Establishing a Monitoring Program to Estimate Urban Parrot Populations in San Diego

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Introduction

- Many species are trafficked for the pet trade, and parrots are an over-represented group. Accidental releases of traded parrots often result in new populations arising in non-native countries.[1]
- Though parrots from Mexico, South and Central America, and other countries have become naturalized in Southern California, their presence is not reflected by ample study or literature.
- San Diego's urban environments serve as the residence of at least thirteen parrot species, but the impacts of these non-native species on their new environment are unknown.[2]
- By monitoring these parrots, we will be better equipped to determine changes in both their population size and use of an urban environment.
- Understanding habitat preferences and requirements of urban parrots will also aid the conservation of growing urban fauna and implementing wildlife management practices.[3]

OBJECTIVES

1) Establish a parrot monitoring protocol to work effectively in an urban environment.
2) Estimate population size of parrots in Ocean Beach and Point Loma.

RESEARCH QUESTIONS

1) What is the population size of parrots in San Diego, specifically in Point Loma and Ocean Beach?
2) What is the roost size and activity of Red-masked/Mitred Parakeets in Point Loma and Ocean Beach?

Yellow-headed Parrot
(Amazona oratrix)

Study Area

Point-Count Transects: Point Loma and Ocean Beach

Red-masked Parakeets
(Psittacara erythrogenys)

Roost Surveys: Ocean Beach

Methods

Point-Count Transects

- Surveys are being conducted from February-May 2019, utilizing a double- dependent point-count observational method[4]
- Surveys occur in high visibility conditions without constant rain or wind speeds greater than 6 (Beaufort Scale)
- 35 point-count stations along 7-1 mile long transect lines, 10 minutes at each point
- Surveys begin approximately 1.5 hours before sunset
- All parrots, parakeets, doves, and corvids seen or heard are recorded within a 200-m radius of each point-count station

Red Crowned Parrot
(Amazona viridigenalis)

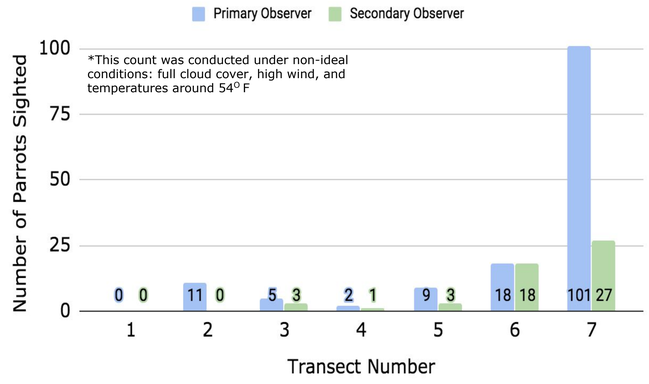
Roost Surveys

Red-masked Parakeet
(Psittacara erythrogenys)

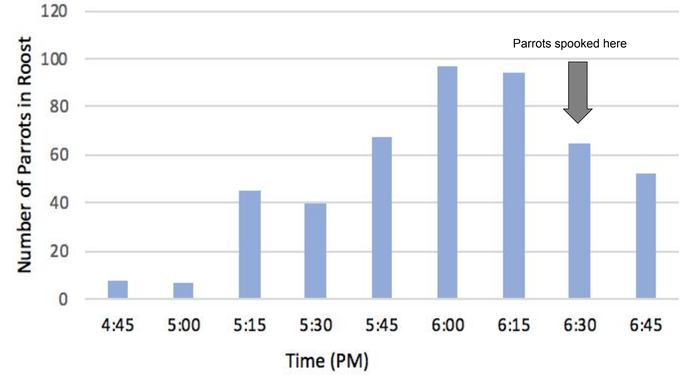
- An Ocean Beach roost site of primarily Red-masked Parakeets is being monitored
- Surveyors arrive two hours prior to sunset, so start and end times will vary by season
- Four corners of the roost site are surveyed, including a 200m radius of each corner (see Study Area)
- One observer counts at each corner of the roost site
- Roost surveys assume that the entire population is being counted[6]
- Though parrot populations roost communally, roost site locations can change frequently (often between seasons when parrots begin using nest sites at night instead of the roost[6])

Preliminary Results & Discussion

Point-Count Transect Results



Roost Survey Results



- Point Count-Transects: 198 parrots sighted
- Roost Surveys: Maximum roosting population was 97 parrots/parakeets
- Decline in parrot abundance at 6:30PM is due to an unknown disturbance at the roost site
- Our results have been limited by the weather since surveys cannot be done in rainy weather as parrots are less active
- There is a lack of research and information about urban parrots in San Diego, our population counts serve as a foundation for future studies
- With continued surveying, we will be more prepared to deal with population changes and urban habitat usage
- Three of the parrot species are IUCN threatened species,[5] population estimates will define their abundance allowing possible conservation efforts

In Progress

- Transect surveys will continue monthly, possibly being adjusted as preliminary data is collected
- Ocean Beach roost site will continue to be monitored as well
- Volunteers (including students of the University of San Diego) are still being recruited
- Parrot abundance will be determined using program DISTANCE to account for imperfect detection

REFERENCES

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