National Park Service
U.S. Department of the Interior
San Francisco Bay Area Network
Inventory and Monitoring Program
Research Project Summary April 2009

Landbirds of Pinnacles National Monument

Importance: *Pinnacles National Monument (PINN) contains large areas of undisturbed chaparral and woodland, as well as riparian corridors. These provide critical habitat for central coast birds.*

The protected status of PINN and the quantity, quality, and variety of its habitats offer a unique opportunity for bird studies in California's central coast. In 1996, the National Park Service (NPS) identified birds as a major component of ecosystems to be inventoried and monitored. A systematic bird inventory had been conducted in PINN in 1984-1985, and NPS repeated these surveys in 1998-1999. In 2000, a presidential decree added 8,000 more acres of land to PINN, and NPS contracted with PRBO Conservation Science to inventory the new lands, as well as some historic areas not previously surveyed, in 2001 and 2002. These data were meant to complement existing data from the interior of the park. Yearly monitoring has continued as funding has allowed using 27 of the 1998-1999 points and 63 of the 2001-2002 points. NPS staff also record confirmed observations by employees and visitors.



Credit: Gavin Emmons

This Bewick's Wren, one of the species of birds censused at PINN, is singing in the chaparral.

Inventory Methods: *NPS staff undertook landbird surveys at 71 point count stations in 1984-1985 and 66 of those same stations in 1998-1999. During 2001-2002, PRBO surveyed nine transects totaling 92 point count stations.*

Researchers established point count transects and stations in three major habitat types: chaparral, pine-oak woodland, and riparian woodland. At each point count station, researchers conducted a five-minute census during peak singing hours, noting songs, visuals, and calls. During the 1984-1985 and 1998-1999 surveys, researchers censused each station six times in winter and six times in spring. During the 2001-2002 survey, researchers censused each station two to three times total in the spring only. The bird detection data allowed researchers to derive bird diversity, species richness, and relative abundance. Species detected beyond 50 meters from each point and species not well sampled by the point count method (raptors, swifts, swallows, waterbirds, shorebirds, etc.) were not included in statistical analysis. The 2001-2002 survey also established 24 area search plots (17 surveyed in winter and 7 surveyed in breeding season) to augment the point count data and inventory winter landbirds. Data from monitoring since 2002 will also be incorporated into the database.

Inventory Findings: *Researchers recorded a total of 113 bird species through the three inventories (83 in 1985, 93 in 1999, and 96 in 2002). The certified bird list for PINN includes 180 species present in the park (Table 1 on next page) based on these inventories, monitoring, and other confirmed sightings.*

- The Western Meadowlark and Yellow-billed Magpie were among the birds observed in 2002 (but not in 1985 or 1999) as a result of the expansion of park lands.
- In the 2002 point count and area search surveys, 60 species were found in chaparral, 68 in pine-oak woodland, and 74 in riparian areas. In each of the three point count inventories (1985, 1999, 2002), riparian woodlands featured the highest species richness, or number of species observed.
- Although chaparral is low in species richness in all three inventories, in 2002 eight species were more common in chaparral than in other habitats.
- 37% of the bird species known to occur at PINN have been recorded only through observations by employees and visitors, including during the annual Audubon Christmas Bird Count. Please help us by reporting any unusual wildlife sightings.

Table 1. Species listed as "Present in Park" on the PINN certified bird List.

Mallard	Killdeer	Downy Woodpecker	Brown Creeper	Wilson's Warbler
Hooded Merganser	Spotted Sandpiper	Hairy Woodpecker	Rock Wren	Yellow-breasted Chat
Common Merganser	Greater Yellowlegs	Northern Flicker	Canyon Wren	Western Tanager
Chukar	Lesser Yellowlegs	Pileated Woodpecker	Bewick's Wren	Green-tailed Towhee
Ring-necked Pheasant	Western Sandpiper	Olive-sided Flycatcher	House Wren	Spotted Towhee
Wild Turkey	Least Sandpiper	Western Wood-Pewee	Winter Wren	California Towhee
Mountain Quail	Baird's Sandpiper	Willow Flycatcher	American Dipper	Rufous-crowned Sparrow
California Quail	Common Snipe	Hammond's Flycatcher	Golden-crowned Kinglet	Chipping Sparrow
Common Loon	Black-legged Kittiwake	Pacific-slope Flycatcher	Ruby-crowned Kinglet	Black-chinned Sparrow
Pied-billed Grebe	Rock Pigeon	Black Phoebe	Blue-gray Gnatcatcher	Lark Sparrow
Western Grebe	Band-tailed Pigeon	Say's Phoebe	Western Bluebird	Sage Sparrow
American White Pelican	White-winged Dove	Ash-throated Flycatcher	Mountain Bluebird	Grasshopper Sparrow
Double-crested Cormorant	Mourning Dove	Western Kingbird	Townsend's Solitaire	Fox Sparrow
Great Blue Heron	Greater Roadrunner	Loggerhead Shrike	Swainson's Thrush	Song Sparrow
Great Egret	Barn Owl	Bell's Vireo	Hermit Thrush	Lincoln's Sparrow
Green Heron	Western Screech-Owl	Gray Vireo	American Robin	White-throated Sparrow
Turkey Vulture	Great Horned Owl	Cassin's Vireo	Varied Thrush	White-crowned Sparrow
California Condor	Northern Pygmy-Owl	Hutton's Vireo	Wrentit	Golden-crowned Sparrow
Osprey	Burrowing Owl	Warbling Vireo	Northern Mockingbird	Dark-eyed Junco
White-tailed Kite	Long-eared Owl	Steller's Jay	California Thrasher	Black-headed Grosbeak
Bald Eagle	Northern Saw-whet Owl	Western Scrub Jay	European Starling	Lazuli Bunting
Northern Harrier	Common Poorwill	Clark's Nutcracker	Cedar Waxwing	Red-winged Blackbird
Sharp-shinned Hawk	Black Swift	Yellow-billed Magpie	Phainopepla	Western Meadowlark
Cooper's Hawk	Vaux's Swift	American Crow	Golden-winged Warbler	Brewer's Blackbird
Red-shouldered Hawk	White-throated Swift	Common Raven	Orange-crowned Warbler	Brown-headed Cowbird
Swainson's Hawk	Black-chinned Hummingbird	Tree Swallow	Nashville Warbler	Hooded Oriole
Red-tailed Hawk	Anna's Hummingbird	Violet-green Swallow	Yellow Warbler	Bullock's Oriole
Ferruginous Hawk	Costa's Hummingbird	Northern Rough-winged Swallow	Yellow-rumped Warbler	Purple Finch
Rough-legged Hawk	Calliope Hummingbird	Cliff Swallow	Black-throated Gray Warbler	Cassin's Finch
Golden Eagle	Rufous Hummingbird	Barn Swallow	Townsend's Warbler	House Finch
American Kestrel	Allen's Hummingbird	Chestnut-backed Chickadee	Hermit Warbler	Pine Siskin
Merlin	Belted Kingfisher	Oak Titmouse	American Redstart	Lesser Goldfinch
Peregrine Falcon	Lewis' Woodpecker	Bushtit	Northern Waterthrush	Lawrence's Goldfinch
Prairie Falcon	Acorn Woodpecker	Red-breasted Nuthatch	Macgillivray's Warbler	American Goldfinch
Virginia Rail	Red-breasted Sapsucker	White-breasted Nuthatch	Common Yellowthroat	Evening Grosbeak
American Coot	Nuttall's Woodpecker	Pygmy Nuthatch	Hooded Warbler	House Sparrow

Additional Resources:

- Haff, T.M., G. Ballard, G.R. Geupel, and D. Humple. 2003. Landbird inventory of the Pinnacles National Monument. A Final Report to the National Park Service. PRBO Conservation Science. Online: http://science.nature.nps.gov/im/units/sfan/Inventory/FinalInventoryReports/PINNfinal2003.pdf.
- Fesnock, A.L. and S. Buranek. Unpublished. Changes in bird communities at Pinnacles National Monument.
- Audubon Christmas Bird Count: http://www.audubon.org/Bird/cbc/.
- Download the PINN bird checklist (with breeding status in park and abundance by month and habitat): http://www.nps.gov/pinn/naturescience/upload/BirdCheckList.pdf.
- NPS staff may use the Natural Resources Information Portal (type "nrinfo" in a browser on a government connection) to view Certified Species lists including residency, abundance, and native/non-native status.
- Summary written by Alison Williams. For more information contact Marcus Koenen, Inventory and Monitoring Coordinator, NPS San Francisco Bay Area Network, 415-331-5734, Marcus_Koenen@nps.gov, http://science.nature.nps.gov/im/units/sfan/vital_signs/landbirds/landbird_pop_dynamics.cfm.