

The Department of Environmental Studies at San José State University is pleased to present a public research presentation:

Wednesday, February 9, 2022

12:00 PM – 1:15 PM

<https://sjsu.zoom.us/j/5858275843> pw: ENV@SJSU

Dr. Lynne Trulio

Professor

Department of Environmental Studies,

San José State University

**Implications of Migratory
Behavior for a Declining
Population of Burrowing Owls
(*Athene cunicularia*)**



Abstract: Western burrowing owls (*Athene cunicularia hypugaea*) are declining throughout their range as a breeding species, including in Santa Clara County, California. In this region, breeding burrowing owls are year-round residents at low elevation (0-18 m) sites. While burrowing owls have also been anecdotally documented during winter in this region at non-breeding sites, the relationship between burrowing owls seen in winter and resident birds has not been previously determined. The objectives of this study were to assess: 1) the spatial and temporal associations between resident burrowing owls and those observed in winter and 2) the genetic relationship between the migratory and resident birds. Burrowing owls had been captured and banded at known breeding sites for a number of summers before the study, and summer banding continued during this study. In addition, during four winters, 2014-2018, we banded burrowing owls at the known breeding sites as well as at other locations around the County where burrowing owls were seen by us or other birders. During four years of study in Santa Clara County, we found burrowing owls each winter at high elevation sites (approximately 80-260 m), sites where birds were not known to breed, and at the low elevation breeding sites. All winter birds, not previously banded in the summer, disappeared before the next breeding season. These findings show burrowing owls in this region exhibit partial breeding migration, in which owls from other parts of the range come to winter with resident birds--as well as wintering in other areas of the region--but then leave to breed elsewhere. Genomic analyses showed that some migratory birds have stayed to breed with resident birds, adding their genetic material to the breeding population. This migration pattern has implications for the persistence of this and other resident burrowing owl populations.

DEBRA CHROMCZAK, Environmental Researcher & Consultant, Santa Cruz, CA, U.S.A.

PHILIP HIGGINS, City of Mountain View, Mountain View, CA, U.S.A.

SANDRA MENZEL, Biological Consultant, Santa Cruz, CA, U.S.A.

CHRISTEN BOSSU, Bird Genomics Lab, Colorado State University

KRISTEN RUEGG, Bird Genomics Lab, Colorado State University

PLEASE JOIN US -- ALL ARE WELCOME