

CAMERA AND LIVE- TRAPPING STUDIES

2010 Results



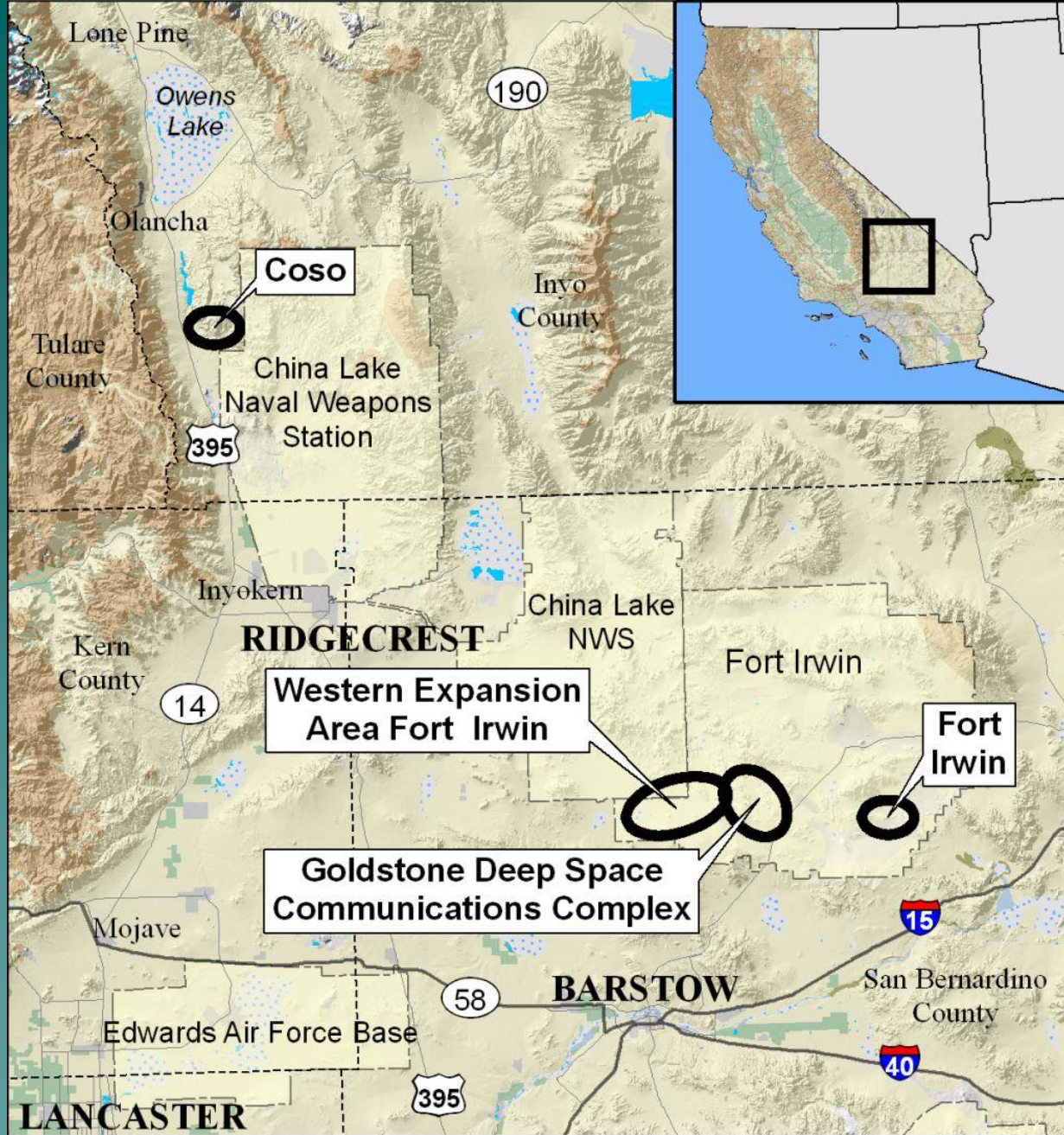
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California State University Stanislaus

STUDY OBJECTIVES

- ◆ Compare the effectiveness of MGS detection methods:
 - Live-trapping
 - Trail cameras
 - Recording of vocalization
- ◆ Can MGS and round-tailed ground squirrels be distinguished by cameras and vocalizations?



Camera deployment area

0 20 40 60

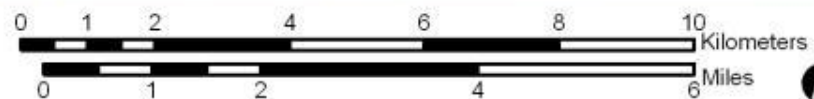


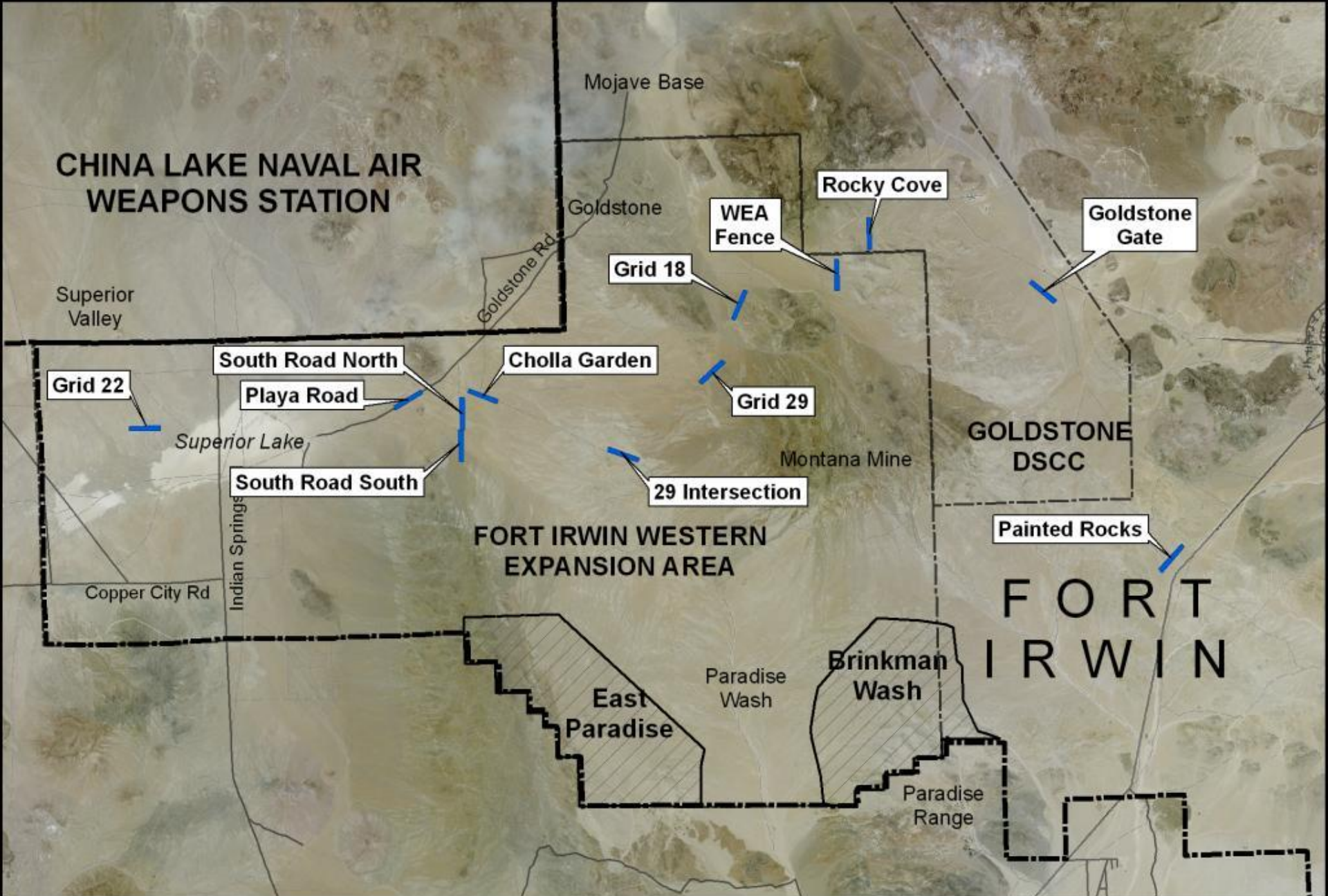
Kilometers






● Camera trap station





Camera trap stations (2010)

 Camera trap stations





Goldstone Gate

Goldstone Rd

Fort Irwin Rd

Tiefort Bajada

GOLDSTONE DSCC

Painted Rocks

FORT IRWIN

Langford Lake Rd


Langford Lake MSR

●●●●● Camera and audio-recording stations


■ Trapping grids (2010)



RESULTS

- ◆ Coso – no MGS detections at camera stations
 - ◆ Ft Irwin WEA – MGS camera detections at five of eight study sites
 - ◆ Goldstone DSCC – no MGS camera detections
 - ◆ Ft Irwin proper – RTGS detections in both study sites
- 
- A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, partially overlapping the bottom edge of the text area.

FT IRWIN WEA

- ◆ Traps used at 4 grids first – Apr 2-7
 - ◆ Pre-baiting for 2 days, then trapping conducted for 5 days
 - ◆ Captured MGS were individually marked by shaving fur to produce unique patterns
 - ◆ Cameras used at same 4 grids – Apr 8-14
 - ◆ Cameras were operated for 5 days also
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- A stylized teal silhouette of a mountain range is located in the bottom right corner of the slide, partially overlapping the text of the last bullet point.

2010-04-09 12:09:41 PM M 1/5

0 98°F



RC60 COVERT

RECONYX

2010-04-09 12:48:04 PM M 3/5

101°F



RC60 COVERT

RECONYX



2010-04-11 11:35:13 AM M 4/5

0 77°F



RC60 COVERT

RECONYX

2010-06-10 12:22:06 PM M 2/5

96°F



RC60 COVERT

RECONYX

2010-06-11 11:17:11 AM M 3/5

99°F



RC60 COVERT

RECONYX

2010-06-11 11:40:04 AM M 1/5

○ 107°F



RC60 COVERT

RECONYX







2010-06-08 3:24:24 AM M 1/5

79°F



RC60 COVERT

RECONYX

Traps vs. Cameras

Grid Name	Trap Detections (individuals)	Camera Detections (min.no.individuals)
Grid 29	2 F	3 F
Playa Road	1 F, 1 M	2 F, 1 M
S Road North	4 F, 4 M	5 F, 4 M
Cholla Garden	2 F	3 F, 1 M


Detection Rates

- ◆ Cameras with detections = $28/56$
- ◆ Camera-days with detections = $76/280$
- ◆ Total camera visits per grid (14 cameras over 5 days) = 95, 14, 174, 157
- ◆ Traps with captures = $20/400$
- ◆ Trap-days with captures = $24/2000$

Camera Advantages

- ◆ Detect MGS if they are present, with roughly the same or greater effectiveness as traps
- ◆ Operators do not require special qualifications or experience
- ◆ Can be used in hot or cold weather with no danger to animals
- ◆ Document activity patterns during the day and behavioral interactions

Trapping Advantages

- ◆ Collect definitive demographic data: sex, age, reproductive condition
 - ◆ By marking animals, gain an indication of abundance
 - ◆ Trapping is essential to obtain tissue samples for genetic work or to radio-tag individuals
 - ◆ It all depends on your objectives
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- A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, partially overlapping the text area.