

Variable Circular Plot (Point Count) Protocol for Yellow-billed Magpies (*Pica nuttalli*)

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, variable circular plot counts (point counts) should be initiated range-wide. A variable circular plot is a specific type of point count that essentially obtains a “snapshot” of magpies around a point station and the data collected will be used to estimate magpie abundance. The methods outlined below describe how to conduct a variable circular plot count.

Definitions:

Point transect – a line upon which “point stations” are placed.

Point station – the location(s) where the observer conducts the “point count”.

Variable Circular Plot Methods

Point transect locations will be determined by Magpie Monitors and a point transect map will be provided to observers who wish to conduct point counts. Each point transect will consist of approximately five to ten point stations that occur on a line (point transect) in an area accessible to the observer. Observers and data from all areas and habitat types used by Yellow-billed Magpies – rural, agricultural and residential/urban – are needed by Magpie Monitors.

Point transects will be conducted four times per year, during spring (late March through late June), summer (late June through late September) fall (late September through late December) and winter (late December through late March). Each year’s four visits should be centered in the middle of each season (i.e. - May, August, November and February). Magpie Monitors will send quarterly emails to remind observers when upcoming point counts are to be conducted.

Point transects are always initiated within an hour of sunrise and should not be conducted in medium to heavy rainfall conditions. To allow bird activity to equilibrate to the observer’s presence, each point count must start with a one minute “rest period” when the observer arrives at the station. The point count must then be conducted for exactly 3 minutes except in urban or residential areas where the point count must be exactly 5 minutes.

Each magpie seen or heard within the fixed time period is counted and the horizontal distance to its location when first observed is estimated or measured starting from the point station. Observers must be familiar and comfortable with judging distances. A range finder may be helpful for measuring distances. For magpies observed above ground (i.e. - in trees or in flight), the point on the ground directly below the bird is measured/estimated instead of the direct distance to the bird. To facilitate estimating distance, observers may make quick mental or written notes of where a magpie was seen (in front of a particular tree, perched on a fence or other land cues, for example) and then measure/estimate the distance to where that bird was first observed at the end of the point count. Measurements may be conducted by visual estimation if the observer is experienced with visual distance estimation. Measurements may also be paced (by walking the distance to where the bird was first observed) but only if the observer knows their pace (number of meters traveled per pace), and this must only be done at the end of the point count so that the bird's behaviors are not disturbed during the point count. No maximum distances restrictions are placed on any observation (count and estimate distance to ALL magpies seen or heard during the point count, no matter how far away they are). Distance intervals (in meters) are established as: 0.0-10.0, 10.1-25.0, 25.1-50.0, 50.1-100.0, 100.0-200.0, and >200.0. Thus, if a magpie were observed approximately 30 meters from the point station, that bird would be recorded under the 25.1-50.0 meter distance interval. To assist in estimating distance, observers are encouraged to place markers at measured distances (see above) at their point stations whenever possible. However, this must be done at least one week prior to initiation of point counts and only if permission to place markers is obtained from landowners, where necessary. Although observers may walk around the immediate area of the point station while conducting a point count, all magpie-distance measurements/estimations must originate from the point station and not from where the observer is standing while away from the point station. Binoculars should always be taken into the field during point counts.

Any magpies that are flushed when the observer first approaches the point station are recorded using the distance from the point station to where the magpie was first observed, even if the point count has not yet started. Magpies that are flushed when the observer approaches the point station are recorded as if they were encountered during the point count. The observer then initiates the one minute "rest period" and the point count. These flushed magpies must not be recounted during the point count.

When a group of magpies is seen, all the birds in the group are counted the distance from the point station to the center of the group, not to each bird, is measured and recorded.

Observers must make sure to count each individual only once during a given point count.

Observers must not wear brightly colored or yellow clothing since bright clothing or yellow colors may cause magpies to behave unnaturally.

The above methodologies are expected to be implemented "as-is". However, Magpie Monitors will analyze the initial data that are received and determine whether the above

methodologies need to be adjusted to make statistical analyses more robust. Any future changes to the above methods are expected to be minor and observers will be informed of the changes as soon as possible.

Submitting Data

A Data Sheet for recording point count data is located at the end of this document. Print Data Sheets and use them to record your point count data. **Once data has been collected, email the Data Sheets 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 VARIABLE CIRCULAR PLOT POINT COUNT DATA SHEET

Point Transect			Month		Day		Year	

Name Address

Telephone Email

Point #	Start Time	Distance to magpie in meter categories						Behavioral Observations	Habitat Type
		≤ 10.0	10.1-25.0	25.1-50.0	50.1-100.0	100.1-200.0	> 200.0		
0	1								
0	2								
0	3								
0	4								
0	5								
0	6								
0	7								
0	8								
0	9								
1	0								

<p>Behavioral Observations: FO = foraging FL = flock observed PA = pair observed TT = tree-topping/bird sitting prominently at tree top CO = copulation TC = twig carried FC = food carried to nest/other bird NF = nest found DI = display</p>	<p>Habitat Type: OW = oak woodland (oaks dominate landscape) OG = oak grassland (grassland dominates landscape) RI = riparian (habitat bordering stream/river) UR = urban/residential (city/town dominated landscape) AG = agricultural (agriculture dominated landscape)</p>
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Weather Information: Please measure/estimate temperature, cloud cover (% of sky covered by clouds) and wind speed:

_____ ° F or ° C (circle one) _____ % _____ mph
 Temperature Cloud Cover Wind Speed

Email completed Data Sheets to: magpie-mail@magpiemonitor.org
 or mail it to:

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 Veterinary Genetics Laboratory
 School of Veterinary Medicine
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