

Preliminary proposal to Key Biscayne Community Foundation

Impact of ULTRA on bird populations

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Budget requested: \$5,000

Start- February 2019 End –July 2019

Goal

To conduct a quantitative evaluation of abundance and breeding activities of selected species of birds in sites on Virginia Key and Key Biscayne to assess possible environmental effects of ULTRA

Rationale

Bird disturbance by human activities is one of the main reasons why some bird populations are endangered or are not recovering in spite of the protections afforded by Federal and state laws. Human disturbance is particularly critical when it happens during breeding season. The period from March until May is the main breeding season of many of the birds nesting in Virginia Key and Key Biscayne, therefore the ULTRA concert has the potential to disrupt breeding for some of the species present in the area.

Method

We propose to conduct quantitative analyses of changes in selected bird populations in Virginia Key and Key Biscayne. We will survey six (Figure 1) selected bird nesting sites before during and after the ULTRA concert.

Birds will be monitored with a combination of human observers and sensors mounted on fixed cameras and drones. The level of the impact will be monitored with microphones at each monitoring site.

Analysis

Experimental design and statistical analysis will be done following the method of Before-After-Control-Impact (BACI). Sites in key Biscayne further from the concert will be used as control sites.

Deliverables

A preliminary report will be provided 30 days after the ULTRA concert. A final report will contain details of the analysis and primary data will be archived and accompanied with a comprehensive metadata description. The primary data will serve as a baseline for any further studies on the impacts of ULTRA as well as for any other future studies that contemplate describing the changes in abundance and breeding patterns of birds in Virginia key and Key Biscayne.

Outreach

Selected students from MAST and RSMAS will be invited to participate in parts of the study. A presentation of the results of the study will be done at the Key Biscayne Community Center and at MAST academy.

Figure 1:

Proposed monitoring sites

