Flycatcher Status Update 2016

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SWCA®
ENVIRONMENTAL CONSULTANTS

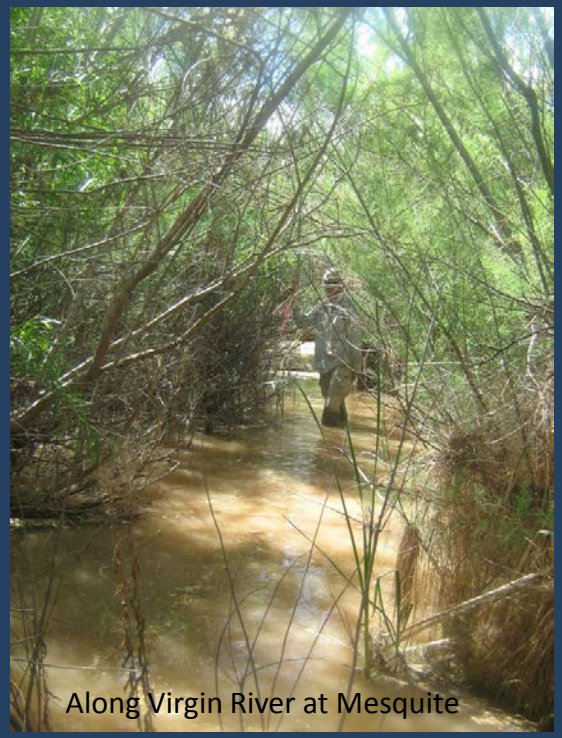
Lower Colorado River
Multi-Species Conservation Program

Southwestern willow flycatcher
(*Empidonax traillii extimus*)

- Endangered subspecies of willow flycatcher
- Breed in AZ, NM, and adjacent portions of neighboring states
- Late migrants; arrive May—June

Empidonax traillii extimus

- Breed in dense, wet riparian habitats; strong affinity for surface water
- Select nest sites that are cool, humid, dense
- Use both native vegetation and tamarisk


Along Virgin River at Mesquite

Beaver Dam Wash at Littlefield

Study Components

Broadcast Surveys

- site occupancy

Territory / nest monitoring

- nest success rates
- causes of failure

Banding/ resighting

- survival
- site fidelity
- dispersal

Tamarisk beetle monitoring

- beetle numbers
- veg conditions
- temp/humidity
- light levels

Lower Colorado River Southwestern
Willow Flycatcher Study 2016

- SNWA Study Area
- Reclamation Study Area
- NDOW/Reclamation Study Area
- City/Town
- Highway
- River

0 25 50 Mi

0 50 100 Km

1:3,300,000

USGS Quadrangle: Hiko

Historically Occupied
2016 Surveyed/Not Occupied
2016 Surveyed/Occupied

Background Imagery: NAIP 2015

N

0 1,000 2,000 Meters

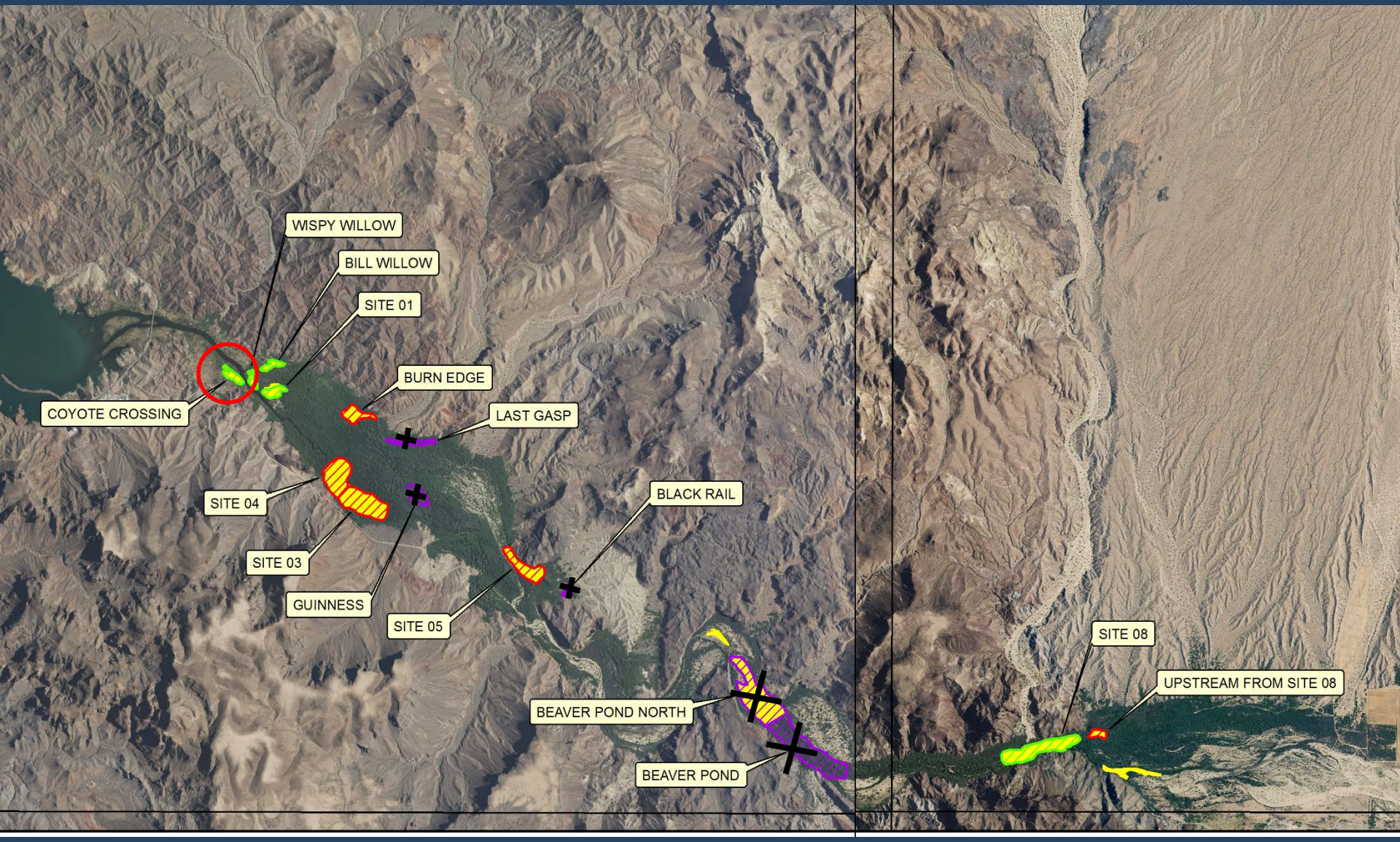
USGS Quadrangle: Elgin NE

Historically Occupied
2016 Surveyed/Not Occupied
2016 Surveyed/Occupied

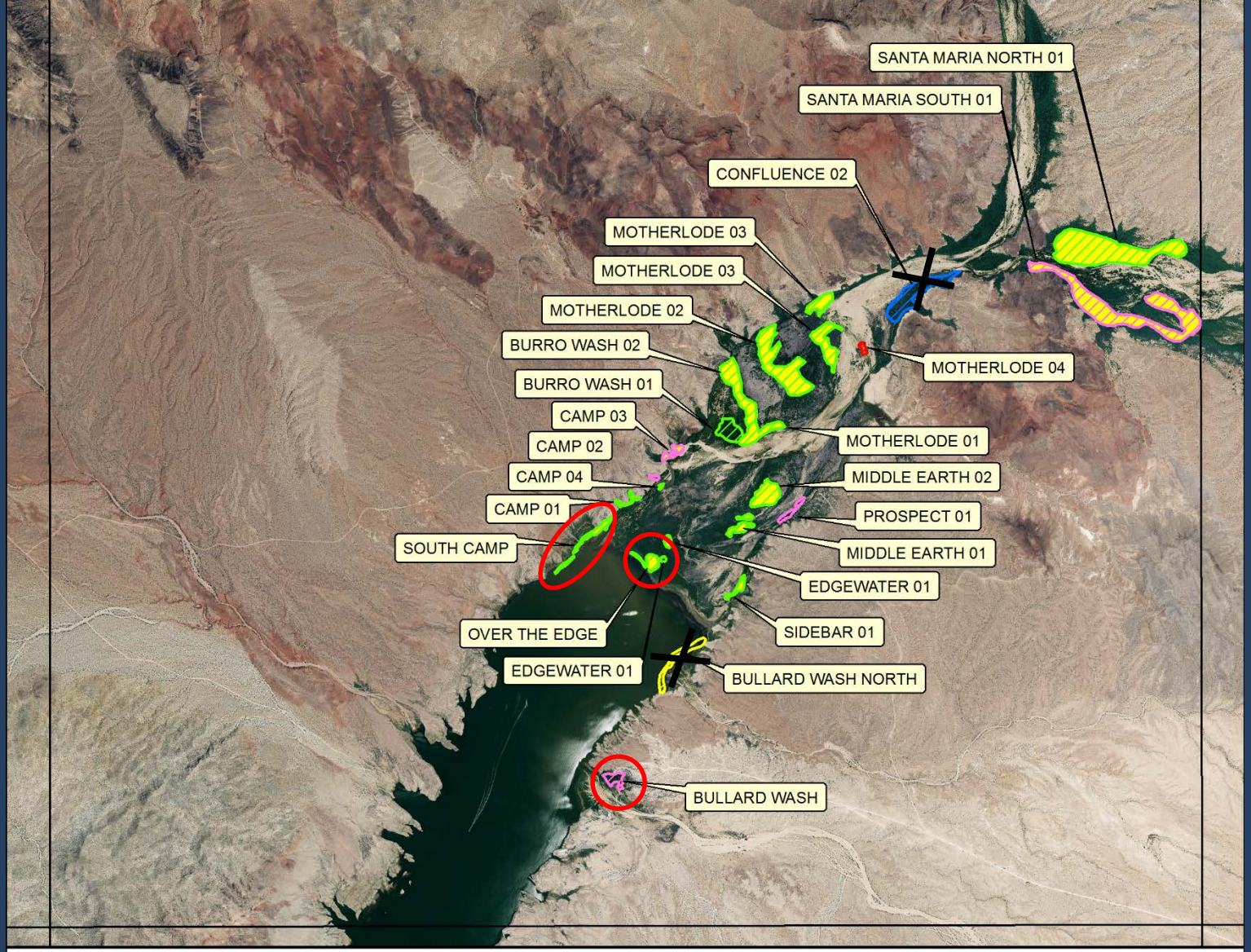
Background Imagery: NAIP 2015

N

0 1,000 2,000 Meters



Historically Occupied
2016 Surveyed/Not Occupied
2016 Surveyed/Occupied
Discontinued for the Season



USGS Quadrangle: Artillery Peak

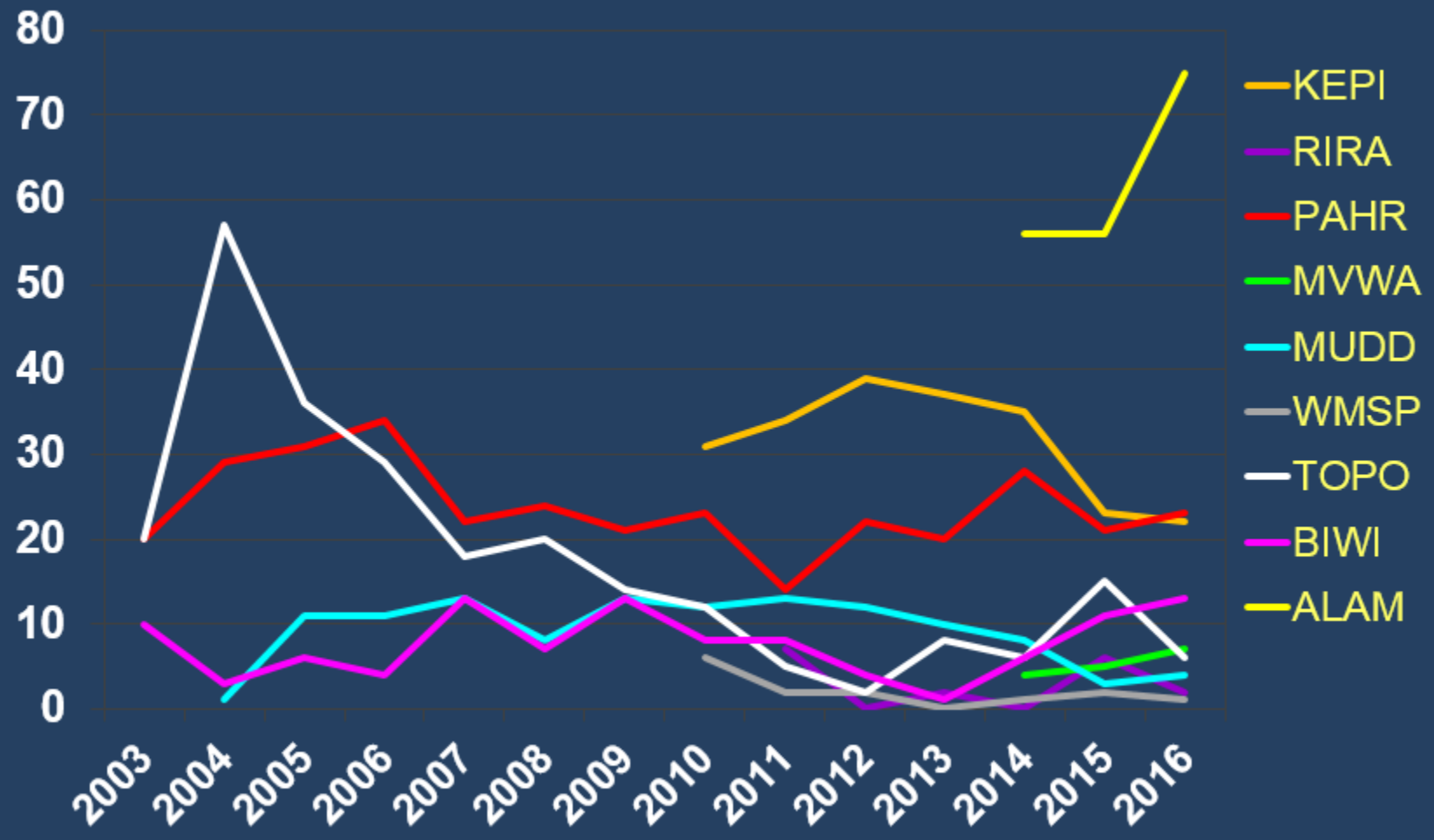
Background Imagery: NAIP 2015

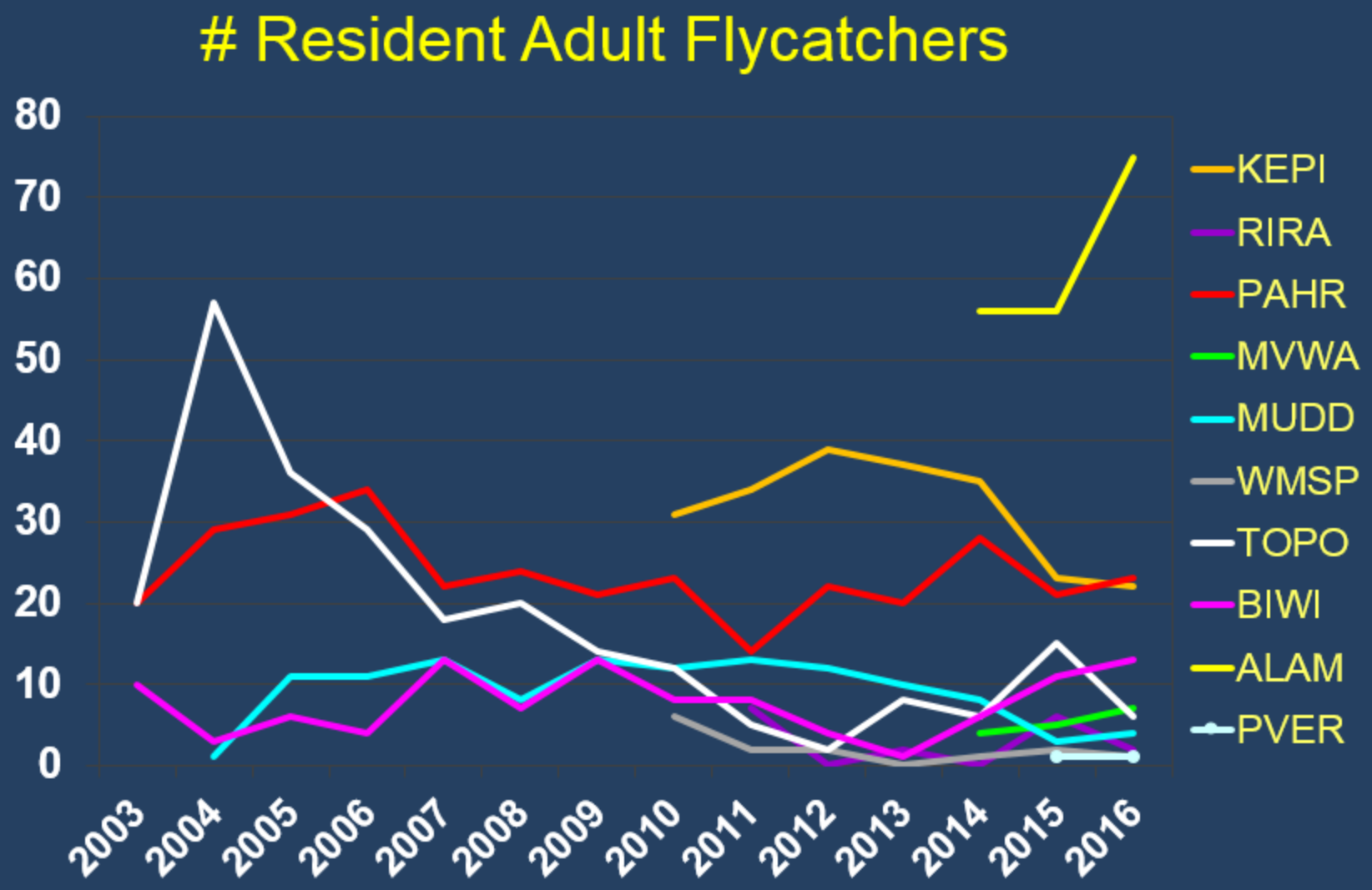
- Historically Occupied
- 2016 Surveyed/Not Occupied
- 2016 Surveyed/Occupied
- 2016 Surveyed/Occupancy Undetermined
- Discontinued
- Reconaissance

N

0 1,000 2,000 Meters

Resident Adult Flycatchers



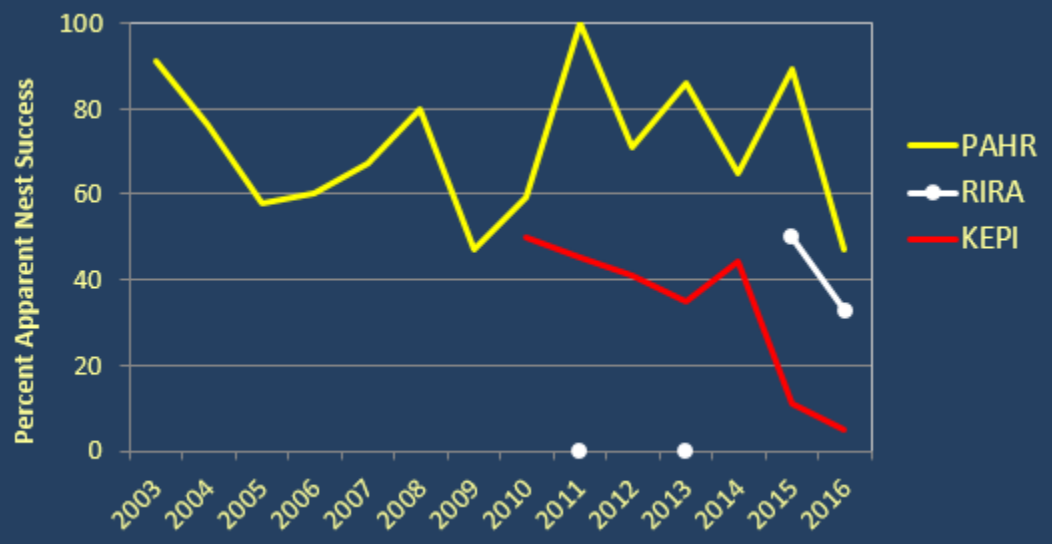


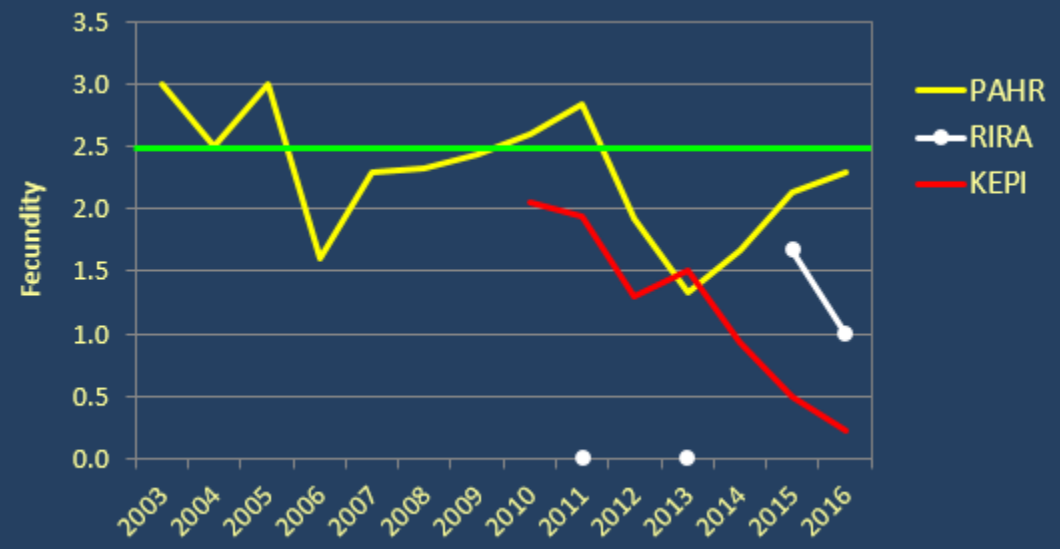
No resident willow flycatchers recorded south of PVER

Pahranagat Valley

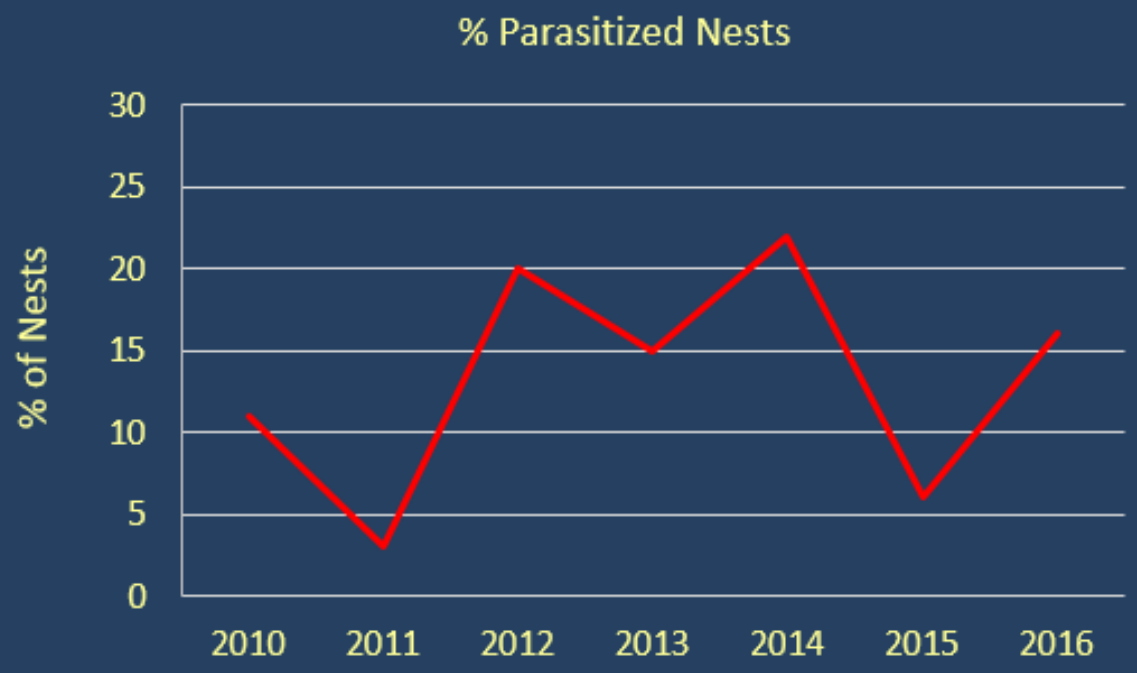
Photographed (and later recaptured) a dispersing juvenile from Alamo Lake at Pahranagat NWR – 364.6 km

Pahranagat Valley

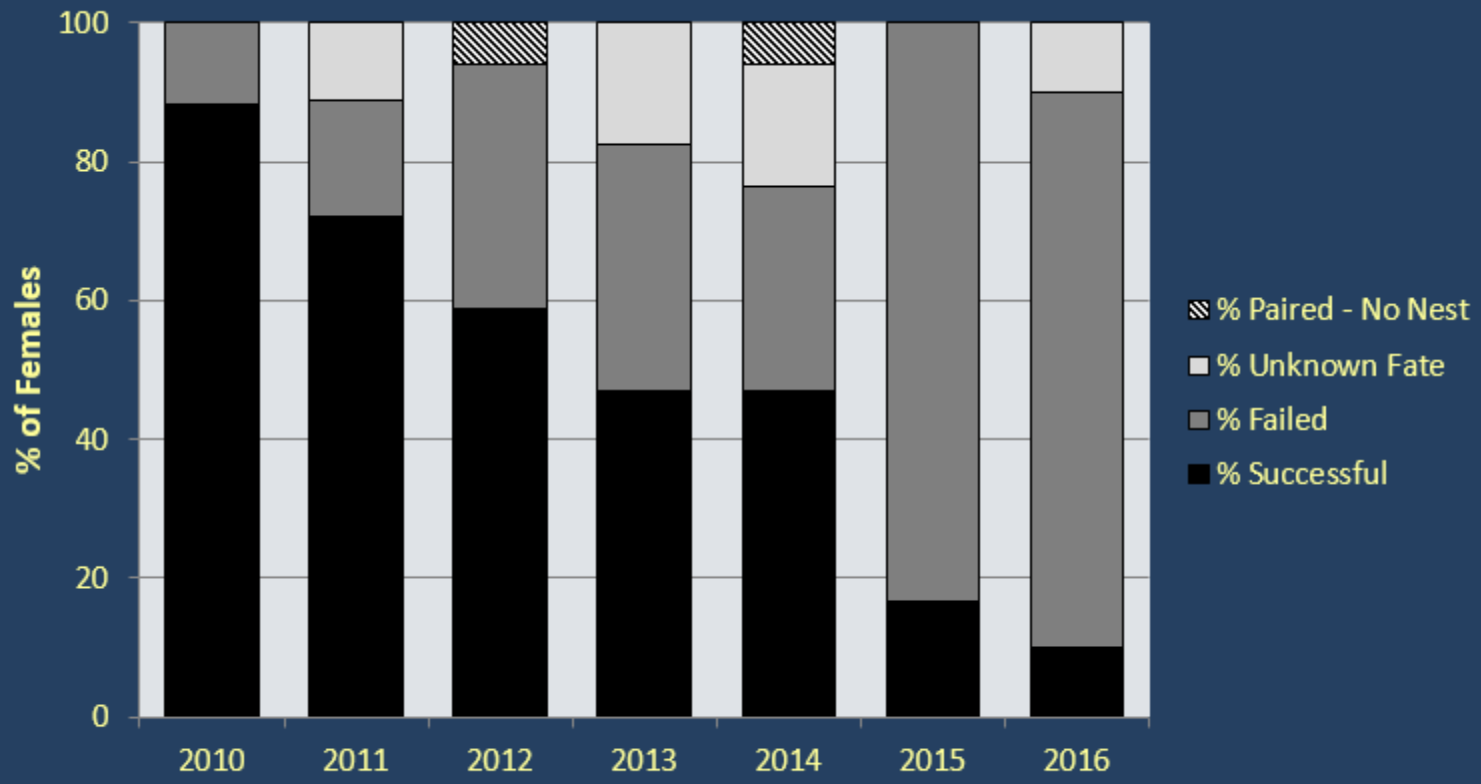




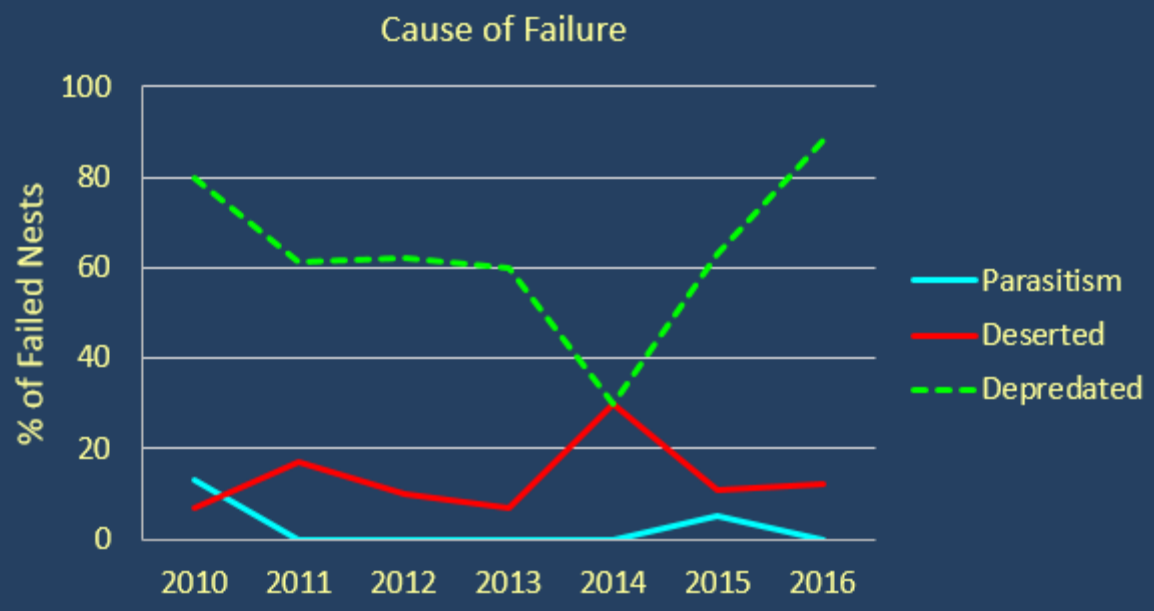
Key Pittman


% Parasitized Nests
% of Nests
30
25
20
15
10
5
0
2010
2011
2012
2013
2014
2015
2016

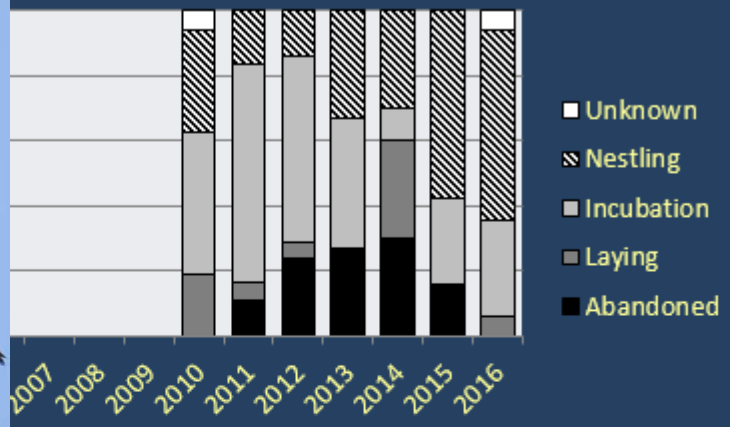
Key Pittman


100
80
60
40
20
0
% of Females
2010
2011
2012
2013
2014
2015
2016
% Paired - No Nest
% Unknown Fate
% Failed
% Successful

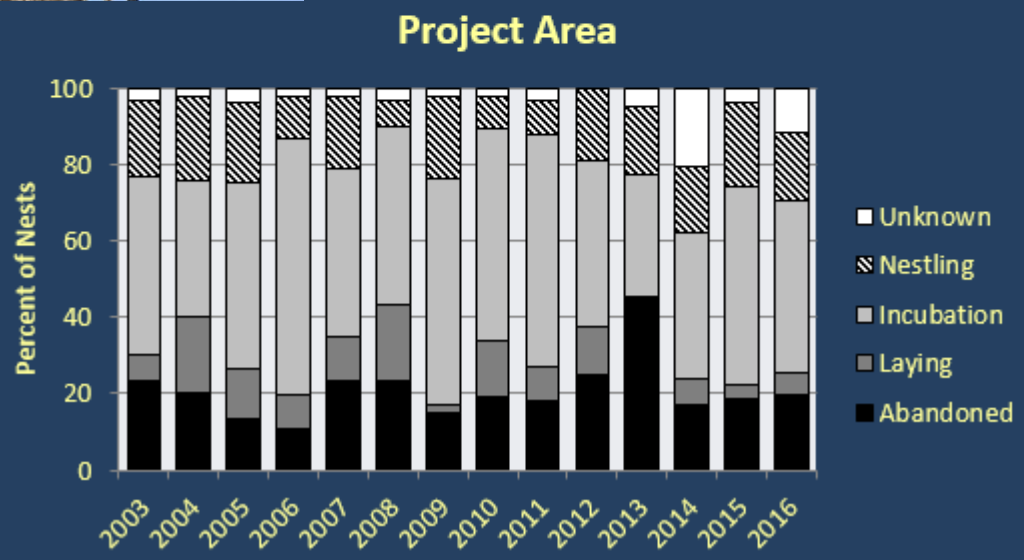
Key Pittman


Cause of Failure
% of Failed Nests
100
80
60
40
20
0
2010
2011
2012
2013
2014
2015
2016
Parasitism
Deserted
Depredated

Key Pittman

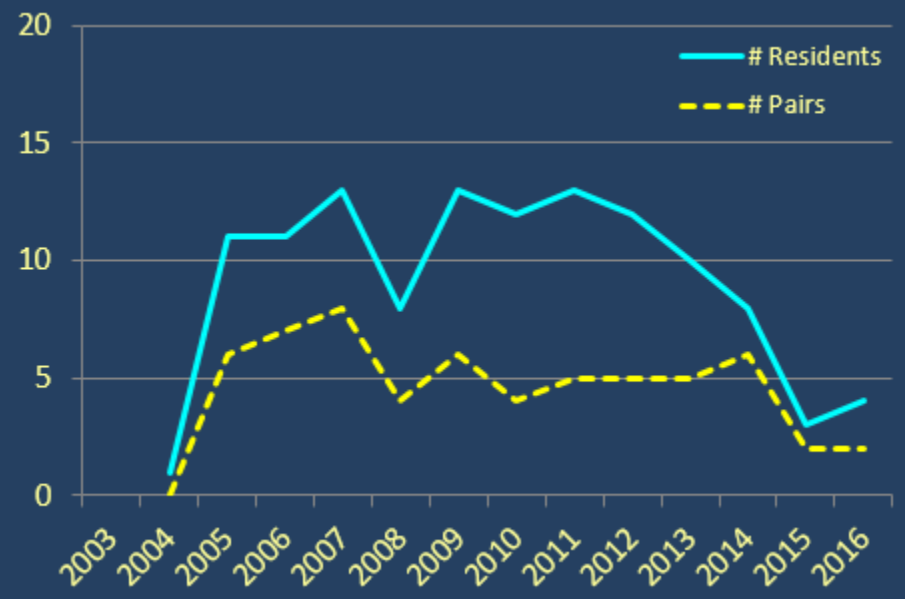


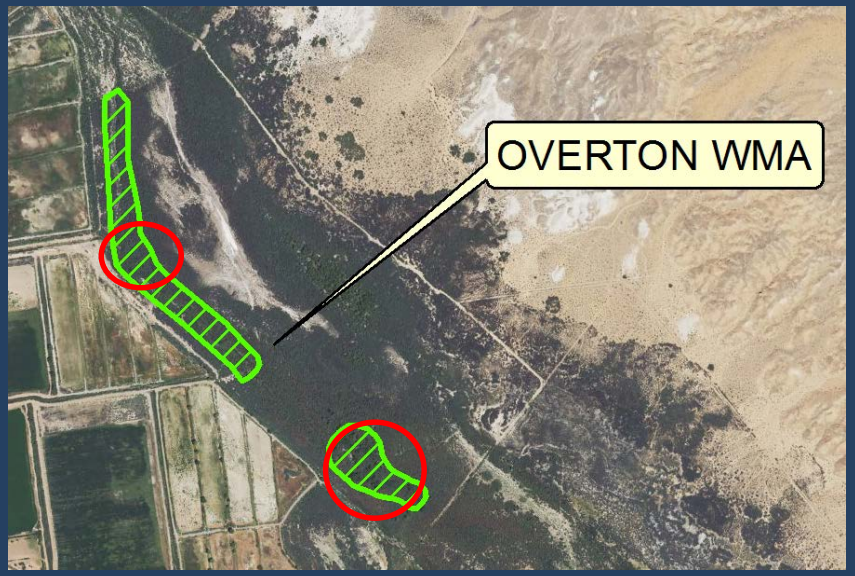
14 – 59% failure during nestling phase



7 – 22% failure during nestling phase

Muddy River

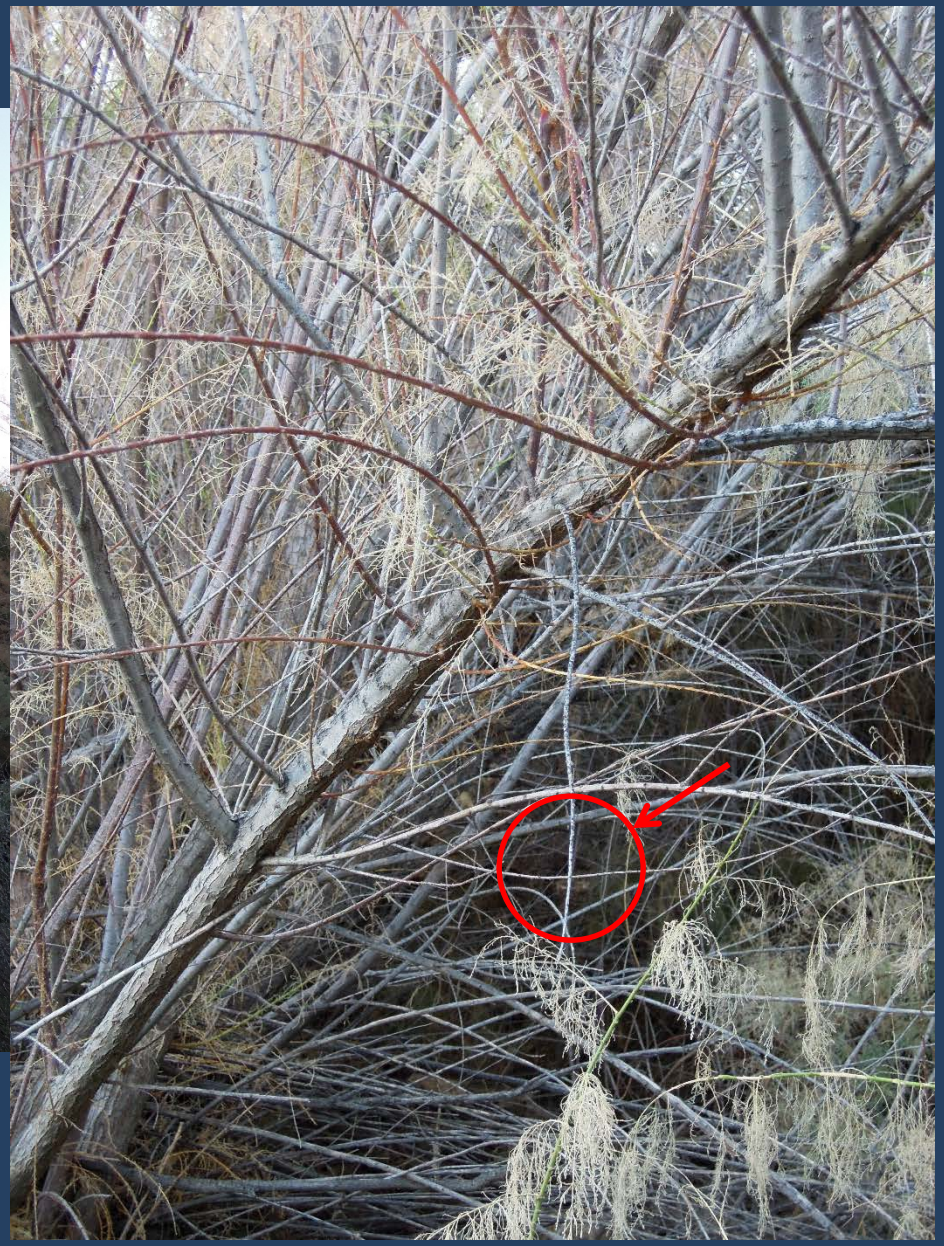




Continuing poor habitat quality

- Northern patch: Tamarisk beetles – lasting reduction in canopy density and active defoliation during breeding season
- Southern patch: Changes in water patterns – continuing reduction in canopy density away from river.

Muddy River



Topock Marsh

- Three breeding females – all in one site
- No successful breeding
- Detection history suspicious on the Island – need to explore SE lobe more thoroughly.

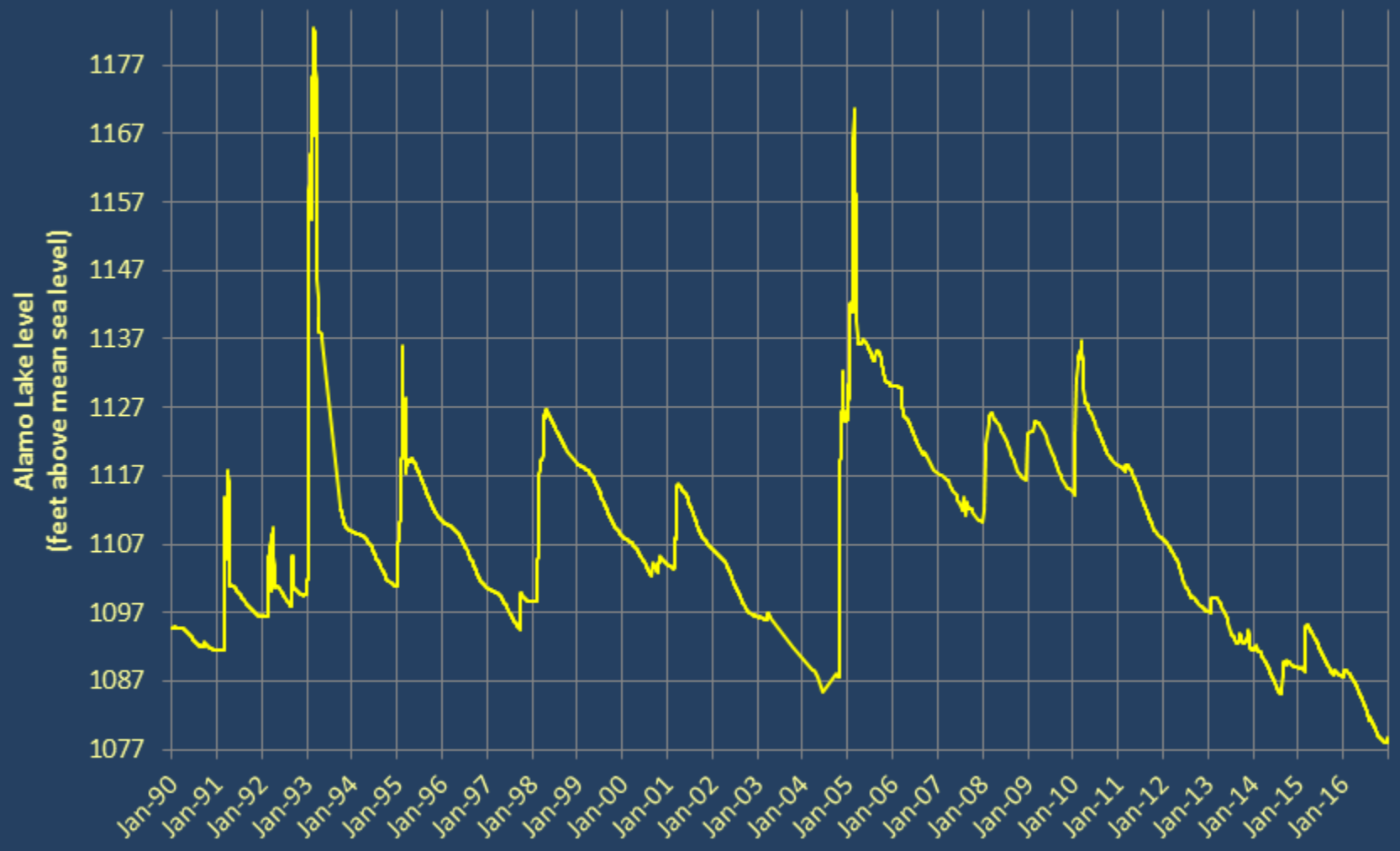
Bill Williams (in BWRNWR)

- 57% of 7 nests successful = 7 confirmed fledglings. Highest apparent nest success since 2003/2005 (100% of 2 nests)
- Breeding documented for first time in Bill Willow; 1st resident male in Coyote Crossing
- All but one resident bird located in the Bill Williams River delta area – primarily in tamarisk dominated habitat.
- One female moved within-season from Alamo Lake to Bill Williams

Alamo Lake

- Large number of resident flycatchers (75) – likely an over-estimate!!
- Driest study area with breeding flycatchers in 2016; early leaf abscission and tree mortality noted starting in late June.
- Slightly reduced nest success (53% vs 62%) and fecundity (0.97 vs 1.55) from 2015

Alamo Lake


Alamo Lake level
(feet above mean sea level)
1177
1167
1157
1147
1137
1127
1117
1107
1097
1087
1077
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16

Alamo Lake

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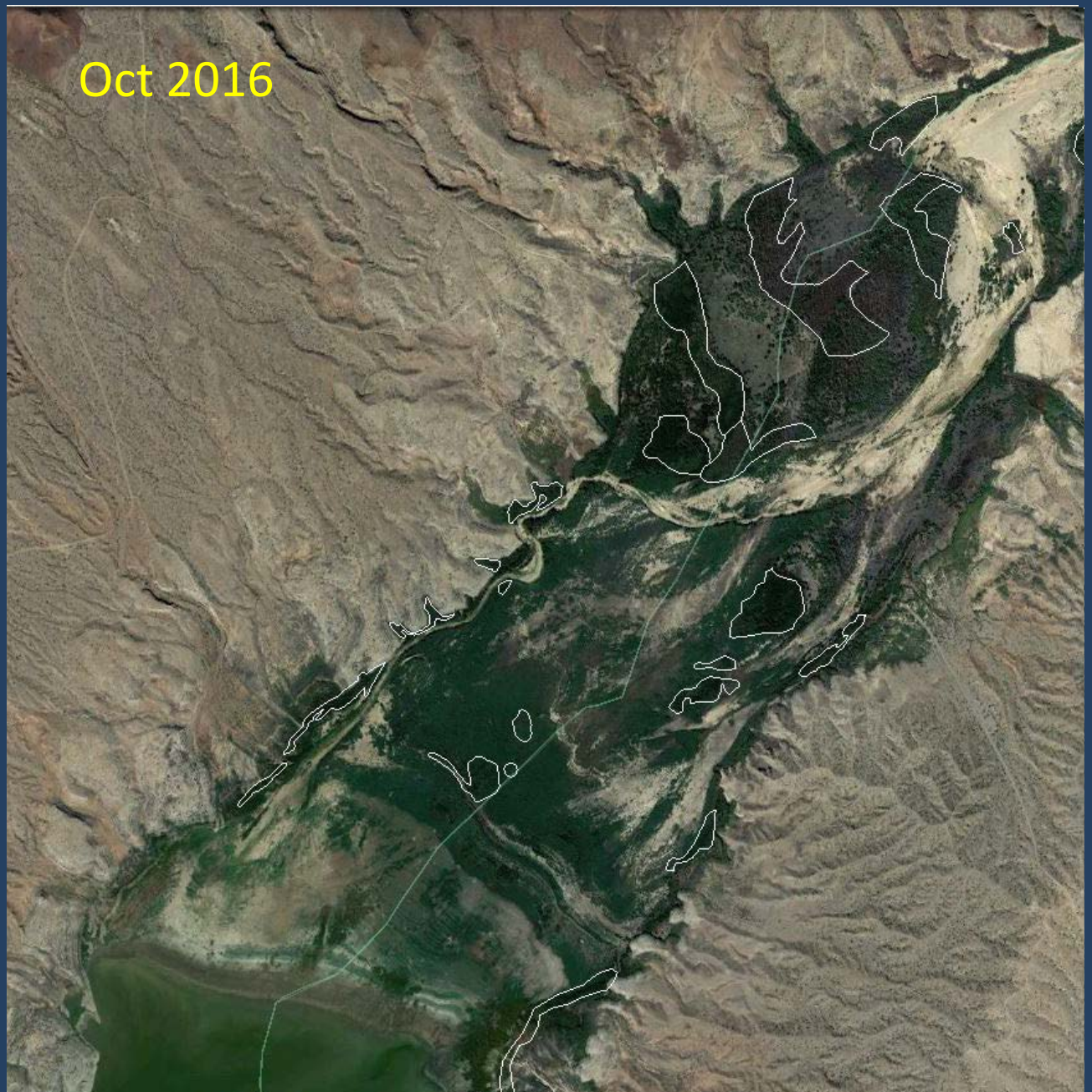
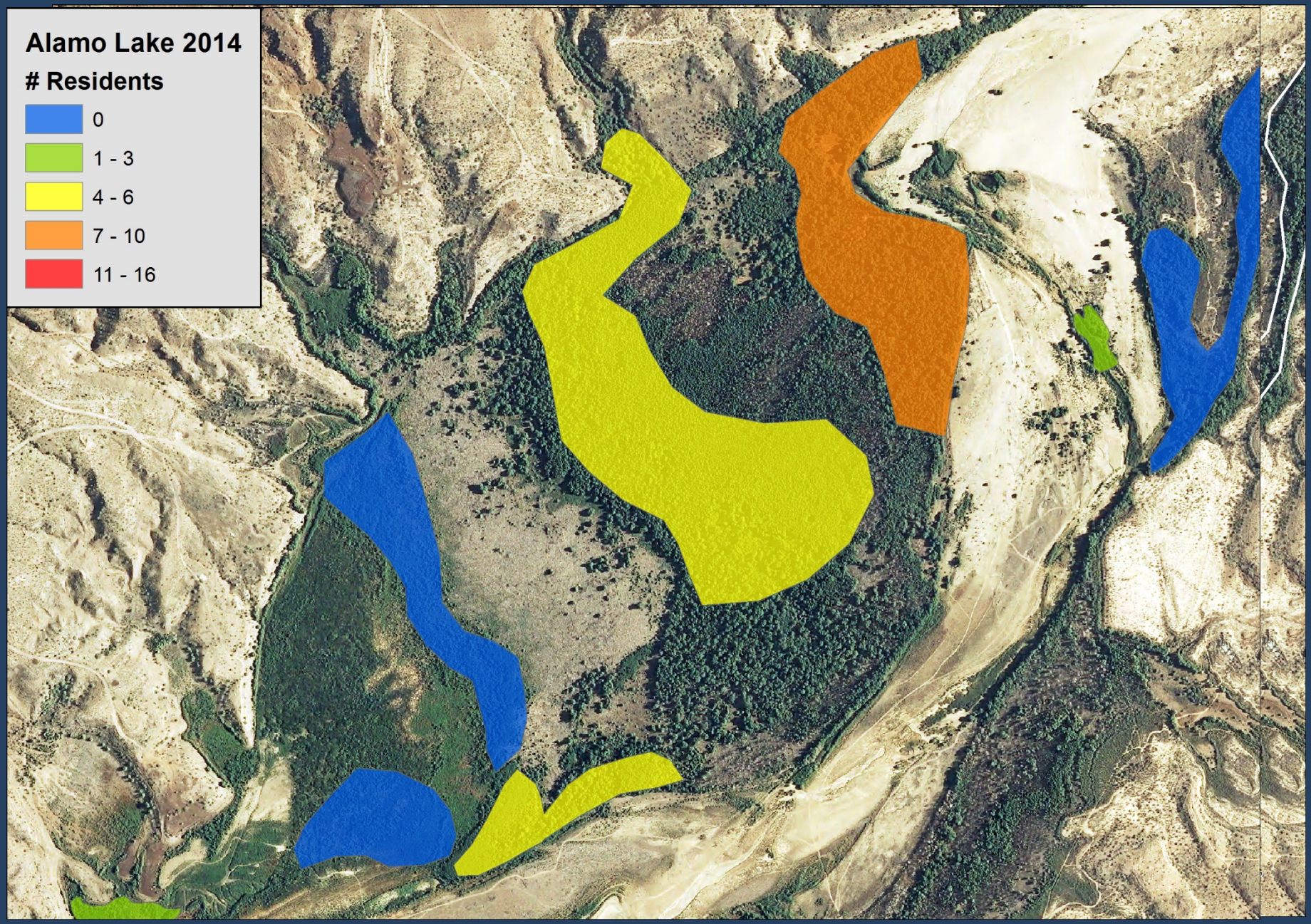
Alamo Lake level
1,098
1,096
1,094
1,092
1,090
1,088
1,086
1,084
1,082
1,080
1,078
1,076
2017
Mar
May
Jul
Sep
Nov
2017
2016
2015
2014
2013
2012
Jan-14
Jan-15
Jan-16

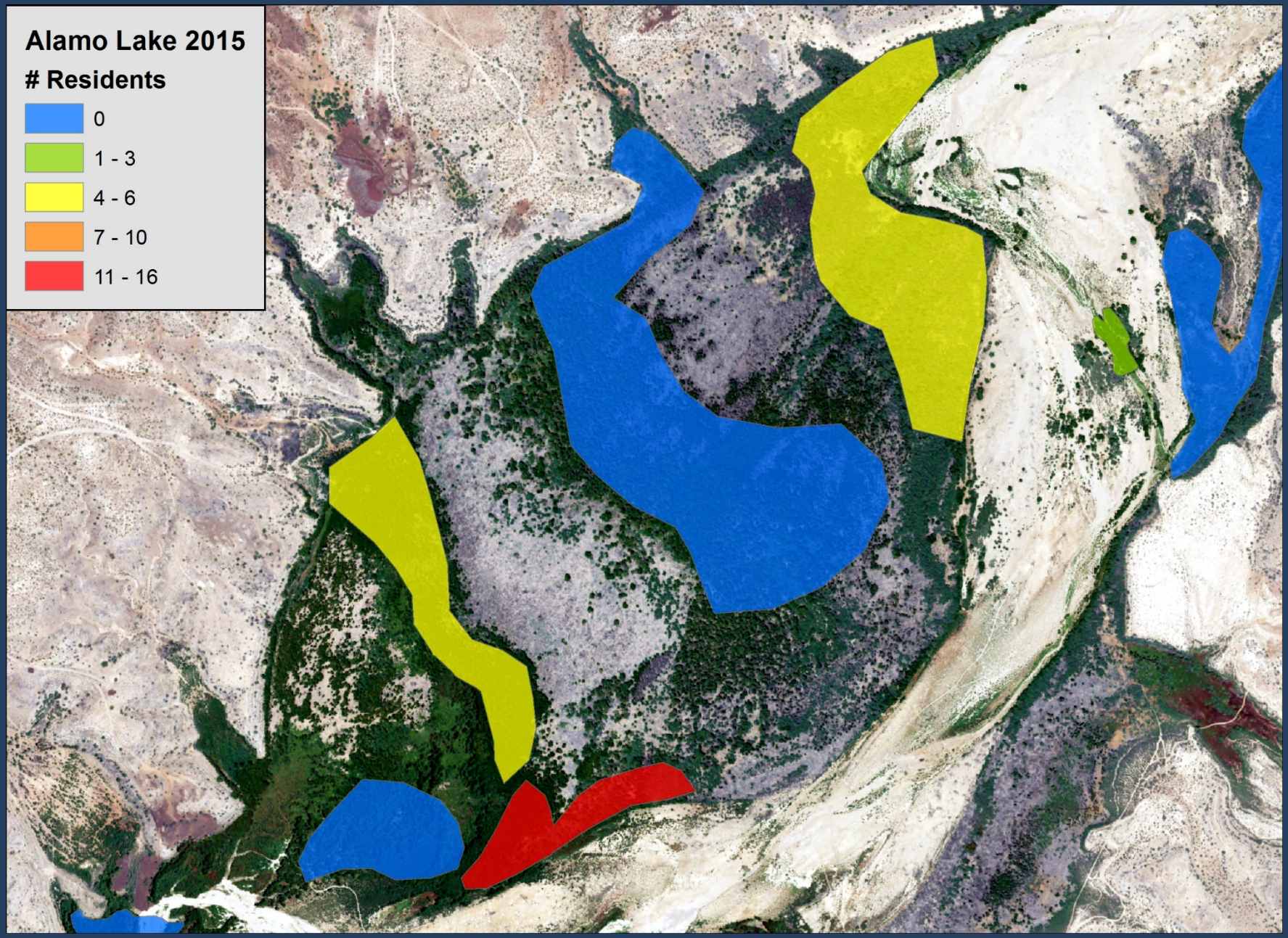
Alamo Lake



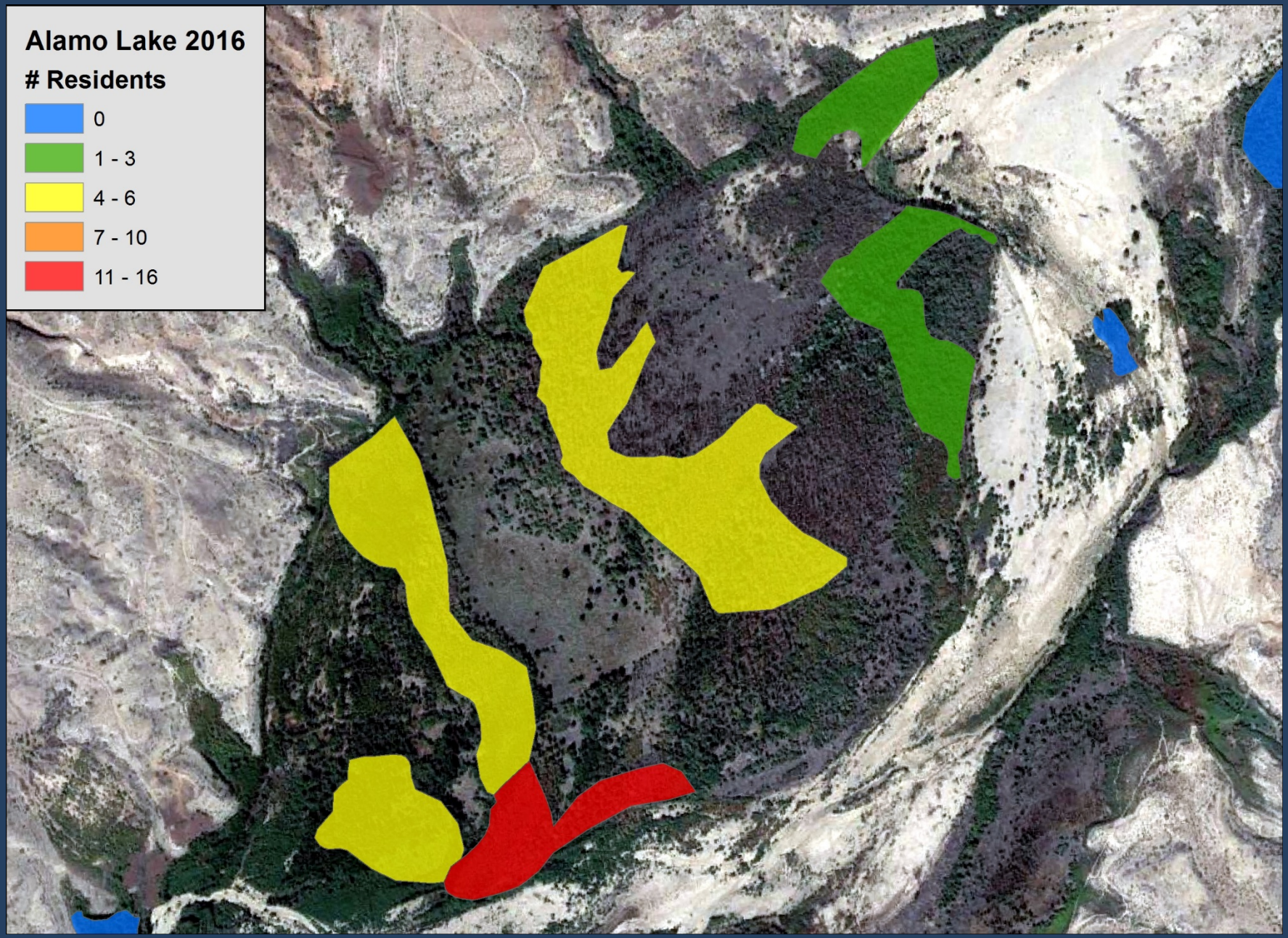
Alamo Lake



Alamo Lake



Alamo Lake



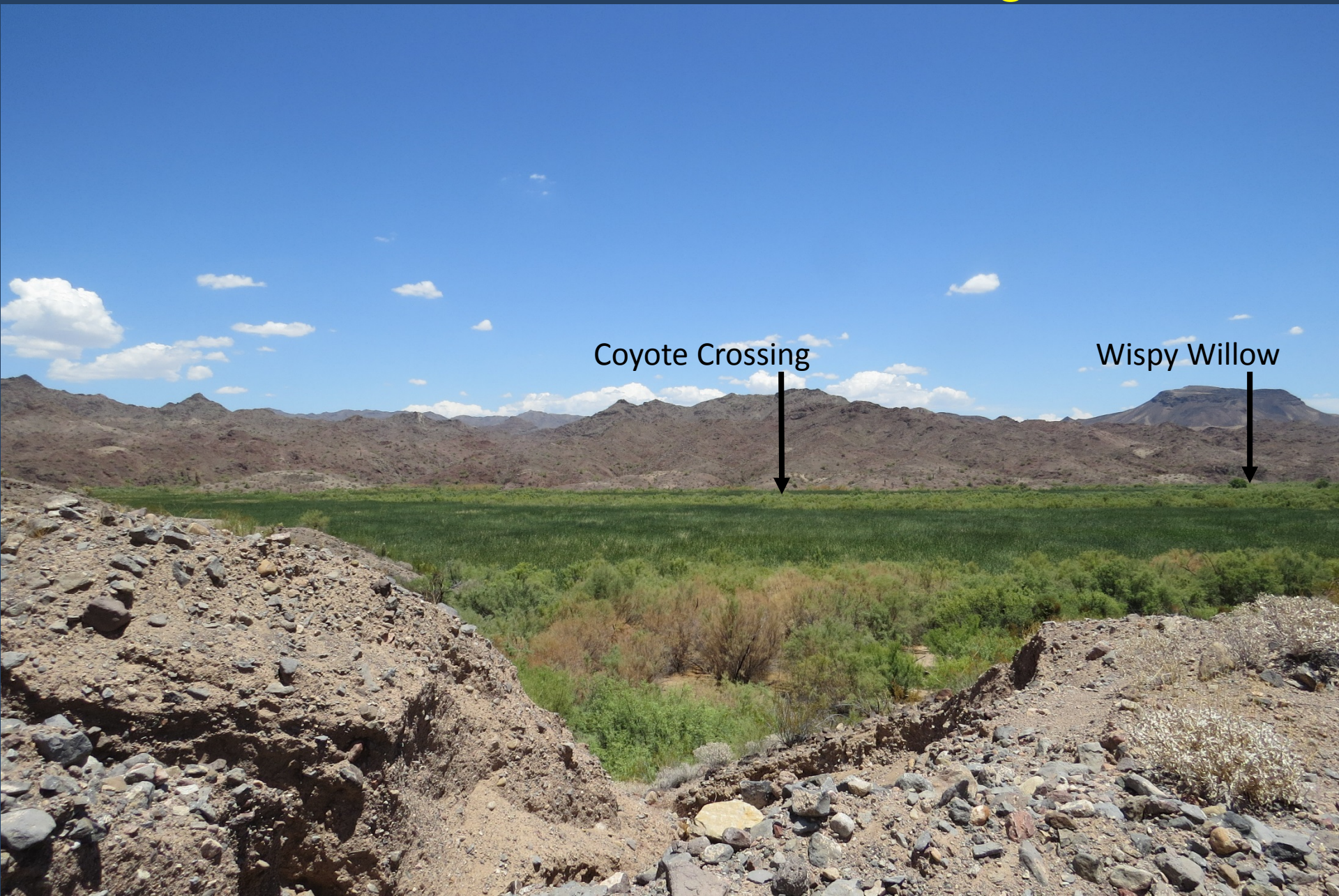
Alamo Lake

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Tamarisk Beetle Monitoring

- Formal monitoring discontinued after 2015
- Beetles arrived near Topock Marsh and Bill Williams study areas in late July
- All recent flycatcher nesting in TOPO / BIWI has been in tamarisk (sometimes adjacent to coyote willow)
- 2017?

Tamarisk Beetle Monitoring



Questions?