

Protocol for Monitoring Yellow-billed Magpie (*Pica nuttalli*) Nests

Introduction

Since the West Nile virus arrived in central California in 2004, thousands of Yellow-billed Magpies have died and populations are at risk for decline. To better document and understand magpie population trends, monitoring magpie nesting activities should be initiated range-wide.

Finding Nests

Yellow-billed Magpies are a social and conspicuous species, often making their nests easy to find and observe. Magpies build large, globular stick nests, about 1 meter (3 feet) in diameter, with prominent domes (stick-canopies). Nests are usually constructed in relatively high locations and multiple types of vegetation or other structures may be used. Nests are most commonly constructed in oaks (sometimes within mistletoe clumps, which can make them hard to identify), sycamores, cottonwoods, locusts, gums (*Eucalyptus* spp.), pines, cypresses, willows, palm trees and utility poles. Magpies will either nest in loose colonies (groups of nests fairly close together) or solitarily. Colonies may be spread out over several acres and it is less common for more than one active nest to be present in the same tree.

Nesting cycle

Magpies will visit nesting areas and previously used nests throughout the year. Generally, magpie pairs build a new nest each year but occasionally they will reuse the same nest for several years. Nest construction or refurbishment occurs most frequently from December through March. In studied populations, the nesting season starts in early April and is completed by the end of June. Females generally lay eggs from the beginning of April through May. When incubation begins, the female will remain on the nest for most of the day (often vocalizing very loudly) and the male will provide her with most of her food. Incubation lasts approximately 16-18 days. Young generally hatch from early May through June and they generally fledge (leave the nest) within 30 days. Following hatching, both parents will feed the young. The young, which are slightly smaller than adults and have much shorter tails, generally remain in the nest tree for 4-5 days after hatching before venturing to the ground or other trees. They will beg for food when approached by their parents and after about six days they will fly/glide to the ground and peck at objects and engage in social activities. Magpies usually have one brood (group of young produced) each year but may re-nest if the first nest fails early in the breeding season.

Nesting Cycle of the Yellow-billed Magpie

	MONTH											
	J	F	M	A	M	J	J	A	S	O	N	D
Nest Construction/Refurbishment	■	■	■									■
Nesting Season				■	■	■						
Eggs Laid				■	■	■						
Young Born					■	■						
RECOMMENDED MONITORING PERIOD				■	■	■	■					

Monitoring Nests

Observers are encouraged to monitor nests at all times of year **but especially from mid-March through July (prior to, during, and just after the breeding and fledging seasons)**. When visiting the nest, take care to not interfere with the bird's behaviors. Do not feed the birds or attempt to climb up to the nest. Simply observe the behavior of the magpies and note what you see on the Data Sheet provided at the end of this document. Binoculars or a spotting scope will be very handy in assisting with your observations. Ideally nests should be monitored for at least a half an hour per observation. Early morning is the best time to expect activity and observers are encouraged to monitor nests at this time.

Observers should conduct at least four observations per month from mid-March through July. Observers should look for specific activities associated with each stage of the nesting cycle.

Mid-March – watch for nest construction or refurbishment.

April – watch for behavior indicating that the female (males and females cannot be distinguished by appearance) is incubating eggs. For example, one bird (the female) will sit inside the nest for long periods of time and will be fed by another bird (the male). Females also begin food-begging (a very nosy and conspicuous whining cry) at approximately the onset of egg laying. This behavior continues throughout the incubation period but decreases in frequency.

May – watch for behavior indicating that the female is incubating eggs or that young have hatched (i.e. both parents bring food to the nest or vocalizations of young, but care should be taken not to confuse female food begging with vocalizations of young).

June – watch for behavior indicating that young have hatched and for the presence of young outside the nest (fledging).

July – **once fledging is nearing or has occurred, observers should increase the frequency of observations to try to determine how many young leave the nest. Determining whether the nest is successful (young are fledged), and how many were fledged (if possible) is the most vital part of nest monitoring.** However, it can often

be difficult to determine the number of young fledged. Young magpies will be smaller than the adults but will grow quickly. They can often be identified by their noticeably shorter tails (adult tails are as long as the body).

For each observation, observers should note how long they watched the nest and whether any magpies were actively building the nest or using it. Early in the nesting season, it may be difficult to determine whether a nest is active. For example, if no activity was observed at a nest during an observation in early April, observers should not conclude the nest inactive but simply record that no activity was observed. As the nesting season progresses, magpies will spend much more time at the nest and an observer's ability to determine whether a nest is active will increase. If no activity is observed at a nest by late May, one may conclude the nest is not active for the season. A nest is recorded as unsuccessful if it was active until April 15 but no activity was seen for an entire month (at least four visits) following that date.

Submitting Data

When you find a nest to monitor, email Magpie Monitors at magpie-mail@magpiemonitor.org and provide the location of the nest(s) you wish to monitor; we will then issue a name for the nest(s). The following two pages comprise the Nest Monitoring Data Sheet and they should be printed together on the front and back of one page and taken into the field to record your observations. The Nest Monitoring Data Sheet has multiple questions for the observer(s) to answer. Answering these questions as accurately as possible will aid in determining the stage of the breeding/fledging cycle the pair is at and when young may be expected to leave the nest (so the observer can increase their monitoring efforts to determine how many young fledge). Use one sheet to record multiple observations of each nest.

At the end of the breeding season, fill out the Nest Summary Data Sheet (the last page of this document) and email it to:

magpie-mail@magpiemonitor.org

or mail it to:

Magpie Monitor Program
c/o Dr. Holly Ernest
Wildlife and Ecology Unit
Veterinary Genetics Laboratory
School of Veterinary Medicine
University of California
One Shields Ave
Davis, CA 95616-8744
Attn: Magpie Count Data Sheets

YELLOW-BILLED MAGPIE NEST MONITORING DATA SHEET

Date	Notes (record magpie behavior, interactions between pairs and other birds and other pertinent information)

