DESERT
MANAGERS GROUP

USGS Habitat Suitability, Landscape Genetics, and Habitat Connectivity Model for MGS

Quick everybody hide!
It's a whole herd of scientists

Researchers

- Todd C Esque, USGS, coordination and habitat
- Kenneth E. Nussear, USGS, ecological modeling
- Phil Leitner, CSU Stanislaus, squirrel ecology and habitat
- Marjorie D. Matocq, UNR, genetics and modeling
- Peter J. Weisberg, UNR, ecology modeling
- Susan Jones, USGS, project chief

Objectives

- Analyze habitat potential: correlate presence points with habitat factors
- Develop a potential habitat model for MGS with a 20-50 km buffer beyond the current geographic range map (Leitner 2008)
- Develop response surfaces for landscape population genetics for MGS
- Identify occupied habitat and under-sampled areas
- Identify evolutionarily significant genetic corridors
- Analyze current conservation corridors
- Evaluate energy development sites relative to MGS

Deliverables

- All data layers used in MGS models
- Maps and accompanying databases for MGS distribution
- Future MGS distribution forecasts in relation to climate change
- Maps of landscape connectivity for habitat preservation and/or restoration decisions and in relation to future climate projections
- Identification of key populations and areas of connectivity that maintain genetic variability and evolutionary potential of MGS
- Estimates of how population and regional genetic diversity will be impacted by shifts in landscape connectivity

Use of Alternative Survey Methods to Detect the Presence of MGS in the Western Mojave Desert

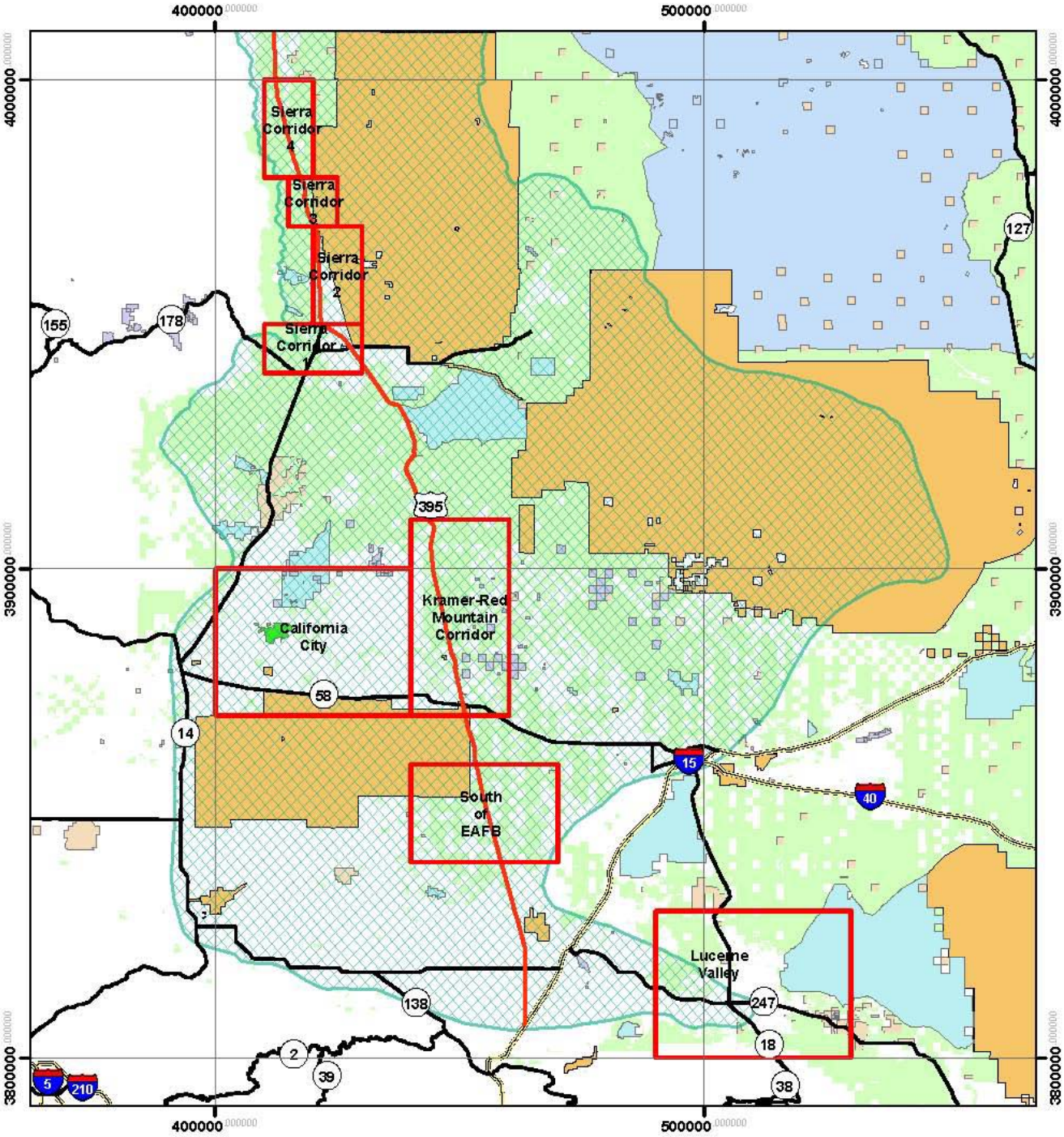
Researchers

Dave Delaney, USACE CERL

Phil Leitner, CSU Stanislaus

Objectives

- Field test the large-scale use of camera traps to detect MGS at randomized plots
- Correlate MGS presence with ecological conditions
- Collect data on MGS presence and distribution on public lands to assist in siting of renewable energy facilities
- Evaluate the importance of key corridors in maintaining connectivity between known MGS populations
- Provide field validation and data for the MGS habitat modeling effort being conducted by USGS with funding from CEC


400000
500000
4000000
3900000
3800000
Sierra Corridor 4
Sierra Corridor 3
Sierra Corridor 2
Sierra Corridor 1
California City
Kramer-Red Mountain Corridor
South of EAFB
Lucerne Valley
155
178
395
127
58
14
15
40
138
247
18
2
39
38
5
210


2011-03-10 10:55:48 AM M 3/5
77°F
PC800 HYPERFIRE PRO


2011-03-11 11:59:17 AM M 3/5
88°F
PC800 HYPERFIRE PRO
RECONYX

DESERT
MANAGERS GROUP

Partners

- Fort Irwin
- USACE- CERL
- BLM
- CDFG
- CSU Stanislaus
- USGS
- MDEP