

BURROWING OWL WORKSHOP FIELD FORM

To get to the field site coming from the classroom building: Please carpool! Turn left onto Zanker Road. Zanker becomes Los Esteros Road. Bear left onto Grand Boulevard. Bear left onto Disk Drive. Turn left on Nortech Parkway and park at the end of the street.

Field Visit Objectives

1. Distinguish burrows of different species
2. Identify burrowing owls in the field
3. Identify habitat characteristics--breeding and wintering
4. Learn the basics of line-transect surveying for burrowing owls
5. Learn about detection probabilities of different survey methods
6. Review information to include on Field Survey Forms
7. Observe habitat enhancement methods in an urban setting

Birds and Habitat Qualities to Consider

Burrowing Owl Identification

- *Adults - What are the distinguishing physical features? Behaviors?*
- *Chicks - Distinguishing physical features and behaviors?*
- *Where are the birds relative to the burrow?*
- *Are birds using more than one burrow?*
- *What requirements need to be met to determine owl presence/absence?*

Burrow Qualities

- *Burrow opening diameter*
- *Grass height near burrow*
- *Items around burrow*
- *Number of satellite burrows*
- *Elevation of burrow*
- *Number of squirrel burrows in 10m radius*
- *Number of squirrels around burrow*
- *Distance to nearest tree*
- *Distance to nearest tall perch*
- *Differences between owl and squirrel burrows*

Habitat Qualities

- *General habitat type and its likely use for breeding or wintering birds*
- *Location of habitat in the landscape*
- *Size of the habitat*
- *Number of pairs in this area*
- *Nearest birds to the site*
- *Percent cover by trees*
- *Predator perches and predators present*
- *Prey potential and prey visible*
- *Other species present*
- *Habitat qualities in areas not occupied by owls*
- *Recommendations for enhancing this habitat for burrowing owls*

Detection Probability (DP) of Survey Methods - For Breeding Season Only

(Good citations: Conway and Simon, 2003; Rosenberg, et al., 2007; Conway, et al., 2008)

Key goal: Match survey methods to habitat size, resources available and survey goals.

Survey Method	Protocol	Pros	Cons
Line-transect	Line of people 7-20 m apart on foot	Excellent DP (~100%), even during the day	Very time & labor intensive; only for use in small areas (<1000 acres)
Driving	Drive along roads at ~15 mph; look for birds from vehicles; conduct 3 passes	Long distances can be covered quickly	Only covers areas visible from roads; relatively low DP (~34%)
Point-Count with call-broadcast	Drive a 5 mile route & stop each 0.5 miles; listen, play call and listen	Good DP (64%) & can cover relatively large distances	More time consuming than driving alone; DP very low by 200m

Burrowing Owl Survey Field Form Information

(as per *CDFG Staff Report on Burrowing Owls, 2012*)

Date: Start Time: End Time:

Weather Conditions:

Temperature - Wind Speed - % Cloud Cover - Precipitation- Visibility -

Survey Methodology (Method - line-transect, point count, driving; Protocol - spacing of surveys, effort, use of calls, time of day)

Discuss how timing and methods of survey may have affected the comprehensiveness and detection probability:

Description/justification of survey area size versus project area:

Observation Records:

A. *For burrows:* number, GPS location, owl sign at each potential owl burrow and active burrow where birds are observed, note whether nest or satellite burrow, locations of low perches

B. *For birds:* number of owls, number of pairs, number of offspring by nest location, age and sex of each bird to the extent knowable, band identification or note presence of bands, behavior of birds (feeding, calling, preening, alert, relaxed, hunting) and any unique features of birds (Report banded birds to the BBL:
<https://www.pwrc.usgs.gov/bbl/bblretrv/index.cfm>)

C. *Predators:* number, species, perch locations with respect to owls, evidence of owl predation

D. *Ground Squirrels:* identify areas of ground squirrel activity or other burrow areas that may attract burrowing owls

Attach to signed field forms:

A. *Detailed map* (1:24,000 or closer) of site showing the location of all owls, potential and occupied burrows, and areas of ground squirrel activity (include title, scale, legend, north arrow)

B. *Recent color photos* of the proposed project or activity site

C. *Copies of CNDDDB Field Survey Forms*

(http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp)

Mail to:
 California Natural Diversity Database
 California Dept. of Fish & Wildlife
 1416 9th Street, Suite 1266
 Sacramento, CA 95814
 Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only	
Source Code: _____	Quad Code: _____
Elm Code: _____	Occ No.: _____
EO Index: _____	Map Index: _____

Date of Field Work (mm/dd/yyyy): _____

California Native Species Field Survey Form

Clear Form Print Form

Scientific Name: _____

Common Name: _____

<p>Species Found? <input type="radio"/> Yes <input type="radio"/> No _____ If not found, why? _____</p> <p>Total No. Individuals: _____ Subsequent Visit? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Is this an existing NDDDB occurrence? <input type="checkbox"/> Yes, Occ. # _____ <input type="checkbox"/> No <input type="checkbox"/> Unk.</p> <p>Collection? If yes: _____ Number _____ Museum / Herbarium _____</p>	<p>Reporter: _____</p> <p>Address: _____</p> <p>E-mail Address: _____</p> <p>Phone: _____</p>
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Plant Information	Animal Information
<p>Phenology:</p> <p>% vegetative _____ % flowering _____ % fruiting _____</p>	<p># adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown _____</p> <p><input type="checkbox"/> wintering <input type="checkbox"/> breeding <input type="checkbox"/> nesting <input type="checkbox"/> rookery <input type="checkbox"/> burrow site <input type="checkbox"/> lek <input type="checkbox"/> other</p>

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: _____ Landowner / Mgr: _____

Quad Name: _____ Elevation: _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): _____

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model: _____

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy: _____ meters/feet

Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)

Coordinates: _____

Habitat Description (plants & animals) plant communities, dominants, associates, substrates/soils, aspects/slope:
Animal Behavior (Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor

Immediate AND surrounding land use: _____

Visible disturbances: _____

Threats: _____

Comments: _____

<p>Determination: (check one or more, and fill in blanks)</p> <p><input type="checkbox"/> Keyed (cite reference): _____</p> <p><input type="checkbox"/> Compared with specimen housed at: _____</p> <p><input type="checkbox"/> Compared with photo / drawing in: _____</p> <p><input type="checkbox"/> By another person (name): _____</p> <p><input type="checkbox"/> Other: _____</p>	<p>Photographs: (check one or more)</p> <table border="1"> <tr> <td></td> <td>Slide</td> <td>Print</td> <td>Digital</td> </tr> <tr> <td>Plant / animal</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Habitat</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Diagnostic feature</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> <p>May we obtain duplicates at our expense? <input type="radio"/> yes <input type="radio"/> no</p>		Slide	Print	Digital	Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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