

# **Marpi Wing Beach Project**

## **Micronesian Megapode Survey Protocol, Saipan, CNMI**

### Introduction

The following guidelines were developed for surveying the federally endangered Micronesian Megapode (*Megapodius laperouse*) for the Marpi Wing Beach Project. The purpose of these surveys is to determine presence/absence and to estimate the number of birds that may be impacted by the proposed project.

Surveys for the Micronesian Megapode should be conducted following territory or spot mapping methodology with or without playbacks (Bibby *et al.* 2000, USGS 2007). Micronesian Megapode surveys should be conducted by a biologist that can identify the species by sight and vocalization, has knowledge of suitable habitat and habitat use, and experience implementing this type of survey methodology. The use of playback recordings will require a recovery permit from the Service prior to undertaking the surveys.

The study area should be divided into a series of marked transects spaced 100 meters apart to assist with mapping efforts (map of survey stations attached). Station markers should be placed along each transect (at 50-meter intervals) to facilitate identifying observer position along transects.

### Territory mapping methodology:

The locations of observed individuals will be mapped in the field on paper maps of the study plot during a series of visits and then transcribed separately to identify territory boundaries (USGS 2007). Each transect will be walked at a slow, uniform pace. Each bird observed (seen or heard) during each survey needs to be mapped as accurately as possible on paper maps of the study area, using the marked stations, as well as prominent landmarks, and GPS to identify the position of a bird. A minimum of ten complete territory mapping surveys should be conducted in appropriate survey conditions from sunrise to around 1000 hours and during the last 2 hours before sunset. If territories are not distinguishable after ten surveys, additional surveys may be necessary. You may provide your territory maps to our office and we can assist you with this determination. Surveys should be spread out fairly uniformly, at approximately weekly intervals (Bibby *et al.* 2000).

### Supplemental Playback surveys:

Playback surveys should be conducted during the first, middle, and last territory mapping session to increase the likelihood of detection. At each playback station, digitally recorded duet and alert calls of Micronesian Megapode should be played on an electronic game caller for one minute and the observer listens for 4 minutes for 5 total minutes at the station. The observer should map 1) location(s), 2) time, 3) direction (using a compass), and 4) distance in 25 m increments (0-25, 25-50, 50-75, 75-100, and >100) of all Micronesian Megapodes heard or seen during the survey. In addition, the observer

should note whether bird was heard or seen and whether the megapode was responding to playbacks or if the bird was calling opportunistically. Rain conditions should be avoided as rain masks the playback calls and impacts the ability of the observer to hear the birds. Bibby *et al.* (2000) includes figures and recommendations for mapping and recording data to estimate bird density using this methodology (see attached). It is important that the bird locations are mapped accurately and we recommend using Global Positioning System (GPS) and Geographic Information System (GIS) to facilitate this effort. Data sheets should include all pertinent field information to be recorded, including but not limited to: start and end times, cloud cover, vegetation classification, wind speed, precipitation, observer names, etc. The vegetation cover (*e.g.*, native, tangantangan, secondary forest, etc.) in the area should be mapped and quantified throughout the study area.

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Pacific Islands Fish and Wildlife Office  
Honolulu, HI

#### References

- Bibby, C.J., N.D. Burgess, D.A. Hill, and S.H. Mustoe. 2000. Bird census techniques, second edition. London: Academic Press, Inc.
- U.S. Fish and Wildlife Service (USFWS). 1998. Recovery plan for the Micronesian Megapode (*Megapodius laperouse laperouse*). U.S. Fish and Wildlife Service, Portland, OR. 65 + pp.
- U.S. Geological Survey (USGS). 2007. Managers' monitoring manual. [www.pwrc.usgs.gov/monmanual/techniques/territorymapping.htm](http://www.pwrc.usgs.gov/monmanual/techniques/territorymapping.htm).