



Elf Owl (*Micrathene whitneyi*) Detectability

AMERICAN RECOVERY AND REINVESTMENT
ACT OF 2009 ELF OWL STUDIES - LOWER
COLORADO RIVER MULTI-SPECIES
CONSERVATION PROGRAM

John D. Boone, Great Basin Bird Observatory



Elf Owl (photo John Stanek)



Purpose of Study



- Systematically test, evaluate, and refine call-playback survey protocol to allow for more efficient design of system-wide field surveys / inventory, and to minimize / quantify risk of false negatives
 - ❖ Distance
 - ❖ Time of Night
- Clarify selected aspects of natural history, especially area requirements and habitat use for riparian birds

Study Area (Photo Bureau of Reclamation)



Study Design, Year 1 (2010)

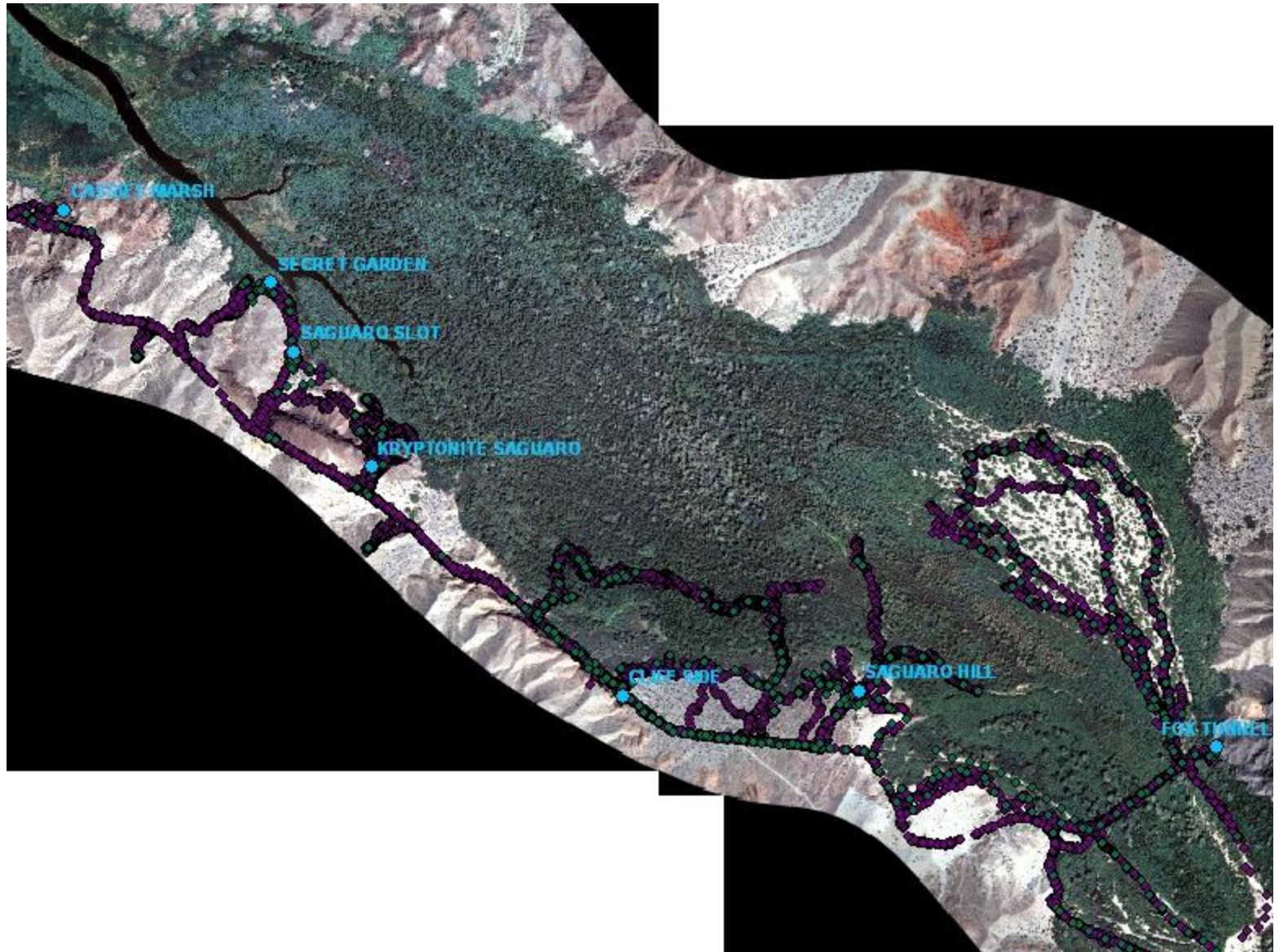


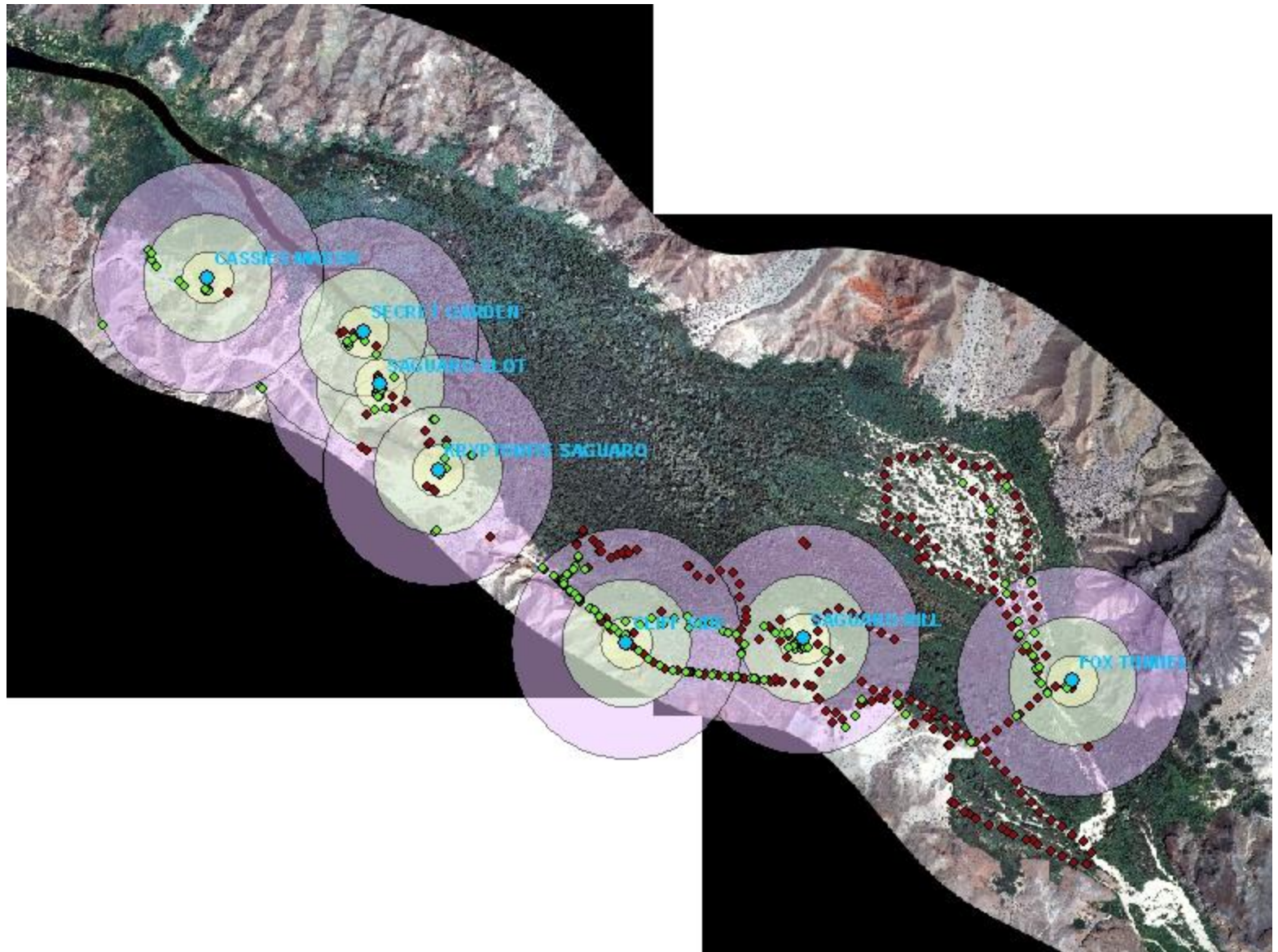
- Identify and delineate known territories using passive surveys and call playback surveys when necessary
- Conduct call playback trials on birds with known location, using all combinations of 3 distances and 3 times of night
- Record responses from perspective of 1) call playback surveyor, and 2) passive nearby observer
- Mist net / radio telemetry for location confirmation and area use quantification

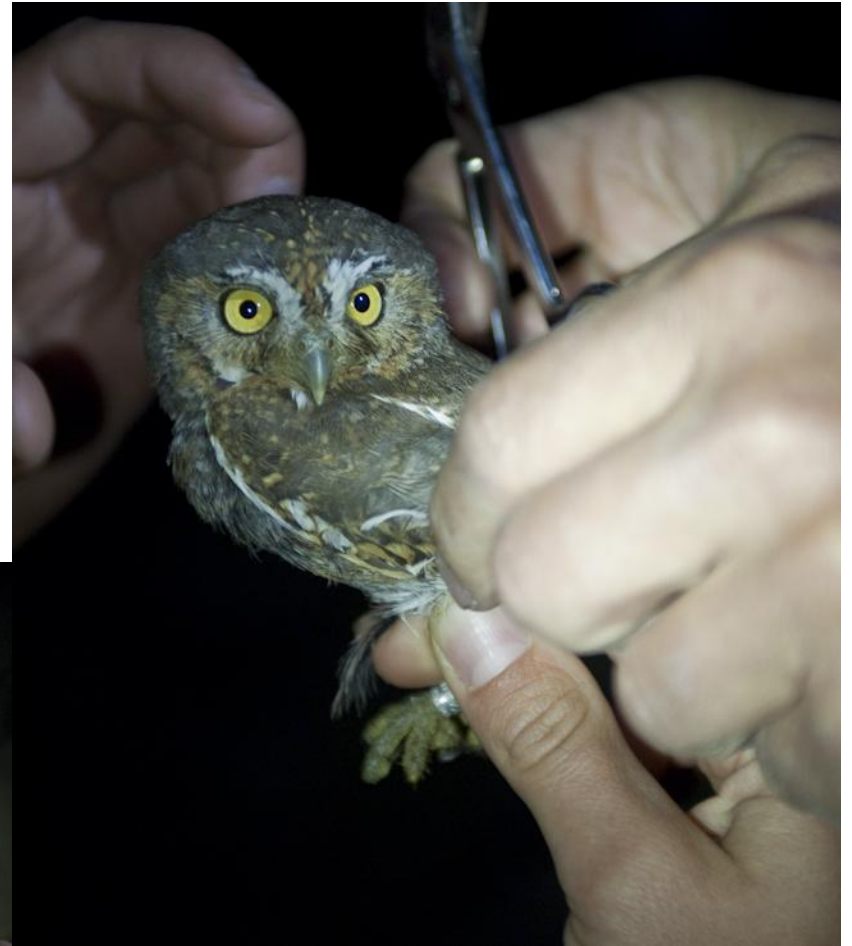
2010 Results



- Early season flooding limited access to woodland interior







Photos by Bureau of
Reclamation

<i>Pair</i>	<i>Dusk</i> 100	<i>Dusk</i> 250	<i>Dusk</i> 450	<i>Mid-Night</i> 100	<i>Mid-Night</i> 250	<i>Mid-Night</i> 450	<i>Predawn</i> 100	<i>Predawn</i> 250	<i>Predawn</i> 450
CM	O	6/2	5/28	O	5/5	5/8	5/2	5/12	5/19
SG	4/26	5/13	5/28	5/31	5/18	5/10	O	5/1	5/6
SS	4/9	5/4	5/20	4/19	5/8	5/27	4/12	5/18	5/12
KS	5/19	5/12	X	5/5	5/28	X	5/1	5/9	X
CS	4/26	5/29	5/7	O	5/11	5/4	5/2	5/19	5/23
SH	O	5/13	5/20	5/31	5/10	5/27	5/1	5/18	5/6
FT	5/6	5/30	6/2	O	5/11	5/19	O	5/23	5/28

<i>Dusk</i>	<i>Mid-Night</i>	<i>Predawn</i>
17/18 (94%)	17/17 (100%)	13/18 (72%)

<i>100 m</i>	<i>250 m</i>	<i>450 m</i>
12/14 (86%)	19/21 (90%)	16/18 (89%)

<i>Full</i>	<i>Gibbous</i>	<i>Half</i>	<i>Quarter</i>	<i>New</i>
8/8 (100%)	11/17 (65%)	12/12 (100%)	14/14 (100%)	2/2 (100%)

Telemetry Observations



- Methodological issues
- Preliminary home range estimates < 1 ha
- Never detected > 120 m from nest site or approximate activity center
- Although all known nest sites were inside saguaro cavities, all known male day roost sites were located in riparian vegetation, generally ~ 50 m from the nest site

Plans for 2nd and Final Field Season, 2011



- Larger field crew
- Greater focus on woodland interior birds to extent possible
- Responsiveness trials to focus on 1) distance effects in relation to topography, 2) illumination, and 3) habituation
- Modified telemetry techniques to allow collection of more activity data

Thanks to:



- Lindsey Smith
- Sarah Green
- Murrelet Halterman
- Amy Leist
- John Stanek
- Beth Sabin
- Reclamation photography guy