Research for Management: Burrowing Owls & the Santa Clara County Habitat Plan

Lynne Trulio, Environmental Studies, San José State University

- Phil Higgins
- Debra Chromczak
- Sandra Menzel

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Santa Clara Valley Habitat Plan

Many covered species
Seeking ways to protect & recover
Santa Clara Valley Habitat Plan

Burrowing owls - a tough customer!
Seeking ways to protect & recover
SCVHP Burrowing Owl Protection and Recovery Efforts

- Habitat management
- Open space preservation
- Easements
- Research
Athene cunicularia
Burrowing Owl or "Little Miner"
An Odd Bird

- Does not hoot
- Active day and night
- Only owl that lives and nests underground
- Life revolves around the burrow
- Juveniles do a great rattlesnake mimic!
Adults
- Ht ~7.5-9.5 inches
- Wt ~5-6 ounces
- Wing span ~22 inches

Chicks
- May - September in CA
- Smaller than adults until about July
Western Burrowing Owl - Range

In California:

- Breeding birds - at low elevation (< 200 ft)
- Year-round residents
- Migrants - coastal, bay edges, hill sides
Bird of Open Grasslands:
Prairies, Ag Lands, Bases, Golf Courses, Open Fields – Natural Grasslands and Urban Sites
Burrows are key - courtesy of California Ground Squirrels
In Santa Clara County - Breeding birds on the brink

Between 1988 and 2002, 66% of breeding locations lost

~ 300-340 adults in early 1990s

61 adults in summer 2016, down from 74 adults in 2015
Nearly all in the Extended Study Area at low elevation (> 50 ft)
What about the SCVHP area?
What of wintering burrowing owls?
Wintering Burrowing Owl Research

- How many and what is the distribution?
- Do wintering birds stay and breed at historic breeding areas?
- Do wintering birds or others breed at sites where birds were seen in winter outside the long-term breeding areas?
Management Goals

- Find new populations not previously known
- Learn the role of winter birds in supporting breeding groups
- Learn the importance of our region to wintering birds
Santa Clara Valley Habitat Plan Area (HCP & NCCP)
Some Methods - 2014-2016

- CBC, local experts, protected areas
- Surveyed on foot
- Bow trap and MP3 player
- Capture & band
Lots of Wintering Birds
* Many birds at higher elevations
* Many birds at long-term breeding areas

BUT, in Summer:
* No birds found at higher elevations
* Birds only in the long-term breeding areas
## Results 2014-2016

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Burrowing owls are formally endangered in Canada and of special concern in the USA. This map shows wintering distribution sites for 25 adult burrowing owls, based on geolocator data.
No Grail yet, but found...
A winter haven for birds from around the range

- Winter habitat is valuable habitat
- Protects winter birds and other populations
- Perhaps enhance lower-elevation sites for breeding??
Where do they come from?

GenoScape Study - Genetic finger-print of breeding birds to determine origins of wintering birds
Lead by Dr. Kristen Ruegg, UCSC, UCLA

Friendlier and cheaper than this!
Other Research Underway
- all focused on management

- **Supplemental Feeding of Breeding Birds**
  - To grow existing breeding population

- **Habitat Characterization using GIS**
  - To identify potential breeding habitat

- **Expand breeding habitat from the south**
  - To grow a population into the County
Burrowing owls thank...  
...the Santa Clara Valley Habitat Agency, the organizing force behind this recovery effort!
Thanks to these many supporters

- City of Mountain View, Shoreline at Mountain View
- City of Sunnyvale, Baylands Park & WPCP
- City of San Jose, WPCP
- Sargent Ranch
- US Fish and Wildlife Service
- CA Department of Fish and Wildlife, esp. Dave Johnston
- Moffett/NASA Ames, esp. Chris Alderete
- Santa Clara Valley Habitat Agency, esp. Edmund Sullivan
- Santa Clara Valley Open Space Authority, esp. Galli Basson
- Silicon Valley Land Conservancy, esp. Craig Edgerton
- Santa Clara Valley Audubon Society
- San Francisco Bay Bird Observatory

...and funding from

- California Department of Fish and Wildlife (LAG program)
- Santa Clara Valley Habitat Agency
Questions?