 1976), but corroborating evidence not at hand. Latest spring record found April 18 (Gaines 1977).

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, slow-moving streams, or rivers.

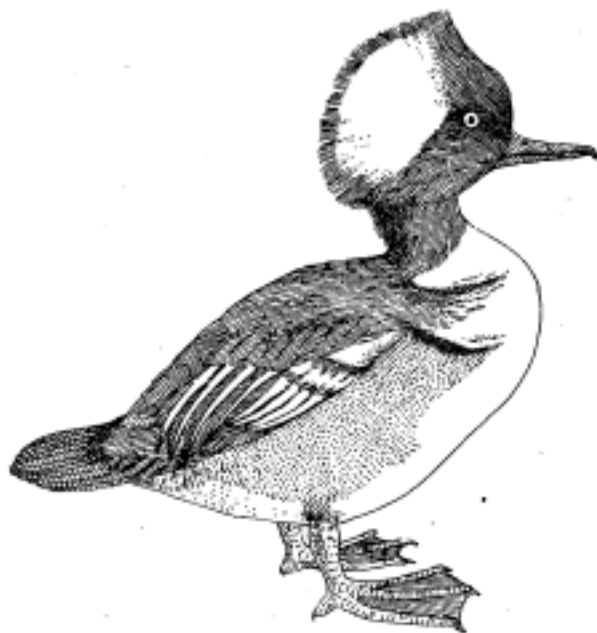
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data on home range; not territorial in winter.

FOOD HABITS: Major food items are fishes, crustaceans, aquatic insects, and frogs. Feeds almost exclusively by diving. Captures food in water or takes from muddy or rocky bottoms of ponds and streams.

OTHER: Susceptible to biological concentration of hard pesticides used in watersheds draining into aquatic habitats.

REFERENCES: Grinnell *et al.* 1918, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Common Merganser

B026 (*Mergus merganser*)

STATUS: No official listed status. Game species. Fairly common winter visitor and uncommon breeder.

DISTRIBUTION/HABITAT: Breeds along edges of forested lakes and streams from blue oak savannah up to lodgepole pine forests, and from McCloud River in the north to Kern River in the south. Remains through winter on fresh, clear rivers as long as rivers are ice-free.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, or slow-moving streams or rivers.

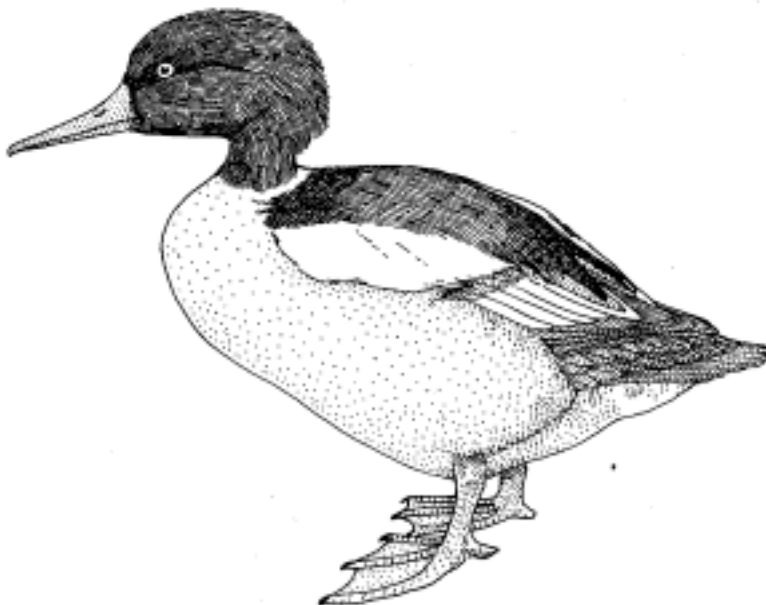
BREEDING: Breeds from early May to early August, with peak from mid-June to mid-July. Usually nests in tree cavity near clear river or stream with many fish. Some nests placed on ground under bushes or boulders; islands preferred for ground nesting. Clutch size from 6 to 12, with mean of 9.4.

TERRITORY/HOME RANGE: No data on territory size. Home ranges generally included 2 to 3 mi (3.2 to 4.8 km) of river (Palmer 1976). Spacing of common mergansers averaged 3-5 mi (5.6 km) apart on coastal streams of northwestern California (Forman 1976).

FOOD HABITS: Feeds on fish, including perch, carp, trout, and salmon. Dives for fish in clear, shallow water.

OTHER: Has been implicated in destruction of fisheries. Conclusions from studies indicate opportunistic foraging on species common and easily captured. Eats primarily nongame fish species, but captures some trout or salmon in areas specifically managed for those species.

REFERENCES: Grinnell *et al.* 1918, Johnsgard 1975b, Bellrose 1976, Palmer 1976.



Turkey Vulture

B027 (*Cathartes aura*)

STATUS: No official listed status. Fairly common breeding bird, less common in winter.

DISTRIBUTION/HABITAT: Breeds mainly in zone of. blue oak savannah, digger pine-oak, and chaparral. Ranges to higher altitudes in late summer. In winter, less common and found only at lower altitudes, where requires a roost--either single large tree with open branch-work or section of grove.

SPECIAL HABITAT REQUIREMENTS: Open terrain for foraging.

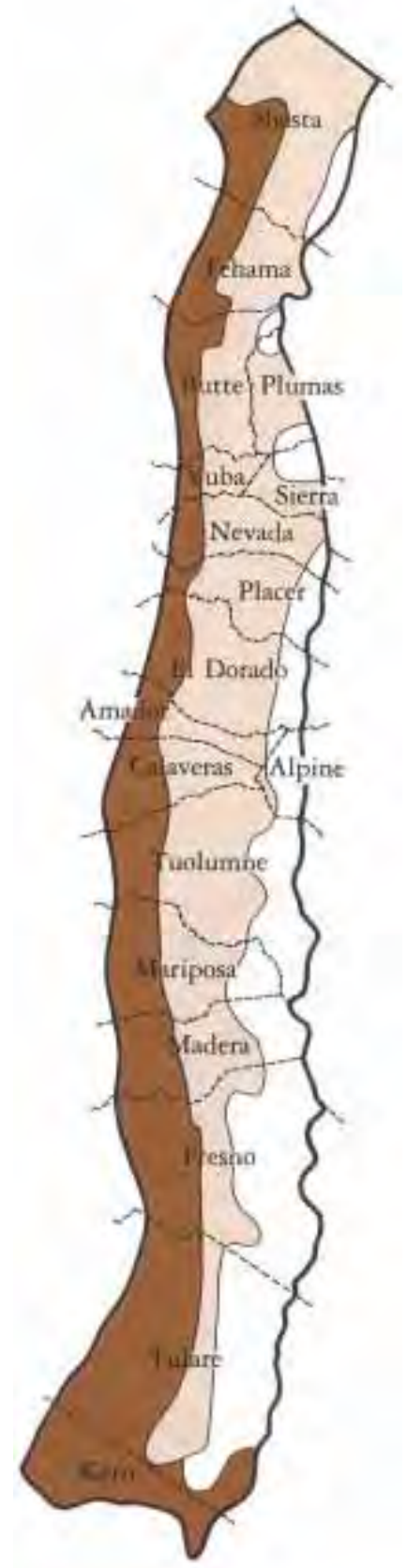
BREEDING: Breeds from early March to late September, with peak from late May to mid-August. Clutch size usually 2 or 3. Nests in well-hidden cavity in cliff face, in rocks or brush on steep hillsides, or in hollow log or stump.

TERRITORY/HOME RANGE: Unknown.

FOOD HABITS: Feeds mainly on carrion; rotting fruits and vegetables, live young birds, and eggs taken rarely. Food taken from ground, but located while soaring and gliding.

OTHER:

REFERENCES: Coles 1944, Brown and Amadon 1968.



California Condor

B028 (*Gymnogyps californianus*)

STATUS: On Federal and California Endangered Species Lists. Some non-breeders move north into the western Sierra Nevada in May and remain until late fall.

DISTRIBUTION/HABITAT: Roosts or feeds in any habitat type.

SPECIAL HABITAT REQUIREMENTS: Open terrain for foraging; large trees or cliffs for roosting.

BREEDING: Does not breed in the western Sierra Nevada at present.

TERRITORY/HOME RANGE: Condors fly distance of at least 35 mi (56 km) between roosting and feeding sites (Koford 1953). Not known to be territorial during nonbreeding periods; nesting territoriality not confirmed. Simultaneous use of nests 0.5 mi (0.8 km) apart, where nest defense between adult condors not observed (Koford 1953).

FOOD HABITS: Feeds exclusively on carrion, dead range cattle mainly; also sheep, deer, horses, and ground squirrels. Prefers deer and young calves. Searches for carrion while soaring and gliding; always eats on ground.

OTHER: See Miller *et al.* (1965, p. 49) for management recommendations.

REFERENCES: Koford 1953; Miller *et al.* 1965; Wilbur 1976, 1978; Verner 1978.



White-tailed Kite

B029 (*Elanus leucurus*)

STATUS: No official listed status. Formerly endangered, now fairly common. Range expanded in recent decades. Probably uncommon above 1000 ft (305 m), though literature unclear.

DISTRIBUTION/HABITAT: Restricted to lower elevations; breeds in sites with trees in blue oak savannah, digger pine-oak, and riparian deciduous types. Nests only where voles (*Microtus* spp.) abundant; concentrates in areas with dense populations of small rodents in winter.

SPECIAL HABITAT REQUIREMENTS: Trees with dense canopies for nesting.

BREEDING: Breeds from early February to late October, with peak from early May to early August. Sometimes rears two broods per season. Nest placed at top of a dense-topped tree of moderate height; nests range in height from 18 to 59 ft (5 to 18 m). Clutch size from 3 to 6, with mean of 4.1.

TERRITORY/HOME RANGE: Nonterritorial in San Diego and Solano Counties (Dixon *et al.* 1957, Stendell 1972). Minimum requirement for breeding pair is 20 acres (8 ha) during a good vole year.

FOOD HABITS: Feeds almost exclusively on diurnal mice captured and eaten on ground. Searches by flying and hovering at less than 100 ft (30 m) above ground; attacks by slow vertical descent.

OTHER: Habitat increased in recent decades by year-round irrigation of agricultural land.

REFERENCES: Dixon *et al.* 1957, Waian and Stendell 1970, Eisenmann 1971.



Goshawk

B030 (*Accipiter gentilis*)

STATUS: No official listed status. Uncommon resident and winter visitor; precise status requires further study.

DISTRIBUTION/HABITAT: Typically breeds in mature stands of conifer forest. Nests sometimes in thicket of medium-aged conifers, with or without aspen interspersed, from mixed-conifer zone up to lodgepole pine type. Prefers stands of intermediate canopy coverage. Remains year-round in breeding areas; during nonbreeding season, some move downslope as far as blue oak savannah.

SPECIAL HABITAT REQUIREMENTS: Water probably needed on breeding territory.

BREEDING: Breeds from mid-March to early September, with peak from early May to mid-July. Nest usually built on a large, horizontal limb within 12 ft (3.7 m) of trunk and from 20 to 80 ft (6.1 to 24 m) above ground, in conifer, and in densest part of stand, usually near meadow or other opening. Clutch size from 1 to 5, with mode of 3.

TERRITORY/HOME RANGE: Territory and home range apparently the same. In Wyoming, a single territory studied covered 525 acres (212 ha) (Craighead and Craighead 1956); may range over areas as large as 6 to 15 mi² (16 to 39 km²) (Brown and Amadon 1968). A home range of about 5 mi² (13 km²) estimated in Minnesota (Eng and Gullion 1962). In Oregon, four nests located on 45 mi² (117 km²); mean distance between nests 2.7 mi. (4.3 km) (Reynolds 1978).

FOOD HABITS: Mammals in size range from chickarees to hares comprise 55 percent of diet; birds in size range from robins to grouse, 45 percent of diet. Prey captured on ground, in vegetation, or in air, by using fast searching flight or rapid dash from a perch.

OTHER: Recommended management policies that should be read: Jackman and Scott 1975, p. 28. Most important recommendation suggests leaving 30 acres (12 ha) of undisturbed timber around all known nests. Acreage should include substantial amount of north-facing slope, all prey-plucking sites, and much water course. Wear hard hat in vicinity of nest.

REFERENCES: Schnell 1958, Brown and Amadon 1968, Jackman and Scott 1975, Jones 1979.



Sharp-shinned Hawk

B031 (*Accipiter striatus*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978. Uncommon permanent resident in mid-elevation habitats; seasonal resident in lower and higher areas.

DISTRIBUTION/HABITAT: Breeds in pole to mature tree stages of ponderosa pine, black oak, riparian deciduous, mixed-conifer, and Jeffrey pine types; prefers stands with intermediate to high percent canopy coverage. Moves upslope in summer and fall. Also moves downslope for fall, winter, and spring periods as far as blue oak savannah, occasionally even into annual grasslands for feeding. May be absent from the southern Sierra Nevada.

SPECIAL HABITAT REQUIREMENTS: Trees or shrubs.

BREEDING: Breeds from early April to late August, with peak from early June to early August. Nests within dense forest canopy, against tree trunk or in crotch of trunk, usually from 6 to 60 ft (2 to 18 m) up; prefers conifers. Clutch size from 3 to 8, usually 4 or 5.

TERRITORY/HOME RANGE: Two home ranges studied in Jackson Hole, Wyoming, covered 160 and 320 acres (65 and 130 ha) (Craighead and Craighead 1956). Apparently, territory and home range the same. In Oregon, four nests located on 45 mi² (117 km²); mean distance between nests 2.7 mi. (4.3 km) (Reynolds 1978).

FOOD HABITS: Small birds make up 97 percent of total diet, small mammals 3 percent. Prey captured on ground, in vegetation, and from air. Hunting involves fast searching flight or rapid dash from concealed perch. Often forages at edges of forest and woodland.

OTHER: Recommended management practices that should be read: Jackman and Scott 1975, p. 45. Most important "A minimum of 10 acres should be preserved around all known nesting trees. . . " North-facing slopes, plucking sites, and water sources should be included.

REFERENCES: Brown and Amadon 1968, Wattel 1973, Jackman and Scott 1975, Jones 1979.



Cooper's Hawk

B032 (*Accipiter cooperi*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Rare and apparently declining in the Sierra Nevada, possibly as a result of pesticides used. Status requires further study.

DISTRIBUTION/HABITAT: Breeds from digger pine-oak up to ponderosa pine and black oak woodland zone; prefers dense stands of live oaks or riparian sites. Apparently frequents edge situations. In winter, found in variety of wooded habitats.

SPECIAL HABITAT REQUIREMENTS: Trees with dense canopies for nesting; trees/shrubs or trees/grass-forbs.

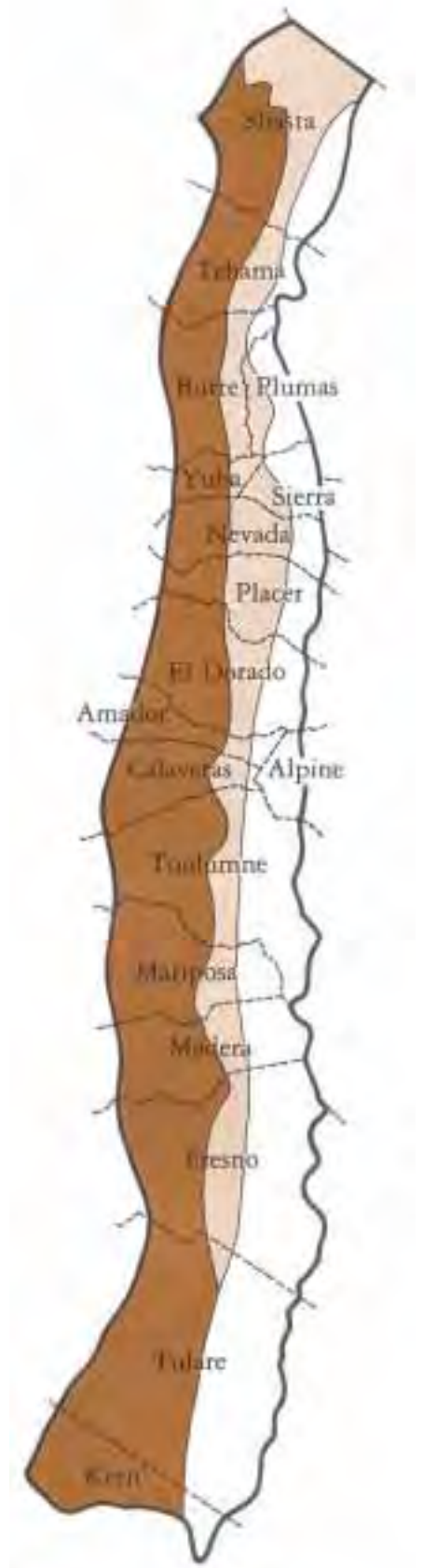
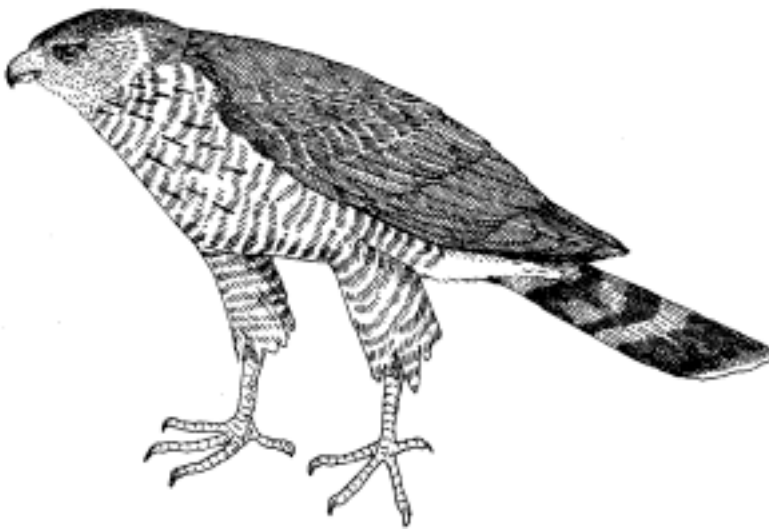
BREEDING: Breeds from early April to late August, with peak from early June to early August. Nests on horizontal branch near trunk, or in an upright crotch 25 to 40 ft (7.6 to 12.2 m) up. Clutch size from 2 to 6, usually 4 or 5.

TERRITORY/HOME RANGE: In Michigan, three breeding home ranges varied from 260 to 1000 acres (105 to 404 ha), with mean of 720 acres (291 ha). Territory size appears to be the same (Craighead and Craighead 1956). In 77 territories in California valley and live oak stands, mean distance between nests 1.6 mi (2.6 km) (C. Asay, pers. commun.).

FOOD HABITS: Small- to medium-sized birds make up 82 percent of diet, and small mammals 18 percent. Forages in air, on ground, and in vegetation. Usually chases prey from inconspicuous perch, or searches while in flight.

OTHER: See Jackman and Scott (1975) for management recommendations.

REFERENCES: Craighead and Craighead 1956, Brown and Amadon 1968, Henny and Wight 1972, Jackman and Scott 1975, Jones 1979.



Red-tailed Hawk

B033 (*Buteo jamaicensis*)

STATUS: No official listed status. Common winter resident; breeds in foothills. Some move up to open areas at high elevations in summer and fall.

DISTRIBUTION/HABITAT: Found in most successional stages from blue oak savannah to lodgepole pine and alpine meadows. Activity primarily associated with open canopy areas of blue oak savannah and digger pine-oak types. Prefers habitat where rodents can be seen from air.

SPECIAL HABITAT REQUIREMENTS: Large trees or cliff for nesting and roosting; large openings for foraging.

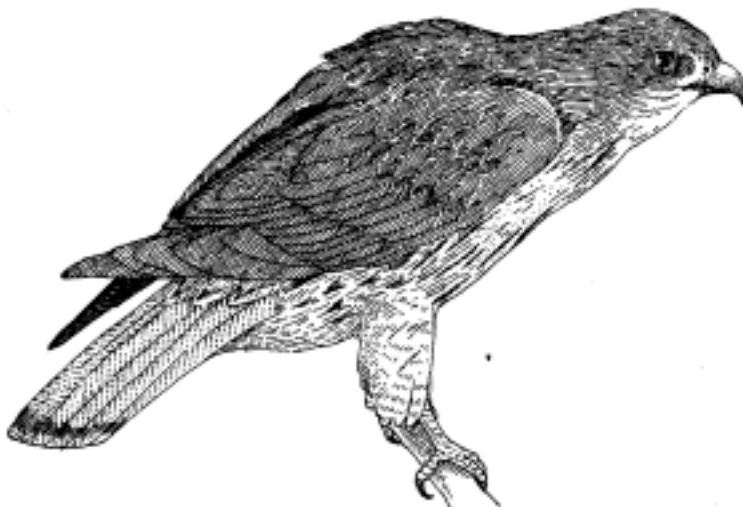
BREEDING: Breeds from late January to early September, with peak from early May to early August. Nests in crotch or fork of tree, usually within 30 to 70 ft (9.1 to 21 m) of ground. Less frequently nests on cliffs. Clutch size from 1 to 4, with 3 most common.

TERRITORY/HOME RANGE: Year-round territory sizes from utilized perch sites in the Sierra foothills, Madera County, roughly estimated (Fitch *et al.* 1946). Estimates ranged from 160 to 400 acres (65 to 162 ha).

FOOD HABITS: Eats mainly small mammals, especially ground squirrels; medium-sized birds and reptiles also taken. Usually swoops to ground from perch or quartering flight.

OTHER:

REFERENCES: Fitch *et al.* 1946, Craighead and Craighead 1956, Luttich *et al.* 1971, Jackman and Scott 1975.



Red-shouldered Hawk

B034 (*Buteo lineatus*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978, though apparently no significant decline in California populations (Wilbur 1973). Uncommon even in suitable habitat in the western Sierra Nevada.

DISTRIBUTION/HABITAT: Resident along Kern River at about 2000 to 3000 ft (610 to 914 m); may be found as vagrant at low elevations throughout the western Sierra Nevada. Breeds only in extensive tracts of riparian deciduous woodland; feeds in grasslands and early successional stages of blue oak savannah and digger pine-oak types.

SPECIAL HABITAT REQUIREMENTS: Large tracts of riparian deciduous woodland for breeding.

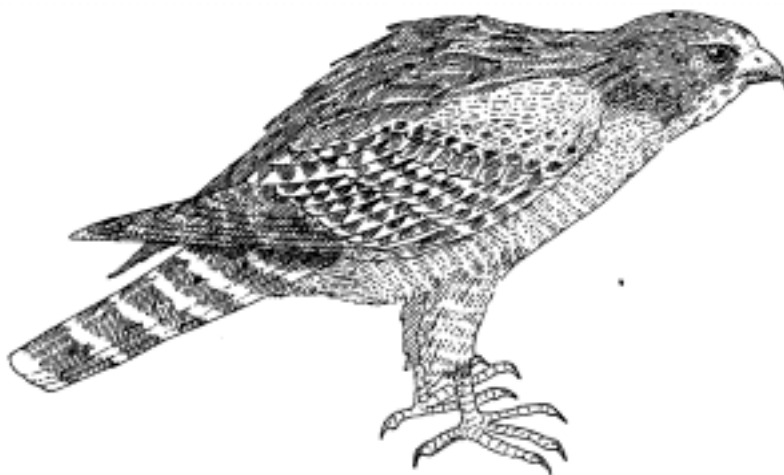
BREEDING: Breeds from early February to mid-July, with peak from mid-April to late June. Nests usually near stream, in branches or crotch of main trunk of large tree, frequently riparian hardwood or eucalyptus. Nest height ranges from 28 to 77 ft (8.5 to 23 m), with average of 50 ft (15 m). Clutch size 1 to 4, with mean of about 3.

TERRITORY/HOME RANGE: Breeding territory and home range the same. Fifty-one breeding territories studied in a Maryland coastal plain, riparian woodland averaged 480 acres (194 ha) in size (Stewart 1949). Average breeding home range size in Michigan observed as 156 acres (63 ha), with a range of 19 to 384 acres (7.7 to 155 ha) (n = 42) (Craighead and Craighead 1956). Winter home ranges reported from 313 to 1242 acres (127 to 503 ha), with mean of 838 acres (339 ha) (Craighead and Craighead 1956).

FOOD HABITS: Highly varied diet includes rabbits, smaller mammals, small birds, amphibians, reptiles, and some insects. Usually captures prey on the ground. Searches for food from perch on snag, stub, or post.

OTHER: Continued presence in the western Sierra Nevada depends on maintenance of extensive tracts of riparian deciduous vegetation.

REFERENCES: Stewart 1949, Brown and Amadon 1968, Wiley 1975.



Swainson's Hawk

B035 (*Buteo swainsoni*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List, as serious declines noted in all western regions. Uncommon migrant and summer resident; present breeding status in the Sierra Nevada questionable.

DISTRIBUTION/HABITAT: Breeds (currently?) in blue oak savannahs and digger pine-oak woodlands; prefers stands with few trees. Occurrence in high elevation meadows uncommon, probably representing local movements of birds from east side of the Sierra Nevada crest.

SPECIAL HABITAT REQUIREMENTS:

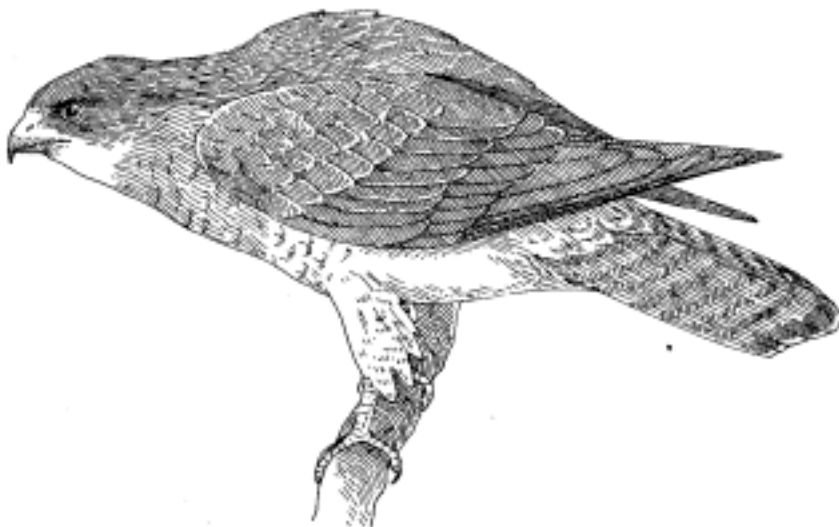
BREEDING: Breeds from late March to mid-August, with peak from late May to late July. Usually nests in a live or dead tree, within 25 ft (7.6 m) of the ground; occasionally on cut banks or low cliffs. Clutch size from 2 to 4, with mode of 2.

TERRITORY/HOME RANGE: Three home ranges in Utah ranged from 1.2 to 2.1 mi² (3.1 to 5.4 km²), with a mean of 1.6 mi² (4.1 km²) (Smith and Murphy 1973). Average home range of 1.0 mi² (2.6 km²) reported in Wyoming (Craighead and Craighead 1956). Territory and home range considered to be about the same.

FOOD HABITS: Eats mostly small mammals; birds, reptiles, and large insects also eaten. Pounces on prey on ground from a low, searching flight.

OTHER:

REFERENCES: Bowles and Decker 1934, Brown and Amadon 1968, Smith and Murphy 1973, Dunkle 1977.



Golden Eagle

B036 (*Aquila chrysaetos*)

STATUS: No official listed status. Uncommon resident; ranges widely over various terrains.

DISTRIBUTION/HABITAT: Found in annual grassland to above timberline in all successional stages. Favors grass/forb, shrub/sapling, and open-canopied young woodlands of blue oak. In late summer, often seen above timberline. Main requirements a good nest site, open country, and dependable food supply.

SPECIAL HABITAT REQUIREMENTS: Cliffs or scattered large trees.

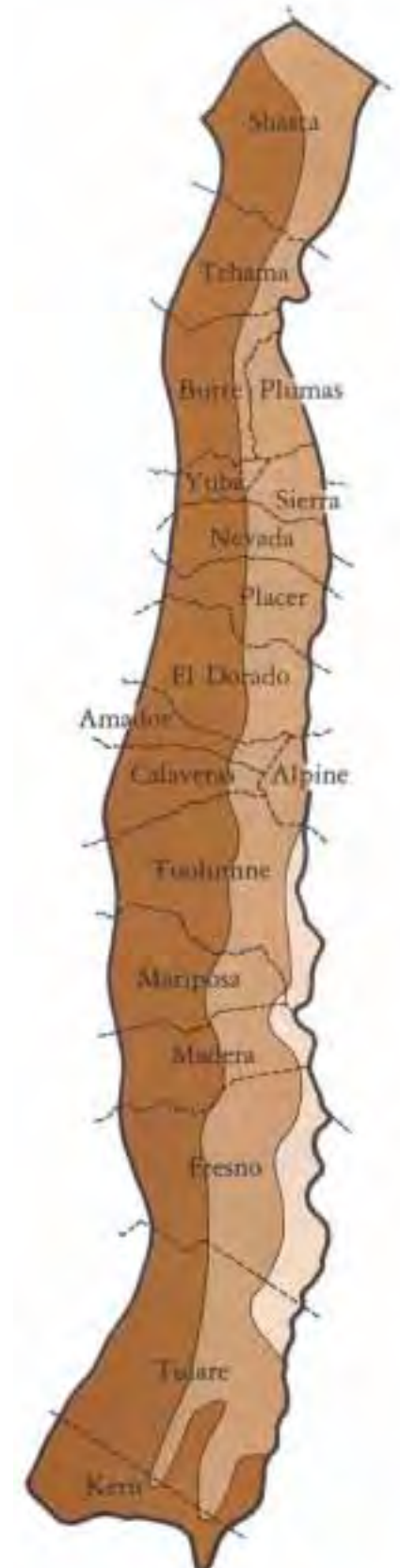
BREEDING: Breeds from mid-January to late September, with peak between late April and August. Nests usually on cliff ledge with commanding view; also in large trees, both living and dead, from 10 to 100 ft (3 to 30 m) above ground. Clutch size from 1 to 3, with 2 most common.

TERRITORY/HOME RANGE: In San Diego County, 27 year-round home ranges varied from 19 to 59 mi² (49 to 153 km²) and averaged 36 mi² (93 km²) (Dixon 1937). Territory size found to be the same. In Utah, six breeding home ranges varied from 6.6 to 11.8 mi² (17 to 31 km²) and averaged 9 mi² (23 km²) (Smith and Murphy 1973). Territory size the same.

FOOD HABITS: Eats mainly lagomorphs and rodents; also eats other mammals, birds, and carrion. Forages usually on ground. Searches by soaring at 100 to 300 ft (30 to 91 m) or by quartering at about 25 ft (7.6 m). Dives on prey.

OTHER: No data on roost requirements.

REFERENCES: Dixon 1937, Smith and Murphy 1973, Thelander 1974, Beecham and Kochert 1975, Jackman and Scott 1975.



Bald Eagle

B037 (*Haliaeetus leucocephalus*)

STATUS: Listed as Endangered on both Federal and State lists.

DISTRIBUTION/HABITAT: Nests in Shasta, Plumas, and Butte Counties on west slope of the Sierra Nevada. Occasionally observed from October to April in all types of habitat throughout the Sierra Nevada. Primarily associated with young or mature forests of varying canopy closure of ponderosa through mixed-conifer types, but can be found in all successional stages from blue oak savannah to lodgepole pine types. Presence at higher elevations in winter depends on open water and fish available for feeding.

SPECIAL HABITAT REQUIREMENTS: Large lake, stream, or river; large trees for nesting; low human disturbance.

BREEDING: Breeds from early February to early September, with peak from mid-March to late June. Nests usually in overstory ponderosa or sugar pine with foliage shading nest, within 0.5 mi (0.8 km) of large body of water, and with low human disturbance. Nest height above ground ranges from 60 to 200 ft (18 to 61 m), usually 75 to 125 ft (23 to 38 m). Total canopy closure in timber stand usually less than 40 percent (R. Lehman, pers. commun.). Clutch size from 1 to 3, with 1 or 2 most common.

TERRITORY/HOME RANGE: No data available on home range. Territory size for 14 breeding territories in Alaska varied from 28 to 111 acres (11 to 45 ha), and averaged 57 acres (23 ha) (Hensel and Troyer 1964).

FOOD HABITS: Eats mainly fish (live and dead); also carrion, water birds, and mammals. Forages on water surface and ground by swooping from perch or air.

OTHER: Only eight active nests on west slope found in 1972-73, all in Shasta and Butte Counties (Thelander 1973). In 1979, 18 active nests found, 16 in Shasta and one each in Plumas and Butte Counties (R. Lehman, pers. commun.). California breeding population probably stable (R. Lehman, pers. commun.).

REFERENCES: Hensel and Troyer 1964, Snow 1973, Thelander 1973.



Marsh Hawk

B038 (*Circus cyaneus*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List, though apparently not declining in the western Sierra Nevada. Uncommon breeding resident of the Central Valley; found at much higher elevations in late summer and fall.

DISTRIBUTION/HABITAT: Found in grass/forb stages from annual grasslands to lodgepole pine and alpine meadows. Breeds in Central Valley with no evidence of regular breeding above 1000 ft (305 m). Both residents and migrants from north found up to 10,000 ft (3050 m) in the Sierra Nevada in late summer and fall. Present at lower elevations at least until April.

SPECIAL HABITAT REQUIREMENTS:

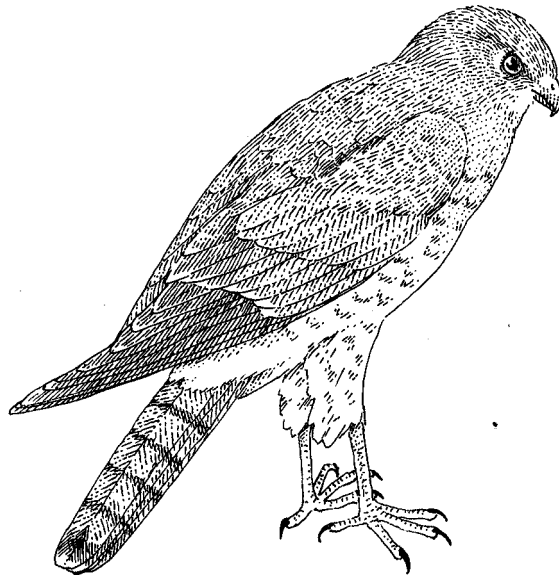
BREEDING: Does not breed regularly on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: Winter home range in Michigan varied from 30 to 640 acres (12 to 260 ha). Hunting range may extend 5.5 mi (8.8 km) from roost (Craighead and Craighead 1956).

FOOD HABITS: Eats mainly small mammals and birds. Forages on ground, with pouncing from systematic quartering flight at 10 to 30 ft (3 to 9 m) above ground.

OTHER:

REFERENCES: Hammond and Henry 1949, Craighead and Craighead 1956, Brown and Amadon 1968, Hamerstrom 1969.



Osprey

B039 (*Pandion haliaetus*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Declined in recent years, probably because of pesticides used and human disturbance.

DISTRIBUTION/HABITAT: Found from annual grasslands through lodgepole pine in association with riparian habitat or lakesides, but primarily in ponderosa pine through mixed-conifer types. Migrates through west slope in spring and fall; in the western Sierra Nevada, apparently breeds only in Shasta County. Not regularly present in winter.

SPECIAL HABITAT REQUIREMENTS: Lakes, rivers for feeding; large trees or cliffs for nesting.

BREEDING: Breeds from early April to early September, with peak from early June to late August. Nests in top of tree, live or dead, 8 to 160 ft (2.4 to 49 m) tall, usually with broad, flat top, within 6 mi (9.6 km) of large lake or river with adequate supply of fish. Clutch size from 1 to 4, with 3 most common.

TERRITORY/HOME RANGE: Range up to 6 mi (9.6 km) from nest to hunting areas (a lake) (Garber 1972). No data available on territory size, but nests in colonies with high density.

FOOL) HABITS: Hunts in lake or large river. Eats fish that swim at or near water surface. Searches from high perch or from flight, and dives at fish.

OTHER:

REFERENCES: Koplin 1971, Garber 1972, Jackman and Scott 1975.



Prairie Falcon

B040 (*Falco mexicanus*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Rare on west slopes; being reduced in numbers probably because of nest robbing by humans, vertebrate control programs killing its prey, and possibly use of pesticides.

DISTRIBUTION/HABITAT: Ranges from annual grasslands through alpine meadows. Primarily associated with perennial grasslands, lodgepole pine of varying canopy closures, and alpine meadows. Ranges above treeline in late summer, winters at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Open terrain for foraging; cliffs for nesting.

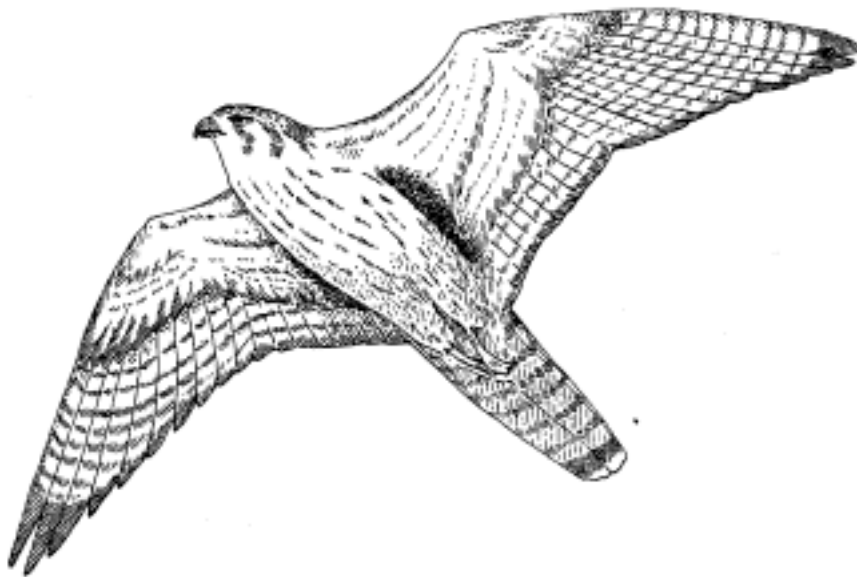
BREEDING: Breeds from mid-February to mid-September, with peak from early May to early August. Formerly would breed mostly below coniferous forests; now most remaining pairs breed at higher altitudes. Nests always on cliff 20 to 400 ft (6.1 to 122 m) high with shelter ledge overlooking large open area. Clutch size from 3 to 6, with 5 most common. A 1971-72 survey of nesting sites within 48 mi (30 km) of the Central Valley found 32 of 33 traditional sites unoccupied (Garrett and Mitchell 1973).

TERRITORY/HOME RANGE: In Wyoming, home range of one breeding pair was 10 mi² (26 km²) (Craighead and Craighead 1956). In Utah, two breeding territories were 2.2 and 2.5 mi² (5.7 and 6.5 km²) in size (Smith and Murphy 1973). In northern Colorado, winter ranges (maximum distance between observation points of marked birds) averaged 3.8 mi (6.1 km) for males and 7.2 mi (11.5 km) for females; maximum range was 12.1 mi (19.4 km) for one female (Enderson 1964).

FOOD HABITS: Eats small mammals and small and medium-sized birds. Forages on ground and in air, involving either a shallow dive from a perch, with rapid pursuit, or a dive from searching flight 50 to 300 ft (15 to 91 m) high.

OTHER:

REFERENCES: Craighead and Craighead 1956, Enderson 1964, Garrett and Mitchell 1973, Smith and Murphy 1973, Snow 1974.



Peregrine Falcon

B041 (*Falco peregrinus*)

STATUS: An Endangered species on both Federal and State lists. Populations declining in recent years because of habitat loss, pesticides, and human disturbance, including nest robbing. Transients in the western Sierra Nevada in spring and fall; not present in winter.

DISTRIBUTION/HABITAT: Found from annual grassland through lodgepole pine, in all successional stages. Nests from digger pine-oak upwards, but prefers low to middle elevations.

SPECIAL HABITAT REQUIREMENTS: Cliffs for nesting and perching; nearby lake or river.

BREEDING: Breeds from early March through late August, with peak from early May to late June. Only one probable breeding site found in the Sierra Nevada, but believed several yet undiscovered (Thelander 1975, 1976). Nests in pothole or ledge on cliff, usually with commanding view. Clutch size in southern California has mean of 3.58, with standard error of 0.72.

TERRITORY/HOME RANGE: In inland habitats in California, breeding sites range from about 3 to 7.5 mi (5 to 12 km) apart (D. Harlow, pers. commun.). In Alaska, breeding territories had minimum radius around nest of about 300 ft (91 m); some birds attacked others up to 1 mi (1.6 km) from the nest (Cade 1960). No nests closer together than 0.25 mi (0.4 km). In Great Britain, home range varied from 17 to 25 mi² (44 to 65 km²) averaging 20.1 mi² (52 km²) (Brown and Amadon 1968). In Utah, species foraged in areas from 0.2 to 18.6 mi (0.32 to 29.8 km) from their nest, with average of 7.6 mi (12.2 km) (n = 19) (Porter and White 1973). In Alaska, breeding male followed by helicopter covered foraging range of 120 mi² (290 km²) (C. White, pers. commun.).

FOOD HABITS: Inland birds in California eat primarily band-tailed pigeons, woodpeckers, and jays, usually taken in air (D. Harlow, pers. commun.). Search from high, exposed perch, with a chase and dive from above.

OTHER:

REFERENCES: Cade 1960; Brown and Amadon 1968; Hickey and Anderson 1969; Snow 1972; Thelander 1975, 1976.



Merlin

B042 (*Falco columbarius*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Rare migrant and winter visitor from late September to May.

DISTRIBUTION/HABITAT: Found in fall, winter, and spring from annual grasslands up to ponderosa pine and black oak woodland zone. Prefers open country, sometimes found in early successional stages. Often nomadic in winter, remaining in areas with abundant prey.

SPECIAL HABITAT REQUIREMENTS:

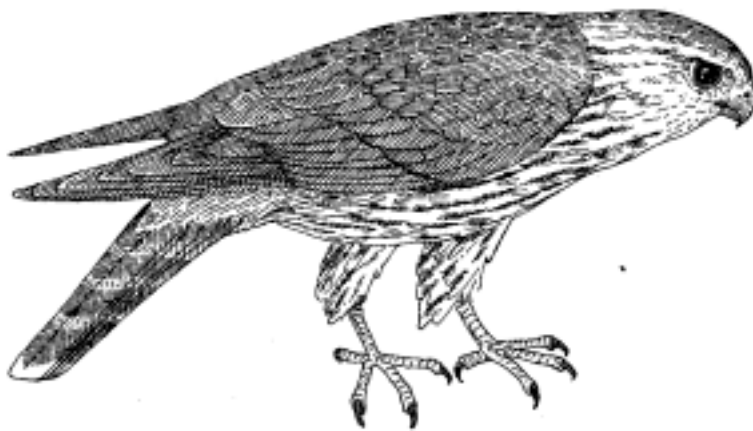
BREEDING: Nonbreeder in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data on home range; nonterritorial in the western Sierra Nevada.

FOOD HABITS: Eats primarily small birds; also eats small mammals and insects. Captures food on ground, also takes some in air. Searches while flying rapidly at low altitude, attacking with short dash or dive from above.

OTHER:

REFERENCES: Craighead and Craighead 1940, Brown and Amadon 1968, Trimble 1975.



American Kestrel

B043 (*Falco sparverius*)

STATUS: No official listed status. Common resident.

DISTRIBUTION/HABITAT: Ranges up to alpine zone, in mountain meadows, and other open areas in late summer and fall, but winters at lower elevations. Prefers large tree stage with 40 to 70 percent crown closure of blue oak savannah and digger pine-oak types for breeding. Pole to medium tree stages of same closure range also attractive, but will use all other successional stages.

SPECIAL HABITAT REQUIREMENTS: Nest cavities in trees or earthen bank; elevated perches; open terrain.

BREEDING: Breeds from early April to early September, with peak between early June and late August. Nests in large woodpecker hole, natural tree cavity, cavity in cliff or earth bank, or magpie nest, from 7 to 81 ft (2.1 to 25 m) above ground. Clutch size from 3 to 7 nationwide, with 4 most common in the Sierra Nevada.

TERRITORY/HOME RANGE: On east slope of the Sierra Nevada, prebreeding home ranges were about double the size of defended breeding territories, which averaged 275 acres (111 ha) for 32 sites (Balgooyen 1976). In southern California, defended only the immediate nest site (Cade 1955). In Ohio, winter territories averaged 375 acres (152 ha), with maximum of 1125 acres (455 ha) (Mills 1975).

FOOD HABITS: Feeds on insects, reptiles, small mammals, and small birds usually on or just aboveground. Dives from a perch; sometimes will hover or hawk insects.

OTHER:

REFERENCES: Grinnell and Miller 1944, Cade 1955, Enderson 1960, Brown and Amadon 1968, Balgooyen 1976.



Blue Grouse

B044 (*Dendragapus obscurus*)

STATUS: No official listed status. Game species. Locally common resident in the Sierra Nevada.

DISTRIBUTION/HABITAT: Ranges from ponderosa pine through lodgepole pine and alpine meadows. Primarily found breeding in open-canopied, large tree and medium tree stages of mixed-conifer through red fir types. Complex habitat requirements. Breeds on open or partly brushy slopes with adjacent stands of dense-foliaged conifers, usually true firs, used for roosting and hooting. After breeding, disperses up- and downslope, foraging in open habitats. Most move to high elevation, dense-foliaged conifers for winter but evidence inconclusive for the Sierra Nevada. A few populations do not move up.

SPECIAL HABITAT REQUIREMENTS: Medium to large forest openings; shrubs/grass-forbs.

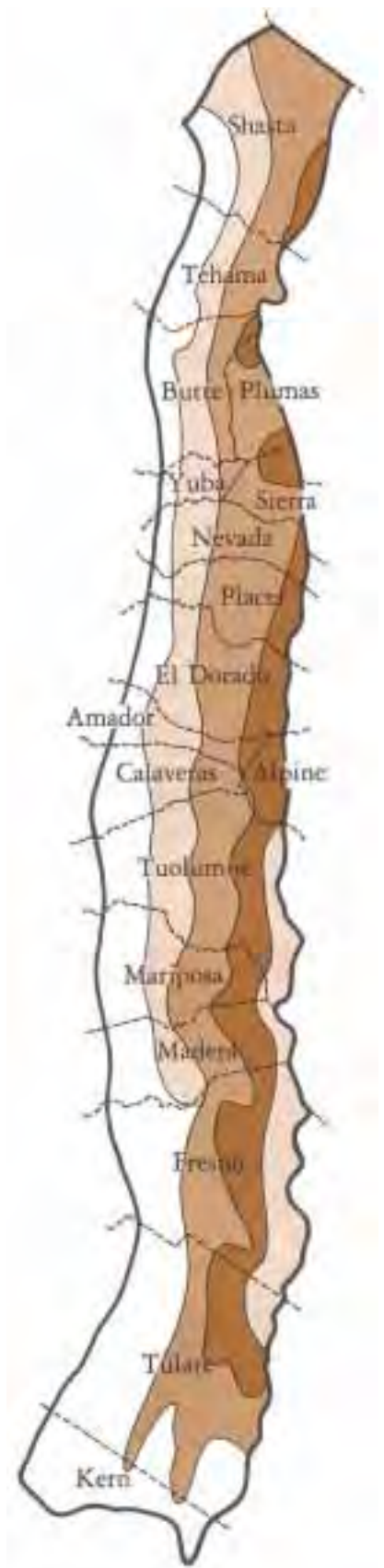
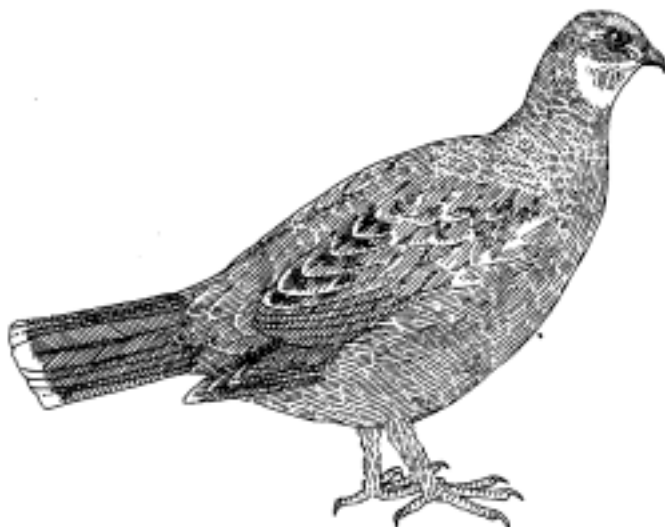
BREEDING: Breeds from early April to September, with peak from mid-May to mid-July. Nests on well-drained ground, often partly concealed by brush, low tree branches, or low cover. Clutch size from 6 to 10, with 7 to 8 most common. Young remain with mother through fall migration; brooding of young rarely continues past mid-July; not known when young gain independence.

TERRITORY/HOME RANGE: In Montana, summer home ranges of broods varied from 1320 to 3960 ft (400 to 1210 m) in diameter (Mussehl 1960). In British Columbia, territory size for a low-density population ranged from 3 to 11 acres (1.2 to 4.5 ha), but varied in a high-density population from 1 to 2 acres (0.4 to 0.8 ha), with a mean of 1.5 acres (0.6 ha) (Bendell and Elliott 1967). In Alberta, mean territory size was 1.5 acres (0.6 ha), with a range from 0.55 to 2.25 acres (0.22 to 0.9 ha) (Boag 1966); breeding season home ranges of 15 marked females averaged 43 acres (17.4 ha).

FOOD HABITS: Feeds mainly on needles, buds, and pollen cones of conifers taken by gleaning, grazing, and browsing on conifers. In winter eats mainly seeds, berries, foliage, and insects.

OTHER:

REFERENCES: Hoffman 1956; Mussehl 1960; Bendell and Elliott 1966, 1967; Johnsgard 1973; Jackman and Scott 1975.



White-tailed Ptarmigan

B045 (*Lagopus leucurus*)

STATUS: No official listed status. Introduced at Mono Pass in 1971-72 by California Department of Fish and Game; apparently breeding successfully and expanding their range.

DISTRIBUTION/HABITAT: Breeds in alpine meadows strewn with rocks and boulders; in winter, some may move downslope into early successional stages of lodgepole pine forest.

SPECIAL HABITAT REQUIREMENTS: Rock outcrops; probably shrubs/grass-forbs.

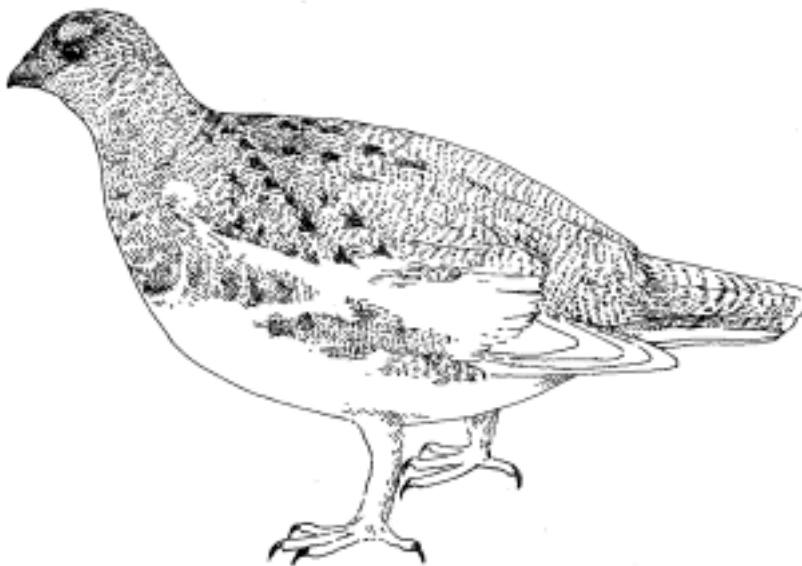
BREEDING: Breeds from late May to September, with peak from early June to late July in parts of range outside of California; no California data available. Nests on the ground in variety of sites; must be near meadows and accessible brooding grounds having short vegetation, and at least 50 percent rock cover. Lays from 3 to 9 eggs per set, usually 5 or 6.

TERRITORY/HOME RANGE: No data on home range. Breeding territories of 16 to 47 acres (6.4 to 18.8 ha), with mean of 36 acres (14.4 ha) reported in the Colorado Rockies (Schmidt 1969).

FOOD HABITS: Feeds on new shoots, leaves, flowers, seeds, and fruits, especially of willows in spring and summer. Eats buds and twigs of willows and some alder catkins in winter. Chicks eat mainly invertebrates. Gleans and grazes food from ground and low plants.

OTHER:

REFERENCES: Choate 1963, Johnsgard 1975a, Gaines 1977.



California Quail

B046 (*Lophortyx californicus*)

STATUS: No official listed status. Game species. Common resident on west slope.

DISTRIBUTION/HABITAT: Primarily found in brush/seedling/sapling stage of blue oak savannah through chaparral. Ranges from annual grasslands through black oak woodlands in open-canopied situations.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs; water in dry season.

BREEDING: Breeds from early April to mid-September, with peak from early June to late July. Nests on ground usually under cover of brush, logs, rocks, or herbaceous vegetation. Clutch size from 12 to 16, with 14 most common. Young remain with parents through winter; not known when young become independent.

TERRITORY/HOME RANGE: Breeding home range varied from 12 to 25 acres (5 to 10 ha), with winter range from 17 to 45 acres (7 to 18 ha) (Emlen 1939). Only territory known used for crowing by unmated males; size not known. Mated males defended area immediately surrounding mate (Sumner 1935, Genelly 1955).

FOOD HABITS: Feeds on green vegetation and seeds, particularly legumes; also on grains, fruits, and insects by foraging on ground or low vegetation. Scratches, grazes, and jumps for blossoms, seeds, and fruits. In Madera County, a detailed study of 260 young of the year, from June through October, 1973 and 1974, showed food by volume to be 93.3 percent seeds (mostly legumes and other forbs), 5.5 percent insect fragments, 0.8 percent leafage, and 0.4 percent plant galls (Newman 1978).

OTHER:

REFERENCES: Sumner 1935, Raitt 1960, Johnsgard 1973, Leopold 1977.



Mountain Quail

B047 (*Oreortyx pictus*)

STATUS: No official listed status. Game species. Common on west slopes of the Sierra Nevada, with conspicuous altitudinal migration.

DISTRIBUTION/HABITAT: Breeds from chaparral zone up to lodgepole pine forests; prefers stands with much shrubbery and low percent canopy cover. Migrates out of high country; found in winter from ponderosa pine and black oak woodland zones down to digger pine-oak type.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs; water in breeding season.

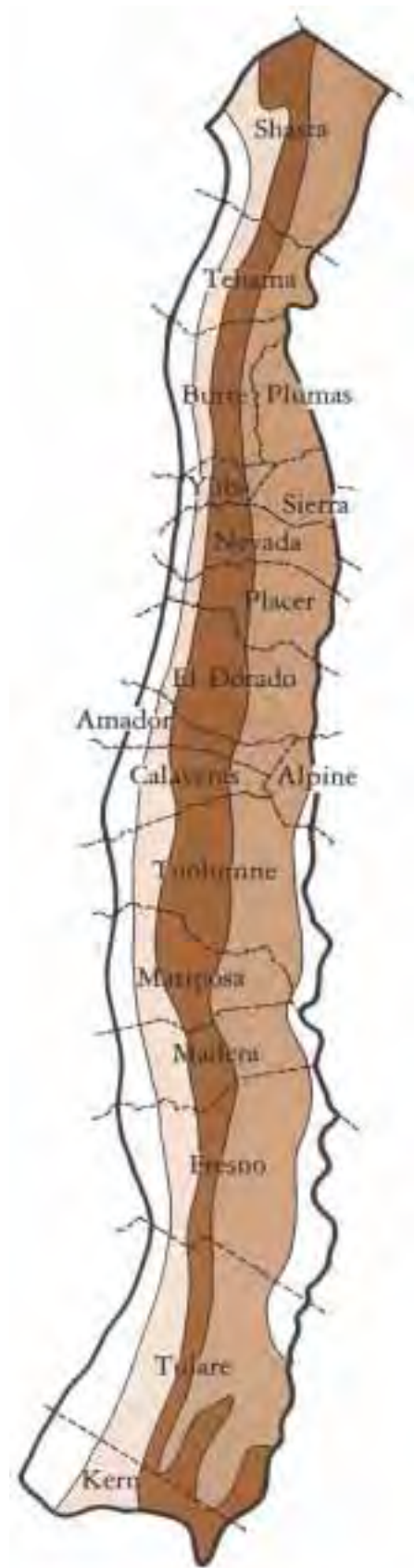
BREEDING: Breeds from mid-April to September, with peak from late June to early August. Nests on ground, under cover of large rock, log, bush, or clump of grass. Clutch size from 6 to 15, with mean of 9. Young usually remain with parents through winter, forming small coveys averaging 7 individuals. Not known when young become independent.

TERRITORY/HOME RANGE: In Idaho, breeding home range size a maximum of 1.0 mi² (2.6 km²) (Ormiston 1966). Breeding territory in same study ranged from 5 to 50 acres (2 to 20 ha).

FOOD HABITS: Eats mainly fruit, acorns, seeds, and green vegetation. Forages on ground and in low shrubs, by scratching, gleaning, grazing, and jumping for leaves and other items.

OTHER:

REFERENCES: Grinnell *et al.* 1918, Ormiston 1966, Johnsgard 1973, Gutierrez 1975.



Chukar

B048 (*Alectoris chukar*)

STATUS: No official listed status. Game species. Uncommon, introduced resident now well established in the southern Sierra Nevada. First released in California in 1932 with several later releases.

DISTRIBUTION/HABITAT: Found in grass/forb stages from annual grasslands through alpine meadows. Prefers open, rocky slopes with 5 to 10 in (6 to 25 cm) of annual precipitation in remote unsettled areas. Moves below level of heavy snows in late fall and winter in coveys of 5 to 40 individuals.

SPECIAL HABITAT REQUIREMENTS: Rock outcrops or talus; water.

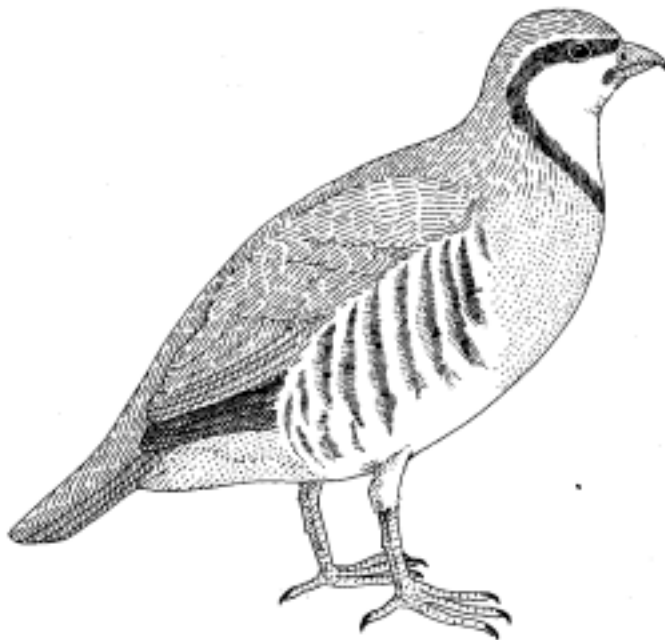
BREEDING: Breeds from early April to early September, with peak from mid-May to early July. Nests in scratched depression in ground, or on rocky slope, usually hidden on three sides by rocks, brush, forbs, or grass, within about 0.5 mi (0.8 km) of water. Clutch size from 10 to 20, with mean of 15. Young likely independent about 3 weeks after leaving nest; leaves nest almost immediately upon hatching.

TERRITORY/HOME RANGE: In Utah, birds cruised daily over an area of about 1 mi² (2.6 km²) (Phelps 1955). May also travel 2 to 3 mi (3.2 to 4.8 km) daily to get water during dry periods (Bump 1951, in Johnsgard 1973). Probably nonterritorial (Johnsgard 1973); may defend area around their mate (Mackie and Buechner 1963).

FOOD HABITS: Feeds on grass, forbs, seeds, and some insects, by grazing and gleaning.

OTHER:

REFERENCES: Harper *et al.* 1958, Christensen 1970, Johnsgard 1973.



Turkey

B049 (*Meleagris gallopavo*)

STATUS: No official listed status. Game species. An introduced species, first released in 1908. By 1969, four populations locally well-established on west slope.

DISTRIBUTION/HABITAT: Ranges from digger pine-oak through lodgepole pine. Primarily found in grass/forb and shrub/seedling/sapling stages of ponderosa pine and black oak woodland types. Found in flocks year-round, wanders widely through many habitats, 3 mi (4.8 km) or more per day. In the Sierra Nevada, prefers wooded areas with scattered grassy openings, usually in rugged, hilly terrain. Moves downslope 25 to 50 mi (40 to 80 km) to winter range, determined by food availability and lack of deep snow. Roosts at night in tree near water.

SPECIAL HABITAT REQUIREMENTS: Water; trees/grass-forbs.

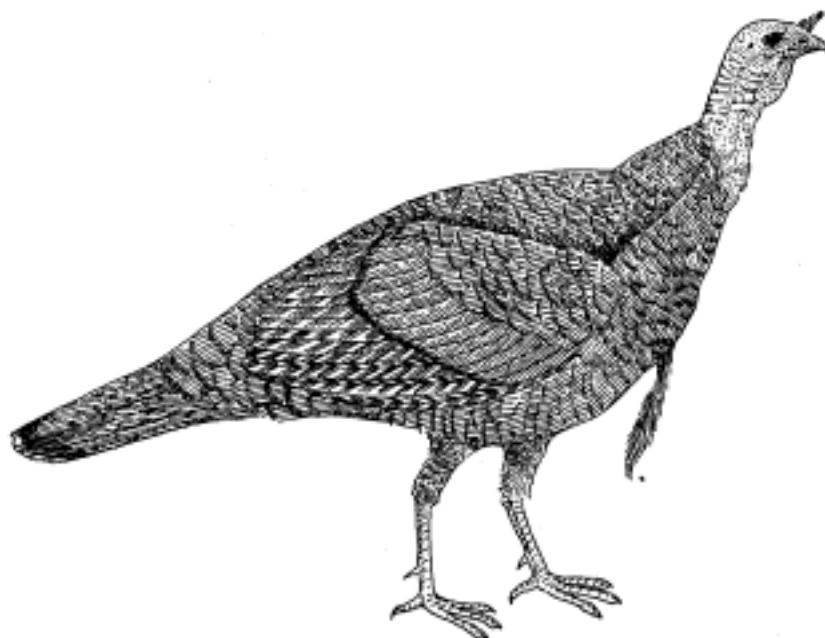
BREEDING: Breeds from late April to mid-August, with peak from early June to late July. Nests in scooped-out depression on dry ground with or without cover and near water. Clutch size from 8 to 15, with 10 most common.

TERRITORY/HOME RANGE: Males apparently defend space on strutting grounds. In Oklahoma, Thomas (1954) reported range from 4 to 8 acres (1.6 to 3.2 ha); in Missouri, Dalke *et al.* (1946) reported range from 100 to 300 acres (40 to 121 ha). Numerous reports of home ranges indicate sizes in winter from about 230 to 1200 acres (93 to 486 ha) and during breeding season from about 160 to 900 acres (65 to 364 ha) (Lewis 1963, Barwick and Speake 1973, and Speake *et al.* 1975).

FOOD HABITS: Eats mainly seeds, acorns, greens, insects, and fruit. Forages on ground, in low vegetation, and sometimes on shrubs and trees by scratching, gleaning or grazing.

OTHER:

REFERENCES: Burger 1954, Schorger 1966, Sanderson and Schultz 1973, Graves 1975, Jackman and Scott 1975 .



Virginia Rail

B050 (*Rallus limicola*)

STATUS: No official listed status. Rare visitor in spring, summer, and fall; winter status uncertain. Status generally uncertain because of species' secretive behavior and no systematic distributional study on west slope. Habitat matrix indicates broadest potential occurrence.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands through Jeffrey pine.

SPECIAL HABITAT REQUIREMENTS: Marshes; open water.

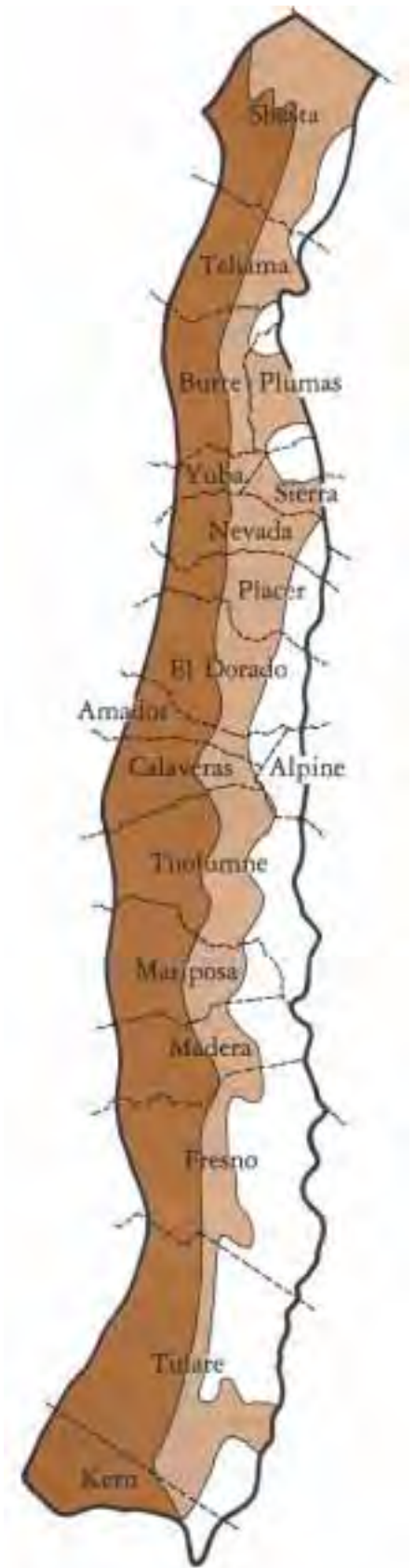
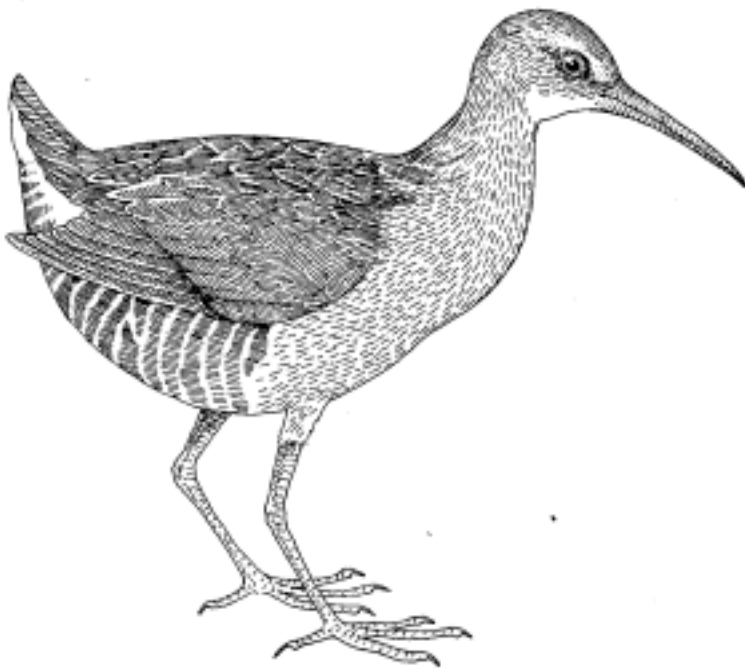
BREEDING: Breeds from early April to early August, with peak from early June to mid-July. Nests built near open water in clumps of dense, emergent vegetation with base of nest touching water. Clutch size from 4 to 13, with 8 or 9 most common. Only two instances of breeding known for west slope.

TERRITORY/HOME RANGE: No data available on size of home range. Territories maintained, no report on sizes (Walkinshaw 1937, Kaufman 1971). Sketch maps in Glahn (1974) suggest territories in Colorado on the order of 5600 to 33,150 ft² (520 to 3080 m²), with mean of about 14,750 ft² (1370 m²) (n = 18).

FOOD HABITS: Eats mainly insects, other invertebrates, seeds, and green vegetation. Forages on ground or floating plant debris amidst dense, emergent vegetation at edge of water, by gleaning.

OTHER:

REFERENCES: Pospichal and Marshall 1954, Horak 1970, Johnsgard 1975a.



American Coot

B051 (*Fulica americana*)

STATUS: No official listed status. Game species. Fairly common spring and fall migrant. Resident breeding species in some localities.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands through Jeffrey pine.

SPECIAL HABITAT REQUIREMENTS: Ponds, lakes, slow-moving streams, or rivers.

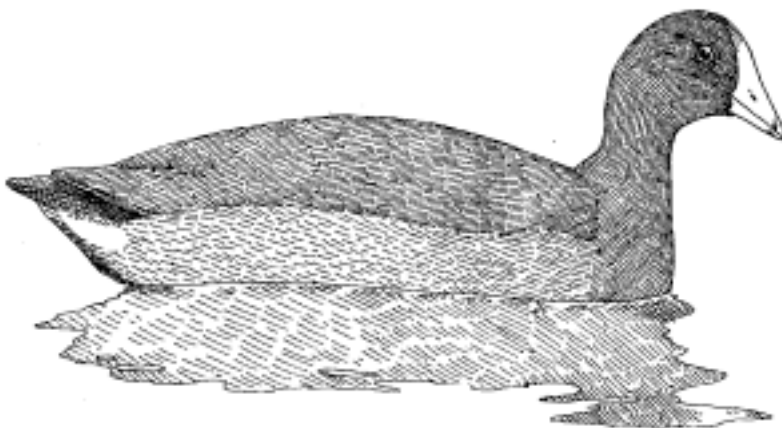
BREEDING: Breeds from early March to late September, with peak from early June to mid-August. Builds several nest-like structures for courtship, display platforms, nests for eggs, and nests for brooding young. Also builds floating nest in emergent vegetation near open water. Clutch size from 4 to 13, with 9 or 10 most common. Few breeding records for west slopes, all from Sequoia-Kings Canyon National Parks.

TERRITORY/HOME RANGE: No data available on home range. In Alameda County, size of nine breeding territories ranged from 0.5 to 1.4 acres (0.2 to 0.6 ha), and averaged 1 acre (0.4 ha) (Gullion 1953). Winter territories, held only by resident individuals, ranged from 0.1 to 0.5 acre (0.04 to 0.2 ha) and averaged 0.3 acre (0.1 ha) (n = 10).

FOOD HABITS: Feeds mainly on submerged vegetation, also shoreline vegetation, insects, and aquatic invertebrates. Forages under water or on shoreline by diving and gleaning.

OTHER:

REFERENCES: Gullion 1954; Frederickson 1970, 1977; Johnsgard 1975a.



Killdeer

B052 (*Charadrius vociferus*)

STATUS: No official listed status. Common resident in foothills; uncommon summer visitor to higher elevations. Most widespread and numerous shorebird in the Sierra Nevada.

DISTRIBUTION/HABITAT: Breeds from annual grasslands up to lodgepole pine zone, in open habitats afforded by grasslands, meadows, or early successional stages. Found year-round as high as ponderosa pine and black oak woodland types.

SPECIAL HABITAT REQUIREMENTS: Open terrain; rarely far from ponds, lakes, streams, or rivers.

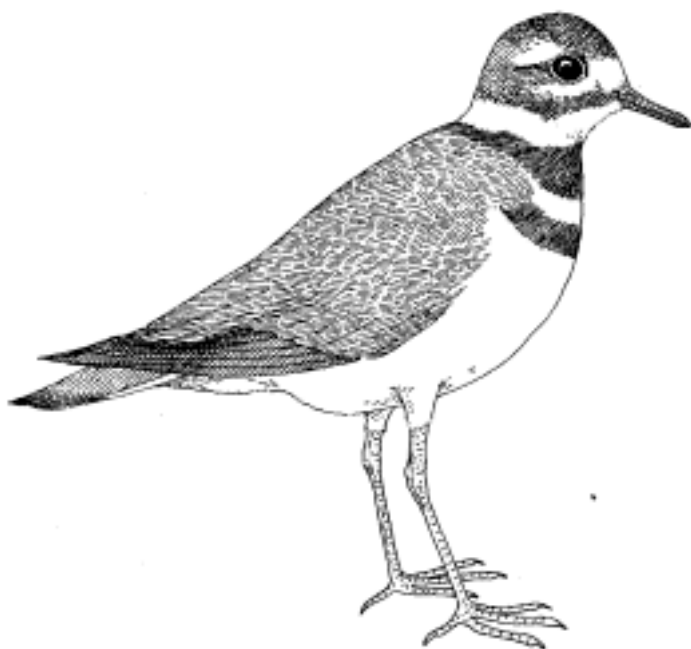
BREEDING: Breeds from early April to early July, with peak from early May to mid-June. Nests on open ground, either gravelly or turfy, near water if possible; found nesting in deserts to alpine meadows. Clutch size from 2 to 4, with 4 most frequent.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Feeds primarily on insects, spiders, snails, earthworms, and vegetable matter on surface of dry or moist ground, or in shallow water.

OTHER:

REFERENCES: Grinnell and Storer 1924, Bent 1929, Stout 1967, Gerstenberg and Jurek 1972, Jurek and Leach 1973.



Common Snipe

B053 (*Capella gallinago*)

STATUS: No official listed status. Game species. Uncommon resident up to 2000 ft (610 m); rare migrant up to 9000 ft (2740 m); rarely nests above 6700 ft (2040 m). Numbers markedly reduced by hunting in early 1900's; some evidence of recovery noted (Grinnell and Miller 1944).

DISTRIBUTION/HABITAT: Breeds from annual grasslands up to mixed-conifer forests; more common at lower elevations. Prefers early seral stages with streams, ponds, seeps, or seeps.

SPECIAL HABITAT REQUIREMENTS: Wet margins of ponds, lakes, streams, rivers, or marshes.

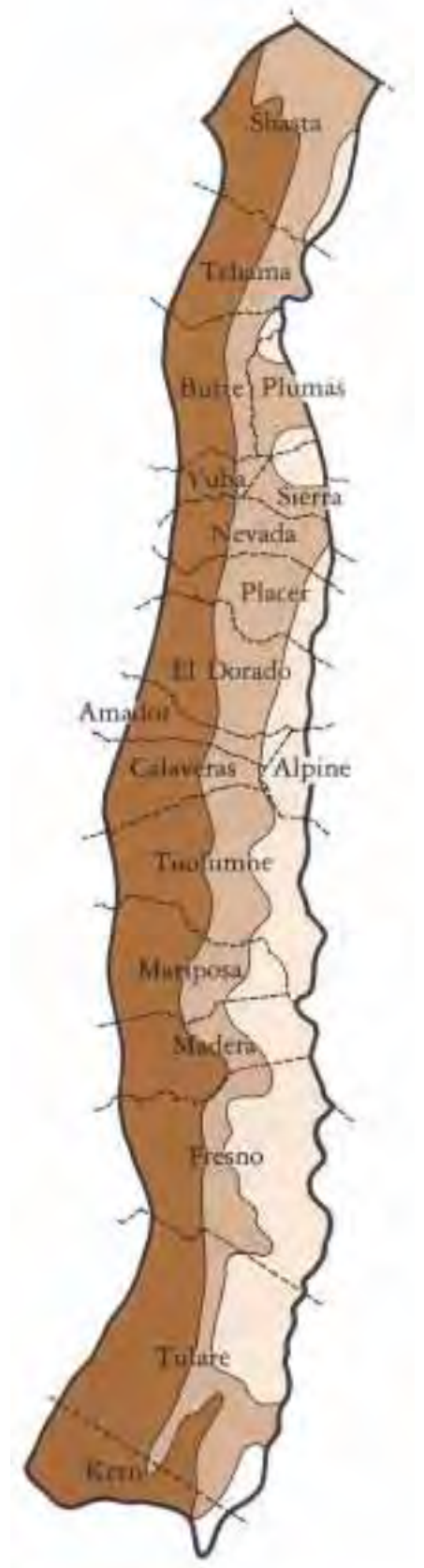
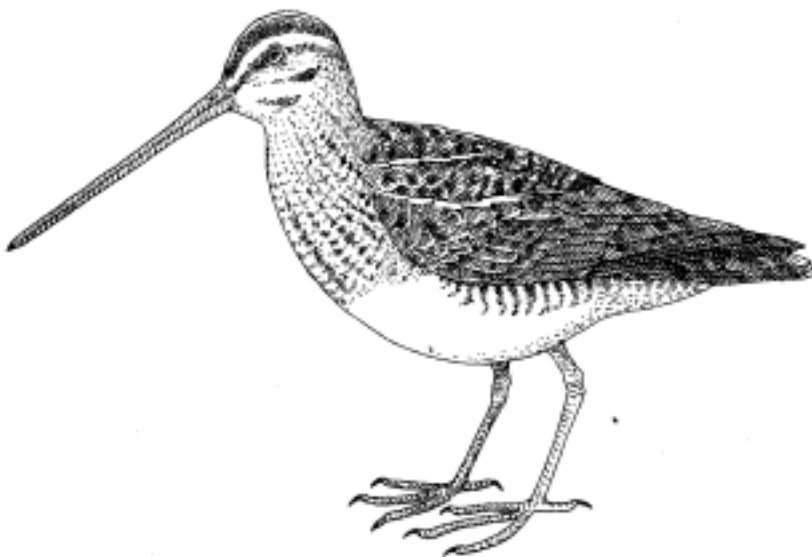
BREEDING: Breeds from late April to early August, with peak from mid-May to late June. Nests on ground in freshwater marshes, grassy borders of slow-moving streams, wet meadows, and farmland. Most clutches contain 4 eggs; some sets of 3 reported.

TERRITORY/HOME RANGE: Nesting density ranged from 1.4 to 7.0 pairs per 100 acres (40 ha) (Tuck 1972), and rough sketch maps by Tuck (1972) suggest territory sizes of 5 to 40 acres (2 to 16 ha) before incubation and 1 to 3 acres (0.4 to 1.2 ha) during incubation.

FOOD HABITS: Feeds mostly on insects, earthworms, and crustaceans; also on vegetation. Forages along streamsides and ponds, on shores and in shallows by surface feeding, as well as probing and pecking.

OTHER: Solitary or in pairs during most of year, but in winter somewhat social. Fogarty and Arnold (1977) present management recommendations.

REFERENCES: Bent 1927, Stout 1967, Tuck 1972, Gerstenberg and Jurek 1972, Jurek and Leach 1973.



Spotted Sandpiper

B054 (*Actitis macularia*)

STATUS: No official listed status. Uncommon nesting species from base of mountains to treeline; scarce fall and winter resident at low elevations. More common in northern two-thirds of region and at elevations below 6000 ft (1830 m).

DISTRIBUTION/HABITAT: Primarily found in grass/forb and shrub/seedling/sapling stages from annual grasslands through ponderosa pine and mountain meadows.

SPECIAL HABITAT REQUIREMENTS: Gravelly or sandy margins of ponds, lakes, streams, or rivers.

BREEDING: Breeds from early May to early July, with peak from mid-May to late June. Nests usually under thick, low ground cover near water and a display area. Clutch size averages 4.

TERRITORY/HOME RANGE: No data on territory size. Defends breeding territories (Oring and Knudson 1972) and winter territories (Palmer in Stout 1967). In Wyoming, Kuenzel and Weigert (1973) noted species remained in area of about 3 acres (1.2 ha) when food abundant. In Michigan, Nelson (1930) reported broods stayed within about 0.25 mi (0.4 km) of lake shoreline.

FOOD HABITS: Mainly feeds on insects and other invertebrates; also some fish fry. Feeds on margins of sandy, gravelly ponds and streams, meadows, or irrigated fields by snapping at insects, surface feeding.

OTHER:

REFERENCES: Bent 1929, Nelson 1930, Grinnell and Miller 1944, Miller and Miller 1948, Stout 1967, Gerstenberg and Jurek 1972, Jurek and Leach 1973.



American Avocet

B055 (*Recurvirostra americana*)

STATUS: No official listed status. Extremely rare spring and summer visitor to low elevations on west slope; abundant nesting species east of the Sierra Nevada crest (Gaines 1977). Only scattered records exist for west slope above 1000 ft (305 m). Historically more common, but reduction of freshwater marshland by drainage resulted in retraction of breeding range (Grinnell and Miller 1944).

DISTRIBUTION/HABITAT: Found primarily in grass/forb stage of annual grassland through chaparral types, arid in mountain meadows.

SPECIAL HABITAT REQUIREMENTS: Open terrain; pond or lake margins.

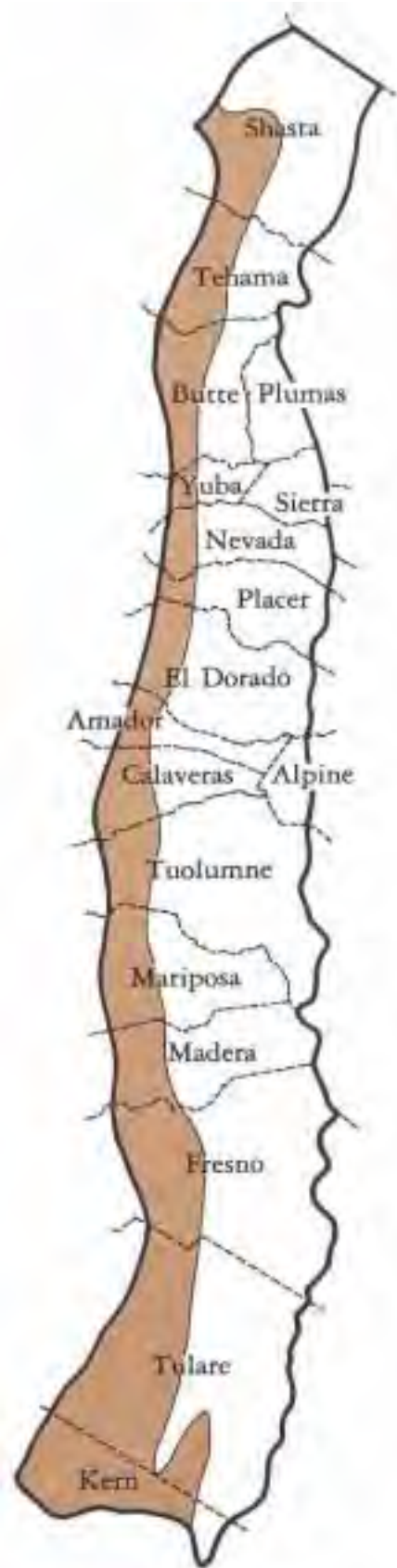
BREEDING: Breeds from mid-April to late June, with peak from early to late May. Nests on dry, sun-baked mudflats or gravelly, sandy islands with scanty vegetation. Clutch size from 3 to 8, with 4 most common.

TERRITORY/HOME RANGE: In Oregon, defended separate territories around nest and feeding areas during breeding season; after young left nest, adults defended area of 65 to 330 ft (20 to 100 m) in diameter around moving brood of chicks (Gibson 1971). In California, defended foraging areas of about 2.5 to 4.9 acres (1 to 2 ha), while nests placed from 6.6 to 138 ft (2 to 42 m) apart along dike; mean separation 72 ft (22 m) (Hamilton 1975).

FOOD HABITS: Eats primarily insects, crustaceans, and rarely small fish; also some seeds. Forages in shallow water over muddy bottom and along pond edges by side-to-side sweeping of bill in shallow water; also by probing and tip-up.

OTHER:

REFERENCES: Bent 1927, Grinnell and Miller 1944, Stout 1967, Gibson 1971, Gerstenberg and Jurek 1972, Jurek and Leach 1973, Hamilton 1975, Gaines 1977.



Wilson's Phalarope

B056 (*Steganopus tricolor*)

STATUS: No official listed status. Extremely rare summer visitor to lakes at all elevations west of the Sierra Nevada crest. Arrives in California by early May, departs for the south by middle of September (Bent 1927).

DISTRIBUTION/HABITAT: Found in grass/forb, shrub/seedling/sapling, and open-canopied pole, medium, and large tree stages from annual grasslands through alpine meadows.

SPECIAL HABITAT REQUIREMENTS: Open terrain; pond, lake, or marsh edges.

BREEDING: Not known to breed on west slope.

TERRITORY/HOME RANGE: No data available on home range. Not known to be territorial in Alberta (Höhn 1967).

FOOD HABITS: Feeds on insects (adults and larvae), crustaceans, and some marsh plants. Forages on mud flats, dry shore, and open water (shallow or deep) by side-sweeping bill in shallow water, whirling in deep water, gleaning surfaces, and probing in mud.

OTHER:

REFERENCES: Bent 1927, Höhn 1967, Stout 1967, Gerstenberg and Jurek 1972, Jurek and Leach 1973, Gaines 1977.



California Gull

B057 (*Larus californicus*)

STATUS: No official listed status. Uncommon spring and fall migrant and summer visitor.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands through alpine meadows. Most common at higher elevations. Only one winter record on west slope.

SPECIAL HABITAT REQUIREMENTS: Lakes, rivers.

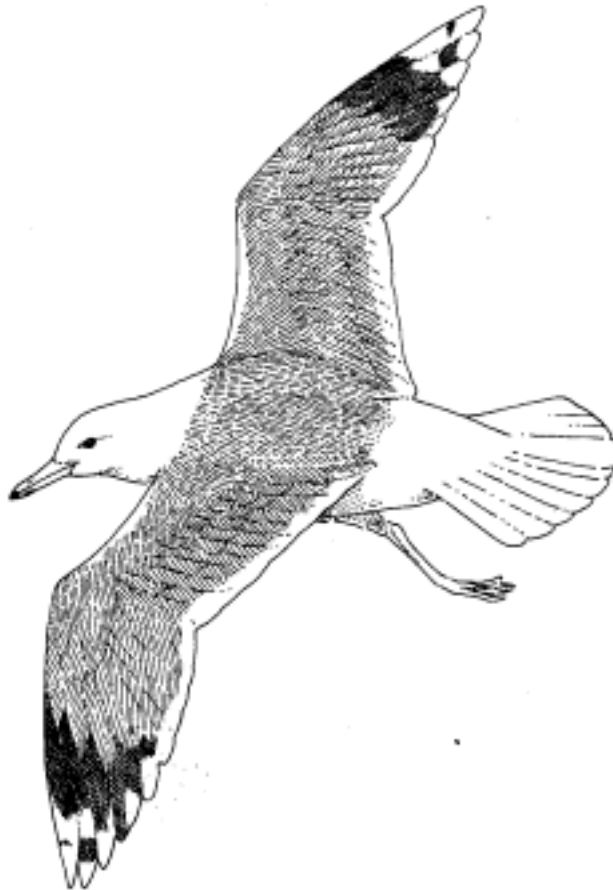
BREEDING: Nonbreeder on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: Not known to be territorial during nonbreeding period. No data available on home range of nonbreeding birds.

FOOD HABITS: Feeds on garbage, insects, rodents, carrion, plant material, and fish; flies over large area to search ground and water surface; dives for fish.

OTHER:

REFERENCES: Greenhalgh 1952, Behle 1958, Vermeer 1970.



Ring-billed Gull

B058 (*Larus delawarensis*)

STATUS: No official listed status. Rare spring and fall migrant and summer visitor. Status uncertain because easily confused with more common California gull.

DISTRIBUTION/HABITAT: Found in all successional stages from annual grasslands to alpine meadows.

SPECIAL HABITAT REQUIREMENTS: Lakes, rivers.

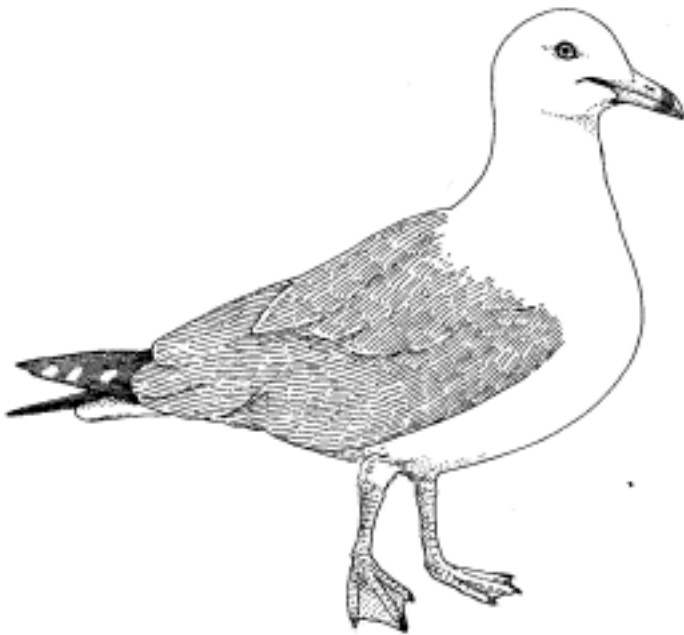
BREEDING: Nonbreeder on west slope of the Sierra Nevada.

TERRITORY/HOME RANGE: Not known to be territorial during nonbreeding period. No data on home range of nonbreeding birds.

FOOD HABITS: Feeds on garbage, plants, insects, rodents, fish, and invertebrates. Forages on ground or near surface of water. Has flight search over large areas and dives for fish.

OTHER:

REFERENCES: Johnston and Forster 1954, Vermeer 1970.



Band-tailed Pigeon

B059 (*Columba fasciata*)

STATUS: No official listed status. Game species. Fairly common resident in oak and conifer belts; also common visitor to higher elevations in the Sierra Nevada. Numbers erratic in winter, depending on food supply.

DISTRIBUTION/HABITAT: Found from blue oak savannah to lodgepole pine types. Found mainly in open-canopied, large tree stages of blue oak savannah, digger pine-oak, ponderosa pine, black oak, mixed-conifer, and deciduous riparian types. Extremely gregarious, even when nesting. After nesting, flocks nomadically search for food. Have traditional mineral springs, roosting areas, and watering spots (Glover 1953b).

SPECIAL HABITAT REQUIREMENTS: Large trees; nearby water.

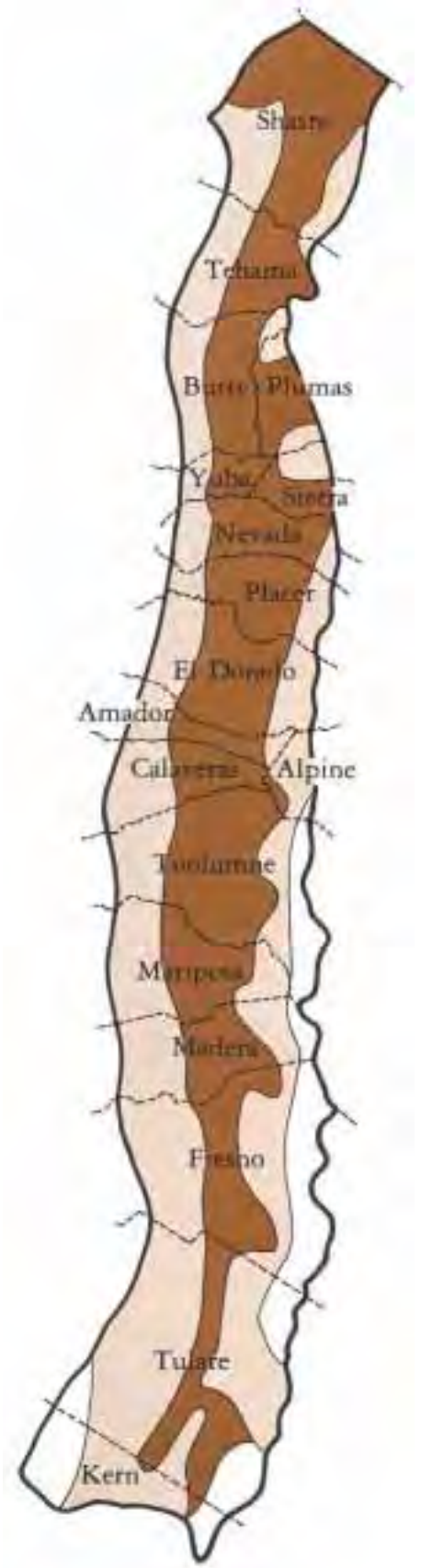
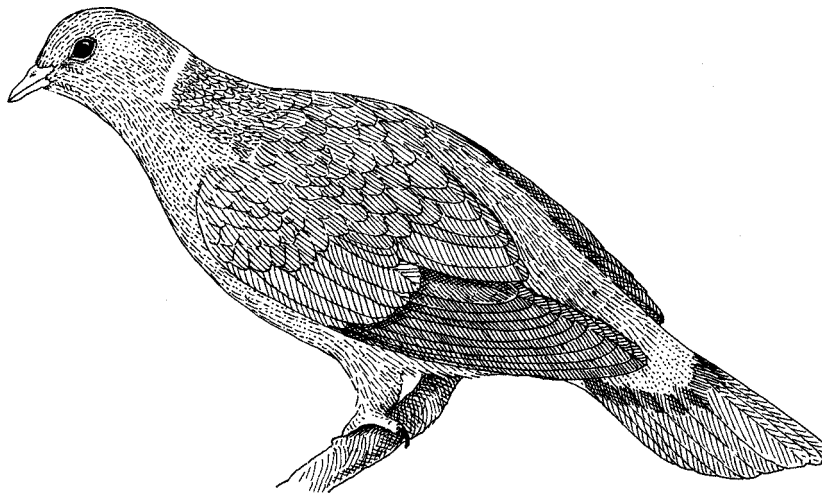
BREEDING: Breeds from early February to mid-October, with peak from early May to mid-July. Will double-brood. Usually nests in areas with dense cover, such as alder thickets or groves of conifers or oaks. Needs sturdy limbs for nest placement and roosting. Proximity to water required. Nest height from 8 to 80 ft (2.4 to 24m), average 20 ft (6.1 m). Clutch size 1 or 2, with 1 most common.

TERRITORY/HOME RANGE: No available data on home range. In Humboldt County, breeding territory roughly estimated to have radius around nest ranging from 0.1 to 0.5 mi (0.2 to 0.8 km), and averaging 0.25 mi (0.4 km) (Glover 1953b). In Contra Costa County, Peeters (1962) estimated that nesting territories ranged from about 2 to 4 acres (0.8 to 1.6 ha). In New Mexico, evidence of colonial nesting reported (Neff 1947).

FOOD HABITS: Main food in winter and spring is mast; berries and grains dominate in summer. Forages in trees and on ground, often in flocks.

OTHER:

REFERENCES: Glover 1953b, Gutierrez *et al.* 1975, Jackman and Scott 1975, Blackman 1976.



Mourning Dove

B060 (*Zenaida macroura*)

STATUS: No official listed status. Game species. Abundant resident in lowlands; extremely rare fall migrant to high elevations.

DISTRIBUTION/HABITAT: Breeds from blue oak savannahs up to Jeffrey pine forests, though breeding above 3000 ft (915 m) rare. Exhibits strong preference for stands with low percent canopy cover.

SPECIAL HABITAT REQUIREMENTS: Trees for nesting; nearby water.

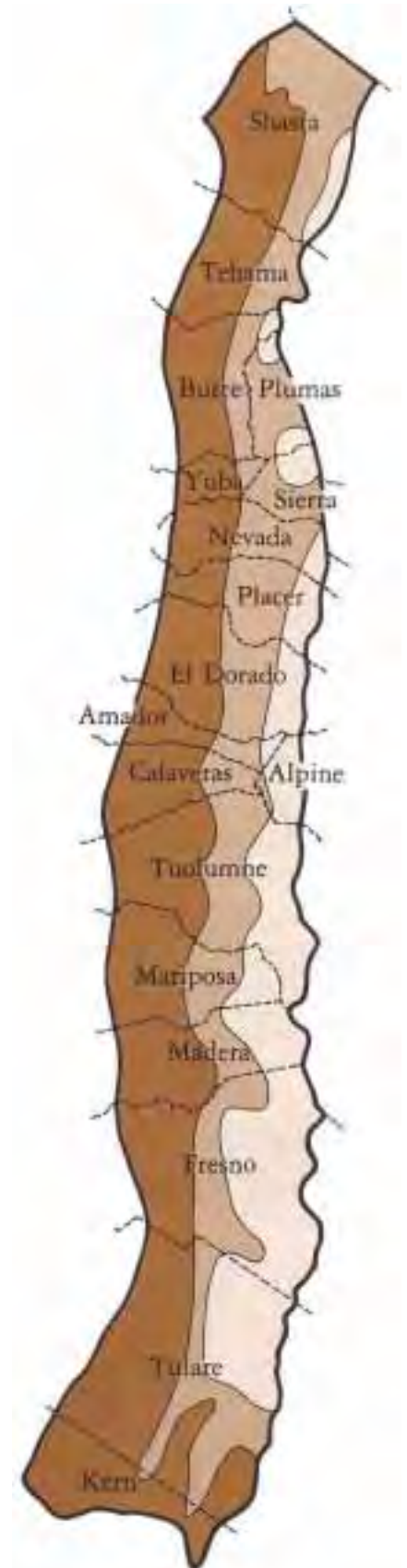
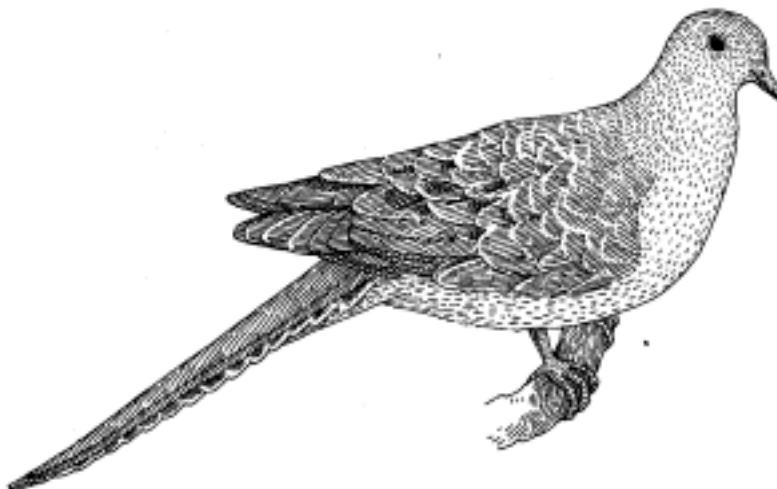
BREEDING: Breeds from mid-March to mid-September, with peak from early May to mid-June. In California, reported nesting almost all year, depending on weather conditions (Nice 1923). Nests in oaks or conifers usually, but also in willows, cottonwoods, and elms. Nest height averages 11 ft (3.4 m). Clutch size almost invariably 2, though clutches of 1 and 3 reported. Multiple brooded (Cowan 1952).

TERRITORY/HOME RANGE: Literature unclear on these aspects of dove biology. Whether or not unmated males defend territories unconfirmed. Mated males defend areas around nest; some observers believe territories decrease in size as nesting season progresses (Lund 1952, Edminster 1954), sometimes to only a few square feet immediately around nest. Records exist of as many as three active nests in same tree (Swank 1955). Others did not observe any marked reduction in territory size (Jackson and Baskett 1964). In Ohio, Mackey (1954) reported an average diameter of nesting territories of 100 ft (30 m). In an urban environment in Missouri, Jackson and Baskett (1964) found a range in size, from 210 to 300 ft (64 to 91 m) in diameter. Doves regularly feed away from their territory. Home range data meagre; Tomlinson *et al.* (1960) reported local summer movements of banded birds in Missouri regularly up to 1 mi (1.6 km) from banding site and as far as 3.25 mi (5.2 km) for one male.

FOOD HABITS: Feeds almost entirely on seeds of grasses, hemp, and cultivated grains, consuming almost no animal matter most of year, although snails important in spring before and during egg laying (S. Harris, pers. commun.). Obtains food from ground by pecking.

OTHER:

REFERENCES: Nice 1922, 1923; Bent 1932; Cowan 1952; Hanson and Kossack 1963.



Roadrunner

B061 (*Geococcyx californianus*)

STATUS: No official listed status. Rare resident in foothills; apparently more common in the past (Sumner and Dixon 1953).

DISTRIBUTION/HABITAT: Confined to chaparral and grass/forb and shrub stages of blue oak and digger pine-oak types, where found year-round.

SPECIAL HABITAT REQUIREMENTS: Nearby water.

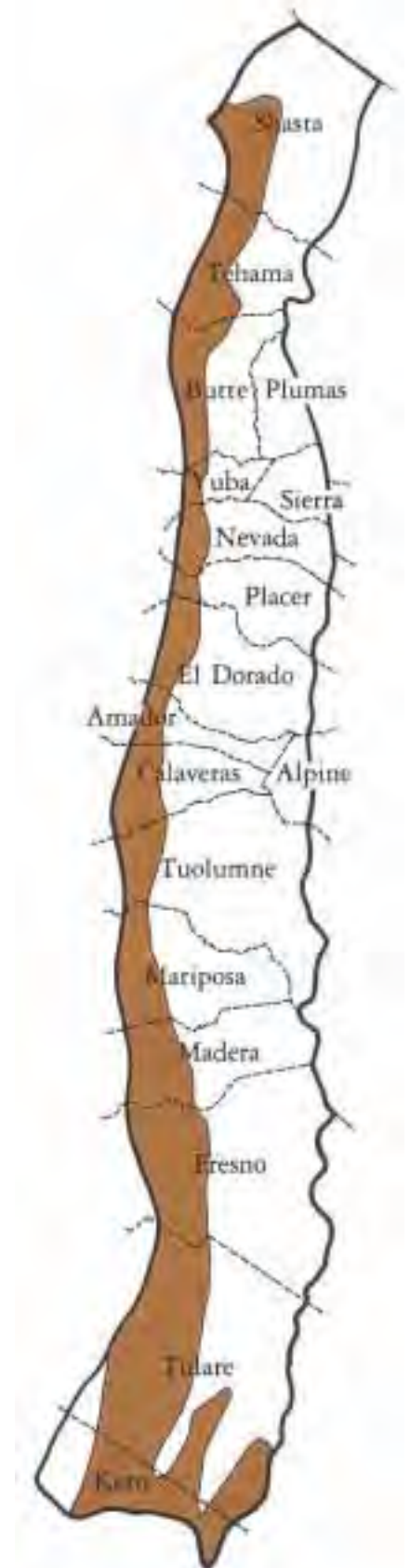
BREEDING: Breeds from late February to late July, with peak from mid-March to early May. Usually nests off ground in trees or shrubs, rarely on ground. Nest height from 0 to 15 ft (0 to 4.6 m) up. Clutch size from 2 to 9, with mean of 5.

TERRITORY/HOME RANGE: Mean home range size of several square miles in California (Bryant 1916), otherwise no data on size of home range or territory.

FOOD HABITS: Eats mainly lizards, insects, spiders, rats, snakes, wild fruit, and seeds. Feeds on ground and in air. Actively pursues prey on ground; sometimes leaps into air to capture food.

OTHER: Reasons for decline in numbers in the western Sierra Nevada unknown; might speculate that recent fire control efforts eliminated much of open habitat that birds require in chaparral or chaparral-like stands of shrubs.

REFERENCES: Bryant 1916, Bent 1940, Ohmart 1973.



Barn Owl

B062 (*Tyto alba*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978. Declining status in many sections of the country not apparent in the western Sierra Nevada. Common resident in appropriate habitat.

DISTRIBUTION/HABITAT: Breeds from annual grasslands upslope into chaparral zone; prefers areas with low percent canopy coverage. Also breeds in mountain meadow areas, generally below 4000 ft (1220 m). In Tulare County, altitudinal vagrants recorded to about 5500 ft (1680 m).

SPECIAL HABITAT REQUIREMENTS: Cliffs, crevices, or old buildings for nesting.

BREEDING: Breeds from late January to early June, with peak in early May; a second breeding period from early June to mid-November peaks in early October. Nests usually on ledges and crannies of old buildings or in crevices in cliffs; rarely uses cavities in oak trees; very rarely digs tunnels in a streambank. Nest height from 20 to 145 ft (6.1 to 44 m), with average of 70 ft (21 m). Clutch size from 3 to 7, with mean of 4.2.

TERRITORY/HOME RANGE: No information on home range. A Utah study indicated area within 15 to 30 ft (4.6 to 9.1 m) of the nest defended (Smith *et al.* 1974).

FOOD HABITS: Eats primarily rodents; insects, reptiles, amphibians, and birds also eaten. Captures prey on ground and in air. A nocturnal hunter; searches and pounces on prey in open areas and occasionally hovers.

OTHER: Increased in range and abundance in California in recent years because of increase in suitable nest sites. Thought to be more common because of reduction in numbers of its predators, such as prairie falcons (Grinnell and Miller 1944).

REFERENCES: Karalus and Eckert 1974, Marti 1974, Smith *et al.* 1974.



Screech Owl

B063 (*Otus asio*)

STATUS: No official listed status. Fairly common resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds from blue oak savannah up to ponderosa pine and black oak types, as well as in riparian deciduous and lower elevation forest meadows, below 4800 ft (1460 m).

SPECIAL HABITAT REQUIREMENTS: Oaks; nest cavities.

BREEDING: Breeds from early February to early June, with peak from late April to mid-May. Nests in abandoned woodpecker holes or natural cavities in coniferous and deciduous trees. Nest cavities range from 20 to 60 ft (6.1 to 18 m) in height. Clutch size from 2 to 6, with mean of 4.4.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: In the western Sierra Nevada, eats primarily insects; though rodents, amphibians, reptiles, and small birds also eaten. Captures food on ground, in air, and occasionally from foliage. Searches and pounces on prey during evening and night hours.

OTHER:

REFERENCES: Earhart and Johnson 1970, Karalus and Eckert 1974, Van Camp and Henry 1975.



Flammulated Owl

B064 (*Otus flammeolus*)

STATUS: No official listed status. Common summer resident in suitable habitat; among most migratory of all owls, with most migration thought to be nocturnal.

DISTRIBUTION/HABITAT: Breeds in conifer habitats from ponderosa pine type up to red fir forests. Prefers low to intermediate canopy coverage; particularly common in suitable ponderosa pine forests.

SPECIAL HABITAT REQUIREMENTS: Yellow pines or black oaks (Marcot, pers. commun.) in nesting habitat; nest cavities.

BREEDING: Breeds from late April to early October, with peak from mid-June to mid-July. Nests almost always in flicker nest cavity in aspen, oak, or pine. Nest sites range in height from 7 to 25 ft (2.1 to 7.6 m). Clutch size 2 to 5, with mean of 3.5.

TERRITORY/HOME RANGE: A crude map in a study of territories in Sierra Nevada ponderosa pine forests suggests territories ranging in size from about 7.4 to 15 acres (3 to 6 ha) (Marshall 1939). Data on home range lacking, though Winter (1974) found a density of 2.1 males per 100 acres (40 ha) in the Sierra Nevada.

FOOD HABITS: Feeds primarily on insects, but also some spiders. Takes prey from the air, foliage, or ground. Sometimes searches for and pounces on food; more often hawks for insects from a perch.

OTHER:

REFERENCES: Marshall 1939, Karalus and Eckert 1974, Winter 1974.



Great Horned Owl

B065 (*Bubo virginianus*)

STATUS: No official listed status. Common permanent resident at lower elevations, with some elevational movements seasonally.

DISTRIBUTION/HABITAT: Breeds in all types from blue oak savannah up to mixed conifer; prefers lower elevation sites with low to intermediate canopy coverage. Exhibits considerable upslope movement in summer months for feeding.

SPECIAL HABITAT REQUIREMENTS: Large openings for foraging.

BREEDING: Breeds from mid-January to mid-June, with peak from mid-April to early May. Nests almost always on abandoned nests of red-tailed hawks in tall conifers, hollow logs, cliffs, and other sites. Height of nest ranges from 40 to 70 ft (12 to 21 m). Clutch size from 1 to 5, with mean of 2.

TERRITORY/HOME RANGE: In a Kansas oak woodland, average territory size was 160 acres (65 ha) (Fitch 1958). In heterogeneous habitat at Moose, Wyoming, home range varied from 0.45 to 1.1 mi² (1.2 to 2.8 km²), with mean of 525 acres (212 ha) (Craighead and Craighead 1956).

FOOD HABITS: Small- to medium-sized mammals comprise 90 percent of diet, small birds 5 percent, and insects, amphibians, and reptiles 5 percent. Food captured on the ground, during evening and nighttime hours, by low, rapid flight from perch to ground.

OTHER:

REFERENCES: Craighead and Craighead 1956, Karalus and Eckert 1974, Marti 1974.



Pygmy Owl

B066 (*Glaucidium gnoma*)

STATUS: No official listed status. Fairly common resident; some movement in fall in response to adverse weather.

DISTRIBUTION/HABITAT: Breeds in all timbered types from blue oak savannah up to mixed-conifer forests; prefers sites with low to intermediate canopy coverage. Scarce above 6000 ft (1800 m). Most common near edges of meadows, lakeshores, and other clearings.

SPECIAL HABITAT REQUIREMENTS: Nest cavities.

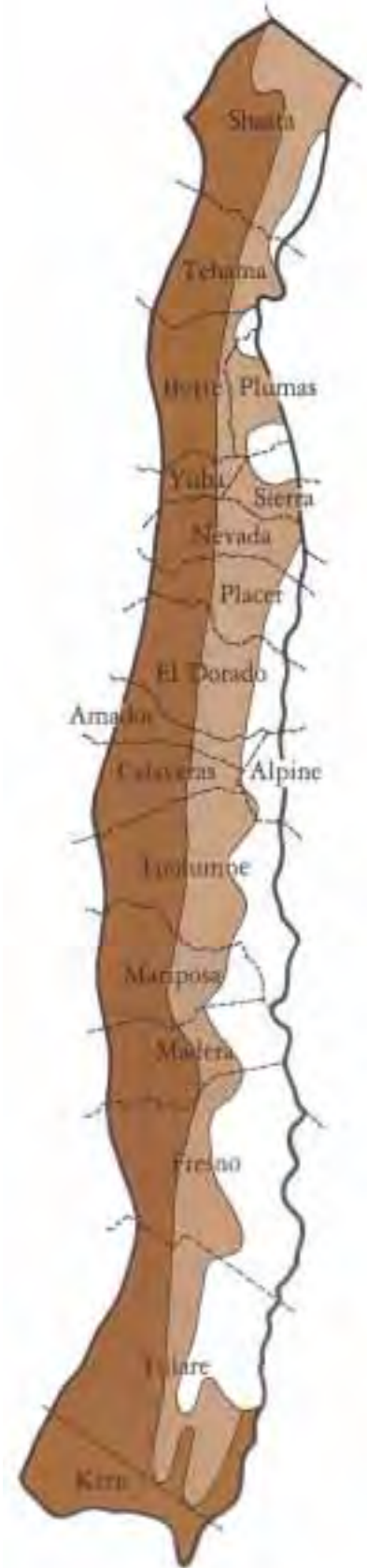
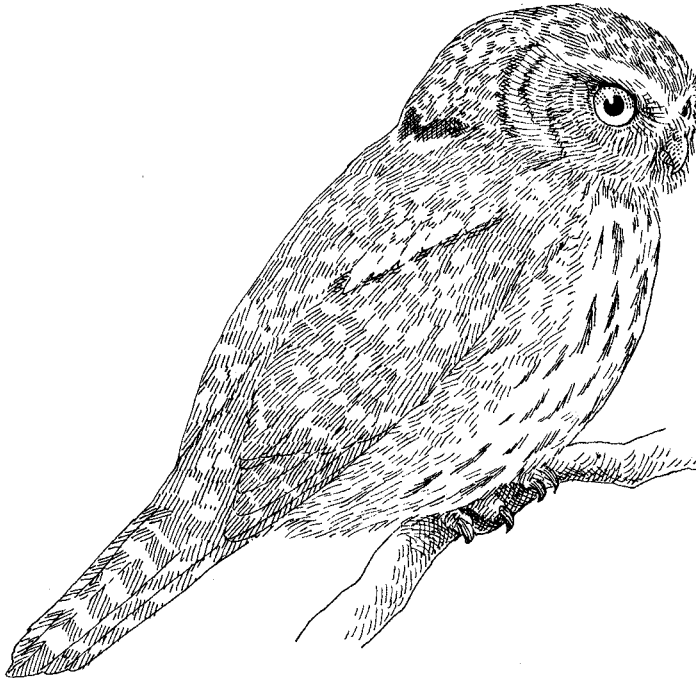
BREEDING: Breeds from early May to late August, with peak from mid-June to mid-July. Almost always nests in abandoned woodpecker hole, from 6 to 75 ft (1.8 to 23 m) up, with average nest height of 40 ft (12 m). Clutch size from 2 to 7 , most sets 3 or 4.

TERRITORY/HOME RANGE: No information, though Marshall (1957) refers to "immense territories" and reports following one bird in the same direction for 0.75 mi (1.2 km).

FOOD HABITS: Eats mainly small mammals, small birds, lizards, and insects. Captures prey on ground by search and pounce methods, though some aerial hawking of insects also occurs.

OTHER:

REFERENCES: Earhart and Johnson 1970, Karalus and Eckert 1974.



Burrowing Owl

B067 (*Athene cunicularia*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978. Fairly common resident, considered somewhat reduced in numbers recently because of destruction of ground squirrel colonies.

DISTRIBUTION/HABITAT: Restricted to areas of grasses, forbs, and early shrub stages from annual grasslands up to ponderosa pine type. Breeds in all habitats but prefers lower elevation types. Found as high as 5300 ft (1610 m) in Lassen County.

SPECIAL HABITAT REQUIREMENTS: Ground burrows.

BREEDING: Breeds from early March to late August, with peak from mid-April to mid-May. Nests generally located in bare, level ground in abandoned rodent burrows. Collins and Landry (1977) described a successful method of constructing artificial nesting burrows. Also digs own burrows if necessary. Clutch size from 6 to 11, with mean of 8.

TERRITORY/HOME RANGE: No information on territories, but home ranges at the Oakland Municipal Airport ranged from 0.1 to 4 acres (0.04 to 1.6 ha), averaging 2 acres (0.8 ha) (Thomsen 1971).

FOOD HABITS: Eats mostly insects, but small birds and mammals also eaten. Captures prey in air and on ground. Hunts in the evening and night. Searches and pounces, hover-dives, and also pursues prey on ground by hopping.

OTHER: Probably the most gregarious owl in North America.

REFERENCES: Coulombe 1971, Karalus and Eckert 1974, Zarn 1974.



B068 (*Strix occidentalis*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitat, with some seasonal movement downslope and upslope.

DISTRIBUTION/HABITAT: Breeds from ponderosa pine type upslope to lower elevation red fir forests (not above 7600 ft [2300 m]). Mixed conifer the optimum forest type on west slopes of the Sierra Nevada. Black oak in forest canopy enhances habitat suitability (G. Gould, pers. commun.). Stands of large trees, typically with some understory trees combining to give much shade, considered important in breeding sites. Most or all records in pole to medium-sized trees are of young or other nonbreeding birds (N. Johnson, pers. commun.). In Oregon, Forsman *et al.* (1977) reported density about 12 times greater in old-growth forests than in second-growth forests.

SPECIAL HABITAT REQUIREMENTS: Water probably needed; large trees.

BREEDING: Breeds from early March to late June, with peak from mid-April to mid-June. Nests in tree hollows or occasionally on cliffs and abandoned raptor nests. Nests range in height from 30 to 50 ft (9.1 to 15 m). Clutch size from 1 to 4, with mean of 2.

TERRITORY/HOME RANGE: According to Gould (1974), territory size in conifer forests in the Sierra Nevada ranges from 100 to 340 acres (40 to 138 ha), with mean of 230 acres (93 ha), and home range size varies from 300 to 600 acres (121 to 242 ha), with mean of 450 acres (182 ha). In Oregon, Forsman (pers. commun.) found home ranges from 2270 to 3400 acres (920 to 1375 ha), with mean of 2910 acres (1177 ha), on the basis of 8 birds with radio transmitters. Adjacent birds overlapped 3 to 25 percent (mean 12 percent) in home ranges; members of pairs overlapped about 66 percent.

FOOD HABITS: Eats primarily small mammals, large insects, and small birds. Captures most of prey by search and pounce methods in forest canopy. Fully nocturnal.

OTHER: Until recently, considered rare throughout range. A study by Gould (1974), however, revealed fairly common in dense, coniferous forests at mid-elevations. Because of their solitary, nocturnal habits, rarely seen.

REFERENCES: Marshall 1942, Gould 1974, Jackman and Scott 1975, Forsman *et al.* 1977.



Great Gray Owl

B069 (*Strix nebulosa*)

STATUS: No official listed status, though probably rarest of all owls in the western Sierra Nevada. A rare and localized resident; exhibits some upslope movement in late summer and fall.

DISTRIBUTION/HABITAT: Breeds in mixed-conifer and red fir forests; prefers dense stands bordering meadows. Found in lodgepole pine forests in late summer and fall and in ponderosa pine forests in fall and winter.

Note: Range map shows breeding and nonbreeding distributions over considerable extent of the western Sierra Nevada, although no confirmed record of breeding outside Yosemite National Park. Ranges given based on occurrence of suitable habitat, where presence seems likely.

SPECIAL HABITAT REQUIREMENTS: Trees/grass-forbs.

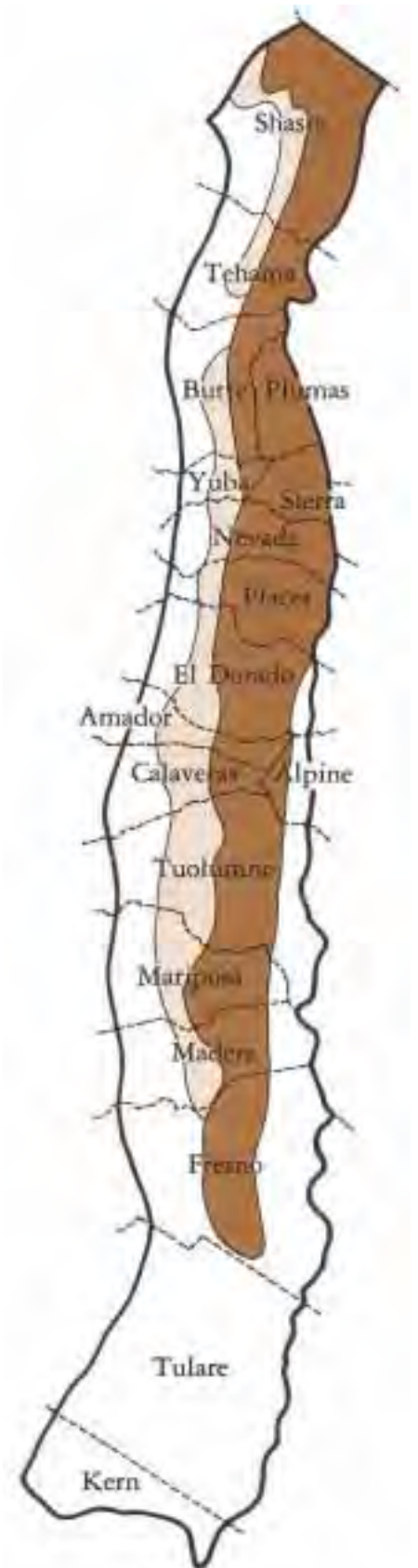
BREEDING: Breeds from late February to mid-June, with peak from mid-April to late May. Nests in abandoned goshawk or red-tailed hawk nest in dense conifer or deciduous tree, or on top of large broken snag, from 50 to 100 ft (15 to 30 m) above ground. Clutch size 1 to 5, with mean of 3.

TERRITORY/HOME RANGE: In Quebec, Brenton and Pittaway (1971) reported mean territory size of 112 acres (45 ha) in coniferous forest. In Wyoming, Craighead and Craighead (1956) reported variation in home range size from 640 to 1000 acres (259 to 405 ha) in coniferous forests.

FOOD HABITS: Eats primarily medium-sized mammals and some birds (to grouse size). Captures prey most often in meadows, on the ground, but occasionally in shrubs. Searches and pounces, and sometimes hovers, in capturing prey.

OTHER: May be more common than number of records indicate. Should be sought in the central and northern Sierra Nevada in suitable habitat.

REFERENCES: Brenton and Pittaway 1971, Karalus and Eckert 1974, Jackman and Scott 1975.



Long-eared Owl

B070 (*Asio otus*)

STATUS: No official listed status. Fairly common resident in riparian habitats; some westward movement in fall.

DISTRIBUTION/HABITAT: Breeds in lower elevation habitats from blue oak savannah up to ponderosa pine and black oak types. Occurrence in these types depends on presence of nearby riparian habitat.

SPECIAL HABITAT REQUIREMENTS: Trees/grass-forbs; riparian habitat nearby.

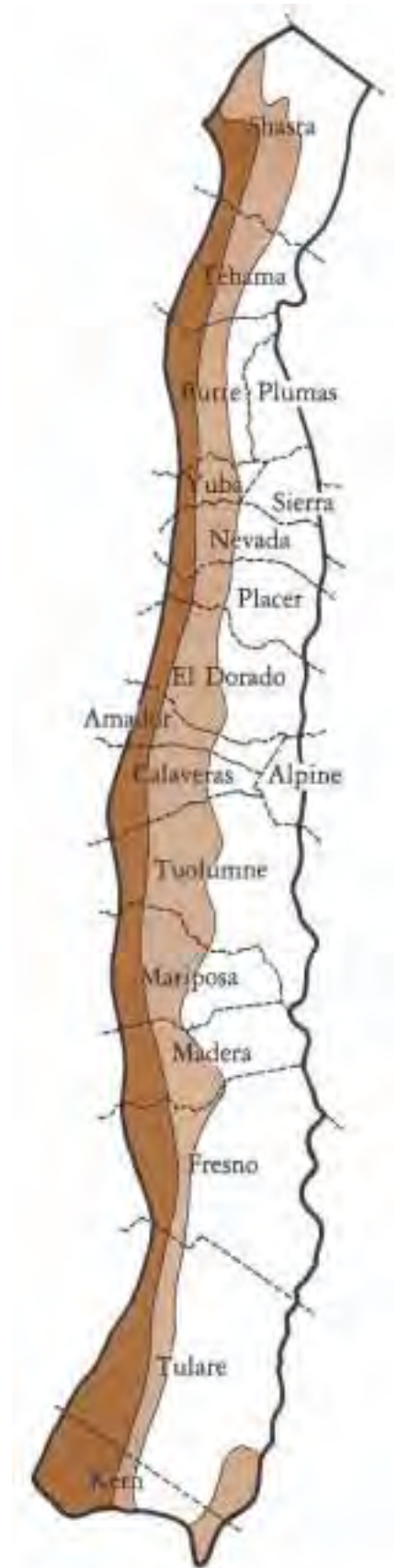
BREEDING: Breeds from early March to late June, with peak from early April to late May. Nests in dense foliage, almost invariably in abandoned nest of magpie, crow, hawk, or heron. Nests from 15 to 50 ft (4.6 to 15 m) above ground, usually between 20 to 30 ft (6.1 to 9.1 m) up. Three to 9 eggs per clutch, with mean of 5.

TERRITORY/HOME RANGE: No information available on territory. Near Moose, Wyoming, Craighead and Craighead (1956) reported home ranges from 0.13 to 0.41 m² (0.34 to 1.06 km²), with average of 136 acres (55 ha), in riparian habitat.

FOOD HABITS: Eats mainly rodents but also preys on birds, including screech owls. Captures food on ground and occasionally in thickets and shrubs in riparian woodland. Searches for and pounces on prey, forages in evening and nighttime hours.

OTHER: Recent decline in numbers because of extensive destruction of riparian habitat and groves of live oaks. Has become highly localized in the Sierra Nevada.

REFERENCES: Randal and Austing 1952, Karalus and Eckert 1974, Marti 1974.



Short-eared Owl

B071 (*Asio flammeus*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978. Small resident population in the western Sierra Nevada; in winter, a large migrant population moves into low elevation grasslands.

DISTRIBUTION/HABITAT: Nests in annual grasslands below about 2000 ft (610 m). During nonbreeding period, may be found in blue oak savannah, digger pine/oak woodlands, and early seral stages of chaparral. Prefers sites with few or no trees.

SPECIAL HABITAT REQUIREMENTS: Annual grassland or marsh.

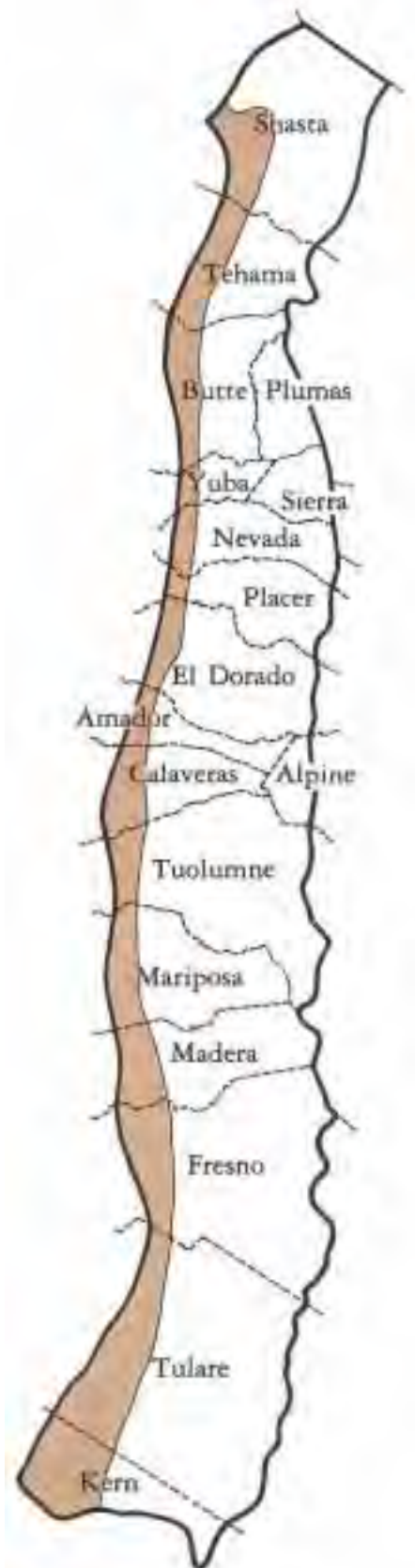
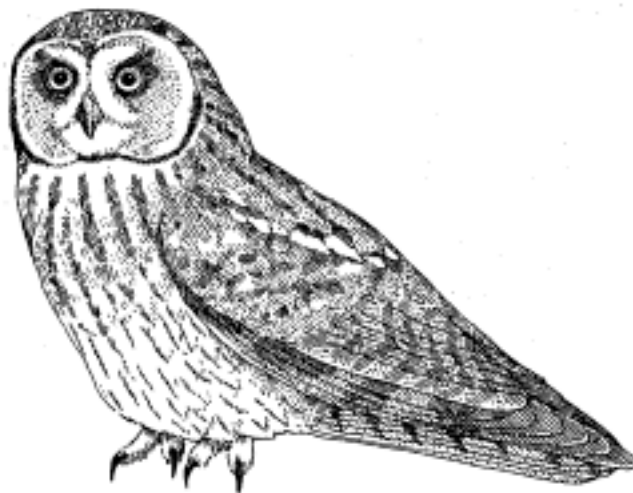
BREEDING: Breeds from late March to early July, with peak from late April to late May. Nests on ground, in a slight depression, or rarely in underground burrows. Clutch size 4 to 14, with 5 to 7 most frequent.

TERRITORY/HOME RANGE: In Manitoba's marsh-prairie, breeding territories in 1969 averaged 183 acres (74 ha), with range from 57 to 242 acres (23 to 98 ha) (n=5); a single territory in 1968 occupied 300 acres (121 ha) (Clark 1975). In Alaska, Pitelka et al. (1955) reported breeding territories of "about 50 acres" (20 ha). In European populations, reports of annual variations in mean territory size range from 44 to 339 acres (18 to 137 ha) (Lockie 1955). Extreme differences in mean territory size related to prey density: denser prey apparently attracted more owls, so territories decreased in size. No data available on home range.

FOOD HABITS: Eats voles, reptiles, and (rarely) amphibians; takes song-birds during nesting season. Captures prey on ground. Searches and pounces over meadows and marshes during daylight and evening hours.

OTHER: Most suitable habitat in the Sierra Nevada destroyed by grazing by sheep, water diversion, and recreational development. Habitat in Central Valley reduced significantly by cultivation and marsh drainage. Although largely restricted to low elevations, altitudinal vagrants seen up to 11,000 ft (3350 m) in Yosemite National Park.

REFERENCES: Karalus and Eckert 1974, Clark 1975, Murray 1976.



Saw-whet Owl

B072 (*Aegolius acadicus*)

STATUS: No official listed status. Poorly known species; considered resident in suitable habitat; possibly some altitudinal movement in response to adverse weather conditions.

DISTRIBUTION/HABITAT: Breeds in mid-elevation habitats from digger pine-oak type up to the red fir zone. Prefers stands of intermediate canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Trees/grass-forbs; nest cavities.

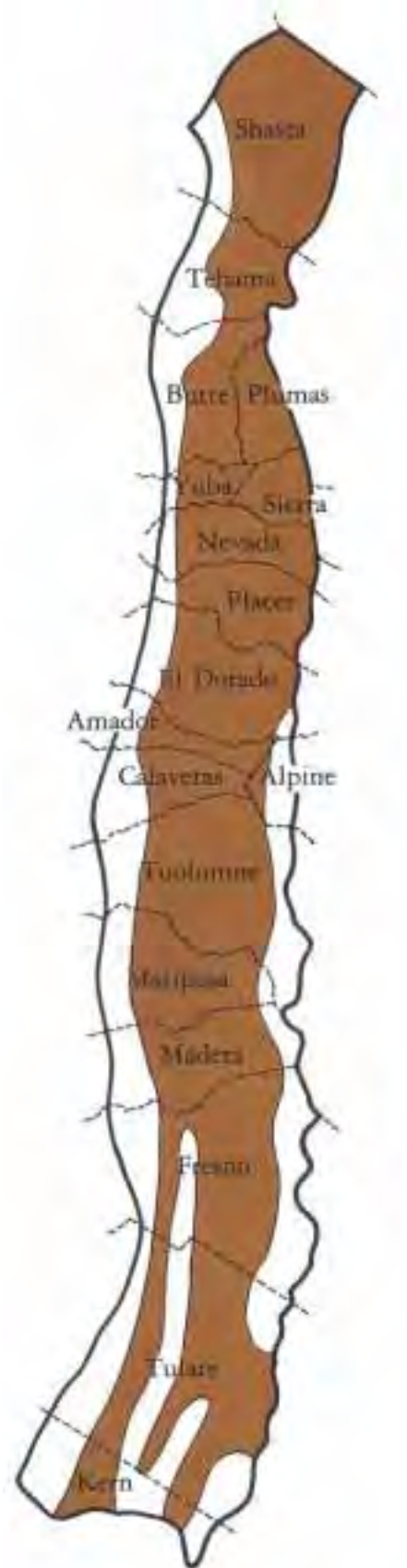
BREEDING: Breeds from early March to late August, with peak from mid-May to mid-June. Nests usually in abandoned flicker nest cavity, from 5 to 25 ft (1.5 to 7.6 m) up. Clutch size from 3 to 7, with mean of 5.

TERRITORY/HOME RANGE: In a cedar swamp in Minnesota, Forbes and Warner (1947) found home range size of a single, radio-tagged bird in winter was 281 acres (114 ha); 76 acres (31 ha) of that seldom used. Bird's movements tracked for 20-day period.

FOOD HABITS: Eats small mammals and birds, reptiles, amphibians, and large insects. Captures prey usually on ground, rarely in air. Searches and pounces, typically at night, but sometimes in evening. Also does some aerial flycatching.

OTHER: Records geographically and chronologically scattered; therefore, difficult to generalize about distribution and abundance. A tame owl, allowing close approach, rarely flushed by observer, and usually overlooked.

REFERENCES: Mumford and Zusi 1958, Forbes and Warner 1974, Karalus and Eckert 1974.



Poor-will

B073 (*Phalaenoptilus nuttallii*)

STATUS: No official listed status. Fairly common summer visitor to low and middle elevations; rare at higher elevations in late summer and early fall.

DISTRIBUTION/HABITAT: Breeds from digger pine-oak woodlands up to Jeffrey pine forests, especially in open habitats as represented by early seral stages.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs; rock outcrops or logs for nesting cover.

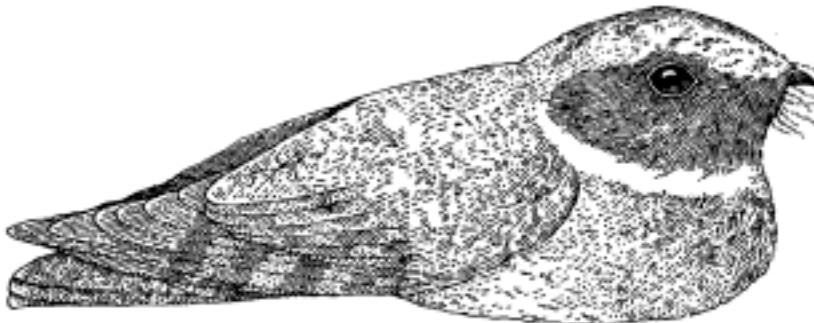
BREEDING: Breeds from mid-March to early August, with peak from early May to late June. Nests on ground, usually in scrape matted with pine needles, typically next to a log and concealed by shrubs or rock outcropping. Requires clear, wide-angle view from nest. Typically, 2 eggs per clutch.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Insects make up entire diet; captures mostly in air by making short, vertical, hawking flights from ground. Captures some insects on ground.

OTHER: Nocturnal; sometimes enters state of torpor.

REFERENCES: Aldrich 1935, Bent 1940, Grinnell and Miller 1944.



Common Nighthawk

B074 (*Chordeiles minor*)

STATUS: No official listed status. Uncommon spring migrant and summer visitor to middle and high elevations.

DISTRIBUTION/HABITAT: Breeds from chaparral zone up to lodgepole pine forests; prefers open sites, as in early seral stages. Rare nesting records to as high as 11,000 ft (3350 m).

SPECIAL HABITAT REQUIREMENTS: Open terrain for feeding.

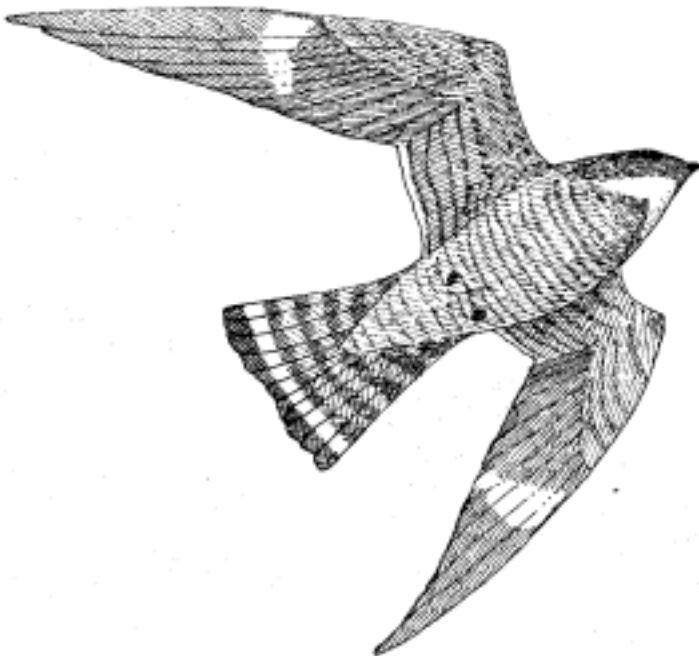
BREEDING: Breeds from mid-March to late July, with peak from mid-June to late July. Nests on ground in open, gravelly or sandy areas unobstructed by tall shrubs or trees, as in forest burns, agricultural fields, creekbeds, or gravelled rooftops. Clutch typically contains 2 eggs.

TERRITORY/HOME RANGE: In Kansas, Fitch (1958) reported a home range at least 0.5 mi (0.8 km) in diameter. In Michigan, mean territory size reported by Armstrong (1965) as 26 acres (10.5 ha), with range from 10.3 to 57 acres (4.2 to 23.1 ha).

FOOD HABITS: Feeds primarily on flying insects captured by swooping through swarms of insects with mouth open wide. Some vegetable matter eaten. Forages low over ground, generally beginning at dusk and continuing into dark. Most foraging done over the territory.

OTHER:

REFERENCES: Grinnell and Miller 1944, Selander 1954, Caccamise 1974.



Black Swift

B075 (*Cypseloides niger*)

STATUS: No official listed status. Uncommon summer resident and spring migrant.

DISTRIBUTION/HABITAT: Breeds from ponderosa pine and black oak woodland types up to Jeffrey pine forest. Successional stage unimportant, providing moist cliff faces available. In spring and summer, forages over lowlands at least as far downslope as blue oak savannahs.

SPECIAL HABITAT REQUIREMENTS: Cliffs for nesting.

BREEDING: Breeds from early June to late August, with peak from late June to early August. Nests in crevice on sheer, high, moist cliff, often behind waterfall, or hit by spray. Clutch always contains only 1 egg. Nests in small, widely scattered colonies of about 5 to 15 pairs.

TERRITORY/HOME RANGE: Home range large (Grinnell and Miller 1944), though precise data on size lacking. No data on territory size; territory confined to area immediately surrounding nest site.

FOOD HABITS: Feeds exclusively on flying insects captured usually high in air during sustained, long-distance foraging flights over all types of terrain.

OTHER:

REFERENCES: Bent 1940, Knorr 1961, Hunter and Baldwin 1962.



Vaux's Swift

B076 (*Chaetura vauxi*)

STATUS: No official listed status. Uncommon migrant and summer resident; only one confirmed breeding record for the Sierra Nevada, but probably breeds regularly in small numbers.

DISTRIBUTION/HABITAT: Breeds in areas with large trees in ponderosa pine, mixed-conifer, and Jeffrey pine forests, and possibly in black oak woodlands. Forages regularly downslope to digger pine-oak woodlands.

SPECIAL HABITAT REQUIREMENTS: Hollow stubs or snags for nesting.

BREEDING: Breeds from early May to early August, with peak from mid-June to late July. Nests usually in tall, hollow, dead stub, frequently one burned out. Nests usually within 1.6 ft (0.5 m) of bottom of cavity and attached to vertical surface. Nest height ranges from below ground level to at least 40 ft (12 m). Clutch size from 3 to 7, with mean of about 5.

TERRITORY/HOME RANGE: No data on either, though likely the only defended area would be immediate vicinity of nest.

FOOD HABITS: Feeds exclusively on flying insects captured in mid-air in forest openings, especially over lakeshores and streams. Forages in extended, continuous flights, cruising back and forth through swarms of insects.

OTHER: Forest fires may be crucial source of suitable nest sites.

REFERENCES: Bent 1940, Baldwin and Hunter 1963, Baldwin and Zaczkowski 1963.



White-throated Swift

B077 (*Aeronautes saxatalis*)

STATUS: No official listed status. Abundant spring migrant and summer resident, especially from Yosemite National Park southward.

DISTRIBUTION/HABITAT: Breeds from annual grasslands on up through all habitat types to as high as Jeffrey pine zone, and regularly forages up to lodgepole pine forests.

SPECIAL HABITAT REQUIREMENTS: Cliffs for nesting.

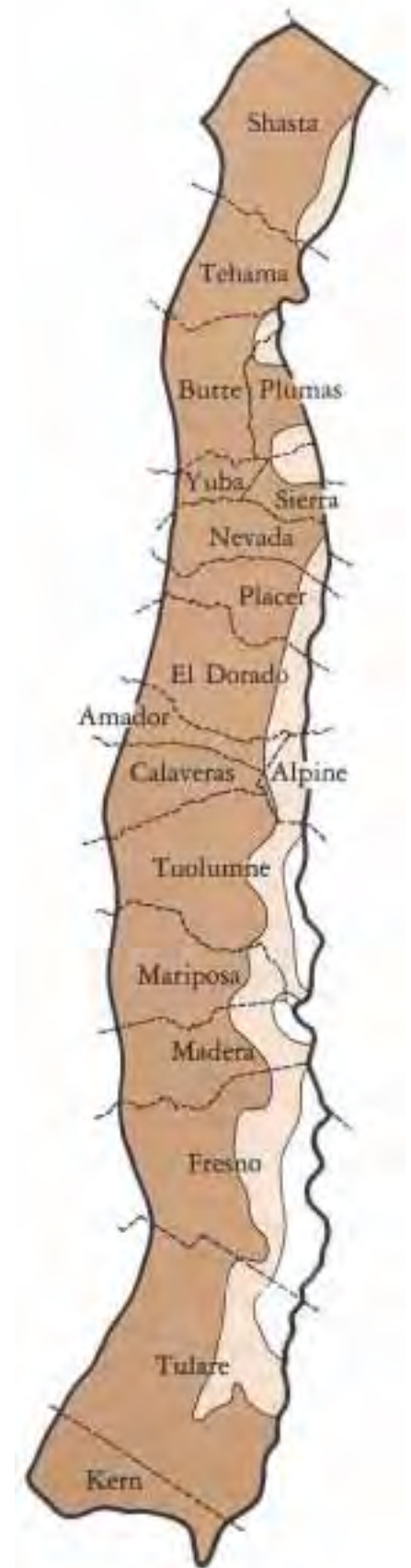
BREEDING: Breeds from early May to mid-August, with peak from late May to late July. Nests in deep crevice in steep, rocky cliff face, from 10 to 200 ft (3.1 to 61 m) or more above base of cliff. Clutch contains from 3 to 6 eggs, with mode of 4.

TERRITORY/HOME RANGE: No data on territory. Home range extremely large (Grinnell and Miller 1944).

FOOD HABITS: Eats flying insects captured over any terrain by flying swiftly back and forth through swarms of insects, usually high above ground.

OTHER:

REFERENCES: Bent 1940, Grinnell and Miller 1944, Bartholomew *et al.* 1957.



Black-chinned Hummingbird

B078 (*Archilochus alexandri*)

STATUS: No official listed status. Fairly common spring and summer visitor to low and middle elevations; rare at high elevations after breeding season (T. Manolis, pers. commun.).

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, and low elevation riparian deciduous habitats; prefers sites with low percentage canopy coverage. Some upslope movement in late summer to as high as the red fir zone.

SPECIAL HABITAT REQUIREMENTS: Nectar source; water.

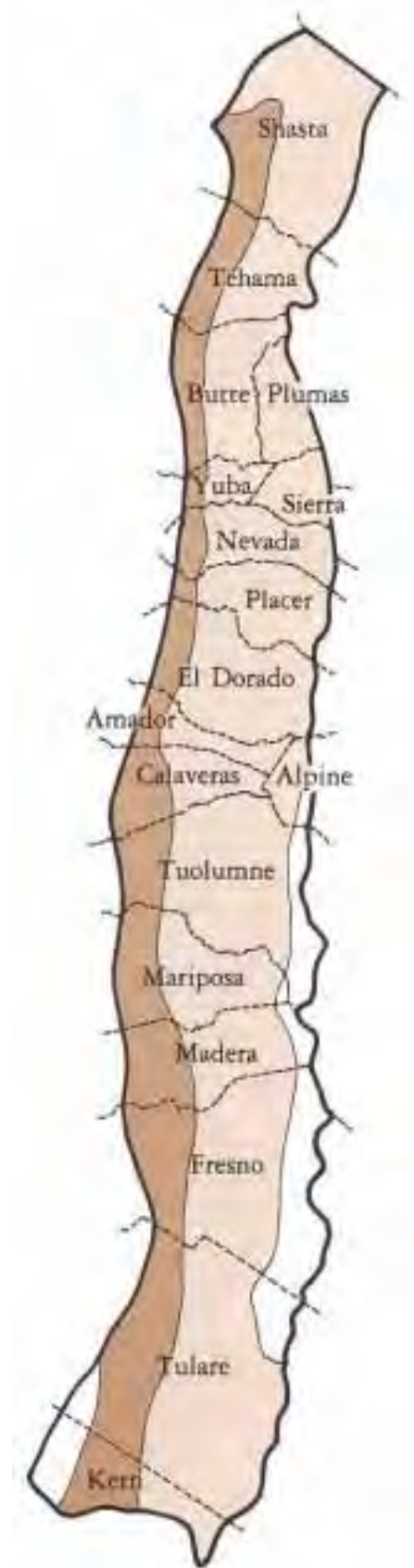
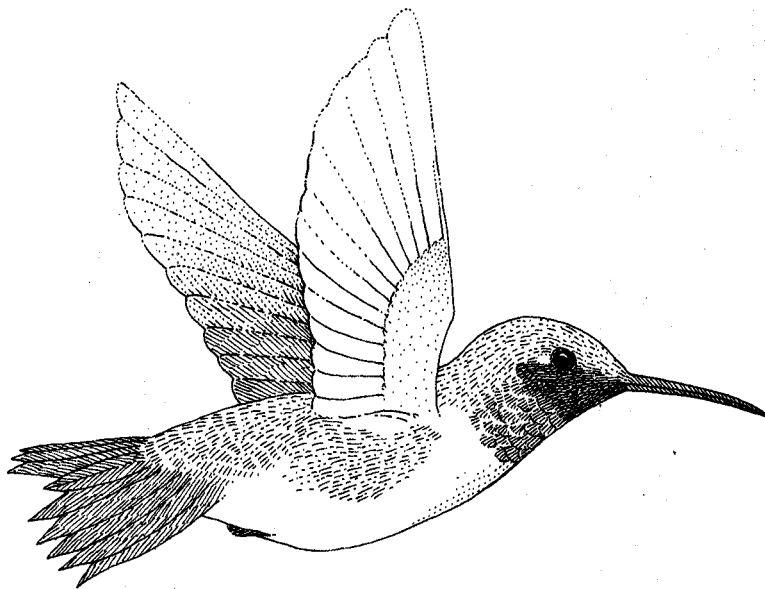
BREEDING: Breeds from early April to late July, with peak from mid-May to late July. Nests in foliage of small trees or shrubs near creeks or springs; prefers live oaks. Nest height from 3 to 30 ft (0.9 to 9.1 m). Typically 2 eggs per clutch.

TERRITORY/HOME RANGE: No data on home range. In the Santa Monica Mountains, Stiles (1973) reported a range in defended area around nest from 50 to 100 ft (15 to 30 m) in diameter.

FOOD HABITS: Eats insects and nectar, from wide variety of flower sources. Probes flowers for nectar while hovering, gleans insects from foliage, and hawks for flying insects.

OTHER:

REFERENCES: Bent 1940, Grinnell and Miller 1944, Stiles 1973.



Anna's Hummingbird

B079 (*Calypte anna*)

STATUS: No official listed status. Common resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds from oak savannahs up to ponderosa pine and black oak woodland zone; prefers timbered sites with low percent canopy cover. In spring and summer, observed as high as the Jeffrey pine forests.

SPECIAL HABITAT REQUIREMENTS: Nectar source; small, medium, or large openings; water.

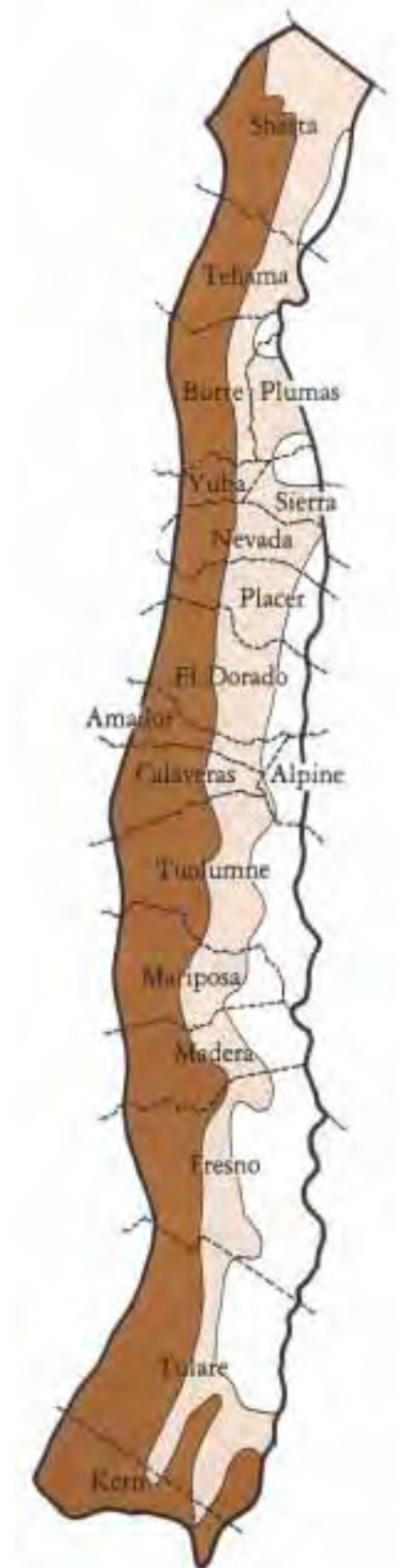
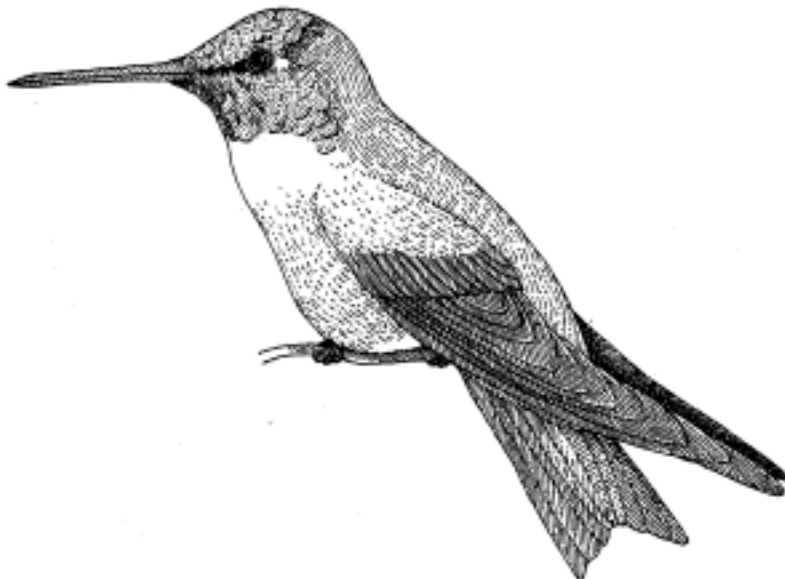
BREEDING: Breeds from mid-December to mid-June, with peak from mid-February to mid-May. Possibly three broods per season (Pitelka 1951b). Nests in trees or shrubs, from 5 to 30 ft (1.5 to 9.1 m) up. Typically, 2 eggs per clutch.

TERRITORY/HOME RANGE: No data on home range size. Size of territory, and vigor with which defended, vary with season and physiological state of male. Feeding territories defended in nonbreeding period, generally including several plants capable of supporting one bird for 1 day (Stiles 1973). During breeding season, most males establish large, actively defended territories (Williamson 1956). Average territory size 0.3 acre (0.1 ha) (Stiles 1973).

FOOD HABITS: Eats nectar from wide variety of flowers, especially *Ribes* spp.; also takes pollen and minute insects and spiders. Probes flowers while hovering, picks insects and spiders from flowers and foliage, and hawks aerial insects.

OTHER:

REFERENCES: Grinnell and Miller 1944, Pitelka 1951b, Stiles 1973.



Allen's Hummingbird

B080 (*Selasphorus Basin*)

STATUS: No official listed status. On basis of specimen records, an extremely rare late summer migrant; actual status unknown, but possibly regular at all elevations in fall (Gaines 1977).

DISTRIBUTION/HABITAT: Knowledge of distribution and abundance sketchy because cannot be distinguished from rufous hummingbird in most plumages (see comments below, under "OTHER"). Less common in the Sierra Nevada than rufous hummer (Gaines 1977). Found in open sites from digger pine-oak woodlands up to alpine meadows during summer months.

SPECIAL HABITAT REQUIREMENTS: Nectar source.

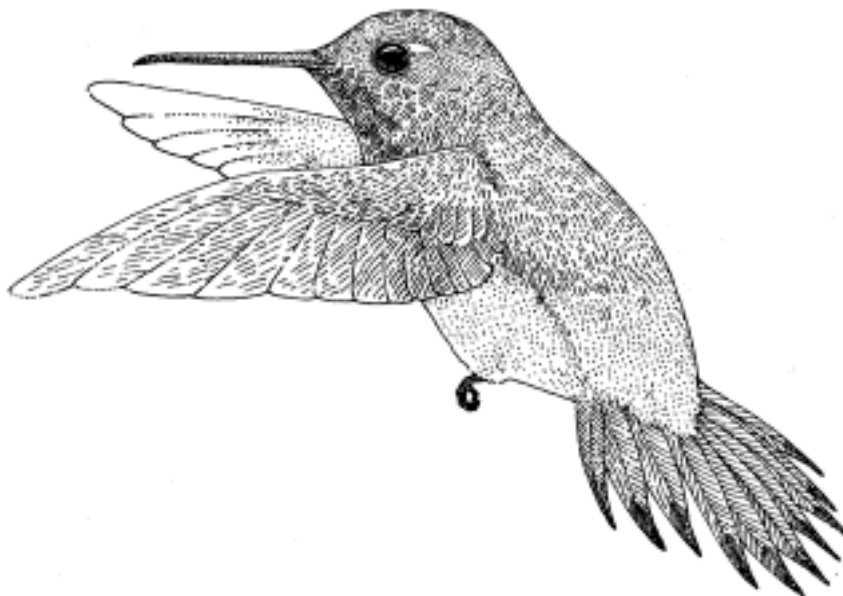
BREEDING: Nonbreeder in the Sierra Nevada.

TERRITORY/HOME RANGE: No data on home range or territory sizes.

FOOD HABITS: Eats nectar from wide variety of flowers, also eats some insects. Probes flowers while hovering, gleans insects from flowers and foliage, and hawks for aerial insects.

OTHER: Adult males distinguished from adult male rufous hummingbirds by all-green back; back of male rufous hummer mostly rufous, perhaps with some green feathers (Stiles 1972).

REFERENCES: Bent 1940, Grinnell and Miller 1944, Pitelka 1951b.



Rufous Hummingbird

B081 (*Selasphorus rufus*)

STATUS: No official listed status. Common spring transient at low elevations; fall transient at middle and high elevations.

DISTRIBUTION/HABITAT: During spring migration, found in grass/forb, shrub, and sparsely timbered areas from annual grasslands up to ponderosa pine and black oak woodland zone. Southward migrants tend to be higher, even up into alpine meadows.

SPECIAL HABITAT REQUIREMENTS: Nectar Source.

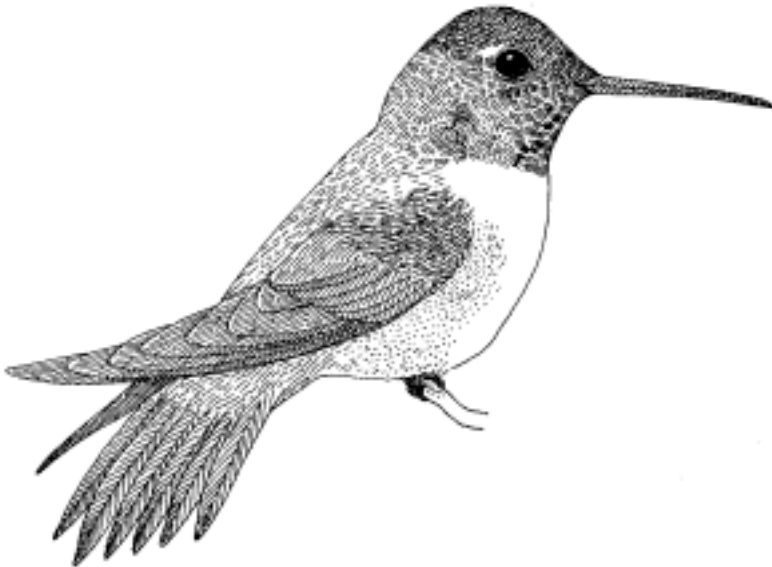
BREEDING: Does not breed in the western Sierra Nevada, although early literature suggests it does. Confusion because spring migration generally continues until May; males begin return southward migration as early as June, because they do not assist with raising young in northern breeding grounds.

TERRITORY/HOME RANGE: Defends feeding territories, but unknown whether or not they do so while migrating through the Sierra Nevada. In Yellowstone National Park, five feeding territories actively defended in area about 20 by 50 ft (6.1 by 15 m) (Armitage 1955).

FOOD HABITS: Eats nectar from wide variety of flowers, especially *Ribes* spp.; also takes some insects. Probes flowers while hovering, gleans insects from flowers and foliage, and hawks aerial insects.

OTHER:

REFERENCES: Grinnell and Storer 1924, Bent 1940, Grinnell and Miller 1944.



Calliope Hummingbird

B082 (*Stellula calliope*)

STATUS: No official listed status. Uncommon spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds from ponderosa pine and black oak woodland zone up to lodgepole pine forests. Prefers timbered stands with low to intermediate percent canopy cover, near water. In spring, migrates through lower elevations as low as digger pine-oak type.

SPECIAL HABITAT REQUIREMENTS: Nectar source; water.

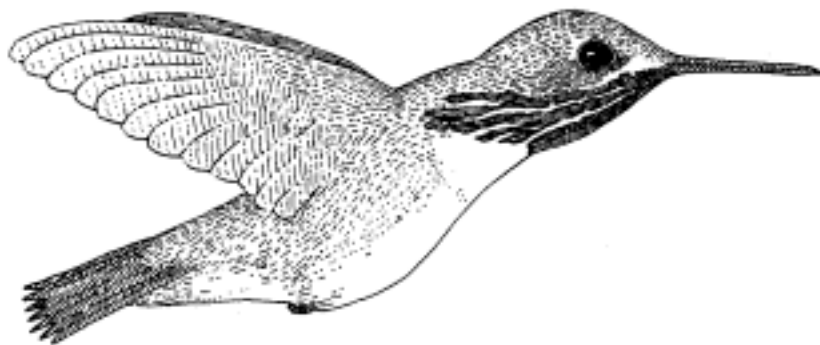
BREEDING: Breeds from early May to late July, with peak from early June to early July. Nesting generally coincides with blooming of wild currant. Nests almost always in a lodgepole pine or aspen, immediately beneath live branches, and typically in riparian area. Nest height ranges from 10 to 30 ft (3 to 9 m). Mean clutch size 2.

TERRITORY/HOME RANGE: No data on home range. Nesting density in Lassen County, four pairs per 6 acres (2.4 ha) (Grinnell *et al.* 1930). Each male vigorously defends patch of wild currant in early nesting season.

FOOD HABITS: Eats nectar from variety of flowers, including gooseberry, currant and manzanita, by hovering and probing. Also hawks for flying insects.

OTHER: Only hummingbird species that regularly nests at middle and high elevations in western Sierra Nevada.

REFERENCES: Grinnell and Storer 1924, Bent 1940, Calder 1971.



Belted Kingfisher

B083 (*Megaceryle alcyon*)

STATUS: No official listed status. Uncommon resident.

DISTRIBUTION/HABITAT: Found in all vegetation types and successional stages except alpine meadows; breeds from annual grassland zone up to Jeffrey pine forests, but restricted to streamside or lakeside situations. Moves southward and downslope in fall and winter; some move upslope to treeline in late summer and early fall. Most breeding records in the Sierra Nevada from Kings Canyon region northward; most winter records from that region southward.

SPECIAL HABITAT REQUIREMENTS: Earthen bank for nesting; pond, lake, stream, or river for feeding.

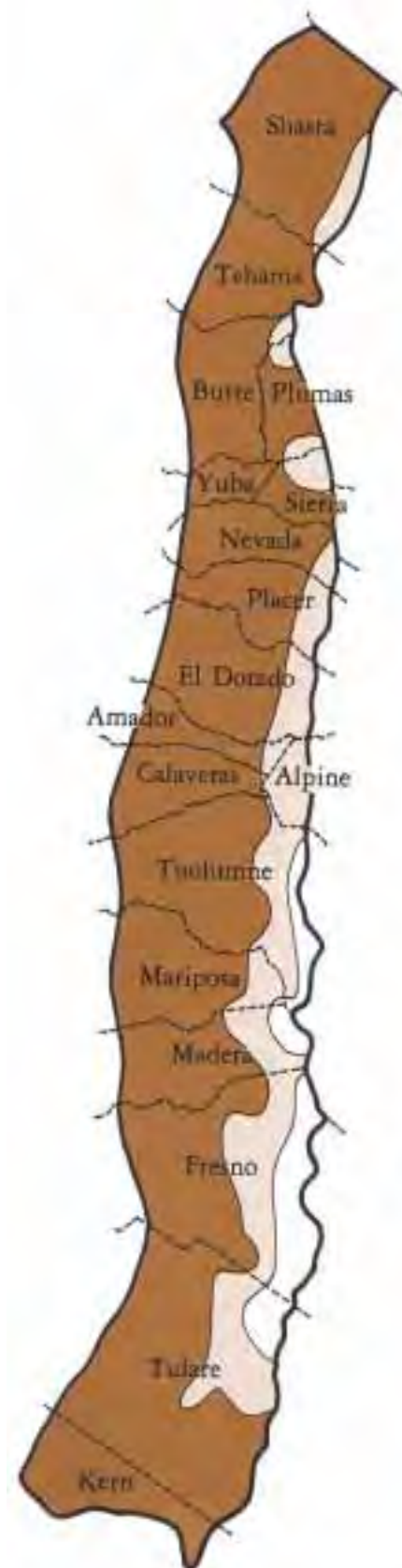
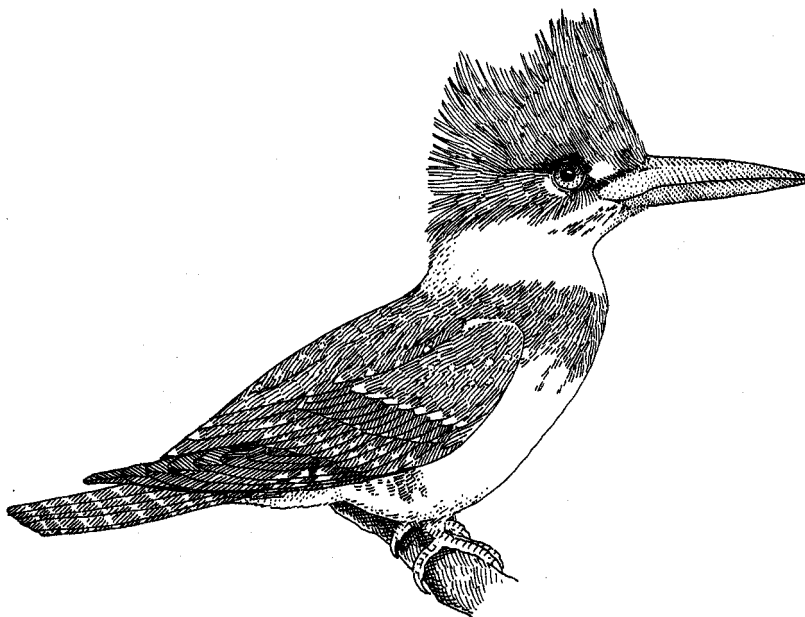
BREEDING: Breeds from early April to early August, with peak from late April to late June. Nests in burrow excavated by birds themselves in sandy or earthen bank, usually by edge of water. Burrow opening usually within 2 ft (0.6 m) of top of bank, and usually more than 5 ft (1.5 m) above water surface. Clutch size from 5 to 11, usually 6 or 7.

TERRITORY/HOME RANGE: In Michigan, stayed within 0.5 to 3 mi (0.8 to 4.8 km) of shoreline during breeding season (Salter and Lagler 1946). In Minnesota, pairs ranged from 2 to 5 mi (3.2 to 8 km) along a stream course (Cornwell 1963).

FOOD HABITS: Adult eats fish and crayfish but feeds young nestlings on insects. Dives from a perch or a hovering position, 20 to 50 ft (6.1 to 15 m) above water surface, capturing prey usually within 2 ft (0.6 m) below water surface. Prefers to hunt in shallow, slow-moving streams or in lakes.

OTHER: Not important predators on trout except at fish hatcheries, where fish can be protected by screens.

REFERENCES: Salter and Lagler 1946, White 1953, Cornwell 1963.



Common Flicker

B084 (*Colaptes auratus*)

STATUS: No official listed status. Common permanent resident.

DISTRIBUTION/HABITAT: Usually versatile in habitat selection; breeds in all forest types in the western Sierra Nevada. Prefers low stand densities with large, scattered trees. Usually stays below snowline in winter; some may linger high in the mountains.

SPECIAL HABITAT REQUIREMENTS: Snags or trees with soft heartwood.

BREEDING: Breeds from mid-April to late July, with peak activity from late May to late June. Clutch size from 5 to 12, with 6 or 7 most common. As cavity nesters, excavate own cavities in tree trunks with soft wood, whether dead or alive. Occasionally use posts or holes in banks. Height ranges from 0 to 100 ft (0 to 30 m).

TERRITORY/HOME RANGE: In Ontario, territories averaged 40 acres (16 ha) in mature conifer forest during breeding season (Lawrence 1967). Home range and territory the same; presence of territories in winter not reported in the literature.

FOOD HABITS: Omnivorous, eating ants, seeds, miscellaneous insects, fruits, and berries. Feeds mainly on ground, rarely on bark; digs with bill, and gleans from surfaces.

OTHER: Roosts year-round in hole similar to nest sites.

REFERENCES: Jackman and Scott 1975, Kilham 1959, Lawrence 1967.



Pileated Woodpecker

B085 (*Dryocopus pileatus*)

STATUS: No official listed status, though probably declining as a result of logging of mature forests with snags.

DISTRIBUTION/HABITAT: Generally distributed in conifer forest from ponderosa pine to red fir types; prefers at least 40 percent canopy cover and mature trees. Prefers Douglas-fir, white fir, and, occasionally, red fir over all other conifers.

SPECIAL HABITAT REQUIREMENTS: Large snags; low human disturbance.

BREEDING: Breeds from early March to early July, with peak activity from early May to mid-June. Clutch size 3 or 4 eggs laid in large cavity of dead conifer or large aspen averaging 1.6 ft (0.5 m) in diameter. Excavates own cavities from 15 to 70 ft (4.6 to 21 m) up.

TERRITORY/HOME RANGE: Territory size not known. In Ithaca, New York, home range, estimated year-round, had radius of 3 to 4 mi (4.8 to 6.4 km) in mixed forest of deciduous and coniferous trees (Hoyt 1957). In conifer forests of northeastern Oregon, ranged over 320 to 600 acres (130 to 243 ha); minimum density of 13 pairs was 1 pair per 1620 acres (656 ha) (Bull and Meslow 1977).

FOOD HABITS: Eats insects, especially carpenter ants; also fruits and nuts. Obtains much food by deep excavation in decaying wood on standing trees or fallen logs, usually within 10 ft (3 m) of the ground.

OTHER: Drills the largest of woodpecker holes; may be sole provider of nest cavities for tree-nesting ducks, such as bufflehead, wood duck, and common merganser. Recommend leaving 90 snags, plus replacement snags, per section (256 ha), all at least 20 in (51 cm) d.b.h. (Bull and Meslow 1977).

REFERENCES: Hoyt 1957, Jackman and Scott 1975, Bull and Meslow 1977.



Acorn Woodpecker

B086 (*Melanerpes formicivorous*)

STATUS: No official listed status. Continued elimination of oaks in California a serious threat to this species' continued presence.

DISTRIBUTION/HABITAT: Strictly confined to stands with oaks, breeds from blue oak savannahs up into black oak woodlands and ponderosa pine forests. Prefers lower elevations and stands with lower tree densities. In fall, may wander upslope into mixed-conifer forests where black oaks occur.

SPECIAL HABITAT REQUIREMENTS: oaks; large trees for acorn storage.

BREEDING: Breeds from early April to late July, with peak from mid-May to late June. Clutch size from 4 to 6, most contain 4 or 5 eggs. Excavates own nest cavity in live or dead oaks, in sycamores, or in dead conifers, from 6 to 70 ft (1.8 to 21 m) up.

TERRITORY/HOME RANGE: Territory and home range the same. In Monterey County, territory ranged from 9 to 23 acres (3.6 to 9.3 ha) and averaged 15 acres (6.1 ha) (MacRoberts and MacRoberts 1976). In Yolo County, Swearingen (1977) cites Roberts (pers. commun.) as finding territories ranging in size from 3.7 to 19.8 acres (1.5 to 8.0 ha), with mean of 11.4 acres (4.6 ha). In San Mateo County, Swearingen (1977) reported territory sizes from 2.2 to 10.6 acres (0.9 to 4.3 ha), with mean of 5.9 acres (2.4 ha).

FOOD HABITS: Eats mostly acorns, flying insects, and sap. Picks acorns from trees and stores in individual holes drilled in snags, posts, telephone poles, and thick bark of live trees. Hawks for insects and drills holes in live trees to obtain sap.

OTHER: Food storage behavior frequently damages fence posts and telephone poles to the extent they must be replaced. Recommend traditional acorn storage trees and nearby large oaks never be cut.

REFERENCES: MacRoberts 1970, MacRoberts and MacRoberts 1976, Gutierrez and Koenig 1978.



Lewis' Woodpecker

B087 (*Melanerpes lewis*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978. A nonbreeding visitor to the western Sierra Nevada from August to May. Source of visitors uncertain; however, species breeds east of the Sierra Nevada crest, and may migrate across mountains into the western Sierran zone. Some old nesting records exist from southern end of the western Sierra Nevada.

DISTRIBUTION/HABITAT: Found from blue oak savannahs up to Jeffrey pine forests. Prefers stands of low to intermediate density. Opportunistic and of erratic occurrence in any given area. Brushfields optimal habitat, providing scattered live or dead trees available for foraging perches. Favors old burns with tall standing snags or poles above brushfields.

SPECIAL HABITAT REQUIREMENTS: Oaks in fall and winter.

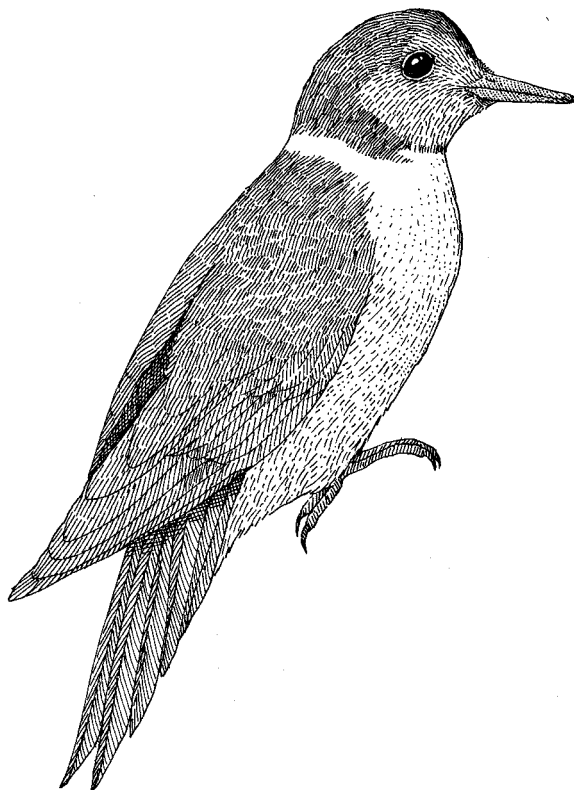
BREEDING: Apparently does not breed in the western Sierra Nevada today (Bock 1970).

TERRITORY/HOME RANGE: Fall and winter territories established in areas with sufficient supply of acorns and insects. Defends only immediate vicinity of acorn storage site.

FOOD HABITS: Eats primarily adult insects; acorns important in winter, also berries and fruit. Picks acorns from trees; hawks for insects, also drops from perch to lower vegetation to capture insects.

OTHER:

REFERENCES: Bock 1970, Jackman and Scott 1975.



Yellow-bellied Sapsucker

B088 (*Sphyrapicus varius*)

STATUS: No official listed status. Common resident on the west slopes of the Sierra Nevada, with pronounced altitudinal migration.

DISTRIBUTION/HABITAT: Breeds in timbered stands of low to intermediate density in ponderosa pine, black oak, riparian deciduous, and mixed-conifer types; strongly prefers to nest in deciduous trees along water courses. In summer, feeds as high up as lodgepole forests; in winter, found as low as blue oak savannahs.

SPECIAL HABITAT REQUIREMENTS: Snags or trees with soft heartwood for cavity excavation.

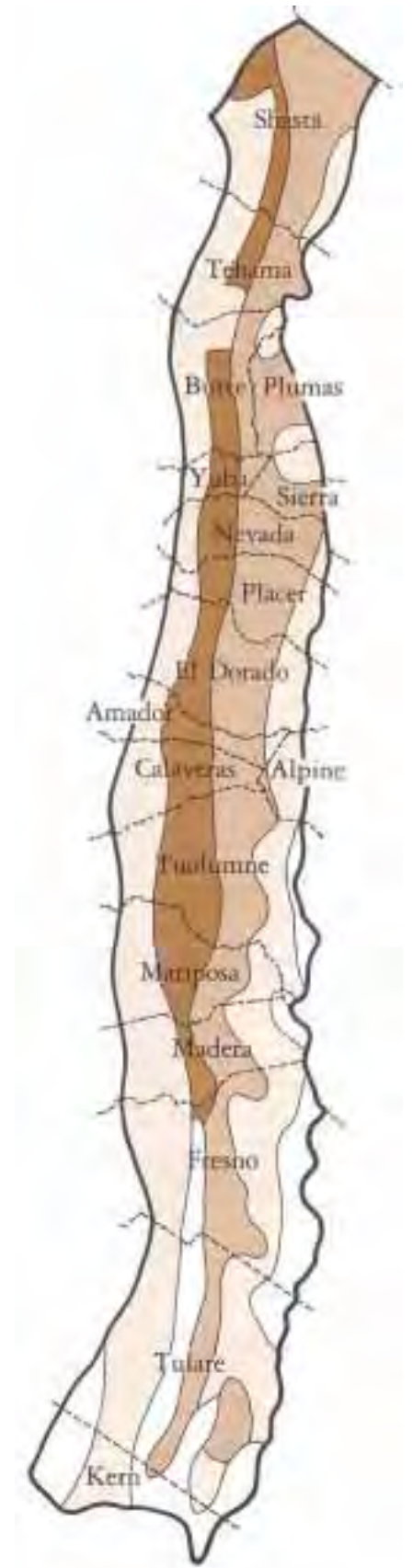
BREEDING: Breeds from early May to late July, with peak from early June to early July. Clutch size from 4 to 6, most contain 4 or 5. Excavates own nest cavity in dead trees or live trees with rotted heartwood, from 15 to 60 ft (4.6 to 18 m) above ground.

TERRITORY/HOME RANGE: In British Columbia study, Howell (1952) reported range in territory size from 1.6 to 15 acres (0.7 to 6.1 ha). In Ontario, Lawrence (1967) indicated home range and territory the same, averaging 5.3 acres (2.1 ha) in a mature conifer forest (range from 5.1 to 5.4 acres [2.1 to 2.2 ha]).

FOOD HABITS: Eats primarily cambium, soft parts of tree trunks, sap, insects, and fruit; mainly ants during breeding season. Drills for and eats sap; hawks for insects.

OTHER: Classification of this complex undecided, with some ornithologists recognizing three different species. Almost all in the western Sierra Nevada are members of a red-breasted form (*S.v. daggeti*, American Ornithologists' Union 1957), but a form with more red on the head (*S. v. ruber*, American Ornithologists' Union 1957) also occurs.

REFERENCES: Howell 1952, Lawrence 1967, Devillers 1970.



Williamson's Sapsucker

B089 (*Sphyrapicus thyroideus*)

STATUS: No official listed status. Fairly common resident.

DISTRIBUTION/HABITAT: Breeds in Jeffrey pine, red fir, and especially in lodgepole pine forests. Prefers sites with large trees and low to intermediate percent canopy coverage. Winter distribution poorly known; at least part of population moves downslope into ponderosa pine and mixed-conifer forests.

SPECIAL HABITAT REQUIREMENTS: Snags.

BREEDING: Breeds from late April to late July, with peak from late May to mid-July. Nests usually in old lodgepole pine with a dead core; also nests in other conifer types (Granholt, unpubl.). In Colorado, however, most nests found in aspen (Crockett 1975, Crockett and Hadow 1975). Excavates own nest cavity, from 5 to 60 ft (1.5 to 18 m) up. Clutch contains from 3 to 7 eggs, with 5 or 6 most frequent.

TERRITORY/HOME RANGE: Home range in breeding season the same as territory. In the Colorado Rockies, Crockett (1975) found a range in territory size from 10 to 22.5 acres (4.1 to 9.1 ha), with a mean of 16.9 acres (6.8 ha).

FOOD HABITS: Eats ants when feeding young; at other times of year eats sap and sapwood of conifers; may eat wood-boring insects during winter. Obtains most food from trunks and limbs of living conifers, from the ground, and from downed logs. Gleans insects and bores into live trees to obtain sap.

OTHER:

REFERENCES: Bent 1939, Grinnell and Miller 1944, and Crockett 1975.



Hairy Woodpecker

B090 (*Picoides villosus*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Prefers, for breeding habitat, stands of large mature trees, of sparse to intermediate stand density, from ponderosa forests upslope to lodgepole pine forests. In fall and winter, some move down into digger pine-oak woodlands. Often numerous in recently burned areas.

SPECIAL HABITAT REQUIREMENTS: Snags.

BREEDING: Breeds from mid-March to late August, with peak from late May to mid-July. Clutch size from 3 to 6 eggs, with 4 most frequent. Excavates own nest cavity, from 3 to 50 ft (0.9 to 15 m) up, in dead tree or live tree with dead heartwood.

TERRITORY/HOME RANGE: Territory and home range the same. In a mature coniferous forest in Ontario, territory size ranged from 6 to 8 acres (2.4 to 3.2 ha) (Lawrence 1967).

FOOD HABITS: Eats primarily insect larvae, ants, and pine seeds. Obtains food by drilling into bark of dead trees, logs, and less often into live trees. Picks pine seeds from cones.

OTHER:

REFERENCES: Lawrence 1967, Kilham 1970.



Downy Woodpecker

B091 (*Picoides pubescens*)

STATUS: No official listed status. Locally common resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in riparian woodlands associated with low elevation oak and pine/oak forests and upward into ponderosa pine and black oak types. Occasionally feeds in adjacent oak or coniferous forests. Wanders upslope in late summer as high as 7800 ft (2380 m).

SPECIAL HABITAT REQUIREMENTS: Snags or trees with soft heartwood.

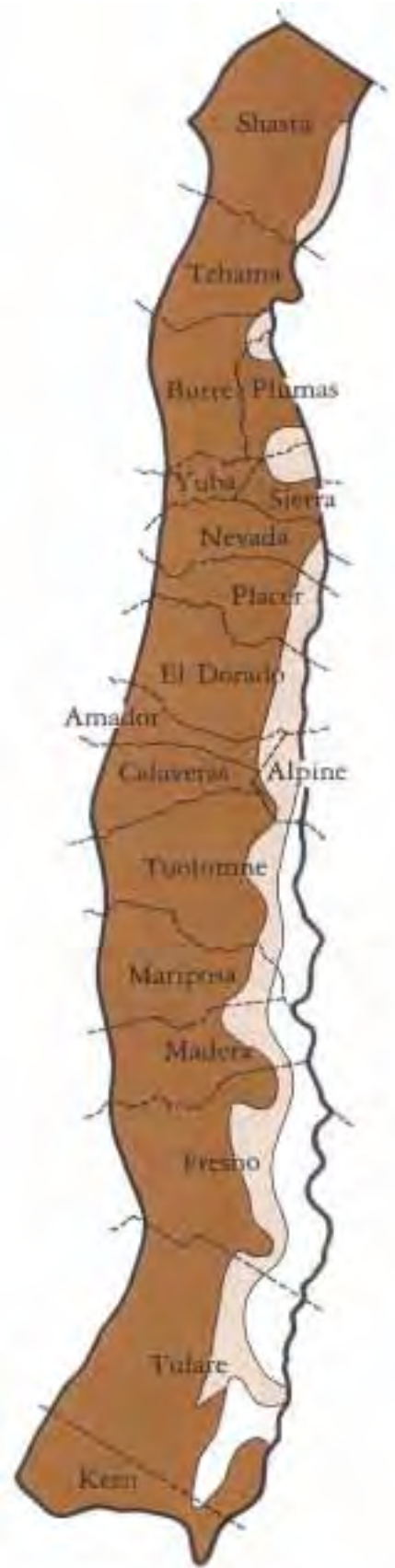
BREEDING: Breeds from early April to early September, with peak from early May to mid-June. Clutch size from 3 to 6, 4 or 5 most common. Excavates own nest cavity, 4 to 20 ft (1.6 to 6.1 m) up, in decaying branch or tree trunk.

TERRITORY/HOME RANGE: Territory and home range the same. Two territories in a mature conifer forest in Ontario were 5 and 8 acres (2 and 3.2 ha) in size (Lawrence 1967).

FOOD HABITS: Obtains adult and larval insects from bark of small tree trunks and branches, living or dead, by gleaning and probing.

OTHER:

REFERENCES: Kilham 1962, 1970; Lawrence 1967.



Nuttall's Woodpecker

B092 (*Picoides nuttallii*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitats.

DISTRIBUTION/HABITAT: Most often found in riparian vegetation bordered by or mixed with oaks. Prefers oaks for foraging and riparian trees for nests. Some move upslope in late summer and fall, regularly to 4000 ft (1220 m) and sometimes to 7000 ft (2130 m), usually in riparian habitats.

SPECIAL HABITAT REQUIREMENTS: Snags.

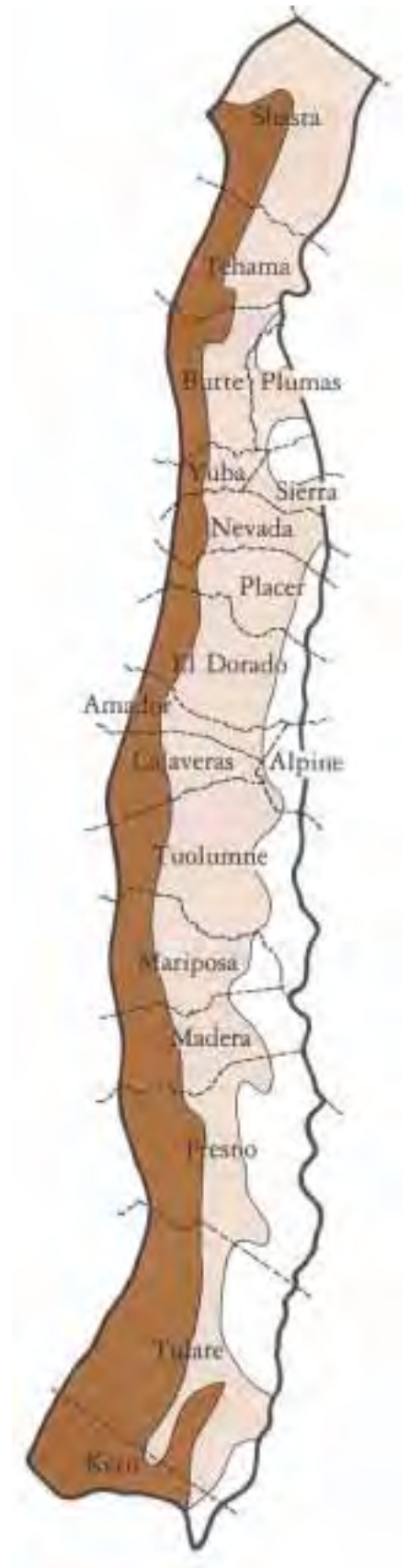
BREEDING: Breeds from late March to late June, with peak from early May to early June. Clutch size from 3 to 6, with mean of 4.6. Excavates own nest cavity, from 2.5 to 60 ft (0.8 to 18 m) up, usually in dead tree trunk or limb (occasionally live).

TERRITORY/HOME RANGE: Only estimate from a study by Miller and Bock (1972) in Monterey County where average home range, estimated year-round, was a riparian strip about 0.5 mi (800 m) long.

FOOD HABITS: Feeds mainly on insects; also takes some fruits, berries, and seeds. Obtains food mainly from trunks, branches, and twigs, by surface gleaning, probing, and twig scanning. Also excavates, eats sap, and even hawks flying insects.

OTHER:

REFERENCES: Miller and Bock 1972.



White-headed Woodpecker

B093 (*Picoides albolarvatus*)

STATUS: No official listed status. Common permanent resident.

DISTRIBUTION/HABITAT: Found in conifer forests from ponderosa pine type up to red fir type; prefers areas with large trees providing 40 to 70 percent canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Snags.

BREEDING: Breeds from mid-April to late August, with peak from mid-June to mid-July. Clutch size from 3 to 7, most contain 4. Excavates cavities in dead trees, or even in stumps, generally close to the ground.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Pine seeds make up 60 percent and insects 40 percent of diet (on an annual basis). Chips open pine cones to obtain seeds; gleans insects from needles or picks them from under bark flakes that are pried loose.

OTHER:

REFERENCES: Ligon 1973, Jackman and Scott 1975.



Black-backed Three-toed Woodpecker

B094 (*Picoides arcticus*)

STATUS: No official listed status. Uncommon to rare resident in forests at higher elevations; moves into lower elevations in fall, winter, and spring.

DISTRIBUTION/HABITAT: Breeds in red fir and lodgepole pine forests; prefers stands with large trees; stand density not too important. In fall, winter, and spring may be found in all conifer types down to ponderosa pine.

SPECIAL HABITAT REQUIREMENTS: Snags or trees with soft heartwood.

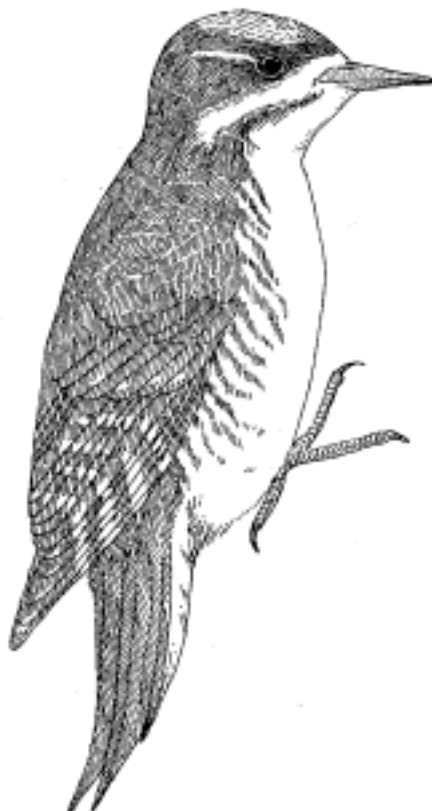
BREEDING: Breeds from early May to early September, with peak from mid-June to late July. Clutch size from 2 to 6, most consist of 4. Excavates nest cavities from 2 to 80 ft (0.6 to 24 m) and usually from 10 to 20 ft (3.1 to 6.1 m) up, in live or dead tree trunks.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Eats primarily insect larvae and adults, obtained by scaling away bark or by drilling into the trunk of live or dead trees.

OTHER: Life history is not well known, especially in Western United States. Specific habitat requirements in the Sierra Nevada unclear; apparently prefers burns, windfalls, or other areas with wood-boring insect infestations. Common forestry practices to prevent such infestations harmful to this species.

REFERENCES: Mayfield 1958, Bock and Bock 1974, Short 1974.



Western Kingbird

B095 (*Tyrannus verticalis*)

STATUS: No official listed status. Common spring migrant and summer resident; usually leaves the western Sierra Nevada by late summer.

DISTRIBUTION/HABITAT: Breeds in arid, low elevation habitats with low to intermediate canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Elevated perches.

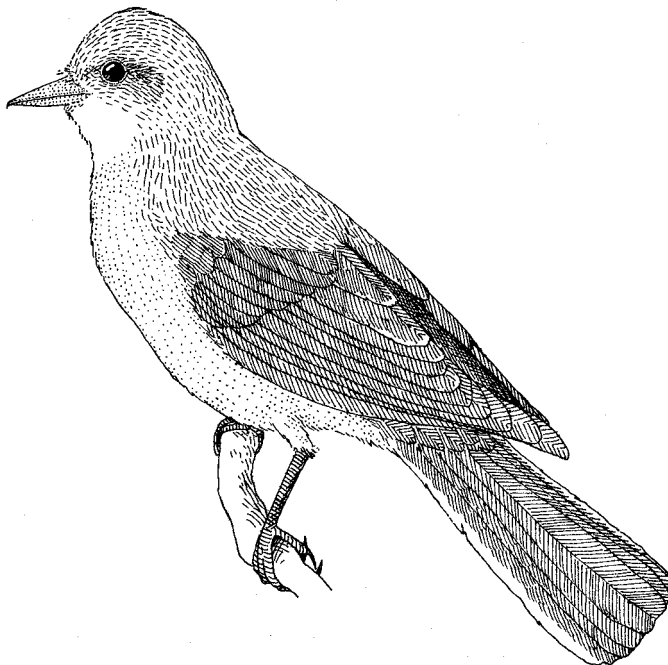
BREEDING: Breeds from early April to early July, with peak from mid-May to early June. Nests from 15 to 30 ft (4.6 to 9.1 m) up on a horizontal branch of oak, cottonwood, or willow. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No good information available, although Hespenheide (1964) indicates will forage at least 0.25 mi (400 m) from the nest.

FOOD HABITS: Eats primarily insects; also some seeds. Captures insects in flight, by hawking from low, conspicuous branches.

OTHER: Although largely restricted to low elevations, altitudinal vagrants observed to 8500 ft (2590 m) in Tuolumne Meadows, Yosemite National Park.

REFERENCES: Grinnell and Storer 1924, Whedon 1938, Smith 1966, Ohlendorf 1974.



Ash-throated Flycatcher

B096 (*Myiarchus cinerascens*)

STATUS: No official listed status. Fairly common summer resident at lower elevations.

DISTRIBUTION/HABITAT: Breeds in shrublands and timbered sites from blue oak savannah up to ponderosa pine and black oak woodland types; prefers stands with low percent canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Natural tree cavities.

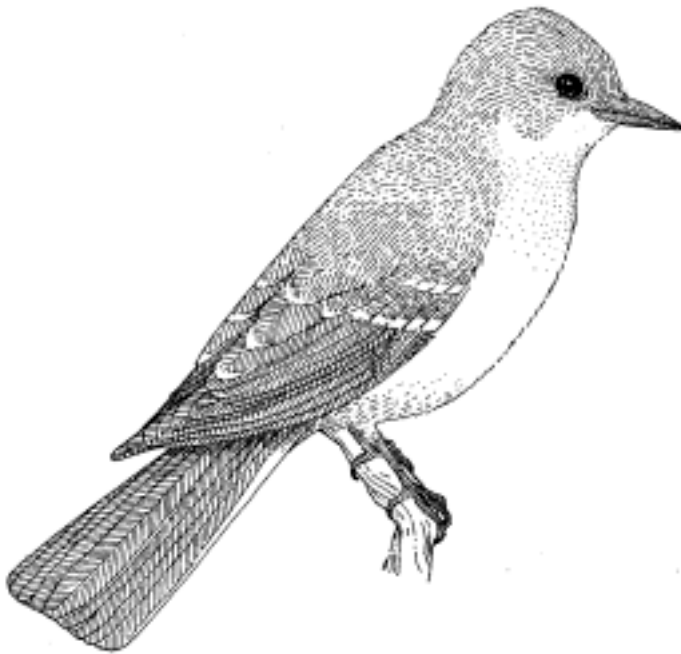
BREEDING: Breeds from mid-April to late June, with peak from mid-May to early June. Nests usually in knotholes of oaks or cottonwoods, but sometimes in old stumps or woodpecker holes. Nests as much as 20 ft (6.1 m) above ground. Clutch size from 3 to 7, with mean of 4.

TERRITORY/HOME RANGE: No data on home range, but Hensley (1954) reported a territory in a desert wash at 7.3 acres (3.0 ha) and another in open desert at 24.7 acres (10 ha).

FOOD HABITS: Feeds primarily on insects; also eats some berries and seeds. Hawks for aerial insects from conspicuous perches; also gleans insects from foliage, generally by flying upward from perch and snapping insect from leaf surface.

OTHER: Though normally restricted to arid foothills and chaparral-covered canyons at lower elevations, has been noted, exceptionally, at 9700 ft (2960 m) in Yosemite National Park.

REFERENCES: Bent 1942, Small 1974.



Black Phoebe

B097 (*Sayornis nigricans*)

STATUS: No official listed status. Fairly common to common resident in riparian habitats throughout most of State, up to about 4000 ft (1220 m).

DISTRIBUTION/HABITAT: Restricted for breeding to riparian deciduous or lake margin habitat in low to mid-elevation ranges, and occasionally in wet meadows from 4000 to 5000 ft (1220 to 1520 m). Altitudinal vagrants observed to 8600 ft (2620 m) in Tuolumne Meadows, Yosemite National Park.

SPECIAL HABITAT REQUIREMENTS: Water source; cliffs, old buildings, or bridges for nesting.

BREEDING: Breeds from early March to mid-July, with peak from mid-April to mid-June. Nests on steep cliffs, walls of old buildings or bridges, or often under eaves. Height varies with substrate. Clutch size from 3 to 7, with mean of 4.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Eats mainly flying insects, captured over grassy fields or open water. Captures aerial insects by hawking from perch; occasionally gleans insects from foliage.

OTHER: Tends to wander widely during prenesting season, but during nesting period restricted to area around nest.

REFERENCES: Oberlander 1939, Verbeek 1975, Ohlendorf 1976.



Say's Phoebe

B098 (*Sayornis saya*)

STATUS: No official listed status. Common to abundant resident in appropriate annual grassland areas, though only spring and summer visitor in upslope habitat types.

DISTRIBUTION/HABITAT: Breeds in all habitat types up to about 4000 ft (1220 m), except in riparian deciduous. Elevational vagrants recorded as high as 7000 ft (2130 m) in Yosemite National Park. Prefers sites with little shrub or tree cover.

SPECIAL HABITAT REQUIREMENTS: Crevices, old buildings, or bridges for nesting.

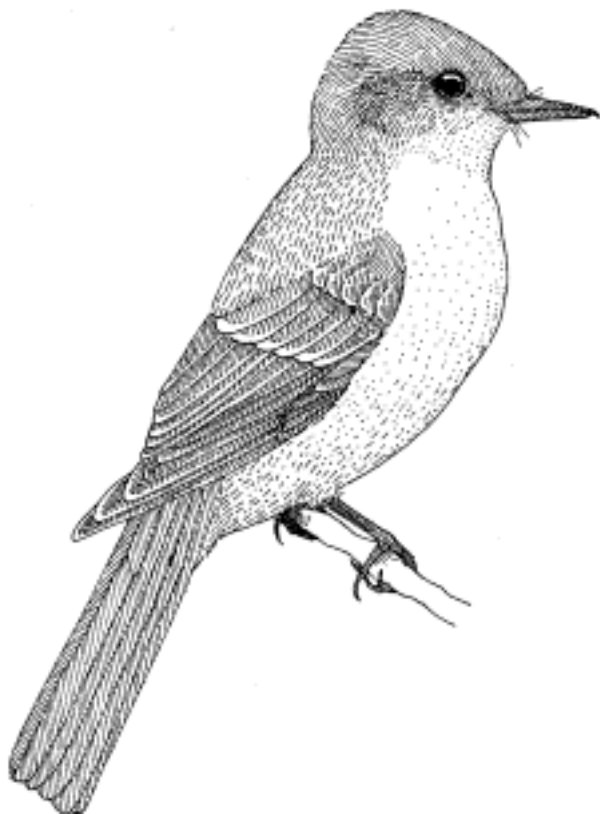
BREEDING: Breeds from early March to late July, with peak from mid-April to mid-June. Often produces two broods per season. Nests usually on walls of old buildings, under eaves; also on cliffs, steep river banks, or under bridges; rarely in tree cavities. Clutch size 3 to 7, with mean of 5.

TERRITORY/HOME RANGE: No information on home range.

FOOD HABITS: Eats mostly flying insects, captured by hawking from low perches.

OTHER:

REFERENCES: Phillips 1955, Ohlendorf 1976, Gaines 1977.



Willow Flycatcher

B099 (*Empidonax traillii*)

STATUS: No official listed status. Rare to uncommon summer resident; declined markedly in recent years because of destruction of riparian deciduous habitat, and nest parasitism by brown-headed cowbirds (Gaines 1977).

DISTRIBUTION/HABITAT: Breeds in low to middle elevations of riparian deciduous habitats and wet meadows with willow thickets, generally below 7000 ft (2130 m).

SPECIAL HABITAT REQUIREMENTS: Willow thickets.

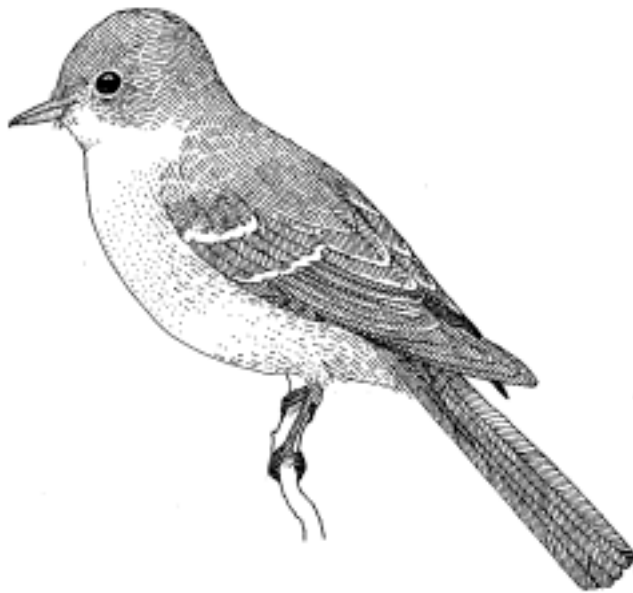
BREEDING: Breeds from late May to mid-July, with peak from mid-June to early July. Nests usually in a low crotch in a patch of willows, from ground level to 3 ft (0.9 m) up. Clutch size from 2 to 5, with mean of 3.

TERRITORY/HOME RANGE: No information on home range or territory size. In eastern Washington, King (1955) reported a breeding density of from 9.2 to 14 pairs per 100 acres (40 ha) in scrub habitat.

FOOD HABITS: Feeds almost entirely on flying insects, captured by hawking from exposed perches. Also gleans some insects from foliage.

OTHER:

REFERENCES: Grinnell and Storer 1924, Aldrich 1953, King 1955.



Hammond's Flycatcher

B100 (*Empidonax hammondi*)

STATUS: No official listed status. Common summer resident in the Sierra Nevada forest of middle elevations.

DISTRIBUTION/HABITAT: Widely distributed in spring and summer in forests with medium to high canopy coverage from ponderosa pine type up to lodgepole pine type. Most common in mature forests from mixed-conifer zone upward, where breeds in cool, well-shaded sites.

SPECIAL HABITAT REQUIREMENTS:

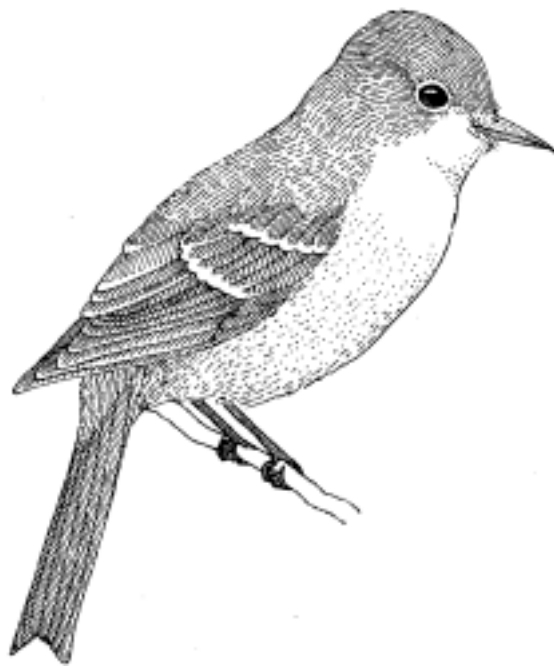
BREEDING: Breeds from mid-May to late July, with peak from mid-June to early July. Nests on horizontal limbs of deciduous or coniferous trees, from 12 to 50 ft (3.7 to 15 m) up, with average height of 25 ft (7.6 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on home range size. In a Montana coniferous forest, territory size varied from 1.5 to 3.8 acres (0.6 to 1.5 ha), averaging 2.6 acres (1.1 ha) (Manuwal 1970). In Colorado aspen habitat, Beaver and Baldwin (1975) reported densities of 4.7 and 1.4 birds/25 acres (10 ha) in 1965 and 1966, respectively. In aspen-conifer habitat, densities were 2.8 birds/25 acres (10 ha) in 1965 and 1.4 birds/25 acres (10 ha) in 1966.

FOOD HABITS: Eats mainly flying insects, taken by hawking from relatively high or exposed perches.

OTHER: In the field, extremely difficult to distinguish from congener, the dusky flycatcher. Most reliable criteria for field identification are song, nesting behavior, and habitat preference (Gaines 1977). Specimen record indicates this species found up to 10,000 ft (3050 m) in the Sierra Nevada.

REFERENCES: Davis 1954; Johnson 1963, 1965; Beaver and Baldwin 1975.



Dusky Flycatcher

B101 (*Empidonax oberholseri*)

STATUS: No official listed status. Common summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Widely distributed in spring and summer from chaparral zone up to lodgepole pine forests. Generally avoids forests with high percentage canopy cover, preferring shrubby sites or low to intermediate density forests with substantial shrub understory.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs.

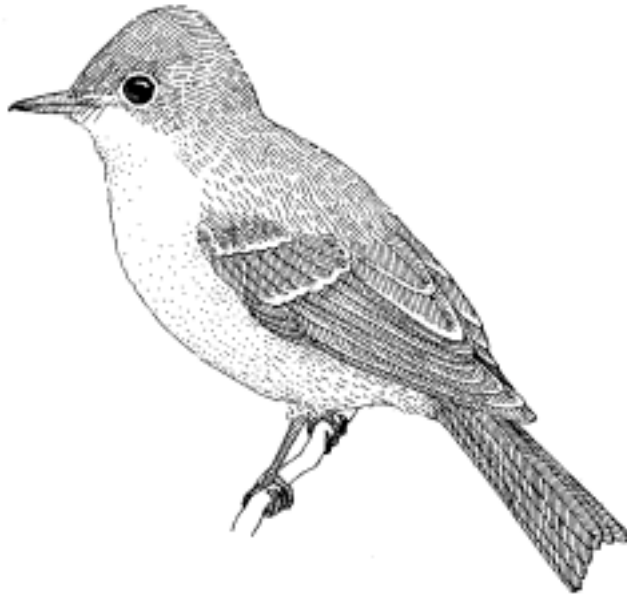
BREEDING: Breeds from early May to mid-July, with peak from mid-June to early July. Nests in low shrubs or trees in relatively dry sites. Nest usually attached to low twigs at heights from 4 to 6 ft (1.2 to 1.8 m). Clutch size 2 to 4, with mean of 3.

TERRITORY/HOME RANGE: No data on home range. In Montana, territory size in sparse coniferous forest ranged from 3.5 to 4.7 acres (1.4 to 1.9 ha), and averaged 4.0 acres (1.6 ha) (Manuwal 1970).

FOOD HABITS: Flying insects, taken aerially above brushy vegetation by hawking from low, exposed perches, comprise the diet.

OTHER: See comments on preceding page concerning field distinction between this and Hammond's flycatcher.

REFERENCES: Johnson 1963, 1966; Gaines 1977.



Western Flycatcher

B102 (*Empidonax difficilis*)

STATUS: No official listed status. Uncommon to fairly common summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in timbered sites from blue oak savannah upslope to ponderosa pine and black oak types; prefers sites with high percentage canopy cover, typically moist situations near streams or springs. After breeding season, moves upslope to meadow/forest edges in mixed-conifer and red fir zones.

SPECIAL HABITAT REQUIREMENTS: Stream, spring, or seep probably needed for nesting.

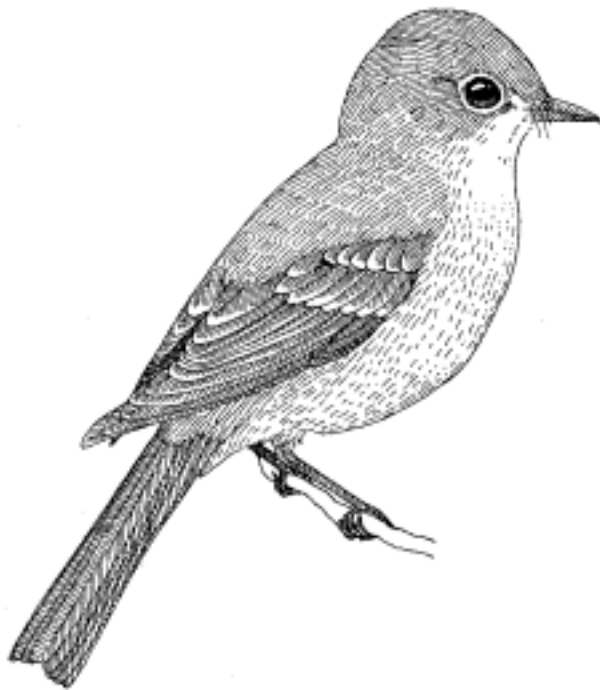
BREEDING: Breeds from early May to late July, with peak from mid-June to early July. Nest sites varied: often in crotches of large, riparian trees near water; also in old buildings and on rock ledges. Clutch size 3 to 5, with mean of 4. Sometimes double brooded.

TERRITORY/HOME RANGE: No data on territory or home range size. In Colorado in 1965 and 1966, Beaver and Baldwin (1975) reported densities of 6.9 and 1.2 birds/25 acres (10 ha) respectively.

FOOD HABITS: Flying insects, captured by hawking from perches or taken from foliage, comprise the diet.

OTHER: Although typically an inhabitant of low elevation deciduous forests, have been recorded to 10,000 ft (3050 m) in Yosemite National Park.

REFERENCES: Davis *et al.* 1963, Beaver and Baldwin 1975, Verbeek 1975.



Western Wood Pewee

B103 (*Contopus sordidulus*)

STATUS: No official listed status. Common to abundant in spring and summer.

DISTRIBUTION/HABITAT: Widespread throughout all timbered types on west slopes of the Sierra Nevada, from blue oak savannah up to lodgepole pine forests. Prefers stands with low to intermediate percentage canopy cover; more common in edge situations-around meadows, burned or cutover sites, or near streams and rivers.

SPECIAL HABITAT REQUIREMENTS:

BREEDING: Breeds from early May to early August, with peak from mid-June to early July. Nests on top of horizontal branch or fork in tree of any species, from 10 to 50 ft (3.1 to 15 m) up. Clutch size from 2 to 4, with average of 3.

TERRITORY/HOME RANGE: In Colorado, Eckhardt (1976) reported territories averaged 3 acres (1.2 ha) over a 3-year period. In Colorado aspen habitat, Beaver and Baldwin (1975) reported densities of 2.5 birds/25 acres (10 ha) in 1965 and 0.3 birds/25 acres (10 ha) in 1966. No data on home range.

FOOD HABITS: Eats primarily flying insects; berries and grass seeds rarely eaten. Captures insects by hawking from prominent perch or, more rarely, by gleaning from foliage.

OTHER: Little published about ecology of species, considering abundance, conspicuousness, and wide distribution.

REFERENCES: Grinnell and Storer 1924, Beaver and Baldwin 1975.



Olive-sided Flycatcher

B104 (*Nuttallornis borealis*)

STATUS: No official listed status. Fairly common summer resident in mid-elevation coniferous forests.

DISTRIBUTION/HABITAT: Breeds in conifer forest types from ponderosa pine zone up to lodgepole pine; also breeds in black oak woodlands. Prefers stands with low percentage canopy cover. Extent and density of forest habitat seem less important than amount of air space scanned from highest perches. Most numerous where tall conifers overlook canyons or border on clearings.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs or trees/grass-forbs.

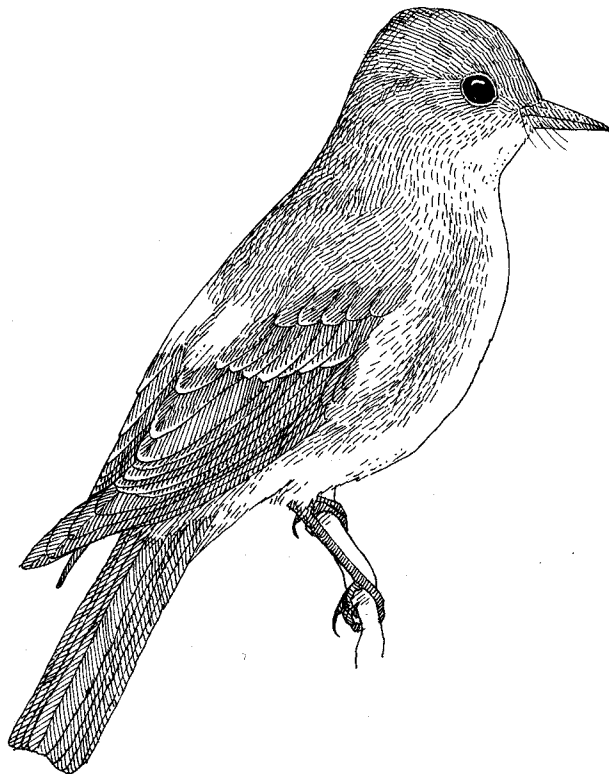
BREEDING: Breeds from mid-May to mid-July, with peak in mid-June. Nests on horizontal branches in tall conifers, ranging in height from 10 to 70 ft (3.1 to 21 m), usually from 40 to 50 ft (12 to 15 m). Clutch size from 3 to 4, with mean of about 3.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Flying insects, hawked in midair from extremely high perches, comprise the diet.

OTHER:

REFERENCES: Tvrđik 1971, Gaines 1977.



Horned Lark

B105 (*Eremophila alpestris*)

STATUS: No official listed status. Two races found in the western Sierra Nevada. A lowland form is permanent resident, primarily from El Dorado County northward to Shasta County; second race spills over into high elevation areas from east slopes of the Sierra Nevada.

DISTRIBUTION/HABITAT: Breeds in grasslands and alpine meadows.

SPECIAL HABITAT REQUIREMENTS:

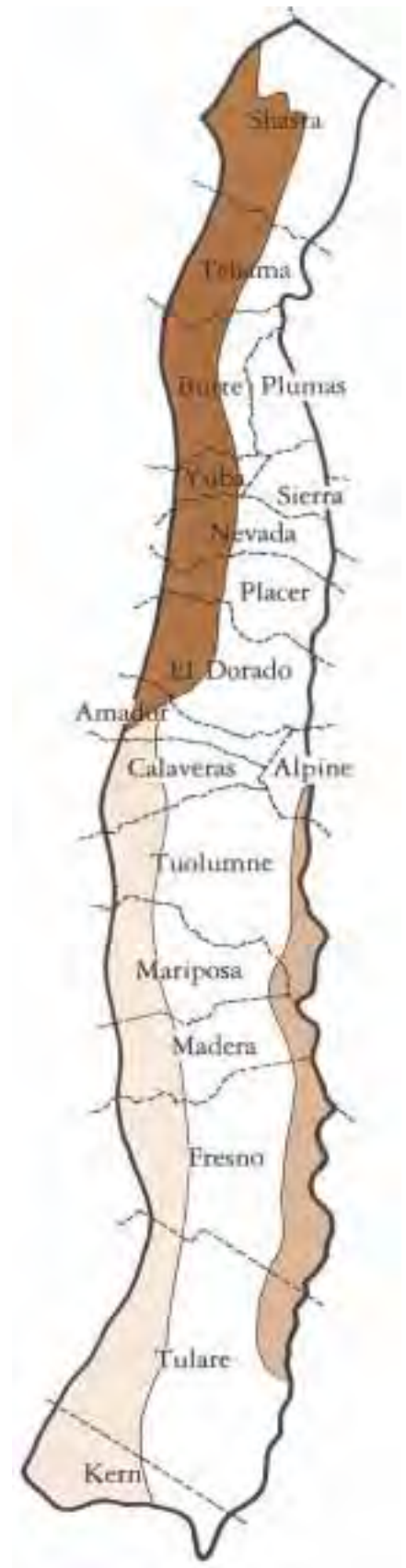
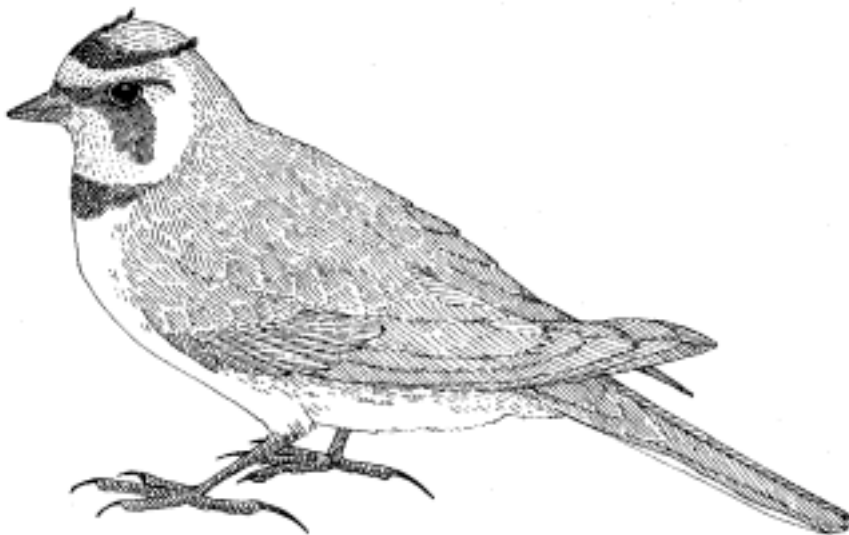
BREEDING: Breeds from early March to late July, with peak from mid-May to early July. Nests on dry ground among sparse vegetation. Clutch size from 2 to 5, with mean of 3.

TERRITORY/HOME RANGE: Breeding territories in midwestern farmlands reported as about 12 acres (4.9 ha) (Fitch 1958), ranging from 1.5 to 7.8 acres (0.6 to 3.2 ha) (Beason and Franks 1974), and ranging from 1 to 13 acres (0.4 to 5.3 ha) (Pickwell 1931). In Wyoming alpine tundra, Verbeek (1967) roughly estimated breeding territories of birds as about 4 acres (1.6 ha). No data on home range.

FOOD HABITS: Eats mostly insects, with some seeds and other vegetable matter. Takes food from the ground.

OTHER:

REFERENCES: Behle 1942, Verbeek 1967, Beason and Franks 1974.



Violet-green Swallow

B106 (*Tachycineta thalassina*)

STATUS: No official listed status. Common spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds in all habitat types from blue oak savannahs up to lodgepole pine forests, especially at middle elevations.

SPECIAL HABITAT REQUIREMENTS: Nest cavities or crevices; medium to large openings, or open terrain.

BREEDING: Breeds from late April to mid-August, with peak from late May to late July. Nests in small crevice or hole in cliff, in abandoned woodpecker hole in tree, or in hole in some human structure, generally above 5 ft (1.5 m). Clutch size from 4 to 7, usually 4 or 5.

TERRITORY/HOME RANGE: No precise data available on size of home range or territory, but Grinnell and Miller (1944) state that home range large. Presumably only immediate vicinity of nest site defended.

FOOD HABITS: Feeds on flying insects, captured in long, gliding flights above any habitat, passing through swarms of insects. Does not require bodies of water to forage over, but usually does so if such areas available.

OTHER: Solitary or weakly colonial nesters.

REFERENCES: Bent 1942, Edson 1943, Grinnell and Miller 1944, Combella 1954.



Tree Swallow

B107 (*Iridoprocne bicolor*)

STATUS: No official listed status. Uncommon to rare spring migrant and summer resident.

DISTRIBUTION/HABITAT: Found from annual grasslands up to lodgepole pine forests. Breeds in sites with large trees; also breeds along riparian sites, around margins of ponds and lakes or in wet meadows where trees provide nest sites. Few records of nesting above 5000 ft (1520 m) in the Sierra Nevada probably exceptional.

SPECIAL HABITAT REQUIREMENTS: Nest cavities by pond, lake, stream, river, marsh, or wet meadow.

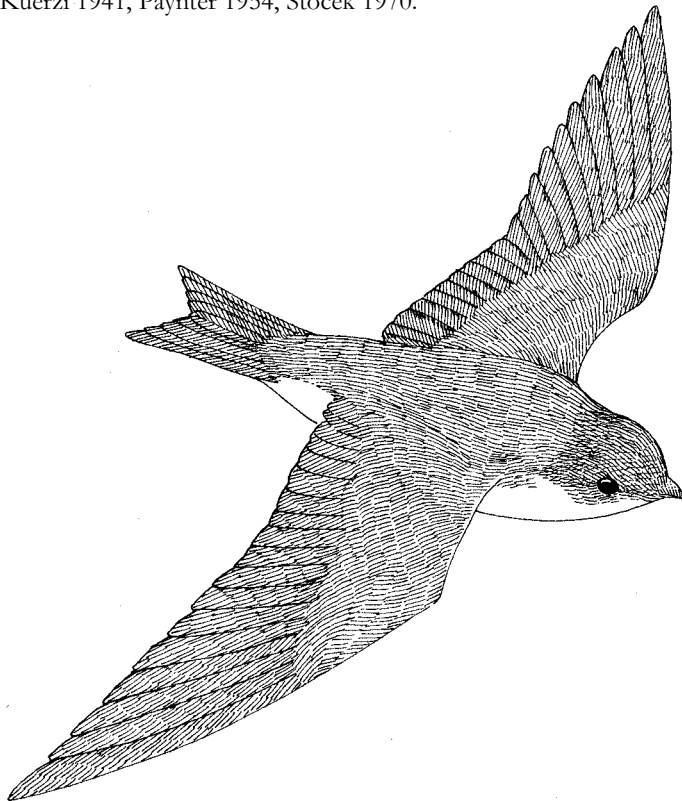
BREEDING: Breeds from mid-April to mid-August, with peak from late May to mid-July. Nests in abandoned woodpecker hole or other cavity in tree, preferably surrounded by water or on edge of water. Also uses nest boxes or cavities in buildings. No data on nest height in natural conditions. Clutch size from 3 to 7, with mean of about 5. Usually nests solitarily or in small groups.

TERRITORY/HOME RANGE: Home range is large (Kuerzi 1941, in a Connecticut study). Only nest site defended (Kuerzi 1941).

FOOD HABITS: Feeds almost exclusively on flying insects; also eats some berries and seeds. Captures insects by flying back and forth over water or at least a wet area.

OTHER: May be limited in the Sierra Nevada by availability of suitable nest sites, as has been true in other parts of the country.

REFERENCES: Kuerzi 1941, Paynter 1954, Stoeck 1970.



Rough-winged Swallow

B108 (*Stelgidopteryx ruficollis*)

STATUS: No official listed status. Uncommon spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds from annual grasslands up to ponderosa pine and black oak woodland types, especially at lower elevations. Found in all successional stages, so long as suitable nest sites available.

SPECIAL HABITAT REQUIREMENTS: Earthen bank.

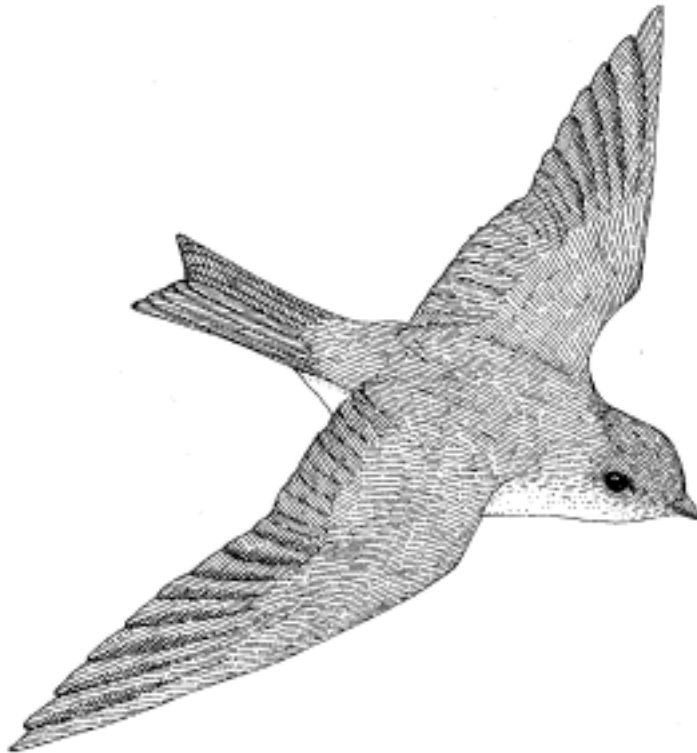
BREEDING: Breeds from early April to early August, with peak from late May to mid-July. Nests in hole in earthen bank; sometimes excavates own cavity or uses rodent's burrows, kingfisher nest sites, or natural cavities. Generally nests solitary-ly, unless a bank offers unusually good nest site characteristics, in which case more than one nest may be found in close proximity. Clutch size from 4 to 8, most contain 6 or 7.

TERRITORY/HOME RANGE: No data on home range. Only immediate vicinity of nest cavity defended (Lank 1962).

FOOD HABITS: Eats flying insects, captured in long, cruising flights, generally low over water or in gullies.

OTHER: Numbers probably limited by available nest sites.

REFERENCES: Bent 1942, Grinnell and Miller 1944, Lunk 1962.



Barn Swallow

B109 (*Hirundo rustica*)

STATUS: No official listed status. Common spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds in all habitats and successional stages from annual grasslands up to mixed-conifer forests, providing suitable nest sites available. More abundant at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Cliffs, old buildings, or bridges for nesting; nearby water for mud gathering.

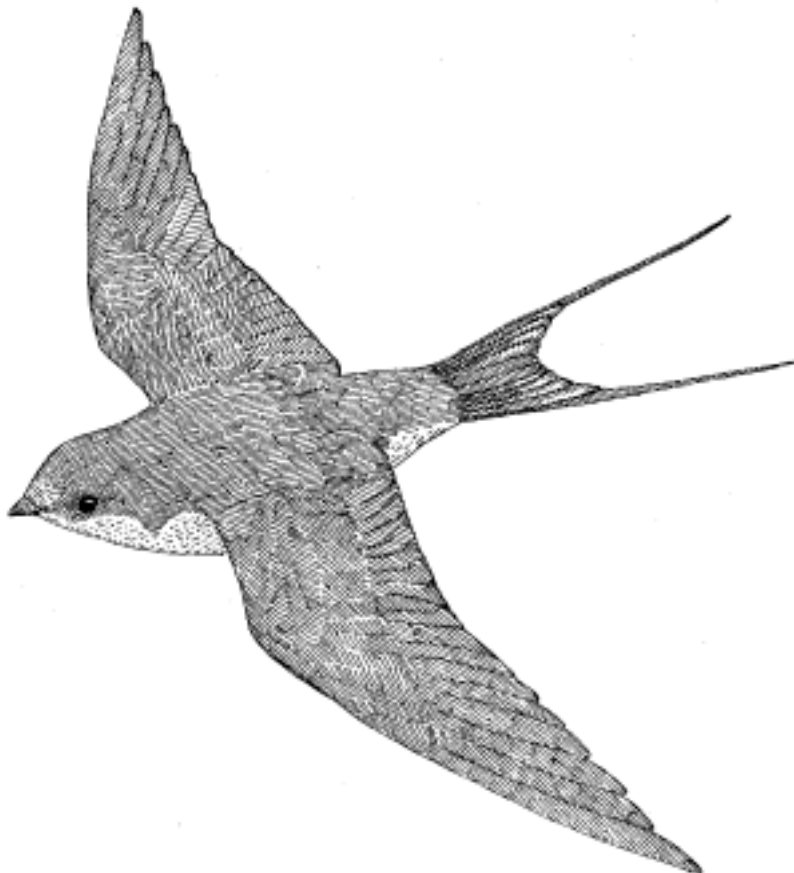
BREEDING: Breeds from early April to mid-August, with peak from mid-May to mid-July. Nests under eaves of buildings, under bridges, on rock surfaces under stream bank overhangs, or other suitably sheltered sites with solid substrate to which nest may be attached. Mud used in nest construction. Clutch size from 1 to 7, most contain 4 or 5.

TERRITORY/HOME RANGE: Data on home range scanty. Forages mostly within 4000 ft (1220 m) of the nest (Samuel 1971), or within 1300 ft (400 m) of the nest (Snapp 1976). Defends only the area immediately around nest (Davis 1937).

FOOD HABITS: Feeds on flying insects, captured in long, cruising flights, usually low over streams, ponds, or wet meadows.

OTHER:

REFERENCES: Bent 1942, Grinnell and Miller 1944, Samuel 1971, Snapp 1976.



Cliff Swallow

B110 (*Petrochelidon pyrrhonota*)

STATUS: No official listed status. Abundant spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds from annual grasslands up into mixed-conifer forests; prefers low elevations. Occasionally known to nest at higher elevations; one colony with 30 nests located in Amador County, at 8400 ft (2560 m) elevation.

SPECIAL HABITAT REQUIREMENTS: Cliffs, old buildings, or bridges for nesting; nearby water for mud gathering.

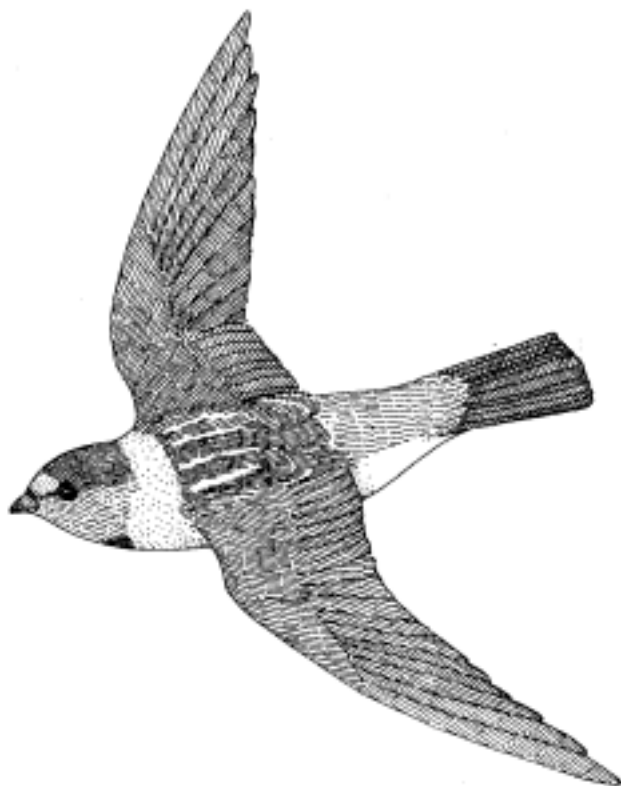
BREEDING: Breeds from mid-April to early August, with peak from early May to early July. Nest constructed of mud pellets, attached to solid, vertical surface. A funnel-shaped structure, nest has small opening directed outward from the surface to which the nest is attached. Nests often close together; species nests in colonies. Clutch size from 3 to 6, most contain 3 or 4.

TERRITORY/HOME RANGE: In Wyoming, Emlen (1954) reported a home range of 2 to 4 mi (3.2 to 6.4 km) foraging radius around the nest. Only the area in immediate vicinity of nest defended (Emlen 1954).

FOOD HABITS: Feeds exclusively on flying insects, captured in long, cruising flight over bodies of water, grasslands, marshes, or shrubs.

OTHER:

REFERENCES: Emlen 1952, 1954; Mayhew 1958; Samuel 1971.



Steller's Jay

B111 (*Cyanocitta stelleri*)

STATUS: No official listed status. Common to abundant resident.

DISTRIBUTION/HABITAT: Breeds from ponderosa pine and black oak woodland types up to lodgepole pine forests; prefers stands of mature trees with low to intermediate percent canopy coverage. Breeding range expanded in recent years in areas of human use. Most abundant around campgrounds and picnic areas. Exhibits some upslope movement after breeding period; at least part of population regularly moves downslope in fall and winter.

SPECIAL HABITAT REQUIREMENTS:

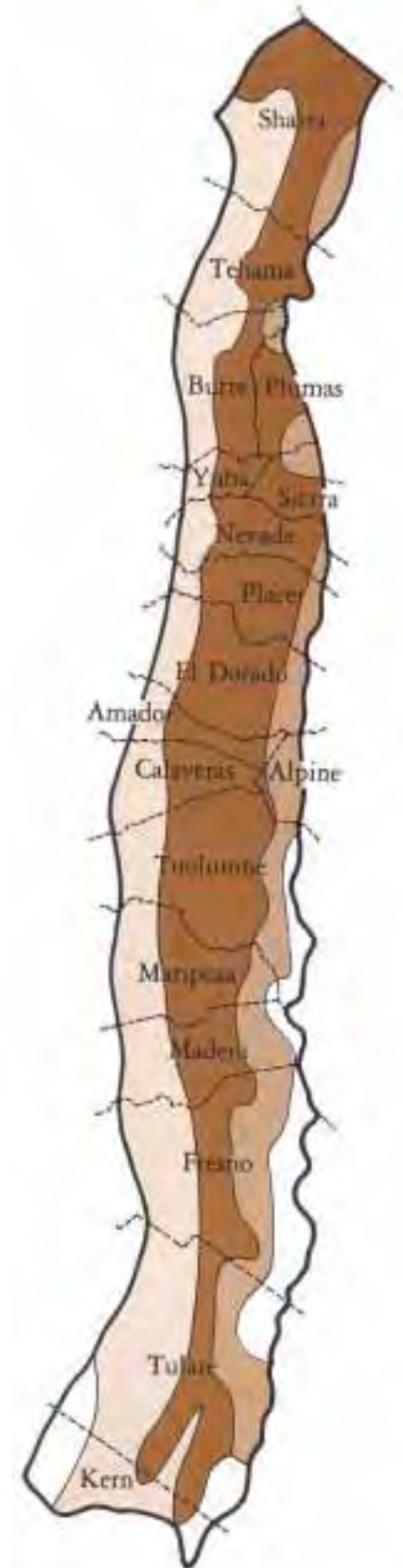
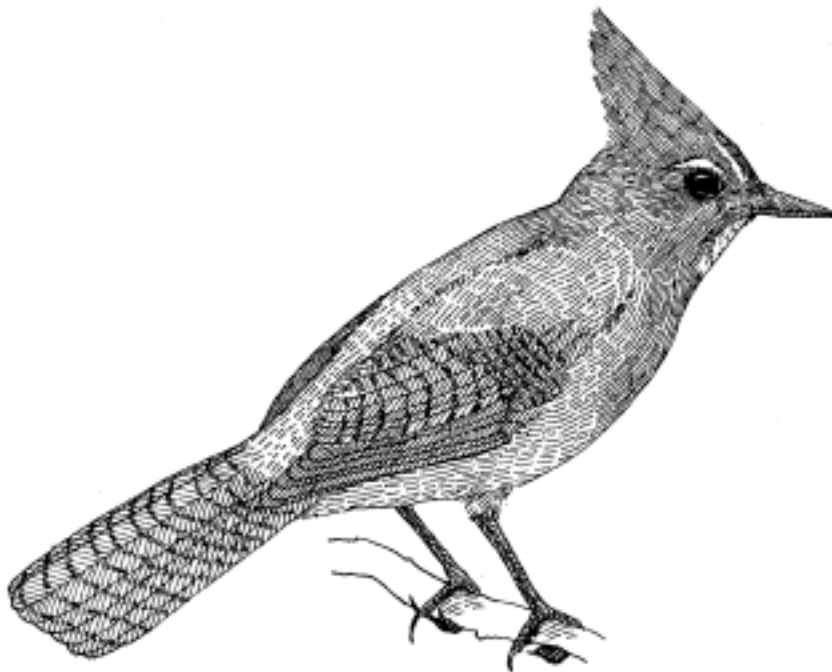
BREEDING: Breeds from early April to late July, with peak from early May to late June. Nests usually in dense foliage in young conifers, on horizontal branch near trunk. Sometimes nests in older conifers or deciduous trees. Nest height ranges from 2 to 100 ft (0.6 to 30 m); most nests between 8 and 15 ft (2.4 and 4.6 m) up. Clutch size from 3 to 5, with mode of 4.

TERRITORY/HOME RANGE: No data on home range size. In Alameda County, hold year-round territories (Brown 1964), but no sizes reported.

FOOD HABITS: Omnivorous, eating mast, fruit, insects, seeds, carrion, birds' eggs and young. Uses variety of foraging techniques, including gleaning and picking. Takes food from ground and from foliage of conifers and broadleaved trees and shrubs.

OTHER: One of most secretive nesters of forest birds.

REFERENCES: Grinnell and Miller 1944, Bent 1946, Brown 1964.



Scrub Jay

B112 (*Aphelocoma coerulescens*)

STATUS: No official listed status. Common resident.

DISTRIBUTION/HABITAT: Breeds in low elevation oak and pine/oak sites, chaparral, and riparian deciduous types; prefers stands with low percent canopy coverage. Occasionally individuals wander upslope after breeding.

SPECIAL HABITAT REQUIREMENTS: Oaks or cultivated nut trees.

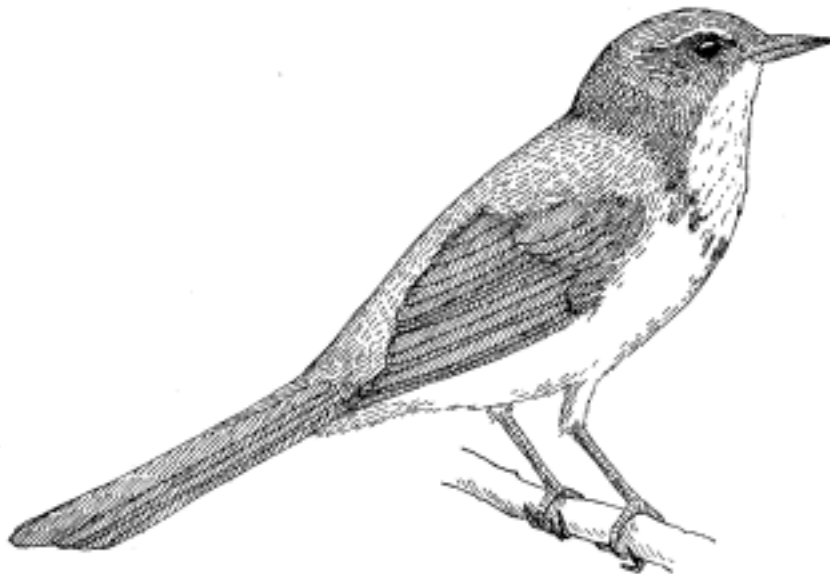
BREEDING: Breeds from early March to mid-August, with peak from late April to early July. Nests usually in low trees, vines, or shrubs, typically near water, from 3 to 50 ft (0.9 to 15 m) up. Clutch size from 2 to 7, with 4 or 5 most frequent.

TERRITORY/HOME RANGE: In Butte County, two home ranges averaged 12.7 acres (5.1 ha), and five territories averaged 5.5 acres (2.2 ha) (Ritter 1972).

FOOD HABITS: Acorns, other nuts and seeds, insects, and fruit make up majority of diet. Commonly feeds on ground near cover, gleans food from ground and litter; also digs in ground and often buries acorns and other foods for later consumption. Picks acorns and nuts from trees, and gleans foliage of trees, forbs, and grasses.

OTHER:

REFERENCES: Pitelka 1951a, Ritter 1972, Verbeek 1973.



Black-billed Magpie

B113 (*Pica pica*)

STATUS: No official listed status. Breeds east of the Sierra Nevada crest, with infrequent vagrants on west slopes.

DISTRIBUTION/HABITAT: Found uncommonly from midsummer to late winter. Feeds in clearings and areas with scattered shrubs, resting in most sites with trees. Recorded from alpine meadows downslope to mixed-conifer zone.

SPECIAL HABITAT REQUIREMENTS: Water in dry season; openings.

BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: Probably none established in the western Sierra Nevada.

FOOD HABITS: Eats primarily insects, also carrion, small mammals, and sometimes birds' eggs, fruit, and grain. Feeds on the ground, in low vegetation, and on backs of large herbivores. Searches beneath objects and gleans food from foraging surfaces.

OTHER:

REFERENCES: Linsdale 1937, Jones 1960, Erpino 1968.



Yellow-billed Magpie

B114 (*Pica nuttalli*)

STATUS: No official listed status. Permanent resident only at low elevations in the southern and central Sierra Nevada; rare vagrant at higher elevations.

DISTRIBUTION/HABITAT: Breeds in wooded stages of blue oak savannah and digger pine-oak type; prefers sites with intermediate percent canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Open terrain; trees; water in dry season.

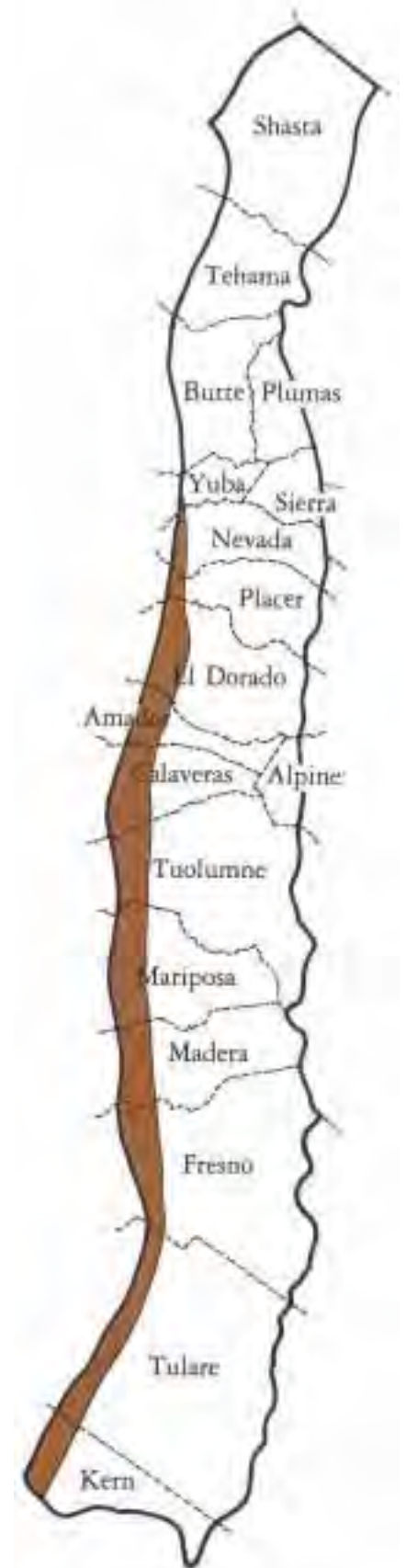
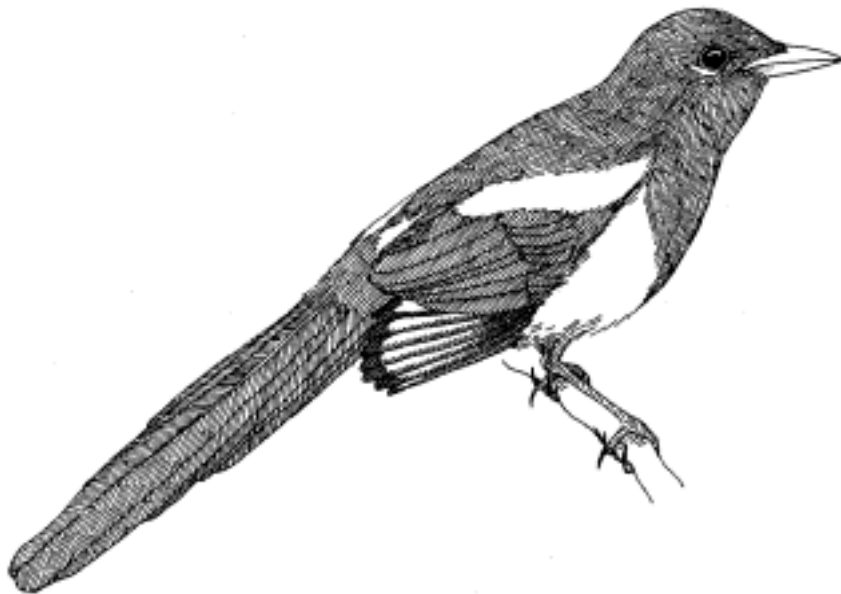
BREEDING: Breeds from late February to mid-July, with peak from early May to late June. Nests around periphery of canopy of large tree. Nests in loose colonies, usually in oaks, sycamores, cottonwoods, or digger pines. Nest height ranges from 30 to 80 ft (9.1 to 24 m), with mean of 55 ft (17 m) (Verbeek 1973). Clutch size from 5 to 8, with mean of 6.5.

TERRITORY/HOME RANGE: In Monterey County, during breeding season, home range averaged about 100 acres (40 ha), expanding to about 1500 acres (607 ha) in nonbreeding period (Verbeek 1973). Also in Monterey County, territory size, year-round, ranged from 1.5 to 4.8 acres (0.6 to 1.9 ha) with an average of 3 acres (1.2 ha) (Verbeek 1973).

FOOD HABITS: Eats insects, soil invertebrates, carrion, a wide variety of other animal foods, acorns, fruit, and occasionally raids birds' nests. Obtains food from ground, among grasses and forbs, and in air. Gleans, searches under objects (for example, dung, wood chips), and hawks for aerial insects.

OTHER: Feeds a great deal on territory during breeding season, but moves around in large flocks in nonbreeding season. Well adapted to agricultural areas.

REFERENCES: Linsdale 1937; Bent 1946; Verbeek 1972, 1973.



Common Raven

B115 (*Corvus corax*)

STATUS: No official listed status. Uncommon resident.

DISTRIBUTION/HABITAT: Breeds in all vegetation types from the annual grasslands upslope to Jeffrey pine forests, with a preference for lower elevation areas. Feeds and rests on up to the crest of the Sierra Nevada.

SPECIAL HABITAT REQUIREMENTS: Large openings; cliffs or trees for nesting.

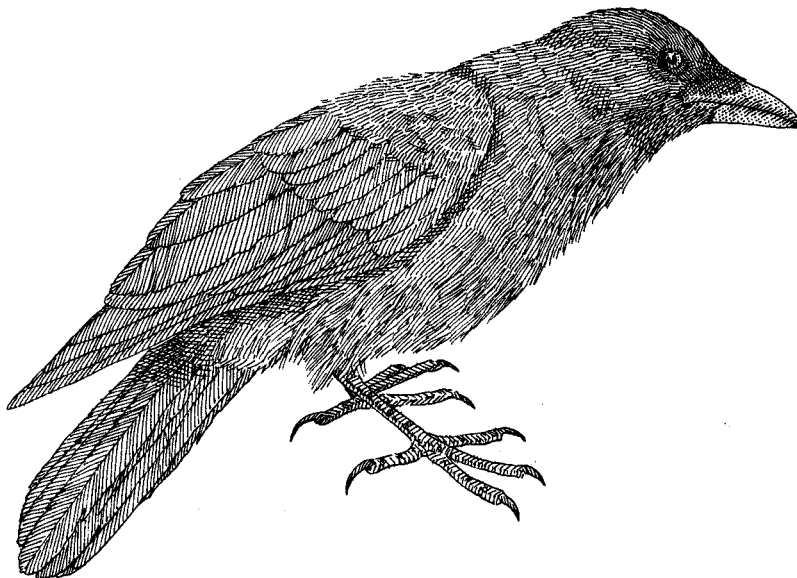
BREEDING: Breeds from mid-February to late July, with peak from mid-April to mid-June. For nesting, prefers ledge or crevice in cliff, but will use trees or manmade structures. Nest commonly sheltered by overhand or foliage. A nest tree typically the highest tree available with good cover at top. Nest height from 20 to 100 ft (6.1 to 30 m). Clutch size from 4 to 8, most contain 5 or 6.

TERRITORY/HOME RANGE: No data on territory. In Wyoming, Craighead and Craighead (1956) reported two breeding home ranges of 2.6 and 4.2 mi² (6.7 and 10.9 km²).

FOOD HABITS: Feeds on carrion; small, live vertebrates; and large insects. Takes food from ground and nests. Searches for food while flying and soaring.

OTHER: Generally avoids human settlements. Little known of winter distribution or breeding sites in the Sierra Nevada. May have increased range recently; has not been reported in Yosemite National Park before 1950; now listed as "uncommon" (Gaines 1977).

REFERENCES: Harlow 1922, Tyrell 1945, Bent 1946.



Common Crow

B116 (*Corvus brachyrhynchos*)

STATUS: No official listed status. Common in Central Valley; status above 1000 ft (305 m) uncertain.

DISTRIBUTION/HABITAT: A permanent resident, breeds in blue oak savannah, in digger pine-oak woodlands, and in low and mid-elevation riparian deciduous habitats. Some upslope movement as high as mixed-conifer zone in spring and fall.

SPECIAL HABITAT REQUIREMENTS: Large openings; trees for nesting.

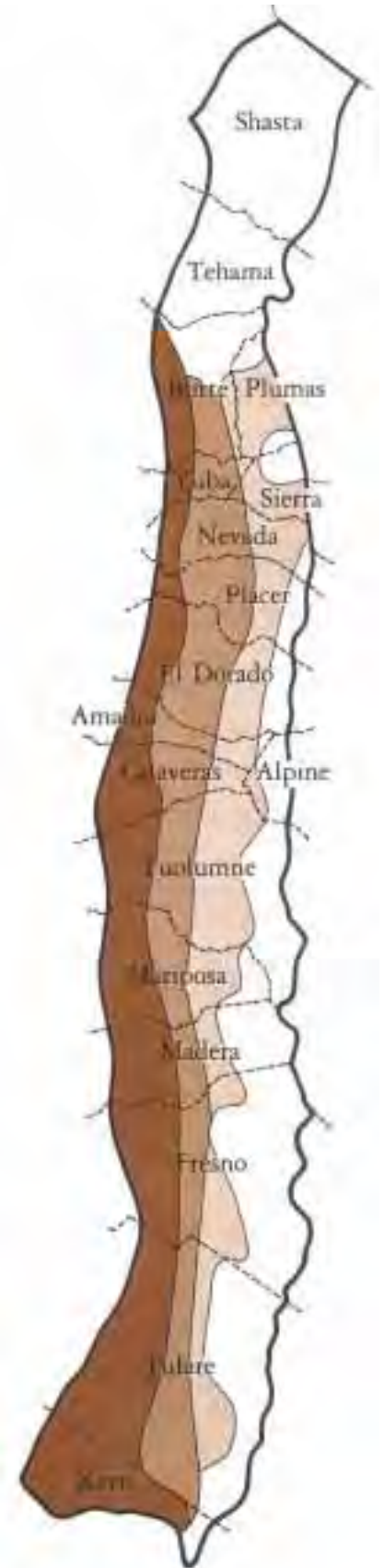
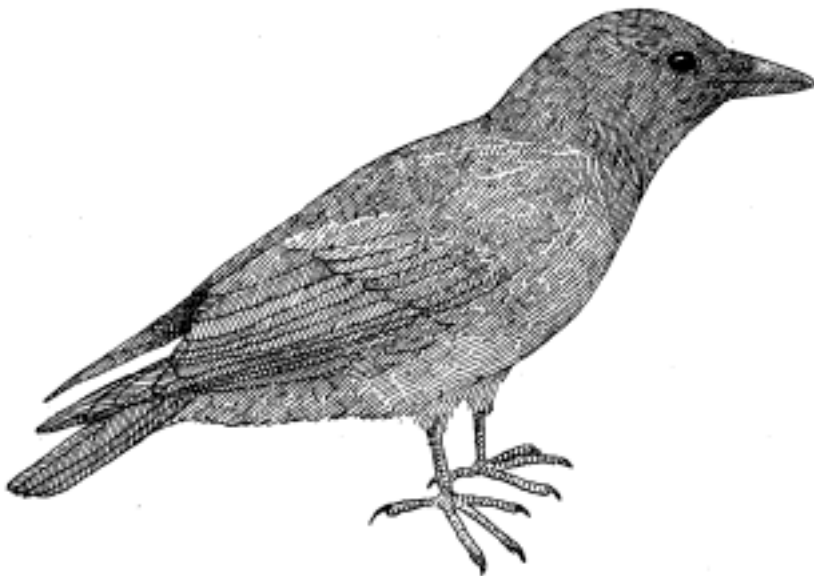
BREEDING: Breeds from late March to early July, with peak from early May to mid-June. Nests in trees, typically in crotch, from 10 to 60 ft (3.1 to 18 m) up. Clutch size from 2 to 6, with mean of 4.4.

TERRITORY/HOME RANGE: No information available. Probably territorial during the breeding season (Emlen 1942). Several pairs sometimes nest in loose association.

FOOD HABITS: Eats seeds and nuts, fruits, insects, small vertebrates, carrion, and eggs. Obtains food from the ground, from vegetation, and from nests. Foraging techniques include gleaning and searching while in flight.

OTHER:

REFERENCES: Emlen 1940, 1942; Bent 1946.



Piñon Jay

B117 (*Gymnorhinus cyanocephalus*)

STATUS: No official listed status. Uncommon vagrant in late summer and fall; apparently comes to west slopes of the Sierra Nevada from east side localities.

DISTRIBUTION/HABITAT: Sporadic occurrence from Jeffrey pine forests down to blue oak savannah; prefers sites lacking high percent canopy cover.

SPECIAL HABITAT REQUIREMENTS: Openings.

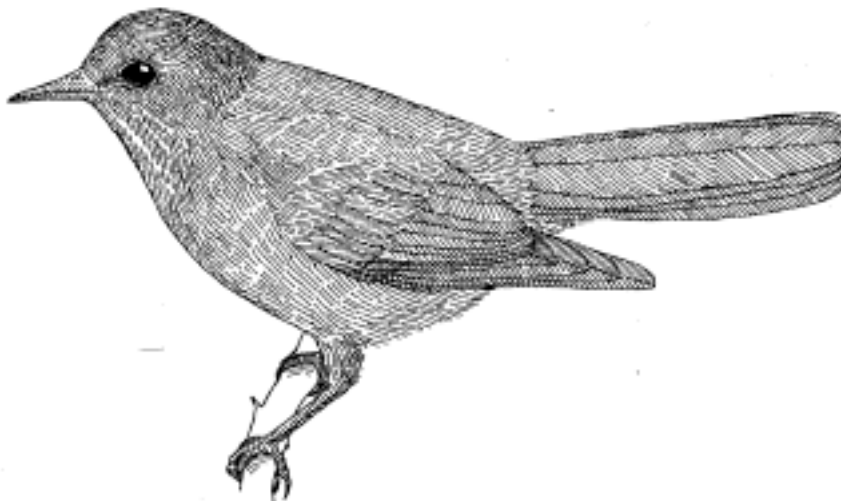
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: One flock in New Mexico ranged over 11.2 mi² (29 km²) (Ligon 1971); another in Arizona ranged over 8 mi² (21 km²) (Balda and Bateman 1971).

FOOD HABITS: Pine seeds make up the majority of the diet; also eats insects, tender young pine cones, fruits, and birds' eggs and young. Feeds on the ground, on cones, foliage, and bark. Foraging techniques include gleaning, cone feeding, crevice picking, and bark flaking. Stores pine nuts.

OTHER: Flocks become nomadic when cone seed crop in home range poor. May wander hundreds of miles at such times.

REFERENCES: Balda and Bateman 1971, 1972; Balda *et al.* 1972.



Clark's Nutcracker

B118 (*Nucifraga columbiana*)

STATUS: No official listed status. Common resident; few breeding records in western Sierran zone. Probably breeds more commonly on east slope.

DISTRIBUTION/HABITAT: Breeds in variety of high altitude conifer habitats, most birds remaining above 8000 ft (2440 m) all year. Some descend to lower elevations in late summer and fall, feeding on seeds of Jeffrey, ponderosa, and sugar pines. Seldom descends below 4000 ft (1220 m). Prefers high-altitude rocky sites with sparse forest that includes pines.

SPECIAL HABITAT REQUIREMENTS: Pines.

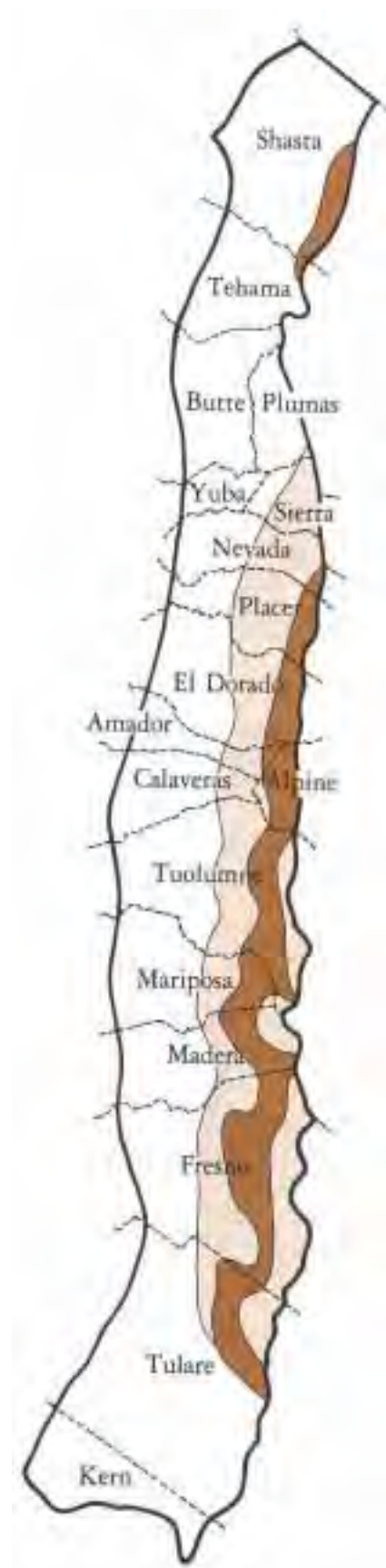
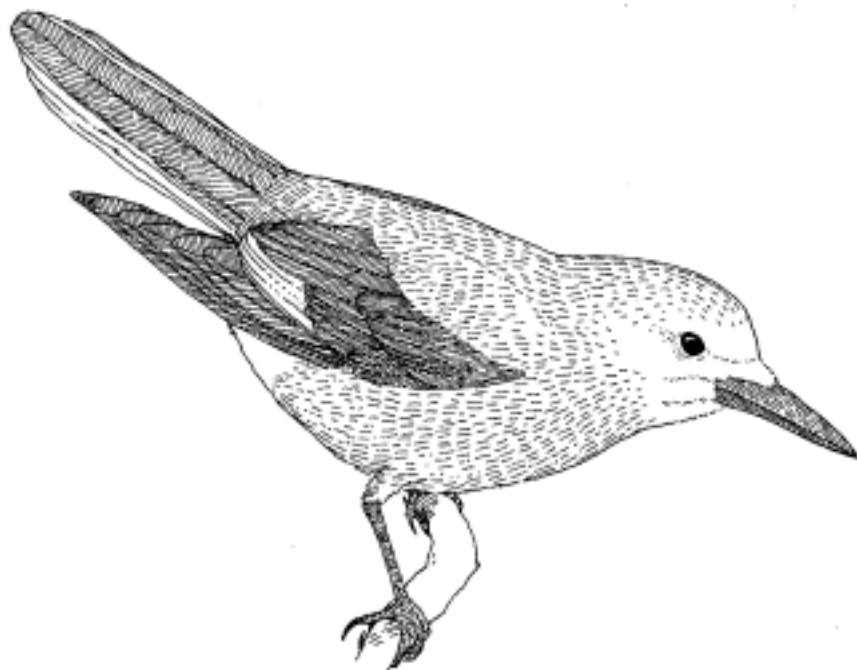
BREEDING: Breeds from late February to early August, with peak from early April to early June. Nests in a conifer, often small one, from 7 to 150 ft (2.1 to 46 m) up, though most below 50 ft (15 m). Clutch size from 2 to 6, with mode of 3.

TERRITORY/HOME RANGE: In Montana, a single breeding territory occupied 2.1 acres (0.9 ha) (Mewaldt 1956). In Mono County, Dixon (1934) reported foraging over 1.5 mi (2.4 km) from nest.

FOOD HABITS: Eats pine seeds and insects; also berries, birds' eggs and nestlings, and carrion. Obtains food from cones on trees or on ground, from foliage and bark, and from the air. Rips open cones, gleans and hawks insects.

OTHER:

REFERENCES: Dixon 1934, Mewaldt 1956, Tomback 1977.



Mountain Chickadee

B119 (*Parus gambeli*)

STATUS: No official listed status. Abundant resident.

DISTRIBUTION/HABITAT: Breeds from ponderosa pine and black oak woodland zone up through lodgepole pine forests; prefers stands with large trees and less than 70 percent canopy coverage. In fall, winter, and spring, ranges downslope into oak and pine/oak woodlands.

SPECIAL HABITAT REQUIREMENTS: Nest cavities.

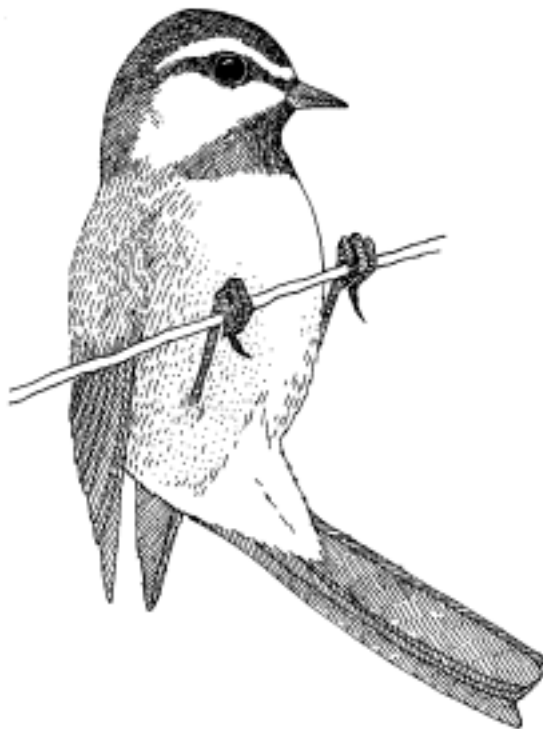
BREEDING: Breeds from early May to mid-August, with peak from late May to late July. Nests in small cavity in snag or stump, usually an abandoned woodpecker hole or, occasionally, a natural cavity. Clutch size from 5 to 9.

TERRITORY/HOME RANGE: In Utah, banded adults studied by Dixon and Gilbert (1964) formed winter flocks and remained in vicinity of breeding grounds; none noted to visit points more than about 0.8 mi (1.3 km) apart. In Arizona piñon-juniper-ponderosa pine ecotone, Laudenslayer and Balda (1976) indicate a mean breeding territory size of 3.7 acres (1.5 ha) while a single partial territory mapped by Minock (1971) in Utah covered at least 21 acres (8.5 ha). Discrepancy in size estimates suggests need for more field work.

FOOD HABITS: Feeds on small insects, gleaned from foliage and twigs of trees.

OTHER: Often most abundant species in winter in high elevation breeding range.

REFERENCES: Grinnell and Miller 1944, Bent 1946, Dixon and Gilbert 1964.



Chestnut-backed Chickadee

B120 (*Parus refescens*)

STATUS: No official listed status. Rare resident from the central Sierra Nevada northward.

DISTRIBUTION/HABITAT: Range extended only recently into the Sierra Nevada; now known to occur year-round. Prefers moist forests of mixed hardwoods and conifers; may be found in other habitats. Permanent resident in ponderosa pine, black oak woodland, and mixed-conifer types.

SPECIAL HABITAT REQUIREMENTS: Nest cavities.

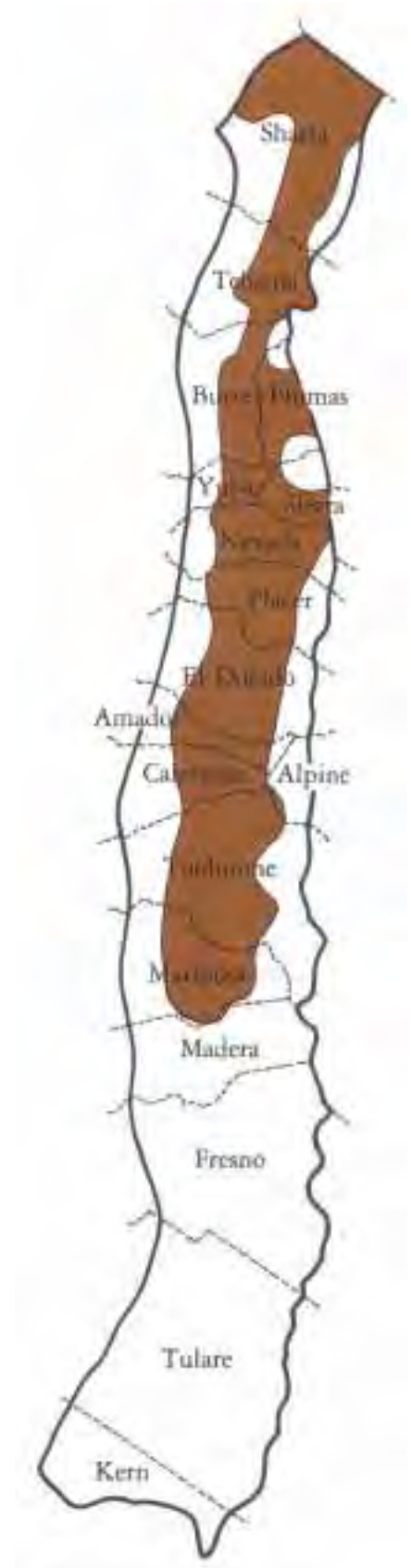
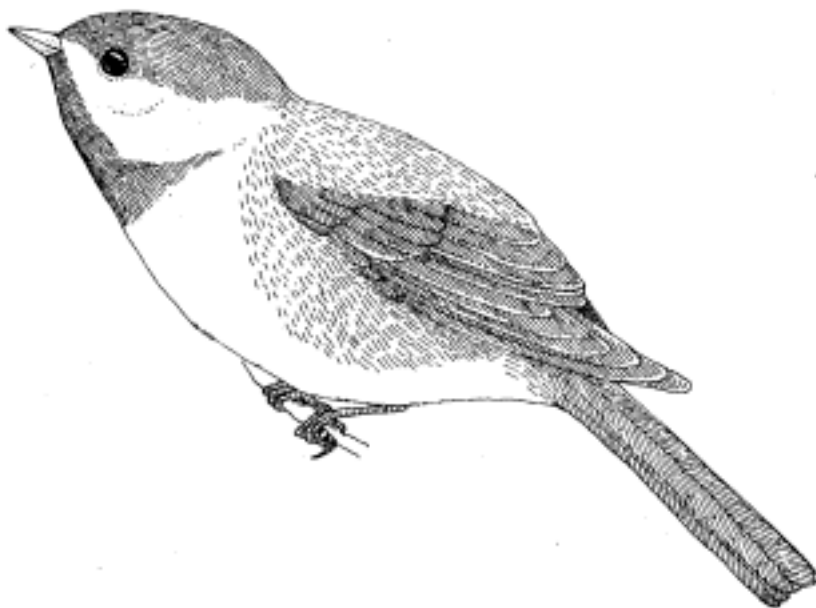
BREEDING: Breeds from late March to late July, with peak from early May to late June. Excavates own nest cavity in decaying wood in snag or stub, or uses abandoned woodpecker nest cavity. Nests usually within 10 ft (3.1 m) of ground; have been recorded as high as 80 ft (24 m). Lays from 5 to 9 eggs per clutch, usually 6 or 7.

TERRITORY/HOME RANGE: No data on home range. In oak woodland in San Mateo County, Hertz *et al.* (1976) reported a mean breeding territory size of 3.3 acres (1.3 ha) (n = 2).

FOOD HABITS: Eats primarily small insects, also takes conifer seeds and fruits. Gleans food from outer foliage and twigs, preferably of conifers. Usually hovers while gleaning food.

OTHER:

REFERENCES: Sturman 1968a, 1968b; Crase 1976.



Plain Titmouse

B121 (*Parus inornatus*)

STATUS: Breeds in wooded sites from blue oak savannah up to ponderosa pine and black oak woodland types. Prefers stands with intermediate to high percentage canopy coverage and with blue live, and valley oaks.

DISTRIBUTION/HABITAT:

SPECIAL HABITAT REQUIREMENTS: Oaks; nest cavities.

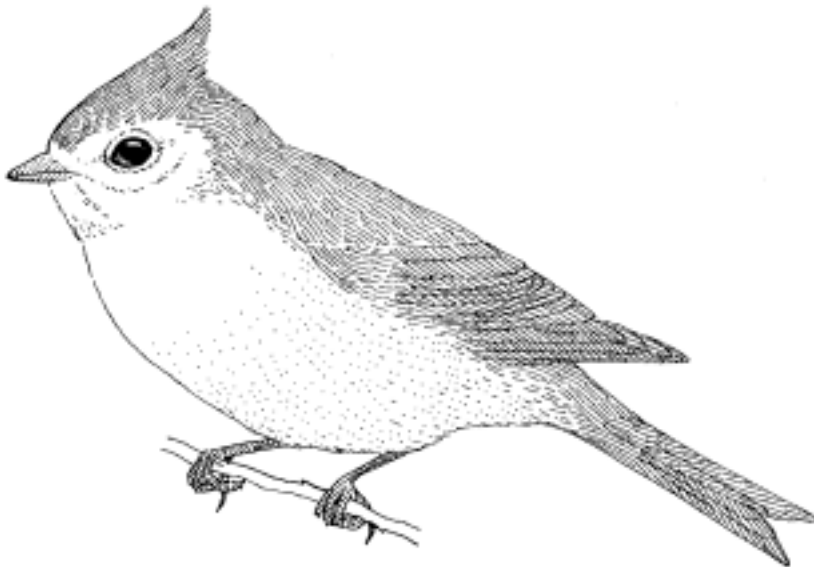
BREEDING: Breeds from mid-March to late July, with peak from early April to early June. Nests in natural cavity or old woodpecker hole; often partially excavates own cavity. Readily accepts nest boxes. Nest height ranges from 3 to 32 ft (0.9 to 9.8 m). From 3 to 9 eggs per clutch, with mode of 7.

TERRITORY/HOME RANGE: Home range the same as territory. Adults permanently paired and defend territory year-round (Dixon 1949, 1956). In Alameda County, territory size ranged from 3.3 to 12.5 acres (1.3 to 5.1 ha), with mean of 6.3 acres (2.6 ha) (Dixon 1949); in another study in Alameda County live oak woodland, Dixon (1954) reported mean territory size of 5.7 acres (2.3 ha). In San Mateo County, Hertz *et al.* (1976) reported mean breeding territory size of 2.0 acres (0.8 ha) (n = 3) in oak woodlands. In Arizona, Laudenslayer and Balda (1976) found mean territory size of 3.0 acres (1.2 ha) in piñon-juniper-ponderosa pine ecotone.

FOOD HABITS: Eats small insects, fruits, and seeds. Gleans food mostly from tree foliage, twigs, and branches, also from the herb/grass layer. Sometimes pulls off bark and pries open galls, flowers, lichens, and others.

OTHER:

REFERENCES: Dixon 1949, 1954, 1956; Hertz *et al.* 1976.



Bushtit

B122 (*Psaltiriparus minimus*)

STATUS: No official listed status. Common resident.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs and digger pine-oak woodlands; prefers stands of low percent canopy coverage. Also breeds in intermediate to high density chaparral stands. After breeding season, moves upslope in fairly large numbers into ponderosa pine and black oak types, remaining until early fall.

SPECIAL HABITAT REQUIREMENTS: Oaks; trees/shrubs.

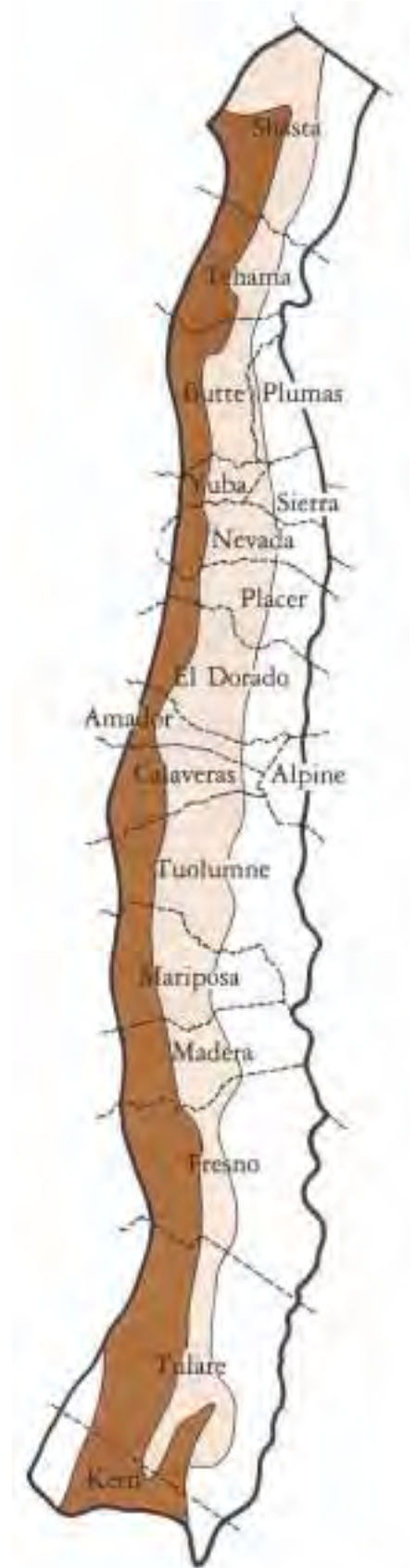
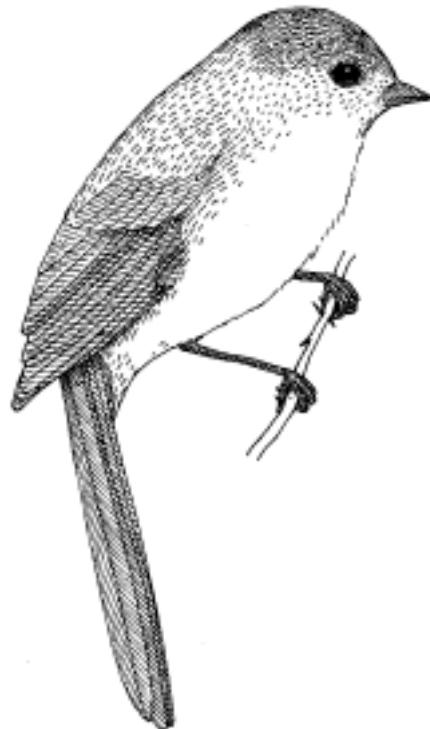
BREEDING: Breeds from mid-February to early August, with peak from early April to early June. Nest has shape of long bag or pouch suspended from branch of tree or shrub, often not concealed by foliage. Nest height ranges from 4 to 50 ft (1.2 to 15 m); most nests within 15 ft (4.6 m) of ground. Clutch contains from 4 to 7, with mode of 6.

TERRITORY/HOME RANGE: In Santa Barbara County, Ervin (1974) shows maps of winter home ranges, but sizes not given. In a northern Arizona pinon-juniper-ponderosa pine ecotone, Laudenslayer and Balda (1976) reported an average territory size of about 3.5 acres (1.4 ha). In San Mateo County, Hertz *et al.* (1976) reported breeding territory sizes in oak woodland ranging from 0.7 to 1.3 acres (0.3 to 0.5 ha) with mean of 1.0 acre (0.4 ha) (n = 12).

FOOD HABITS: Feeds mainly on small insects; takes some seeds and even nectar. Gleans food from foliage and twigs of trees and shrubs. Forages in flocks from late summer until breeding season.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1946, Ervin 1974.



White-breasted Nuthatch

B123 (*Sitta carolinensis*)

STATUS: No official listed status. A common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Prefers large oaks or other large-limbed, rough-barked species, especially ponderosa or Jeffrey pine, particularly with low to intermediate canopy cover, as breeding habitats. Also nests in conifer forests from ponderosa pine up to lodgepole pine type, again with preference for low to intermediate crown cover, and for stands with larger trees at higher elevations. No evidence of altitudinal migration.

SPECIAL HABITAT REQUIREMENTS: Nest cavities.

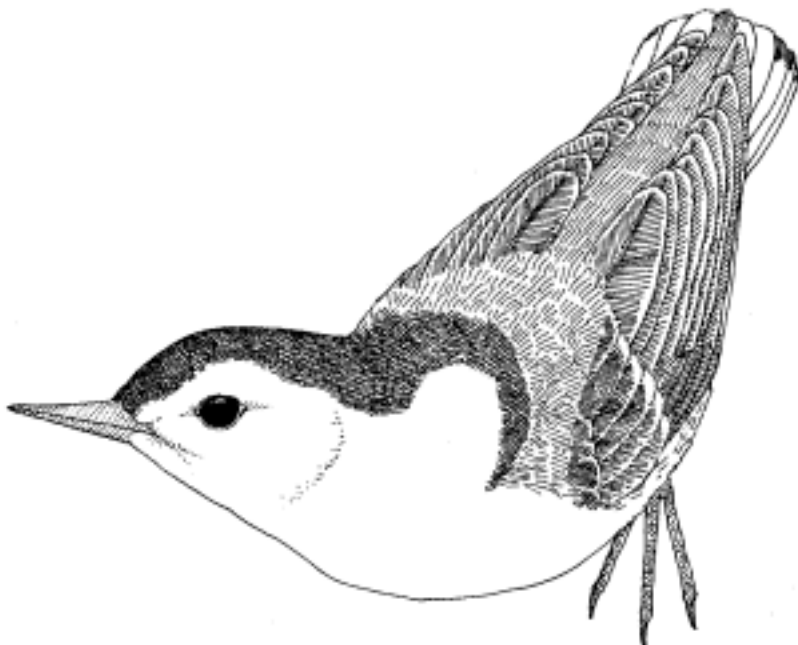
BREEDING: Breeds from mid-March to early August, with peak from early May to late June. Clutch size from 5 to 9, with mean of 7.5. Nests in natural cavity or woodpecker hole in dead or partly dead tree.

TERRITORY/HOME RANGE: In New Hampshire, Kilham (1972) reported that territories approximate 37 acres (15 ha), while in Colorado, Hering (1948) noted feeding territories of two breeding pairs of 1.7 and 2.3 acres (0.7 and 0.9 ha). In Kansas, Fitch (1958) reported home range of one bird as 37 acres (15 ha).

FOOD HABITS: Insects comprise the major food source during breeding season; at other times insects, acorns, and large seeds eaten. Gleans insects from bark of live and dead tree trunks and branches. Stores acorns and seeds for winter; food caches defended.

OTHER: Suffers when large conifers logged. Little field study done in recent decades.

REFERENCES: Kilham 1972.



Red-breasted Nuthatch

B124 (*Sitta canadensis*)

STATUS: No official listed status; abundant permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Widely distributed in conifer forest types from Ponderosa pine belt up to lodgepole forests; prefers breeding in areas with at least pole-sized trees and tight-foliaged types, such as firs. Some downslope migration in fall; may be found in fall, winter, and spring as low as blue oak savannahs.

SPECIAL HABITAT REQUIREMENTS: Snags or nest cavities.

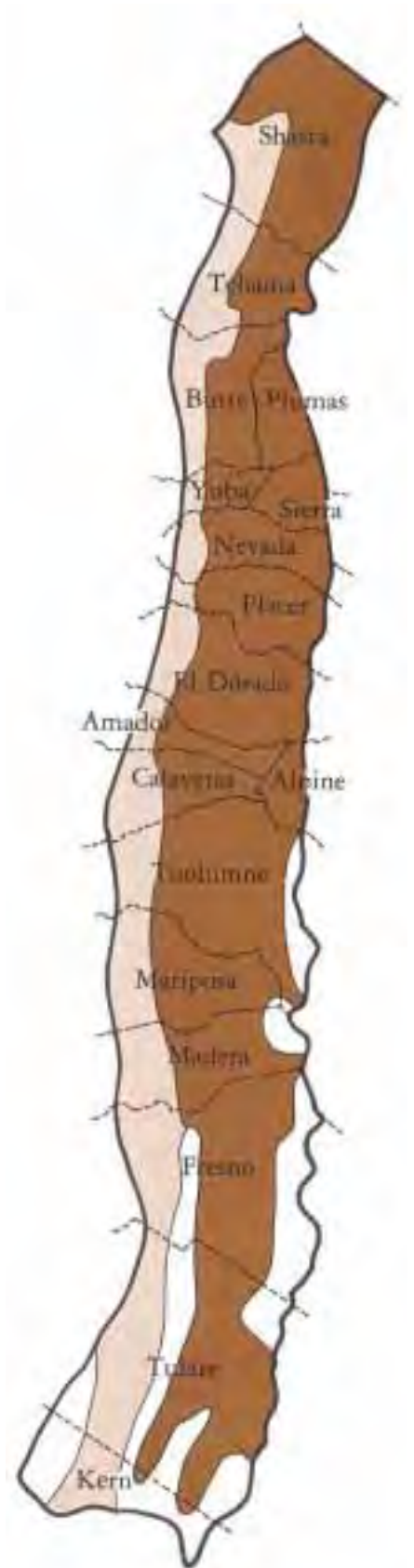
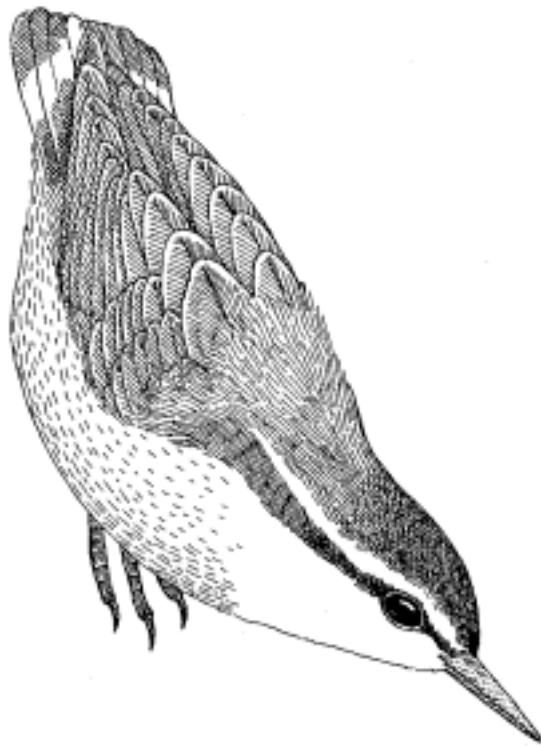
BREEDING: Breeds from late April to early August, with peak activity from early June to late July. Clutch size from 4 to 7, usually contains 5 or 6. Excavates own nest cavity, less often uses old woodpecker hole, from 2 to 120 ft (0.6 to 37 m) above ground, in dead tree or rotten stub on living tree. Pitch smeared at the nest opening.

TERRITORY/HOME RANGE: No information.

FOOD HABITS: Gleans insects from trunk and branches of trees, rarely from foliage. Also probes for insects in bark crevices. Eats conifer seeds in significant amounts.

OTHER:

REFERENCES: Kilham 1973.



Pygmy Nuthatch

B125 (*Sitta pygmaea*)

STATUS: No official listed status. Locally common permanent resident; may be somewhat erratic in occurrence.

DISTRIBUTION/HABITAT: More common in southern than in northern Sierra Nevada; confined to ponderosa pine, mixed-conifer, and Jeffrey pine forests with mature trees and less than 70 percent canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Pines; snags or nest cavities.

BREEDING: Breeds from late April to mid-August, with peak between mid-June and late July. From 5 to 9 eggs (mean of 7) laid in cavity nest in dead, decayed tree trunk or stub. Excavates nest cavity or uses old cavity, from 10 to 50 ft (3.1 to 15 m) above ground (usually above 20 ft [6.1 m]).

TERRITORY/HOME RANGE: Territorial during the breeding period; apparently not during winter. No information available on home range, if different from territory. In a Marin County coastal pine forest, territory size ranged from 1.9 to 3.3 acres (0.8 to 1.3 ha) and averaged 2.7 acres (1.1 ha) (Norris 1958).

FOOD HABITS: Insectivorous in the breeding season, expands diet in nonbreeding period to include pine seeds. Food gleaned from terminal needle clusters, cones, and new shoots of pines, usually high in trees.

OTHER: Roosts in tree cavities, often communally, as many as 150 birds reported in one cavity (Knorr 1957); apparently a heat conservation adaptation practiced during cold periods.

REFERENCES: Norris 1958, Bock 1969.



Brown Creeper

B126 (*Certhia familiaris*)

STATUS: No official listed status. Common permanent resident in suitable habitat; more often heard than seen.

DISTRIBUTION/HABITAT: Found in all conifer types in the breeding season; prefers mature stands with at least 70 percent canopy coverage. In nonbreeding periods may be found at lower elevations, into blue oak savannahs.

SPECIAL HABITAT REQUIREMENTS:

BREEDING: Breeds from early April to mid-August, with peak activity from mid-June to mid-July. Clutch size from 4 to 8, most contain 5 or 6. Nests from 3 to 15 ft. (0.9 to 4.6 m) up, behind loose strips of bark on tree trunks. Prefers incense-cedar for nest sites, but uses other conifers in the western Sierra Nevada.

TERRITORY/HOME RANGE: No information.

FOOD HABITS: Exclusively insectivorous; gleans food from bark surface and probes bark crevices on tree trunks and large branches.

OTHER: No detailed life history available.

REFERENCES: Bent 1948.



Wrentit

B127 (*Chamaea fasciata*)

STATUS: No official listed status. Common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: A common chaparral species, breeds also in other habitat types with suitably dense stands of shrubs, up to ponderosa pine and black oak types. Adults sedentary; immatures may move upslope in late summer.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs.

BREEDING: Breeds from late March to mid-September, with peak from late May to early July. Clutch size from 3 to 5, most contain 4. Nests well concealed within shrubbery, usually 1 to 4 ft (0.3 to 1.2 m) above ground, though sometimes as high as 7 ft (2.1 m).

TERRITORY/HOME RANGE: In Alameda County, territory and home range the same, averaging 0.8 acre (0.32 ha), with a range from 0.5 to 2.7 acres (0.2 to 1.1 ha), based on a study of 40 territories where defended year-round (Erickson 1938). In Los Angeles County, Cogswell (1962) found territory size to average 1.3 acres (0.5 ha), with a range of 0.5 to 3.0 acres (0.2 to 1.2 ha), based on 361 breeding territories.

FOOD HABITS: Eats primarily insects, spiders, and small fruits. Gleans from bark of twigs, from leaf surfaces, and from fruiting stems.

OTHER:

REFERENCES: Erickson 1938, Cogswell 1962.



Dipper

B128 (*Cinclus mexicanus*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitats.

DISTRIBUTION/HABITAT: Almost totally confined to flowing, rocky streams and rivers, but occasionally forages along alpine lakeshores. Some move downslope as streams freeze in winter. Recorded at all elevations in the western Sierra Nevada up to 11,600 ft (3540 m).

SPECIAL HABITAT REQUIREMENTS: Clear, permanent streams or rivers.

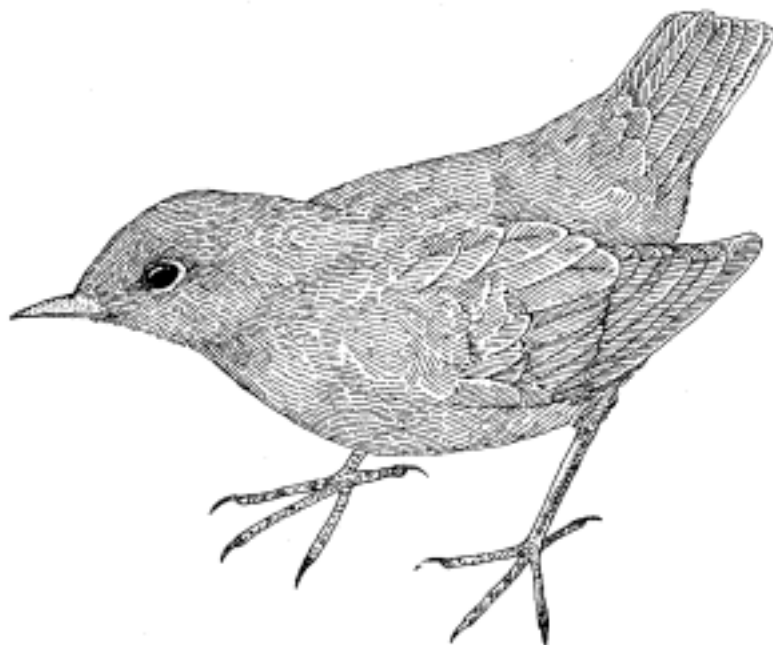
BREEDING: Breeds from early March to early August, with peak from early June to mid-July. Clutch size from 3 to 6; most contain 4 or 5. Nests in recess or on ledge, usually within 3 to 6 ft (1 to 2 m) of stream surface, on inaccessible rock wall, log, or other structure, such as a bridge.

TERRITORY/HOME RANGE: Defends certain length of stream, up to 1050 ft (320 m) in length in breeding season, and from 150 to 2700 ft (46 to 820 m) during nonbreeding period, based on a Montana study (Bakus 1959b). Territory and home range the same.

FOOD HABITS: Eats mainly aquatic insect larvae and adults, snails, and fish fry. Takes directly from water or gleans from rock surfaces under water. Captures some insects in the air by hawking.

OTHER: Stream diversion projects especially detrimental to species.

REFERENCES: Hann 1950; Bakus 1959a, 1959b; Thut 1970.



Winter Wren

B129 (*Troglodytes troglodytes*)

STATUS: No official listed status. Uncommon permanent resident in suitable habitat; some upslope movement in fall.

DISTRIBUTION/HABITAT: Breeds usually near a stream in mature, relatively dense and well-shaded stands of ponderosa pine and mixed conifer, as well as in mid-elevation, deciduous riparian habitat. In fall, moves up into fairly dense stands of Jeffrey pine, red fir, and lodgepole pine; does not remain there over winter.

SPECIAL HABITAT REQUIREMENTS: Litter, logs in dense tangles; natural cavities.

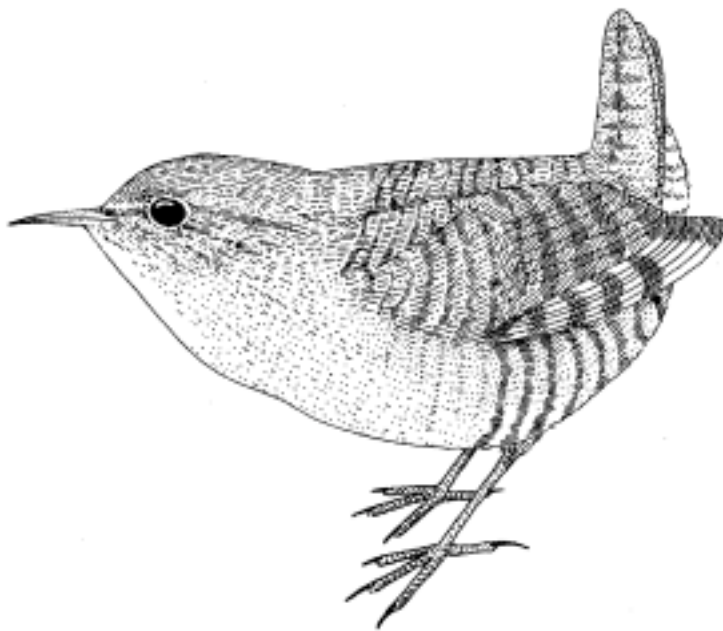
BREEDING: Breeds from early March to late August, with peak from mid-May to late July. May rear two broods per season. Clutch size from 4 to 7, usually 5 or 6. Nests in natural recess or cavity in or under log or in root tangle.

TERRITORY/HOME RANGE: Territory and home range the same, ranging year-round from 0.75 to 3.0 acres (0.3 to 1.2 ha), with average around 1.75 acres (0.7 ha), based on a study in Holland (Armstrong 1955).

FOOD HABITS: Gleans larval and adult insects from ground or near ground in tangled vegetation or downed wood.

OTHER: North American forms not studied well in the field. Uncommon and inconspicuous in the western Sierra Nevada, and distribution not well defined. More common in fall and winter than during breeding season.

REFERENCES: Armstrong 1955.



House Wren

B130 (*Troglodytes aedon*)

STATUS: No official listed status. Fairly common summer visitor at lower elevations, moving upslope in late summer, apparently after breeding.

DISTRIBUTION/HABITAT: Nests in all successional stages except grass/forb and dense forest canopies from blue oak savannah up to ponderosa pine forests and black oak woodlands. Prefers areas with low percentage canopy coverage; generally requires trees. Often found at edges of forests, woodlands, or meadows. In late summer may be found in wet meadows and willow thickets almost up to timberline.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; trees/shrubs.

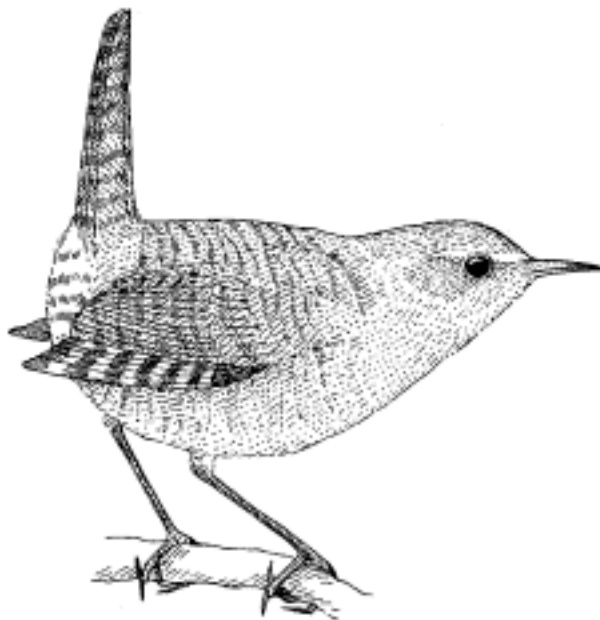
BREEDING: Breeds from early April to mid-August, with peak from late May to early July. Usually produces two broods per season. Clutch size from 3 to 9, with 5 or 6 most common. Nests in natural cavity or woodpecker hole in tree, or hole in building. Nests usually within 10 ft (3.1 m) of ground; may be as high as 30 ft (9.1 m).

TERRITORY/HOME RANGE: No information on home range size. In Oregon, territory size averaged 2.3 acres (0.9 ha), with range of 1.1 to 4.4 acres (0.5 to 1.8 ha) in 14 breeding territories (Kroodsma 1973). In Ohio, 178 breeding territories averaged 1.0 acre (0.4 ha), with range from 0.08 to 3.6 acres (0.03 to 1.5 ha) (Kendeigh 19416).

FOOD HABITS: Gleans insects from foliage and litter within and beneath shrubs.

OTHER: Males typically fill unused nest cavities in territories with sticks.

REFERENCES: Kendeigh 1941b, Kroodsma 1973.



Bewick's Wren

B131 (*Thryomanes bewickii*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List; apparently not declining in the western Sierran zone. A common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in shrub and tree stages from blue oak savannah up to ponderosa pine and black oak types; prefers areas with low percent canopy coverage. Also nests in riparian deciduous habitats up to about 5000 ft (1520 m). Some occasionally move upslope in late summer.

SPECIAL HABITAT REQUIREMENTS: Natural tree cavity or rock crevice for nesting; trees/shrubs.

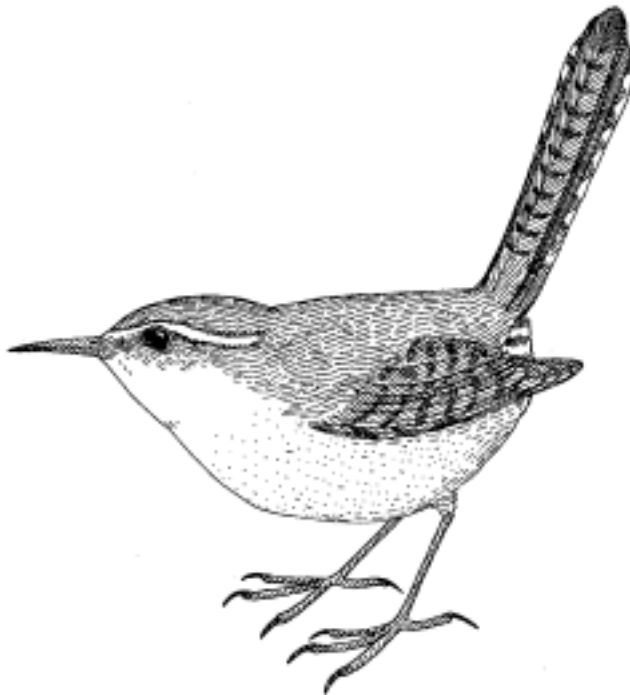
BREEDING: Breeds from mid-February to early August, with peak from mid-May to late June. Clutch size from 4 to 11, most contain 7. Nests in cavities in ground or within a meter or so above it, in dead trees, rock crevices, manmade structures, and other places.

TERRITORY/HOME RANGE: Home range and territory the same. In Los Angeles County, 65 territories averaged 5.8 acres (2.4 ha), with range from 2.5 to 17 acres (1.0 to 6.9 ha) (Cogswell 1962). In an Oregon oak woodland, Kroodsma (1973) studied 34 territories, finding a range from 3.1 to 11.8 acres (1.3 to 4.8 ha) and an average of 5.7 acres (2.3 ha).

FOOD HABITS: Gleans small insects from low limbs and branches, under dense cover.

OTHER:

REFERENCES: Miller 1941, Cogswell 1962, Kroodsma 1973.



Long-billed Marsh Wren

B132 (*Cistothorus palustris*)

STATUS: No official listed status. Rare transient at lower altitudes in late summer and early fall. No breeding records above 1000 ft (305 m).

DISTRIBUTION/HABITAT: Prefers cattails, bulrushes, or other emergent wetland vegetation; sometimes feeds in drier upland sites near water during migration or winter periods. In the western Sierra Nevada, recorded in late summer to early fall in marsh or marsh-like habitats in all vegetation types from annual grasslands up to mixed-conifer zone.

SPECIAL HABITAT REQUIREMENTS: Marsh.

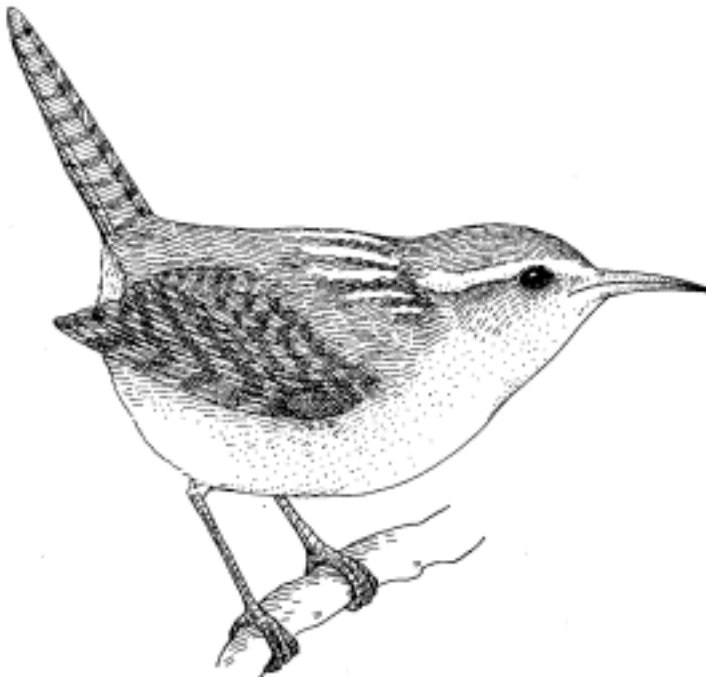
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: Probably none established in the western Sierran zone.

FOOD HABITS: Eats insects, spiders, and other small invertebrates found in habitat. Gleans food from emergent vegetation, damp ground, and water surface. Sometimes hawks for aerial insects.

OTHER:

REFERENCES: Welter 1935, Kale 1965, Verner 1965.



Canon Wren

B133 (*Catherpes mexicanus*)

STATUS: No official listed status in our area. Uncommon resident in suitable habitat.

DISTRIBUTION/HABITAT: Prefers cool, shaded canyons with exposed rock outcrops. May be found in any habitat type from annual grasslands up to Jeffrey pine forests, but confined to canyons in all types and usually found in the vicinity of water. More common at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Small cliffs, talus, or rock outcrops.

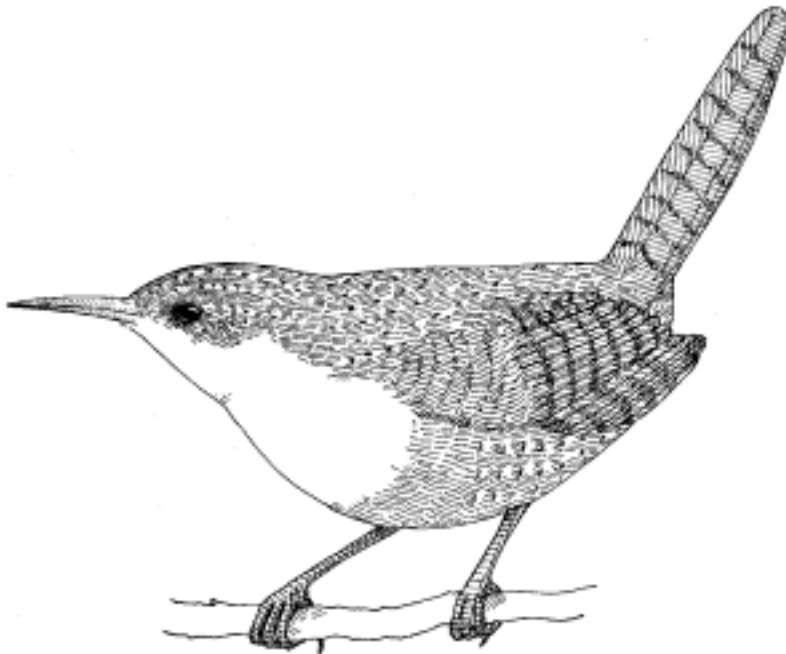
BREEDING: Breeds from mid-March to mid-August, with peak from early May to late June. Clutch size from 4 to 6, most contain 5 or 6. Nests on ledge in rock cavern, in crevice in cliff or bank, or attaches nest to rock face in cave or wide crevice.

TERRITORY/HOME RANGE: Unknown.

FOOD HABITS: Gleans insects and spiders from surfaces of rock or earth, often in concealed situations. Hops or creeps while searching for food.

OTHER:

REFERENCES: Tramontano 1964.



Rock Wren

B134 (*Salpinctes obsoletus*)

STATUS: No official listed status. Fairly common resident in suitable habitat.

DISTRIBUTION/HABITAT: Inhabits rock outcrops, talus slopes, fractured cliff faces, and dry earth banks. Requires rough surface with crevices for foraging and cover. On west slopes of the Sierra Nevada, most common below montane coniferous forest and above timberline. Altitude of winter range unknown.

SPECIAL HABITAT REQUIREMENTS: Talus; rock outcrops.

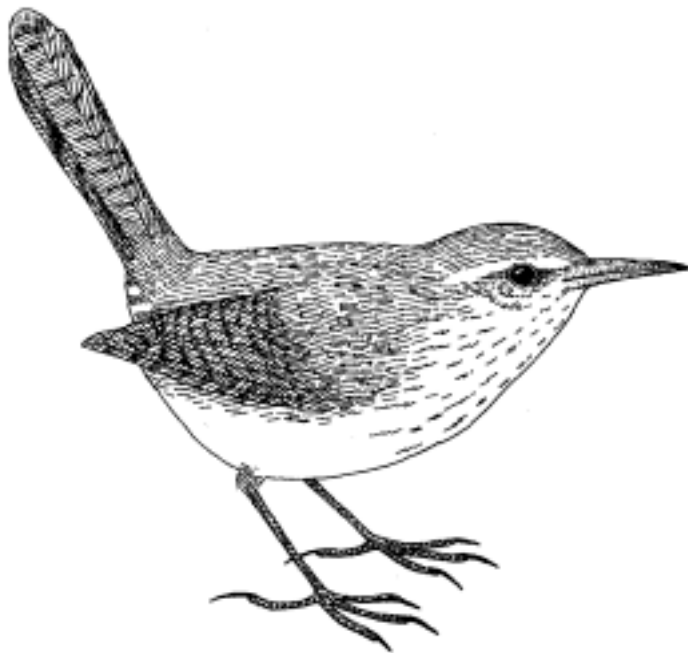
BREEDING: Breeds from early February to early September, with peak from early May to early July (may rear two broods per season). Clutch size from 4 to 10, most contain 5 or 6. Nests under large boulders, in rodent cavities in banks, or in cavities and crevices among loose rocks.

TERRITORY/HOME RANGE: Unknown, although Ainley (1971) reported a pair foraged from 16 to 164 ft (4.9 to 50 m) from nest on Farallone Islands.

FOOD HABITS: Gleans insects and spiders from boulders, rocks, barren ground, in the open or in crevices. Runs while searching for food.

OTHER: Tolerates extremely arid conditions.

REFERENCES: Tramontano 1964.



Mockingbird

B135 (*Mimus polyglottos*)

STATUS: No official listed status. Uncommon resident at lower elevations in the western Sierra Nevada.

DISTRIBUTION/HABITAT: Found in shrub and early tree stages of oak, digger pine-oak, and chaparral types. The upper altitudinal limit unclear from literature; probably resident locally but not common above 1000 ft (305 m). Often found in residential areas, agricultural areas, and edges of brushland and woodland.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs.

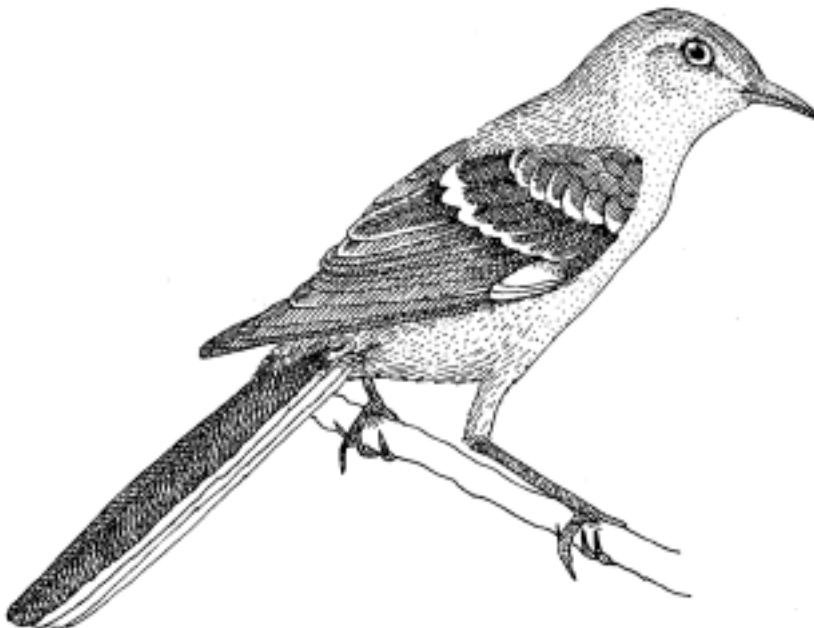
BREEDING: Breeds from early February to mid-September, with peak from early May to early July (usually two broods per season). Clutch size from 3 to 6, with 4 or 5 most common. Nests in variety of shrubs, small trees, or tangles of vines, usually below 6 ft (2 m), but occasionally as high as 40 ft (12 m).

TERRITORY/HOME RANGE: Home range and territory the same. Five breeding territories studied in residential area in Pasadena averaged 1 acre (0.4 ha), with range from 0.6 to 1.4 acres (0.2 to 0.6 ha) (Michener and Michener 1935). In Arizona desert, Hensley (1954) reported two territories at 7.1 and 8.2 acres (2.9 and 3.3 ha), and in Texas, Howard (1974) found range among 10 territories of 1.5 to 6.2 acres (0.6 to 2.5 ha) with mean of 2.8 acres (1.1 ha).

FOOD HABITS: Eats mainly insects during breeding season and fruit and insects in nonbreeding period. Takes insects from ground by dropping from perch; gleans from foliage; and hawks from the air.

OTHER:

REFERENCES: Michener and Michener 1935, Laskey 1962, Adkisson 1966.



California Thrasher

B136 (*Toxostoma redivivum*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in brush and early tree stages in blue oak savannah, digger pine-oak, chaparral, and riparian deciduous types. Avoids dense tree canopies.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs.

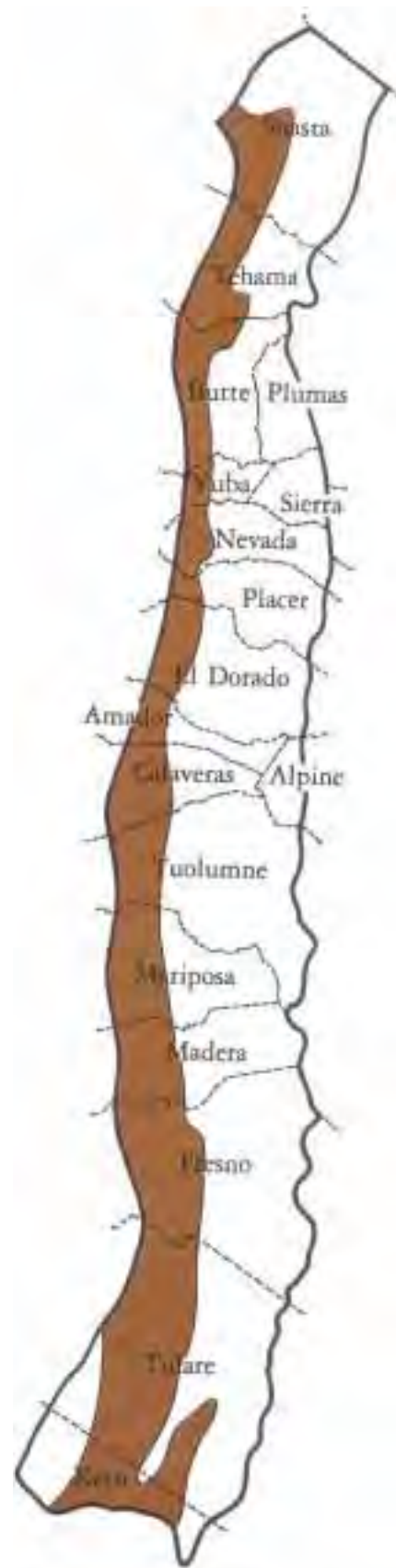
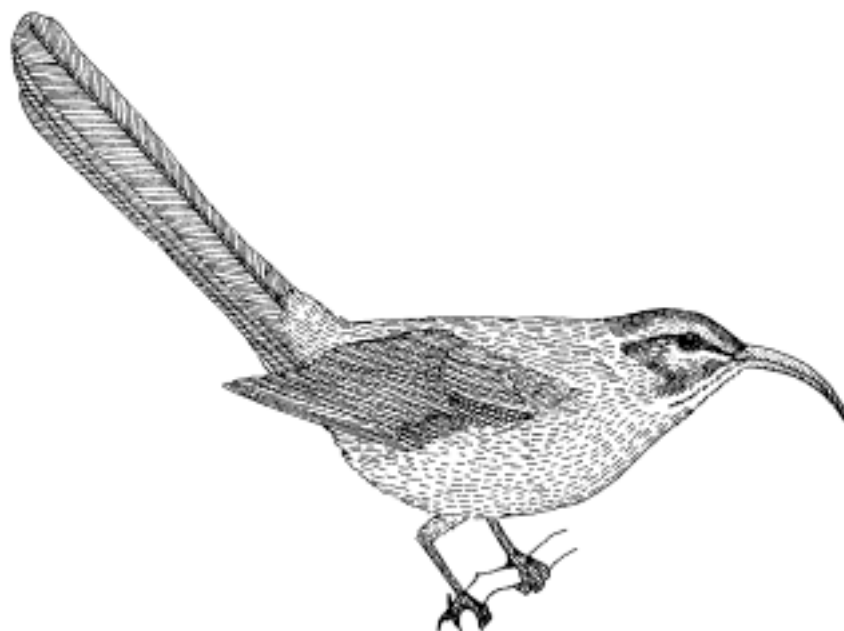
BREEDING: Breeds from early December to early August, with peak from mid-April to mid-June. Usually rears two broods per season. Clutch size from 2 to 4, most contain 3. Nests near ground, well inside large bush or scrubby tree, screened from outside view.

TERRITORY/HOME RANGE: Territory and home range the same. Four territories studied during breeding season in Santa Monica Mtns., Los Angeles County, in chaparral, averaged 3.5 acres (1.4 ha) (Kingery 1962).

FOOD HABITS: Takes insects, spiders, fruits, and seeds from plant litter and soft soil. Rakes away litter with bill, digs in litter or soil, and picks fruit from shrubs.

OTHER: No detailed, recent life history study.

REFERENCES: Sargent 1940, Kingery 1962.



American Robin

B137 (*Turdus migratorius*)

STATUS: No official listed status. Abundant year-round, with some seasonal absences at lower elevations in spring and summer and at higher elevations in winter.

DISTRIBUTION/HABITAT: Breeds in forested sites from ponderosa pine, black oak woodland zone up to lodgepole pine forests. Prefers areas with low percent canopy coverage. Congregates where ripening fruit abundant. Forms large flocks in nonbreeding period, and few may winter at high elevations, for example, Tuolumne Meadows, in Yosemite National Park (T. Hargis, pers. commun.).

SPECIAL HABITAT REQUIREMENTS: Water (for mud in nest building); openings.

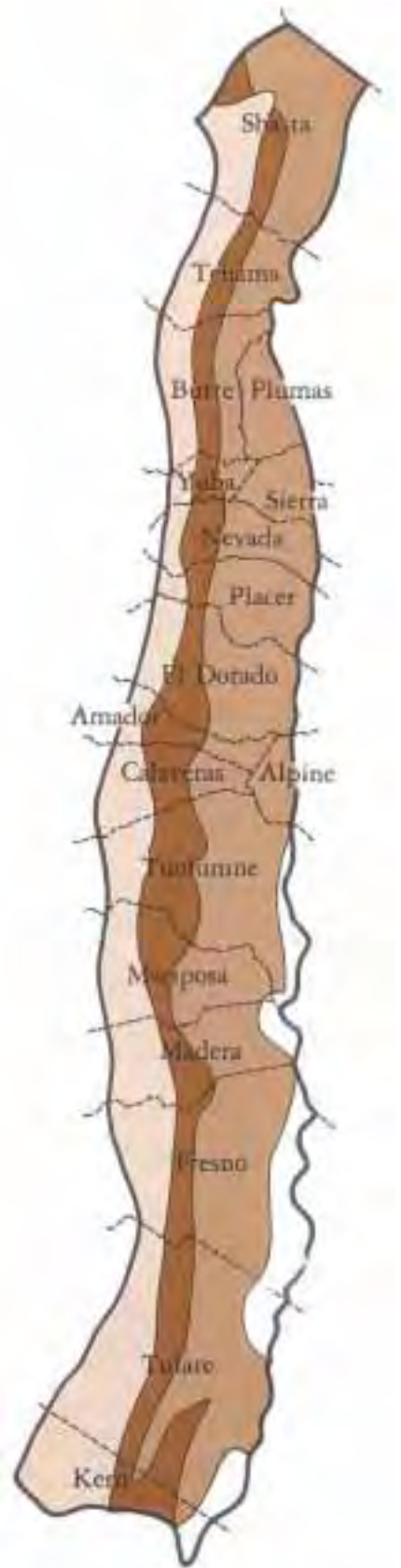
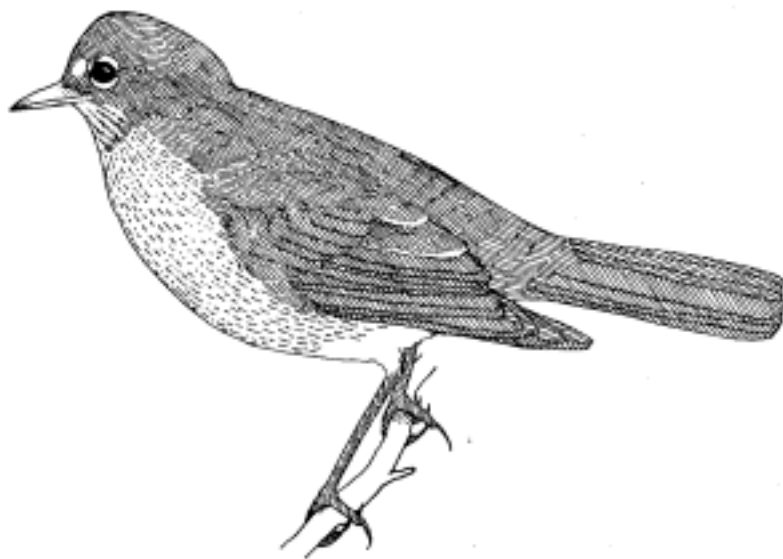
BREEDING: Breeds from early April to mid-July, with peak from mid-May to mid-June. Nests on limbs of conifers or broadleaved trees, or in large shrubs, usually in or near clearings. Nest height ranges from 1 to 75 ft (0.3 to 23 m); most between 10 and 15 ft (3.1 and 4.6 m). Clutch size from 3 to 4, with mean of 3.5.

TERRITORY/HOME RANGE: In Massachusetts, home range averaged about 1320 ft (400 m) radius around nest (Hirth *et al.* 1969). In Wisconsin territories ranged from 4800 to 26,000 ft² (445 to 2420 m²), with average of 13,000 ft² (1210 m²) (Young 1951).

FOOD HABITS: Earthworms and insects (70 percent of diet); seeds, berries, fruit, stems, and grass blades (30 percent). Searches on the ground, probing and scratching for food; also picks berries.

OTHER:

REFERENCES: Grinnell and Storer 1924, Howell 1942, Bent 1949.



Varied Thrush

B138 (*Ixoreus naevius*)

STATUS: No official listed status. Irregular fall and winter visitor to low and middle elevations; fall migrant at higher elevations.

DISTRIBUTION/HABITAT: Found sparingly in fall from blue oak savannahs up to lodgepole pine forests, and in winter from ponderosa pine and black oak woodlands downward. Numbers fluctuate widely from year-to-year in response to berry production.

SPECIAL HABITAT REQUIREMENTS:

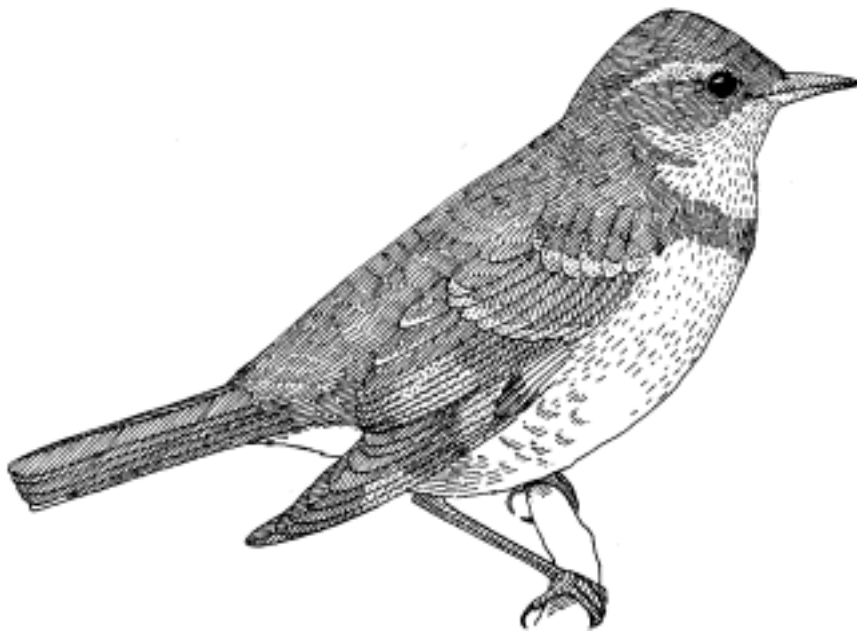
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data on home range; not territorial in fall and winter.

FOOD HABITS: Takes berries (for example, toyon, manzanita), seeds, mast, insects, and spiders from the ground, from foliage by gleaning, and from fruiting stems.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1949, Martin 1970.



Hermit Thrush

B139 (*Catharus guttata*)

STATUS: No official listed status. Common summer resident at middle and high elevations; fall visitor at all elevations; and fairly common winter resident below snow level.

DISTRIBUTION/HABITAT: Breeds in forested sites from ponderosa pine and black oak woodland types up to lodgepole pine forests, especially at higher elevations and in forests with intermediate to high percent canopy coverage. In fall and winter, ranges downslope as far as blue oak savannahs. Absent in winter in mixed-conifer and higher forests.

SPECIAL HABITAT REQUIREMENTS:

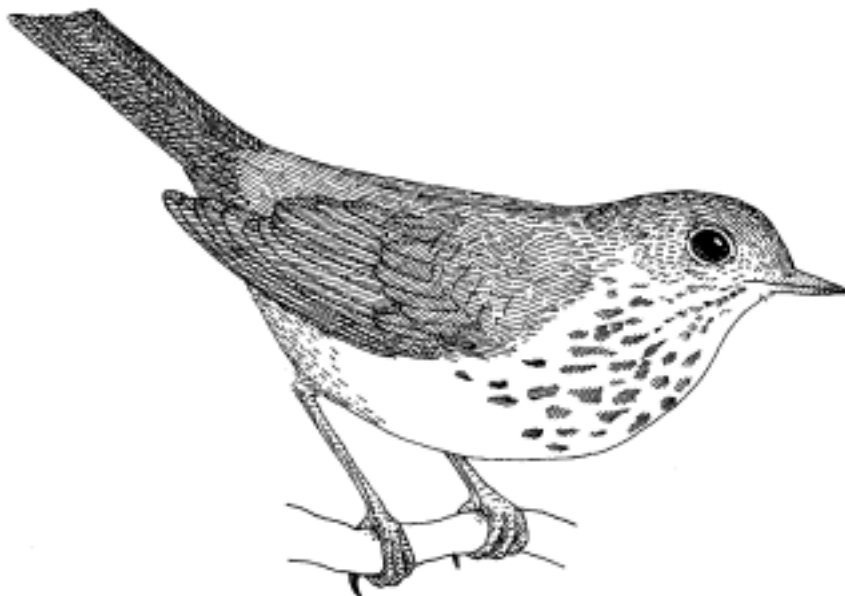
BREEDING: Breeds from mid-May to late July, with peak from late May to late June. Nests usually 2 to 15 ft (0.6 to 4.6 m) above ground in shaded groves of small trees with open views from nest. Occasionally nests on the ground. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on home range or territory size, but in burned-over area in Michigan, Pettingill (1930) reported breeding density of 6 nests/mi² (2.3 nests/km²).

FOOD HABITS: Eats insects, spiders, fruit, berries, and seeds (especially those of poison oak). Searches for food on ground, without scratching, on dry slopes, around meadows, and on forest floor, seldom far from cover.

OTHER: Breeding hermit thrushes in the Sierra Nevada do not remain all year; replaced in fall and winter by migrants from the north.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1949.



Swainson's Thrush

B140 (*Catharus ustulata*)

STATUS: No official listed status. Historically, locally common nesting species at low and middle elevations; presently rare and local. Reason for decline unknown (Gaines 1977).

DISTRIBUTION/HABITAT: Breeds locally in small numbers in timbered areas of ponderosa pine, black oak woodland, riparian deciduous, and mixed-conifer types. Prefers dense thickets near streams or wet meadows. Recorded rarely as nonbreeder in spring and summer in oak types at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs near water.

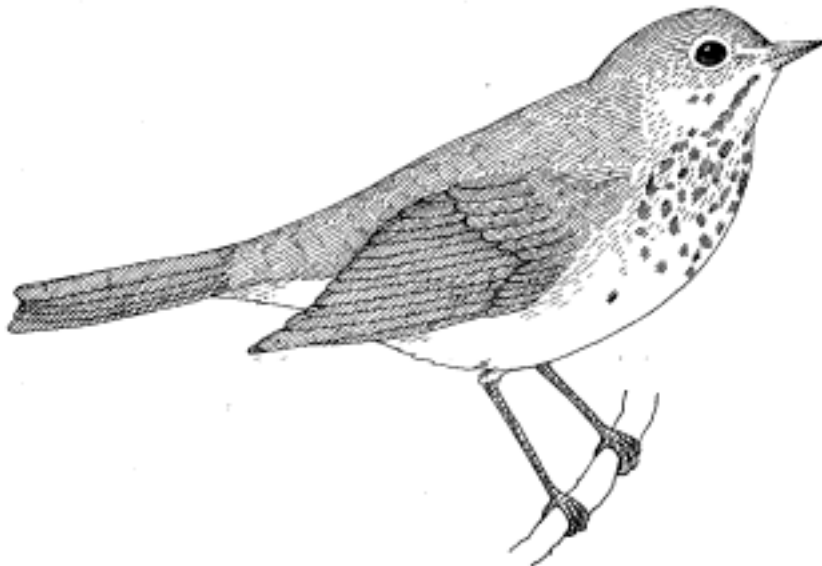
BREEDING: Breeds from mid-April to mid-July, with peak from early May to early June. Nests in shrub or small tree, usually in coniferous forest or low brushy thicket, near source of water. Nest height ranges from 2 to 8 ft (0.6 to 2.4 m) above ground. Clutch contains from 3 to 5 eggs, with mean of 4.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Eats mostly insects and spiders, and some berries in breeding season. Searches and probes on the forest floor, especially in undisturbed conifer forests. Gleans foliage, and occasionally hawks aerial insects.

OTHER: Thought to be competitively excluded by hermit thrushes in Maine (Morse 1972) and British Columbia (Sealy 1974). May be a factor in decline in numbers in the Sierra Nevada, but not known.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1949.



Western Bluebird

B141 (*Sialia mexicana*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Common permanent resident at lower elevations, and summer-fall resident at higher elevations.

DISTRIBUTION/HABITAT: Breeds from blue oak savannahs up to Jeffrey pine forests; prefers stands with low percent canopy cover. Generally a bird of open country with standing dead trees available; edge situations ideal. At higher elevations, often nests in logged or burned areas; usually nests below 4000 ft (1220 m) elevation, though occasionally as high as 8000 ft (2440 m) (Gaines 1977). In fall, drifts upslope or migrates southward to higher elevation oak forests; feeds on mistletoe berries, sometimes in flocks numbering 50 or more birds.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; medium to large openings.

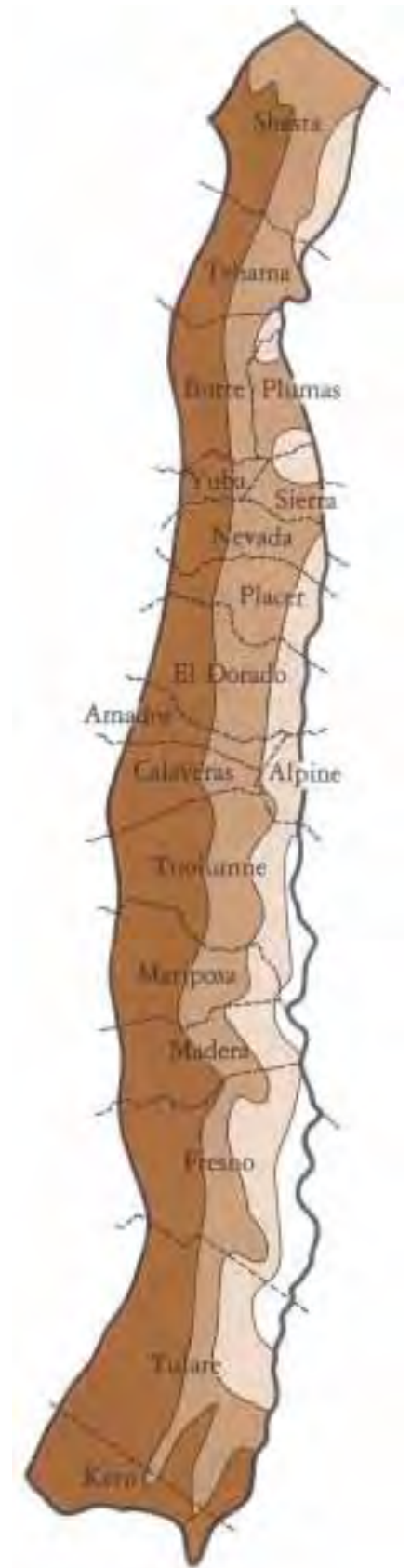
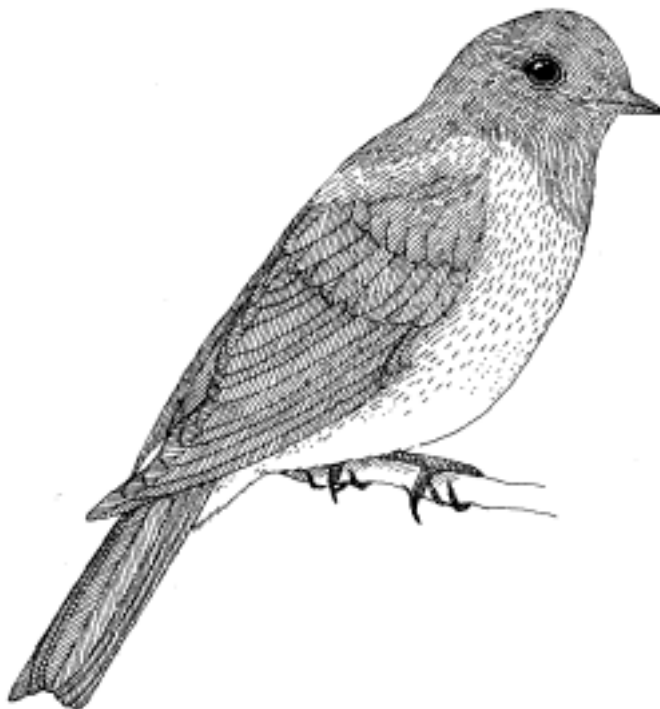
BREEDING: Breeds from late April to early July, with peak from mid-May to mid-June. Nests in holes in standing dead trees or stumps. Nest height varies from 5 to 40 ft (1.5 to 12 m). Clutch size from 3 to 8, with mean of 5.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Eats primarily insects; also eats berries of mistletoe, poison oak, and elderberry during nonbreeding period. Takes food from ground by sitting on slightly elevated perch and dropping down to pounce on insects. Also hawks aerial insects and picks berries from shrubs.

OTHER:

REFERENCES: Grinnell and Storer 1924, Bent 1949, Jackman and Scott 1975.



Mountain Bluebird

B142 (*Sialia currucoides*)

STATUS: No official listed status. Fairly common spring and summer resident at higher elevations, moving to foothills in fall.

DISTRIBUTION/HABITAT: Breeds in lodgepole pine forests, and sparingly down to mixed-conifer type; prefers open sites with low percent canopy coverage. Requires some brush in nesting territories; prefers open, treeless terrain of subalpine for foraging. Fire and logging activities at high elevations favor species. Spends most of nonbreeding period in foothill oak woodlands.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; medium to large openings.

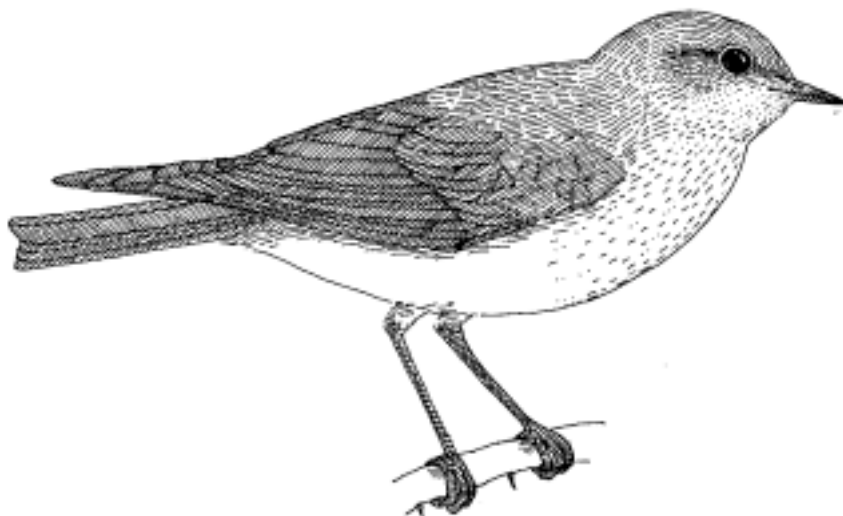
BREEDING: Breeds from mid-April to mid-July, with peak from mid-June to early July. Nests located in cavity, often abandoned woodpecker hole, in standing dead tree or stub. Clutch size from 4 to 8, with mean of 6.

TERRITORY/HOME RANGE: Insufficient data. A female feeding young on Mt. Rainier, Washington, reportedly foraged over circular area with diameter of about 600 ft (185 m) (Jewett *et al.* 1953). In his Montana study, Power (1966) noted that smallest "territory" was about 300 ft (91 m) wide, although some individuals foraged up to 1320 ft (400 m) from nest.

FOOD HABITS: Eats mostly insects, also fruit in late summer. Takes insects from foliage, from air, and occasionally from ground. Most foraging done from perch, hawking aerial insects and pouncing on items spotted on ground. Occasionally, hovers to search ground for food.

OTHER: Mountain and western bluebirds generally altitudinally separated in breeding ranges, with mountain at higher elevations and western at lower elevations. Observed nesting, however, in the same forest openings.

REFERENCES: Bent 1949, Power 1966, Jackman and Scott 1975.



Townsend's Solitaire

B143 (*Myadestes townsendi*)

STATUS: No official listed status. Fairly common summer resident to mid- and high-elevation forests, winters at lower elevations.

DISTRIBUTION/HABITAT: Breeds in coniferous forests from ponderosa pine type up to lodgepole pine forests, especially in mid-elevation types. Prefers stands with low percent canopy cover. In fall, disperses both up- and downslope in search of ripening fruit and other foods, descending into oak groves in fall, coincident with ripening of mistletoe berries.

SPECIAL HABITAT REQUIREMENTS:

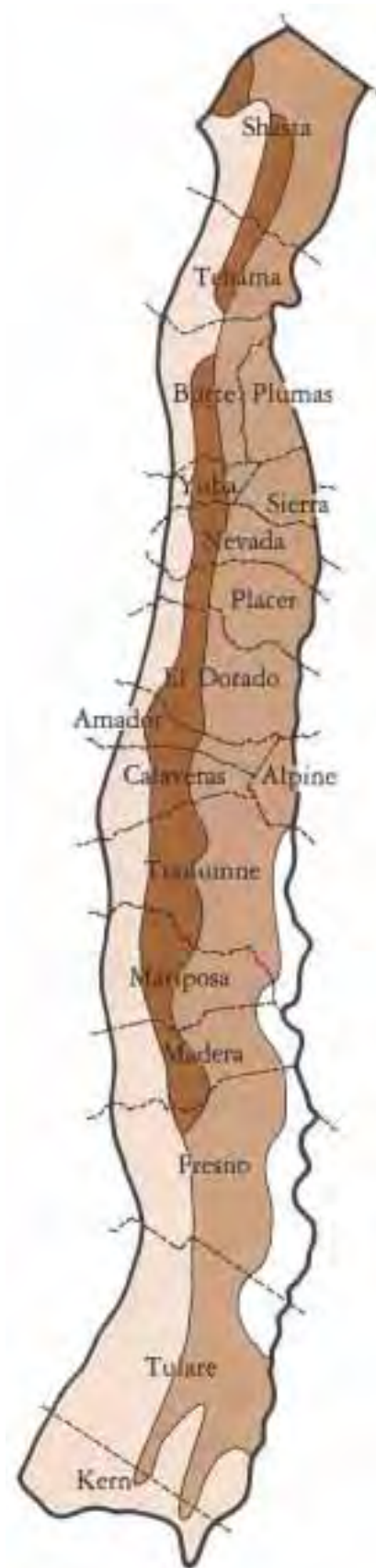
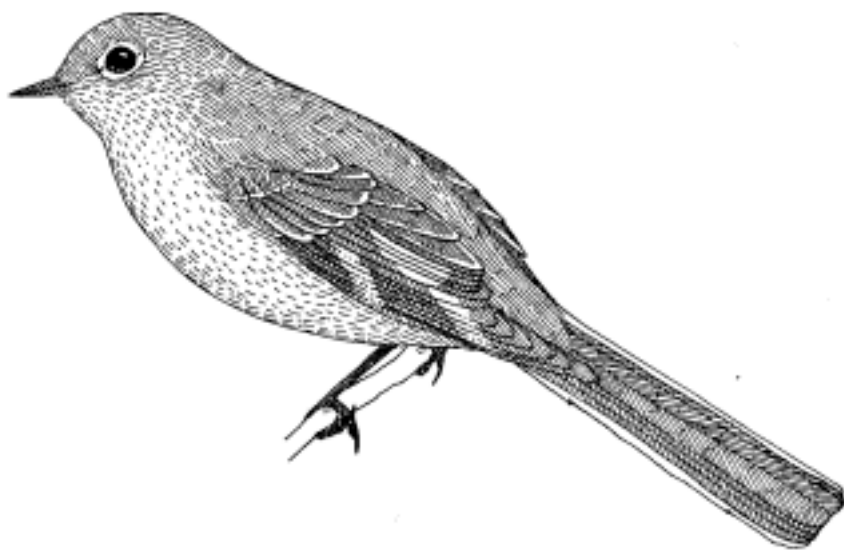
BREEDING: Breeds from early May to early August, with peak from late May to late June. Nests usually on or near ground, as in road cut, rock crevice, or at base of large tree; some type of overhanging shelter required. Clutch size from 3 to 5, with a mean of 4.

TERRITORY/HOME RANGE: No data on home range or size of breeding territory. In northern California, Dawson (1919) reported an approximate density of breeding territories of 4/mi² (1.54/km²). In an Arizona piñon-juniper-ponderosa pine ecotone, Salomonson and Balda (1977) reported mean winter territory sizes of 1.75 acres (0.7 ha) (four territories) during winter 1973-74, and 9.5 acres (3.85 ha) (three territories) during winter 1974-75.

FOOD HABITS: Eats insects, fruits, mistletoe berries, and other foods. Takes food from air, ground, foliage, and fruiting stems. Usually from perch in shade, hawks for aerial insects or pounces on objects on ground.

OTHER: During nonbreeding period, solitaires commonly gather into moderate-sized flocks. Can be heard in full song throughout fall and into winter.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1949.



Blue-gray Gnatcatcher

B144 (*Polioptila caerulea*)

STATUS: No official listed status. Common summer resident.

DISTRIBUTION/HABITAT: Breeds in blue oak savannah, digger pine-oak, chaparral edges where mingled with oak, and in riparian deciduous if adjacent to oak woodland or chaparral. Prefers stands with low to intermediate percent canopy cover. In late summer, moves upslope as far as mixed-conifer zone.

SPECIAL HABITAT REQUIREMENTS: Oaks in breeding season.

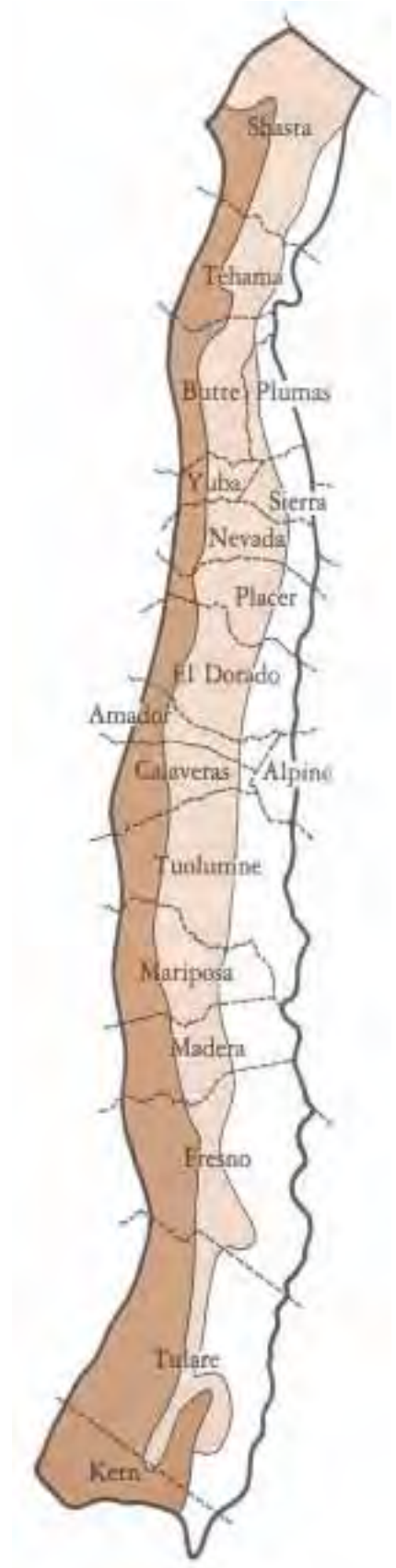
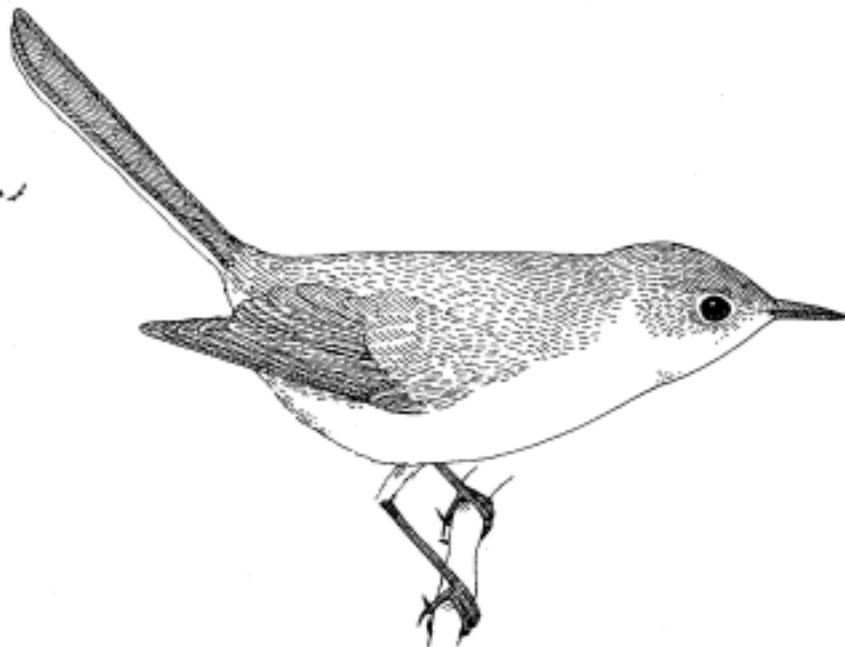
BREEDING: Breeds from early April to early August, with peak from mid-May to early July. Nests in live tree or shrub, usually near top, in fork between two branches. Nest height ranges from 3 to 45 ft (0.9 to 14 m) up. Clutch size from 3 to 5, with 4 most frequent.

TERRITORY/HOME RANGE: Territory and home range the same. In Monterey County, breeding territories ranged from 2.2 to 7.4 acres (0.9 to 3 ha), with mean of 4.6 acres (1.9 ha) (Root 1969). In Arizona desert, winter home range appeared to be at least 22 acres (8.9 ha); in "an isolated screw-bean (*Prosopis pubescens*) woodland near Yuma, Arizona, at least nine gnatcatchers . . . were found within an area of 22 acres" (Root 1969). Each bird confined activities to area of about 3 acres (1.2 ha) or less.

FOOD HABITS: Feeds exclusively on small insects and spiders. Mostly gleans from foliage, twigs, and small branches of trees and shrubs; also from grasses and herbs. Also hovers to pick food from surfaces, and hawks for aerial insects.

OTHER:

REFERENCES: Bent 1949; Root 1967, 1969.



Golden-crowned Kinglet

B145 (*Regulus satrapa*)

STATUS: No official listed status. Abundant resident and breeder.

DISTRIBUTION/HABITAT: Breeds in conifer forests with intermediate to high percent canopy cover, from ponderosa pine to red fir forests. Some remain at high elevations all year; many move downslope into oak woodlands and riparian deciduous vegetation. Prefers dense, shaded forests, especially of red or white fir, or Douglas-fir.

SPECIAL HABITAT REQUIREMENTS:

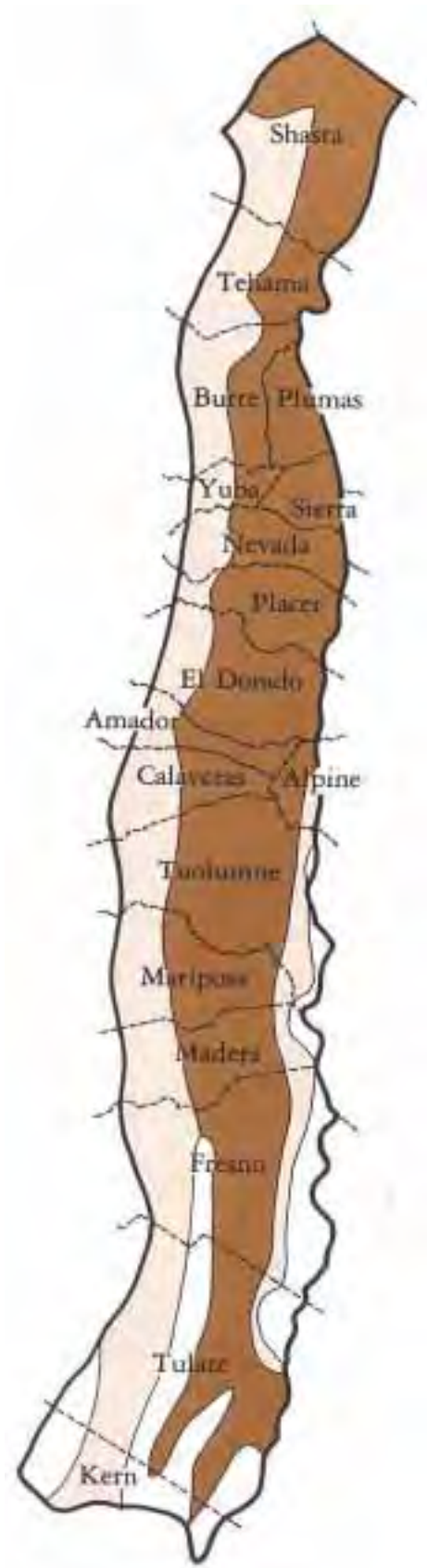
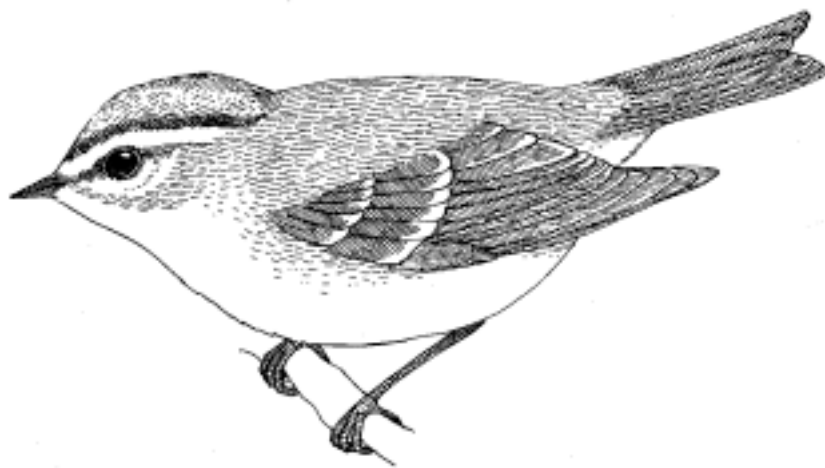
BREEDING: Breeds from early April to late July, with peak from late May to early July. Nests concealed in foliage of tips of branches or in clusters of live, hanging twigs. Recorded nest heights range from 5 to 50 ft (1.5 to 15 m), but probably nest much higher-the nests difficult to detect. Clutch size from 5 to 11, most contain 8 or 9.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Feeds on small insects, gleaned from foliage and small twigs, usually in well-shaded site. Usually hovers to glean items from vegetation.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1949, Gaines 1977.



Ruby-crowned Kinglet

B146 (*Regulus calendula*)

STATUS: No official listed status. Common summer resident and breeder; abundant winter visitor at lower elevations.

DISTRIBUTION/HABITAT: Breeds in timbered areas with low to intermediate percent canopy cover, from mixed-conifer up to lodgepole pine forests. Prefers lodgepole forest for breeding, especially in open stands or near edge, such as along stream or meadow. In late summer and early fall, migrants occur to treeline. In winter, present only at lower elevations in a variety of habitats.

SPECIAL HABITAT REQUIREMENTS:

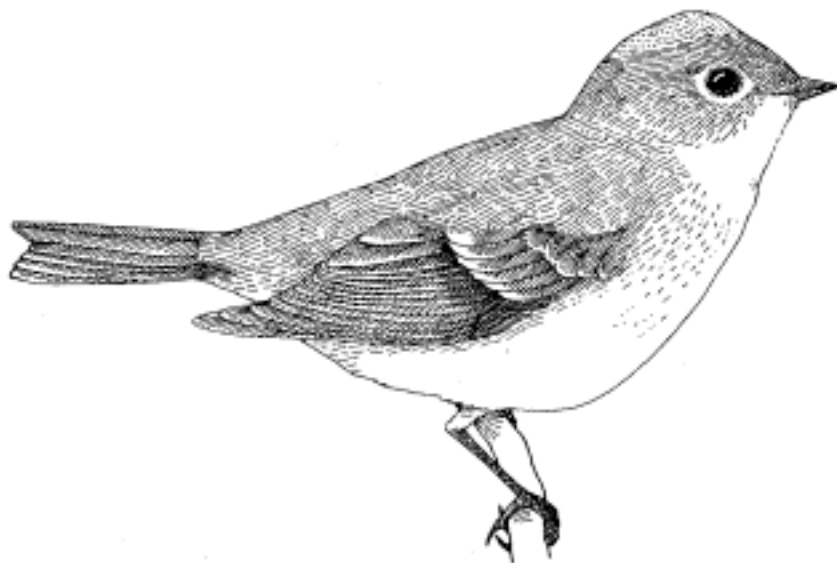
BREEDING: Breeds from mid-May to mid-August, with peak from mid-June to late July. Builds hanging nest attached to twigs of conifer foliage, usually near tip of branch far above the ground. Nest height ranges from 2 to 100 ft (0.6 to 31 m). Clutch size from 5 to 11, most contain 7 to 9.

TERRITORY/HOME RANGE: No information on home range. In San Diego County, two winter territories covered 0.5 and 1 acre (0.2 and 0.4 ha) (Rea 1970). Nonterritorial in winter in some localities.

FOOD HABITS: Obtains small arthropods by gleaning foliage and bark, often by hovering.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1949, Gaines 1977.



Water Pipit

B147 (*Anthus spinoletta*)

STATUS: No official listed status. Common winter visitor at low elevations; rare late summer and fall migrant at all elevations.

DISTRIBUTION/HABITAT: Found in open country at all elevations in late summer and fall. Sighted rarely in summer above treeline in the Sierra Nevada. First Sierra Nevada nests discovered in 1975 and 1976 east of the crest, near Yosemite National Park. May also breed sparingly above treeline on west side. Move to lower elevations for late fall, winter, and spring periods.

SPECIAL HABITAT REQUIREMENTS: Open terrain.

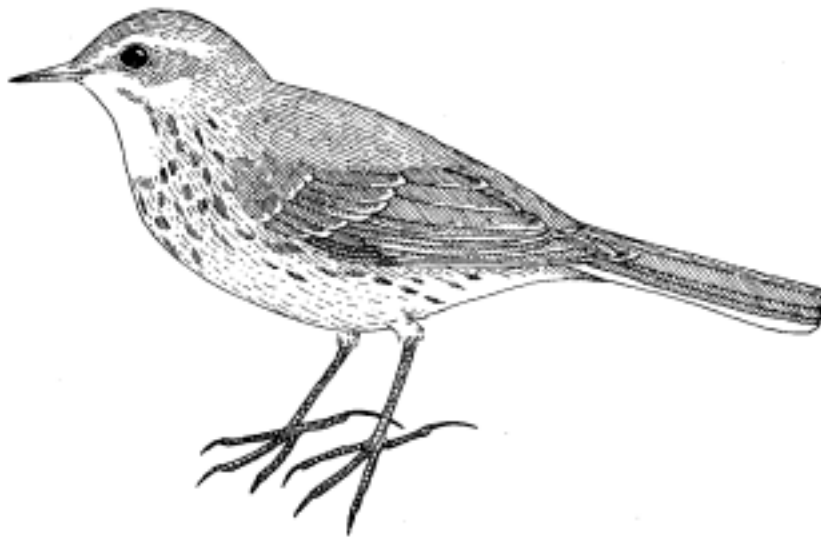
BREEDING: Breeds from late June to early September, with peak from mid-July to mid-August. Nests on ground, usually sheltered by overhang of rock, sod, or vegetation. Avoids wet areas for nest placement. Clutch size from 3 to 6, with mean of 4.7.

TERRITORY/HOME RANGE: No data on home range. In a Wyoming alpine tundra, sizes of breeding territories ranged from 0.39 to 0.83 acre (0.16 to 0.34 ha), with an average of 0.45 acre (0.2 ha).

FOOD HABITS: Eats insects, gleaned from low vegetation, bare ground, and snowbanks.

OTHER:

REFERENCES: Pickwell 1947, Bent 1950, Verbeek 1970.



Cedar Waxwing

B148 (*Bombycilla cedrorum*)

STATUS: No official listed status. Winter visitor at low elevations; numbers and local occurrence vary widely from year-to-year; stragglers present throughout year; rare breeder.

DISTRIBUTION/HABITAT: Permanent resident in ponderosa pine and black oak woodland types; found in lower elevation oak types in all seasons except summer, and on up to the Jeffrey pine type in all seasons except winter. Only one confirmed breeding record located for the western Sierra Nevada, at Buck's Lake, Plumas County, at 5153 ft (1570 m) (see star on range map). Midsummer records in Yosemite and elsewhere indicate possible breeding. Prefers timbered sites with low percent canopy coverage; more common at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Fruit, berries.

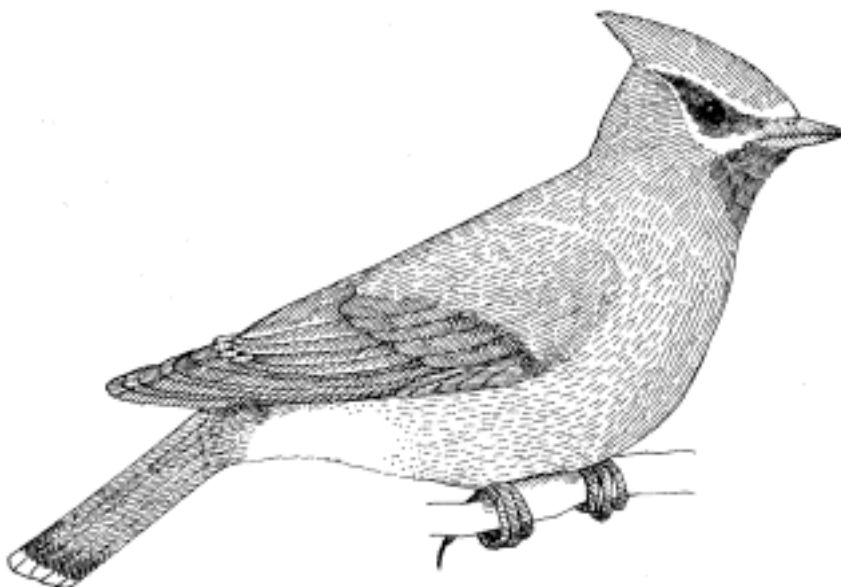
BREEDING: Breeds from early June to late August, with peak from late June to early August. Nests in tree or shrub, often at extreme end of branch. Nest height ranges from 5 to 50 ft (1.5 to 15 m) up, but usually below 20 ft (6.1 m). Clutch size from 3 to 6, with mean of about 4.

TERRITORY/HOME RANGE: No precise data on home range. In Ohio, three breeding territories ranged from 2025 to 9900 ft² (190 to 920 m²), with average of 4770 ft² (440 m²) (Putnam 1949).

FOOD HABITS: Fruit, berries, flowers, and buds, with some insects, comprise the diet. Picks and gleans food from living trees and shrubs, and often hawks insects.

OTHER: Nomadic, moving in flocks, and remaining only in areas with abundant food supply.

REFERENCES: Lea 1942, Putnam 1949, Bent 1950.



Phainopepla

B149 (*Phainopepla nitens*)

STATUS: No official listed status. Uncommon resident in foothills; rare in northern portion of the Sierra Nevada.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, low elevation riparian deciduous, and chaparral types. Generally breeds in areas with scattered stands of small trees (usually oaks) surrounded by dense shrub understory. Recorded as high as 4000 ft (1220 m) in Yosemite Valley (Gaines 1977).

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs; berries (especially mistletoe).

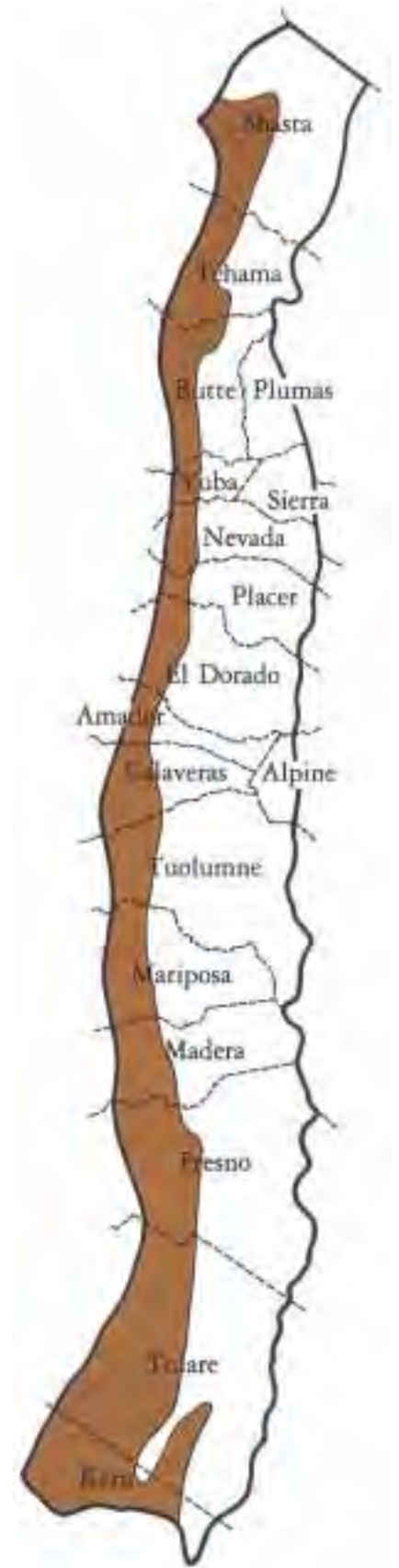
BREEDING: Breeds from late February to mid-July, with peak from late May to late July. Nests usually in dense foliage of shrubs, oaks, cottonwoods, willows, and others. Nest height ranges from 4 to 50 ft (1.2 to 15 m), most between 6 and 11 ft (1.8 and 3.4 m). Clutch size from 1 to 4, with mean of 2.5.

TERRITORY/HOME RANGE: No data on home range. Territory size in Imperial County ranged from 0.5 to 1.5 acres (0.2 to 0.6 ha), with mean of 1.0 acre (0.4 ha) (Walsberg 1977).

FOOD HABITS: Eats small insects and berries, including mistletoe, juniper, elderberry, *Rhus*, and others. Crops of mistletoe a staple for species; reported to defend fruiting mistletoe against nearly all other species that use it (Walsberg 1977). Captures insects in air; picks berries from stems, either by clinging to clusters or hovering about them.

OTHER:

REFERENCES: Grinnell and Storer 1924, Rand and Rand 1943, Bent 1950, Walsberg 1977.



Loggerhead Shrike B150 (*Lanius ludovicianus*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List, but apparently not because of problems in the western Sierra Nevada. Fairly common resident at low elevations.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, and chaparral types; prefers stands with low percent canopy cover.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

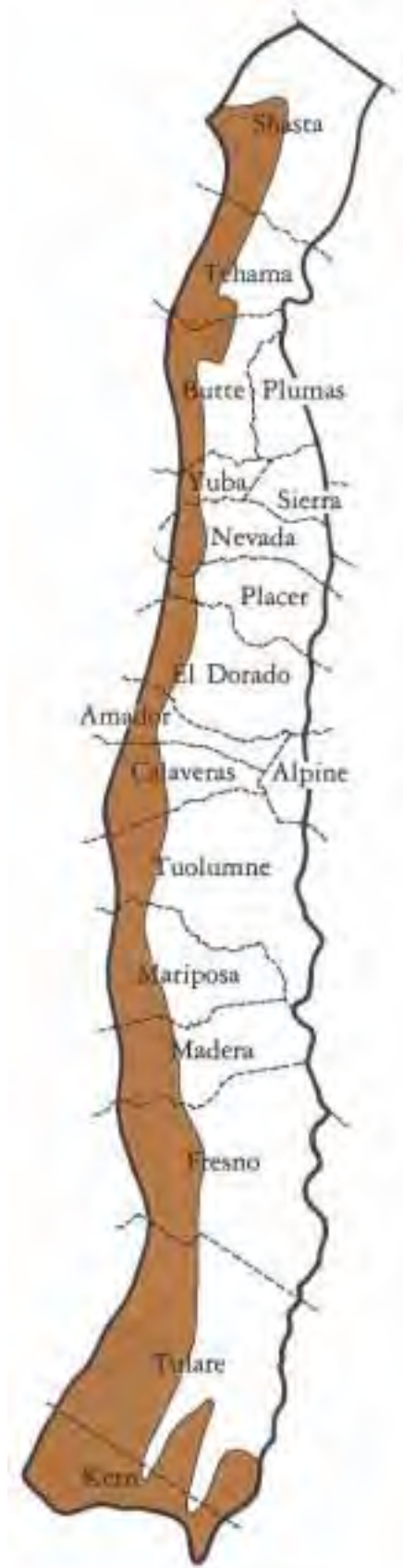
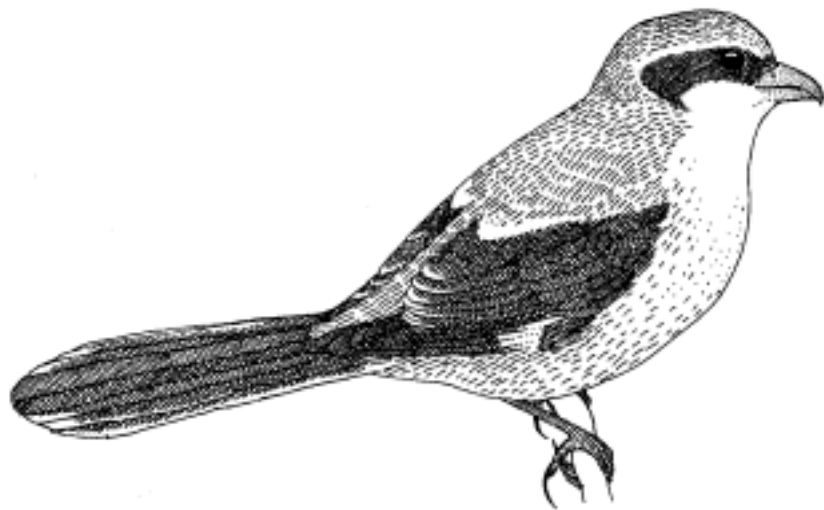
BREEDING: Breeds from late February to mid-June, with peak from late March to early May. Nests in variety of trees and shrubs, with stable supporting branches and screen of overhanging cover. Nest height ranges from 2 to 30 ft (0.6 to 9.1 m). Clutch size from 5 to 7, with mean of 6.

TERRITORY/HOME RANGE: Territory and home range the same, radius of 1300 to 1950 ft (400 to 595 m) in San Joaquin Valley (Miller 1931). Maintains territory year-round. A 'headquarters' area more vigorously defended, including good lookout perches, feeding facilities, and suitable shrub or tree cover for shelter at night.

FOOD HABITS: Indiscriminate carnivore, captures insects and other invertebrates, small reptiles, birds, and mammals. Dives to ground from elevated perch, and sometimes hawks for aerial insects. Frequently impales prey on thorns or barbed wire.

OTHER:

REFERENCES: Miller 1931, Linsdale 1938, Bent 1950.



Starling

B151 (*Sturnus vulgaris*)

STATUS: No official listed status. Introduced from Europe into New York more than 100 years ago; rapidly spread across continent. Reported as rare in California as recently as 30 years ago (Grinnell and Miller 1944); today a serious agricultural pest. In the Sierra Nevada, rare and generally confined to low elevations.

DISTRIBUTION/HABITAT: Breeds in low elevation riparian deciduous, blue oak savannahs, and digger pine-oak woodlands. Prefers stands with low percent canopy cover. More common in vicinity of human habitations. In nonbreeding periods, found in same habitats but usually forms flocks, sometimes enormous ones.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; openings or open terrain.

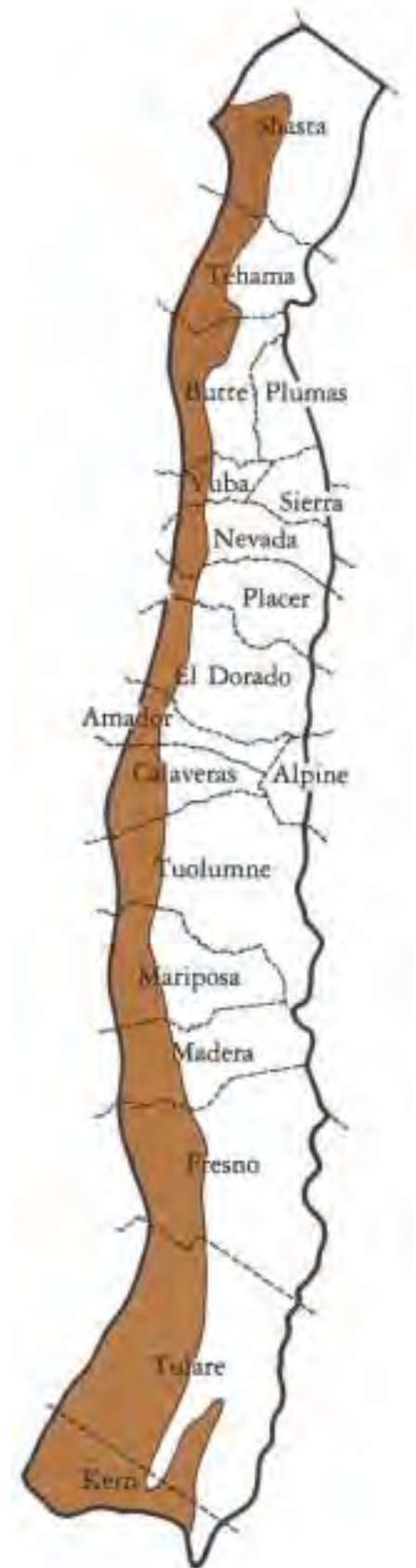
BREEDING: Breeds from early April to mid-June, with peak from mid-May to mid-June; often double-brooded. Nests in almost any suitably-sized natural or artificial cavity; in absence of cavities, known to nest on ground. Nest height ranges from 2 to 60 ft (0.6 to 18 m), usually from 10 to 25 ft (3.1 to 7.6 m). Clutch size from 3 to 6, with mean of 4.5.

TERRITORY/HOME RANGE: Travels great distances in search of food; no data on home range (Hamilton and Gilbert 1969). In New York, defended only area immediately around nest but ranged up to 0.75 mi (1.2 km) from nest (Kessel 1957).

FOOD HABITS: Omnivorous, taking grain, hay, weed seeds, insects, earthworms, waste food, and other foods. Feeds in pastures, tilled soil, trees, garbage dumps, lawns, and other places. Probes in soil, gleans, hawks insects, and captures aerial insects in swallow-like flight.

OTHER: Considered a serious competitor for nest cavities with other cavity nesting species.

REFERENCES: Kessel 1957, Howard 1959, Planck 1967.



Hutton's Vireo

B152 (*Vireo huttoni*)

STATUS: No official listed status. Fairly common permanent resident in foothills.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, and low elevation riparian deciduous areas. Prefers stands with low percent canopy coverage. Found almost exclusively in live oaks most of year, but in late summer and fall, moves upslope into ponderosa pine and black oak woodland types.

SPECIAL HABITAT REQUIREMENTS: Live oaks; trees/shrubs.

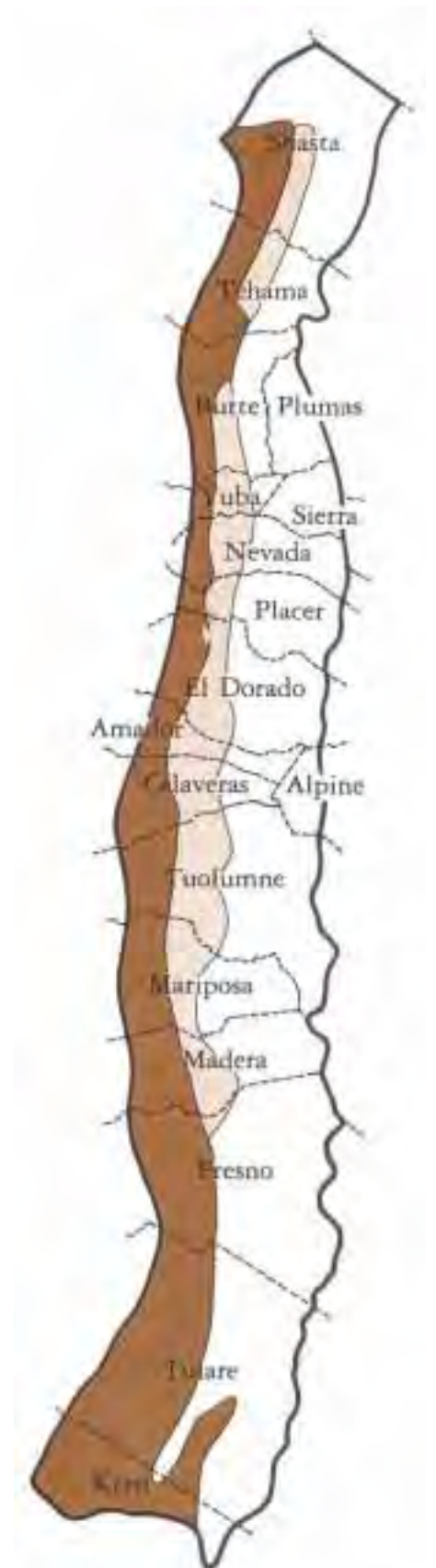
BREEDING: Breeds from early March to late June, with peak from late April to early June. Nests usually well concealed in tall live oak, supported by forked twig; also nests in bay laurel, willow, or pine. Nest height ranges from 7 to 25 ft (2.1 to 7.6 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on home range or territory size. In Sonoma County, Van Fleet (1919) reported breeding density of 100 pairs/mi² (39 pairs/km²).

FOOD HABITS: Eats mostly insects and spiders, also some fruits and berries. Gleans food from foliage and small twigs in trees; also hawks aerial insects.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1950, Sumner and Dixon 1953.



Bell's Vireo

B153 (*Vireo bellii*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Considered by some to be extinct in the Sierra Nevada and Central Valley habitats formerly occupied (R. Stallcup, pers. commun.).

DISTRIBUTION/HABITAT: Formerly nested in dense, low elevation riparian thickets in spring and summer.

SPECIAL HABITAT REQUIREMENTS: Dense riparian thickets.

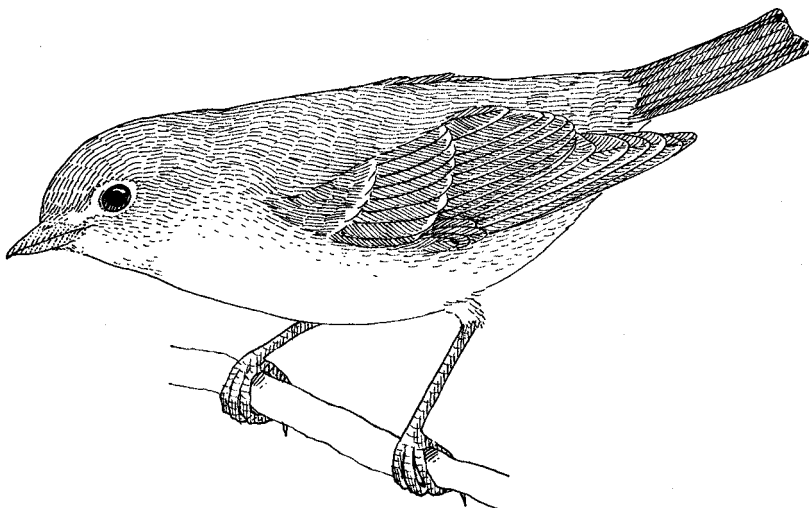
BREEDING: Breeds from early April to early July, with peak from mid-May to early June. Nests usually suspended from scrubby trees or low bushes-willow, *Baccharis*, blackberry, live oaks, poison oak, and others, always within 3 ft (0.9 m) of ground. Mean clutch size of 4.

TERRITORY/HOME RANGE: In southern Indiana, home range covers 2 to 3 acres (0.8 to 1.2 ha) per pair (Nolan 1960). Barlow et al. (1970) reported a breeding density of one pair per 2 acres (0.8 ha) in an Arizona mesquite thicket.

FOOD HABITS: Eats mostly insects, some fruits. Gleans from twigs and foliage, usually within 3 ft (0.9 m) of ground, primarily in riparian habitats, but some in live oak.

OTHER: Formerly a common summer resident at low elevations in the Sierra Nevada, even up to 4000 ft (1220 m) along the Tuolumne and Merced Rivers (Grinnell and Storer 1924). Apparently extinct in the western Sierra Nevada, partly because of reduction in suitable streamside vegetation and partly because of cowbird nest parasitism.

REFERENCES: Grinnell and Miller 1944, Bent 1950, Nolan 1960.



Solitary Vireo

B154 (*Vireo solitarius*)

STATUS: No official listed status. Fairly common migrant and summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in ponderosa pine, black oak woodland, riparian deciduous, and mixed-conifer types; prefers drier sites with substantial shrub layer and low to intermediate percent canopy cover. Spring migrants pass through lower elevation oak and pine/oak types; in late summer and early fall usually moves upslope as high as lodgepole pine forests.

SPECIAL HABITAT REQUIREMENTS:

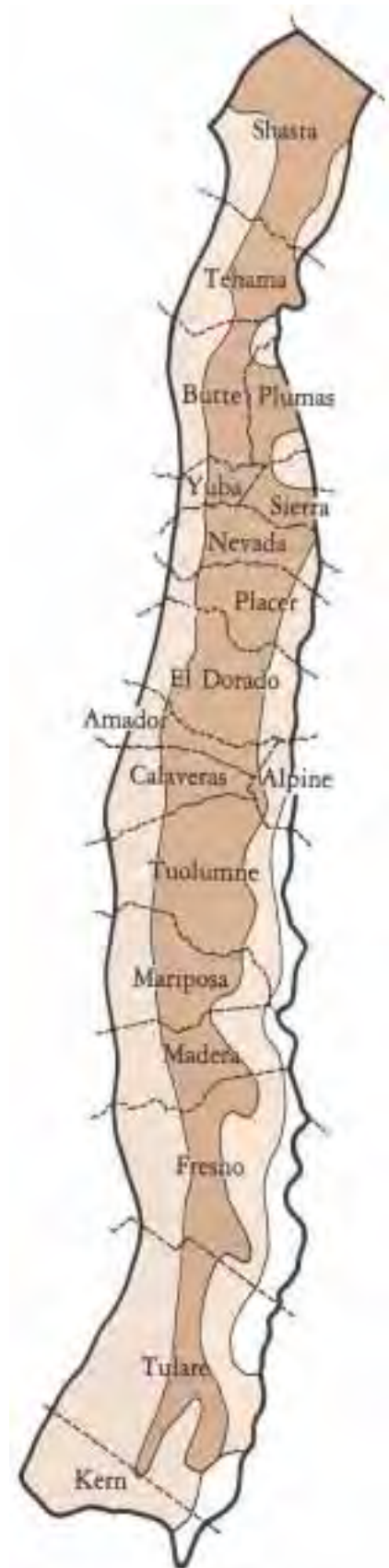
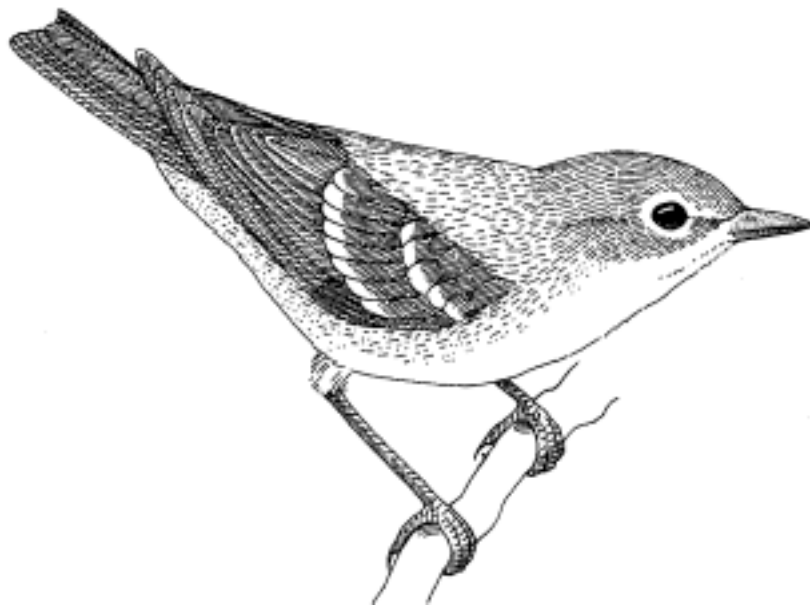
BREEDING: Breeds from late April to mid-July, with peak from late May to early July. Nests usually in low, dense foliage of shrubs and trees and typically shaded. Nest height ranges from 5 to 20 ft (1.5 to 6.1 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data available on home range. In an Arizona piñon-juniper-ponderosa pine ecotone, territory size averaged 4.2 acres (1.7 ha) (Laudenslayer and Balda 1976).

FOOD HABITS: Feeds mostly on insects, also eats some leaf galls and seeds. Gleans food from foliage of trees.

OTHER: Population declined in recent years, at least in part as result of increased nest parasitism by brown-headed cowbirds (Gaines 1977).

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1950.



Warbling Vireo

B155 (*Vireo gilvus*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Common spring migrant and summer resident in most vegetation types.

DISTRIBUTION/HABITAT: Breeds in wooded sites from low elevation riparian deciduous up to red fir forests. Prefers areas with tall trees, a substantial shrub layer, and low to intermediate percent canopy cover. Generally gone from the western Sierra Nevada by late summer.

SPECIAL HABITAT REQUIREMENTS:

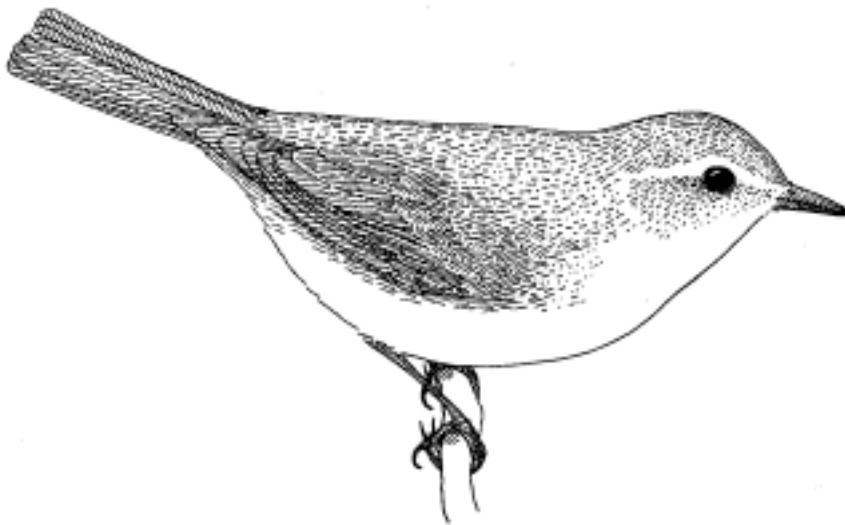
BREEDING: Breeds from late April to late July, with peak from late May to mid-July. Nests attached at upper rim, with cup hanging down, to terminal foliage of branches in tall trees (deciduous preferred). Nest height ranges from 4 to 40 ft (1.2 to 12 m) up, usually above 8 ft (2.4 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on territory size. In Idaho, Rust (1920) reported a home range of 120 ft (37 m) radius around nest.

FOOD HABITS: Eats mostly insects and spiders, also some fruits and seeds. Gleans food from foliage of deciduous and coniferous trees, sometimes hovering to do so; also hawks for airborne insects.

OTHER: By far the most common breeding vireo in the Sierra Nevada. Gaines (1977) has nonetheless noted a significant decline in numbers in the Yosemite Valley since the 1930's. Again, nest parasitism by the brown-headed cowbird thought to be a reason for the decline.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1950.



Orange-crowned Warbler

B156 (*Vermivora celata*)

STATUS: No official listed status. Common spring and summer visitor in suitable habitat.

DISTRIBUTION/HABITAT: Breeds at lower elevations from blue oak savannah to chaparral, and in low elevation riparian deciduous areas. Prefers sites with considerable shrub cover.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs for nesting.

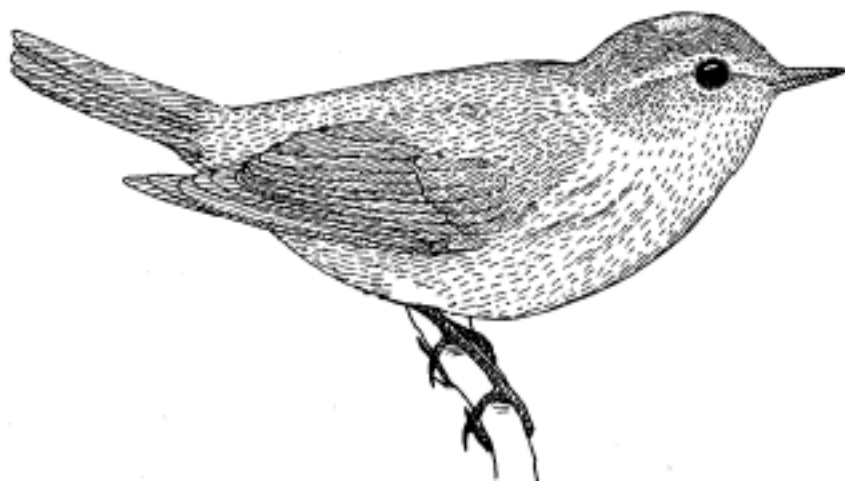
BREEDING: Breeds from late April to early June, with peak in mid-May. Nests on ground or occasionally in low, dense bushes. Nest height generally below 3 ft (1 m). Clutch size 3 to 6, with mean of 4.

TERRITORY/HOME RANGE: Only meager data available. In California coastal chaparral, Mans (1961) reported a male patrolled an area of about 5 acres (2 ha).

FOOD HABITS: Feeds mostly on insects, also some seeds and fruit. Gleans insects from foliage in shrubs and small trees at heights ranging from 5 to 30 ft (1.5 to 9.1 m).

OTHER: Although Grinnell and Miller (1944) cite Transition Zone breeding localities, no confirmed nesting records at elevations above 1600 ft (490 m). Known to nest only in chaparral and shrubby oak woodlands of foothills. Upslope or southward movement to mixed-conifer belt begins as early as June. In late summer and early fall, relatively common in high elevation coniferous forests, but most belong to populations from distant localities that migrate through the Sierra Nevada.

REFERENCES: Griscom and Sprunt 1957, Gaines 1977.



Nashville Warbler

B157 (*Vermivora ruficapilla*)

STATUS: No official listed status. Fairly common spring and summer resident.

DISTRIBUTION/HABITAT: Breeds in mid-elevation conifer types, from ponderosa pine to mixed-conifer forests, in black oak woodland and, to some extent, in riparian deciduous. Prefers timbered areas with low percentage canopy cover, though brush-covered sites with no trees also used.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs.

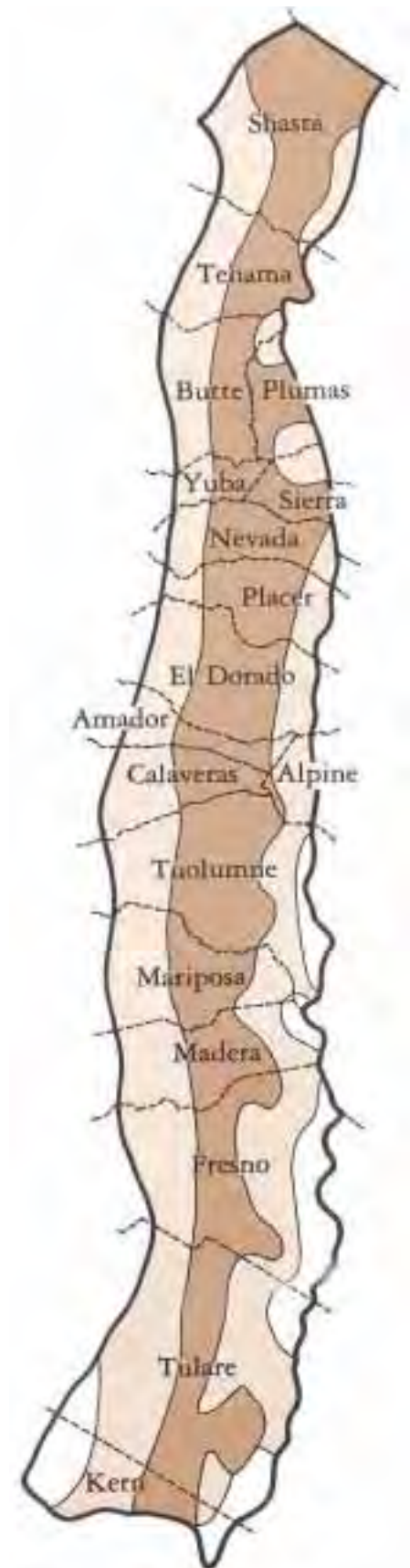
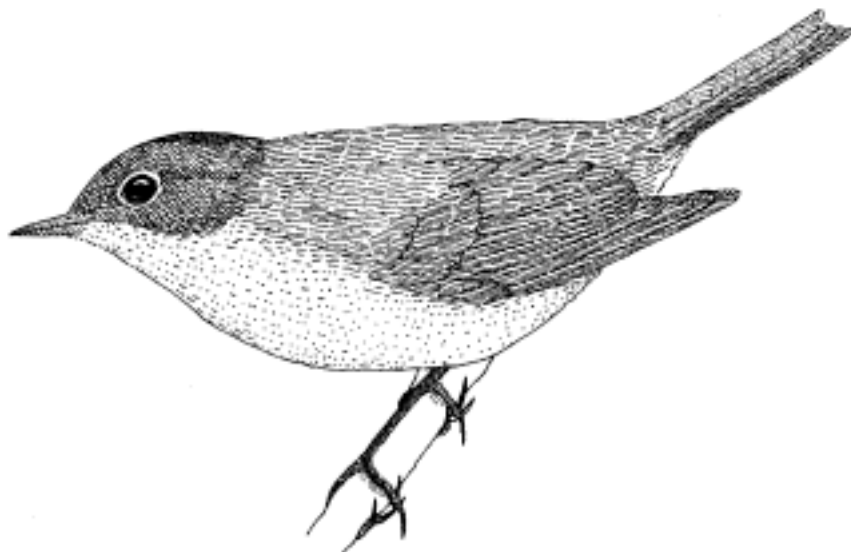
BREEDING: Breeds from mid-May to late July, with peak in mid-June. Nests on ground in areas with dense shrubs and sparse trees. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No information on home range. In a deciduous/coniferous forest in Ontario, Lawrence (1948) reported mean territory size of about 0.5 acre (0.2 ha).

FOOD HABITS: Feeds almost entirely on insects gleaned from foliage or taken from air by hawking. Feeds in low shrubs and up into higher canopy.

OTHER: Late season wanderers recorded as high as 11,000 ft (3350 m) in Yosemite National Park. Nests frequently parasitized by brown-headed cowbirds.

REFERENCES: Lawrence 1948, Griscom and Sprunt 1957, Johnson 1976.



Yellow Warbler

B158 (*Dendroica petechia*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978. Fairly common spring and summer resident in the western Sierran zone.

DISTRIBUTION/HABITAT: Breeds in riparian deciduous, lakeshore, or wet, shrubby meadows from blue oak savannahs up to mixed-conifer forest.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs; usually nearby water for nesting.

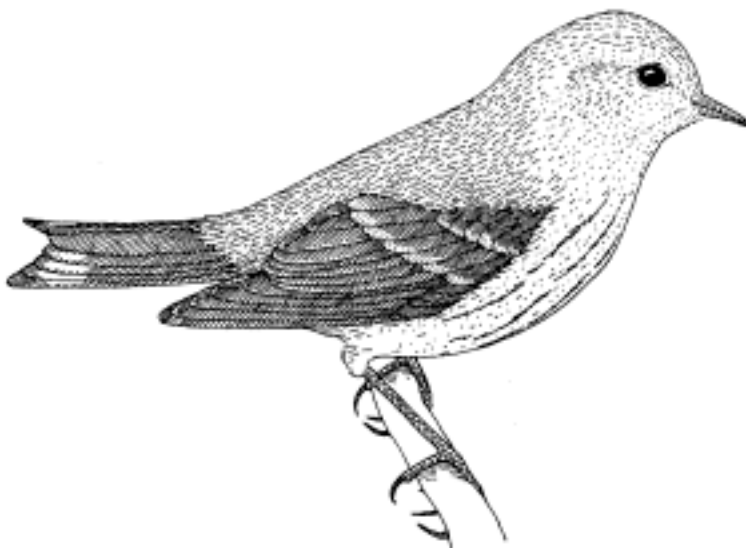
BREEDING: Breeds from mid-April to mid-July, with peak from early to late May. Nests in low bushes, usually in riparian sites but sometimes in open, moist forests. Nest height varies from 2 to 10 ft (0.6 to 3.1 m). Clutch size from 3 to 5, with 3 or 4 most frequent.

TERRITORY/HOME RANGE: In Illinois, breeding territory sizes reported in riparian woodland as ranging from 0.15 to 0.94 acre (0.06 to 0.4 ha), with mean of 0.42 acre (0.17 ha) (Brewer 1955); in riparian cover in Utah as ranging from 0.13 to 0.65 acre (0.05 to 0.26 ha) (Frydendall 1967); and on small islands in Minnesota to be as small as 0.08 acre (0.03 ha) (Beer et al. 1956). Feeds mostly outside territory, usually to distances of 400 to 600 ft (120 to 185 m) and some birds regularly to as far as 1600 ft (490 m) (Kendeigh 1941a).

FOOD HABITS: Diet consists almost entirely of insects, with some spiders. Gleans food from foliage of coniferous and deciduous trees.

OTHER: Although normally associated with low-elevation, streamside forests, frequently observed foraging in mid-elevation coniferous forests during postnesting season (Hebard 1961, Beedy 1975).

REFERENCES: Schranz 1943, Griscom and Sprunt 1957.



Yellow-rumped Warbler

B159 (*Dendroica coronata*)

STATUS: No official listed status. Abundant resident in the State; spring, summer, and fall visitor to middle and high elevations of the Sierra Nevada forests.

DISTRIBUTION/HABITAT: Widespread; found at lower elevations in all seasons, except summer. Breeds from ponderosa pine and black oak types up to lodgepole pine forests; prefers timbered sites of low percentage canopy cover and forest edges, as around meadows or lakes.

SPECIAL HABITAT REQUIREMENTS:

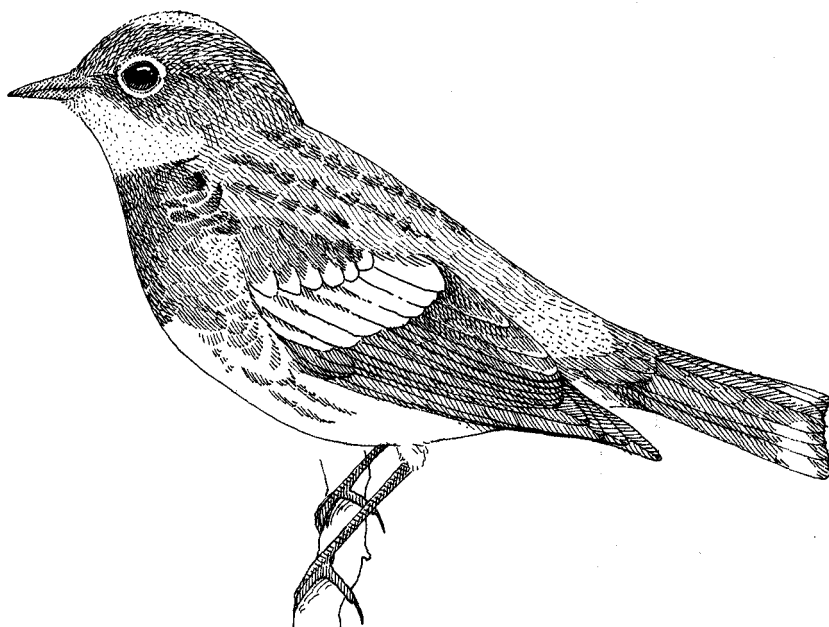
BREEDING: Breeds from mid-May to late July, with peak from middle to late June. Nests in conifers, in deciduous trees, or in shrubs, from 3 to 100 ft (0.9 to 3.1 m) up. Clutch size from 3 to 5, with a mean of 4.

TERRITORY/HOME RANGE: No information on home range or territory size. Beedy (1975) reported a density of 40.4 birds per 100 acres (40 ha) in mixed-conifer forest in the Sierra Nevada.

FOOD HABITS: Eats 85 percent insects and spiders and 15 percent vegetable matter. Hawks for flying insects, gleans insects from foliage, and searches for food on ground.

OTHER:

REFERENCES: Griscom and Sprunt 1957, Gaines 1977.



Black-throated Gray Warbler

B160 (*Dendroica nigrescens*)

STATUS: No official listed status. Uncommon to fairly common spring and summer visitor to oak-conifer belt.

DISTRIBUTION/HABITAT: Breeds in all oak types and in ponderosa pine forests, if some oaks present. Exhibits some preference for sites with low percentage canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Oaks; trees/shrubs.

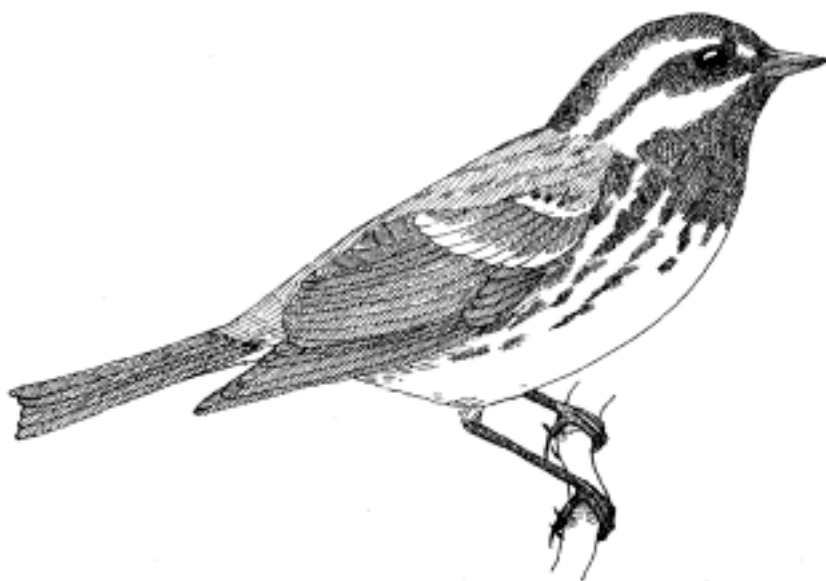
BREEDING: Breeds from early May to early July, with peak from mid-May to mid-June. Nests on horizontal branches from ground level up to 50 ft (15 m), but usually from 3 to 10 ft (0.9 to 3.1 m) up. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Insects generally comprise the diet, with oak worms and caterpillars favored. Hawks flying insects and gleans insects from foliage from low to moderate heights in tree canopy.

OTHER Rarely observed at elevations greater than 6000 ft (1830 m); in some regions largely restricted to golden oak habitat (Grinnell and Storer 1924).

REFERENCES: Grinnell and Storer 1924, Griscom and Sprunt 1957.



Townsend's Warbler

B161 (*Dendroica townsendi*)

STATUS: No official listed status. Uncommon to fairly common fall migrant; rarely observed in the Sierra Nevada during spring migration.

DISTRIBUTION/HABITAT: Frequents timbered stands from black oak woodland up to lodgepole pine forests; prefers low to intermediate canopy cover.

SPECIAL HABITAT REQUIREMENTS:

BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: None established in the western Sierran zone.

FOOD HABITS: Food consists of insects obtained by gleaning foliage of dense conifers.

OTHER: Fall migrants found primarily at higher elevations, usually associated with migratory flocks of yellow-rumped warblers.

REFERENCES: Griscom and Sprunt 1957, Gaines 1977.



Hermit Warbler

B162 (*Dendroica occidentalis*)

STATUS: No official listed status. Fairly common to common spring and/or summer resident in mid-elevation conifer forests.

DISTRIBUTION/HABITAT: Breeds in ponderosa pine, black oak woodlands, and mixed-conifer forests, prefers stands with large trees and low to intermediate percentage canopy cover. By July and August, after breeding season, spreads upslope through red fir forests.

SPECIAL HABITAT REQUIREMENTS: Large trees.

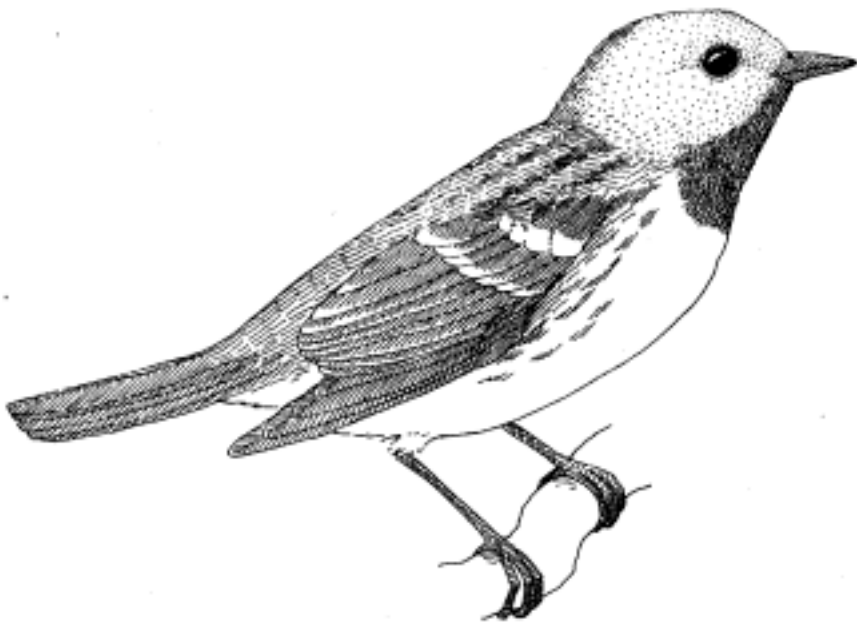
BREEDING: Breeds from late April to late June, with peak from early to mid-June. Nests on horizontal branches in relatively tall conifers, from 2 to 50 ft (0.6 to 15 m) above ground. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on either. Breeding density in mixed-conifer forest in the Sierra Nevada averaged 6.5 birds per 100 acres (40 ha) (Beedy 1975).

FOOD HABITS: Insects and spiders comprise the diet, with aerial insects hawked and other prey gleaned from foliage.

OTHER: When nesting in low to middle canopy, usually forage and sing in tallest trees. In general, the biology of species poorly known.

REFERENCES: Barlow 1899, Griscom and Sprunt 1957.



MacGillivray's Warbler

B163 (*Oporornis tolmiei*)

STATUS: No official listed status. Fairly common summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in rather dense shrubbery and thickets, especially near water, from ponderosa pine zone upslope into mixed-conifer zone. Often found in mid-elevation wet meadows with low shrubs, such as willows. In postnesting period, small numbers travel through meadows and willow thickets to treeline.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs near water for nesting.

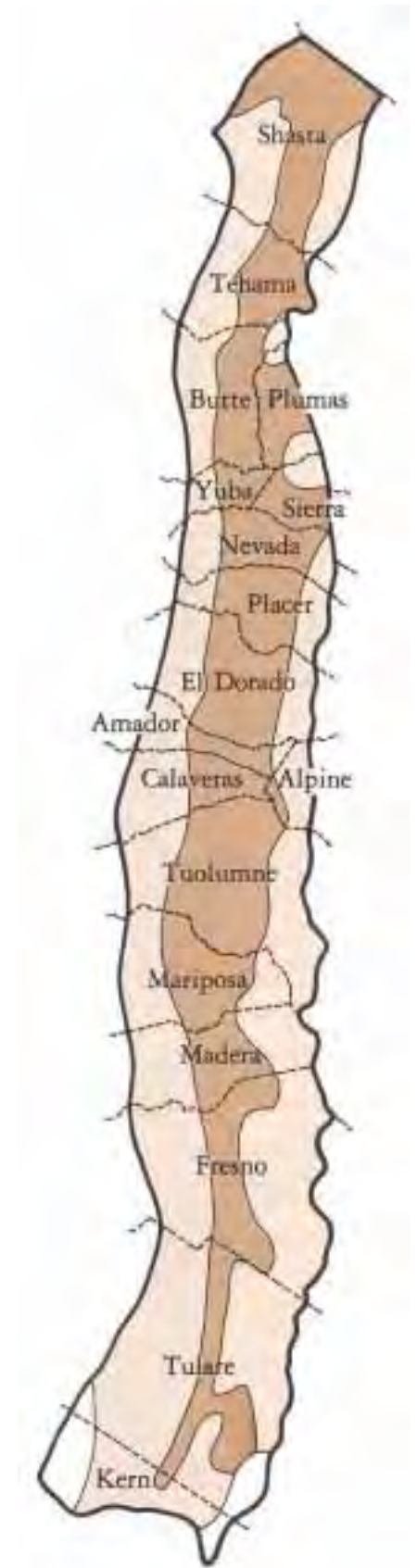
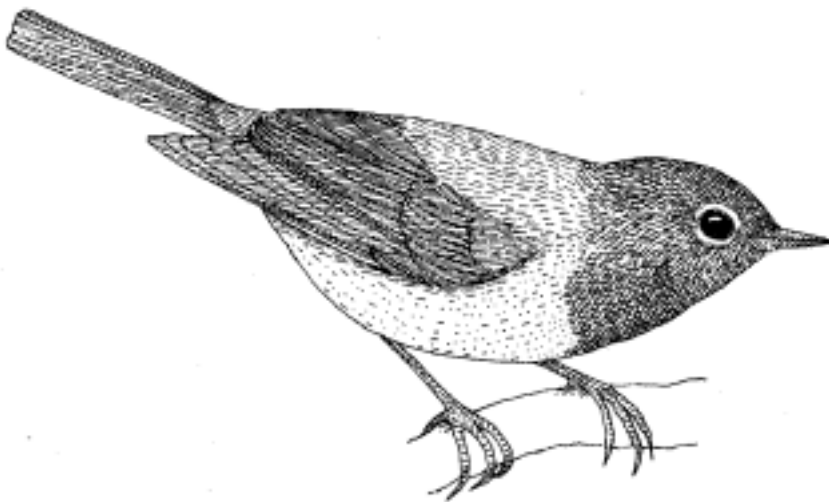
BREEDING: Breeds from early May to early July, with peak from early to mid-June. Nests usually from 2 to 6 ft (0.6 to 1.8 m) up in shrub in moist thicket, usually with tall herbs, grasses, or ferns. Clutch size from 3 to 6, with mean of 4.

TERRITORY/HOME RANGE: No data on territory or home range sizes. Salt (1957) reported a mean density of 30 birds per 100 acres (40 ha) in aspen habitat in Wyoming.

FOOD HABITS: Insects, taken in dense shrubs or on ground, by foliage gleaning or probing in ground litter, make up majority of diet.

OTHER:

REFERENCES: Griscom, and Sprunt 1957, Gaines 1977.



Common Yellowthroat

B164 (*Geothlypis trichas*)

STATUS: No official listed status. Fairly common summer resident, and spring and fall migrant in suitable areas. Substantially reduced in numbers in recent years because of drainage of essential aquatic habitat.

DISTRIBUTION/HABITAT: Breeds in marshy vegetation around ponds and along slow-moving streams or rivers, and in dense, mesic vegetation in wet meadows or in deciduous riparian habitat. Largely restricted to low elevations, observed on numerous occasions in Yosemite Valley and probably has nested there. Observed at elevations of 6000 ft (1830 m) in wet meadows in late summer.

SPECIAL HABITAT REQUIREMENTS: Marsh or dense shrubs near water for nesting.

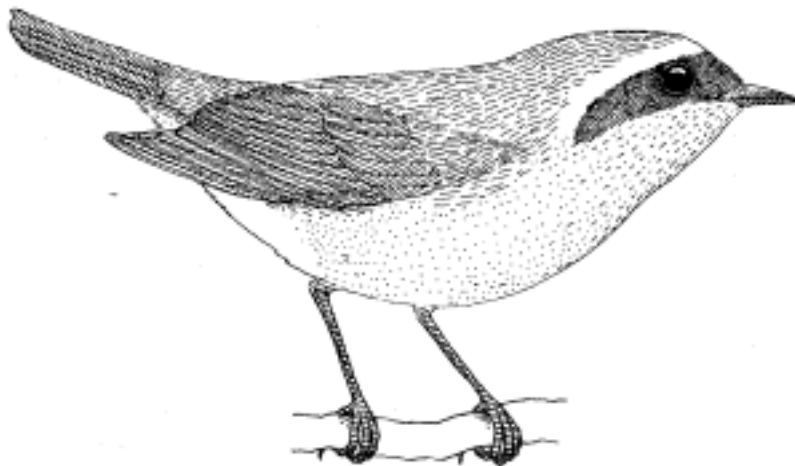
BREEDING: Breeds from early April to mid-July, with peak from mid-May to early June. Nests mostly on ground or supported by aquatic vegetation near or over water. Clutch size from 3 to 5, with mean of 4.6.

TERRITORY/HOME RANGE: Territory and home range probably the same. Reported sizes: average in marsh and riparian habitat in Michigan 1.3 acres (0.5 ha), with range from 0.8 to 1.8 acres (0.3 to 0.7 ha) (Stewart 1953); a mean of 0.6 acre (0.2 ha) in Illinois swamp, with range from 0.2 to 1.1 acres (0.1 to 0.5 ha) (Brewer 1955), and means of 0.7 acre (0.3 ha) in Minnesota and 1.7 acres (0.7 ha) in Michigan (Hofslund 1960).

FOOD HABITS: Large insects, especially caterpillars and other insect larvae, comprise majority of diet. Gleans from aquatic and marsh vegetation or foliage of shrubs in wet sites. Sometimes probes for food in ground.

OTHER:

REFERENCES: Stewart 1953, Griscom and Sprunt 1957.



Yellow-breasted Chat

B165 (*Icteria virens*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Fairly common spring migrant and summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in low elevation riparian deciduous habitats; breeding above 1000 ft (305 m) not confirmed. May not be a breeding species in western Sierran zone. Usually wanders upslope after breeding season, in late summer and early autumn. Recorded in riparian deciduous, habitats as high as 4000 ft (1220 m).

SPECIAL HABITAT REQUIREMENTS: Dense riparian shrubs.

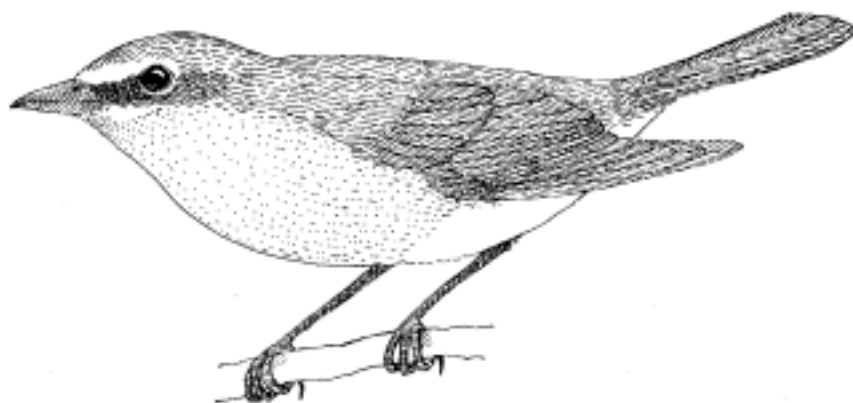
BREEDING: Breeds from early May to mid-July, with peak from early to mid-June. Nests usually at heights of 2 to 3 ft (0.6 to 0.9 m) in dense shrubs along stream courses. Clutch size from 3 to 6, with mean of 3.5.

TERRITORY/HOME RANGE: In Illinois, Brewer (1955) reported home range sizes from 0.14 to 0.71 acre (0.06 to 0.3 ha), with mean of 0.33 acre (0.1 ha) in marsh and riparian habitat. In upland deciduous scrub habitat in Indiana, Thompson and Nolan (1973) found mean territory sizes ranging from a low of 2.8 acres (1.1 ha) in 1967 to high of 3.9 acres (1.6 ha) in 1970; pooled mean for all years: 3.1 acres (1.24 ha). In variously wooded and brushy habitat near a stream in Virginia, Dennis (1958) noted a range in territory size from 1.25 to 2.50 acres (0.5 to 1.0 ha).

FOOD HABITS: Insects make up bulk of diet; fruits also eaten. Most food obtained by gleaning foliage of shrubs and small trees.

OTHER: Numbers reduced in the Sierra Nevada through habitat destruction.

REFERENCES: Griscom and Sprunt 1957, Dennis 1958, Thompson and Nolan 1973.



Wilson's Warbler

B166 (*Wilsonia pusilla*)

STATUS: No official listed status. Common summer resident.

DISTRIBUTION/HABITAT: Breeds in riparian sites, around some lakeshore habitat, or in wet meadows in middle to high elevations. Also forages along forest edges and within dense coniferous forests during postnesting season (Beedy 1975).

SPECIAL HABITAT REQUIREMENTS: Dense shrubs near water for breeding.

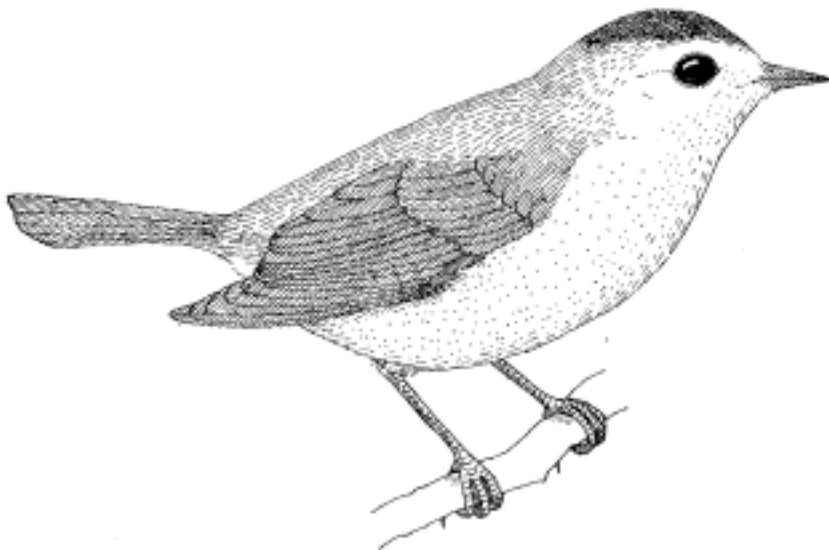
BREEDING: Breeds from late April to early July, with peak from mid-May to mid-July. Nests usually on ground among mosses and grasses, often at base of small tree or shrub, and typically located within dense shrubs. Clutch size from 4 to 6, with mean of 5.

TERRITORY/HOME RANGE: In a study in bay-laurel habitat in Marin County, Stewart (1973) reported that they ranged from 410 to 984 ft (125 to 300 m) from their nest. He reported territory sizes from 0.5 to 3.2 acres (0.2 to 1.3 ha), with mean of 1.2 acres (0.5 ha) in same area.

FOOD HABITS: Insects make up 90 percent of diet, seeds and berries 10 percent. Gleans foliage near ground and hawks for flying insects.

OTHER:

REFERENCES: Harrison 1951, Griscom and Sprunt 1957, Stewart 1973.



House Sparrow

B167 (*Passer domesticus*)

STATUS: No official listed status. Common permanent resident.

DISTRIBUTION/HABITAT: Breeds in all types and successional stages from annual grasslands up to ponderosa pine and black oak woodlands; established only in areas inhabited by humans, especially where livestock occur.

SPECIAL HABITAT REQUIREMENTS: Human habitations.

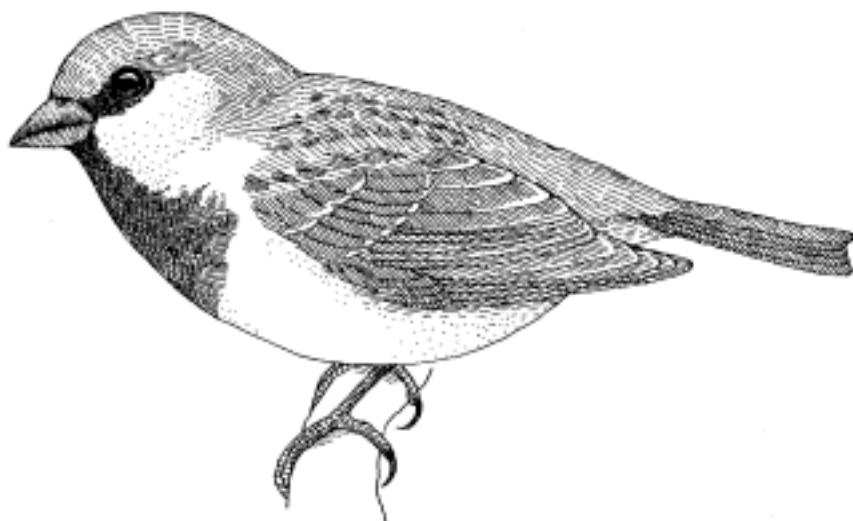
BREEDING: Breeds from early March to early August, with peak from early May to late June. Highly versatile in selection of nest sites, which may be almost any cavity, crevice or dense branchwork; often in buildings, under eaves, or in decorative grillwork. Nest height ranges from 5 to 50 ft (1.5 to 15 m). Three to 7 eggs per clutch, with mode of 5.

TERRITORY/HOME RANGE: In Illinois and Wisconsin, Owen (1957) reported that an area ranging in diameter from 1.5 to 20 ft (0.5 to 6.1 m) around the nest defended. Average area 158 ft² (14.7 m²). Nonbreeders reported traveling up to 2 mi (3.2 km) from roost sites to foraging sites in Oklahoma (North 1973) and New York (Weaver 1939).

FOOD HABITS: Adults eat mostly seeds and other vegetable matter; nestlings fed insects and seeds. Gleans most of food from ground, also from foliage. The common "garbage" bird of city streets.

OTHER: Introduced into Eastern United States from Europe during middle of last century; successfully spread throughout the country. More abundant during pre-automobile period, usually foraged in horse manure. Aggressive; frequently evicts other cavity nesting species from nest sites.

REFERENCES: Summers-Smith 1963, Kendeigh 1973, North 1973.



Violet-green Swallow

B106 (*Tachycineta thalassina*)

STATUS: No official listed status. Common spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds in all habitat types from blue oak savannahs up to lodgepole pine forests, especially at middle elevations.

SPECIAL HABITAT REQUIREMENTS: Nest cavities or crevices; medium to large openings, or open terrain.

BREEDING: Breeds from late April to mid-August, with peak from late May to late July. Nests in small crevice or hole in cliff, in abandoned woodpecker hole in tree, or in hole in some human structure, generally above 5 ft (1.5 m). Clutch size from 4 to 7, usually 4 or 5.

TERRITORY/HOME RANGE: No precise data available on size of home range or territory, but Grinnell and Miller (1944) state that home range large. Presumably only immediate vicinity of nest site defended.

FOOD HABITS: Feeds on flying insects, captured in long, gliding flights above any habitat, passing through swarms of insects. Does not require bodies of water to forage over, but usually does so if such areas available.

OTHER: Solitary or weakly colonial nesters.

REFERENCES: Bent 1942, Edson 1943, Grinnell and Miller 1944, Combella 1954.



Tree Swallow

B107 (*Iridoprocne bicolor*)

STATUS: No official listed status. Uncommon to rare spring migrant and summer resident.

DISTRIBUTION/HABITAT: Found from annual grasslands up to lodgepole pine forests. Breeds in sites with large trees; also breeds along riparian sites, around margins of ponds and lakes or in wet meadows where trees provide nest sites. Few records of nesting above 5000 ft (1520 m) in the Sierra Nevada probably exceptional.

SPECIAL HABITAT REQUIREMENTS: Nest cavities by pond, lake, stream, river, marsh, or wet meadow.

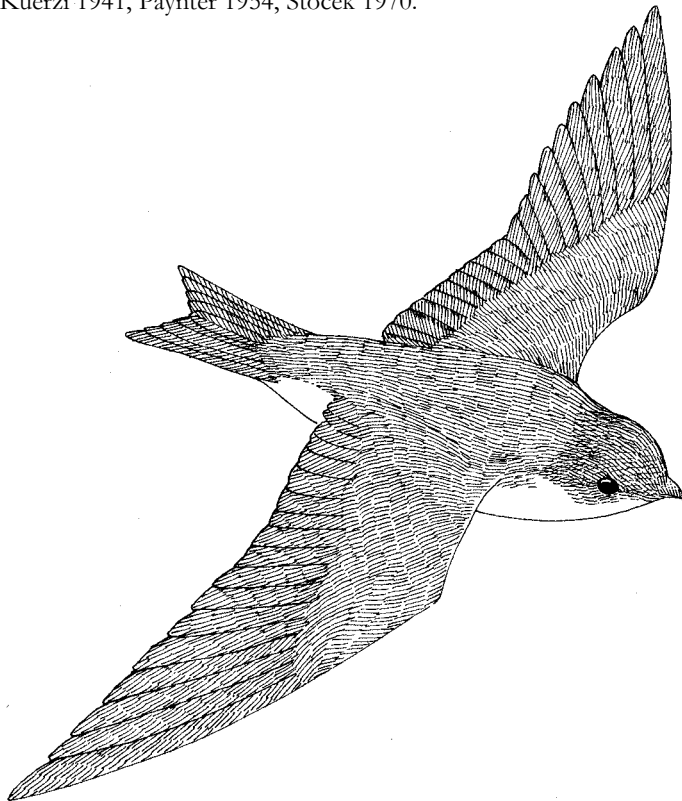
BREEDING: Breeds from mid-April to mid-August, with peak from late May to mid-July. Nests in abandoned woodpecker hole or other cavity in tree, preferably surrounded by water or on edge of water. Also uses nest boxes or cavities in buildings. No data on nest height in natural conditions. Clutch size from 3 to 7, with mean of about 5. Usually nests solitarily or in small groups.

TERRITORY/HOME RANGE: Home range is large (Kuerzi 1941, in a Connecticut study). Only nest site defended (Kuerzi 1941).

FOOD HABITS: Feeds almost exclusively on flying insects; also eats some berries and seeds. Captures insects by flying back and forth over water or at least a wet area.

OTHER: May be limited in the Sierra Nevada by availability of suitable nest sites, as has been true in other parts of the country.

REFERENCES: Kuerzi 1941, Paynter 1954, Stoeck 1970.



Rough-winged Swallow

B108 (*Stelgidopteryx ruficollis*)

STATUS: No official listed status. Uncommon spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds from annual grasslands up to ponderosa pine and black oak woodland types, especially at lower elevations. Found in all successional stages, so long as suitable nest sites available.

SPECIAL HABITAT REQUIREMENTS: Earthen bank.

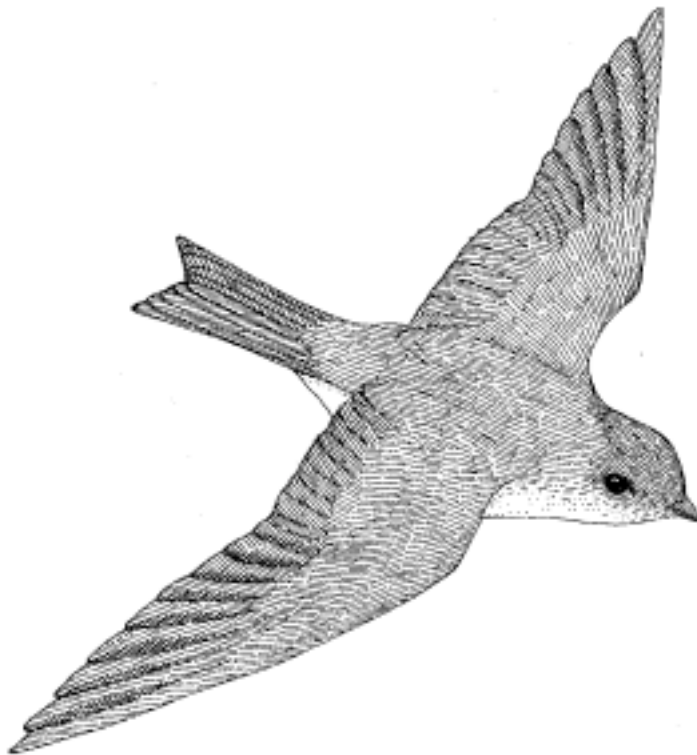
BREEDING: Breeds from early April to early August, with peak from late May to mid-July. Nests in hole in earthen bank; sometimes excavates own cavity or uses rodent's burrows, kingfisher nest sites, or natural cavities. Generally nests solitary-ly, unless a bank offers unusually good nest site characteristics, in which case more than one nest may be found in close proximity. Clutch size from 4 to 8, most contain 6 or 7.

TERRITORY/HOME RANGE: No data on home range. Only immediate vicinity of nest cavity defended (Lank 1962).

FOOD HABITS: Eats flying insects, captured in long, cruising flights, generally low over water or in gullies.

OTHER: Numbers probably limited by available nest sites.

REFERENCES: Bent 1942, Grinnell and Miller 1944, Lunk 1962.



Barn Swallow

B109 (*Hirundo rustica*)

STATUS: No official listed status. Common spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds in all habitats and successional stages from annual grasslands up to mixed-conifer forests, providing suitable nest sites available. More abundant at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Cliffs, old buildings, or bridges for nesting; nearby water for mud gathering.

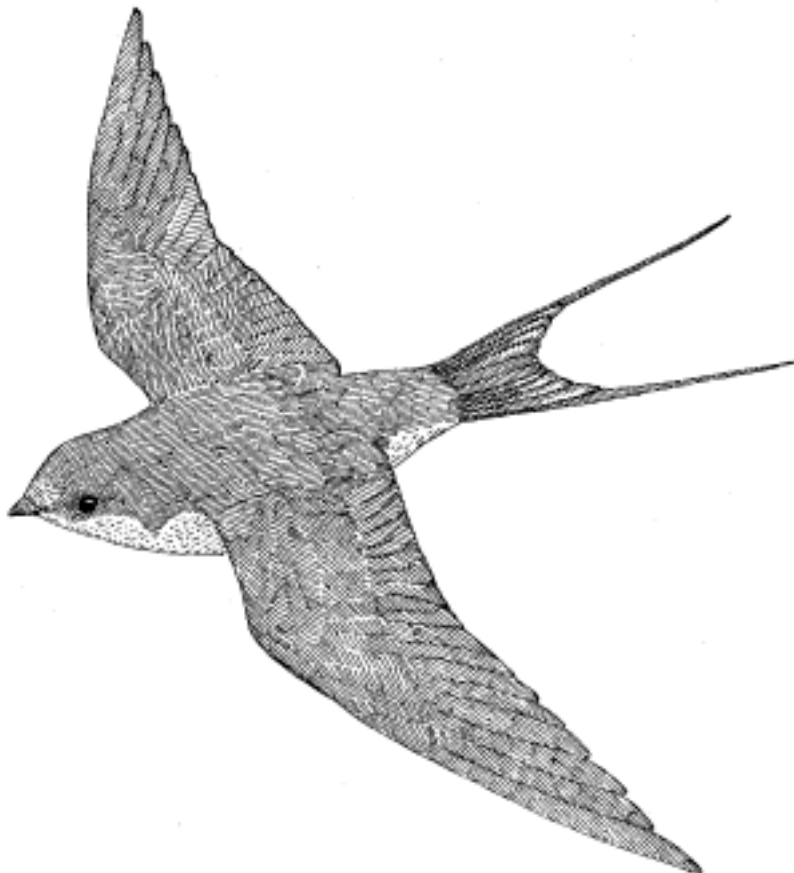
BREEDING: Breeds from early April to mid-August, with peak from mid-May to mid-July. Nests under eaves of buildings, under bridges, on rock surfaces under stream bank overhangs, or other suitably sheltered sites with solid substrate to which nest may be attached. Mud used in nest construction. Clutch size from 1 to 7, most contain 4 or 5.

TERRITORY/HOME RANGE: Data on home range scanty. Forages mostly within 4000 ft (1220 m) of the nest (Samuel 1971), or within 1300 ft (400 m) of the nest (Snapp 1976). Defends only the area immediately around nest (Davis 1937).

FOOD HABITS: Feeds on flying insects, captured in long, cruising flights, usually low over streams, ponds, or wet meadows.

OTHER:

REFERENCES: Bent 1942, Grinnell and Miller 1944, Samuel 1971, Snapp 1976.



Cliff Swallow

B110 (*Petrochelidon pyrrhonota*)

STATUS: No official listed status. Abundant spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds from annual grasslands up into mixed-conifer forests; prefers low elevations. Occasionally known to nest at higher elevations; one colony with 30 nests located in Amador County, at 8400 ft (2560 m) elevation.

SPECIAL HABITAT REQUIREMENTS: Cliffs, old buildings, or bridges for nesting; nearby water for mud gathering.

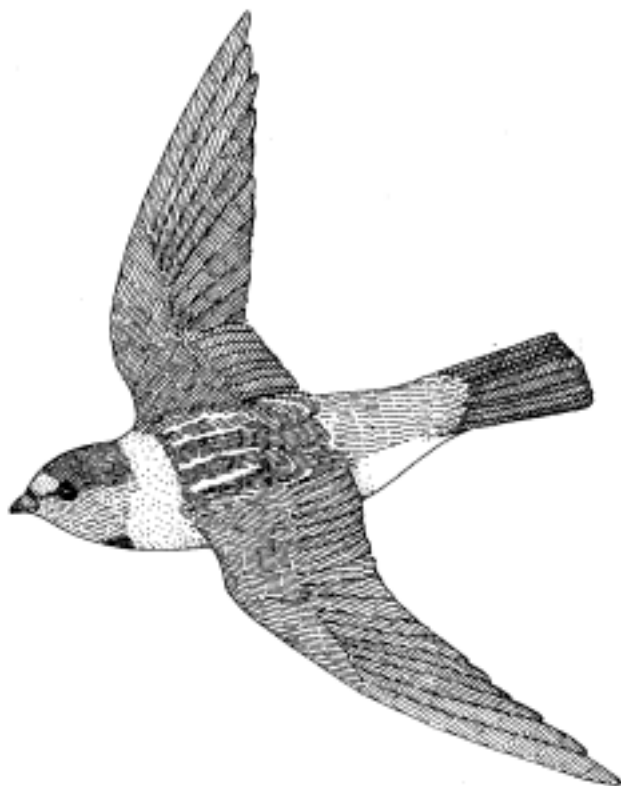
BREEDING: Breeds from mid-April to early August, with peak from early May to early July. Nest constructed of mud pellets, attached to solid, vertical surface. A funnel-shaped structure, nest has small opening directed outward from the surface to which the nest is attached. Nests often close together; species nests in colonies. Clutch size from 3 to 6, most contain 3 or 4.

TERRITORY/HOME RANGE: In Wyoming, Emlen (1954) reported a home range of 2 to 4 mi (3.2 to 6.4 km) foraging radius around the nest. Only the area in immediate vicinity of nest defended (Emlen 1954).

FOOD HABITS: Feeds exclusively on flying insects, captured in long, cruising flight over bodies of water, grasslands, marshes, or shrubs.

OTHER:

REFERENCES: Emlen 1952, 1954; Mayhew 1958; Samuel 1971.



Steller's Jay

B111 (*Cyanocitta stelleri*)

STATUS: No official listed status. Common to abundant resident.

DISTRIBUTION/HABITAT: Breeds from ponderosa pine and black oak woodland types up to lodgepole pine forests; prefers stands of mature trees with low to intermediate percent canopy coverage. Breeding range expanded in recent years in areas of human use. Most abundant around campgrounds and picnic areas. Exhibits some upslope movement after breeding period; at least part of population regularly moves downslope in fall and winter.

SPECIAL HABITAT REQUIREMENTS:

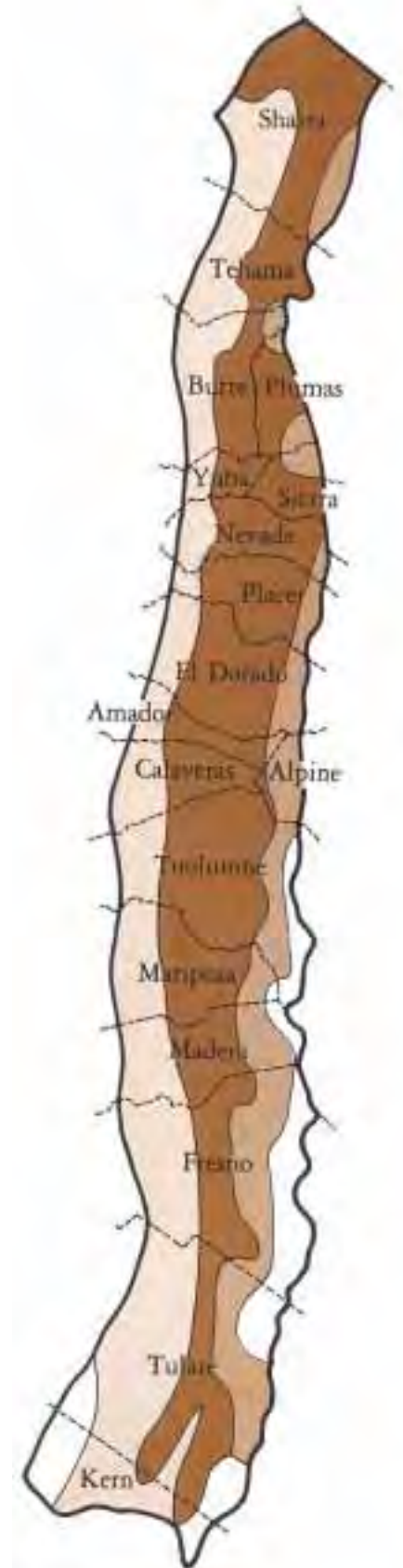
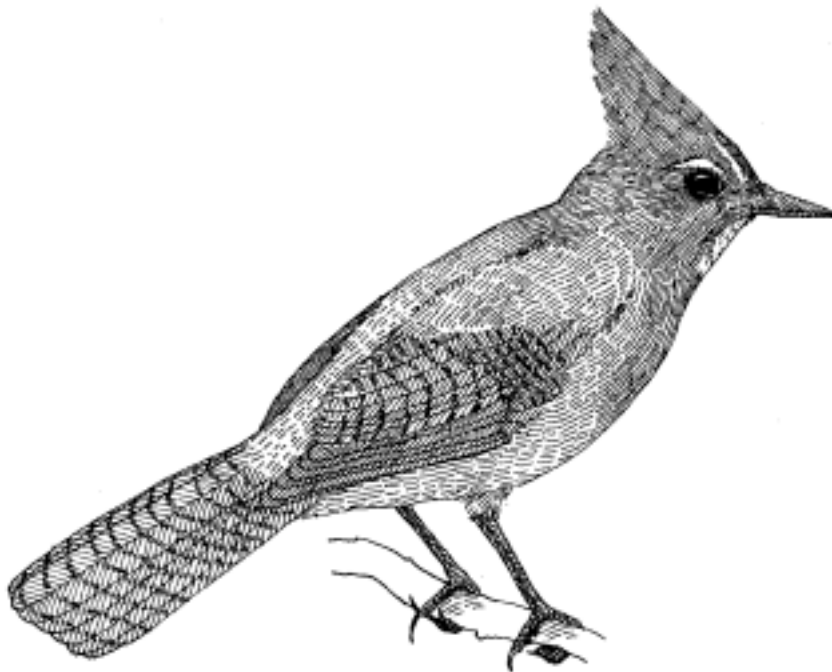
BREEDING: Breeds from early April to late July, with peak from early May to late June. Nests usually in dense foliage in young conifers, on horizontal branch near trunk. Sometimes nests in older conifers or deciduous trees. Nest height ranges from 2 to 100 ft (0.6 to 30 m); most nests between 8 and 15 ft (2.4 and 4.6 m) up. Clutch size from 3 to 5, with mode of 4.

TERRITORY/HOME RANGE: No data on home range size. In Alameda County, hold year-round territories (Brown 1964), but no sizes reported.

FOOD HABITS: Omnivorous, eating mast, fruit, insects, seeds, carrion, birds' eggs and young. Uses variety of foraging techniques, including gleaning and picking. Takes food from ground and from foliage of conifers and broadleaved trees and shrubs.

OTHER: One of most secretive nesters of forest birds.

REFERENCES: Grinnell and Miller 1944, Bent 1946, Brown 1964.



Scrub Jay

B112 (*Aphelocoma coerulescens*)

STATUS: No official listed status. Common resident.

DISTRIBUTION/HABITAT: Breeds in low elevation oak and pine/oak sites, chaparral, and riparian deciduous types; prefers stands with low percent canopy coverage. Occasionally individuals wander upslope after breeding.

SPECIAL HABITAT REQUIREMENTS: Oaks or cultivated nut trees.

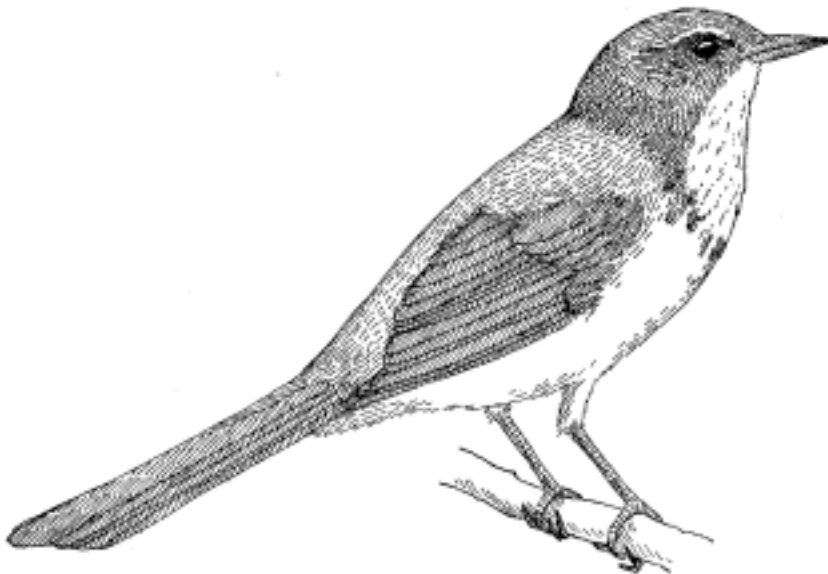
BREEDING: Breeds from early March to mid-August, with peak from late April to early July. Nests usually in low trees, vines, or shrubs, typically near water, from 3 to 50 ft (0.9 to 15 m) up. Clutch size from 2 to 7, with 4 or 5 most frequent.

TERRITORY/HOME RANGE: In Butte County, two home ranges averaged 12.7 acres (5.1 ha), and five territories averaged 5.5 acres (2.2 ha) (Ritter 1972).

FOOD HABITS: Acorns, other nuts and seeds, insects, and fruit make up majority of diet. Commonly feeds on ground near cover, gleans food from ground and litter; also digs in ground and often buries acorns and other foods for later consumption. Picks acorns and nuts from trees, and gleans foliage of trees, forbs, and grasses.

OTHER:

REFERENCES: Pitelka 1951a, Ritter 1972, Verbeek 1973.



Black-billed Magpie

B113 (*Pica pica*)

STATUS: No official listed status. Breeds east of the Sierra Nevada crest, with infrequent vagrants on west slopes.

DISTRIBUTION/HABITAT: Found uncommonly from midsummer to late winter. Feeds in clearings and areas with scattered shrubs, resting in most sites with trees. Recorded from alpine meadows downslope to mixed-conifer zone.

SPECIAL HABITAT REQUIREMENTS: Water in dry season; openings.

BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: Probably none established in the western Sierra Nevada.

FOOD HABITS: Eats primarily insects, also carrion, small mammals, and sometimes birds' eggs, fruit, and grain. Feeds on the ground, in low vegetation, and on backs of large herbivores. Searches beneath objects and gleans food from foraging surfaces.

OTHER:

REFERENCES: Linsdale 1937, Jones 1960, Erpino 1968.



Yellow-billed Magpie

B114 (*Pica nuttalli*)

STATUS: No official listed status. Permanent resident only at low elevations in the southern and central Sierra Nevada; rare vagrant at higher elevations.

DISTRIBUTION/HABITAT: Breeds in wooded stages of blue oak savannah and digger pine-oak type; prefers sites with intermediate percent canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Open terrain; trees; water in dry season.

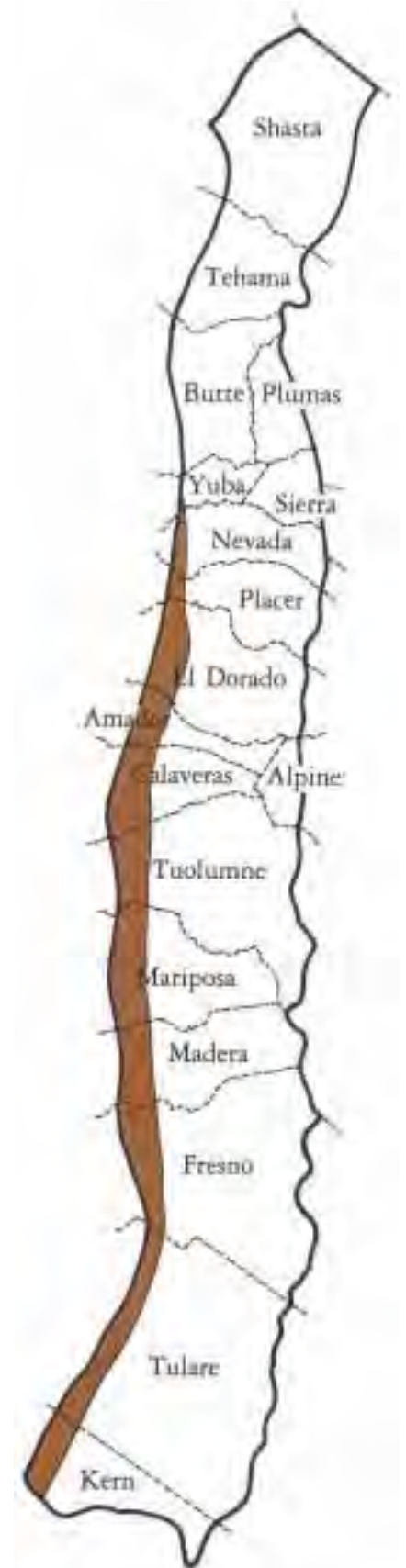
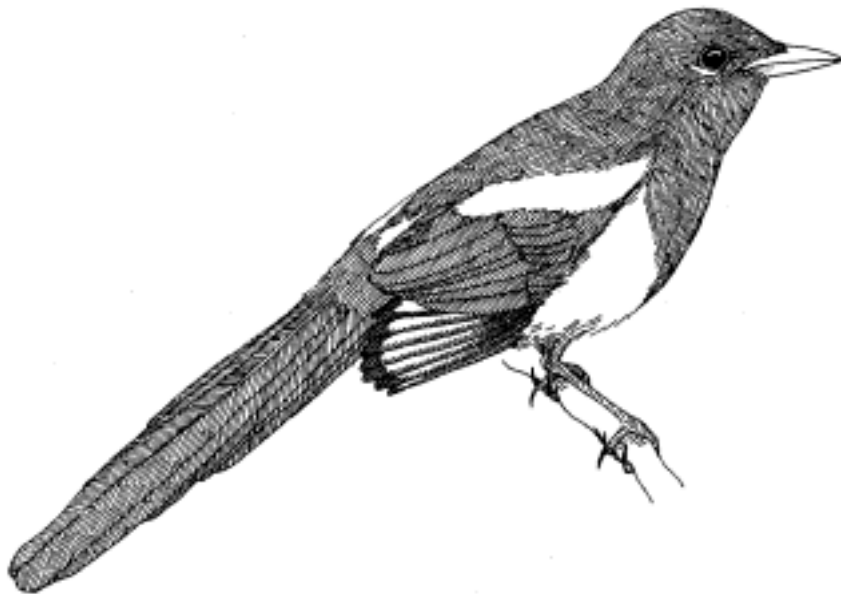
BREEDING: Breeds from late February to mid-July, with peak from early May to late June. Nests around periphery of canopy of large tree. Nests in loose colonies, usually in oaks, sycamores, cottonwoods, or digger pines. Nest height ranges from 30 to 80 ft (9.1 to 24 m), with mean of 55 ft (17 m) (Verbeek 1973). Clutch size from 5 to 8, with mean of 6.5.

TERRITORY/HOME RANGE: In Monterey County, during breeding season, home range averaged about 100 acres (40 ha), expanding to about 1500 acres (607 ha) in nonbreeding period (Verbeek 1973). Also in Monterey County, territory size, year-round, ranged from 1.5 to 4.8 acres (0.6 to 1.9 ha) with an average of 3 acres (1.2 ha) (Verbeek 1973).

FOOD HABITS: Eats insects, soil invertebrates, carrion, a wide variety of other animal foods, acorns, fruit, and occasionally raids birds' nests. Obtains food from ground, among grasses and forbs, and in air. Gleans, searches under objects (for example, dung, wood chips), and hawks for aerial insects.

OTHER: Feeds a great deal on territory during breeding season, but moves around in large flocks in nonbreeding season. Well adapted to agricultural areas.

REFERENCES: Linsdale 1937; Bent 1946; Verbeek 1972, 1973.



Common Raven

B115 (*Corvus corax*)

STATUS: No official listed status. Uncommon resident.

DISTRIBUTION/HABITAT: Breeds in all vegetation types from the annual grasslands upslope to Jeffrey pine forests, with a preference for lower elevation areas. Feeds and rests on up to the crest of the Sierra Nevada.

SPECIAL HABITAT REQUIREMENTS: Large openings; cliffs or trees for nesting.

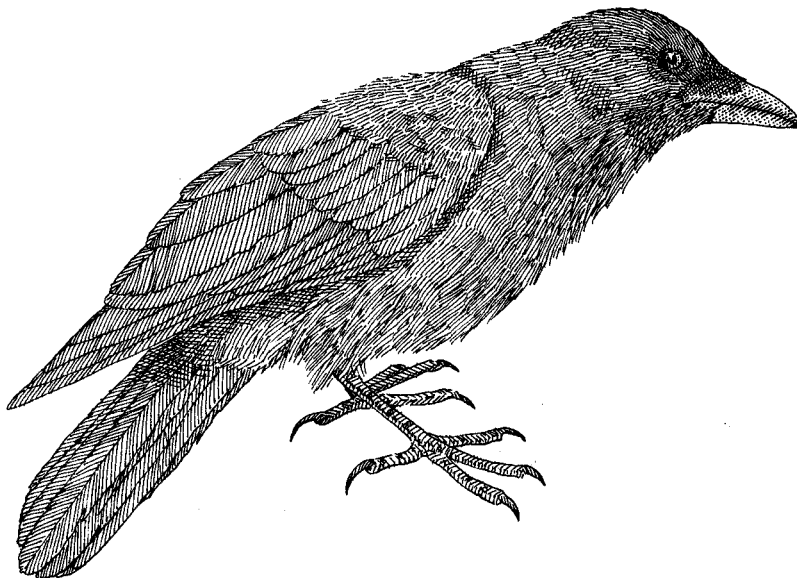
BREEDING: Breeds from mid-February to late July, with peak from mid-April to mid-June. For nesting, prefers ledge or crevice in cliff, but will use trees or manmade structures. Nest commonly sheltered by overhand or foliage. A nest tree typically the highest tree available with good cover at top. Nest height from 20 to 100 ft (6.1 to 30 m). Clutch size from 4 to 8, most contain 5 or 6.

TERRITORY/HOME RANGE: No data on territory. In Wyoming, Craighead and Craighead (1956) reported two breeding home ranges of 2.6 and 4.2 mi² (6.7 and 10.9 km²).

FOOD HABITS: Feeds on carrion; small, live vertebrates; and large insects. Takes food from ground and nests. Searches for food while flying and soaring.

OTHER: Generally avoids human settlements. Little known of winter distribution or breeding sites in the Sierra Nevada. May have increased range recently; has not been reported in Yosemite National Park before 1950; now listed as "uncommon" (Gaines 1977).

REFERENCES: Harlow 1922, Tyrell 1945, Bent 1946.



Common Crow

B116 (*Corvus brachyrhynchos*)

STATUS: No official listed status. Common in Central Valley; status above 1000 ft (305 m) uncertain.

DISTRIBUTION/HABITAT: A permanent resident, breeds in blue oak savannah, in digger pine-oak woodlands, and in low and mid-elevation riparian deciduous habitats. Some upslope movement as high as mixed-conifer zone in spring and fall.

SPECIAL HABITAT REQUIREMENTS: Large openings; trees for nesting.

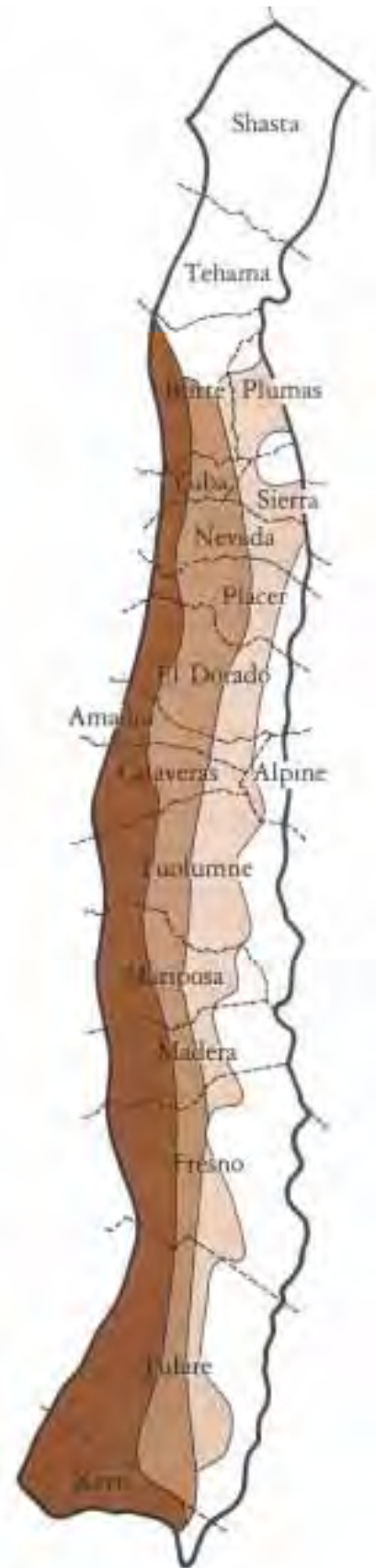
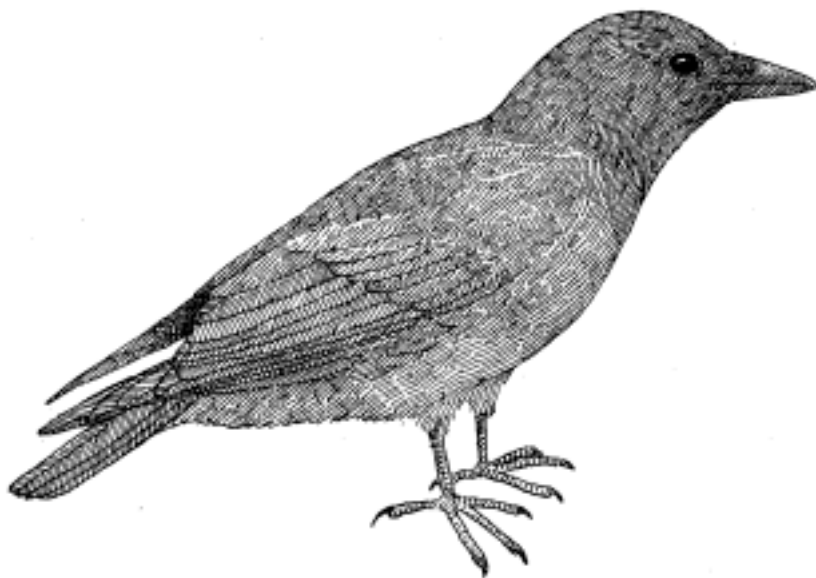
BREEDING: Breeds from late March to early July, with peak from early May to mid-June. Nests in trees, typically in crotch, from 10 to 60 ft (3.1 to 18 m) up. Clutch size from 2 to 6, with mean of 4.4.

TERRITORY/HOME RANGE: No information available. Probably territorial during the breeding season (Emlen 1942). Several pairs sometimes nest in loose association.

FOOD HABITS: Eats seeds and nuts, fruits, insects, small vertebrates, carrion, and eggs. Obtains food from the ground, from vegetation, and from nests. Foraging techniques include gleaning and searching while in flight.

OTHER:

REFERENCES: Emlen 1940, 1942; Bent 1946.



Piñon Jay

B117 (*Gymnorhinus cyanocephalus*)

STATUS: No official listed status. Uncommon vagrant in late summer and fall; apparently comes to west slopes of the Sierra Nevada from east side localities.

DISTRIBUTION/HABITAT: Sporadic occurrence from Jeffrey pine forests down to blue oak savannah; prefers sites lacking high percent canopy cover.

SPECIAL HABITAT REQUIREMENTS: Openings.

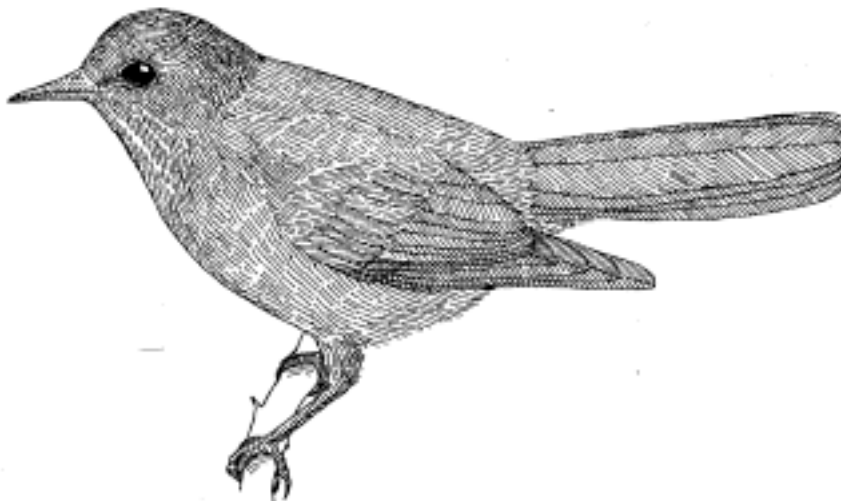
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: One flock in New Mexico ranged over 11.2 mi² (29 km²) (Ligon 1971); another in Arizona ranged over 8 mi² (21 km²) (Balda and Bateman 1971).

FOOD HABITS: Pine seeds make up the majority of the diet; also eats insects, tender young pine cones, fruits, and birds' eggs and young. Feeds on the ground, on cones, foliage, and bark. Foraging techniques include gleaning, cone feeding, crevice picking, and bark flaking. Stores pine nuts.

OTHER: Flocks become nomadic when cone seed crop in home range poor. May wander hundreds of miles at such times.

REFERENCES: Balda and Bateman 1971, 1972; Balda *et al.* 1972.



Clark's Nutcracker

B118 (*Nucifraga columbiana*)

STATUS: No official listed status. Common resident; few breeding records in western Sierran zone. Probably breeds more commonly on east slope.

DISTRIBUTION/HABITAT: Breeds in variety of high altitude conifer habitats, most birds remaining above 8000 ft (2440 m) all year. Some descend to lower elevations in late summer and fall, feeding on seeds of Jeffrey, ponderosa, and sugar pines. Seldom descends below 4000 ft (1220 m). Prefers high-altitude rocky sites with sparse forest that includes pines.

SPECIAL HABITAT REQUIREMENTS: Pines.

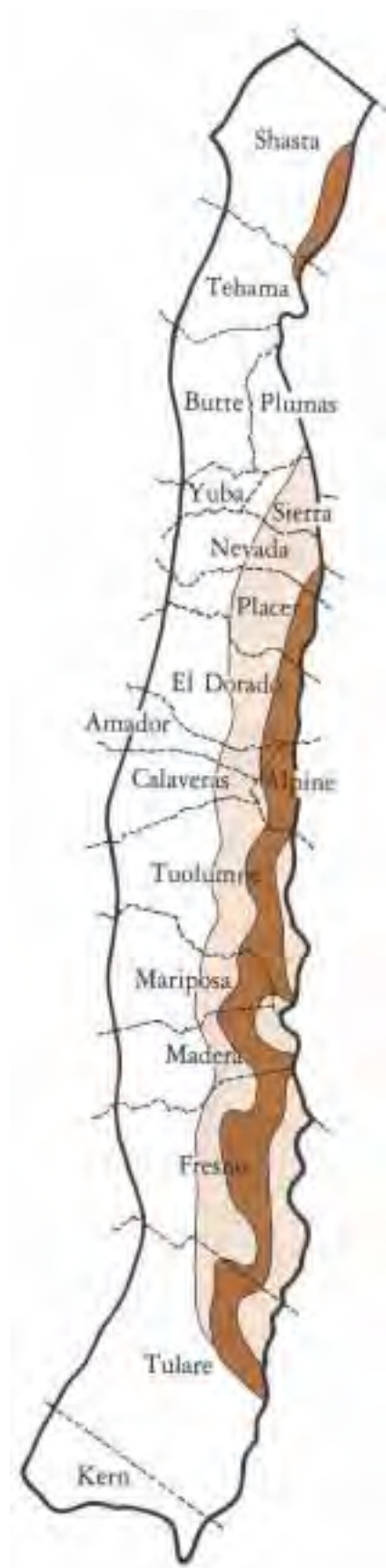
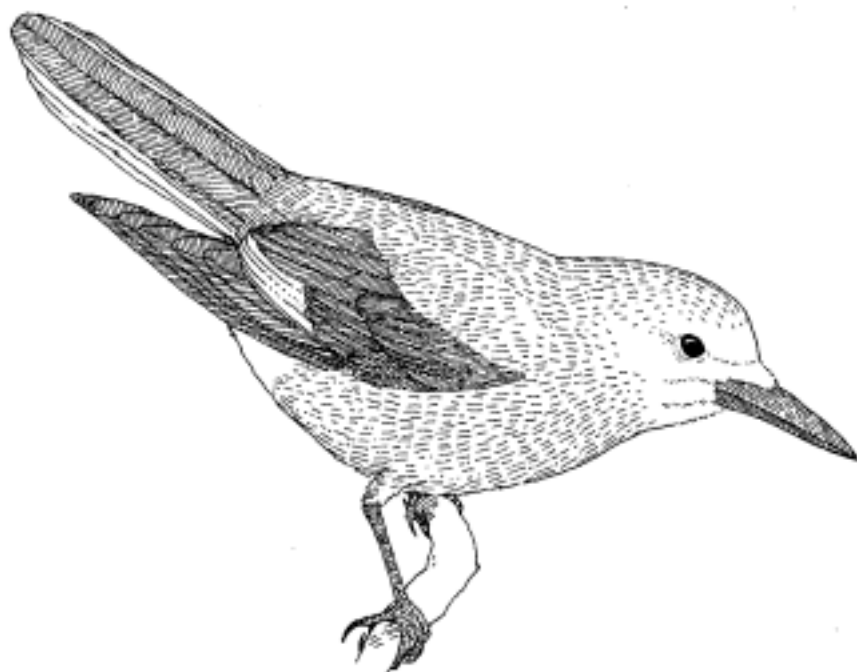
BREEDING: Breeds from late February to early August, with peak from early April to early June. Nests in a conifer, often small one, from 7 to 150 ft (2.1 to 46 m) up, though most below 50 ft (15 m). Clutch size from 2 to 6, with mode of 3.

TERRITORY/HOME RANGE: In Montana, a single breeding territory occupied 2.1 acres (0.9 ha) (Mewaldt 1956). In Mono County, Dixon (1934) reported foraging over 1.5 mi (2.4 km) from nest.

FOOD HABITS: Eats pine seeds and insects; also berries, birds' eggs and nestlings, and carrion. Obtains food from cones on trees or on ground, from foliage and bark, and from the air. Rips open cones, gleans and hawks insects.

OTHER:

REFERENCES: Dixon 1934, Mewaldt 1956, Tomback 1977.



Mountain Chickadee

B119 (*Parus gambeli*)

STATUS: No official listed status. Abundant resident.

DISTRIBUTION/HABITAT: Breeds from ponderosa pine and black oak woodland zone up through lodgepole pine forests; prefers stands with large trees and less than 70 percent canopy coverage. In fall, winter, and spring, ranges downslope into oak and pine/oak woodlands.

SPECIAL HABITAT REQUIREMENTS: Nest cavities.

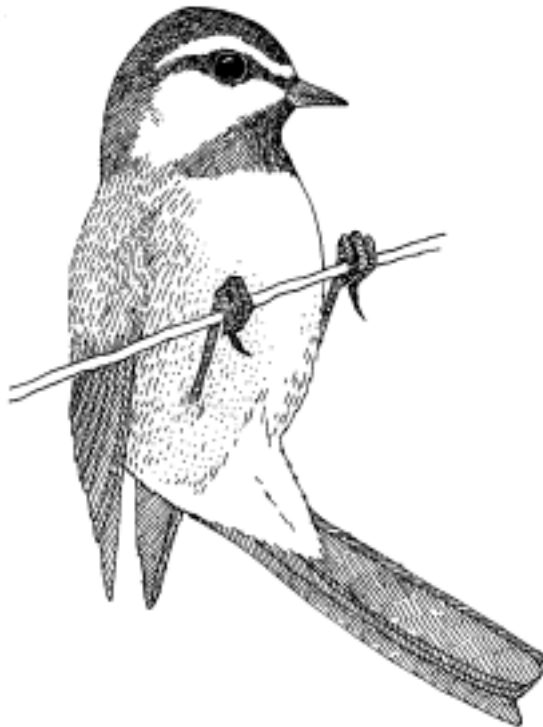
BREEDING: Breeds from early May to mid-August, with peak from late May to late July. Nests in small cavity in snag or stump, usually an abandoned woodpecker hole or, occasionally, a natural cavity. Clutch size from 5 to 9.

TERRITORY/HOME RANGE: In Utah, banded adults studied by Dixon and Gilbert (1964) formed winter flocks and remained in vicinity of breeding grounds; none noted to visit points more than about 0.8 mi (1.3 km) apart. In Arizona piñon-juniper-ponderosa pine ecotone, Laudenslayer and Balda (1976) indicate a mean breeding territory size of 3.7 acres (1.5 ha) while a single partial territory mapped by Minock (1971) in Utah covered at least 21 acres (8.5 ha). Discrepancy in size estimates suggests need for more field work.

FOOD HABITS: Feeds on small insects, gleaned from foliage and twigs of trees.

OTHER: Often most abundant species in winter in high elevation breeding range.

REFERENCES: Grinnell and Miller 1944, Bent 1946, Dixon and Gilbert 1964.



Chestnut-backed Chickadee

B120 (*Parus refescens*)

STATUS: No official listed status. Rare resident from the central Sierra Nevada northward.

DISTRIBUTION/HABITAT: Range extended only recently into the Sierra Nevada; now known to occur year-round. Prefers moist forests of mixed hardwoods and conifers; may be found in other habitats. Permanent resident in ponderosa pine, black oak woodland, and mixed-conifer types.

SPECIAL HABITAT REQUIREMENTS: Nest cavities.

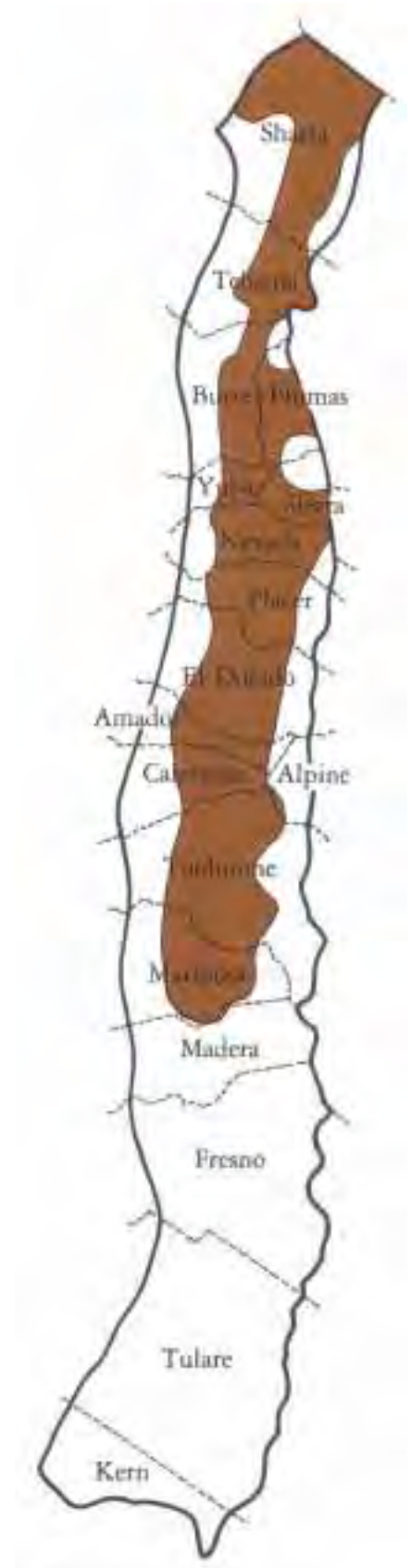
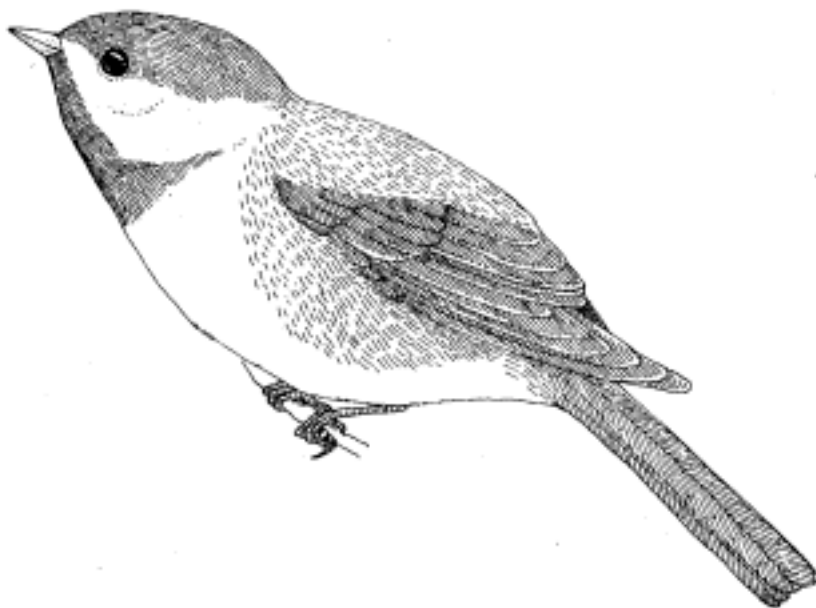
BREEDING: Breeds from late March to late July, with peak from early May to late June. Excavates own nest cavity in decaying wood in snag or stub, or uses abandoned woodpecker nest cavity. Nests usually within 10 ft (3.1 m) of ground; have been recorded as high as 80 ft (24 m). Lays from 5 to 9 eggs per clutch, usually 6 or 7.

TERRITORY/HOME RANGE: No data on home range. In oak woodland in San Mateo County, Hertz *et al.* (1976) reported a mean breeding territory size of 3.3 acres (1.3 ha) (n = 2).

FOOD HABITS: Eats primarily small insects, also takes conifer seeds and fruits. Gleans food from outer foliage and twigs, preferably of conifers. Usually hovers while gleaning food.

OTHER:

REFERENCES: Sturman 1968a, 1968b; Crase 1976.



Plain Titmouse

B121 (*Parus inornatus*)

STATUS: Breeds in wooded sites from blue oak savannah up to ponderosa pine and black oak woodland types. Prefers stands with intermediate to high percentage canopy coverage and with blue live, and valley oaks.

DISTRIBUTION/HABITAT:

SPECIAL HABITAT REQUIREMENTS: Oaks; nest cavities.

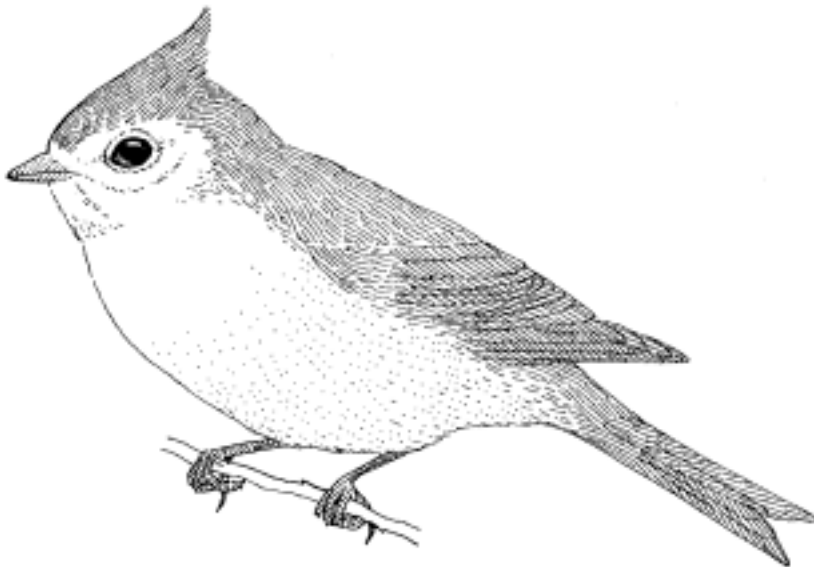
BREEDING: Breeds from mid-March to late July, with peak from early April to early June. Nests in natural cavity or old woodpecker hole; often partially excavates own cavity. Readily accepts nest boxes. Nest height ranges from 3 to 32 ft (0.9 to 9.8 m). From 3 to 9 eggs per clutch, with mode of 7.

TERRITORY/HOME RANGE: Home range the same as territory. Adults permanently paired and defend territory year-round (Dixon 1949, 1956). In Alameda County, territory size ranged from 3.3 to 12.5 acres (1.3 to 5.1 ha), with mean of 6.3 acres (2.6 ha) (Dixon 1949); in another study in Alameda County live oak woodland, Dixon (1954) reported mean territory size of 5.7 acres (2.3 ha). In San Mateo County, Hertz *et al.* (1976) reported mean breeding territory size of 2.0 acres (0.8 ha) (n = 3) in oak woodlands. In Arizona, Laudenslayer and Balda (1976) found mean territory size of 3.0 acres (1.2 ha) in piñon-juniper-ponderosa pine ecotone.

FOOD HABITS: Eats small insects, fruits, and seeds. Gleans food mostly from tree foliage, twigs, and branches, also from the herb/grass layer. Sometimes pulls off bark and pries open galls, flowers, lichens, and others.

OTHER:

REFERENCES: Dixon 1949, 1954, 1956; Hertz *et al.* 1976.



Bushtit

B122 (*Psaltiriparus minimus*)

STATUS: No official listed status. Common resident.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs and digger pine-oak woodlands; prefers stands of low percent canopy coverage. Also breeds in intermediate to high density chaparral stands. After breeding season, moves upslope in fairly large numbers into ponderosa pine and black oak types, remaining until early fall.

SPECIAL HABITAT REQUIREMENTS: Oaks; trees/shrubs.

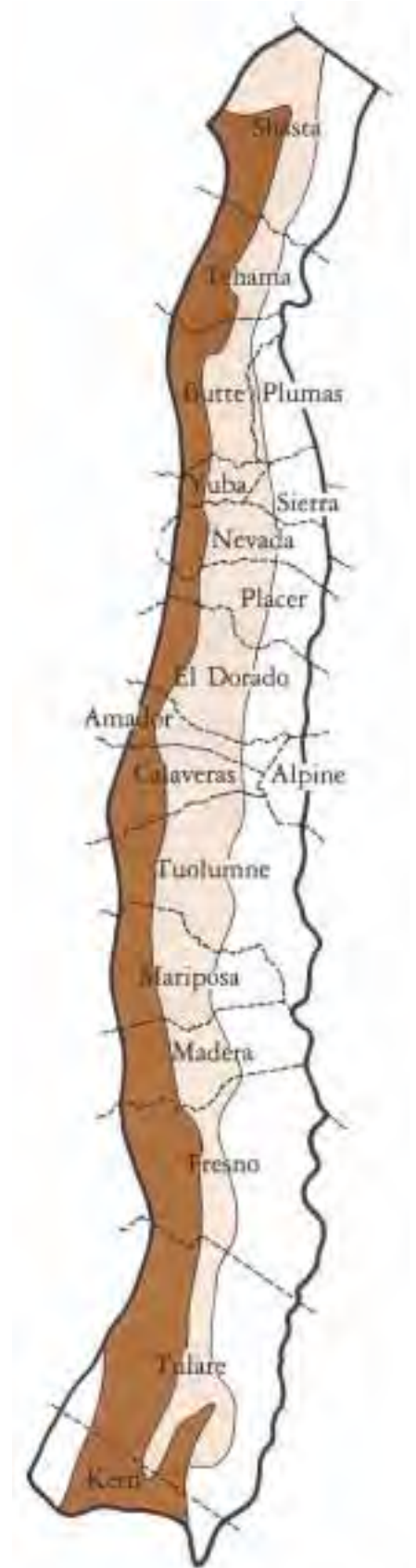
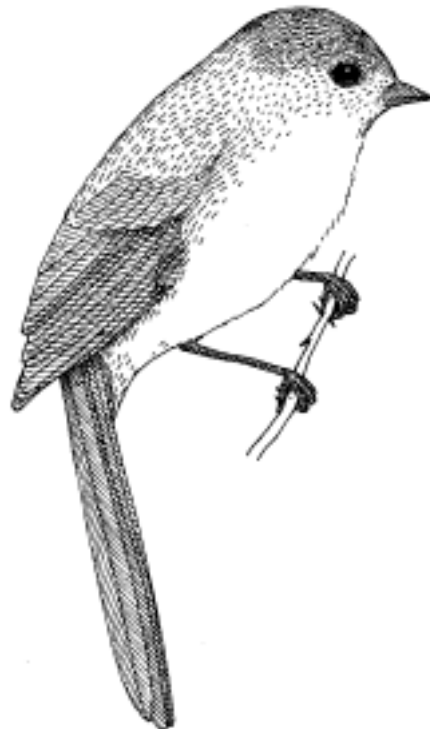
BREEDING: Breeds from mid-February to early August, with peak from early April to early June. Nest has shape of long bag or pouch suspended from branch of tree or shrub, often not concealed by foliage. Nest height ranges from 4 to 50 ft (1.2 to 15 m); most nests within 15 ft (4.6 m) of ground. Clutch contains from 4 to 7, with mode of 6.

TERRITORY/HOME RANGE: In Santa Barbara County, Ervin (1974) shows maps of winter home ranges, but sizes not given. In a northern Arizona pinon-juniper-ponderosa pine ecotone, Laudenslayer and Balda (1976) reported an average territory size of about 3.5 acres (1.4 ha). In San Mateo County, Hertz *et al.* (1976) reported breeding territory sizes in oak woodland ranging from 0.7 to 1.3 acres (0.3 to 0.5 ha) with mean of 1.0 acre (0.4 ha) (n = 12).

FOOD HABITS: Feeds mainly on small insects; takes some seeds and even nectar. Gleans food from foliage and twigs of trees and shrubs. Forages in flocks from late summer until breeding season.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1946, Ervin 1974.



White-breasted Nuthatch

B123 (*Sitta carolinensis*)

STATUS: No official listed status. A common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Prefers large oaks or other large-limbed, rough-barked species, especially ponderosa or Jeffrey pine, particularly with low to intermediate canopy cover, as breeding habitats. Also nests in conifer forests from ponderosa pine up to lodgepole pine type, again with preference for low to intermediate crown cover, and for stands with larger trees at higher elevations. No evidence of altitudinal migration.

SPECIAL HABITAT REQUIREMENTS: Nest cavities.

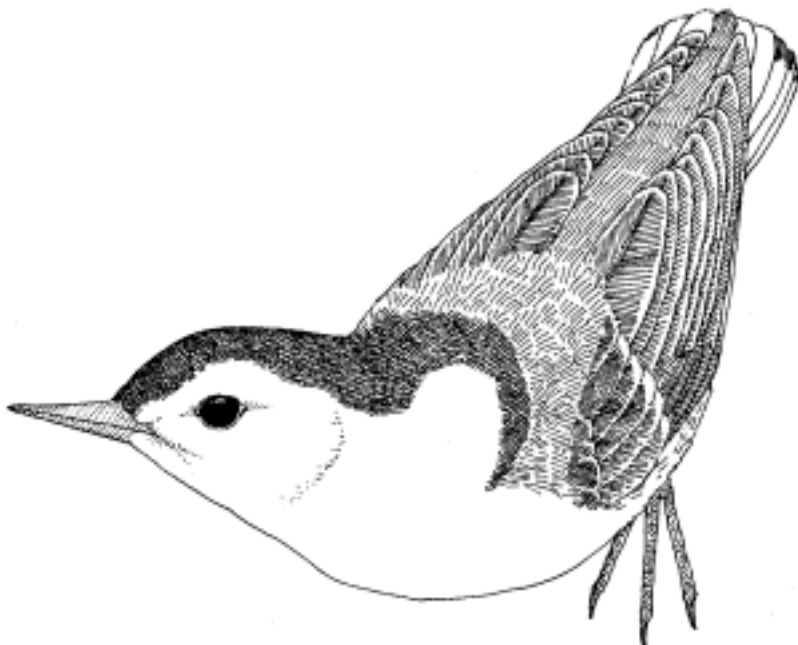
BREEDING: Breeds from mid-March to early August, with peak from early May to late June. Clutch size from 5 to 9, with mean of 7.5. Nests in natural cavity or woodpecker hole in dead or partly dead tree.

TERRITORY/HOME RANGE: In New Hampshire, Kilham (1972) reported that territories approximate 37 acres (15 ha), while in Colorado, Hering (1948) noted feeding territories of two breeding pairs of 1.7 and 2.3 acres (0.7 and 0.9 ha). In Kansas, Fitch (1958) reported home range of one bird as 37 acres (15 ha).

FOOD HABITS: Insects comprise the major food source during breeding season; at other times insects, acorns, and large seeds eaten. Gleans insects from bark of live and dead tree trunks and branches. Stores acorns and seeds for winter; food caches defended.

OTHER: Suffers when large conifers logged. Little field study done in recent decades.

REFERENCES: Kilham 1972.



Red-breasted Nuthatch

B124 (*Sitta canadensis*)

STATUS: No official listed status; abundant permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Widely distributed in conifer forest types from Ponderosa pine belt up to lodgepole forests; prefers breeding in areas with at least pole-sized trees and tight-foliaged types, such as firs. Some downslope migration in fall; may be found in fall, winter, and spring as low as blue oak savannahs.

SPECIAL HABITAT REQUIREMENTS: Snags or nest cavities.

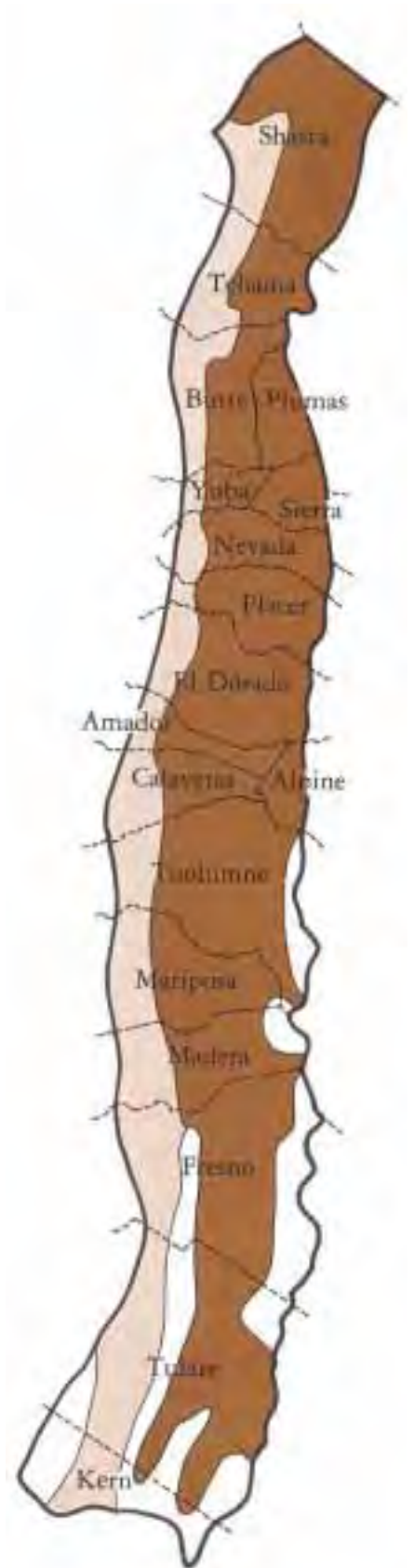
BREEDING: Breeds from late April to early August, with peak activity from early June to late July. Clutch size from 4 to 7, usually contains 5 or 6. Excavates own nest cavity, less often uses old woodpecker hole, from 2 to 120 ft (0.6 to 37 m) above ground, in dead tree or rotten stub on living tree. Pitch smeared at the nest opening.

TERRITORY/HOME RANGE: No information.

FOOD HABITS: Gleans insects from trunk and branches of trees, rarely from foliage. Also probes for insects in bark crevices. Eats conifer seeds in significant amounts.

OTHER:

REFERENCES: Kilham 1973.



Pygmy Nuthatch

B125 (*Sitta pygmaea*)

STATUS: No official listed status. Locally common permanent resident; may be somewhat erratic in occurrence.

DISTRIBUTION/HABITAT: More common in southern than in northern Sierra Nevada; confined to ponderosa pine, mixed-conifer, and Jeffrey pine forests with mature trees and less than 70 percent canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Pines; snags or nest cavities.

BREEDING: Breeds from late April to mid-August, with peak between mid-June and late July. From 5 to 9 eggs (mean of 7) laid in cavity nest in dead, decayed tree trunk or stub. Excavates nest cavity or uses old cavity, from 10 to 50 ft (3.1 to 15 m) above ground (usually above 20 ft [6.1 m]).

TERRITORY/HOME RANGE: Territorial during the breeding period; apparently not during winter. No information available on home range, if different from territory. In a Marin County coastal pine forest, territory size ranged from 1.9 to 3.3 acres (0.8 to 1.3 ha) and averaged 2.7 acres (1.1 ha) (Norris 1958).

FOOD HABITS: Insectivorous in the breeding season, expands diet in nonbreeding period to include pine seeds. Food gleaned from terminal needle clusters, cones, and new shoots of pines, usually high in trees.

OTHER: Roosts in tree cavities, often communally, as many as 150 birds reported in one cavity (Knorr 1957); apparently a heat conservation adaptation practiced during cold periods.

REFERENCES: Norris 1958, Bock 1969.



Brown Creeper

B126 (*Certhia familiaris*)

STATUS: No official listed status. Common permanent resident in suitable habitat; more often heard than seen.

DISTRIBUTION/HABITAT: Found in all conifer types in the breeding season; prefers mature stands with at least 70 percent canopy coverage. In nonbreeding periods may be found at lower elevations, into blue oak savannahs.

SPECIAL HABITAT REQUIREMENTS:

BREEDING: Breeds from early April to mid-August, with peak activity from mid-June to mid-July. Clutch size from 4 to 8, most contain 5 or 6. Nests from 3 to 15 ft. (0.9 to 4.6 m) up, behind loose strips of bark on tree trunks. Prefers incense-cedar for nest sites, but uses other conifers in the western Sierra Nevada.

TERRITORY/HOME RANGE: No information.

FOOD HABITS: Exclusively insectivorous; gleans food from bark surface and probes bark crevices on tree trunks and large branches.

OTHER: No detailed life history available.

REFERENCES: Bent 1948.



Wrentit

B127 (*Chamaea fasciata*)

STATUS: No official listed status. Common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: A common chaparral species, breeds also in other habitat types with suitably dense stands of shrubs, up to ponderosa pine and black oak types. Adults sedentary; immatures may move upslope in late summer.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs.

BREEDING: Breeds from late March to mid-September, with peak from late May to early July. Clutch size from 3 to 5, most contain 4. Nests well concealed within shrubbery, usually 1 to 4 ft (0.3 to 1.2 m) above ground, though sometimes as high as 7 ft (2.1 m).

TERRITORY/HOME RANGE: In Alameda County, territory and home range the same, averaging 0.8 acre (0.32 ha), with a range from 0.5 to 2.7 acres (0.2 to 1.1 ha), based on a study of 40 territories where defended year-round (Erickson 1938). In Los Angeles County, Cogswell (1962) found territory size to average 1.3 acres (0.5 ha), with a range of 0.5 to 3.0 acres (0.2 to 1.2 ha), based on 361 breeding territories.

FOOD HABITS: Eats primarily insects, spiders, and small fruits. Gleans from bark of twigs, from leaf surfaces, and from fruiting stems.

OTHER:

REFERENCES: Erickson 1938, Cogswell 1962.



Dipper

B128 (*Cinclus mexicanus*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitats.

DISTRIBUTION/HABITAT: Almost totally confined to flowing, rocky streams and rivers, but occasionally forages along alpine lakeshores. Some move downslope as streams freeze in winter. Recorded at all elevations in the western Sierra Nevada up to 11,600 ft (3540 m).

SPECIAL HABITAT REQUIREMENTS: Clear, permanent streams or rivers.

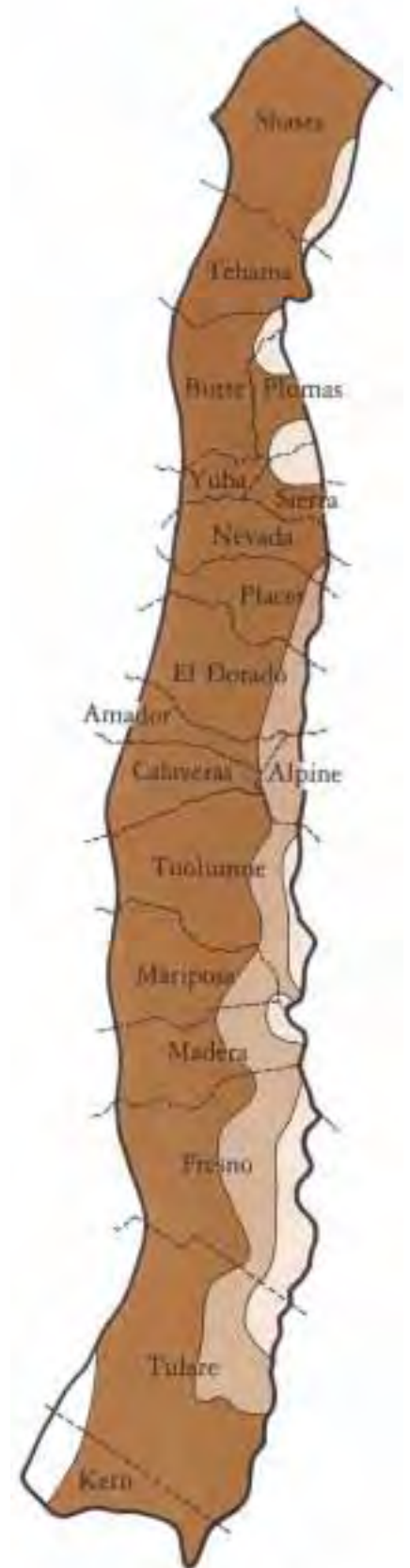
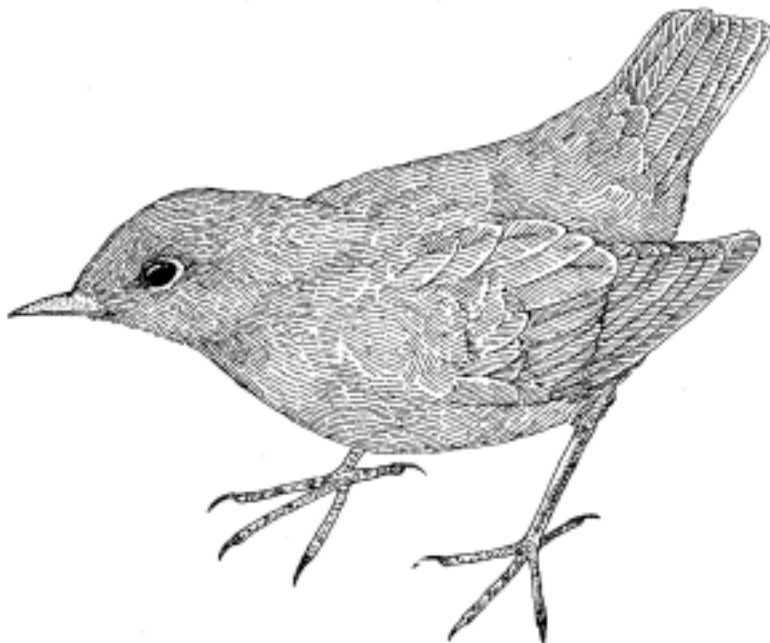
BREEDING: Breeds from early March to early August, with peak from early June to mid-July. Clutch size from 3 to 6; most contain 4 or 5. Nests in recess or on ledge, usually within 3 to 6 ft (1 to 2 m) of stream surface, on inaccessible rock wall, log, or other structure, such as a bridge.

TERRITORY/HOME RANGE: Defends certain length of stream, up to 1050 ft (320 m) in length in breeding season, and from 150 to 2700 ft (46 to 820 m) during nonbreeding period, based on a Montana study (Bakus 1959b). Territory and home range the same.

FOOD HABITS: Eats mainly aquatic insect larvae and adults, snails, and fish fry. Takes directly from water or gleans from rock surfaces under water. Captures some insects in the air by hawking.

OTHER: Stream diversion projects especially detrimental to species.

REFERENCES: Hann 1950; Bakus 1959a, 1959b; Thut 1970.



Winter Wren

B129 (*Troglodytes troglodytes*)

STATUS: No official listed status. Uncommon permanent resident in suitable habitat; some upslope movement in fall.

DISTRIBUTION/HABITAT: Breeds usually near a stream in mature, relatively dense and well-shaded stands of ponderosa pine and mixed conifer, as well as in mid-elevation, deciduous riparian habitat. In fall, moves up into fairly dense stands of Jeffrey pine, red fir, and lodgepole pine; does not remain there over winter.

SPECIAL HABITAT REQUIREMENTS: Litter, logs in dense tangles; natural cavities.

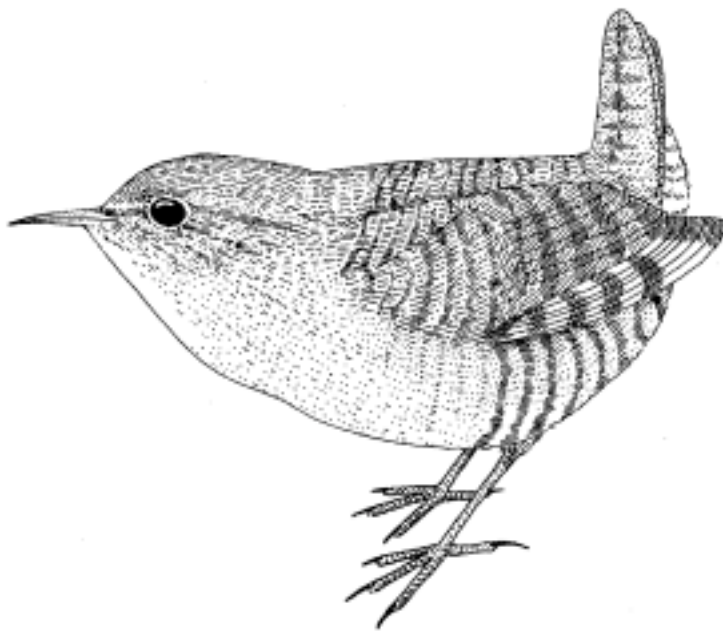
BREEDING: Breeds from early March to late August, with peak from mid-May to late July. May rear two broods per season. Clutch size from 4 to 7, usually 5 or 6. Nests in natural recess or cavity in or under log or in root tangle.

TERRITORY/HOME RANGE: Territory and home range the same, ranging year-round from 0.75 to 3.0 acres (0.3 to 1.2 ha), with average around 1.75 acres (0.7 ha), based on a study in Holland (Armstrong 1955).

FOOD HABITS: Gleans larval and adult insects from ground or near ground in tangled vegetation or downed wood.

OTHER: North American forms not studied well in the field. Uncommon and inconspicuous in the western Sierra Nevada, and distribution not well defined. More common in fall and winter than during breeding season.

REFERENCES: Armstrong 1955.



House Wren

B130 (*Troglodytes aedon*)

STATUS: No official listed status. Fairly common summer visitor at lower elevations, moving upslope in late summer, apparently after breeding.

DISTRIBUTION/HABITAT: Nests in all successional stages except grass/forb and dense forest canopies from blue oak savannah up to ponderosa pine forests and black oak woodlands. Prefers areas with low percentage canopy coverage; generally requires trees. Often found at edges of forests, woodlands, or meadows. In late summer may be found in wet meadows and willow thickets almost up to timberline.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; trees/shrubs.

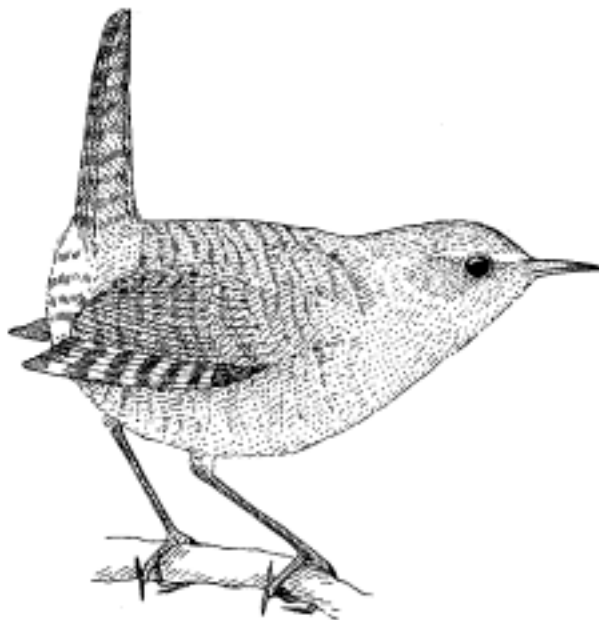
BREEDING: Breeds from early April to mid-August, with peak from late May to early July. Usually produces two broods per season. Clutch size from 3 to 9, with 5 or 6 most common. Nests in natural cavity or woodpecker hole in tree, or hole in building. Nests usually within 10 ft (3.1 m) of ground; may be as high as 30 ft (9.1 m).

TERRITORY/HOME RANGE: No information on home range size. In Oregon, territory size averaged 2.3 acres (0.9 ha), with range of 1.1 to 4.4 acres (0.5 to 1.8 ha) in 14 breeding territories (Kroodsma 1973). In Ohio, 178 breeding territories averaged 1.0 acre (0.4 ha), with range from 0.08 to 3.6 acres (0.03 to 1.5 ha) (Kendeigh 19416).

FOOD HABITS: Gleans insects from foliage and litter within and beneath shrubs.

OTHER: Males typically fill unused nest cavities in territories with sticks.

REFERENCES: Kendeigh 1941b, Kroodsma 1973.



Bewick's Wren

B131 (*Thryomanes bewickii*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List; apparently not declining in the western Sierran zone. A common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in shrub and tree stages from blue oak savannah up to ponderosa pine and black oak types; prefers areas with low percent canopy coverage. Also nests in riparian deciduous habitats up to about 5000 ft (1520 m). Some occasionally move upslope in late summer.

SPECIAL HABITAT REQUIREMENTS: Natural tree cavity or rock crevice for nesting; trees/shrubs.

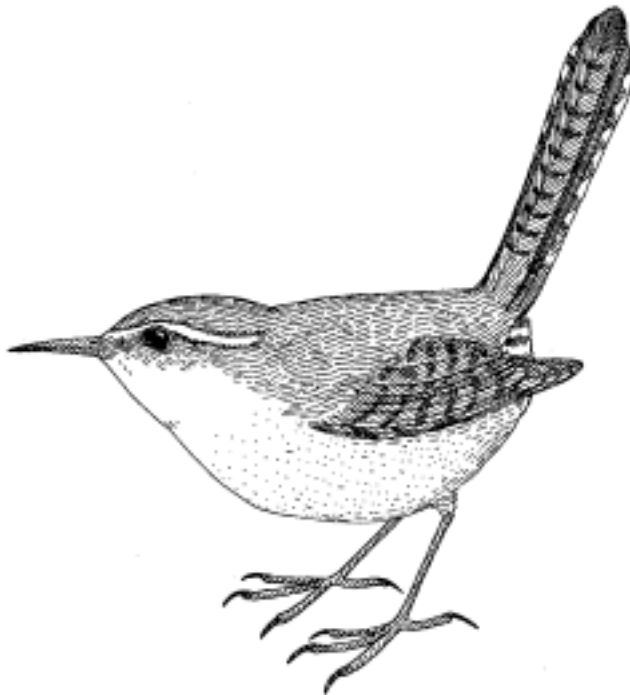
BREEDING: Breeds from mid-February to early August, with peak from mid-May to late June. Clutch size from 4 to 11, most contain 7. Nests in cavities in ground or within a meter or so above it, in dead trees, rock crevices, manmade structures, and other places.

TERRITORY/HOME RANGE: Home range and territory the same. In Los Angeles County, 65 territories averaged 5.8 acres (2.4 ha), with range from 2.5 to 17 acres (1.0 to 6.9 ha) (Cogswell 1962). In an Oregon oak woodland, Kroodsma (1973) studied 34 territories, finding a range from 3.1 to 11.8 acres (1.3 to 4.8 ha) and an average of 5.7 acres (2.3 ha).

FOOD HABITS: Gleans small insects from low limbs and branches, under dense cover.

OTHER:

REFERENCES: Miller 1941, Cogswell 1962, Kroodsma 1973.



Long-billed Marsh Wren

B132 (*Cistothorus palustris*)

STATUS: No official listed status. Rare transient at lower altitudes in late summer and early fall. No breeding records above 1000 ft (305 m).

DISTRIBUTION/HABITAT: Prefers cattails, bulrushes, or other emergent wetland vegetation; sometimes feeds in drier upland sites near water during migration or winter periods. In the western Sierra Nevada, recorded in late summer to early fall in marsh or marsh-like habitats in all vegetation types from annual grasslands up to mixed-conifer zone.

SPECIAL HABITAT REQUIREMENTS: Marsh.

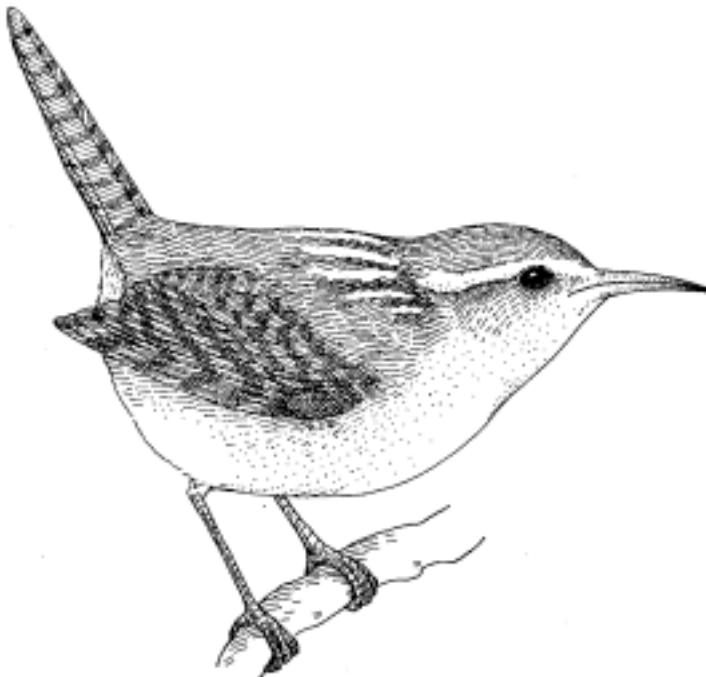
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: Probably none established in the western Sierran zone.

FOOD HABITS: Eats insects, spiders, and other small invertebrates found in habitat. Gleans food from emergent vegetation, damp ground, and water surface. Sometimes hawks for aerial insects.

OTHER:

REFERENCES: Welter 1935, Kale 1965, Verner 1965.



Canon Wren

B133 (*Catherpes mexicanus*)

STATUS: No official listed status in our area. Uncommon resident in suitable habitat.

DISTRIBUTION/HABITAT: Prefers cool, shaded canyons with exposed rock outcrops. May be found in any habitat type from annual grasslands up to Jeffrey pine forests, but confined to canyons in all types and usually found in the vicinity of water. More common at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Small cliffs, talus, or rock outcrops.

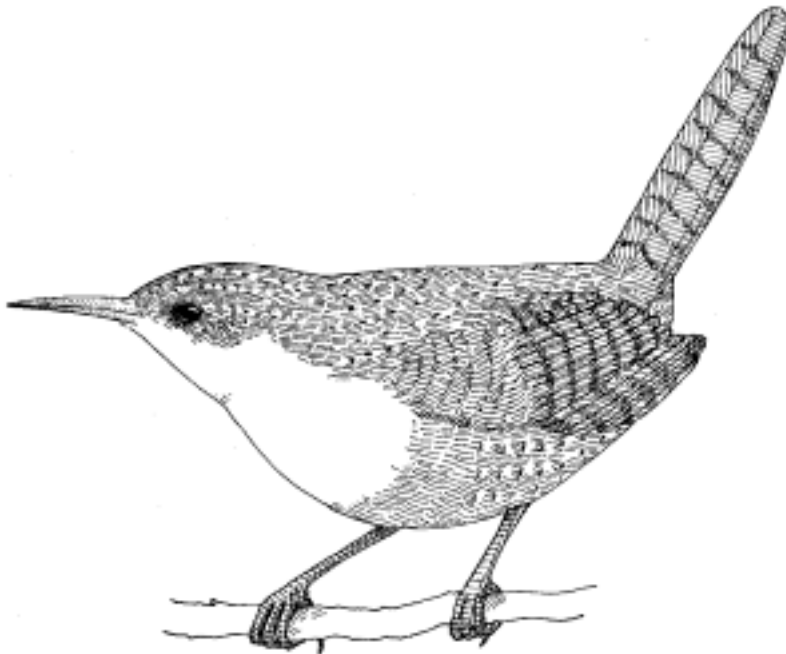
BREEDING: Breeds from mid-March to mid-August, with peak from early May to late June. Clutch size from 4 to 6, most contain 5 or 6. Nests on ledge in rock cavern, in crevice in cliff or bank, or attaches nest to rock face in cave or wide crevice.

TERRITORY/HOME RANGE: Unknown.

FOOD HABITS: Gleans insects and spiders from surfaces of rock or earth, often in concealed situations. Hops or creeps while searching for food.

OTHER:

REFERENCES: Tramontano 1964.



Rock Wren

B134 (*Salpinctes obsoletus*)

STATUS: No official listed status. Fairly common resident in suitable habitat.

DISTRIBUTION/HABITAT: Inhabits rock outcrops, talus slopes, fractured cliff faces, and dry earth banks. Requires rough surface with crevices for foraging and cover. On west slopes of the Sierra Nevada, most common below montane coniferous forest and above timberline. Altitude of winter range unknown.

SPECIAL HABITAT REQUIREMENTS: Talus; rock outcrops.

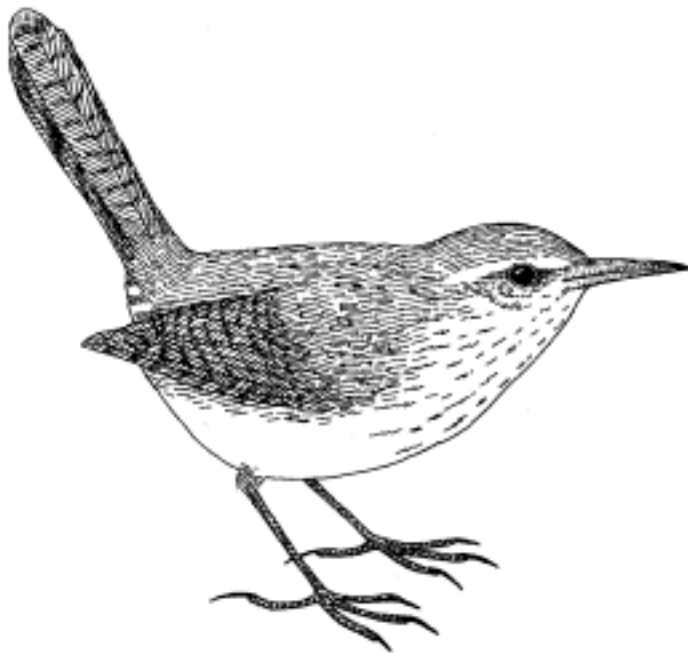
BREEDING: Breeds from early February to early September, with peak from early May to early July (may rear two broods per season). Clutch size from 4 to 10, most contain 5 or 6. Nests under large boulders, in rodent cavities in banks, or in cavities and crevices among loose rocks.

TERRITORY/HOME RANGE: Unknown, although Ainley (1971) reported a pair foraged from 16 to 164 ft (4.9 to 50 m) from nest on Farallone Islands.

FOOD HABITS: Gleans insects and spiders from boulders, rocks, barren ground, in the open or in crevices. Runs while searching for food.

OTHER: Tolerates extremely arid conditions.

REFERENCES: Tramontano 1964.



Mockingbird

B135 (*Mimus polyglottos*)

STATUS: No official listed status. Uncommon resident at lower elevations in the western Sierra Nevada.

DISTRIBUTION/HABITAT: Found in shrub and early tree stages of oak, digger pine-oak, and chaparral types. The upper altitudinal limit unclear from literature; probably resident locally but not common above 1000 ft (305 m). Often found in residential areas, agricultural areas, and edges of brushland and woodland.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs.

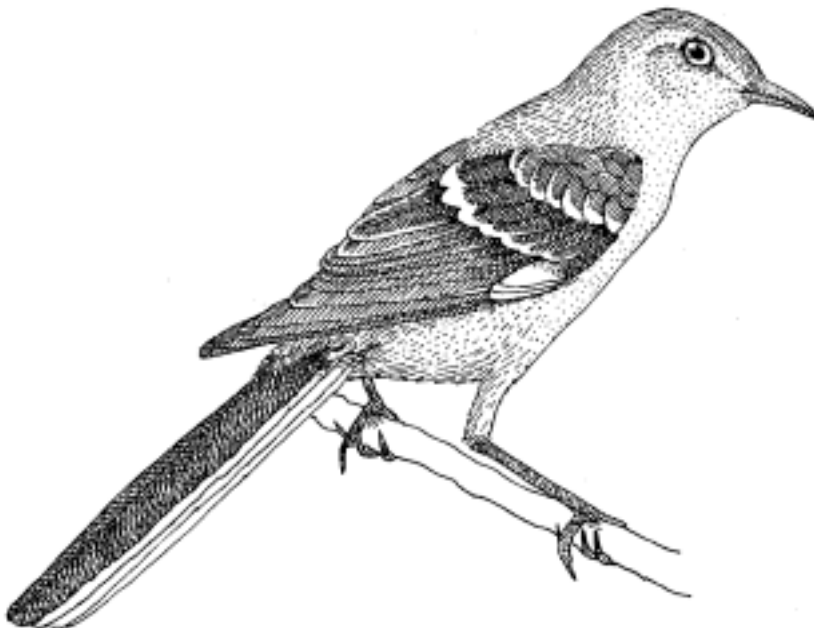
BREEDING: Breeds from early February to mid-September, with peak from early May to early July (usually two broods per season). Clutch size from 3 to 6, with 4 or 5 most common. Nests in variety of shrubs, small trees, or tangles of vines, usually below 6 ft (2 m), but occasionally as high as 40 ft (12 m).

TERRITORY/HOME RANGE: Home range and territory the same. Five breeding territories studied in residential area in Pasadena averaged 1 acre (0.4 ha), with range from 0.6 to 1.4 acres (0.2 to 0.6 ha) (Michener and Michener 1935). In Arizona desert, Hensley (1954) reported two territories at 7.1 and 8.2 acres (2.9 and 3.3 ha), and in Texas, Howard (1974) found range among 10 territories of 1.5 to 6.2 acres (0.6 to 2.5 ha) with mean of 2.8 acres (1.1 ha).

FOOD HABITS: Eats mainly insects during breeding season and fruit and insects in nonbreeding period. Takes insects from ground by dropping from perch; gleans from foliage; and hawks from the air.

OTHER:

REFERENCES: Michener and Michener 1935, Laskey 1962, Adkisson 1966.



California Thrasher

B136 (*Toxostoma redivivum*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in brush and early tree stages in blue oak savannah, digger pine-oak, chaparral, and riparian deciduous types. Avoids dense tree canopies.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs.

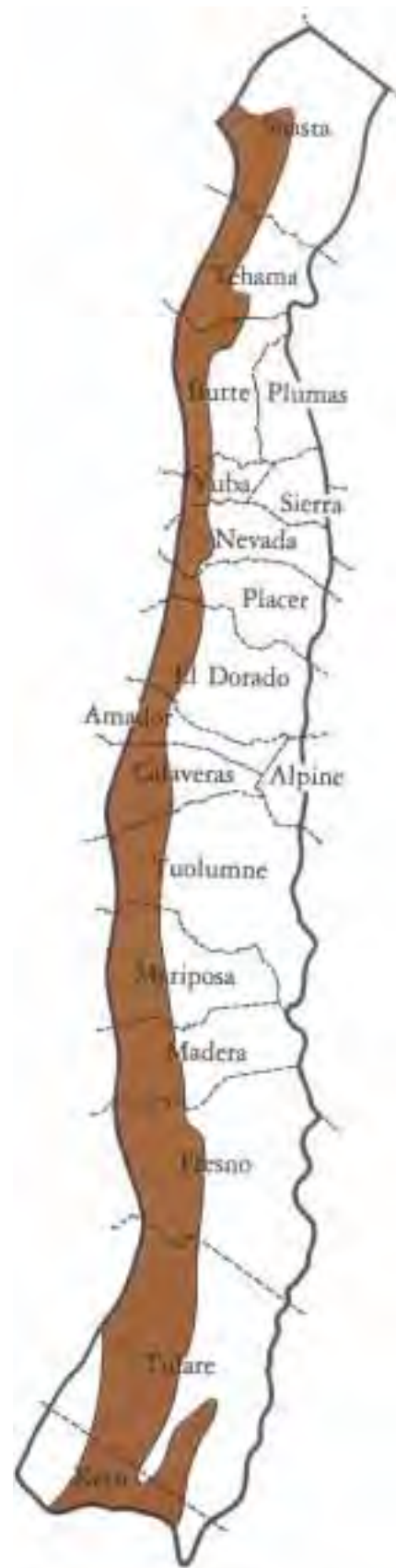
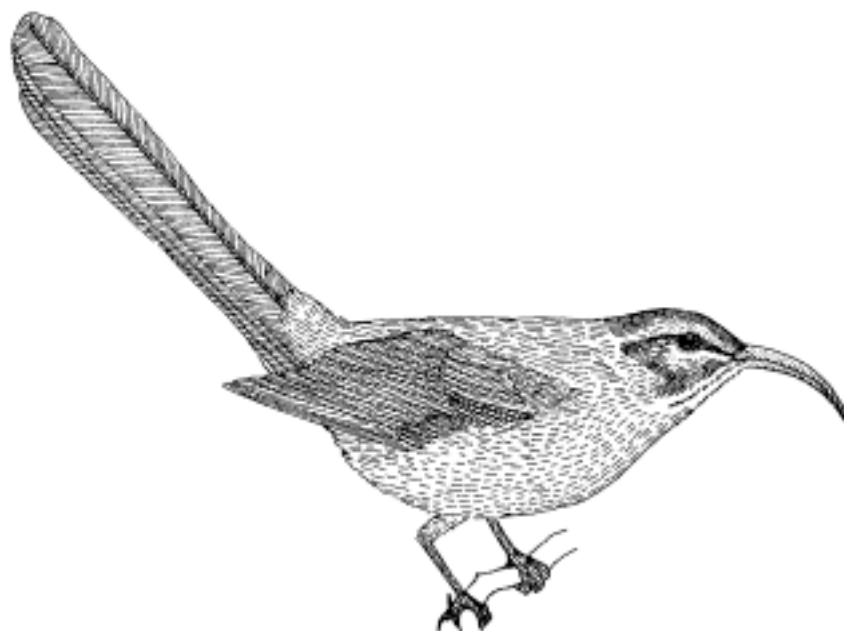
BREEDING: Breeds from early December to early August, with peak from mid-April to mid-June. Usually rears two broods per season. Clutch size from 2 to 4, most contain 3. Nests near ground, well inside large bush or scrubby tree, screened from outside view.

TERRITORY/HOME RANGE: Territory and home range the same. Four territories studied during breeding season in Santa Monica Mtns., Los Angeles County, in chaparral, averaged 3.5 acres (1.4 ha) (Kingery 1962).

FOOD HABITS: Takes insects, spiders, fruits, and seeds from plant litter and soft soil. Rakes away litter with bill, digs in litter or soil, and picks fruit from shrubs.

OTHER: No detailed, recent life history study.

REFERENCES: Sargent 1940, Kingery 1962.



American Robin

B137 (*Turdus migratorius*)

STATUS: No official listed status. Abundant year-round, with some seasonal absences at lower elevations in spring and summer and at higher elevations in winter.

DISTRIBUTION/HABITAT: Breeds in forested sites from ponderosa pine, black oak woodland zone up to lodgepole pine forests. Prefers areas with low percent canopy coverage. Congregates where ripening fruit abundant. Forms large flocks in nonbreeding period, and few may winter at high elevations, for example, Tuolumne Meadows, in Yosemite National Park (T. Hargis, pers. commun.).

SPECIAL HABITAT REQUIREMENTS: Water (for mud in nest building); openings.

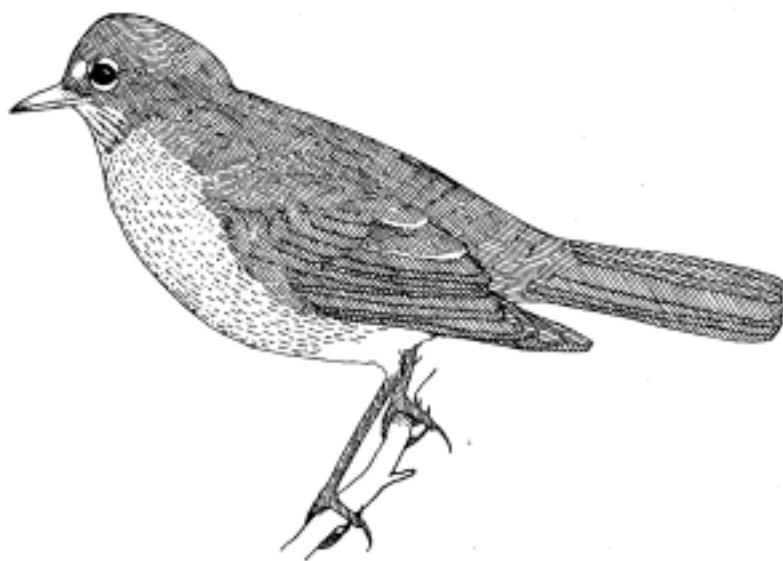
BREEDING: Breeds from early April to mid-July, with peak from mid-May to mid-June. Nests on limbs of conifers or broadleaved trees, or in large shrubs, usually in or near clearings. Nest height ranges from 1 to 75 ft (0.3 to 23 m); most between 10 and 15 ft (3.1 and 4.6 m). Clutch size from 3 to 4, with mean of 3.5.

TERRITORY/HOME RANGE: In Massachusetts, home range averaged about 1320 ft (400 m) radius around nest (Hirth *et al.* 1969). In Wisconsin territories ranged from 4800 to 26,000 ft² (445 to 2420 m²), with average of 13,000 ft² (1210 m²) (Young 1951).

FOOD HABITS: Earthworms and insects (70 percent of diet); seeds, berries, fruit, stems, and grass blades (30 percent). Searches on the ground, probing and scratching for food; also picks berries.

OTHER:

REFERENCES: Grinnell and Storer 1924, Howell 1942, Bent 1949.



Varied Thrush

B138 (*Ixoreus naevius*)

STATUS: No official listed status. Irregular fall and winter visitor to low and middle elevations; fall migrant at higher elevations.

DISTRIBUTION/HABITAT: Found sparingly in fall from blue oak savannahs up to lodgepole pine forests, and in winter from ponderosa pine and black oak woodlands downward. Numbers fluctuate widely from year-to-year in response to berry production.

SPECIAL HABITAT REQUIREMENTS:

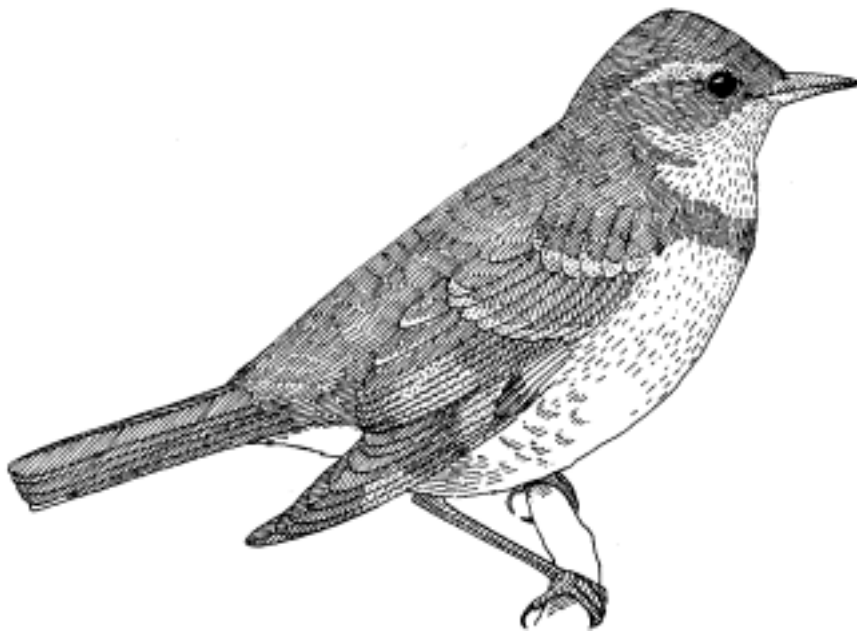
BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: No data on home range; not territorial in fall and winter.

FOOD HABITS: Takes berries (for example, toyon, manzanita), seeds, mast, insects, and spiders from the ground, from foliage by gleaning, and from fruiting stems.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1949, Martin 1970.



Hermit Thrush

B139 (*Catharus guttata*)

STATUS: No official listed status. Common summer resident at middle and high elevations; fall visitor at all elevations; and fairly common winter resident below snow level.

DISTRIBUTION/HABITAT: Breeds in forested sites from ponderosa pine and black oak woodland types up to lodgepole pine forests, especially at higher elevations and in forests with intermediate to high percent canopy coverage. In fall and winter, ranges downslope as far as blue oak savannahs. Absent in winter in mixed-conifer and higher forests.

SPECIAL HABITAT REQUIREMENTS:

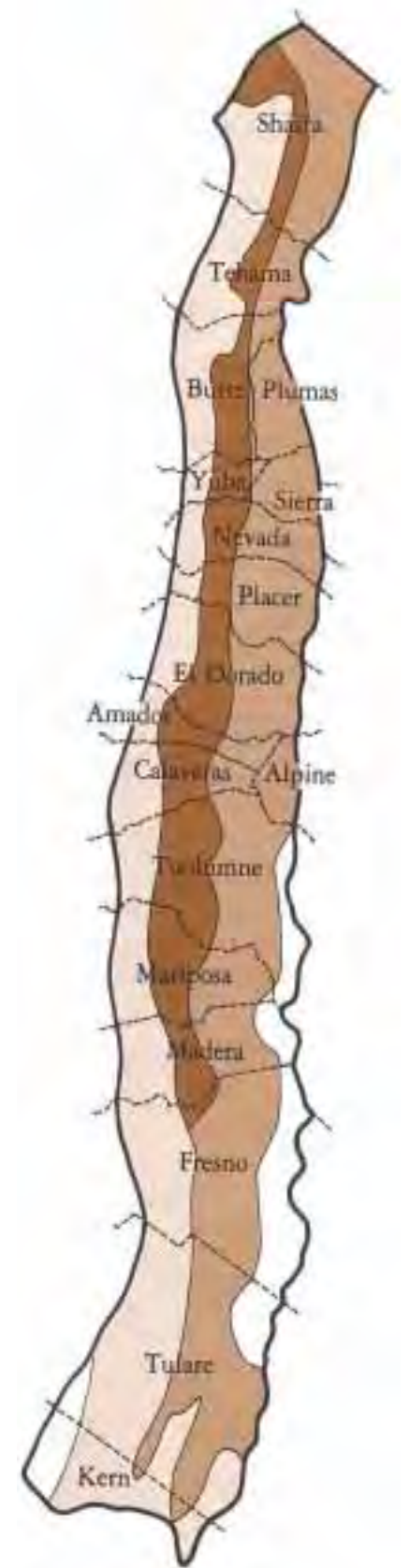
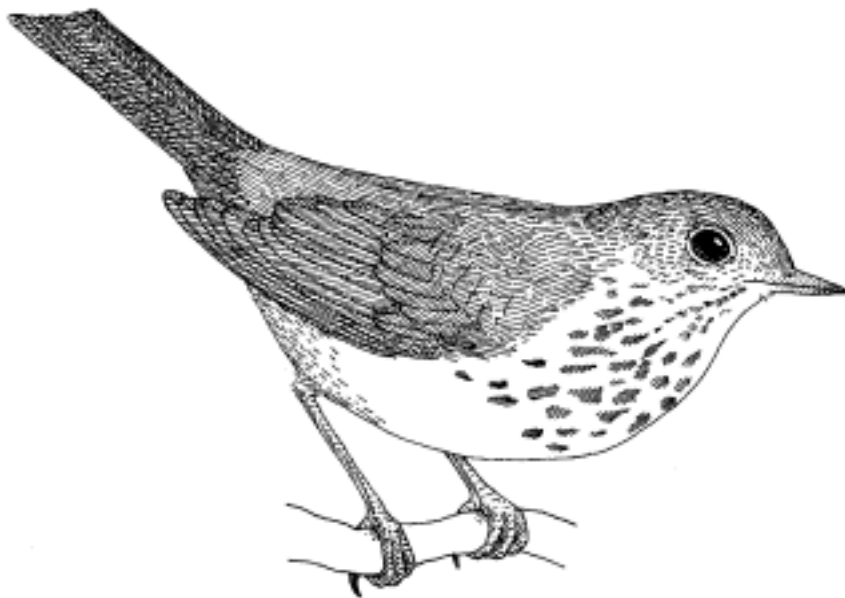
BREEDING: Breeds from mid-May to late July, with peak from late May to late June. Nests usually 2 to 15 ft (0.6 to 4.6 m) above ground in shaded groves of small trees with open views from nest. Occasionally nests on the ground. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on home range or territory size, but in burned-over area in Michigan, Pettingill (1930) reported breeding density of 6 nests/mi² (2.3 nests/km²).

FOOD HABITS: Eats insects, spiders, fruit, berries, and seeds (especially those of poison oak). Searches for food on ground, without scratching, on dry slopes, around meadows, and on forest floor, seldom far from cover.

OTHER: Breeding hermit thrushes in the Sierra Nevada do not remain all year; replaced in fall and winter by migrants from the north.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1949.



Swainson's Thrush

B140 (*Catharus ustulata*)

STATUS: No official listed status. Historically, locally common nesting species at low and middle elevations; presently rare and local. Reason for decline unknown (Gaines 1977).

DISTRIBUTION/HABITAT: Breeds locally in small numbers in timbered areas of ponderosa pine, black oak woodland, riparian deciduous, and mixed-conifer types. Prefers dense thickets near streams or wet meadows. Recorded rarely as nonbreeder in spring and summer in oak types at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs near water.

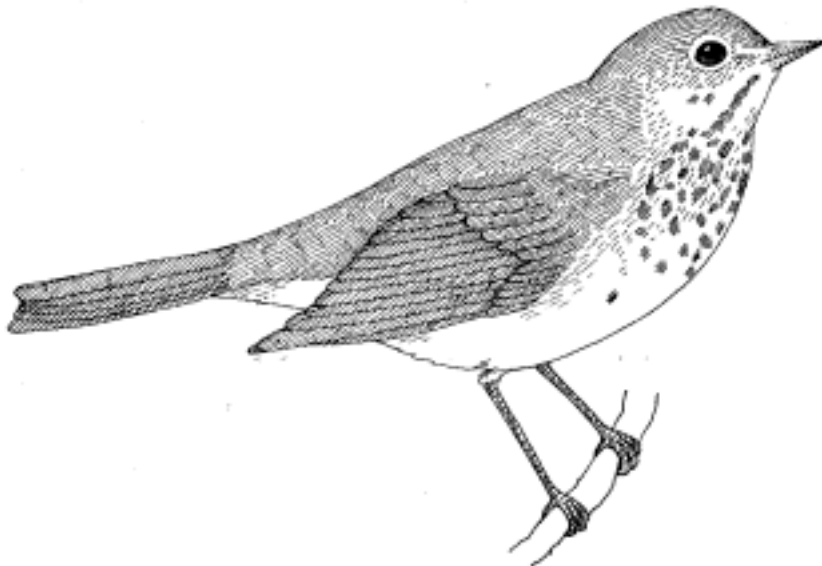
BREEDING: Breeds from mid-April to mid-July, with peak from early May to early June. Nests in shrub or small tree, usually in coniferous forest or low brushy thicket, near source of water. Nest height ranges from 2 to 8 ft (0.6 to 2.4 m) above ground. Clutch contains from 3 to 5 eggs, with mean of 4.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Eats mostly insects and spiders, and some berries in breeding season. Searches and probes on the forest floor, especially in undisturbed conifer forests. Gleans foliage, and occasionally hawks aerial insects.

OTHER: Thought to be competitively excluded by hermit thrushes in Maine (Morse 1972) and British Columbia (Sealy 1974). May be a factor in decline in numbers in the Sierra Nevada, but not known.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1949.



Western Bluebird

B141 (*Sialia mexicana*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Common permanent resident at lower elevations, and summer-fall resident at higher elevations.

DISTRIBUTION/HABITAT: Breeds from blue oak savannahs up to Jeffrey pine forests; prefers stands with low percent canopy cover. Generally a bird of open country with standing dead trees available; edge situations ideal. At higher elevations, often nests in logged or burned areas; usually nests below 4000 ft (1220 m) elevation, though occasionally as high as 8000 ft (2440 m) (Gaines 1977). In fall, drifts upslope or migrates southward to higher elevation oak forests; feeds on mistletoe berries, sometimes in flocks numbering 50 or more birds.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; medium to large openings.

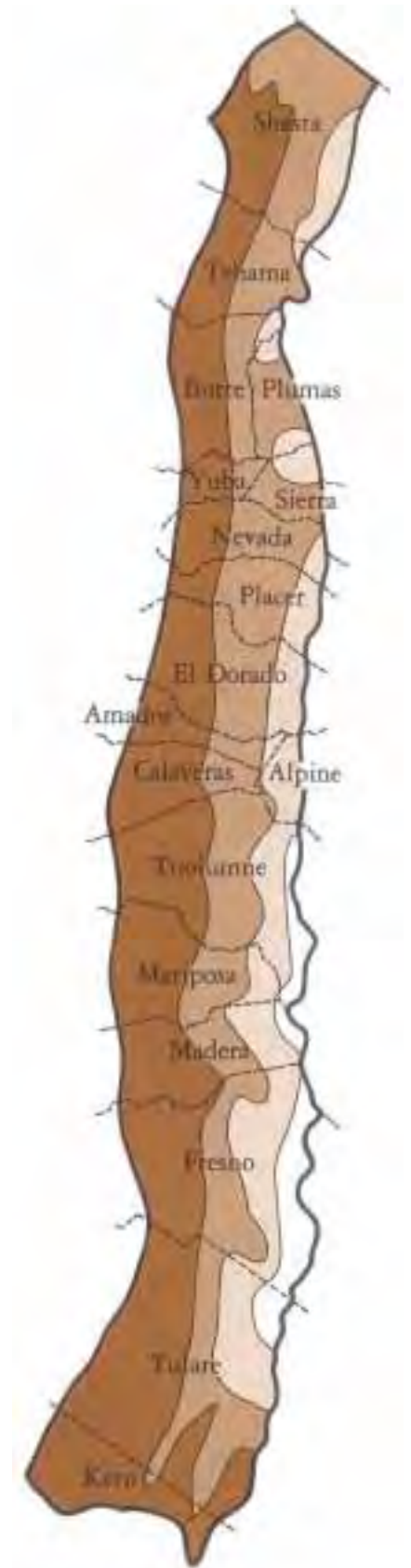
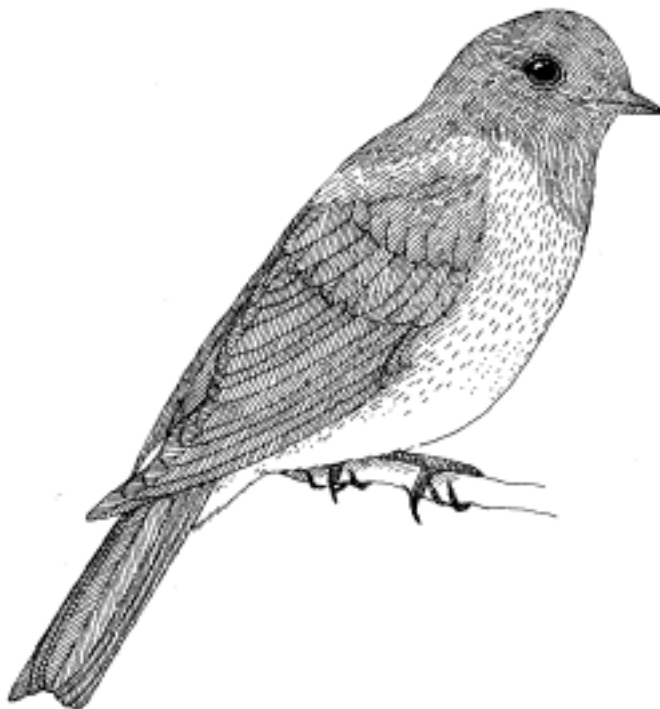
BREEDING: Breeds from late April to early July, with peak from mid-May to mid-June. Nests in holes in standing dead trees or stumps. Nest height varies from 5 to 40 ft (1.5 to 12 m). Clutch size from 3 to 8, with mean of 5.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Eats primarily insects; also eats berries of mistletoe, poison oak, and elderberry during nonbreeding period. Takes food from ground by sitting on slightly elevated perch and dropping down to pounce on insects. Also hawks aerial insects and picks berries from shrubs.

OTHER:

REFERENCES: Grinnell and Storer 1924, Bent 1949, Jackman and Scott 1975.



Mountain Bluebird

B142 (*Sialia currucoides*)

STATUS: No official listed status. Fairly common spring and summer resident at higher elevations, moving to foothills in fall.

DISTRIBUTION/HABITAT: Breeds in lodgepole pine forests, and sparingly down to mixed-conifer type; prefers open sites with low percent canopy coverage. Requires some brush in nesting territories; prefers open, treeless terrain of subalpine for foraging. Fire and logging activities at high elevations favor species. Spends most of nonbreeding period in foothill oak woodlands.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; medium to large openings.

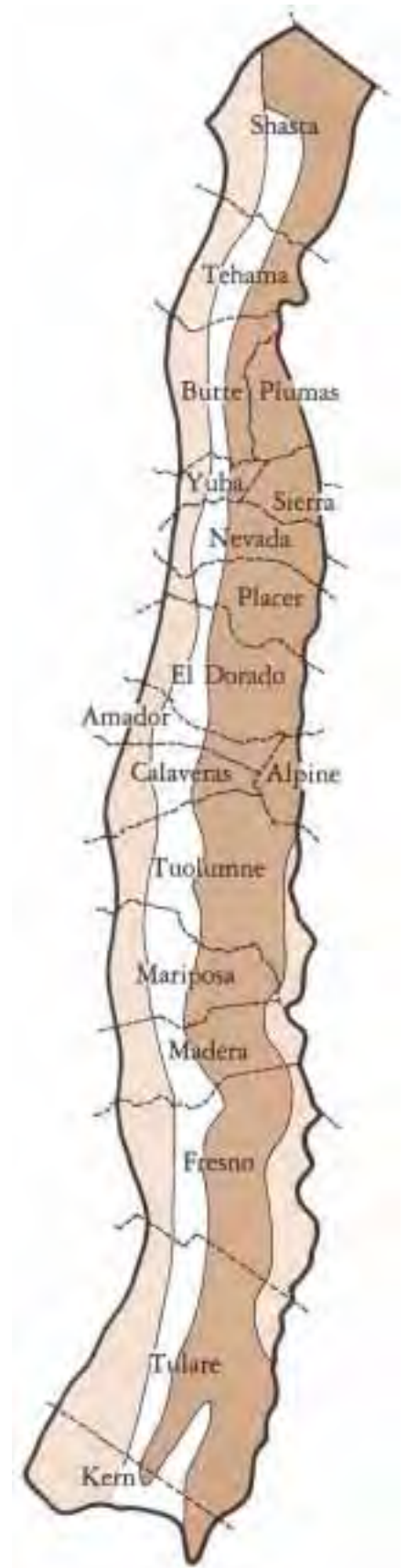
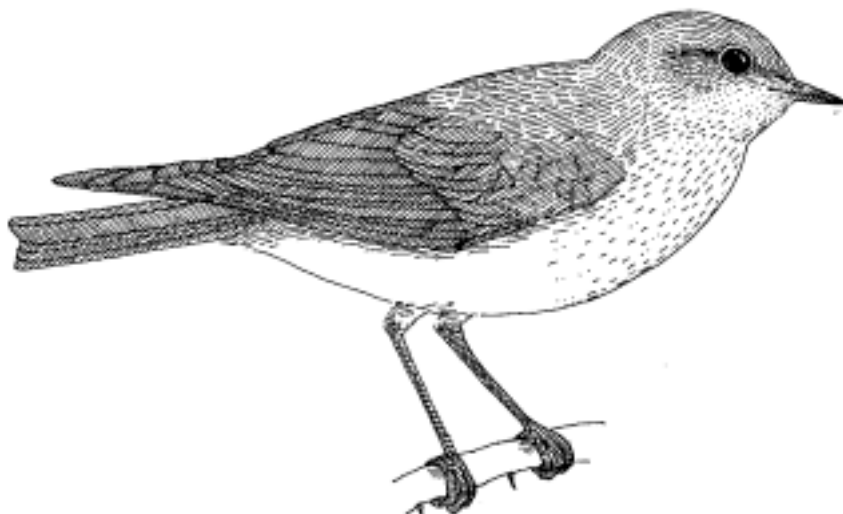
BREEDING: Breeds from mid-April to mid-July, with peak from mid-June to early July. Nests located in cavity, often abandoned woodpecker hole, in standing dead tree or stub. Clutch size from 4 to 8, with mean of 6.

TERRITORY/HOME RANGE: Insufficient data. A female feeding young on Mt. Rainier, Washington, reportedly foraged over circular area with diameter of about 600 ft (185 m) (Jewett *et al.* 1953). In his Montana study, Power (1966) noted that smallest "territory" was about 300 ft (91 m) wide, although some individuals foraged up to 1320 ft (400 m) from nest.

FOOD HABITS: Eats mostly insects, also fruit in late summer. Takes insects from foliage, from air, and occasionally from ground. Most foraging done from perch, hawking aerial insects and pouncing on items spotted on ground. Occasionally, hovers to search ground for food.

OTHER: Mountain and western bluebirds generally altitudinally separated in breeding ranges, with mountain at higher elevations and western at lower elevations. Observed nesting, however, in the same forest openings.

REFERENCES: Bent 1949, Power 1966, Jackman and Scott 1975.



Townsend's Solitaire

B143 (*Myadestes townsendi*)

STATUS: No official listed status. Fairly common summer resident to mid- and high-elevation forests, winters at lower elevations.

DISTRIBUTION/HABITAT: Breeds in coniferous forests from ponderosa pine type up to lodgepole pine forests, especially in mid-elevation types. Prefers stands with low percent canopy cover. In fall, disperses both up- and downslope in search of ripening fruit and other foods, descending into oak groves in fall, coincident with ripening of mistletoe berries.

SPECIAL HABITAT REQUIREMENTS:

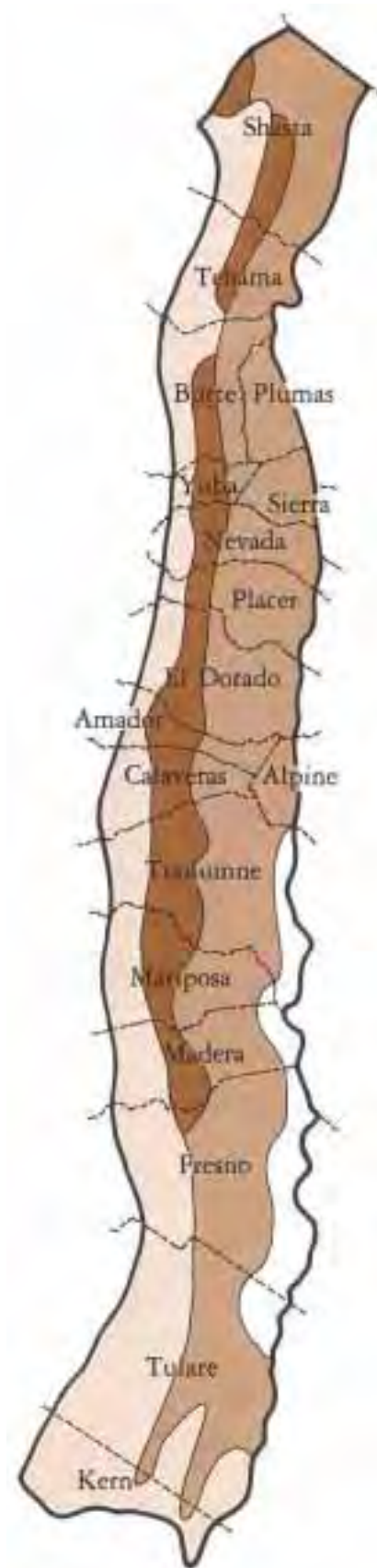
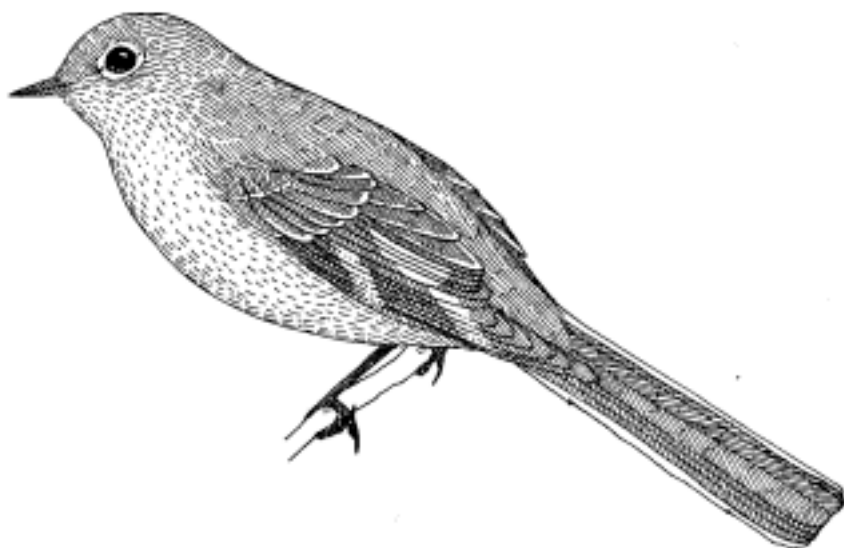
BREEDING: Breeds from early May to early August, with peak from late May to late June. Nests usually on or near ground, as in road cut, rock crevice, or at base of large tree; some type of overhanging shelter required. Clutch size from 3 to 5, with a mean of 4.

TERRITORY/HOME RANGE: No data on home range or size of breeding territory. In northern California, Dawson (1919) reported an approximate density of breeding territories of 4/mi² (1.54/km²). In an Arizona piñon-juniper-ponderosa pine ecotone, Salomonson and Balda (1977) reported mean winter territory sizes of 1.75 acres (0.7 ha) (four territories) during winter 1973-74, and 9.5 acres (3.85 ha) (three territories) during winter 1974-75.

FOOD HABITS: Eats insects, fruits, mistletoe berries, and other foods. Takes food from air, ground, foliage, and fruiting stems. Usually from perch in shade, hawks for aerial insects or pounces on objects on ground.

OTHER: During nonbreeding period, solitaires commonly gather into moderate-sized flocks. Can be heard in full song throughout fall and into winter.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1949.



Blue-gray Gnatcatcher

B144 (*Poliophtila caerulea*)

STATUS: No official listed status. Common summer resident.

DISTRIBUTION/HABITAT: Breeds in blue oak savannah, digger pine-oak, chaparral edges where mingled with oak, and in riparian deciduous if adjacent to oak woodland or chaparral. Prefers stands with low to intermediate percent canopy cover. In late summer, moves upslope as far as mixed-conifer zone.

SPECIAL HABITAT REQUIREMENTS: Oaks in breeding season.

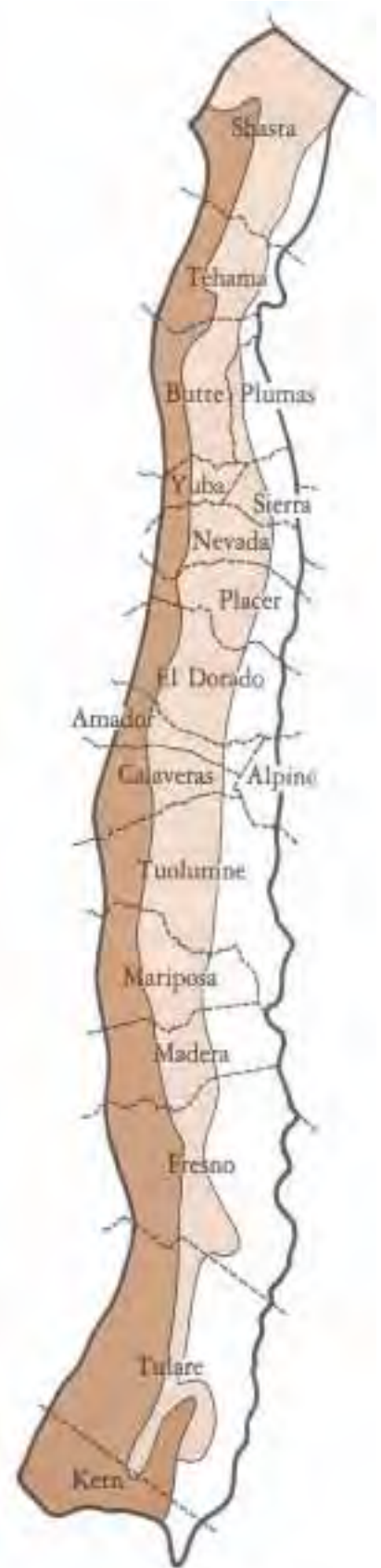
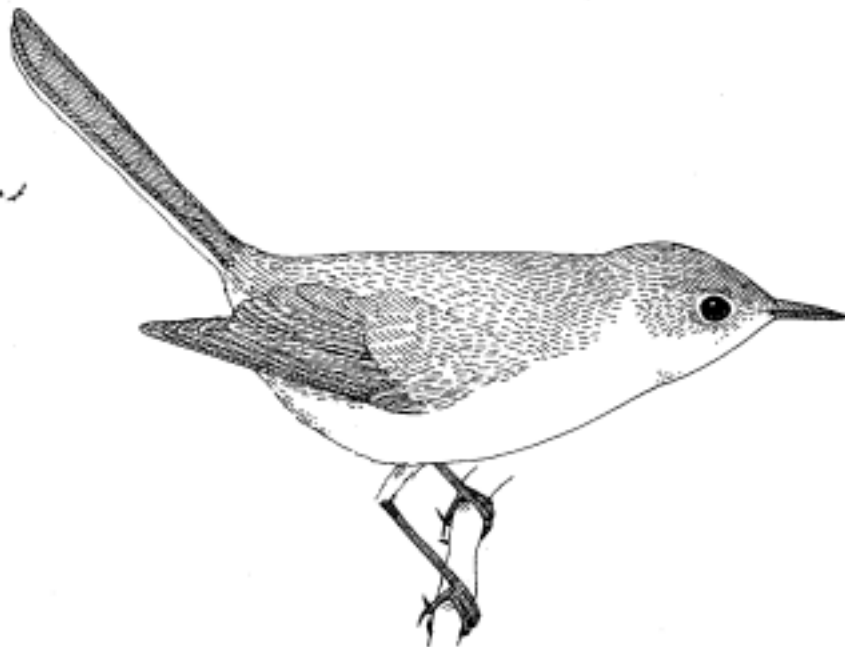
BREEDING: Breeds from early April to early August, with peak from mid-May to early July. Nests in live tree or shrub, usually near top, in fork between two branches. Nest height ranges from 3 to 45 ft (0.9 to 14 m) up. Clutch size from 3 to 5, with 4 most frequent.

TERRITORY/HOME RANGE: Territory and home range the same. In Monterey County, breeding territories ranged from 2.2 to 7.4 acres (0.9 to 3 ha), with mean of 4.6 acres (1.9 ha) (Root 1969). In Arizona desert, winter home range appeared to be at least 22 acres (8.9 ha); in "an isolated screw-bean (*Prosopis pubescens*) woodland near Yuma, Arizona, at least nine gnatcatchers . . . were found within an area of 22 acres" (Root 1969). Each bird confined activities to area of about 3 acres (1.2 ha) or less.

FOOD HABITS: Feeds exclusively on small insects and spiders. Mostly gleans from foliage, twigs, and small branches of trees and shrubs; also from grasses and herbs. Also hovers to pick food from surfaces, and hawks for aerial insects.

OTHER:

REFERENCES: Bent 1949; Root 1967, 1969.



Golden-crowned Kinglet

B145 (*Regulus satrapa*)

STATUS: No official listed status. Abundant resident and breeder.

DISTRIBUTION/HABITAT: Breeds in conifer forests with intermediate to high percent canopy cover, from ponderosa pine to red fir forests. Some remain at high elevations all year; many move downslope into oak woodlands and riparian deciduous vegetation. Prefers dense, shaded forests, especially of red or white fir, or Douglas-fir.

SPECIAL HABITAT REQUIREMENTS:

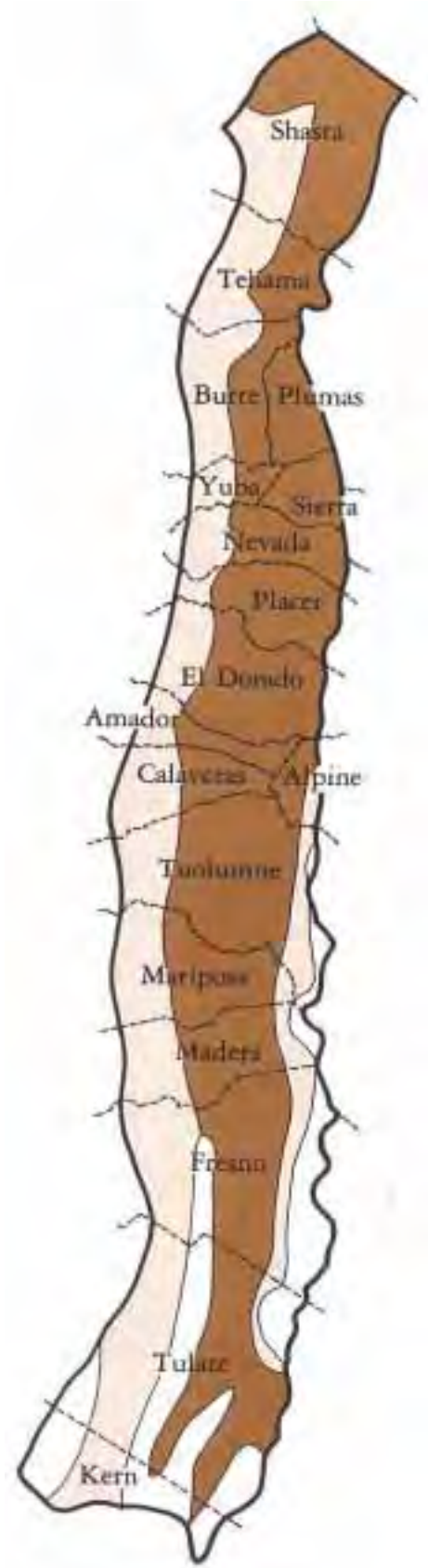
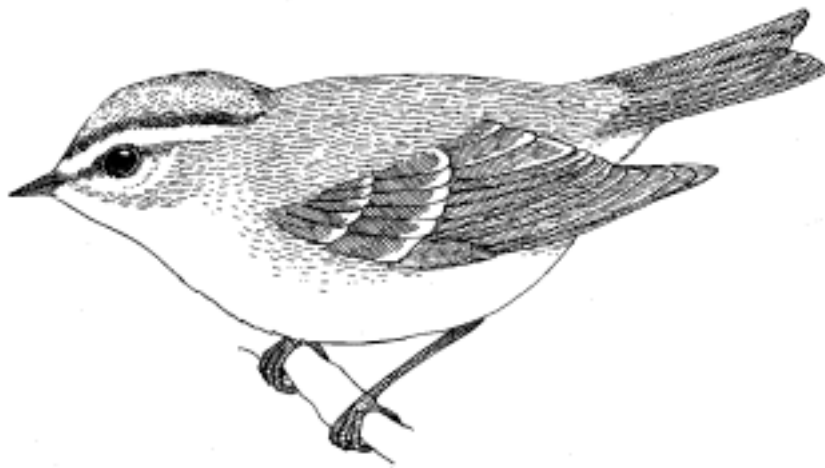
BREEDING: Breeds from early April to late July, with peak from late May to early July. Nests concealed in foliage of tips of branches or in clusters of live, hanging twigs. Recorded nest heights range from 5 to 50 ft (1.5 to 15 m), but probably nest much higher-the nests difficult to detect. Clutch size from 5 to 11, most contain 8 or 9.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Feeds on small insects, gleaned from foliage and small twigs, usually in well-shaded site. Usually hovers to glean items from vegetation.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1949, Gaines 1977.



Ruby-crowned Kinglet

B146 (*Regulus calendula*)

STATUS: No official listed status. Common summer resident and breeder; abundant winter visitor at lower elevations.

DISTRIBUTION/HABITAT: Breeds in timbered areas with low to intermediate percent canopy cover, from mixed-conifer up to lodgepole pine forests. Prefers lodgepole forest for breeding, especially in open stands or near edge, such as along stream or meadow. In late summer and early fall, migrants occur to treeline. In winter, present only at lower elevations in a variety of habitats.

SPECIAL HABITAT REQUIREMENTS:

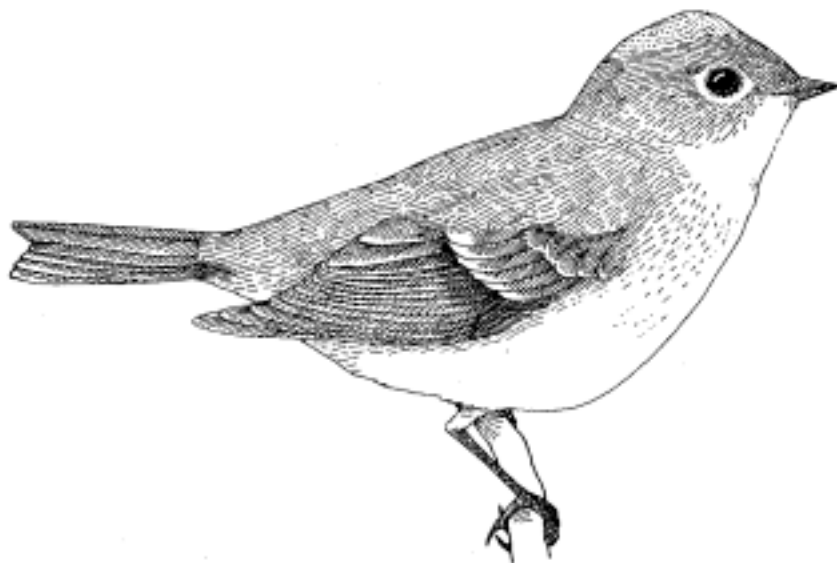
BREEDING: Breeds from mid-May to mid-August, with peak from mid-June to late July. Builds hanging nest attached to twigs of conifer foliage, usually near tip of branch far above the ground. Nest height ranges from 2 to 100 ft (0.6 to 31 m). Clutch size from 5 to 11, most contain 7 to 9.

TERRITORY/HOME RANGE: No information on home range. In San Diego County, two winter territories covered 0.5 and 1 acre (0.2 and 0.4 ha) (Rea 1970). Nonterritorial in winter in some localities.

FOOD HABITS: Obtains small arthropods by gleaning foliage and bark, often by hovering.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1949, Gaines 1977.



Water Pipit

B147 (*Anthus spinoletta*)

STATUS: No official listed status. Common winter visitor at low elevations; rare late summer and fall migrant at all elevations.

DISTRIBUTION/HABITAT: Found in open country at all elevations in late summer and fall. Sighted rarely in summer above treeline in the Sierra Nevada. First Sierra Nevada nests discovered in 1975 and 1976 east of the crest, near Yosemite National Park. May also breed sparingly above treeline on west side. Move to lower elevations for late fall, winter, and spring periods.

SPECIAL HABITAT REQUIREMENTS: Open terrain.

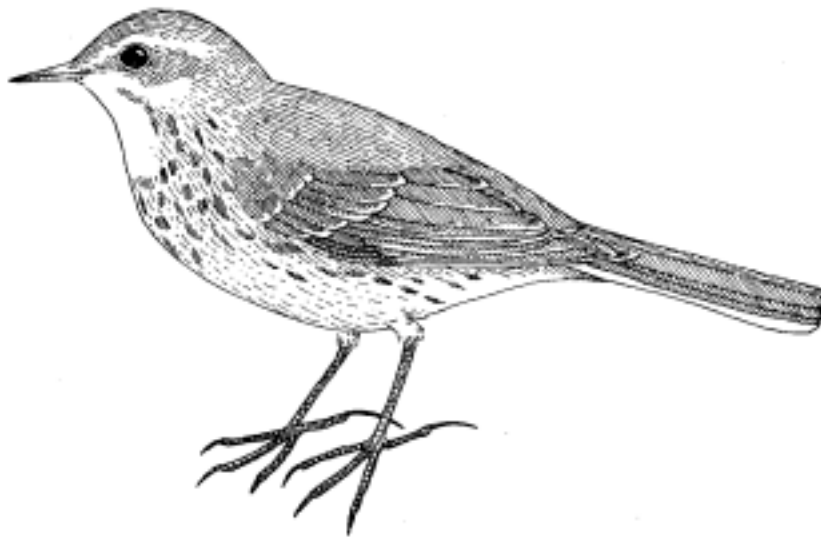
BREEDING: Breeds from late June to early September, with peak from mid-July to mid-August. Nests on ground, usually sheltered by overhang of rock, sod, or vegetation. Avoids wet areas for nest placement. Clutch size from 3 to 6, with mean of 4.7.

TERRITORY/HOME RANGE: No data on home range. In a Wyoming alpine tundra, sizes of breeding territories ranged from 0.39 to 0.83 acre (0.16 to 0.34 ha), with an average of 0.45 acre (0.2 ha).

FOOD HABITS: Eats insects, gleaned from low vegetation, bare ground, and snowbanks.

OTHER:

REFERENCES: Pickwell 1947, Bent 1950, Verbeek 1970.



Cedar Waxwing

B148 (*Bombycilla cedrorum*)

STATUS: No official listed status. Winter visitor at low elevations; numbers and local occurrence vary widely from year-to-year; stragglers present throughout year; rare breeder.

DISTRIBUTION/HABITAT: Permanent resident in ponderosa pine and black oak woodland types; found in lower elevation oak types in all seasons except summer, and on up to the Jeffrey pine type in all seasons except winter. Only one confirmed breeding record located for the western Sierra Nevada, at Buck's Lake, Plumas County, at 5153 ft (1570 m) (see star on range map). Midsummer records in Yosemite and elsewhere indicate possible breeding. Prefers timbered sites with low percent canopy coverage; more common at lower elevations.

SPECIAL HABITAT REQUIREMENTS: Fruit, berries.

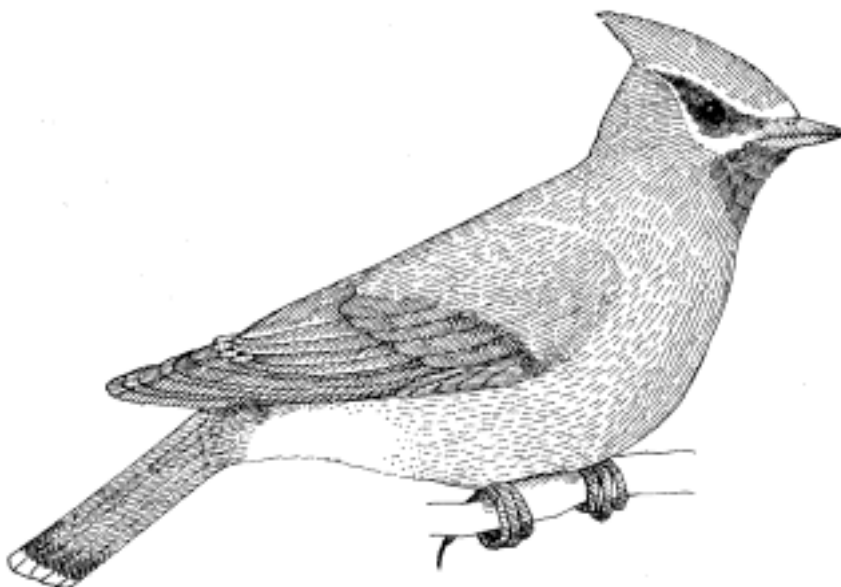
BREEDING: Breeds from early June to late August, with peak from late June to early August. Nests in tree or shrub, often at extreme end of branch. Nest height ranges from 5 to 50 ft (1.5 to 15 m) up, but usually below 20 ft (6.1 m). Clutch size from 3 to 6, with mean of about 4.

TERRITORY/HOME RANGE: No precise data on home range. In Ohio, three breeding territories ranged from 2025 to 9900 ft² (190 to 920 m²), with average of 4770 ft² (440 m²) (Putnam 1949).

FOOD HABITS: Fruit, berries, flowers, and buds, with some insects, comprise the diet. Picks and gleans food from living trees and shrubs, and often hawks insects.

OTHER: Nomadic, moving in flocks, and remaining only in areas with abundant food supply.

REFERENCES: Lea 1942, Putnam 1949, Bent 1950.



Phainopepla

B149 (*Phainopepla nitens*)

STATUS: No official listed status. Uncommon resident in foothills; rare in northern portion of the Sierra Nevada.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, low elevation riparian deciduous, and chaparral types. Generally breeds in areas with scattered stands of small trees (usually oaks) surrounded by dense shrub understory. Recorded as high as 4000 ft (1220 m) in Yosemite Valley (Gaines 1977).

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs; berries (especially mistletoe).

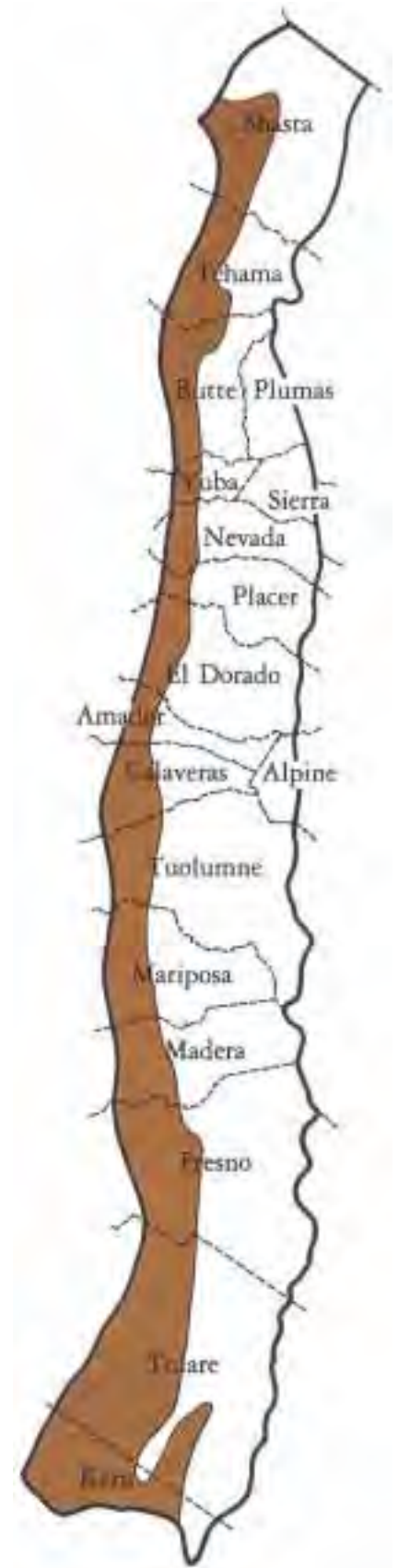
BREEDING: Breeds from late February to mid-July, with peak from late May to late July. Nests usually in dense foliage of shrubs, oaks, cottonwoods, willows, and others. Nest height ranges from 4 to 50 ft (1.2 to 15 m), most between 6 and 11 ft (1.8 and 3.4 m). Clutch size from 1 to 4, with mean of 2.5.

TERRITORY/HOME RANGE: No data on home range. Territory size in Imperial County ranged from 0.5 to 1.5 acres (0.2 to 0.6 ha), with mean of 1.0 acre (0.4 ha) (Walsberg 1977).

FOOD HABITS: Eats small insects and berries, including mistletoe, juniper, elderberry, *Rhus*, and others. Crops of mistletoe a staple for species; reported to defend fruiting mistletoe against nearly all other species that use it (Walsberg 1977). Captures insects in air; picks berries from stems, either by clinging to clusters or hovering about them.

OTHER:

REFERENCES: Grinnell and Storer 1924, Rand and Rand 1943, Bent 1950, Walsberg 1977.



Loggerhead Shrike B150 (*Lanius ludovicianus*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List, but apparently not because of problems in the western Sierra Nevada. Fairly common resident at low elevations.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, and chaparral types; prefers stands with low percent canopy cover.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

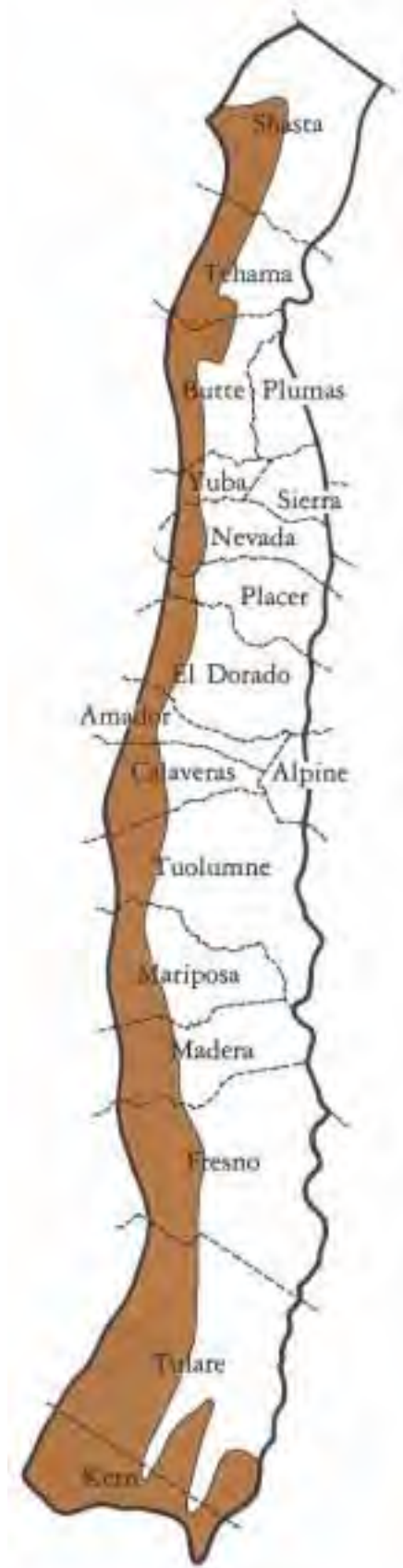
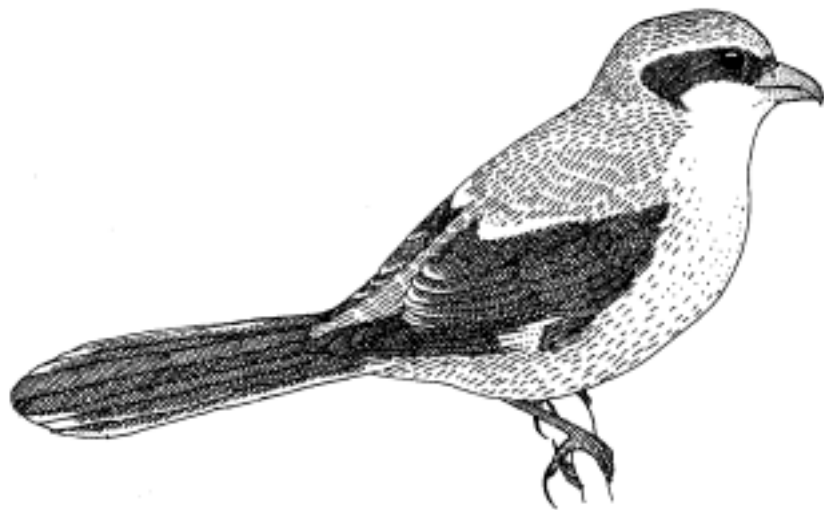
BREEDING: Breeds from late February to mid-June, with peak from late March to early May. Nests in variety of trees and shrubs, with stable supporting branches and screen of overhanging cover. Nest height ranges from 2 to 30 ft (0.6 to 9.1 m). Clutch size from 5 to 7, with mean of 6.

TERRITORY/HOME RANGE: Territory and home range the same, radius of 1300 to 1950 ft (400 to 595 m) in San Joaquin Valley (Miller 1931). Maintains territory year-round. A 'headquarters' area more vigorously defended, including good lookout perches, feeding facilities, and suitable shrub or tree cover for shelter at night.

FOOD HABITS: Indiscriminate carnivore, captures insects and other invertebrates, small reptiles, birds, and mammals. Dives to ground from elevated perch, and sometimes hawks for aerial insects. Frequently impales prey on thorns or barbed wire.

OTHER:

REFERENCES: Miller 1931, Linsdale 1938, Bent 1950.



Starling

B151 (*Sturnus vulgaris*)

STATUS: No official listed status. Introduced from Europe into New York more than 100 years ago; rapidly spread across continent. Reported as rare in California as recently as 30 years ago (Grinnell and Miller 1944); today a serious agricultural pest. In the Sierra Nevada, rare and generally confined to low elevations.

DISTRIBUTION/HABITAT: Breeds in low elevation riparian deciduous, blue oak savannahs, and digger pine-oak woodlands. Prefers stands with low percent canopy cover. More common in vicinity of human habitations. In nonbreeding periods, found in same habitats but usually forms flocks, sometimes enormous ones.

SPECIAL HABITAT REQUIREMENTS: Nest cavities; openings or open terrain.

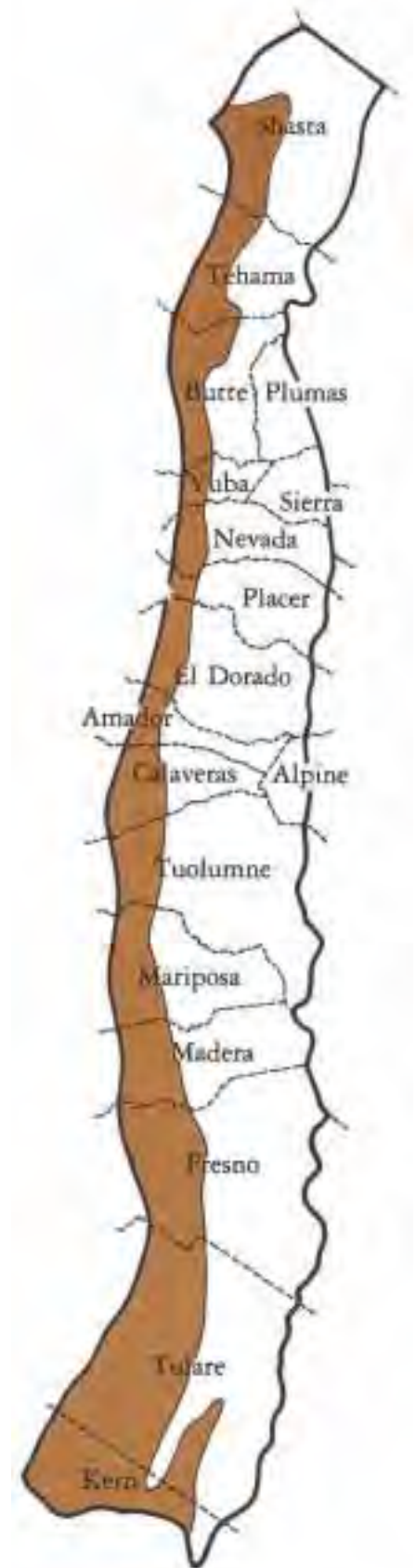
BREEDING: Breeds from early April to mid-June, with peak from mid-May to mid-June; often double-brooded. Nests in almost any suitably-sized natural or artificial cavity; in absence of cavities, known to nest on ground. Nest height ranges from 2 to 60 ft (0.6 to 18 m), usually from 10 to 25 ft (3.1 to 7.6 m). Clutch size from 3 to 6, with mean of 4.5.

TERRITORY/HOME RANGE: Travels great distances in search of food; no data on home range (Hamilton and Gilbert 1969). In New York, defended only area immediately around nest but ranged up to 0.75 mi (1.2 km) from nest (Kessel 1957).

FOOD HABITS: Omnivorous, taking grain, hay, weed seeds, insects, earthworms, waste food, and other foods. Feeds in pastures, tilled soil, trees, garbage dumps, lawns, and other places. Probes in soil, gleans, hawks insects, and captures aerial insects in swallow-like flight.

OTHER: Considered a serious competitor for nest cavities with other cavity nesting species.

REFERENCES: Kessel 1957, Howard 1959, Planck 1967.



Hutton's Vireo

B152 (*Vireo huttoni*)

STATUS: No official listed status. Fairly common permanent resident in foothills.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, and low elevation riparian deciduous areas. Prefers stands with low percent canopy coverage. Found almost exclusively in live oaks most of year, but in late summer and fall, moves upslope into ponderosa pine and black oak woodland types.

SPECIAL HABITAT REQUIREMENTS: Live oaks; trees/shrubs.

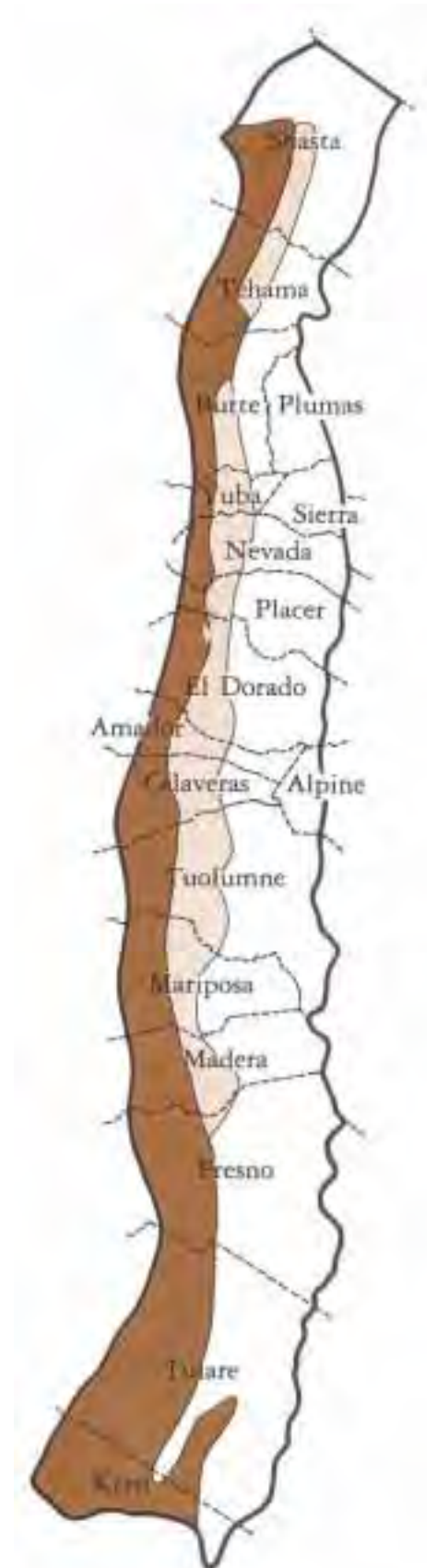
BREEDING: Breeds from early March to late June, with peak from late April to early June. Nests usually well concealed in tall live oak, supported by forked twig; also nests in bay laurel, willow, or pine. Nest height ranges from 7 to 25 ft (2.1 to 7.6 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on home range or territory size. In Sonoma County, Van Fleet (1919) reported breeding density of 100 pairs/mi² (39 pairs/km²).

FOOD HABITS: Eats mostly insects and spiders, also some fruits and berries. Gleans food from foliage and small twigs in trees; also hawks aerial insects.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1950, Sumner and Dixon 1953.



Bell's Vireo

B153 (*Vireo bellii*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Considered by some to be extinct in the Sierra Nevada and Central Valley habitats formerly occupied (R. Stallcup, pers. commun.).

DISTRIBUTION/HABITAT: Formerly nested in dense, low elevation riparian thickets in spring and summer.

SPECIAL HABITAT REQUIREMENTS: Dense riparian thickets.

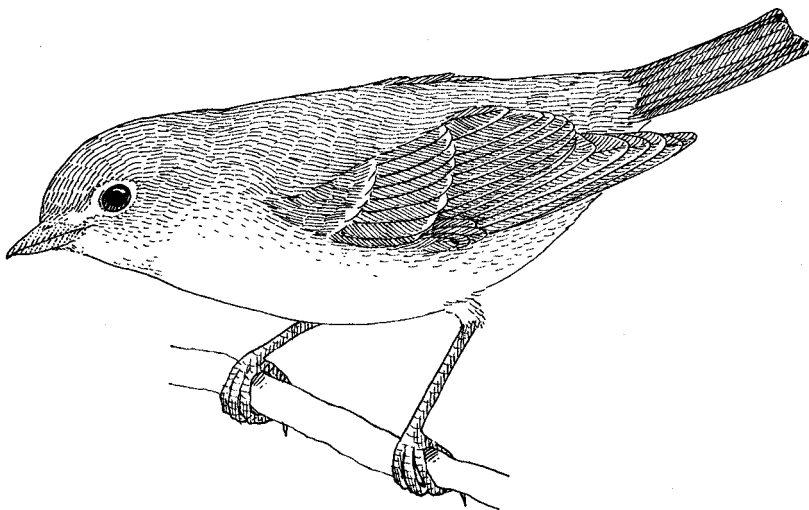
BREEDING: Breeds from early April to early July, with peak from mid-May to early June. Nests usually suspended from scrubby trees or low bushes-willow, *Baccharis*, blackberry, live oaks, poison oak, and others, always within 3 ft (0.9 m) of ground. Mean clutch size of 4.

TERRITORY/HOME RANGE: In southern Indiana, home range covers 2 to 3 acres (0.8 to 1.2 ha) per pair (Nolan 1960). Barlow et al. (1970) reported a breeding density of one pair per 2 acres (0.8 ha) in an Arizona mesquite thicket.

FOOD HABITS: Eats mostly insects, some fruits. Gleans from twigs and foliage, usually within 3 ft (0.9 m) of ground, primarily in riparian habitats, but some in live oak.

OTHER: Formerly a common summer resident at low elevations in the Sierra Nevada, even up to 4000 ft (1220 m) along the Tuolumne and Merced Rivers (Grinnell and Storer 1924). Apparently extinct in the western Sierra Nevada, partly because of reduction in suitable streamside vegetation and partly because of cowbird nest parasitism.

REFERENCES: Grinnell and Miller 1944, Bent 1950, Nolan 1960.



Solitary Vireo

B154 (*Vireo solitarius*)

STATUS: No official listed status. Fairly common migrant and summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in ponderosa pine, black oak woodland, riparian deciduous, and mixed-conifer types; prefers drier sites with substantial shrub layer and low to intermediate percent canopy cover. Spring migrants pass through lower elevation oak and pine/oak types; in late summer and early fall usually moves upslope as high as lodgepole pine forests.

SPECIAL HABITAT REQUIREMENTS:

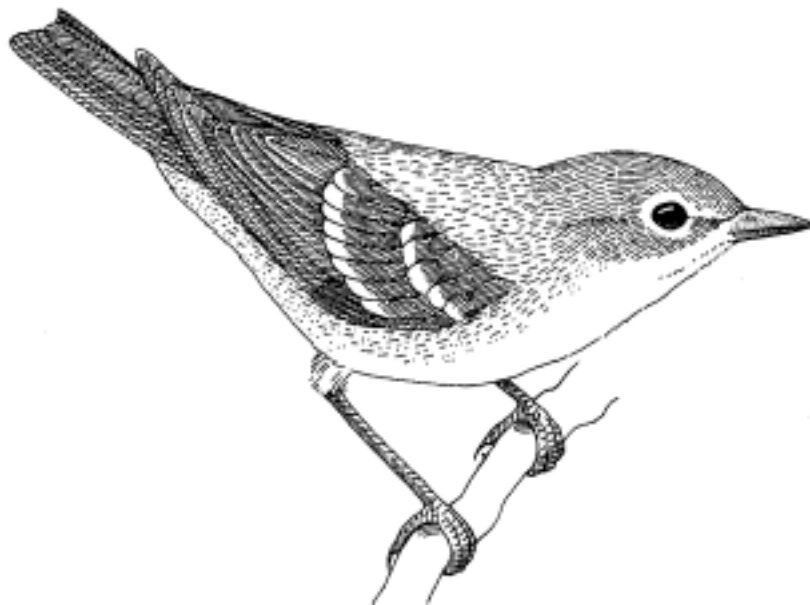
BREEDING: Breeds from late April to mid-July, with peak from late May to early July. Nests usually in low, dense foliage of shrubs and trees and typically shaded. Nest height ranges from 5 to 20 ft (1.5 to 6.1 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data available on home range. In an Arizona piñon-juniper-ponderosa pine ecotone, territory size averaged 4.2 acres (1.7 ha) (Laudenslayer and Balda 1976).

FOOD HABITS: Feeds mostly on insects, also eats some leaf galls and seeds. Gleans food from foliage of trees.

OTHER: Population declined in recent years, at least in part as result of increased nest parasitism by brown-headed cowbirds (Gaines 1977).

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1950.



Warbling Vireo

B155 (*Vireo gilvus*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Common spring migrant and summer resident in most vegetation types.

DISTRIBUTION/HABITAT: Breeds in wooded sites from low elevation riparian deciduous up to red fir forests. Prefers areas with tall trees, a substantial shrub layer, and low to intermediate percent canopy cover. Generally gone from the western Sierra Nevada by late summer.

SPECIAL HABITAT REQUIREMENTS:

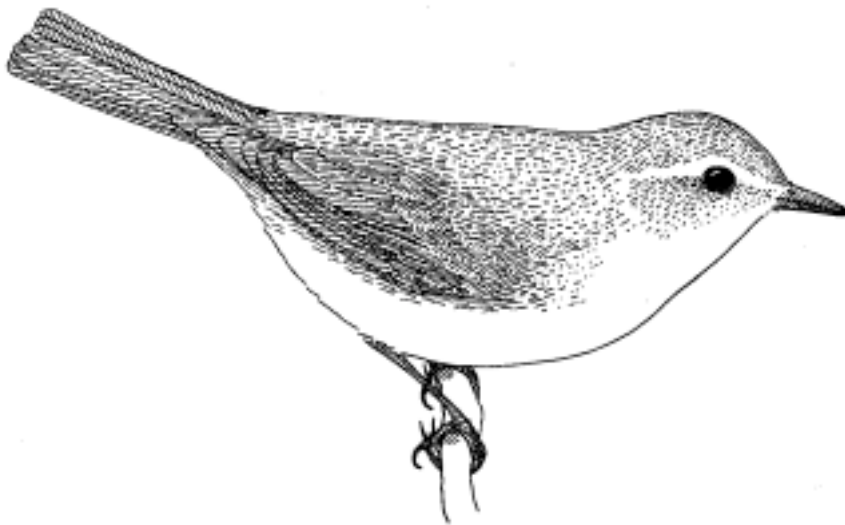
BREEDING: Breeds from late April to late July, with peak from late May to mid-July. Nests attached at upper rim, with cup hanging down, to terminal foliage of branches in tall trees (deciduous preferred). Nest height ranges from 4 to 40 ft (1.2 to 12 m) up, usually above 8 ft (2.4 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on territory size. In Idaho, Rust (1920) reported a home range of 120 ft (37 m) radius around nest.

FOOD HABITS: Eats mostly insects and spiders, also some fruits and seeds. Gleans food from foliage of deciduous and coniferous trees, sometimes hovering to do so; also hawks for airborne insects.

OTHER: By far the most common breeding vireo in the Sierra Nevada. Gaines (1977) has nonetheless noted a significant decline in numbers in the Yosemite Valley since the 1930's. Again, nest parasitism by the brown-headed cowbird thought to be a reason for the decline.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1950.



Orange-crowned Warbler

B156 (*Vermivora celata*)

STATUS: No official listed status. Common spring and summer visitor in suitable habitat.

DISTRIBUTION/HABITAT: Breeds at lower elevations from blue oak savannah to chaparral, and in low elevation riparian deciduous areas. Prefers sites with considerable shrub cover.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs for nesting.

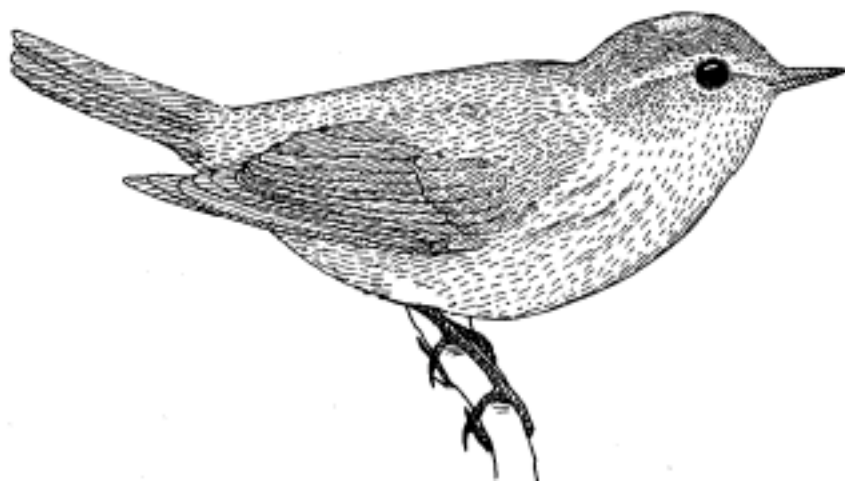
BREEDING: Breeds from late April to early June, with peak in mid-May. Nests on ground or occasionally in low, dense bushes. Nest height generally below 3 ft (1 m). Clutch size 3 to 6, with mean of 4.

TERRITORY/HOME RANGE: Only meager data available. In California coastal chaparral, Mans (1961) reported a male patrolled an area of about 5 acres (2 ha).

FOOD HABITS: Feeds mostly on insects, also some seeds and fruit. Gleans insects from foliage in shrubs and small trees at heights ranging from 5 to 30 ft (1.5 to 9.1 m).

OTHER: Although Grinnell and Miller (1944) cite Transition Zone breeding localities, no confirmed nesting records at elevations above 1600 ft (490 m). Known to nest only in chaparral and shrubby oak woodlands of foothills. Upslope or southward movement to mixed-conifer belt begins as early as June. In late summer and early fall, relatively common in high elevation coniferous forests, but most belong to populations from distant localities that migrate through the Sierra Nevada.

REFERENCES: Griscom and Sprunt 1957, Gaines 1977.



Nashville Warbler

B157 (*Vermivora ruficapilla*)

STATUS: No official listed status. Fairly common spring and summer resident.

DISTRIBUTION/HABITAT: Breeds in mid-elevation conifer types, from ponderosa pine to mixed-conifer forests, in black oak woodland and, to some extent, in riparian deciduous. Prefers timbered areas with low percentage canopy cover, though brush-covered sites with no trees also used.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs.

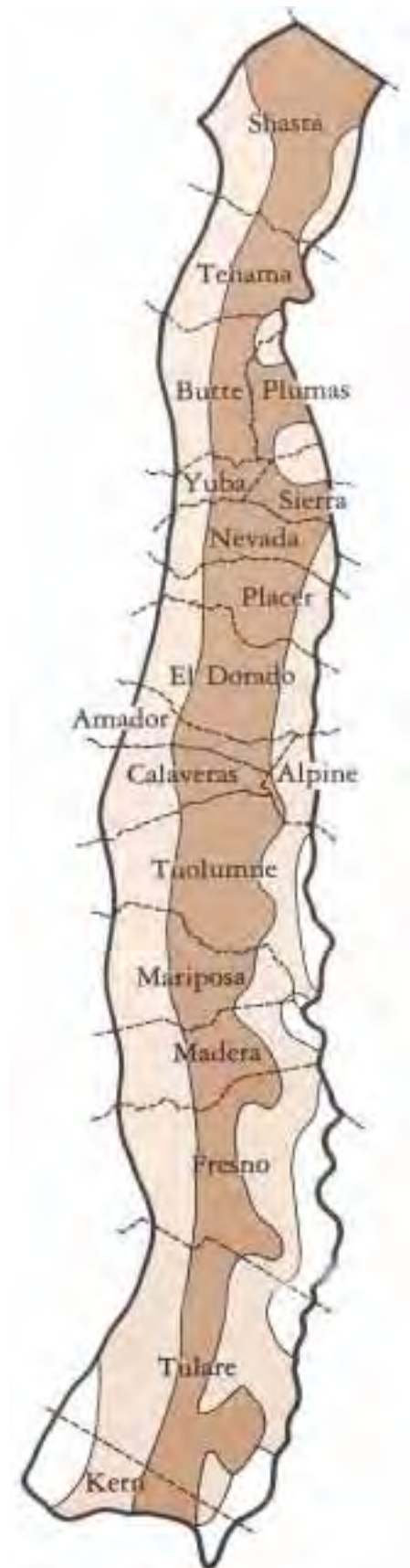
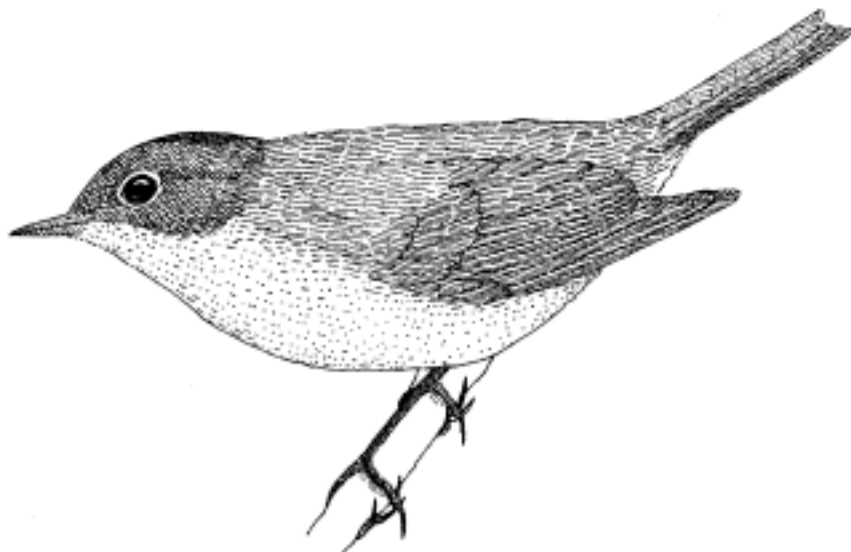
BREEDING: Breeds from mid-May to late July, with peak in mid-June. Nests on ground in areas with dense shrubs and sparse trees. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No information on home range. In a deciduous/coniferous forest in Ontario, Lawrence (1948) reported mean territory size of about 0.5 acre (0.2 ha).

FOOD HABITS: Feeds almost entirely on insects gleaned from foliage or taken from air by hawking. Feeds in low shrubs and up into higher canopy.

OTHER: Late season wanderers recorded as high as 11,000 ft (3350 m) in Yosemite National Park. Nests frequently parasitized by brown-headed cowbirds.

REFERENCES: Lawrence 1948, Griscom and Sprunt 1957, Johnson 1976.



Yellow Warbler

B158 (*Dendroica petechia*)

STATUS: No official listed status; on the Audubon Society Blue List for 1978. Fairly common spring and summer resident in the western Sierran zone.

DISTRIBUTION/HABITAT: Breeds in riparian deciduous, lakeshore, or wet, shrubby meadows from blue oak savannahs up to mixed-conifer forest.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs; usually nearby water for nesting.

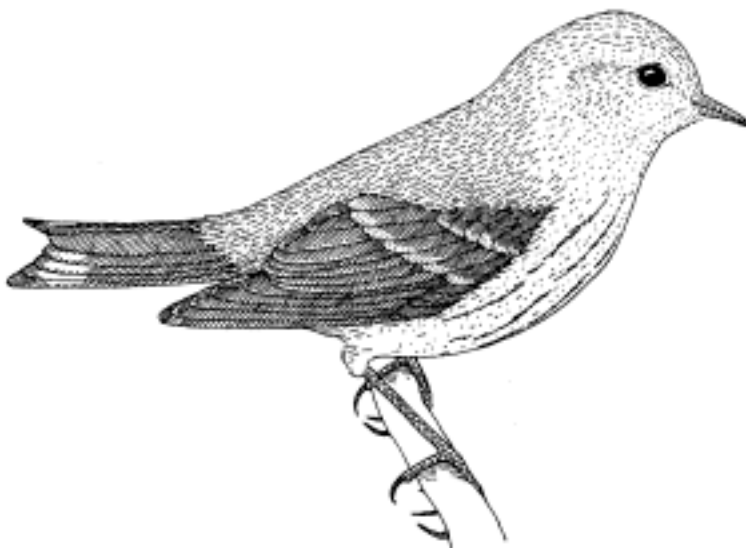
BREEDING: Breeds from mid-April to mid-July, with peak from early to late May. Nests in low bushes, usually in riparian sites but sometimes in open, moist forests. Nest height varies from 2 to 10 ft (0.6 to 3.1 m). Clutch size from 3 to 5, with 3 or 4 most frequent.

TERRITORY/HOME RANGE: In Illinois, breeding territory sizes reported in riparian woodland as ranging from 0.15 to 0.94 acre (0.06 to 0.4 ha), with mean of 0.42 acre (0.17 ha) (Brewer 1955); in riparian cover in Utah as ranging from 0.13 to 0.65 acre (0.05 to 0.26 ha) (Frydendall 1967); and on small islands in Minnesota to be as small as 0.08 acre (0.03 ha) (Beer et al. 1956). Feeds mostly outside territory, usually to distances of 400 to 600 ft (120 to 185 m) and some birds regularly to as far as 1600 ft (490 m) (Kendeigh 1941a).

FOOD HABITS: Diet consists almost entirely of insects, with some spiders. Gleans food from foliage of coniferous and deciduous trees.

OTHER: Although normally associated with low-elevation, streamside forests, frequently observed foraging in mid-elevation coniferous forests during postnesting season (Hebard 1961, Beedy 1975).

REFERENCES: Schranz 1943, Griscom and Sprunt 1957.



Yellow-rumped Warbler

B159 (*Dendroica coronata*)

STATUS: No official listed status. Abundant resident in the State; spring, summer, and fall visitor to middle and high elevations of the Sierra Nevada forests.

DISTRIBUTION/HABITAT: Widespread; found at lower elevations in all seasons, except summer. Breeds from ponderosa pine and black oak types up to lodgepole pine forests; prefers timbered sites of low percentage canopy cover and forest edges, as around meadows or lakes.

SPECIAL HABITAT REQUIREMENTS:

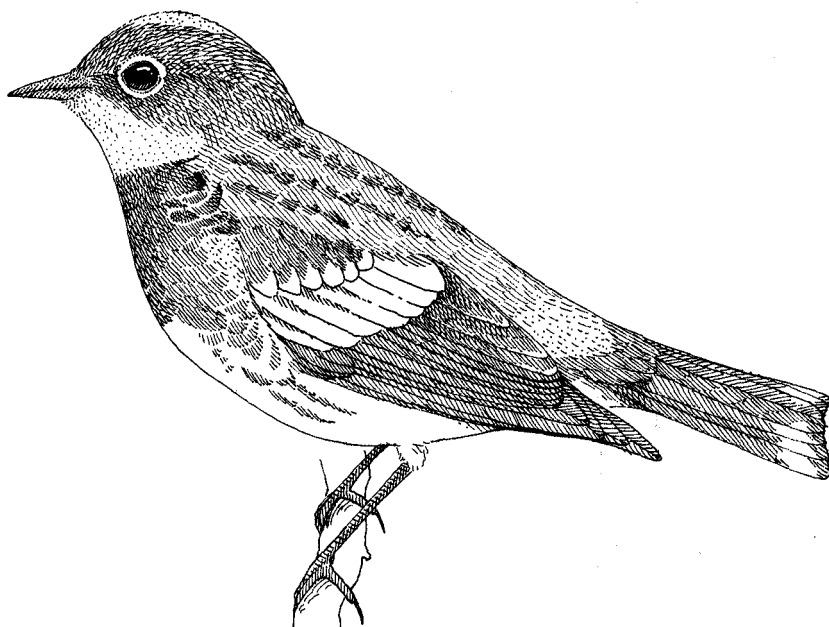
BREEDING: Breeds from mid-May to late July, with peak from middle to late June. Nests in conifers, in deciduous trees, or in shrubs, from 3 to 100 ft (0.9 to 3.1 m) up. Clutch size from 3 to 5, with a mean of 4.

TERRITORY/HOME RANGE: No information on home range or territory size. Beedy (1975) reported a density of 40.4 birds per 100 acres (40 ha) in mixed-conifer forest in the Sierra Nevada.

FOOD HABITS: Eats 85 percent insects and spiders and 15 percent vegetable matter. Hawks for flying insects, gleans insects from foliage, and searches for food on ground.

OTHER:

REFERENCES: Griscom and Sprunt 1957, Gaines 1977.



Black-throated Gray Warbler

B160 (*Dendroica nigrescens*)

STATUS: No official listed status. Uncommon to fairly common spring and summer visitor to oak-conifer belt.

DISTRIBUTION/HABITAT: Breeds in all oak types and in ponderosa pine forests, if some oaks present. Exhibits some preference for sites with low percentage canopy coverage.

SPECIAL HABITAT REQUIREMENTS: Oaks; trees/shrubs.

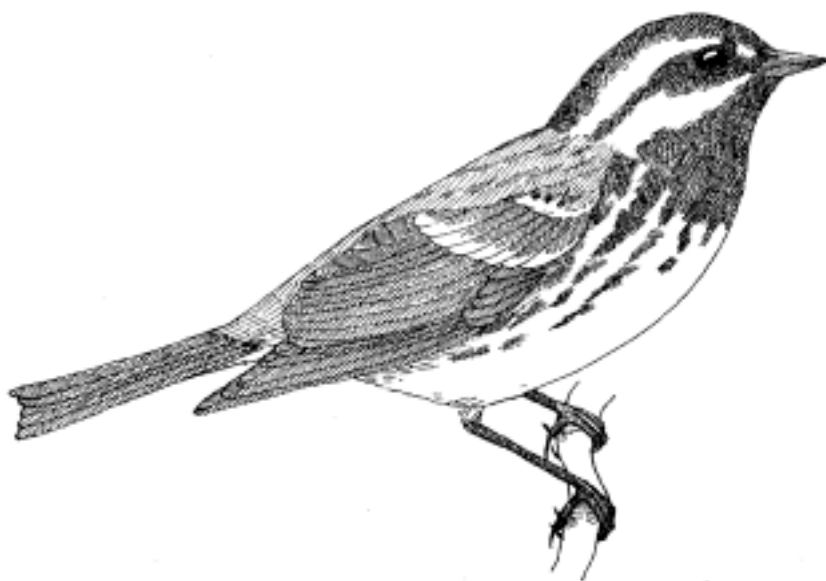
BREEDING: Breeds from early May to early July, with peak from mid-May to mid-June. Nests on horizontal branches from ground level up to 50 ft (15 m), but usually from 3 to 10 ft (0.9 to 3.1 m) up. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Insects generally comprise the diet, with oak worms and caterpillars favored. Hawks flying insects and gleans insects from foliage from low to moderate heights in tree canopy.

OTHER Rarely observed at elevations greater than 6000 ft (1830 m); in some regions largely restricted to golden oak habitat (Grinnell and Storer 1924).

REFERENCES: Grinnell and Storer 1924, Griscom and Sprunt 1957.



Townsend's Warbler

B161 (*Dendroica townsendi*)

STATUS: No official listed status. Uncommon to fairly common fall migrant; rarely observed in the Sierra Nevada during spring migration.

DISTRIBUTION/HABITAT: Frequents timbered stands from black oak woodland up to lodgepole pine forests; prefers low to intermediate canopy cover.

SPECIAL HABITAT REQUIREMENTS:

BREEDING: Does not breed in the western Sierra Nevada.

TERRITORY/HOME RANGE: None established in the western Sierran zone.

FOOD HABITS: Food consists of insects obtained by gleaning foliage of dense conifers.

OTHER: Fall migrants found primarily at higher elevations, usually associated with migratory flocks of yellow-rumped warblers.

REFERENCES: Griscom and Sprunt 1957, Gaines 1977.



Hermit Warbler

B162 (*Dendroica occidentalis*)

STATUS: No official listed status. Fairly common to common spring and/or summer resident in mid-elevation conifer forests.

DISTRIBUTION/HABITAT: Breeds in ponderosa pine, black oak woodlands, and mixed-conifer forests, prefers stands with large trees and low to intermediate percentage canopy cover. By July and August, after breeding season, spreads upslope through red fir forests.

SPECIAL HABITAT REQUIREMENTS: Large trees.

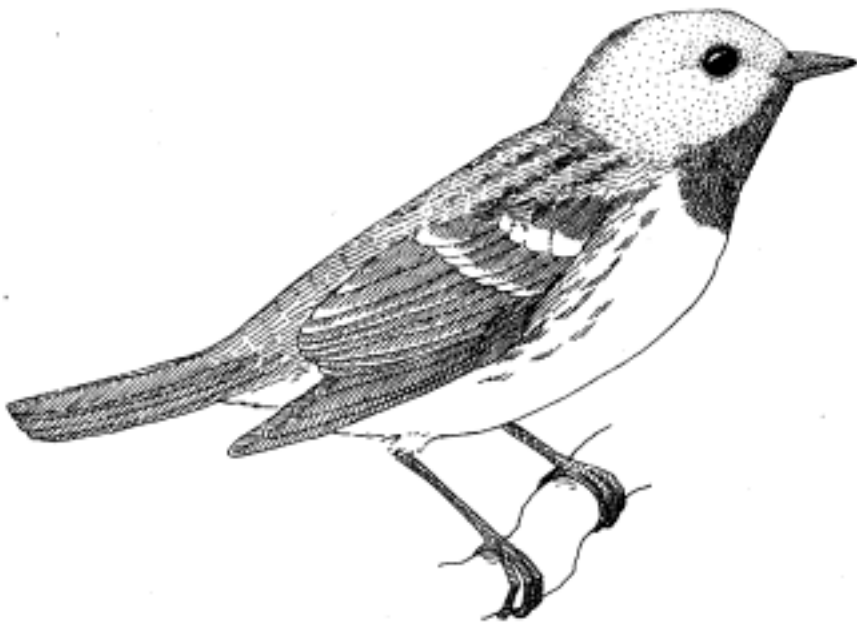
BREEDING: Breeds from late April to late June, with peak from early to mid-June. Nests on horizontal branches in relatively tall conifers, from 2 to 50 ft (0.6 to 15 m) above ground. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on either. Breeding density in mixed-conifer forest in the Sierra Nevada averaged 6.5 birds per 100 acres (40 ha) (Beedy 1975).

FOOD HABITS: Insects and spiders comprise the diet, with aerial insects hawked and other prey gleaned from foliage.

OTHER: When nesting in low to middle canopy, usually forage and sing in tallest trees. In general, the biology of species poorly known.

REFERENCES: Barlow 1899, Griscom and Sprunt 1957.



MacGillivray's Warbler

B163 (*Oporornis tolmiei*)

STATUS: No official listed status. Fairly common summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in rather dense shrubbery and thickets, especially near water, from ponderosa pine zone upslope into mixed-conifer zone. Often found in mid-elevation wet meadows with low shrubs, such as willows. In postnesting period, small numbers travel through meadows and willow thickets to treeline.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs near water for nesting.

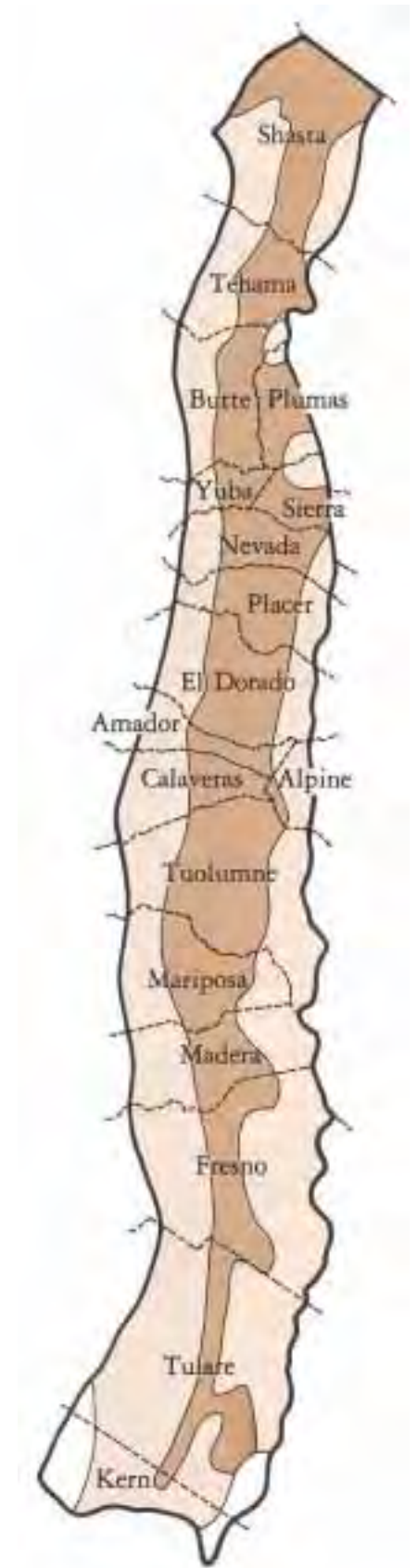
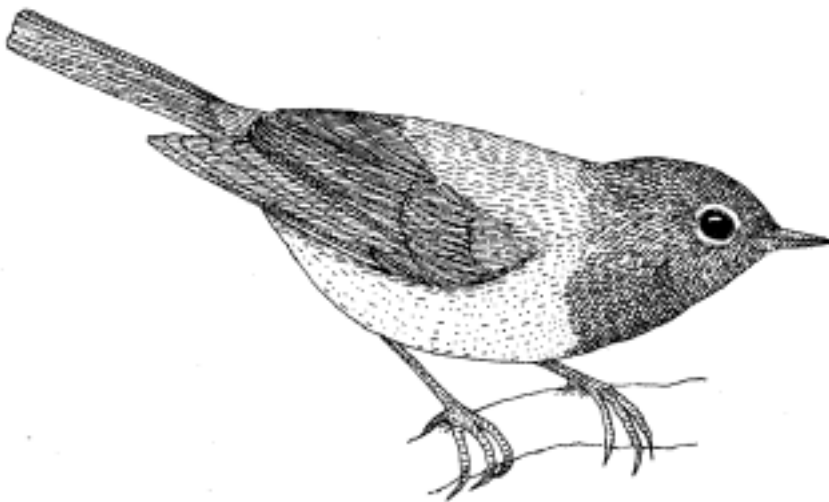
BREEDING: Breeds from early May to early July, with peak from early to mid-June. Nests usually from 2 to 6 ft (0.6 to 1.8 m) up in shrub in moist thicket, usually with tall herbs, grasses, or ferns. Clutch size from 3 to 6, with mean of 4.

TERRITORY/HOME RANGE: No data on territory or home range sizes. Salt (1957) reported a mean density of 30 birds per 100 acres (40 ha) in aspen habitat in Wyoming.

FOOD HABITS: Insects, taken in dense shrubs or on ground, by foliage gleaning or probing in ground litter, make up majority of diet.

OTHER:

REFERENCES: Griscom, and Sprunt 1957, Gaines 1977.



Common Yellowthroat

B164 (*Geothlypis trichas*)

STATUS: No official listed status. Fairly common summer resident, and spring and fall migrant in suitable areas. Substantially reduced in numbers in recent years because of drainage of essential aquatic habitat.

DISTRIBUTION/HABITAT: Breeds in marshy vegetation around ponds and along slow-moving streams or rivers, and in dense, mesic vegetation in wet meadows or in deciduous riparian habitat. Largely restricted to low elevations, observed on numerous occasions in Yosemite Valley and probably has nested there. Observed at elevations of 6000 ft (1830 m) in wet meadows in late summer.

SPECIAL HABITAT REQUIREMENTS: Marsh or dense shrubs near water for nesting.

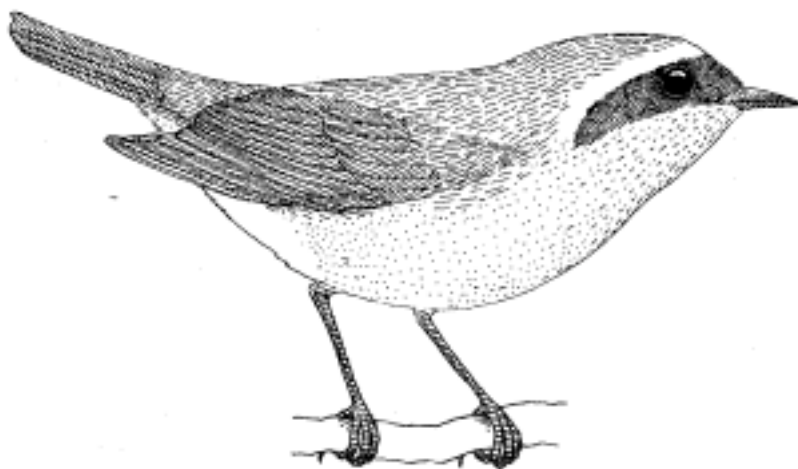
BREEDING: Breeds from early April to mid-July, with peak from mid-May to early June. Nests mostly on ground or supported by aquatic vegetation near or over water. Clutch size from 3 to 5, with mean of 4.6.

TERRITORY/HOME RANGE: Territory and home range probably the same. Reported sizes: average in marsh and riparian habitat in Michigan 1.3 acres (0.5 ha), with range from 0.8 to 1.8 acres (0.3 to 0.7 ha) (Stewart 1953); a mean of 0.6 acre (0.2 ha) in Illinois swamp, with range from 0.2 to 1.1 acres (0.1 to 0.5 ha) (Brewer 1955), and means of 0.7 acre (0.3 ha) in Minnesota and 1.7 acres (0.7 ha) in Michigan (Hofslund 1960).

FOOD HABITS: Large insects, especially caterpillars and other insect larvae, comprise majority of diet. Gleans from aquatic and marsh vegetation or foliage of shrubs in wet sites. Sometimes probes for food in ground.

OTHER:

REFERENCES: Stewart 1953, Griscom and Sprunt 1957.



Yellow-breasted Chat

B165 (*Icteria virens*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Fairly common spring migrant and summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in low elevation riparian deciduous habitats; breeding above 1000 ft (305 m) not confirmed. May not be a breeding species in western Sierran zone. Usually wanders upslope after breeding season, in late summer and early autumn. Recorded in riparian deciduous, habitats as high as 4000 ft (1220 m).

SPECIAL HABITAT REQUIREMENTS: Dense riparian shrubs.

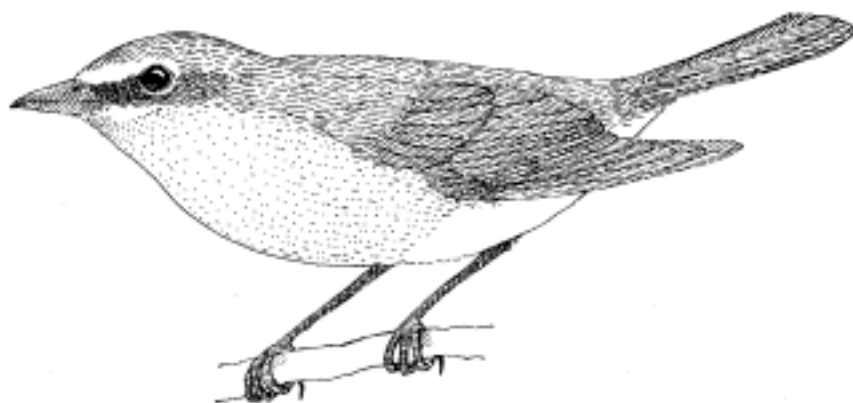
BREEDING: Breeds from early May to mid-July, with peak from early to mid-June. Nests usually at heights of 2 to 3 ft (0.6 to 0.9 m) in dense shrubs along stream courses. Clutch size from 3 to 6, with mean of 3.5.

TERRITORY/HOME RANGE: In Illinois, Brewer (1955) reported home range sizes from 0.14 to 0.71 acre (0.06 to 0.3 ha), with mean of 0.33 acre (0.1 ha) in marsh and riparian habitat. In upland deciduous scrub habitat in Indiana, Thompson and Nolan (1973) found mean territory sizes ranging from a low of 2.8 acres (1.1 ha) in 1967 to high of 3.9 acres (1.6 ha) in 1970; pooled mean for all years: 3.1 acres (1.24 ha). In variously wooded and brushy habitat near a stream in Virginia, Dennis (1958) noted a range in territory size from 1.25 to 2.50 acres (0.5 to 1.0 ha).

FOOD HABITS: Insects make up bulk of diet; fruits also eaten. Most food obtained by gleaning foliage of shrubs and small trees.

OTHER: Numbers reduced in the Sierra Nevada through habitat destruction.

REFERENCES: Griscom and Sprunt 1957, Dennis 1958, Thompson and Nolan 1973.



Wilson's Warbler

B166 (*Wilsonia pusilla*)

STATUS: No official listed status. Common summer resident.

DISTRIBUTION/HABITAT: Breeds in riparian sites, around some lakeshore habitat, or in wet meadows in middle to high elevations. Also forages along forest edges and within dense coniferous forests during postnesting season (Beedy 1975).

SPECIAL HABITAT REQUIREMENTS: Dense shrubs near water for breeding.

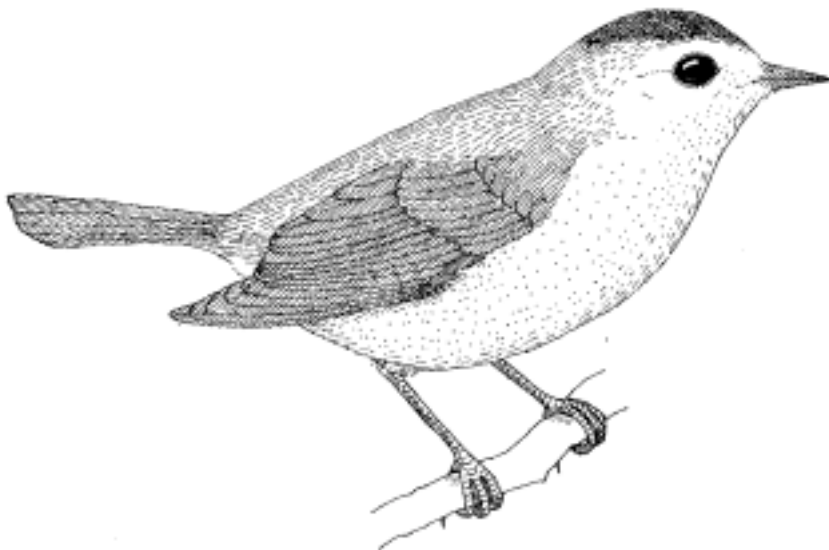
BREEDING: Breeds from late April to early July, with peak from mid-May to mid-July. Nests usually on ground among mosses and grasses, often at base of small tree or shrub, and typically located within dense shrubs. Clutch size from 4 to 6, with mean of 5.

TERRITORY/HOME RANGE: In a study in bay-laurel habitat in Marin County, Stewart (1973) reported that they ranged from 410 to 984 ft (125 to 300 m) from their nest. He reported territory sizes from 0.5 to 3.2 acres (0.2 to 1.3 ha), with mean of 1.2 acres (0.5 ha) in same area.

FOOD HABITS: Insects make up 90 percent of diet, seeds and berries 10 percent. Gleans foliage near ground and hawks for flying insects.

OTHER:

REFERENCES: Harrison 1951, Griscom and Sprunt 1957, Stewart 1973.



House Sparrow

B167 (*Passer domesticus*)

STATUS: No official listed status. Common permanent resident.

DISTRIBUTION/HABITAT: Breeds in all types and successional stages from annual grasslands up to ponderosa pine and black oak woodlands; established only in areas inhabited by humans, especially where livestock occur.

SPECIAL HABITAT REQUIREMENTS: Human habitations.

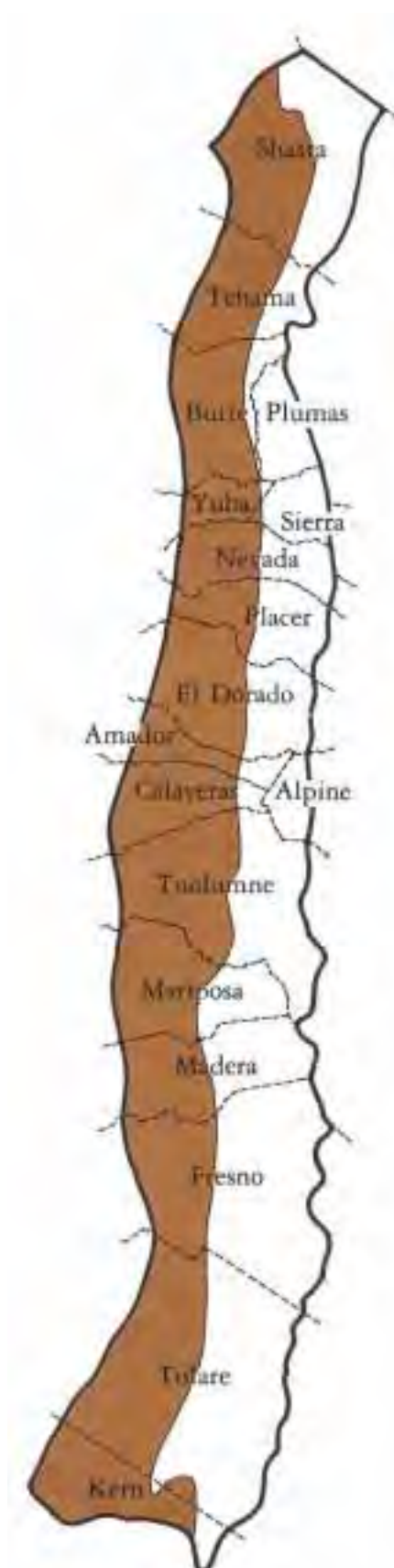
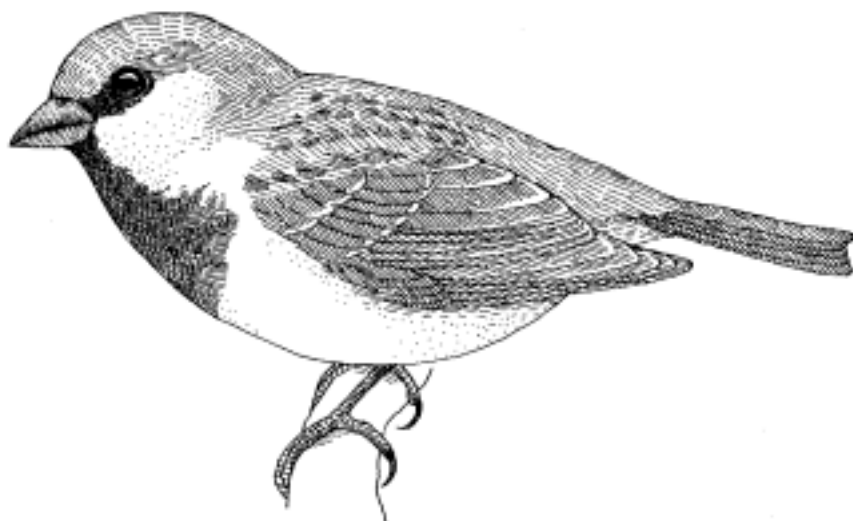
BREEDING: Breeds from early March to early August, with peak from early May to late June. Highly versatile in selection of nest sites, which may be almost any cavity, crevice or dense branchwork; often in buildings, under eaves, or in decorative grillwork. Nest height ranges from 5 to 50 ft (1.5 to 15 m). Three to 7 eggs per clutch, with mode of 5.

TERRITORY/HOME RANGE: In Illinois and Wisconsin, Owen (1957) reported that an area ranging in diameter from 1.5 to 20 ft (0.5 to 6.1 m) around the nest defended. Average area 158 ft² (14.7 m²). Nonbreeders reported traveling up to 2 mi (3.2 km) from roost sites to foraging sites in Oklahoma (North 1973) and New York (Weaver 1939).

FOOD HABITS: Adults eat mostly seeds and other vegetable matter; nestlings fed insects and seeds. Gleans most of food from ground, also from foliage. The common "garbage" bird of city streets.

OTHER: Introduced into Eastern United States from Europe during middle of last century; successfully spread throughout the country. More abundant during pre-automobile period, usually foraged in horse manure. Aggressive; frequently evicts other cavity nesting species from nest sites.

REFERENCES: Summers-Smith 1963, Kendeigh 1973, North 1973.



Western Meadowlark

B168 (*Sturnella neglecter*)

STATUS: No official listed status. Common resident at low elevations; late summer and fall transient at higher elevations.

DISTRIBUTION/HABITAT: Breeds in grasslands and pastureland from annual grassland up to chaparral zone, with or without moderate shrub cover, and generally in drier sites. Some upslope movement in late summer and fall.

SPECIAL HABITAT REQUIREMENTS: Open terrain.

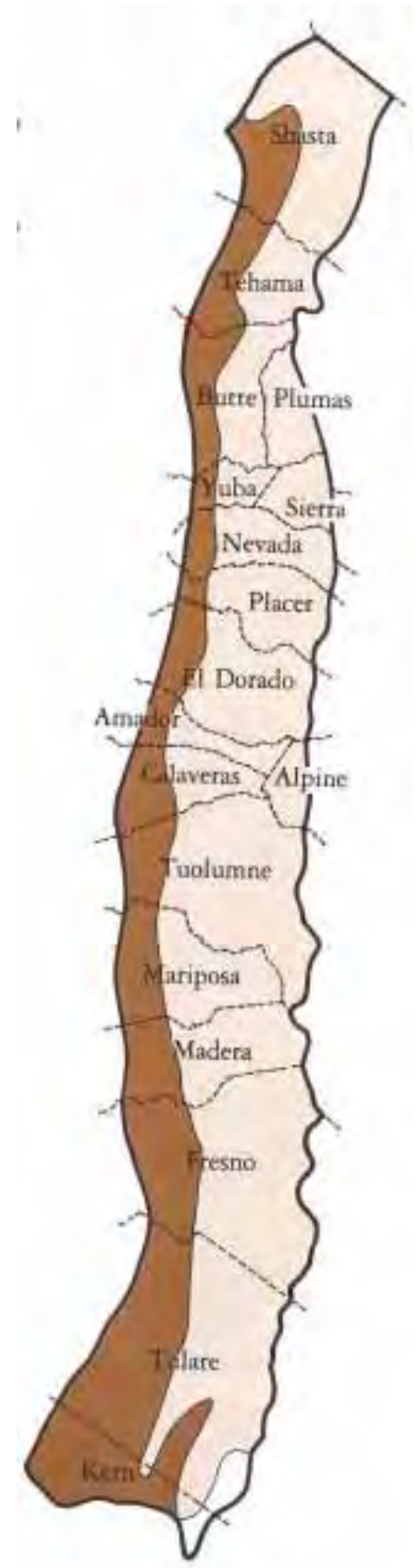
BREEDING: Breeds from early February to late July, with peak from late April to late June. Nests in depression on ground, among grasses or other low vegetation. Clutch size from 3 to 7, with mode of 5.

TERRITORY/HOME RANGE: Home range same as territory. In Wisconsin, breeding territories ranged from 3 to 15 acres (1.2 to 6.1 ha), with mean of about 7.5 acres (3 ha) (Lanyon 1956).

FOOD HABITS: Insects and seeds, gleaned from grasses and live or dead annuals, or from the ground, make up the majority of the diet. Turns over clods and digs in soft earth.

OTHER:

REFERENCES: Bryant 1914, Grinnell and Miller 1944, Lanyon 1957.



Yellow-headed Blackbird

B169 (*Xanthocephalus xanthocephalus*)

STATUS: No official listed status. Rare spring and fall migrant.

DISTRIBUTION/HABITAT: Prefers large, marshy areas with water of considerable depth and patches of open water. Forages in moist, open areas and in marshes; requires marshes only during breeding season.

SPECIAL HABITAT REQUIREMENTS: Marshes for nesting; open terrain.

BREEDING: Possibly breeds in the western Sierran zone at low elevations from mid-April to late July, with peak from late May to mid-July. Nests in emergent vegetation, usually cattails or bulrush, from 0.5 to 3 ft (0.2 to 0.9 m) above water, usually near edge of vegetation farthest from shore. Clutch size from 2 to 5, with mode of 4.

TERRITORY/HOME RANGE: Near Westmoreland, Imperial County, Willson (1966) reported 24 territories averaging 1250 ft² (116 m²) in scattered cattail and 75 territories averaging about 350 ft² (33 m²) (actually reported as 300 to 400 ft²). In Washington, she found territories much larger, ranging from average of 4900 ft² (455 m²) in bulrush to 43,830 ft² (4072m²) in scattered cattail. Breeding birds foraged at least up to 1 mi (1.6 km) from their territories (Willson 1966).

FOOD HABITS: Seeds, insects, and gastropods comprise bulk of diet; newly emergent dragonflies and damselflies the predominant food for nestlings. Food gleaned or hawked from emergent vegetation, wet meadows or grassland, moist earth, or air.

OTHER:

REFERENCES: Bent 1958, Willson and Orians 1963, Willson 1966.



Red-winged Blackbird

B170 (*Agelaius phoeniceus*)

STATUS: No official listed status. Probably permanent resident at lower elevations; summer resident and breeder at higher elevations, usually below 6000 ft (1830 m) but rarely to as high as 8600 ft (2620 m).

DISTRIBUTION/HABITAT: Breeds preferentially in marsh habitat, but also in grasslands, agricultural fields, low shrubs, and small trees. Most common as breeders at lower elevations (annual grasslands up to digger pine-oak type); less common with increasing elevation.

SPECIAL HABITAT REQUIREMENTS: Marshes or shrubs near water for nesting; open terrain.

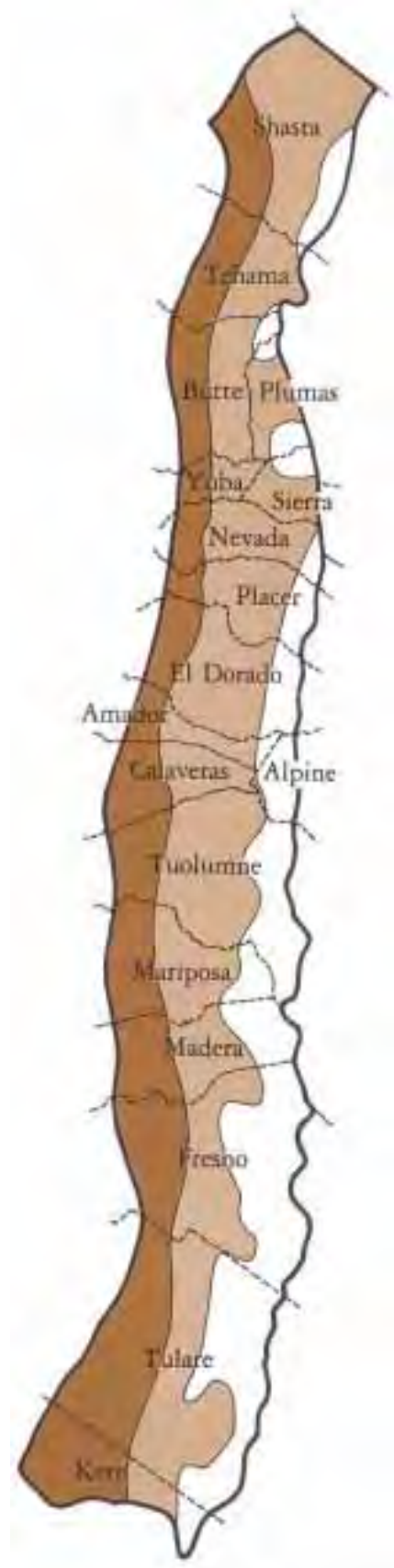
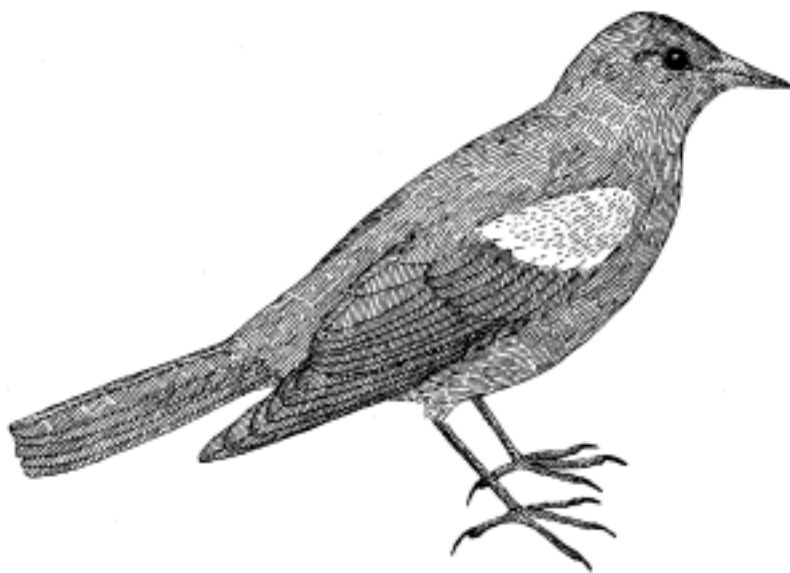
BREEDING: Breeds from mid-March to late July, with peak from early May to late June. Nests usually in marsh vegetation, especially cattails; also in low tufts of grass around ponds, in shrubs, or small trees, most often near water. Nest height varies from 0.5 to 6 ft (0.2 to 1.8 m) above water or ground. Clutch size from 2 to 6, with mean of 3.6.

TERRITORY/HOME RANGE: Home range large. For example, in Texas, Meanly (1965) reported nonbreeding birds foraging up to 52 mi (83 km) from roosts. In northern California, 69 breeding territories averaged 0.16 acre (0.06 ha) (Orians 1961).

FOOD HABITS: Seeds, insects, and other arthropods comprise most of diet. Usually feeds in moist places, on ground or in low marsh vegetation, but sometimes in shrubs and trees. Turns over objects in search of food, gleans items from ground or foliage, picks seeds, and hawks aerial insects.

OTHER:

REFERENCES: Orians 1961, Payne 1969, Holm 1973.



Tricolored Blackbird

B171 (*Agelaius tricolor*)

STATUS: No official listed status. Uncommon to rare as breeding species in the western Sierran zone, though breeds regularly in large colonies in the Central Valley. Probably found only as rare vagrant in fall and winter in the western Sierra Nevada.

DISTRIBUTION/HABITAT: Breeds usually in marsh vegetation, sometimes in other very wet situations, such as irrigated fields. Confined to low elevation sites in the western Sierra Nevada. Although fall breeding common in the Central Valley, no such records from west slopes of the Sierra Nevada. Most flocks move toward Sacramento-San Joaquin Delta region in fall and winter.

SPECIAL HABITAT REQUIREMENTS: Typically marshes for nesting; open terrain.

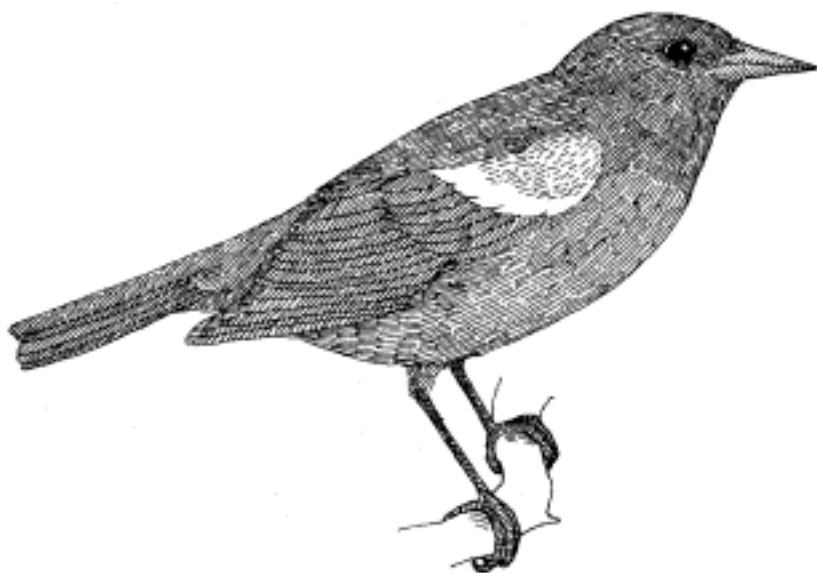
BREEDING: Breeds from early April to mid-July, with peak from early May to late June. May breed from late September to late November, depending upon weather conditions conducive to abundant insect production. Nests usually in dense growths of cattails or other emergent vegetation, sometimes in other low vegetation (willows, blackberries, grain fields, and thistles) in wet areas. Nest height from 1 to 12 ft (0.3 to 3.7 m) over water or ground. Clutch size from 2 to 6, with mean of 3.2.

TERRITORY/HOME RANGE: Orians (1961) reported territory confined to about 35 ft² (3.3 m²) around nest. Individual birds studied by Orians in Colusa and Yuba Counties traveled as far as 4 mi (6.4 km) from nest sites to foraging areas; colony as a whole ranged for foraging over about 30 mi² (78 km²).

FOOD HABITS: Insects and seeds comprise diet. Feeds in large flocks, gleaning food from ground and low vegetation in flooded lands, pond margins, or grasslands.

OTHER: Highly gregarious year-round and nests synchronously in large colonies near abundant insect supply.

REFERENCES: Orians 1961, Payne 1969, Dehaven *et al.* 1975.



B172 (*Icterus galbula*)

STATUS: No official listed status. Fairly common summer resident and breeder.

DISTRIBUTION/HABITAT: Breeds from blue oak savannahs up to ponderosa pine and black oak types, generally in stands with low percent canopy coverage. Prefers breeding habitat in riparian deciduous sites, generally below 5000 ft (1520 m).

SPECIAL HABITAT REQUIREMENTS:

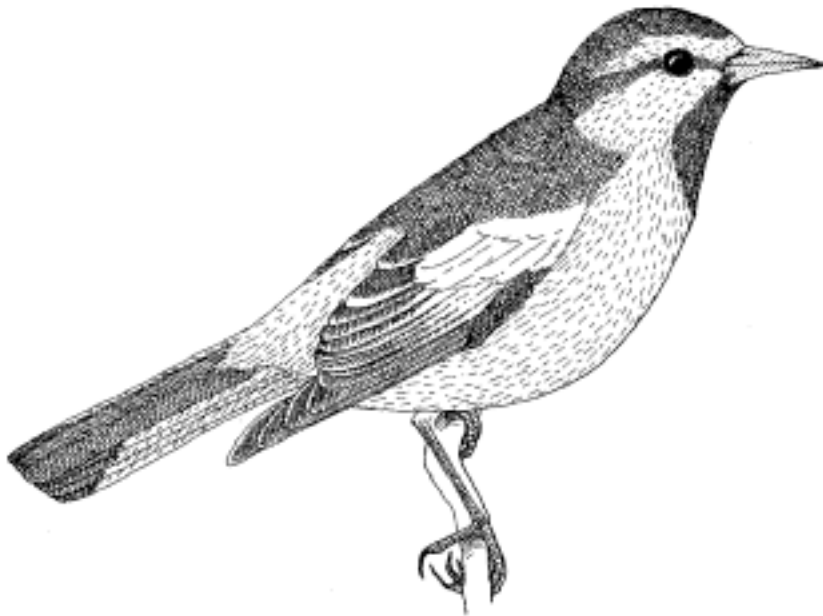
BREEDING: Breeds from early April to late July, with peak from mid-May to early July. Builds hanging nest attached to terminal twigs of riparian deciduous trees and deciduous oaks (occasionally live oaks, orchard trees, or even conifers), from 6 to 50 ft (1.8 to 15 m) up. Clutch size from 3 to 6, with 4 or 5 most common.

TERRITORY/HOME RANGE: In Kansas, for the Baltimore race of species, Fitch (1958) reported a single territory of 10.5 acres (4.3 ha). In a Montana riparian cottonwood stand, Walcheck (1970) reported a breeding density of 13 pairs per 100 acres (40 ha).

FOOD HABITS: Insects comprise bulk of diet, though some fruit also eaten. Gleans insects from foliage of trees, shrubs, grasses, and forbs; also hawks aerial insects.

OTHER: Water preferred, but not required, in breeding habitat.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1958.



Brewer's Blackbird

B173 (*Euphagus cyanocephalus*)

STATUS: No official listed status. Common resident; leaves higher mountains in fall and winter.

DISTRIBUTION/HABITAT: Breeds in all habitat types in the western Sierran zone, except alpine meadow; prefers early successional stages and avoids stands with moderate to high percent canopy cover. Adults and young move upslope in summer, after breeding, but leave higher mountains by late September. Less common at high elevations except around campgrounds, picnic areas, stables, and other areas of human disturbance. In winter, generally remain below ponderosa pine belt.

SPECIAL HABITAT REQUIREMENTS:

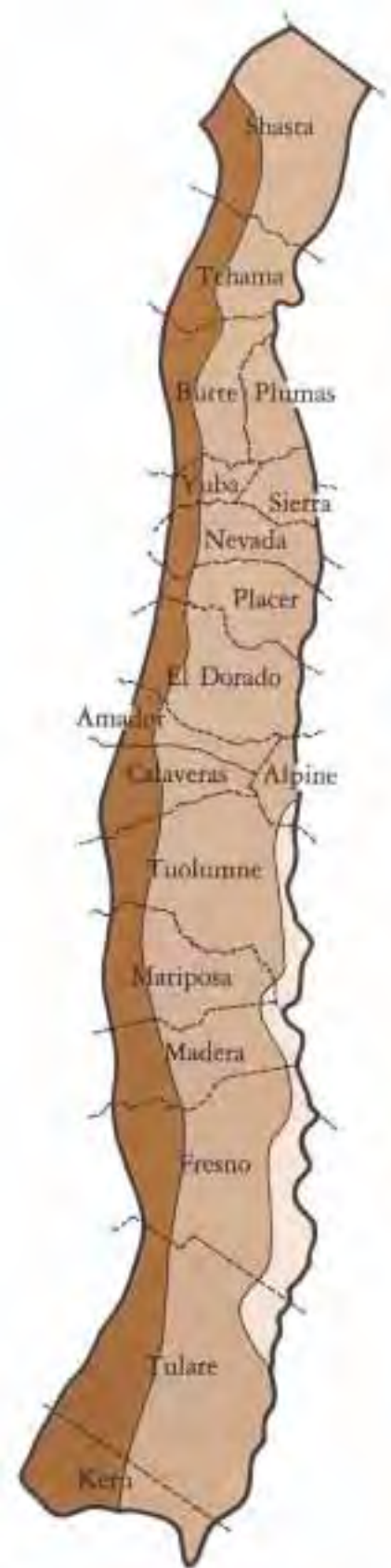
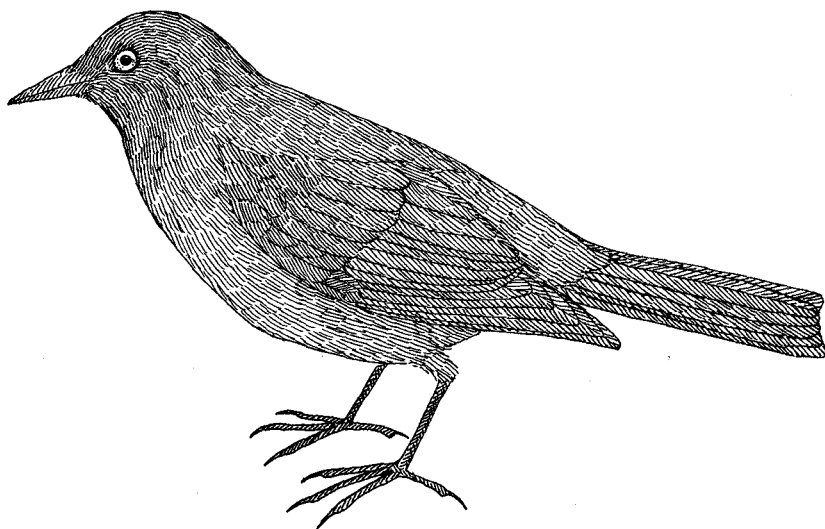
BREEDING: Breeds from mid-March to early August, with peak from early May to early July. Nest sites highly varied. Prefers dense foliage, especially of conifers, but also of other trees, bushes, herbs, and grasses. Also nests in crevices in stumps and occasionally on ground. Nest height ranges from 0 to as high as 150 ft (46 m), though most not above 40 ft (12 m). Clutch size from 3 to 7, with mode of 5.

TERRITORY/HOME RANGE: During breeding season, in eastern Washington, ranged up to 1 mi (1.6 km) from nest (Horn 1968), and Williams (1952) found banded birds up to 6 mi (9.6 km) from nests in Monterey County. Defended territory includes only the nest site (Horn 1968, eastern Washington; Williams 1952, Monterey County).

FOOD HABITS: Food consists mainly of insects, though seeds also eaten, particularly in winter. Usually feeds on ground, digging, turning over objects, and gleaning food uncovered. Gleans from foliage of conifers, shrubs, and emergent vegetation in shallow water. Also hawks aerial insects.

OTHER: Uses drier sites than red-winged blackbirds.

REFERENCES: Williams 1952, Hansen and Carter 1963, Orians and Horn 1969.



Brown-headed Cowbird

B174 (*Molothrus ater*)

STATUS: No official listed status. Common to abundant resident. Irrigation of farmland, mosaic logging, livestock grazing, and urban development contributed to dramatic increase in distribution and abundance of cowbirds into the high Sierra Nevada (Gaines 1977).

DISTRIBUTION/HABITAT: Breeds in all habitat types. Lays its eggs in nests of other species; flexible regarding habitats in which it breeds. Forages most often in open areas, prefers moist sites with short grass. Found most often in and near riparian deciduous woodland or in vicinity of stables, livestock, campgrounds, or picnic areas. In fall and winter, generally found below ponderosa pine belt.

SPECIAL HABITAT REQUIREMENTS: Openings for feeding; trees for roosting.

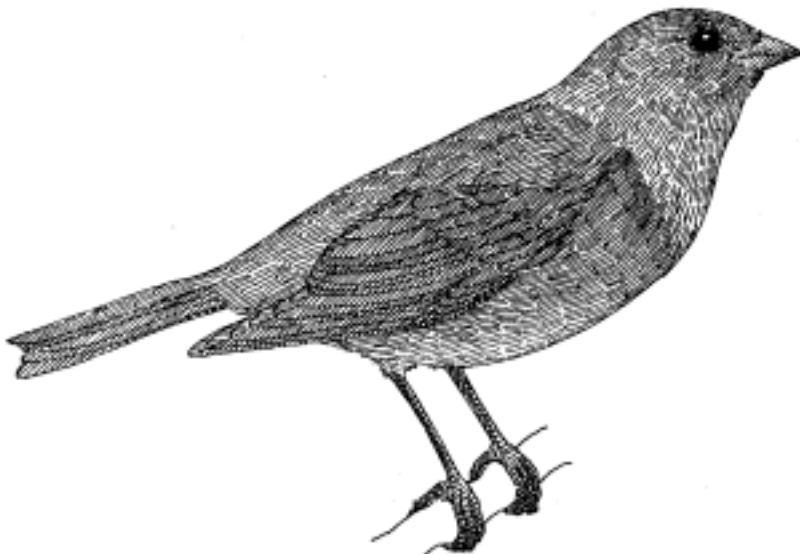
BREEDING: Breeds from early April to late July, with peak in June. Builds no nest, so nest site requirements correspond to those of species it parasitizes (probably all songbirds in range except largest species or cavity nesting forms). Usually one egg laid in each host nest, with each female laying about 30 eggs per season, generally in four groups of 6 to 8 eggs each.

TERRITORY/HOME RANGE: In Michigan, home range size of females ranged from 12 to 40 acres (4.9 to 16 ha), with mean of 24 acres (9.7 ha) (McGeen and McGeen 1968). In Ohio, males had breeding season home ranges generally from 18 to 20 acres (7.3 to 8.1 ha), though some as large as 30 acres (12 ha) (Nice 1937). In Michigan, apparently nonterritorial (Payne 1965), though may defend territories early in morning (S.I. Rothstein, pers. commun.).

FOOD HABITS: Feeds mostly on seeds, also eats insects and spiders. Food usually gleaned from ground and occasionally from backs of livestock.

OTHER: May be responsible for serious population declines of some songbirds in the Sierra Nevada.

REFERENCES: Friedman 1929, Payne 1973, Friedman *et al.* 1977.



Western Tanager

B175 (*Piranga ludoviciana*)

STATUS: No official listed status. Fairly common spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds in all coniferous forest types. Prefers stands with mature trees having intermediate percent canopy cover. In spring, migrates through some lower elevation types, down as far as blue oak savannah.

SPECIAL HABITAT REQUIREMENTS:

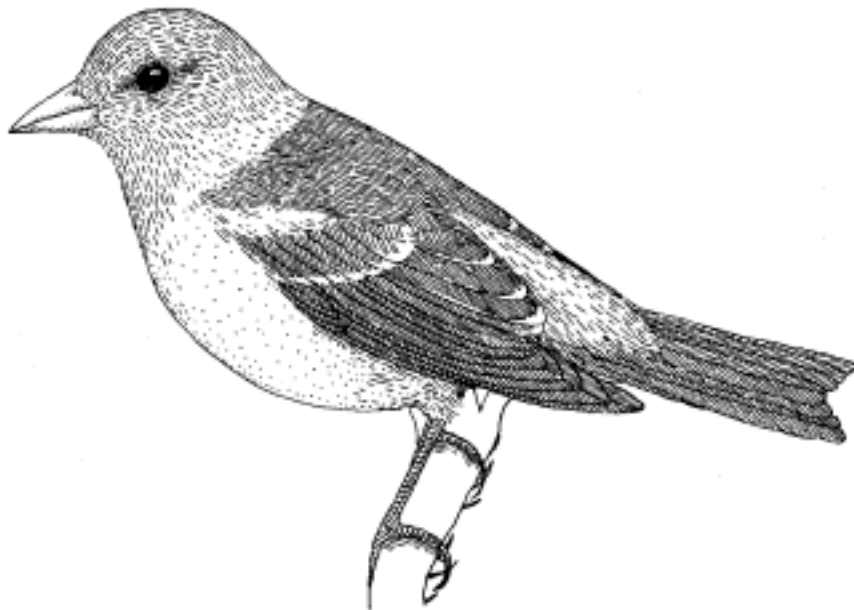
BREEDING: Breeds from early May to mid-August, with peak from early June to late July. Nests toward end of horizontal branch, from 6 to 50 ft (1.8 to 15 m) up. Clutch size from 3 to 5, with mode of 3.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: Insects and fruits make up bulk of diet. Picks fruit, gleans insects from large twigs, branches, foliage, and ground, and also hawks for aerial insects.

OTHER: Very little research on this species.

REFERENCES: Grinnell and Miller 1944, Bent 1958, Gaines 1977.



Black-headed Grosbeak

B176 (*Pheucticus melanocephalus*)

STATUS: No official listed status. Common summer resident.

DISTRIBUTION/HABITAT: Breeds in wooded sites with some preference for areas with low percent canopy cover, from blue oak savannah up to mixed-conifer zone, usually near water source, occasionally in dry, open woodland. Optimum habitat riparian deciduous. Leaves the western Sierran zone by late summer.

SPECIAL HABITAT REQUIREMENTS:

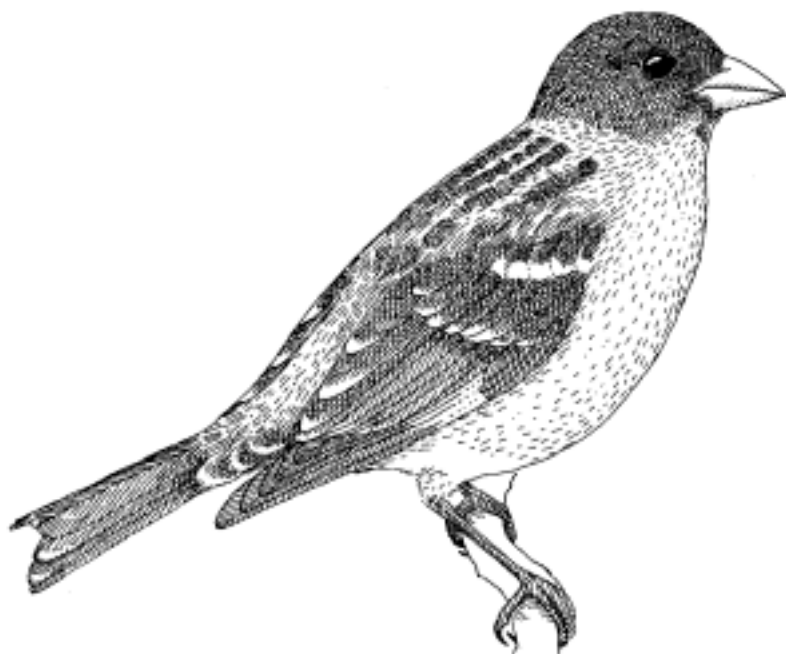
BREEDING: Breeds from late April to early August, with peak from late May to mid-July. Nests usually in deciduous tree or shrub, often near water. Nest height ranges from 3 to 30 ft (0.9 to 9.1 m), though most nests from 6 to 12 ft (1.8 to 3.7 m) up. Clutch size from 2 to 5, with mean of 3.3.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Feeds on insects, spiders, fruits, seeds, and buds. Picks fruit and buds from trees and shrubs or from ground; gleans insects from foliage, especially deciduous.

OTHER:

REFERENCES: Grinnell and Miller 1944, Weston 1947, Bent 1968.



Blue Grosbeak

B177 (*Guiraca caerulea*)

STATUS: No official listed status. Rare summer resident.

DISTRIBUTION/HABITAT: Breeds in few sites above 1000 ft (305 m) in the western Sierran foothills, as along Kern River above Lake Isabella; also one record at 1700 ft (520 m) in Mariposa County. Otherwise, no other breeding localities found yet (breeding distribution shown on range map considered potential only; documented sites indicated by stars). Found near water while nesting, foraging in vegetation along water or in open areas nearby. Riparian deciduous type optimum for breeding. Decidely not confined to moist habitats during migration and after breeding.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs near water.

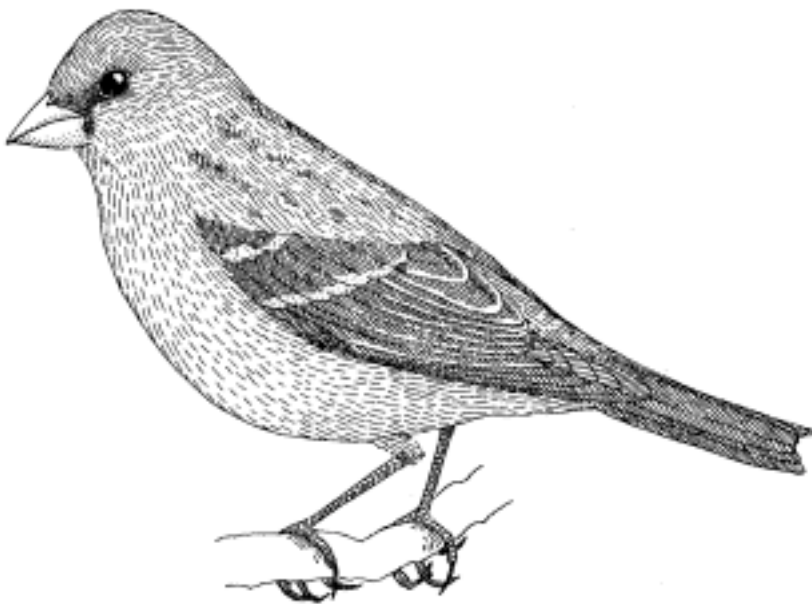
BREEDING: Breeds from late April to late July, with peak from early June to early July. Nests in low, thick vegetation near water, as in willows, cottonwoods, and nettle patches. Nests range from 0.5 to 20 ft (0.15 to 6.1 m) up, most between 2 to 10 ft (0.6 to 3.1 m) above ground. Clutch size from 2 to 5, with mode of 4.

TERRITORY/HOME RANGE: No information on home range size. One breeding territory in South Carolina occupied 15.3 acres (6.2 ha) (Odum and Kuenzler 1955).

FOOD HABITS: Insects and seeds, gleaned mostly from ground, make up diet.

OTHER:

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1968.



Lazuli Bunting

B178 (*Passerina amoena*)

STATUS: No official listed status. Uncommon summer resident and spring migrant.

DISTRIBUTION/HABITAT: Breeds in open areas, shrub lands, and timbered areas with low percent canopy cover, from annual grasslands up to mixed-conifer type. Prefers dense, low vegetation along streams and boggy meadows. Small numbers usually move upslope after breeding, rarely to as high as 10,000 ft (3050 m).

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

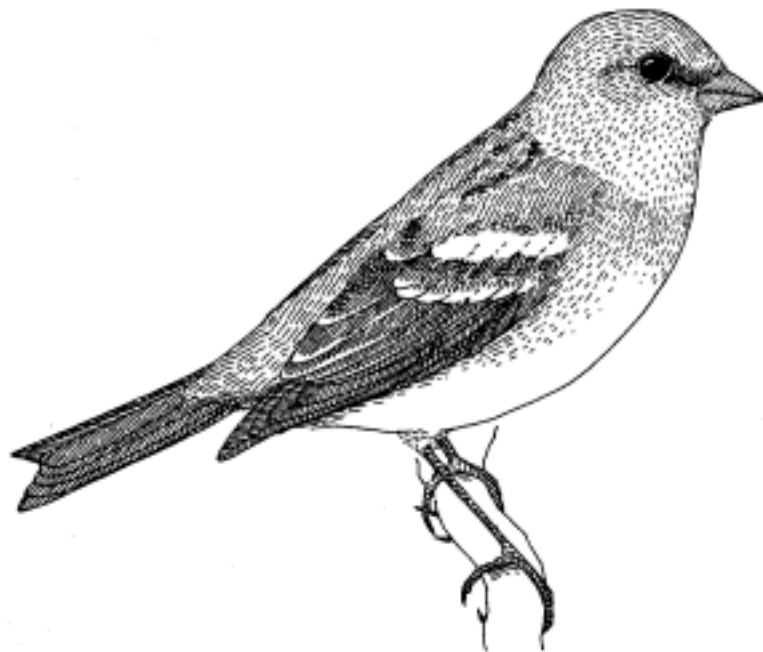
BREEDING: Breeds from late March to mid-August, with peak from early June to late July. Nests in thick growth of brush, forbs, vines, willows, or other low vegetation, usually from 1.5 to 4 ft (0.5 to 1.2 m) up, and usually near water but not over damp ground. Clutch size from 3 to 5, with mode of 4.

TERRITORY/HOME RANGE: Territorial during breeding season; no data available on size of territory or home range.

FOOD HABITS: Feeds on insects and seeds, on the ground, and in low foliage of grasses, forbs, shrubs, trees. Picks seeds and gleans or pounces upon insects.

OTHER:

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1968.



Evening Grosbeak

B179 (*Hesperiphona vespertina*)

STATUS: No official listed status. Uncommon resident; occurrence highly unpredictable at most localities.

DISTRIBUTION/HABITAT: Breeds in mature mixed-conifer and red fir forest. Prefers stands of intermediate percent canopy coverage. Seeks out area with abundant food before nesting, otherwise, highly nomadic. Seems to desert higher elevations in winter; some move downslope in fall and winter to oak and pine/oak habitats of foothills.

SPECIAL HABITAT REQUIREMENTS

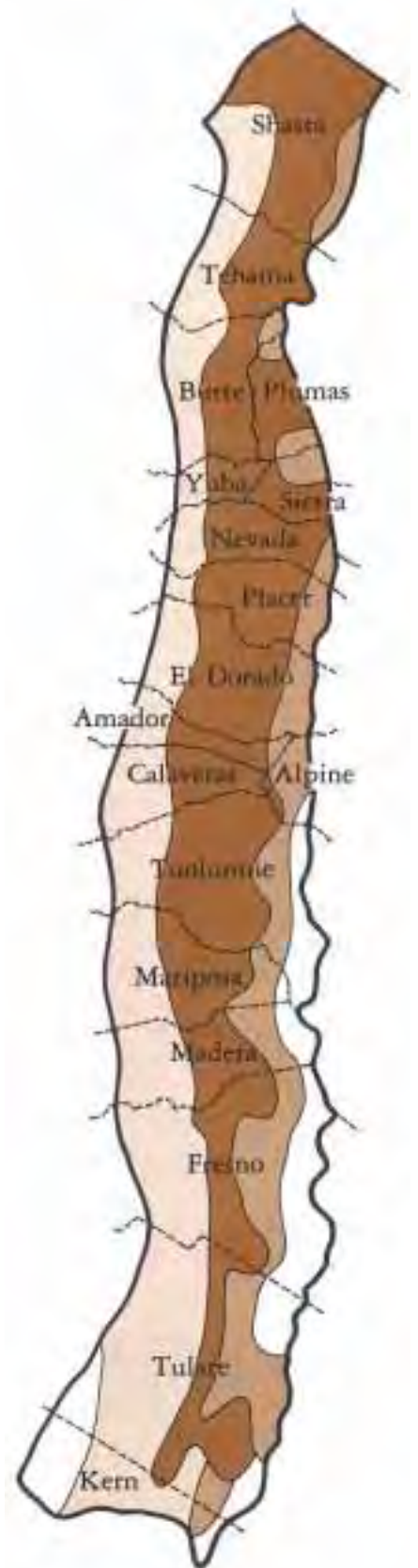
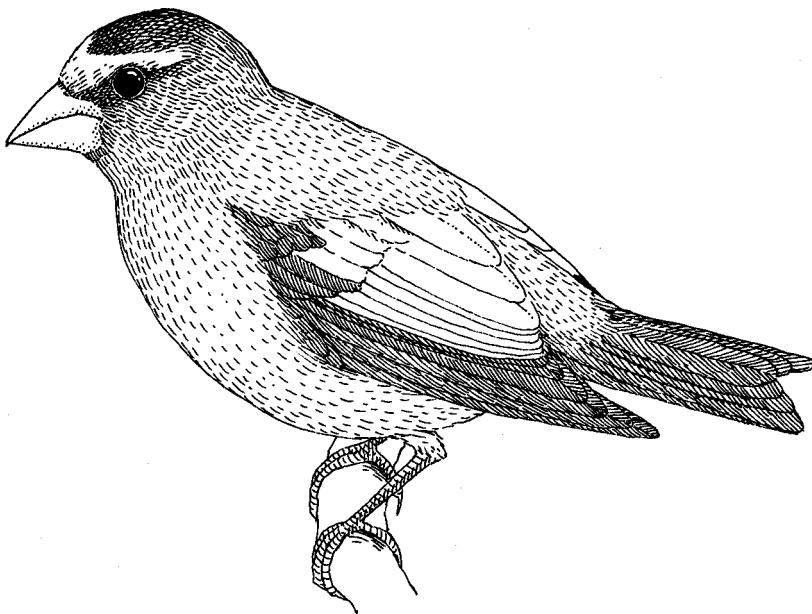
BREEDING: Breeds from early June to early September, with peak from early July to late August. Nests usually above 35 ft (10.7 m) in conifer, though other trees sometimes used. Nest height ranges from 7 to 100 ft (2.1 to 30 m) up. Clutch size from 2 to 5, with mode of 4.

TERRITORY/HOME RANGE: No information available.

FOOD HABITS: Eats mainly large seeds, buds, fruits, and insects. Picks vegetable food from crowns of trees, branch tips, shrubs, and from ground. Insects gleaned from foliage and hawked in air.

OTHER: Usually seen in flocks of 10 to 100.

REFERENCES: Grinnell and Miller 1944, Parks and Parks 1963, Bent 1968.



Purple Finch

B180 (*Carpodacus purpureus*)

STATUS: No official listed status. Fairly common permanent resident in suitable habitat, though numbers fluctuate widely from year to year. Some upslope movement in late summer and downslope movement in fall, winter, and spring periods.

DISTRIBUTION/HABITAT: Breeds in timbered sites from digger pine-oak type up to mixed-conifer forest; prefers higher forest types within that range. Optimum habitat in mature mixed-conifer or ponderosa pine forests with intermediate to high percentage canopy cover. Also breeds in riparian deciduous and black oak habitats. Prefers to breed in moist, shady conifer forests, as in canyon bottoms or near streams or wet meadows. In winter, prefers hardwood to conifers and more open woodland to dense forests.

SPECIAL HABITAT REQUIREMENTS:

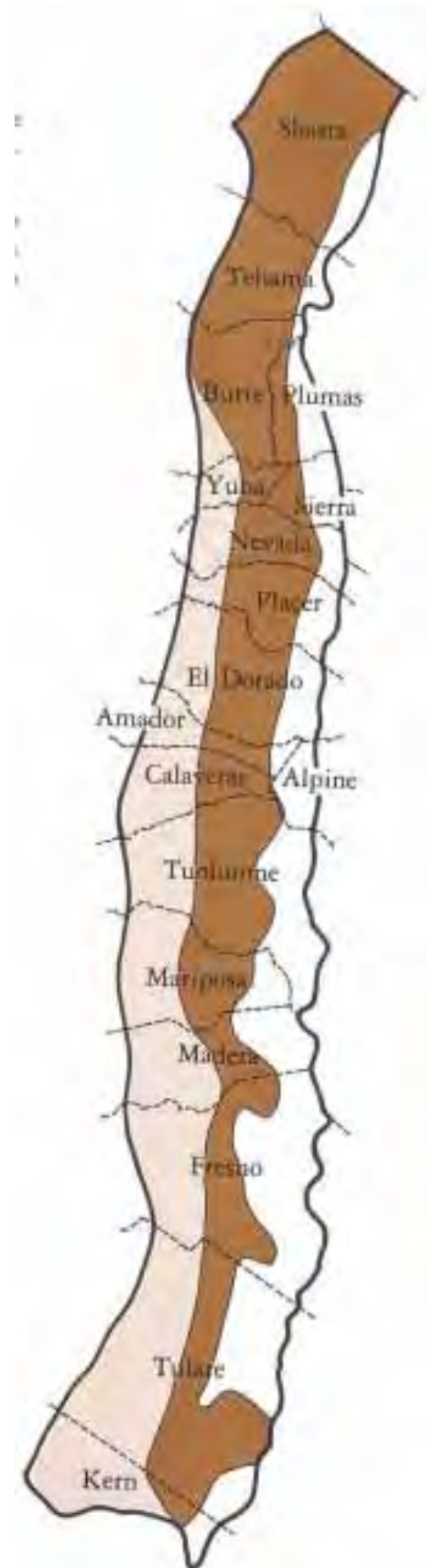
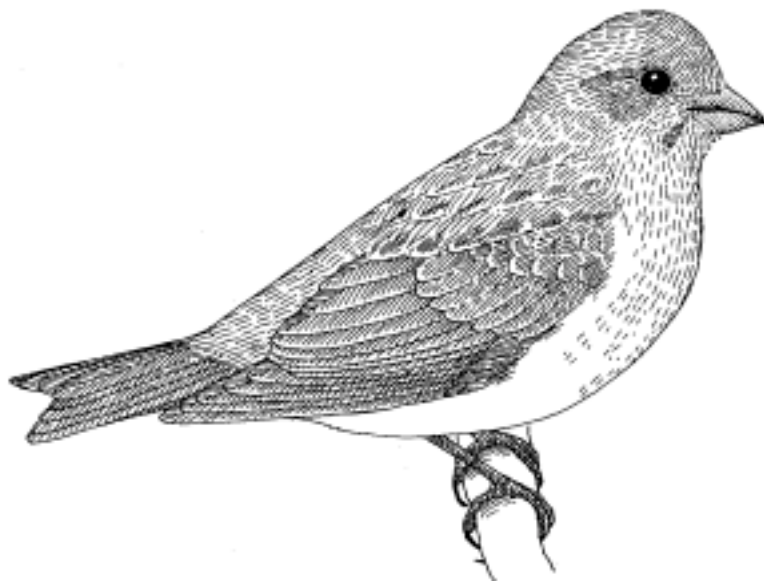
BREEDING: Breeds from early April to mid-August, with peak from mid-May to mid-July. Nests near end of horizontal branch in conifer or deciduous tree, usually near water, and from 6 to 50 ft (1.8 to 15 m) up. Clutch size from 3 to 6, most contain 4 or 5.

TERRITORY/HOME RANGE: No information.

FOOD HABITS: Eats mainly seeds, buds, flowers, and fruit, and some insects. Removes vegetable food from plants and gleans insects from foliage.

OTHER: Usually found in flocks of 5 to 15, even during breeding season. Favors forest edges for foraging. Easily confused with Cassin's finch, a higher-elevation relative.

REFERENCES: Grinnell and Miller 1944, Salt 1952, Bent 1968.



Cassin's Finch

B181 (*Carpodacus cassinii*)

STATUS: No official listed status. Common resident. Winter distribution poorly known, but apparently much of population moves to east slopes of the Sierra Nevada, remainder moves to lower elevations on west slope.

DISTRIBUTION/HABITAT: Breeds in mature conifer forests from mixed-conifer up to lodgepole pine types; prefers low to intermediate canopy cover. Frequents forest edges more than interior.

SPECIAL HABITAT REQUIREMENTS: Trees/grass-forbs.

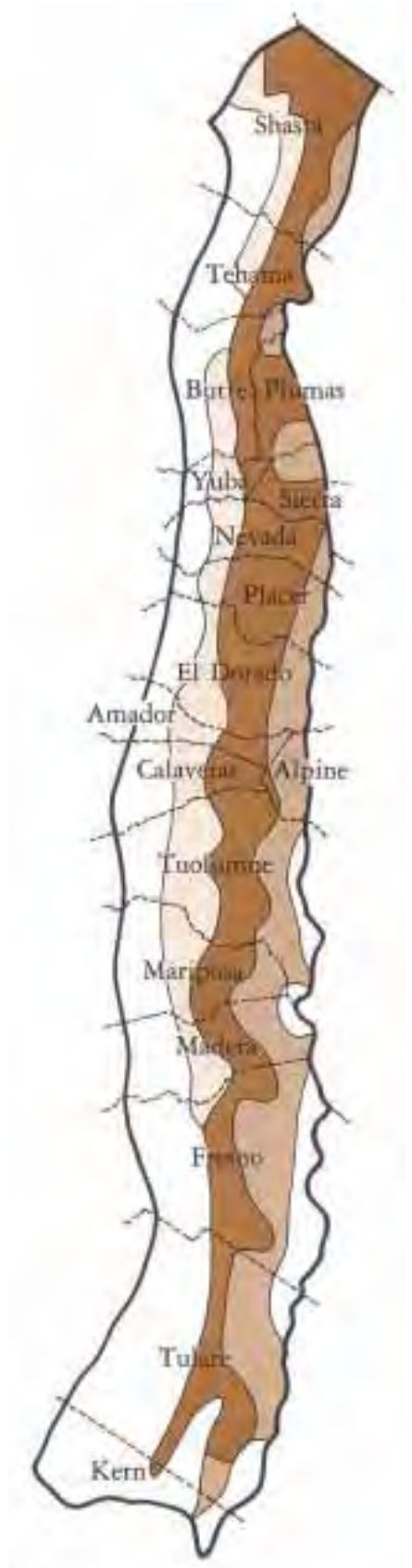
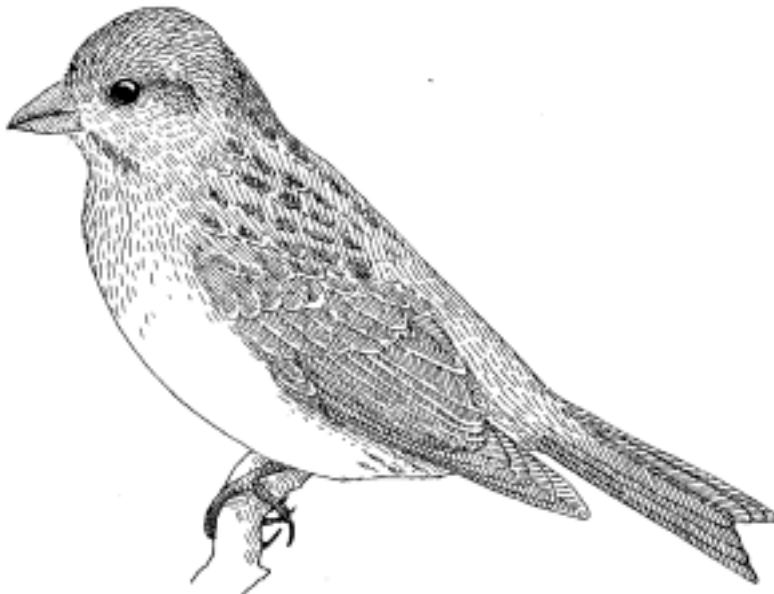
BREEDING: Breeds from mid-May to late August, with peak from late June to early August. Nests near end of flat spray of conifer foliage, exposed to sun from above, from 5 to 150 ft (1.5 to 46 m) up (most nests above 40 ft [12m]). Clutch size from 3 to 6, with 5 most frequent.

TERRITORY/HOME RANGE: No data on home range. In Utah, males defended no territory but instead followed mate about and defended her from other males (Samson 1976). Tend to breed in loose colonies, with several nests situated close together, even though similar habitat nearby may be vacant.

FOOD HABITS: Feeds on grass and forb seeds, conifer buds and seeds, berries, and insects. Berries, buds, and seeds picked from plants; insects gleaned from foliage; and several food items gleaned from ground.

OTHER: Easily confused with purple finches, which helps to explain uncertainty about winter range. Populations fluctuate widely from year to year.

REFERENCES: Salt 1952, Jones and Baylor 1969, Samson 1976.



House Finch

B182 (*Carpodacus mexicanus*)

STATUS: No official listed status. Abundant resident at lower elevations.

DISTRIBUTION/HABITAT: Breeds commonly in annual grasslands and upslope into chaparral type; prefers early successional stages. No significant seasonal movements.

SPECIAL HABITAT REQUIREMENTS: Elevated perches.

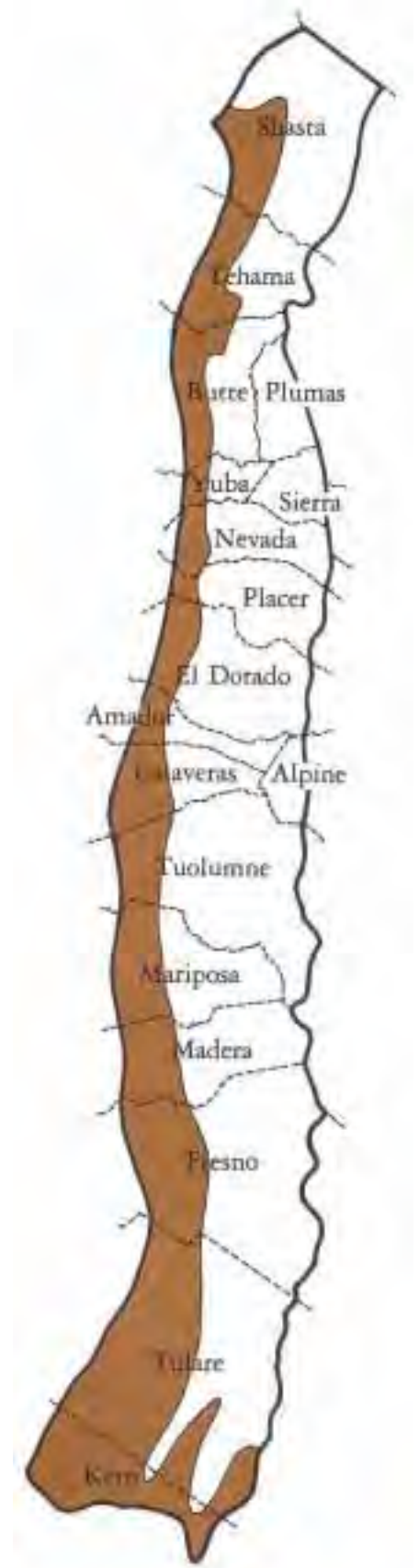
BREEDING: Breeds from mid-March to late August, with peak from mid-April to late June. Nest sites highly varied—a cavity or projection on some man-made structure, dense foliage of trees, old birds' nests, hollow limbs, or crevices in cliff face. Nest generally shaded by foliage or some object, usually from 5 to 20 ft (1.5 to 6.1 m) up, ranging from 3 to 50 ft (0.9 to 15 m). Clutch size from 2 to 6, with mean of 4.5.

TERRITORY/HOME RANGE: No information on home range. In Berkeley, six territories ranged in radius from 6 to 30 ft (1.8 to 9.1 m), averaging 14 ft (4.3 m) around nest (Thompson 1960).

FOOD HABITS: Seeds of grasses and forbs, fruit, and berries comprise most of diet. Gleans from ground, and picks seeds and fruits from grasses and forbs.

OTHER: More numerous around farms, suburbs, and small towns than in natural areas. Prefers open areas with scattered trees, does not *require* trees, but needs overhead perch of some sort (powerlines, buildings, or other) for escape.

REFERENCES: Salt 1952, Evenden 1957, Thompson 1960.



Pine Grosbeak

B183 (*Pinicola enucleator*)

STATUS: No official listed status. Uncommon resident; population numbers fluctuate markedly from year-to-year.

DISTRIBUTION/HABITAT: Breeds in red fir, lodgepole pine, and high elevation riparian deciduous sites. Prefers stands with large trees and low to intermediate percent canopy cover. Usually found near edges of meadows or streams. No evidence of regular downslope movement for winter months, but few records in habitats below breeding range for nonbreeding period.

SPECIAL HABITAT REQUIREMENTS: Nearby meadows or streams.

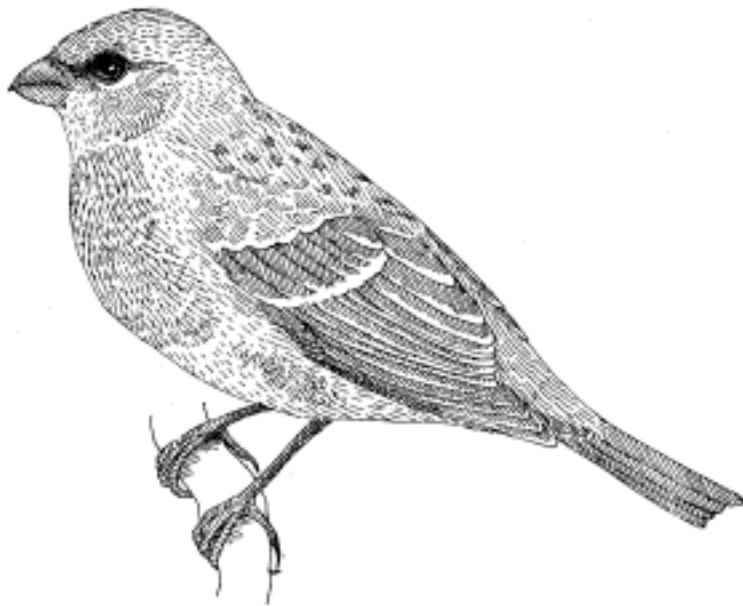
BREEDING: Breeds from late May to early August, with peak from mid-June to late July. Nests in thick foliage near end of horizontal bough or conifer, from 16 to 35 ft (4.9 to 10.7 m) up. Clutch size from 2 to 5, most contain 4.

TERRITORY/HOME RANGE: No information on home range. In a Utah spruce-fir forest, a single breeding territory covered 26 acres (10.5 ha) (French 1954).

FOOD HABITS: Eats mainly buds and seeds of conifers and deciduous trees; also fruit, other seeds, and insects. Picks and gleans food from trees, shrubs, and ground. Moves slowly and deliberately when foraging.

OTHER:

REFERENCES: Grinnell and Miller 1944, French 1954, Bent 1968.



Gray-crowned Rosy Finch

B184 (*Leucosticte tephrocotis*)

STATUS: No official listed status. Common permanent resident in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in alpine meadows, where remains year-round. Sometimes, especially in spring, wanders downslope to elevation as low as 8000 ft (2440 m) in earliest successional stage of lodgepole pine forests. May also be noted rarely in whitebark pine, hemlock, and lodgepole forests adjacent to alpine meadows.

SPECIAL HABITAT REQUIREMENTS: Crevices, talus, or rock outcrops for nest cover.

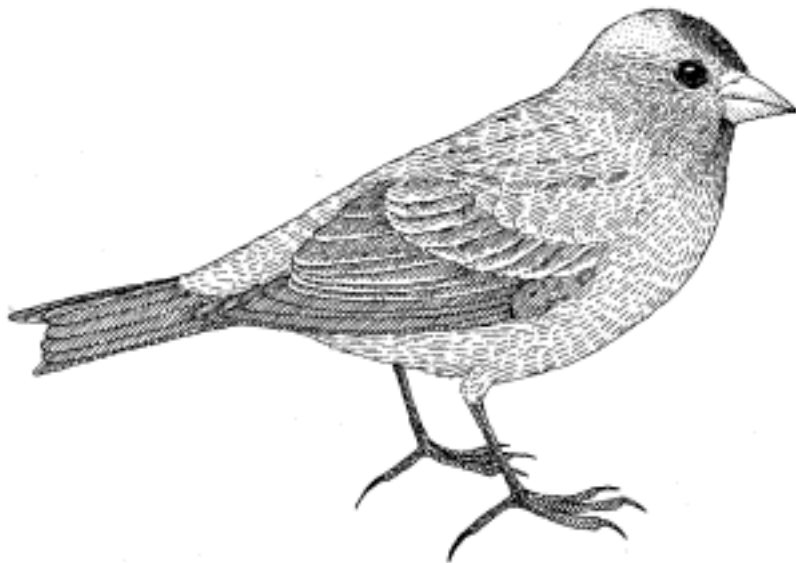
BREEDING: Breeds from early June to mid-August, with peak from late June to early August. Nests in crevices in cliffs, rockslides, and moraines; usually set back in niches or under boulders. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: Males do not actively defend territory, but only immediate vicinity of mate to keep other males away (Twining 1938). Twining also reported breeders foraged at least 0.5 mi (0.8 km) from nests.

FOOD HABITS: Feeds on insects and seeds, proportions varying with what is most readily available. Obtains food from patches of bare ground, edges of snowbanks, from shallow water, foliage, and air. Picks food from ground, rarely from foliage; hawks insects.

OTHER:

REFERENCES: Twinning 1940; Johnson 1965, 1975.



Pine Siskin

B185 (*Carduelis pinus*)

STATUS: No official listed status. Widespread and fairly common permanent resident; numbers fluctuate because of nomadic behavior in response to food supply and climatic conditions.

DISTRIBUTION/HABITAT: Breeds in coniferous forests from ponderosa pine belt up to lodgepole pine forests, where most abundant (Beedy, unpubl.). Prefers stands with low to intermediate percent canopy coverage. At times, noted below nesting range.

SPECIAL HABITAT REQUIREMENTS:

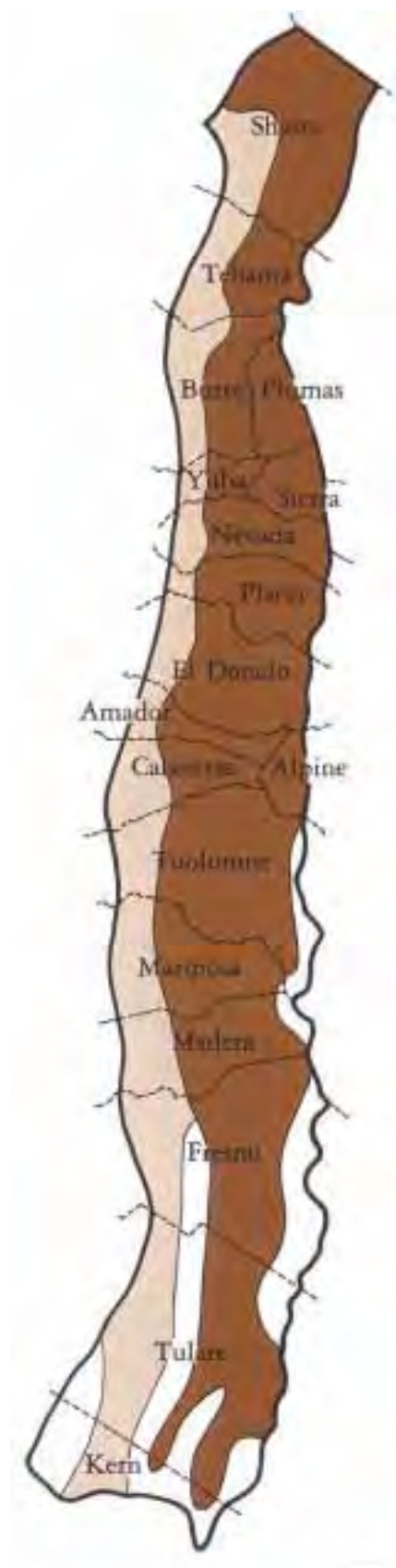
BREEDING: Breeds from early April to early July, with peak from late April to late June. Nests well concealed amid dense foliage of horizontal limbs of tall conifers, though oaks and maples used occasionally. Nest height ranges from 6 to 50 ft (1.8 to 15 m). Clutch size from 1 to 5, with mean of 3.

TERRITORY/HOME RANGE: No information available on home range. In New Hampshire, Weaver and West (1943) reported territory sizes as ranging from 3 to 6 ft (0.9 to 1.8 m) diameter areas, centered on nest.

FOOD HABITS: Opportunistic feeder, eating buds and sap of conifers, seeds, and insects. Strongly attracted to salt licks. Takes food from foliage, bark of conifers, and from ground, by gleaning and picking. Usually feeds in flocks.

OTHER:

REFERENCES: Grinnell and Miller 1944, Sumner and Dixon 1953, Bent 1968.



American Goldfinch

B186 (*Carduelis tristis*)

STATUS: No official listed status. Common resident in suitable habitat

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, and particularly in low elevation riparian groves. In late summer and fall, some upslope movement, especially in chaparral type and along riparian corridors.

SPECIAL HABITAT REQUIREMENTS: Streams adjacent to open terrain.

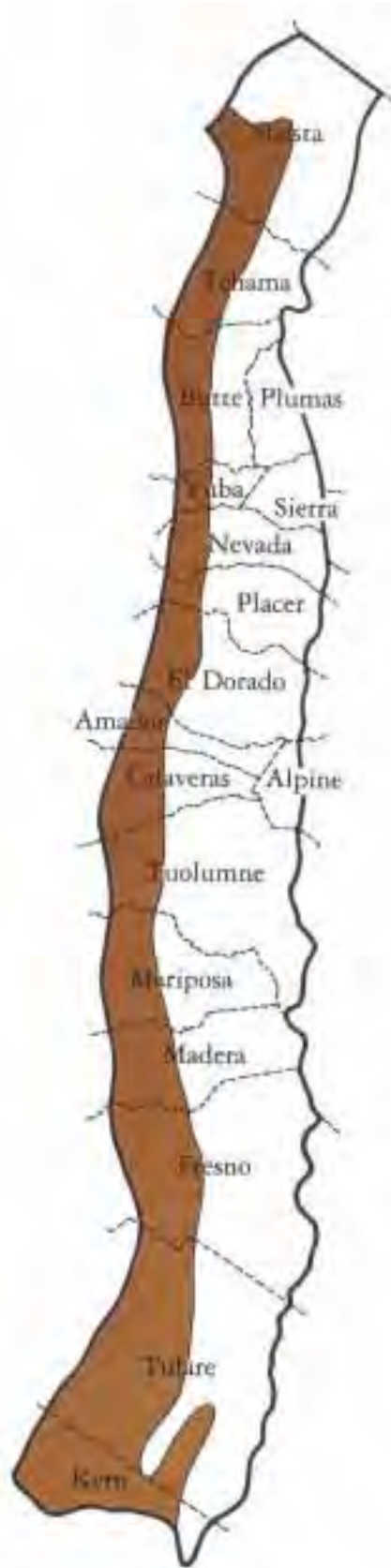
BREEDING: Breeds from early April to late July, with peak from mid-May to mid-July. Nests usually in crotch of shrub or tree, varying in height from 3 to 15 ft (0.9 to 4.6 m). Clutch size from 2 to 7, with mean of 5.

TERRITORY/HOME RANGE: In Michigan, Coutlee (1967) reported territories up to 98 ft (30 m) in diameter, with birds traveling to feeding sites as much as 0.5 mi (0.8 km) away. Stokes (1950) reported Michigan birds in his study had territories from 30 to 90 ft (9.1 to 27 m) in diameter around nest. Nickell (1951) found nesting goldfinches feeding up to 900 ft (274 m) from nest.

FOOD HABITS: Eats mainly seeds of trees and forbs, especially of composites; also some insects. Generally feeds in flocks, picking and gleaning food from flower heads and foliage of forbs, shrubs, and trees.

OTHER:

REFERENCES: Stokes 1950, Nickell 1951, Bent 1968.



Lesser Goldfinch

B187 (*Carduelis psaltria*)

STATUS: No official listed status. Common resident and breeder in suitable habitat.

DISTRIBUTION/HABITAT: Breeds in timbered stages of lower elevation habitats from blue oak savannah up to ponderosa pine and black oak woodlands. Prefers sites with low to intermediate percent canopy coverage. In late summer and fall, some wander upslope to as high as lodgepole pine forests, particularly in sites with shrubs and few or no trees.

SPECIAL HABITAT REQUIREMENTS: Trees/shrubs; dense shrubs; water for breeding.

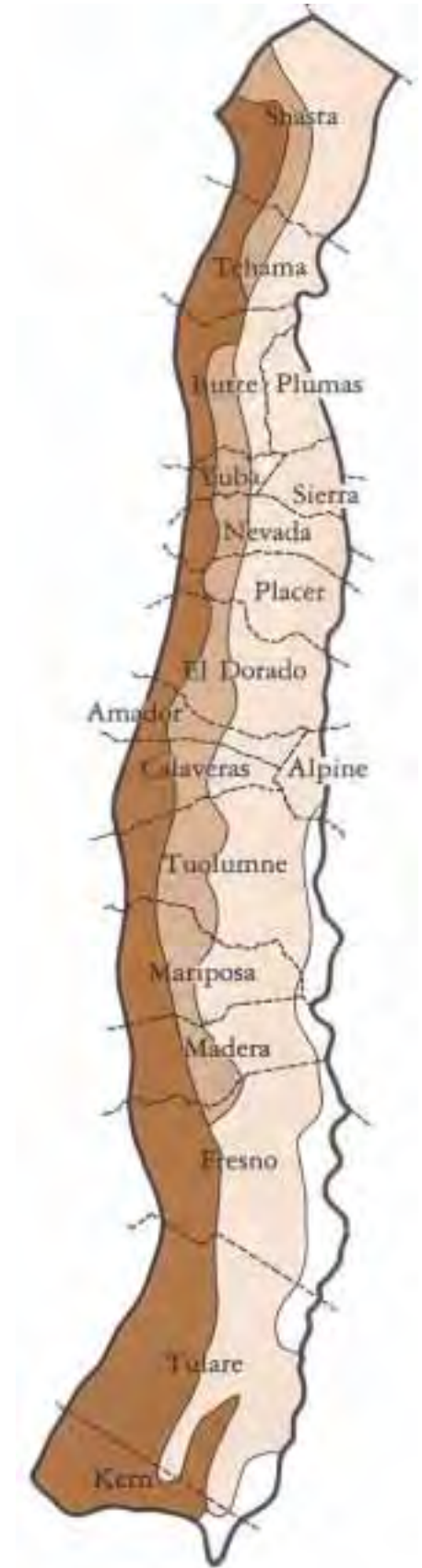
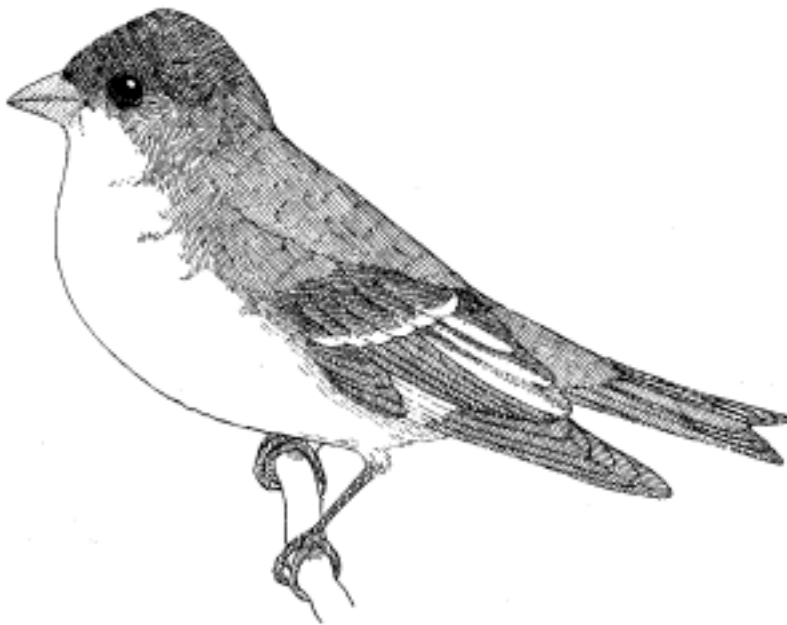
BREEDING: Breeds from late April to late July, with peak from mid-May to mid-July. Nests in terminal foliage, often on drooping branches of shrub or tree; shade required. Nest height ranges from 2 to 30 ft (0.6 to 9.1 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: Coutlee (1968a) found area with a diameter of about 98 ft (30 m) around nest defended, and birds traveled up to 0.5 mi (0.8 km) to forage.

FOOD HABITS: Eats weed seeds, buds, fruits, and small quantities of insects. Strongly attracted to salt licks. Gleans food near ground, as in low-growing composites, and rarely in tree crowns. Feeds in flocks.

OTHER:

REFERENCES: Linsdale 1957; Bent 1968; Coutlee 1968a, 1968b.



Lawrence's Goldfinch

B188 (*Carduelis lawrencei*)

STATUS: No official listed status. Rare spring and summer resident, with only a few winter records.

DISTRIBUTION/HABITAT: Breeds at lower elevations, in blue oak savannahs, digger pine-oak woodlands, and riparian deciduous areas. Prefers timbered sites with intermediate percent canopy coverage. Erratic in distribution and abundance throughout range.

SPECIAL HABITAT REQUIREMENTS: Oaks; water for breeding.

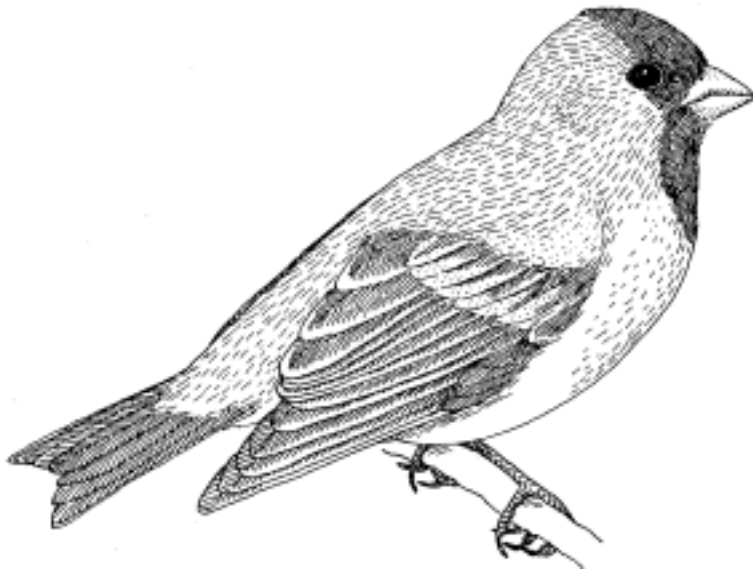
BREEDING: Breeds from early April to mid July, with peak from early May to late June. Nests generally on hillsides covered by dense stands of oak, with water nearby. Nests in colonies. Nest height varies from 20 to 30 ft (6.1 to 9.1 m). Clutch size from 3 to 6, with mean of 4.

TERRITORY/HOME RANGE: No data on home range. In southern California, Linsdale (1950) reports a territory with radius around nest of 30 to 36 ft (9.1 to 11 m). Coutlee (1968a) states territory ranges from about 33 to 49 ft (10 to 15 m) in diameter.

FOOD HABITS: Weed seeds comprise the diet. In winter, concentrates on chamise achenes; in early summer, nearly restricted to patches of fiddleneck (*Boraginaceae*). Feeds in flocks, gleaning foliage and ground.

OTHER:

REFERENCES: Grinnell and Miller 1944; Linsdale 1950; Coutlee 1968a, 1968b.



Red Crossbill

B189 (*Loxia curvirostra*)

STATUS: No official listed status. Fairly common but erratic resident of higher mountains; nomadic throughout range.

DISTRIBUTION/HABITAT: Breeds in red fir and lodgepole pine forests; prefers stands with low percent canopy cover. Extremely gregarious, highly nomadic in response to changes in conifer seed production, even descending into valley and foothills in some years (Grinnell and Storer 1924).

SPECIAL HABITAT REQUIREMENTS: Abundant cone crop for breeding.

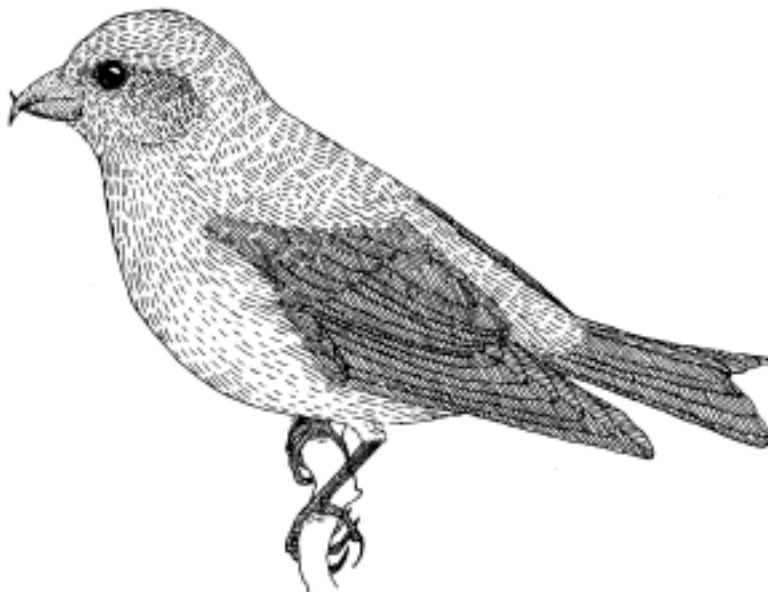
BREEDING: Throughout range, noted breeding in all months of year (Bent 1968), requiring only suitable conifer seed supply. Breeds mostly from February through June. Nests typically out on horizontal branch of conifer, ranging in height from 12 to 40 ft (3.7 to 12 m). Clutch size from 3 to 5, with mode of 3.

TERRITORY/HOME RANGE: No data available on home range size; territoriality not noted (Snyder 1954).

FOOD HABITS: Eats mainly conifer seeds, primarily lodgepole pine and hemlock, and some insects. Feeds on ground at tips of cone-bearing branches in tree tops, prying seeds from cones with highly modified, crossed mandibles. Both bill and tongue used in extracting seeds.

OTHER:

REFERENCES: Grinnell and Storer 1924, Sumner and Dixon 1953, Bent 1968.



Green-tailed Towhee

B190 (*Pipilo chlorurus*)

STATUS: No official listed status. Uncommon spring and summer resident.

DISTRIBUTION/HABITAT: Breeds in sites with dense shrubs from chaparral zone up to lodgepole pine forests. Generally absent from areas with intermediate to high percent canopy coverage. Particularly associated with dry, brushy slopes of manzanita and ceanothus, a habitat shared with fox sparrow.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs.

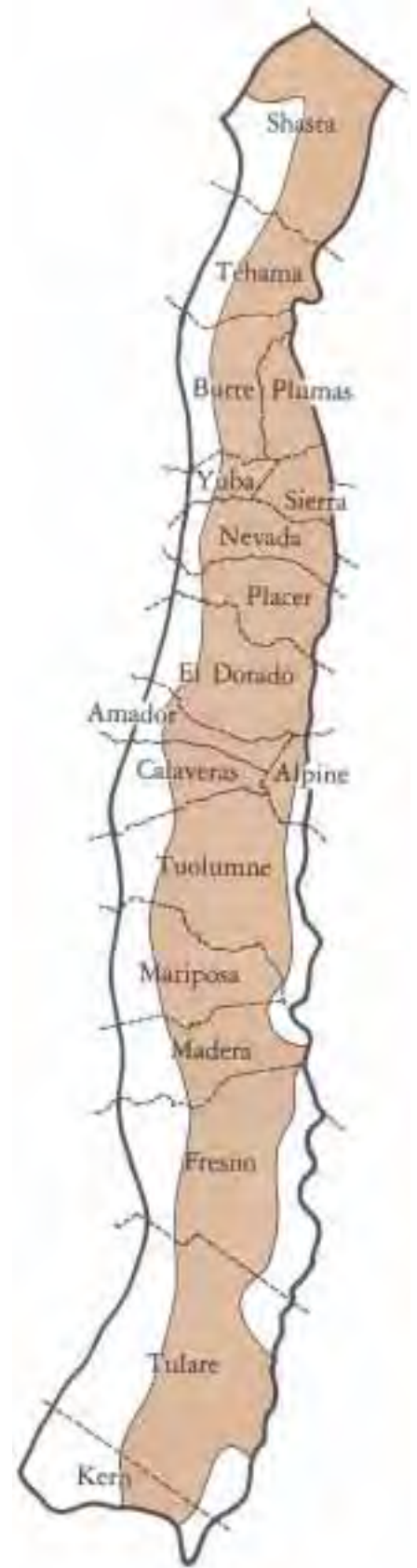
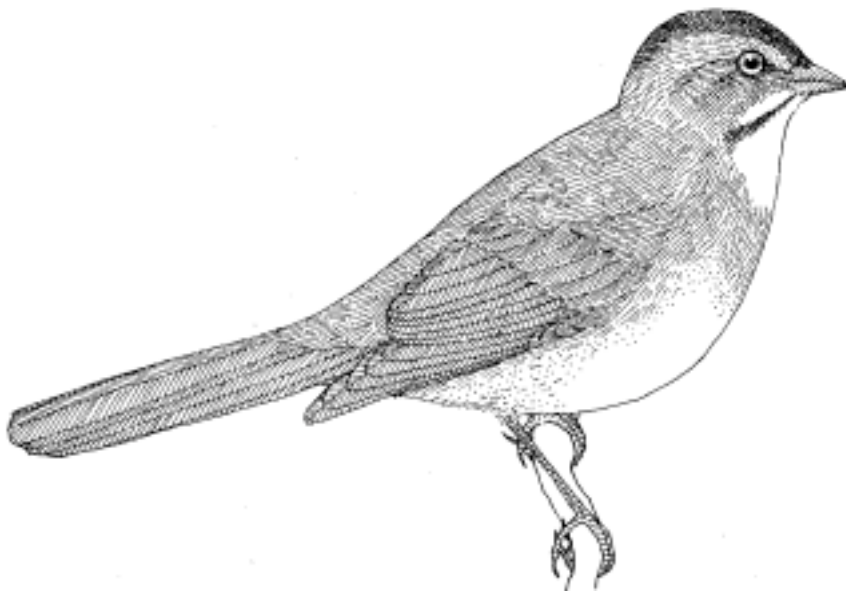
BREEDING: Breeds from mid-April to late July, with peak from late May to early July. Nests well concealed in dense brush, on or near ground. Clutch size from 2 to 5, with 3 or 4 most frequent.

TERRITORY/HOME RANGE: In Colorado, Hering (1948) reported two territories as 0.2 and 0.4 acre (0.08 and 0.16 ha). No information available. on home range.

FOOD HABITS: Eats primarily seeds of weeds and shrubs, and some wild berries and insects. Scratches in leaf litter on ground, and gleans food uncovered.

OTHER:

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1968.



Rufous-sided Towhee

B191 (*Pipilo erythrophthalmus*)

STATUS: No official listed status. Common resident at low to middle elevations; rare upslope movement in fall.

DISTRIBUTION/HABITAT: Breeds from blue oak savannahs up to mixed-conifer forests; prefers sites with low percent canopy cover and dead brush to provide high concentration of decaying organic material for feeding.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs; litter.

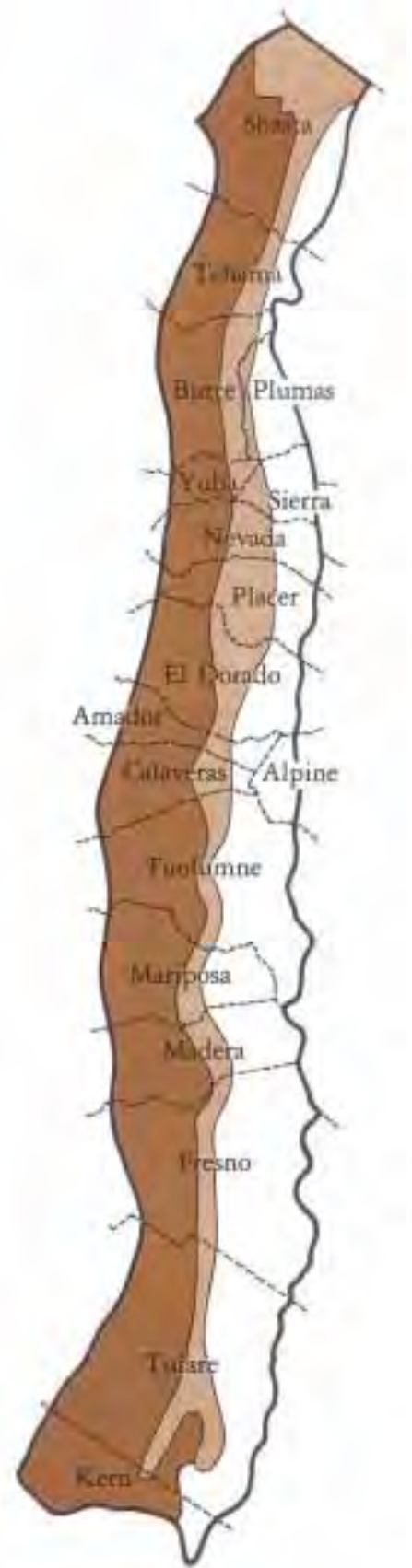
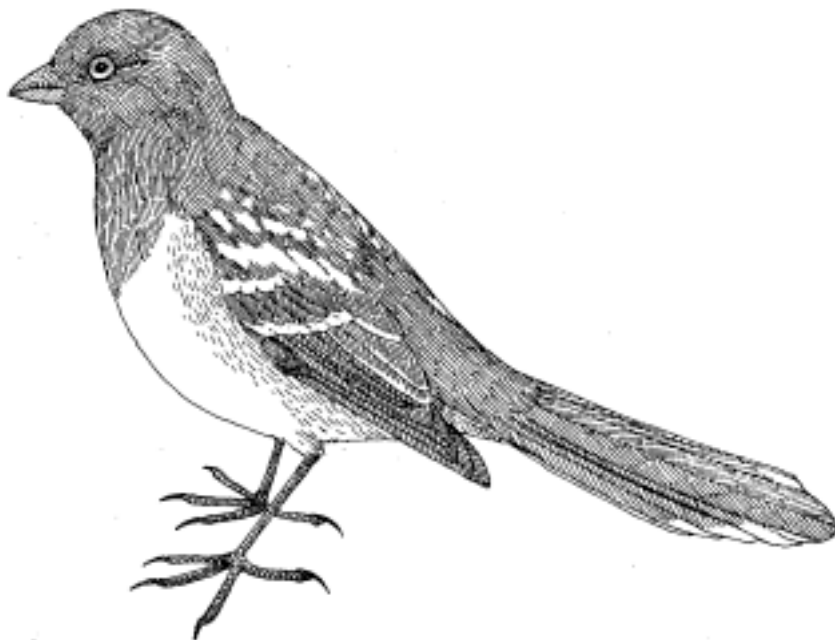
BREEDING: Breeds from late April to mid-July, with peak from mid-May to late June. Nests on ground or in low shrub, usually in well-concealed thicket edge with isolated trees and shrubs, often near piles of dead brush. Clutch size from 2 to 6, most contain 4 or 5.

TERRITORY/HOME RANGE: Territories in coastal California chaparral site ranged from 2 to 2.8 acres (0.8 to 1.1 ha) (Mans 1961). In Kansas, Fitch (1958) found territories to range from 1.9 to 6.7 acres (0.8 to 2.7 ha) with mean of 4.4 acres (1.8 ha) (n = 7). Little information on home range size. In Kentucky, Barbour (1941) found winter home ranges of two flocks to cover 9.3 and 31 acres (3.8 and 12.6 ha).

FOOD HABITS: Eats insects (many caterpillars when nesting), spiders, and seeds. Takes most food from ground by scratching and digging in leaf litter. Sometimes gleans foliage.

OTHER: Slash piles in logged areas of conifer forests may provide suitable foraging sites, especially in fall.

REFERENCES: Baumann 1959, Davis 1960, Bent 1968.



Brown Towhee

B192 (*Pipilo fuscus*)

STATUS: No official listed status. Common resident at low elevations.

DISTRIBUTION/HABITAT: Breeds in blue oak savannahs, digger pine-oak woodlands, chaparral, and low elevation riparian deciduous habitats; prefers sites with few or no trees.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs; shrubs/grass-forbs.

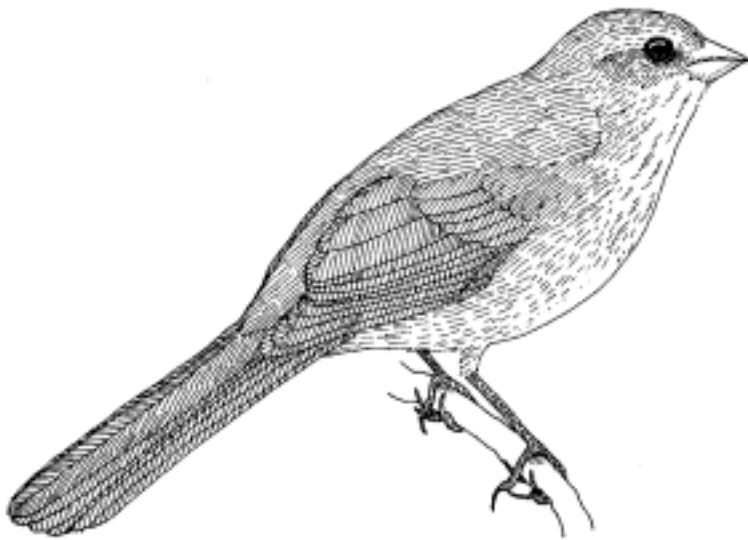
BREEDING: Breeds from early April to late June, with peak from early May to mid-June. Nests in low, dense brush where well concealed; also nests in trees occasionally, at heights up to 20 ft (6.1 m). Clutch size usually 3 or 4.

TERRITORY/HOME RANGE: No information on home range. In a California residential area, Bent (1968) reported that territories usually averaged from 1 to 2 acres (0.4 to 0.8 ha), though they ranged up to 5 acres (2 ha).

FOOD HABITS: Feeds on insects, weed seeds, and some fruit. Obtains food primarily from ground, scratches in leaf litter and gleans food uncovered.

OTHER: Activities such as grazing, farming, logging, road building, and landscaping resulted in new habitats, allowing for localized expansion of range.

REFERENCES: Grinnell and Miller 1944, Davis 1951, Bent 1968.



Savannah Sparrow

B193 (*Passerculus sandwichensis*)

STATUS: No official listed status. Common fall and winter visitor to low elevations; occasional summer and fall visitor to middle and high elevations.

DISTRIBUTION/HABITAT: Essentially confined to grassland habitats; may be found in early successional stages of other habitat types.

SPECIAL HABITAT REQUIREMENTS:

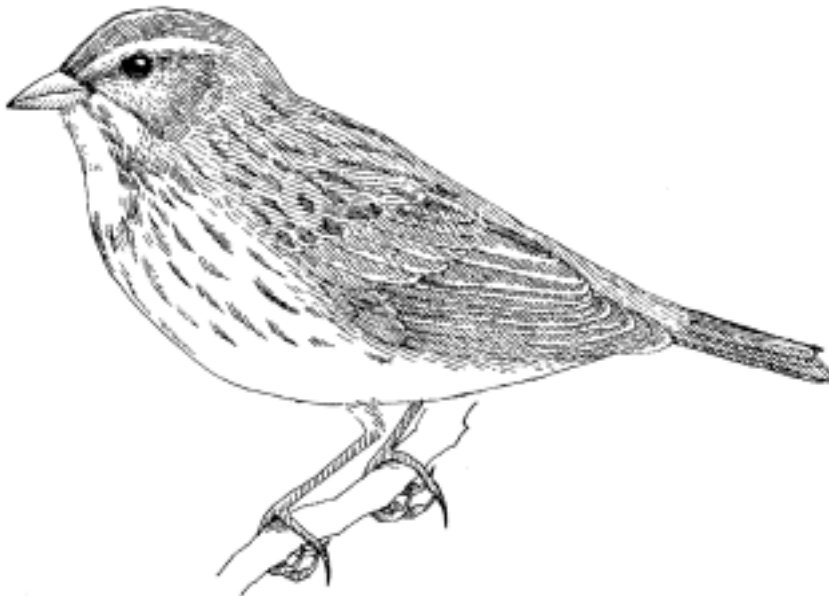
BREEDING: Apparently does not breed in the western Sierran zone.

TERRITORY/HOME RANGE: In Georgia, Norris (1960) reported a short-term (1 week) winter home range of 8 acres (3.2 ha). Data on breeding territory not applicable in the western Sierran zone.

FOOD HABITS: Eats insects and seeds obtained from the ground.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1968, Welsh 1975. .



Grasshopper Sparrow

B194 (*Ammodramus .savannarum*)

STATUS: No official listed status; on the 1978 Audubon Society Blue List. Rare summer resident at low elevations.

DISTRIBUTION/HABITAT: Breeds in grasslands and early successional stages, if sufficient grasses, up to ponderosa pine and black oak types. Irregularly distributed in California, with abundance varying from year-to-year. Probably winters below the 1000 ft (305 m) contour line set as lower limit of area included in this document.

SPECIAL HABITAT REQUIREMENTS:

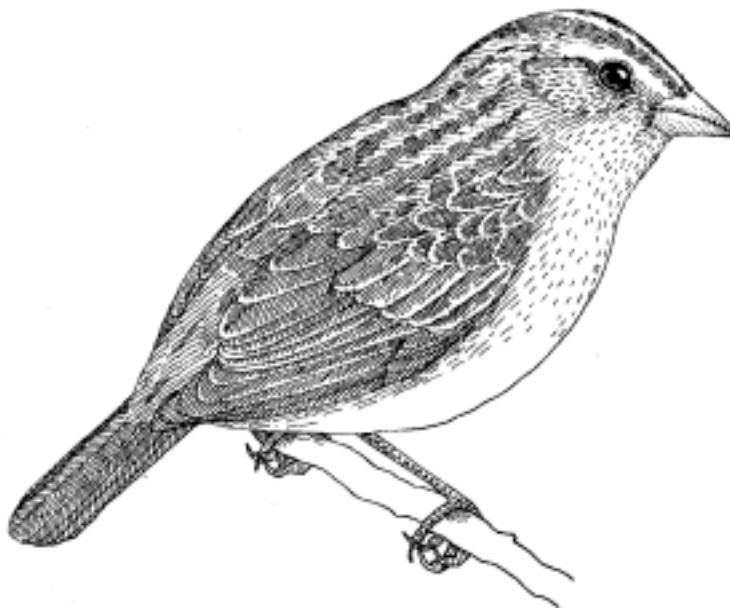
BREEDING: Breeds from late April to late June, with peak from mid-May to mid-June. Nests sunken in slight depressions in ground, hidden at base of clumps of grass or other cover. Most clutches contain 4 or 5 eggs.

TERRITORY/HOME RANGE: No data on home range. In Wisconsin, territory size ranged from 0.8 to 3.2 acres (0.3 to 1.3 ha), with mean of 2 acres (0.8 ha) (Wiens 1973).

FOOD HABITS: Feeds mainly on insects, especially Orthopterans where abundant. Searches for food on ground, and sometimes scratches in litter.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1968, Tramontano 1971.



Vesper Sparrow

B195 (*Pooecetes gramineus*)

STATUS: No official listed status. Rare fall and winter visitor to lower elevations, only rarely at higher elevations in late summer and fall.

DISTRIBUTION/HABITAT: Frequents grasslands and early successional stages lacking shrubs.

SPECIAL HABITAT REQUIREMENTS:

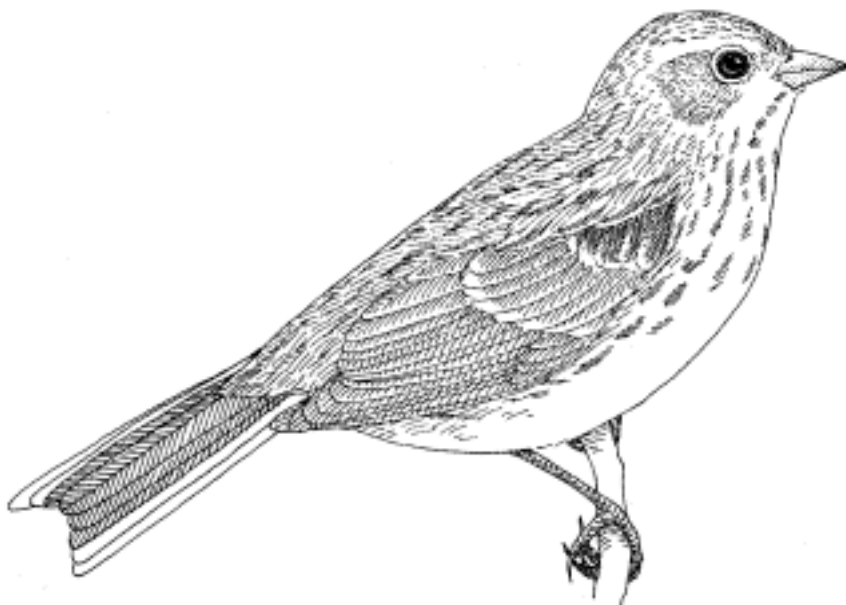
BREEDING: Does not breed in the western Sierran zone.

TERRITORY/HOME RANGE: Not applicable.

FOOD HABITS: Feeds on seeds, insects, and spiders. Feeds on ground and also gleans grass surfaces.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1968, Best 1972.



Lark Sparrow

B196 (*Chondestes grammacus*)

STATUS: No official listed status. Fairly common resident.

DISTRIBUTION/HABITAT: Breeds from blue oak savannahs up to ponderosa pine belt; generally prefers sites with scattered shrubs, or trees, or both.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

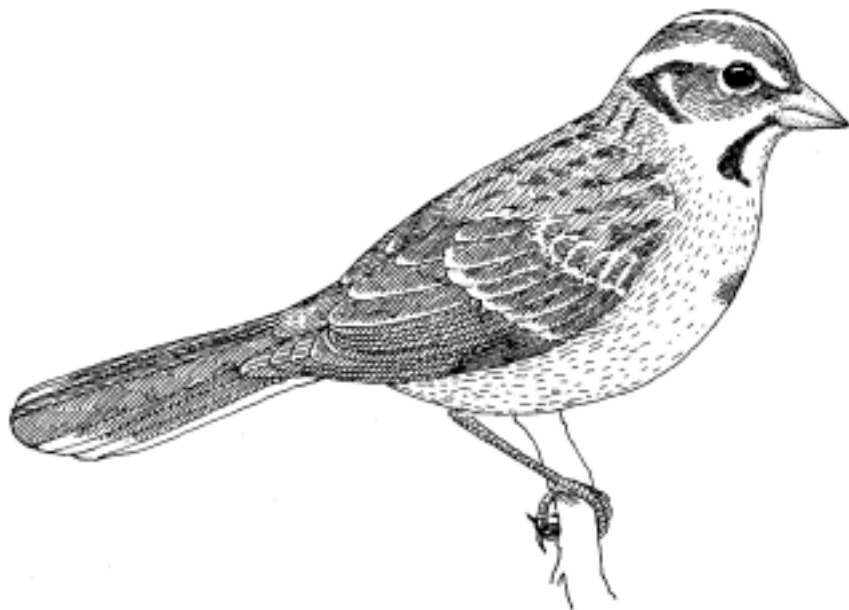
BREEDING: Breeds from late April to early July, with peak from mid-May to late June. Nests in depressions on ground, near clump of grass, or in low shrub. Most clutches contain 4 or 5 eggs.

TERRITORY/HOME RANGE: Fitch (1958) reported two territories at 3.4 and 8.8 acres (1.4 and 3.6 ha); he also reported summer range of one pair at 15 acres (6.1 ha). Defense of space strongest during courtship period (Bent 1968).

FOOD HABITS: Eats seeds of annuals and variety of insects. Forages on ground, prefers areas with plant litter; also gleans shrubs and small trees.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1968, Tramontano 1971.



Rufous-crowned Sparrow

B197 (*Aimophila ruficeps*)

STATUS: No official listed status. Uncommon resident.

DISTRIBUTION/HABITAT: Breeds in shrublands of blue oak savannahs, digger pine-oak woodlands, and especially chaparral zone. Some late summer and fall movement upslope into ponderosa pine forests. Seen at 4000 ft (1220 m) in Yosemite Valley (Gaines 1977).

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

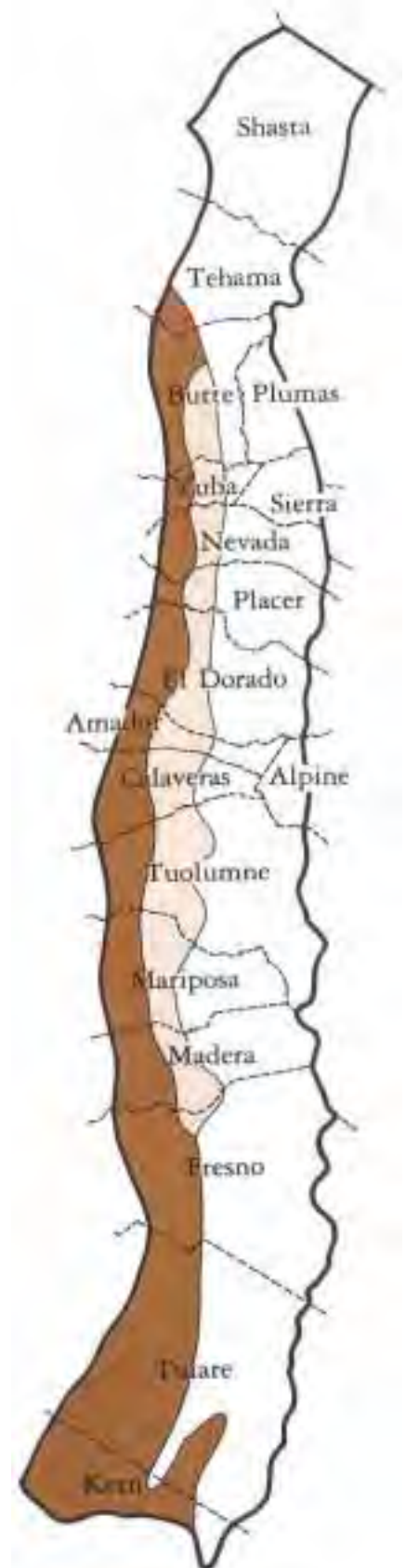
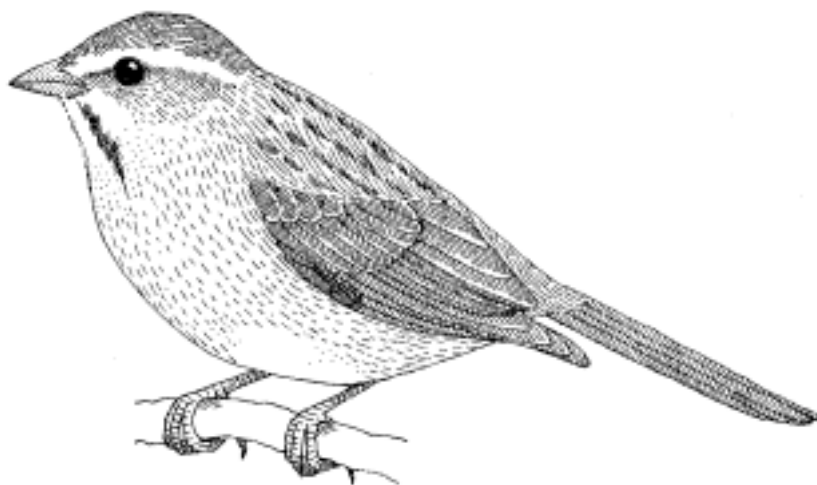
BREEDING: Breeds from mid-April to late June, with peak from early May to mid-June. Nests always on ground in grassy area, usually at base of shrub. Clutch size from 2 to 4, with mean of 3.

TERRITORY/HOME RANGE: No data on home range. In Southern California, 14 territories ranged from 1 to 3.8 acres (0.4 to 1.5 ha), with mean of 2.2 acres (0.9 ha) (Bent 1968).

FOOD HABITS: Obtains insects and various seeds by searching on ground and among grasses, or by gleaning from foliage of live oaks.

OTHER: A gregarious species; reported as semicolonial nester.

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1968.



Black-throated Sparrow

B198 (*Amphispiza bilineata*)

STATUS: No official listed status. Rare summer resident along Kern River; accidental in other areas in the Sierra Nevada.

DISTRIBUTION/HABITAT: Found in spring and summer in chaparral type, where it breeds. A few fall records in chaparral habitats in the northern Sierra Nevada.

SPECIAL HABITAT REQUIREMENTS:

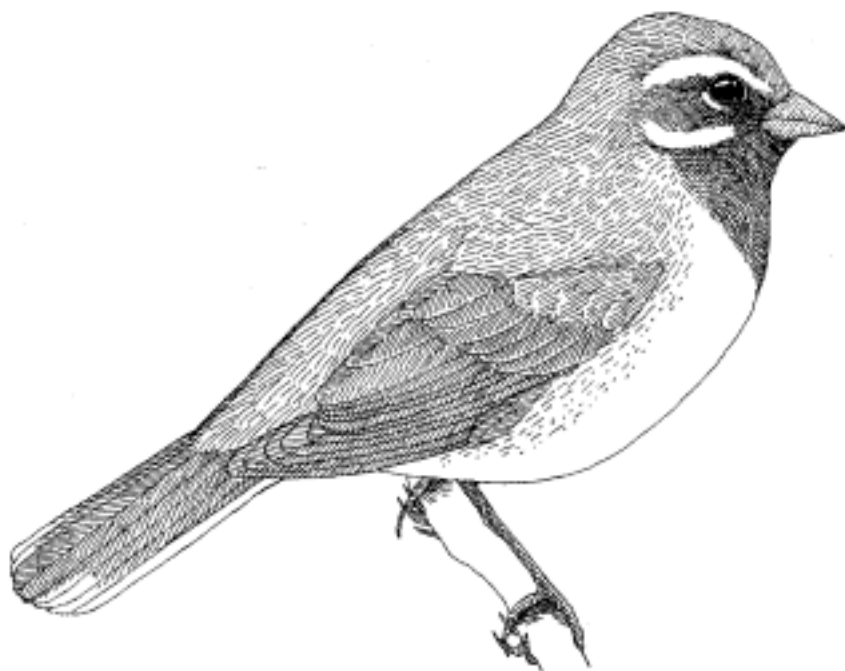
BREEDING: Breeds from mid-April to late June, with peak from late April to early June. Nests usually well concealed near ground in small shrub. Clutch size usually 3 or 4.

TERRITORY/HOME RANGE: Heckenlively (1967) reported New Mexico territories as about 394 to 492 ft ("about 120 to 150 meters") in diameter. Linsdale (1938) noted one pair apparently stayed in open area of about 1.4 acres (0.6 ha).

FOOD HABITS: Eats seeds and foliage; takes insects during nesting period. Feeds on ground and in grasses, forbs, and low shrubs. Sometimes hawks aerial insects.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1968, Tramontano 1971.



Sage Sparrow

B199 (*Amphispiza belli*)

STATUS: No official listed status. Common resident in central and southern areas.

DISTRIBUTION/HABITAT: Confined to chaparral vegetation; breeds only in dense, continuous stands of shrubs. In late summer and fall, usually moves upslope.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

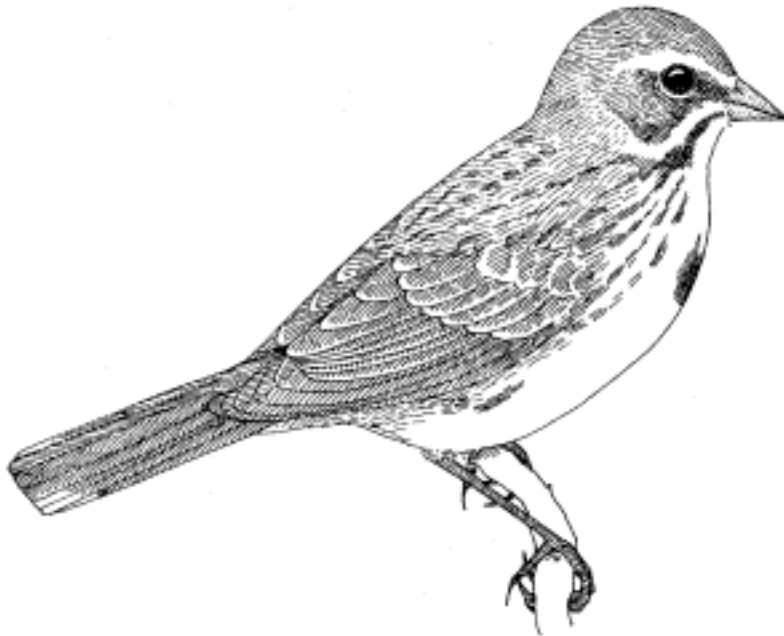
BREEDING: Breeds from early April to mid-June, with peak from late April to late May. Nests on or near ground, under overhanging shrub; *Artemisia* often used when available. Clutch averages 4.

TERRITORY/HOME RANGE: No data on home range. In Tehama County, territories about 150 ft (46 m) apart (Bent 1968).

FOOD HABITS: Eats insects, seeds, and succulent vegetation; may be sufficient to provide water needs. Gleans food from ground and low shrubs.

OTHER:

REFERENCES: Grinnell and Miller 1944, Sumner and Dixon 1953, Bent 1968.



Dark-eyed Junco

B200 (*Junco hyemalis*)

STATUS: No official listed status. Common to abundant summer resident at middle to high elevations; abundant winter resident at low elevations.

DISTRIBUTION/HABITAT: Breeds in timbered habitats from ponderosa pine and black oak woodland types upslope through lodgepole pine forests. Prefers areas with low percent canopy coverage. Frequents forest edges, but not confined to them. In fall and winter, moves downslope; abundant from annual grasslands up to ponderosa pine and black oak woodland zone.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

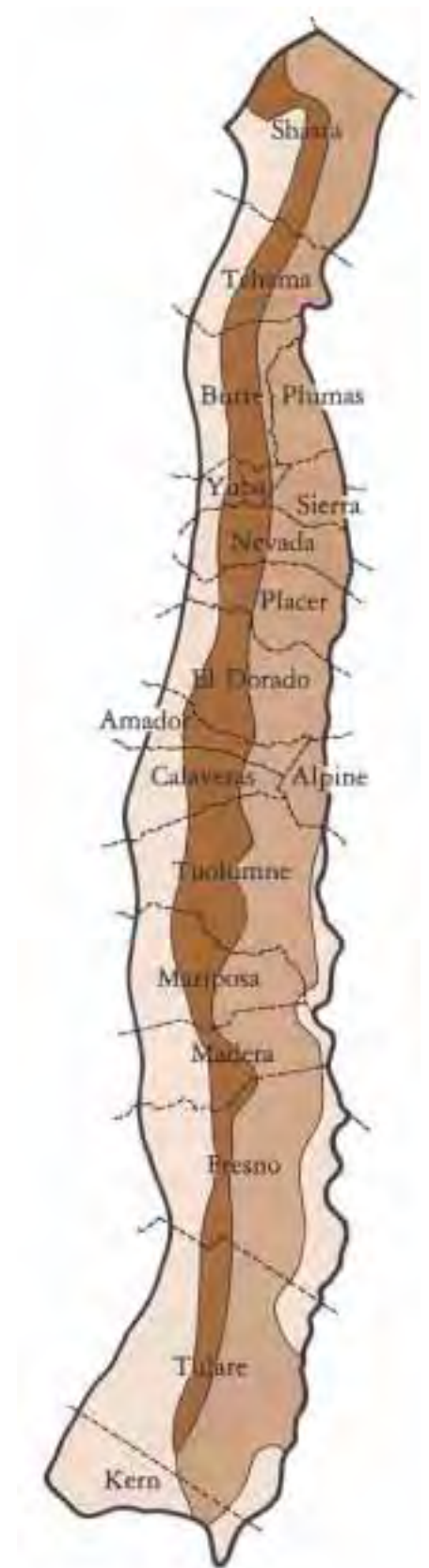
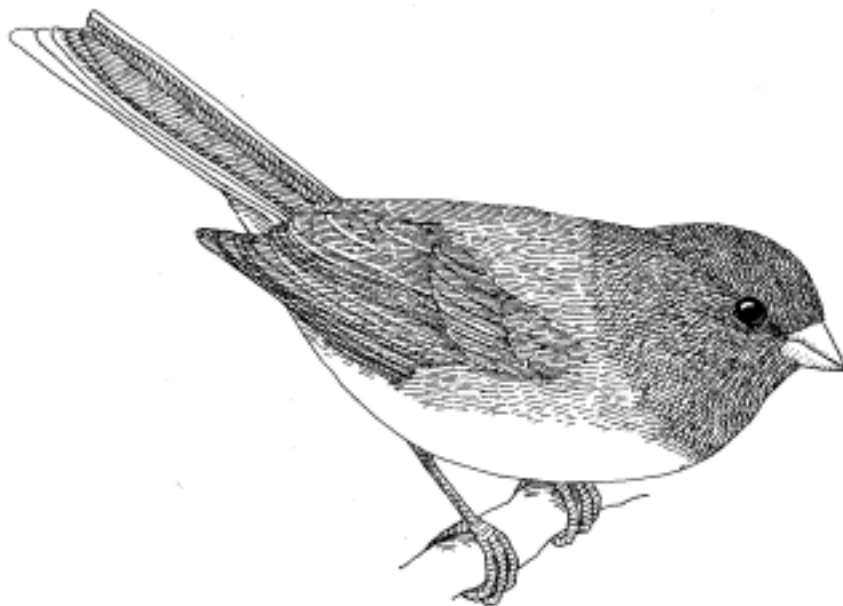
BREEDING: Breeds from early May to mid-August, with peak from early June to late July. Nests usually on ground, well concealed beneath grasses, shrubs, fallen logs, or in rock crevices; water usually nearby. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: In Kansas, winter home range averaged 26 acres (10.5 ha) for males and 13 acres (5.3 ha) for females (Fitch 1958). In New York, Bent (1968) recorded territories as "casually" estimated at 2 to 3 acres (0.8 to 1.2 ha).

FOOD HABITS: Eats arthropods, various seeds, and some fruit. Feeds mostly on ground in forests and meadows, also gleans foliage of shrubs and small trees, and hawks aerial insects. During nonbreeding period, typically feeds in flocks, often with white-crowned and golden-crowned sparrows.

OTHER: One of most abundant and most easily recognized species in timbered sections of the Sierra Nevada. Formerly known as Oregon junco.

REFERENCES: Williams 1942, Sumner and Dixon 1953, White 1973.



Chipping Sparrow

B201 (*Spizella passerina*)

STATUS: No official listed status. Fairly common spring migrant and summer resident.

DISTRIBUTION/HABITAT: Breeds from chaparral zone up to lodgepole pine forests; prefers stands with low to intermediate percent canopy cover, and areas with bare ground or sparse grass.

SPECIAL HABITAT REQUIREMENTS:

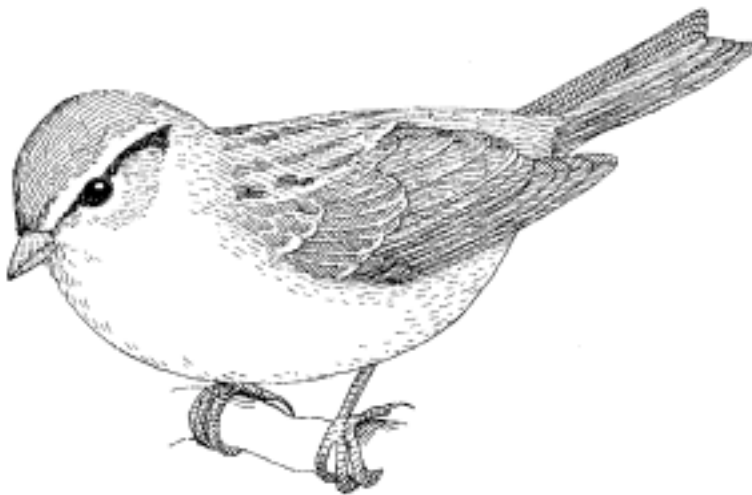
BREEDING: Breeds from early April to mid-July, with peak from mid-May to late June. Nests near outer end of branch, usually of conifer, from 5 to 40 ft (1.5 to 12 m) above ground. Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on home range. In an Arizona piñon-juniper-ponderosa pine ectone, Laudenslayer and Balda (1976) reported mean territory size as 6.9 acres (2.8 ha). A pair in South Carolina defended 7.6 acres (3.1 ha) while nest building but only 2.7 acres (1.1 ha) while feeding young (Odum and Kuenzler 1955).

FOOD HABITS: Insects and weed seeds gleaned from ground and foliage; insects rarely hawked from air.

OTHER:

REFERENCES: Grinnell and Storer 1924, Grinnell *et al.* 1930, Bent 1968.



Brewer's Sparrow

B202 (*Spizella breweri*)

STATUS: No official listed status. Rare summer resident and breeder.

DISTRIBUTION/HABITAT: Reported rarely in chaparral and shrub successional stages from ponderosa pine to the lodgepole pine forests. Only one confirmed nesting record (Grinnell *et al.* 1930), though probably nests in Kern River canyon (Sumner and Dixon 1953), and in Placer County (D. Gaines, pers. commun.). Often associated with *Artemisia*.

SPECIAL HABITAT REQUIREMENTS:

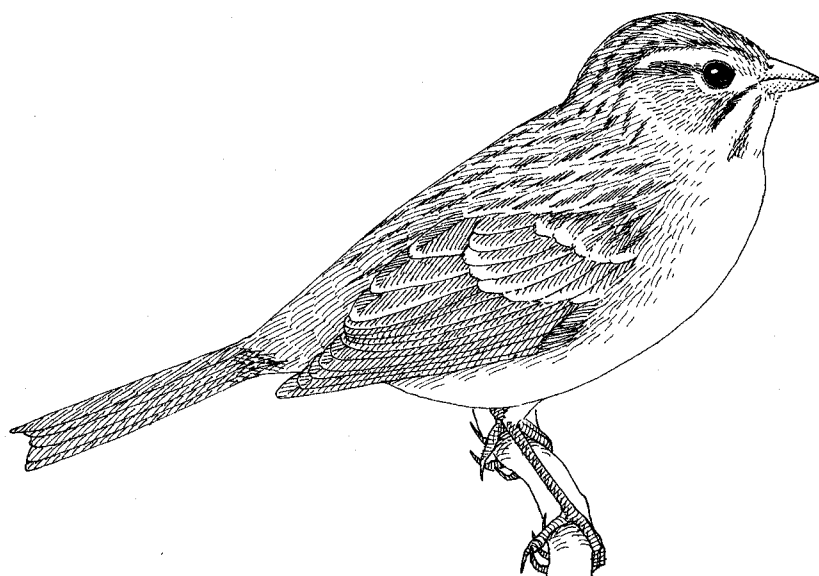
BREEDING: Breeds from late April to early July, with peak from mid-May to late June. Nests in small shrub in well-concealed situation, usually on south-facing slopes. Nest height less than 3 ft (0.9 m). Clutch size from 3 to 5, with mean of 4.

TERRITORY/HOME RANGE: No data on territory or home range.

FOOD HABITS: Eats primarily weed seeds, though some insects are taken. Picks up seeds from ground and gleans low foliage.

OTHER:

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1968.



Black-chinned Sparrow

B203 (*Spizella atrogularis*)

STATUS: No official listed status. Uncommon summer resident in suitable habitat.

DISTRIBUTION/HABITAT: Restricted to dense shrub habitats, particularly in chaparral zone, but also in early successional stages of ponderosa pine, black oak woodland, and mixed-conifer zones. Prefers dry, south-facing slopes, usually associated with *Adenostoma*, *Artemisia*, *Ceanothus*, and *Arctostaphylos*.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs.

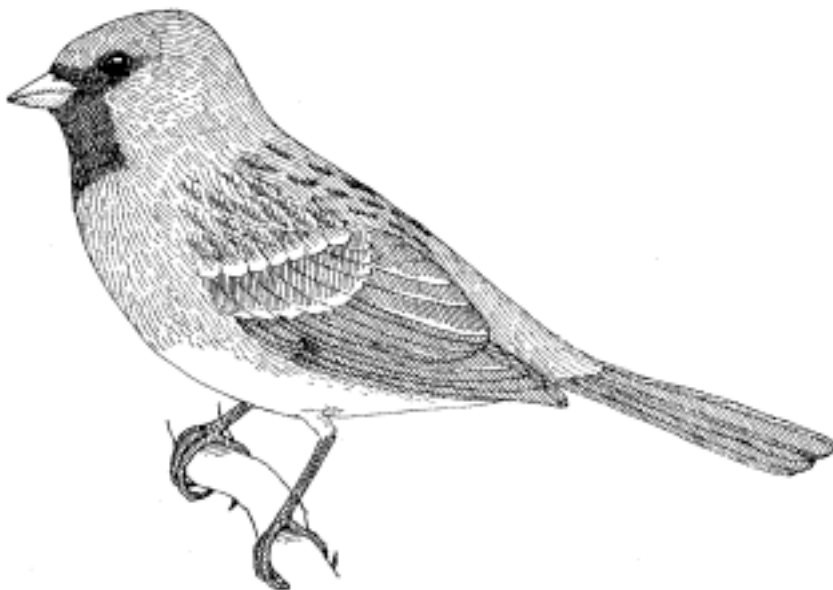
BREEDING: Breeds from mid-April to mid-July, with peak from mid-May to late June. Nest concealed in low bush. Clutch size from 2 to 4, with mean of 3.

TERRITORY/HOME RANGE: No data available.

FOOD HABITS: No data available.

OTHER:

REFERENCES: Grinnell and Miller 1944, Bent 1968.



White-crowned Sparrow

B204 (*Zonotrichia leucophrys*)

STATUS: No official listed status. Common to abundant in preferred habitat.

DISTRIBUTION/HABITAT: Breeds in early successional stages of lodgepole pine forests and alpine meadows, primarily along edges of meadows, streams, or lakes, usually using willow or small lodgepole pine for cover and perching. Our breeding population leaves the Sierra Nevada in September. Wintering birds arrive from Canada and Alaska in September, found at all elevations below lodgepole belt in fall, moving down to foothills and valley floor for winter. Prefers fairly open areas with patches of shrubs or thickets.

SPECIAL HABITAT REQUIREMENTS: Shrubs/grass-forbs; water for breeding.

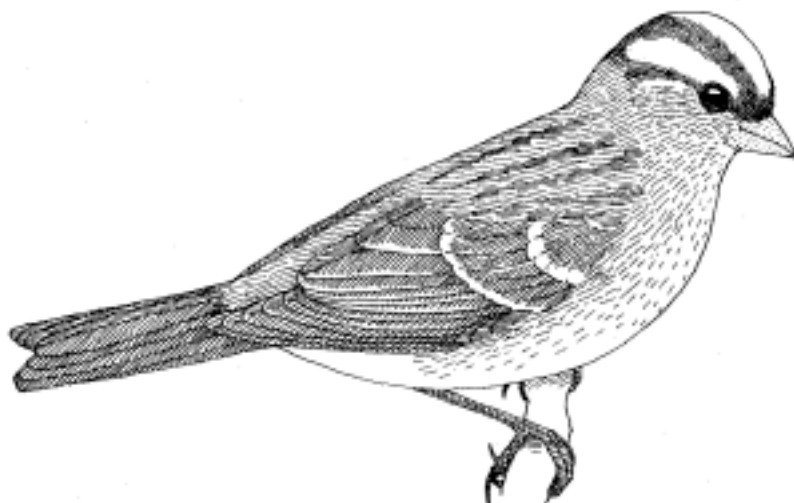
BREEDING: Breeds from late May to late August, with peak from late June to early August. Nests on ground at base of bush, or in low branches of shrub, willow, or small conifer. Height ranges from 0 to 5 ft (0 to 1.5 m) above ground.

TERRITORY/HOME RANGE: Morton *et al.* (1972) reported defended areas around nest of 0.4 to about 2 acres (0.15 to about 0.8 ha), stating that the pair may occupy an area as large as 3.7 to 4.9 acres (1.5 to 2.0 ha)-a possible estimate of home range. These estimates come from Sierran birds near Tioga Pass. Ralph and Pearson (1971) reported territory sizes of birds in Marin County ranging from 0.15 to 1.5 acres (0.06 to 0.59 ha) with average of 0.6 acre (0.24 ha). Price (1931) reported winter flock home range as 15 to 20 acres (6.1 to 8.1 ha) in San Mateo County, while Blanchard (1941) found winter home ranges in coastal California of 0.9 to 1.7 acres (0.4 to 0.7 ha).

FOOD HABITS: Eats mostly seeds of grasses and forbs, also eats green shoots, berries, and insects. Gleans food from bare ground or grassy areas near shrubs. Usually scratches the ground in search of food.

OTHER:

REFERENCES: Blanchard 1941, Blanchard and Erickson 1949, DeWolfe and DeWolfe 1962, Morton 1967, Morton *et al.* 1972.



Golden-crowned Sparrow

B205 (*Zonotrichia atricapilla*)

STATUS: No official listed status. Common winter visitor.

DISTRIBUTION/HABITAT: Widespread; prefers interrupted brushlands, such as streamside thickets and chaparral with open patches. Prefers moister sites than congener, the white-crowned sparrow. Found sparingly in early fall as high as red fir zone, but moves down to chaparral, digger pine-oak, and blue oak zones for winter and spring.

SPECIAL HABITAT REQUIREMENTS:

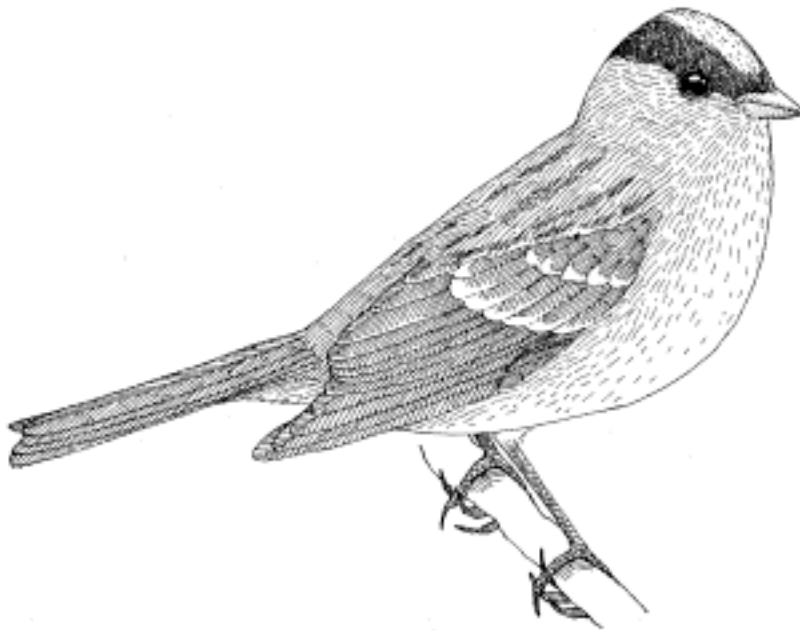
BREEDING: Does not nest in the western Sierran range.

TERRITORY/HOME RANGE: Winter home range size at San Jose was about 3 acres (1.2 ha) (Robertson 1957). In San Mateo County, Price (1931) reported winter home range of flocks as 15 to 20 acres (6.1 to 8.1 ha).

FOOD HABITS: Eats mainly seeds, shoots, buds, and flowers of grasses and forbs. Scratches in ground litter, picks seeds, and gleans items, mainly from ground.

OTHER:

REFERENCES: Robertson 1957, Bent 1968, Davis 1973.



Fox Sparrow

B206 (*Passerella iliaca*)

STATUS: No official listed status. Common resident in the western Sierran zone.

DISTRIBUTION/HABITAT: Breeds from chaparral zone up to lodgepole pine forests; prefers sites with considerable shrub layer. In fall and winter, found in blue oak savannahs and digger pine-oak woodlands.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs.

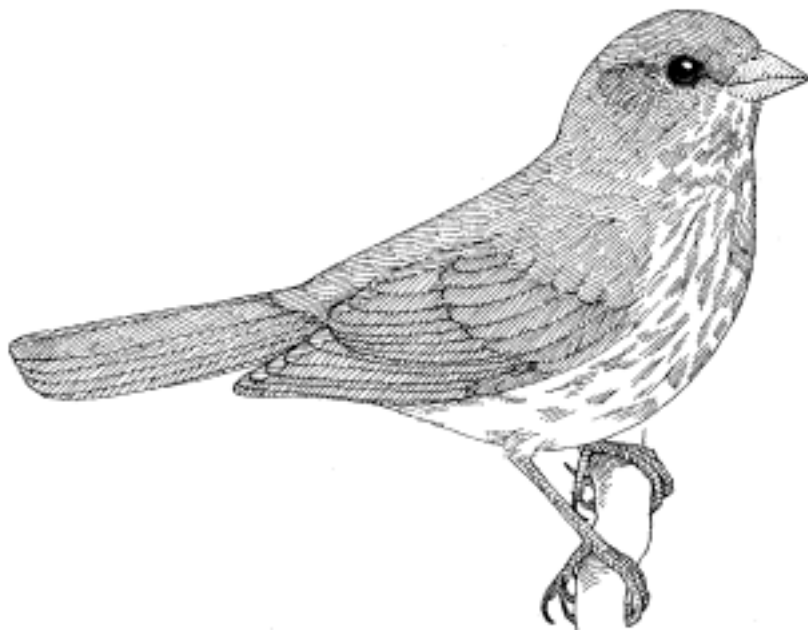
BREEDING: Breeds from mid-May to early August, with peak from early June to late July. Nests placed in dense shrubs, or occasionally on the ground. Nests range in height from 0 to 6 ft (0 to 1.8 m). Mean clutch size 3 or 4, with range from 3 to 5.

TERRITORY/HOME RANGE: No data on home range or territory size. Six pairs reported on 6.5 acres (2.6 ha) in Lassen County (Linsdale 1928).

FOOD HABITS: Feeds mainly on insects in summer, and seeds in winter. Feeds on the ground, scratching in litter under shrubs and in weed patches.

OTHER: Nesting form leaves the Sierra Nevada for winter, has grayish head and back. Wintering birds migrate from further north, have browner heads and backs.

REFERENCES: Grinnell and Storer 1924, Bent 1968, Gaines 1977.



Lincoln's Sparrow

B207 (*Melospiza lincolnii*)

STATUS: No official listed status. Fairly common summer resident and migrant at high elevations, and winter resident at low elevations.

DISTRIBUTION/HABITAT: Nests usually in wet meadows or lakeside and streamside thickets at middle to high elevations. Breeding birds generally leave the Sierra Nevada by September; northern migrants come into riparian and lakeside habitats in the lowland oak and digger pine-oak types.

SPECIAL HABITAT REQUIREMENTS: Dense shrubs; ponds, lakes, streams, rivers, or wet meadows.

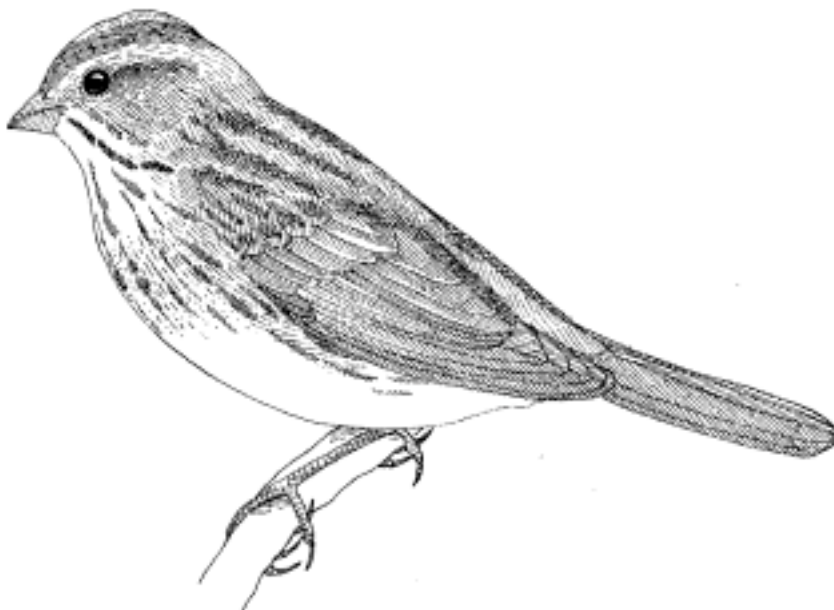
BREEDING: Breeds from mid-May to late July, with peak from late May to late June. Nest placed in a depression on the ground, well concealed by dense shrubbery. Clutch size from 3 to 6, with mean of 4.

TERRITORY/HOME RANGE: No data on home range. In Ontario, territory size appeared to be about 1 acre (0.4 ha) (Bent 1968).

FOOD HABITS: Feeds mainly on insects and seeds taken from ground and air. Scratches in ground litter and flycatches from the ground.

OTHER:

REFERENCES: Grinnell and Storer 1924, Grinnell and Miller 1944, Bent 1968.



B208 (*Melospiza melodic*)

DISTRIBUTION/HABITAT: Breeds in low, dense vegetation along streams, ponds and marshes, and wet meadows from blue oak savannahs up to ponderosa pine and black oak woodland zone. Found in winter in similar habitats, but generally below about 2000 ft (610 m).

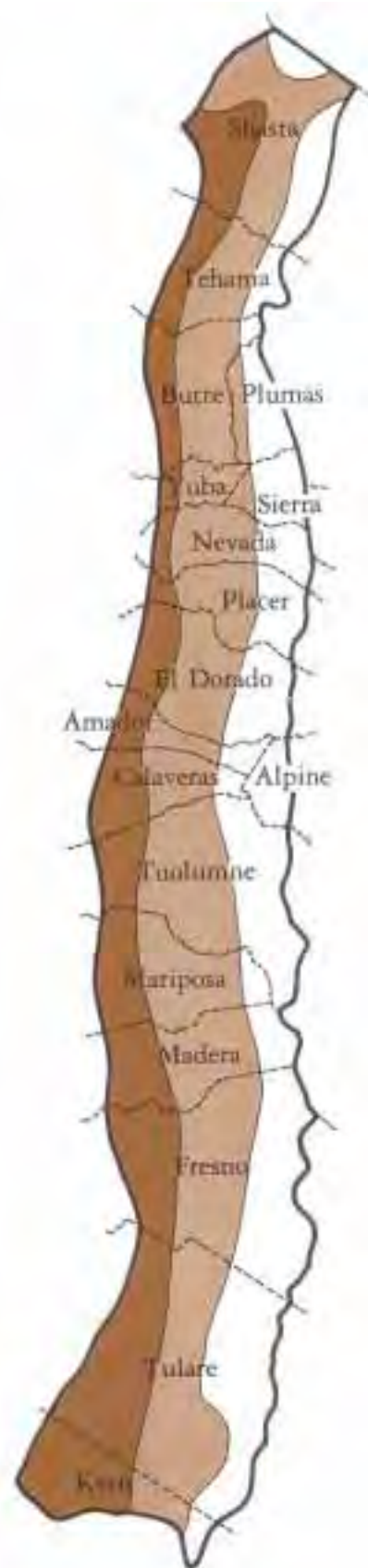
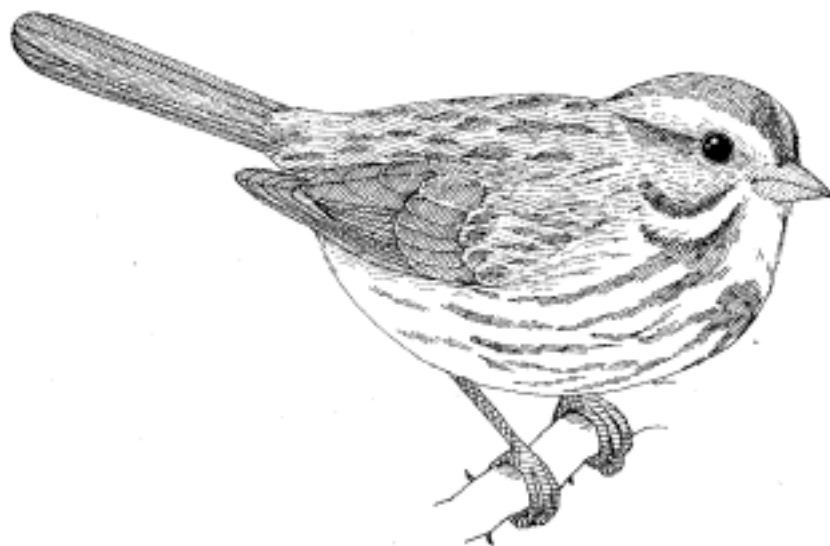
BREEDING: Breeds from late April to early July, with peak from late May to late June. Nest situated in low, dense shrubbery in wet meadows or streamside thickets; must have concealment and a secure support. Nest height ranges from 0 to 12 ft (0 to 3.7 m). Clutch size from 3 to 6, with mean of 4.

TERRITORY/HOME RANGE: Territories in Ohio ranged from 0.5 to 1.5 acres (0.2 to 0.6 ha), averaging 0.7 acre (0.3 ha) (Nice 1943). Territory size in salt marshes of Contra Costa County averaged about 4350 ft² (400 m²) in a year of high density (Johnston 1956). Home range data scanty; a single winter home range in New York reported at 1.4 acres (0.6 ha) (Butts 1927); a single winter home range in Kansas reported at 8.9 acres (3.6 ha), and an average based on 29 poorly studied birds of about 6.8 acres (2.8 ha) (Fitch 1958).

FOOD HABITS: Eats insects, weed seeds, some fruit, and berries. Forages on ground, scratching in litter; gleans foliage low in thickets; and rarely hawks aerial insects.

OTHER: Some evidence suggests recent and slight increase in abundance and distribution on west slopes of the Sierra Nevada.

REFERENCES: Grinnell and Storer 1924; Nice 1937, 1943; Bent 1968.



Rare Species

Observations of the following 57 species of birds in the western Sierra Nevada have been documented five or fewer times:

Common Loon (<i>Gavia immer</i>)	Willer (<i>Catoptrophorus semipalmatus</i>)	Virginia's Warbler (<i>Vermivora virginiae</i>)
Arctic Loon (<i>Gavia arctica</i>)	Greater Yellowlegs (<i>Tringa melanoleuca</i>)	Magnolia Warbler (<i>Dendroica magnolia</i>)
Horned Grebe (<i>Podiceps auritus</i>)	Black-necked Stilt (<i>Himantopus mexicanus</i>)	Blackburnian Warbler (<i>Dendroica fusca</i>)
White Pelican ¹ (<i>Pelecanus occidentalis</i>)	Northern Phalarope (<i>Lobipes lobatus</i>)	Ovenbird (<i>Seiurus aurocapillus</i>)
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	Parasitic Jaeger (<i>Stercorarius parasiticus</i>)	Connecticut Warbler (<i>Oporonis agilis</i>)
Great Egret (<i>Casmerodias albus</i>)	Forster's Tern (<i>Sterna forsteri</i>)	American Redstart (<i>Setophaga ruticilla</i>)
Snowy Egret (<i>Egretta thula</i>)	Caspian Tern (<i>Hydroprogne caspia</i>)	Hooded Oriole (<i>Icterus cucullatus</i>)
American Bittern (<i>Botaurus lentiginosus</i>)	Rock Dove ³ (<i>Columba livia</i>)	Scott's Oriole ⁵ (<i>Icterus parisorum</i>)
Gadwall (<i>Anas strepera</i>)	Yellow-billed Cuckoo ⁴ (<i>Coccyzus americanus</i>)	Rusty Blackbird (<i>Euphagus carolinus</i>)
Blue-winged Teal (<i>Anal discors</i>)	Lesser Nighthawk (<i>Chordeiles acutipennis</i>)	Summer Tanager (<i>Piranga flava</i>)
Common Goldeneye (<i>Bucephala clangula</i>)	Costa's Hummingbird (<i>Calypte costae</i>)	Rose-breasted Grosbeak (<i>Pheucticus ludovicianus</i>)
White-winged Scoter (<i>Melanitta deglandi</i>)	Ladder-backed Woodpecker ⁵ (<i>Picoides scalaris</i>)	Indigo Bunting (<i>Passerina cyanea</i>)
Surf Scoter (<i>Melanitta perspicillata</i>)	Wied's Crested Flycatcher (<i>Myiarchus tyrannulus</i>)	Gray-headed Junco ⁶ (<i>Junco caniceps</i>)
Rough-legged Hawk (<i>Buteo lagopus</i>)	Gray Flycatcher (<i>Empidonax wrightii</i>)	Harris' Sparrow (<i>Zonotrichia querula</i>)
Ferruginous Hawk (<i>Buteo regalis</i>)	Bank Swallow (<i>Riparia riparia</i>)	White-throated Sparrow (<i>Zonotrichia albicollis</i>)
Sage Grouse (<i>Centrocercus urophasianus</i>)	Purple Martin (<i>Progne subis</i>)	
Bobwhite ² (<i>Colinus virginianus</i>)	Cactus Wren ⁵ (<i>Campylorhynchus brunneicapillus</i>)	
Sandhill Crane ¹ (<i>Grus canadensis</i>)	Sage Thrasher (<i>Oreoscoptes montanus</i>)	
Sora (<i>Porzana carolina</i>)	Bohemian Waxwing (<i>Bombycilla garrulus</i>)	
Solitary Sandpiper (<i>Tringa solitaria</i>)	Northern Shrike (<i>Lanius excubitor</i>)	
Wandering Tattler (<i>Heteroscelus incanus</i>)	Black-and-white Warbler (<i>Mniotilta varia</i>)	

¹ Flocks overhead often seen, but seldom land.

² Introduced species; uncertain whether established.

³ Small populations in a few low-elevation communities, such as Auburn, Placer County (R. Stallcup, pers. commun., May, 1977).

⁴ Found only in riparian woodland along Kern River, Kern County; breeds.

⁵ Found only in Joshua tree woodland along Kern River, Kern County; probably breeds.

⁶ One breeding record, in Mineral King area, Tulare County (Stallcup and Greenberg 1974).

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