

Yellow-billed Magpie (*Pica nuttalli*)

Legal Status

Federal: None

State: None



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Global and State Conservation Status: G3S3: Global rank, G3 = Vulnerable: At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors; State rank, S3 = Vulnerable: Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Recovery Plan: None

Species Description and Life History

Yellow-billed magpies (*Pica nuttalli*) are endemic to California. This species is highly distinctive within its range, with a very long tail, iridescent plumage, and boldly black and white patterned body and wings. North and east of California, the very similar closely related, but much more widespread and numerous, black-billed magpie (*P. hudsonia*) occurs.

Seasonal Patterns

Yellow-billed magpies are resident within their range, and generally remain near their breeding areas; there is no evidence of migration for this species. Some non-breeding flocks may wander up to 3.5 km from their nesting areas, especially in late summer when local insect supplies may become scarce (Reynolds 1995).

Reproduction

Both males and females build large, domed nests consisting of sticks, mud, dung, and/or animal hair, and nests are often reused in subsequent years (Reynolds 1995). Nest construction often begins in late-December until March, and this process may extend for up to two months (Reynolds 1995). Females may initiate egg laying before nest construction is complete and a clutch typically comprises 5-7 eggs. Females incubate the eggs until they hatch in 16-18 days, and both adults feed nestlings until they fledge at about 30 days (Reynolds 1995). Adults are physiologically adapted to hot climates and

have reduced heat stress compared to the close relative, the black-billed magpie (Hayworth and Weathers 1984).

Home Range/Territory Size

Yellow-billed magpies are semi-colonial nesters, but defend small territories of about 1.2 ha (N =13) during the breeding season (Verbeek 1973). Territories are not well-defined, and home ranges overlap (Verbeek 1972, Reynolds 1995). They do not defend space in the non-breeding season, when large flocks of >200 birds may form and roost in riparian trees, oak woodlands, and orchards (Reynolds 1995).

Foraging Behavior and Diet

Yellow-billed magpies forage primarily on the ground in oak savanna, grassland, pasture, agricultural areas, and suburban parks and yards (Reynolds 1995). They prefer to forage in short, grazed pasture compared to ungrazed pasture (Reynolds 1995). Nestlings are fed a wide variety of invertebrates especially moths (Lepidoptera) and grasshoppers (Orthoptera) and outbreak insects such as some beetles (Coleoptera), tent caterpillars (Lasiocampidae: *Malacosoma* spp.) and crane flies (Tipulidae) (Reynolds 1995). During the fall, magpies consume fruits and seeds including coast live oak (*Quercus agrifolia*) and valley oak (*Q. lobata*) acorns, figs (*Ficus* spp.), fruits of coffeeberry (*Rhamnus* spp.), poison oak (*Toxicodendron diversilobum*), grapes (*Vitis* spp.), wheat (*Triticum* spp.), oats (*Avena* spp.), barley (*Hordeum* spp.), sorghum (*Sorghum* spp.), as well as filberts (*Corylus* spp.) and walnuts (*Juglans* spp.) (Reynolds 1995). Similar to many other members of their family (Corvidae), yellow-billed magpies also eat carrion when they find it, but primarily during the winter and early spring months (Reynolds 1995). They occasionally hunt small rodents. In suburban areas and landfills they will also consume garbage (Reynolds 1995).

Habitat Requirements and Ecology

Nesting

Yellow-billed magpies typically nest high in large trees, often in association with clumps of mistletoe. Nest heights may exceed 14 m, and they are often placed at the ends of limbs to deter potential predators. Preferred nesting trees include oaks (*Quercus* spp.), sycamores (*Platanus racemosa*), Fremont cottonwoods (*Populus fremontii*), blue gum (*Eucalyptus globulus*), and a diversity of orchard trees (Reynolds 1995). Suitable nesting habitat is usually within 1,000 meters of permanent water (natural or stock ponds) (Chase and Reynolds 2002).

Foraging

Yellow-billed magpies usually forage in agriculture fields, grasslands, and oak savanna, and may occasionally forage in livestock feedlots and rice fields. They also frequent urban and suburban settings where they forage at urban parks, cemeteries, golf courses,

and suburban lawns (Reynolds 1995). They spend most of the time foraging, but foraging periods during daylight varies seasonally (Verbeek 1972). During winter, most foraging is in the afternoon, but summertime foraging occurs primarily in the morning.

Species Distribution and Population Trends

Distribution

Yellow-billed magpies are endemic to California. These resident birds nest primarily in the Sacramento Valley, foothills of the western Sierra Nevada, and interior valleys in the coast range from Lake County to northern Santa Barbara County (Reynolds 1995). There are no valid records outside the state and within the state, this species very rarely wanders outside the established range (A.O.U. 1998) and appears to be highly resident.

Population Trends

Yellow-billed magpie numbers in California may be declining due to habitat loss/conversion, rodent poisoning, and West Nile virus (Airola et al. 2007, Crosbie et al. 2008, H. Ernest and S. Crosbie pers. comm.).

Distribution and Population Trends in the Plan Area

Yellow-billed magpies are common and widespread throughout lowland areas of Yolo County (Yolo Audubon Checklist Committee 2004), including agricultural areas and orchards around Davis, Winters, Woodland, Capay Valley, and the Yolo Bypass. They often roost, and sometimes nest, in shade trees along urban streets and forage in nearby areas, as well as in large areas of lawn and turf in urban and suburban areas.

Threats to the Species and Other Conservation Issues

West Nile virus is a serious threat to the species. Several entire roosting colonies have been vacant since the spread of the virus into the species' range in 2004 (Crosbie et al. 2008, H. Ernest and S. Crosbie pers. comms.). A widespread population decline of about 40% has been detected in the Central Valley during 2005-2006, based on Christmas Bird Counts, Breeding Bird Surveys and other sources (Airola et al. 2007, Crosbie et al. 2008).

The effects of pesticides on magpie health and reproduction are unknown. Drought and reduction of insect prey during the breeding season and summer are likely the primary regulators of local populations (Reynolds 1995), where West Nile Virus is not a factor.

Significant data gaps relating to many aspects of the ecology of the yellow-billed magpie exist. Data gaps include sources of mortality, especially the degree to which West Nile virus is a factor, as well as diet and foraging ecology. In addition, little is known about the ecological limits on distribution of this very limited species. Increased knowledge of environmental determinants of distribution of this species should help in developing informed conservation plans for this species.

Factors determining local population fluctuations (especially due to West Nile virus) and movements need to be better understood to guide effective management actions to increase and stabilize populations at local carrying capacity.

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