DETERMINING THE FORAGING RANGES OF CALIFORNIA LEAF-NOSED BATS ALONG THE LCR

Patricia Brown and William Rainey
Bishop and Berkeley, California
Known California leaf-nosed bat roosts
California leaf-nosed bat foraging habitat and prey
### Distances between Conservation Areas and Mines

<table>
<thead>
<tr>
<th>MINE NAME</th>
<th>MSCP PROJECT</th>
<th>MILES BETWEEN</th>
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<tbody>
<tr>
<td>Mountaineer</td>
<td>Ahakhav Tribal Preserve</td>
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<td>Rio Vista</td>
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<td>Jackpot</td>
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<td>Gold Dome</td>
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<td>Roosevelt</td>
<td>Cibola Valley Conservation Area</td>
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<td>Hart</td>
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<td>Palo Verde Ecological Reserve</td>
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Foraging Distance Surveys

- Mist netting in MSCP Conservation Areas capture CA leaf-nosed bats
- Some Conservation Areas are >10 miles from known mine roosts
- Bats are travelling considerable distances to forage in restoration sites or there are unknown mine roosts closer to MSCP Conservation Areas
TELEMETRY METHODS

- REMOTE SCANNING AND LOGGING RECEIVERS PLACED NEAR ROOSTS & IN CONSERVATION AREAS
- DIURNAL AND NOCTURNAL RETRIEVAL OF SHED TRANSMITTERS
- NIGHT GROUND TRACKING FROM FIXED AND MOBILE STATIONS AND TRIANGULATION
- NOCTURNAL AERIAL TRACKING WITH CESSNA 172
- BATS MIST NETTED AT CONSERVATION AREAS AND TRACKED BACK TO ROOSTS (BACK-TRACKING)
TELEMETRY METHODS

• REMOTE SCANNING AND LOGGING RECEIVERS PLACED NEAR ROOSTS & IN CONSERVATION AREAS
Remote logging receiver above Stonehouse Mine
TELEMETRY METHODS

• REMOTE SCANNING AND LOGGING RECEIVERS PLACED NEAR ROOSTS & IN CONSERVATION AREAS

• DIURNAL AND NOCTURNAL RETRIEVAL OF SHED TRANSMITTERS
Kei retrieving transmitter

Transmitter recovery February 2015
Roosevelt Mine

Shrike attack victims
Jill retrieving transmitters in Roosevelt shaft
TELEMETRY METHODS

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• DIURNAL AND NOCTURNAL RETRIEVAL OF SHED TRANSMITTERS

• NIGHT GROUND TRACKING FROM FIXED AND MOBILE STATIONS AND TRIANGULATION
Rattlesnake assistance February 2015
Night roost north of CVCA

Night roost near Palo Verde
Night roost in February and August 2015
Night Roost in Hay Bales
August night and day roost for Bats
Bat 2 Night Roost
15 Aug 2015, 11:49 pm
Telemetry by Richard Kim

X = E 0712974, N 3703269
Ground Tracker Locations
February 9, 2015
Fixed tracking station on edge of interface between bajada and old floodplain

Stonehouse Mine
Foraging habitats surrounded by agriculture
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Night Aerial Flights
February 15, 2015

Aerial and ground tracking
Dense wash along west side of Mule Mountains & flowing NW
August 9, 2015

Aerial and ground tracking
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*Myotis occultus* were “shot over water in a back eddy of the river. Here the bats arrived in considerable numbers at early dusk to drink, flitting down to the water’s surface and dipping several times before flying off among the willows and cottonwoods” (Grinnell, 1914).
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And the bats who carried the transmitters