

Appendix B: Avian Species List

Sighting probability, conservation ranking, dietary guild, migratory status, and nest location.
SPECIES IN BOLDFACE ARE probable or CONFIRMED BREEDING IN THE ARBORETUM.

	Sighting Probability ^a			Conservation ranking ^b	Dietary Guild ^c	Migratory Status ^d	Nest Location
	Surveys conducted 1990-91, 1993-94, 1995-96 by England et al.	Surveys conducted 2004-05 by Castañeda	All surveys 1990-2005				
ANATIDAE							
Greater White-fronted Goose	0.56%	0.00%	0.40%		2	3	ground
Canada Goose	3.31%	25.14%	9.73%		2	5	ground
Tundra Swan	0.56%	0.00%	0.40%		2	3	ground
Wood Duck	6.85%	17.82%	10.20%		2	5	tree
Mallard	98.19%	87.22%	97.34%		2	5	ground
Cinnamon Teal	0.00%	1.39%	0.42%		2	5	ground
Northern Shoveler	0.56%	0.00%	0.40%		2	3	ground
Canvasback	0.56%	0.00%	0.40%		2	3	water
Ring-necked Duck	0.00%	1.39%	0.42%		1	3	water
Common Goldeneye	2.54%	0.00%	1.78%		1	3	tree
Common Merganser	10.40%	0.00%	7.42%		5	3	tree
Ruddy Duck	0.69%	0.00%	0.52%		4	3	water
PHASIANIDAE							
Common Peafowl	0.00%	19.07%	5.35%		2	5	ground
ODONTOPHORIDAE							
California Quail	0.00%	1.39%	0.32%		2	5	ground
PODICIPEDIDAE							
Pied-billed Grebe	27.25%	18.29%	25.82%		5	5	aquatic
PHALACROCORACIIDAE							
Double-crested Cormorant	2.40%	15.93%	6.55%	SSSC2	5	5	ground
ARDEIDAE							
Great Blue Heron	2.13%	0.00%	1.60%		5	5	tree
Great Egret	16.24%	23.61%	18.19%		5	5	tree
Snowy Egret	12.72%	24.95%	16.10%		5	5	tree
Cattle Egret	0.00%	8.43%	2.26%		5	5	tree
Green Heron	60.59%	35.51%	55.83%		5	5	tree
Black-crowned Night-Heron	19.41%	27.18%	21.81%		5	5	tree
CATHARTIDAE							
Turkey Vulture	14.60%	12.04%	14.09%		5	5	bank
ACCIPITRIDAE							
White-tailed Kite	0.60%	2.78%	1.25%		5	5	tree
Northern Harrier	2.49%	0.00%	1.77%		5	5	ground
Sharp-shinned Hawk	1.79%	2.78%	2.07%	SSSC3	5	3	
Cooper's Hawk	6.00%	10.00%	7.29%	SSSC3	5	5	tree
Red-shouldered Hawk	8.33%	30.37%	13.77%		5	5	tree
Swainson's Hawk (former breeder)	22.04%	12.13%	20.78%	ST, RBCP, YL	5	4	tree

	Sighting Probability ^a			Conservation ranking ^b	Dietary Guild ^c	Migratory Status ^d	Nest Location
	Surveys conducted 1990-91, 1993-94, 1995-96 by England et al.	Surveys conducted 2004-05 by Castañeda	All surveys 1990-2005				
Red-tailed Hawk	15.69%	23.61%	17.42%		5	5	tree
Ferruginous Hawk	0.64%	0.00%	0.44%		5	3	tree
FALCONIDAE							
American Kestrel	3.75%	0.93%	3.05%		5	5	tree
RALLIDAE							
American Coot	16.84%	10.00%	15.22%		1	5	water
CHARADRIIDAE							
Killdeer	8.67%	12.59%	9.95%		4	5	ground
SCOLOPACIDAE							
Spotted Sandpiper	0.91%	0.00%	0.64%		4	5	ground
Long-billed Curlew	0.83%	0.00%	0.67%	RL	4	3	ground
Wilson's Snipe	0.56%	0.00%	0.40%		4	3	ground
LARIDAE							
Ring-billed Gull	1.95%	2.78%	2.23%		1	3	ground
California Gull	26.11%	10.65%	21.82%	SSSC3	1	3	ground
Herring Gull	0.00%	6.25%	1.77%		1	3	ground
Forster's Tern	0.60%	0.00%	0.60%		5	2	water
COLUMBIDAE							
Rock Pigeon	76.75%	53.52%	72.54%		2	5	ledge
Mourning Dove	39.79%	27.82%	38.16%		2	5	tree
TYTONIDAE							
Barn Owl	2.19%	0.00%	1.77%		5	5	tree
STRIGIDAE							
Great Horned Owl	0.00%	1.39%	0.42%		5	5	tree
APODIDAE							
White-throated Swift	6.66%	26.94%	12.77%	YL	4	4	bank
TROCHILIDAE							
Anna's Hummingbird	54.86%	78.75%	61.82%		3	5	tree
ALCEDINIDAE							
Belted Kingfisher	32.19%	0.00%	23.18%		5	5	bank
PICIDAE							
Acorn Woodpecker	2.22%	0.00%	1.65%	OWBCP	1	5	tree
Red-breasted Sapsucker	1.20%	0.00%	0.84%		1	3	tree
Nuttall's Woodpecker	59.56%	90.00%	69.56%	OWBCP, RL, CE	4	5	tree
Downy Woodpecker	2.45%	10.14%	4.52%		4	5	tree
Northern Flicker	40.53%	36.25%	39.07%		4	5	tree
TYRANNIDAE							
Western Wood-Pewee	0.49%	1.67%	0.81%		4	2	tree
Hammond's Flycatcher	0.60%	0.00%	0.60%		4	2	tree
Pacific-slope Flycatcher	3.73%	1.67%	3.34%		4	4	tree
Black Phoebe	51.51%	80.00%	59.69%		4	5	bank
Ash-throated Flycatcher	0.56%	2.78%	1.11%		4	4	tree

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	Surveys conducted 1990-91, 1993-94, 1995-96 by England et al.	Surveys conducted 2004-05 by Castañeda	All surveys 1990-2005				
Western Kingbird	2.58%	1.67%	2.59%		4	4	tree
VIREONIDAE							
Cassin's Vireo	0.60%	0.00%	0.42%		4	2	tree
Hutton's Vireo	0.60%	0.00%	0.42%		4	5	tree
Warbling Vireo	2.07%	2.78%	2.52%	RBCP	4	2	tree
CORVIDAE							
Western Scrub-Jay	99.58%	89.07%	98.87%	OWBCP	1	5	shrub
Yellow-billed Magpie	78.43%	67.08%	77.57%	OWBCP, YL, CE	1	5	tree
American Crow	96.33%	90.00%	96.82%		1	5	tree
ALAUDIDAE							
Horned Lark	0.56%	0.00%	0.40%		1	5	ground
HIRUNDINIDAE							
Tree Swallow	1.59%	29.72%	9.18%	RBCP	4	5	tree
Northern Rough-winged Swallow	16.12%	1.39%	13.11%		4	4	bank
Cliff Swallow	9.99%	11.94%	11.08%		4	4	ledge
Barn Swallow	43.10%	35.19%	42.50%		4	4	ledge
PARIDAE							
Oak Titmouse	0.60%	2.59%	1.44%	OWBCP, YL, CE	4	5	tree
AEGITHALIDAE							
Bushtit	32.77%	68.70%	43.72%		4	5	tree
SITTIDAE							
Red-breasted Nuthatch	8.98%	21.11%	12.39%		4	3	tree
White-breasted Nuthatch	0.00%	0.93%	0.32%		4	5	tree
CERTHIIDAE							
Brown Creeper	2.21%	0.00%	1.56%		4	3	Tree
TROGLODYTIDAE							
Bewick's Wren	0.00%	0.93%	0.32%		4	5	tree
House Wren	2.47%	22.87%	8.29%		4	5	tree
REGULIDAE							
Golden-crowned Kinglet	0.56%	0.00%	0.28%		4	3	tree
Ruby-crowned Kinglet	46.61%	54.55%	50.58%		4	3	tree
TURDIDAE							
Western Bluebird	0.00%	17.45%	4.86%	OWBCP	1	5	tree
Swainson's Thrush	0.60%	0.00%	0.60%	RBCP	1	2	shrub
Hermit Thrush	13.65%	12.36%	13.66%		1	3	ground
American Robin	17.40%	20.19%	18.41%		1	5	tree
Varied Thrush	5.65%	0.00%	4.02%		1	3	tree
MIMIDAE							
Northern Mockingbird	34.86%	24.54%	32.88%		1	5	shrub
STURNIDAE							
European Starling	78.42%	75.74%	80.27%		1	5	tree
MOTACILLIDAE							

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American Pipit	6.37%	15.97%	9.14%		4	3	ground
BOMBYCILLIDAE							
Cedar Waxwing	21.30%	32.50%	24.63%		2	3	tree
PTILOGONATIDAE							
Phainopepla	1.02%	0.00%	0.74%		2	5	tree
PARULIDAE							
Orange-crowned Warbler	20.03%	47.55%	28.42%		4	5	ground
Nashville Warbler	0.42%	0.93%	0.65%		4	2	ground
Yellow Warbler	7.68%	6.30%	7.69%	SSSC2, RBCP	4	4	shrub
Yellow-rumped Warbler	54.52%	52.31%	54.35%		4	3	tree
Black-throated Gray Warbler	4.69%	2.78%	4.25%		4	2	tree
Townsend's Warbler	0.49%	0.93%	0.64%		4	2	tree
Hermit Warbler	0.42%	0.00%	0.33%		4	2	tree
Common Yellowthroat	0.98%	0.00%	0.64%	RBCP	4	5	shrub
Kentucky Warbler	0.00%	0.93%	0.32%	YL	4	1	ground
Wilson's Warbler	4.64%	3.70%	4.77%	RBCP	4	2	ground
THRAUPIDAE							
Western Tanager	2.40%	0.00%	1.97%		1	4	tree
EMBERIZIDAE							
Spotted Towhee	4.83%	11.39%	6.69%		2	5	ground
California Towhee	1.47%	0.00%	1.08%		2	5	shrub
Chipping Sparrow	0.76%	0.00%	0.52%		2	2	tree
Lark Sparrow	3.10%	0.00%	2.17%		2	5	ground
Fox Sparrow	10.61%	10.42%	10.42%		2	3	ground
Song Sparrow	10.70%	9.26%	10.24%	RBCP	2	5	ground
Lincoln's Sparrow	7.49%	9.72%	8.03%		2	3	ground
White-throated Sparrow	1.57%	0.00%	1.15%		2	3	ground
White-crowned Sparrow	53.86%	49.58%	52.85%		2	3	shrub
Golden-crowned Sparrow	42.48%	35.19%	40.71%		2	3	ground
Dark-eyed Junco (Oregon)	35.74%	35.56%	35.81%		2	5	ground
Dark-eyed Junco (Slate-colored)	0.00%	2.78%	0.88%		2	5	ground
CARDINALIDAE							
Black-headed Grosbeak	1.65%	0.00%	1.35%	RBCP	2	4	tree
ICTERIDAE							
Red-winged Blackbird	1.43%	22.78%	7.57%		1	5	aquatic
Western Meadowlark	1.35%	1.39%	1.26%		1	5	ground
Brewer's Blackbird	49.21%	10.00%	40.80%		1	5	tree
Brown-headed Cowbird (former)	5.89%	0.00%	4.79%		1	5	tree
Bullock's Oriole	1.85%	0.00%	1.60%		1	4	tree
FRINGILLIDAE							
Purple Finch	15.90%	0.00%	11.31%		2	3	tree
House Finch	50.14%	65.60%	55.33%		2	5	tree

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	Surveys conducted 1990-91, 1993-94, 1995-96 by England et al.	Surveys conducted 2004-05 by Castañeda	All surveys 1990-2005				
Pine Siskin	10.45%	0.00%	7.54%		2	3	tree
Lesser Goldfinch	17.16%	37.50%	22.90%		2	5	tree
American Goldfinch	42.87%	63.10%	48.57%		2	5	shrub
PASSERIDAE							
House Sparrow	53.88%	17.59%	45.27%		2	5	building
OTHER SPECIES OR GENERA							
<i>Empid</i> spp.	0.42%	0.93%	0.64%				
Gull	4.10%	0.00%	2.93%				
<i>Selasphorus</i> spp.	1.93%	0.00%	1.36%				
<i>Zonotrichia</i> spp.	0.00%	6.94%	2.02%				
Red Junglefowl	0.00%	3.06%	0.87%				
<i>Accipiter</i> sp.	2.58%	0.00%	1.88%				
<i>Falco</i> spp.	0.64%	0.00%	0.00%				
Ringed-turtle Dove	0.49%	0.00%	0.32%				
Western Flycatcher (2 Spp.)	1.09%	0.00%	0.92%				
Goldfinch	1.17%	0.00%	0.84%				
Parrot	0.49%	0.00%	0.32%				

^aProbability of sighting calculated as number of times species was detected divided by the number of surveys
^bConservation Status: Federal endangered (FE), Federal threatened (FT), State endangered (SE), State threatened (ST), State Species of Special Concern 1st, 2nd, and 3rd priority (SSSC1, SSSC2, SSSC3), California Partners in Flight Oak Woodland Bird Conservation Plan Focal Species (OWBCP), California Partners in Flight Riparian Bird Conservation Plan Focal Species (RBCP), Audubon WatchList Red List (RL), Audubon WatchList Yellow List (YL), California endemic species (CE).
^cDietary Guild: 1=Omnivore; 2=Granivore/Herbivore; 3=Nectarivore; 4=Insectivore; 5=Carnivore.
^dMigratory Status:1=Vagrant; 2=Transient; 3=Winter Visitor; 4=Summer Visitor; 5=Resident.

Description of Avian Conservation Rankings:

Federal and State Designations

Threatened or Endangered:

Most birds are protected under the Migratory Bird Treaty Act (16 U.S.C. 703–711). However, before a plant or animal species can receive protection under the Endangered Species Act, it must first be placed on a federal or state list of endangered and threatened wildlife and plants. An “endangered” species is one that is in danger of extinction throughout all or a significant portion of its range. A “threatened” species is one that is likely to become endangered in the foreseeable future (USFWS 2006).

California State Species of Special Concern:

“Species of Special Concern (SSSC) status applies to animals not listed under the federal Endangered Species Act or the California Endangered Species Act, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist.” (CDFG 2006)

California Partners in Flight Bird Conservation Plan Focal Species:

The California chapter of Partners in Flight (CalPIF) was established in 1992 to promote the conservation of resident and migratory landbirds and their habitats in California. To facilitate a proactive approach to landbird conservation, CalPIF has developed a series of Bird Conservation Plans (BCPs), including the Oak Woodland Conservation Plan and the Riparian Conservation Plan, that identify habitats important to birds, and present a list of focal species and prescriptions for their conservation (RHJV 2004, CalPIF 2002).

National Audubon Society WatchList:

Audubon's WatchList was designed specifically to highlight those bird species that have the greatest conservation needs (National Audubon Society 2002). Audubon uses two independent assessments published by BirdLife International and Partners in Flight, respectively, to place species in one of three categories: red, yellow, or green (no conservation concern).

RED: species in this category are declining rapidly, have very small populations or limited ranges, and face major conservation threats. These typically are species of global conservation concern.

YELLOW: this category includes those species that are also declining but at a slower rate than those in the red category. These typically are species of national conservation concern

California Endemic Species:

Over millennia, California's mild climate and wealth of habitats has resulted in many distinct species and races of plants and animals, including birds (National Audubon Society 2006). Though only Yellow-billed Magpie and Island Scrub-Jay have never been recorded outside the state's borders, others like Allen's hummingbird, Nuttall's woodpecker, oak titmouse, California thrasher, wren-tit, Lawrence's goldfinch and tricolored blackbird are found primarily within California and are dependent upon California's natural landscapes. Though these species are still common throughout their ranges, surveys such as the national Breeding Bird Survey have detected declines in their numbers over the past few decades (although at least one, Allen's Hummingbird, is adapting well to planted ornamental vegetation). This, along with their limited global range, is a cause for concern.

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