



- LCR MSCP -



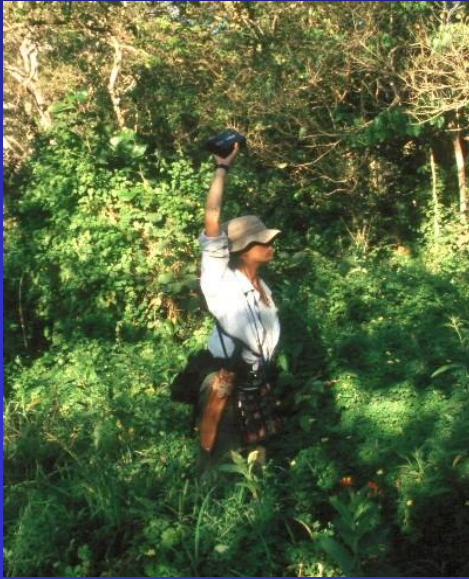
Southwestern Willow Flycatcher Demography and Ecology Studies along the Lower Colorado River and Tributaries 2010



SWCA[®]
ENVIRONMENTAL CONSULTANTS

Study components

- Broadcast surveys



- Territory/nest monitoring



- Banding/resighting



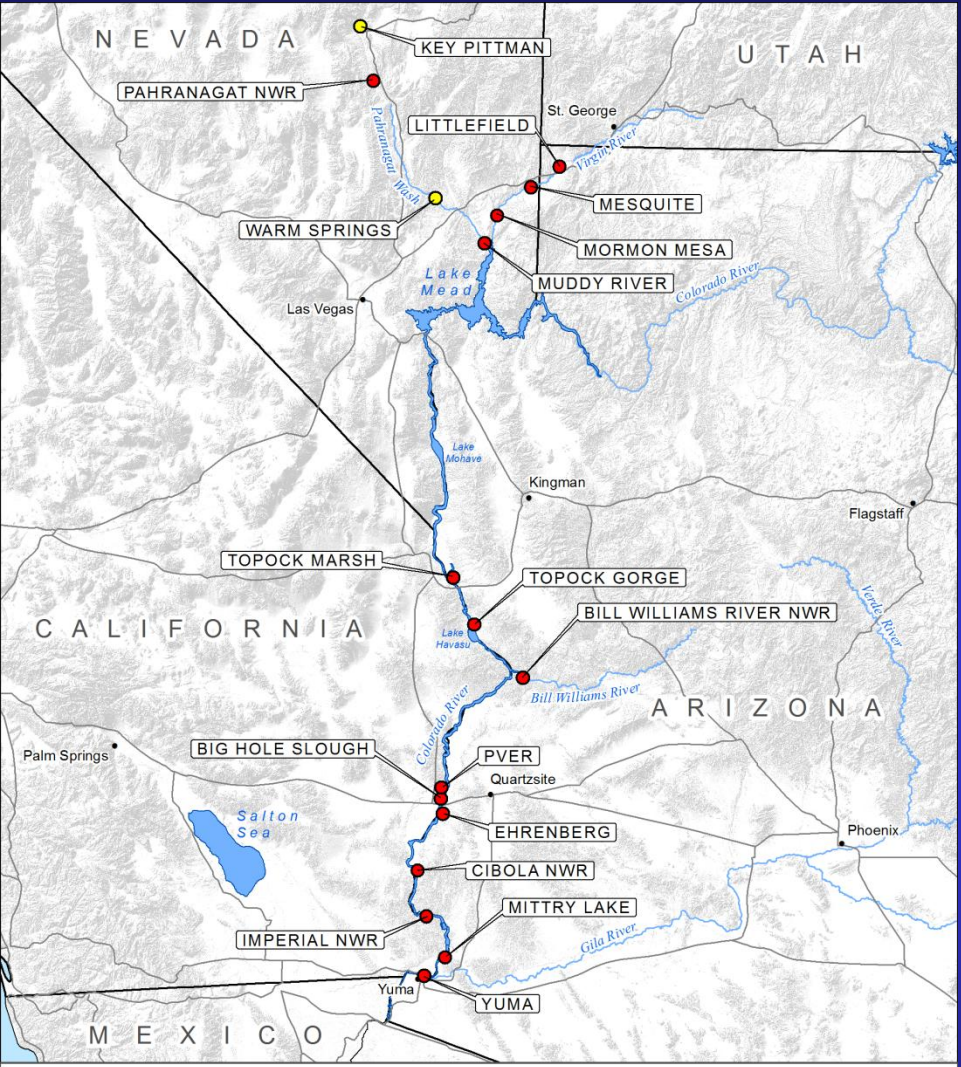
- Microclimate/vegetation



- Cowbird trapping

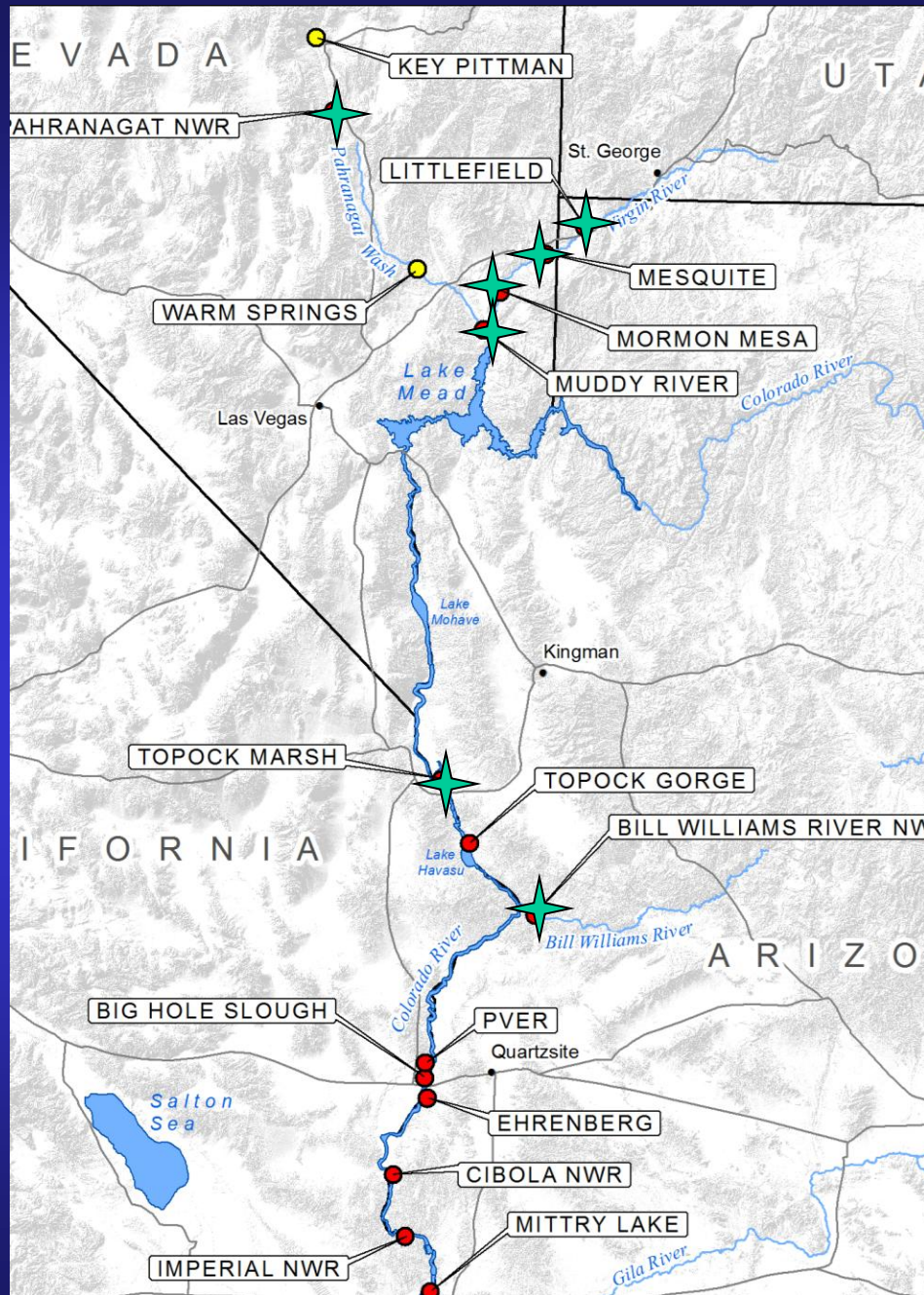


Study Area



Approx. 100 survey sites
Sites chosen by field recon
via helicopter and on foot
Goal to survey all potential
habitat

★ Breeding sites



Pahrnanagat – native

Littlefield – native

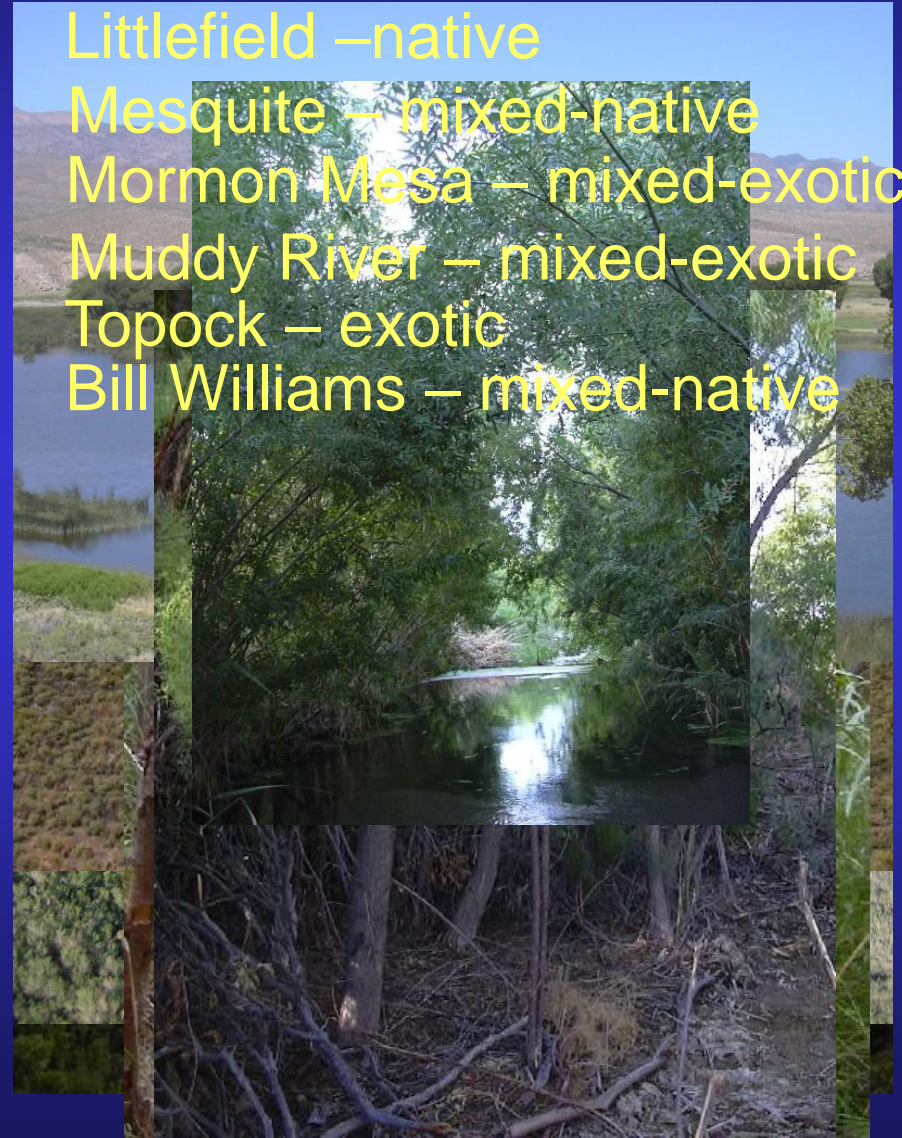
Mesquite – mixed-native

Mormon Mesa – mixed-exotic

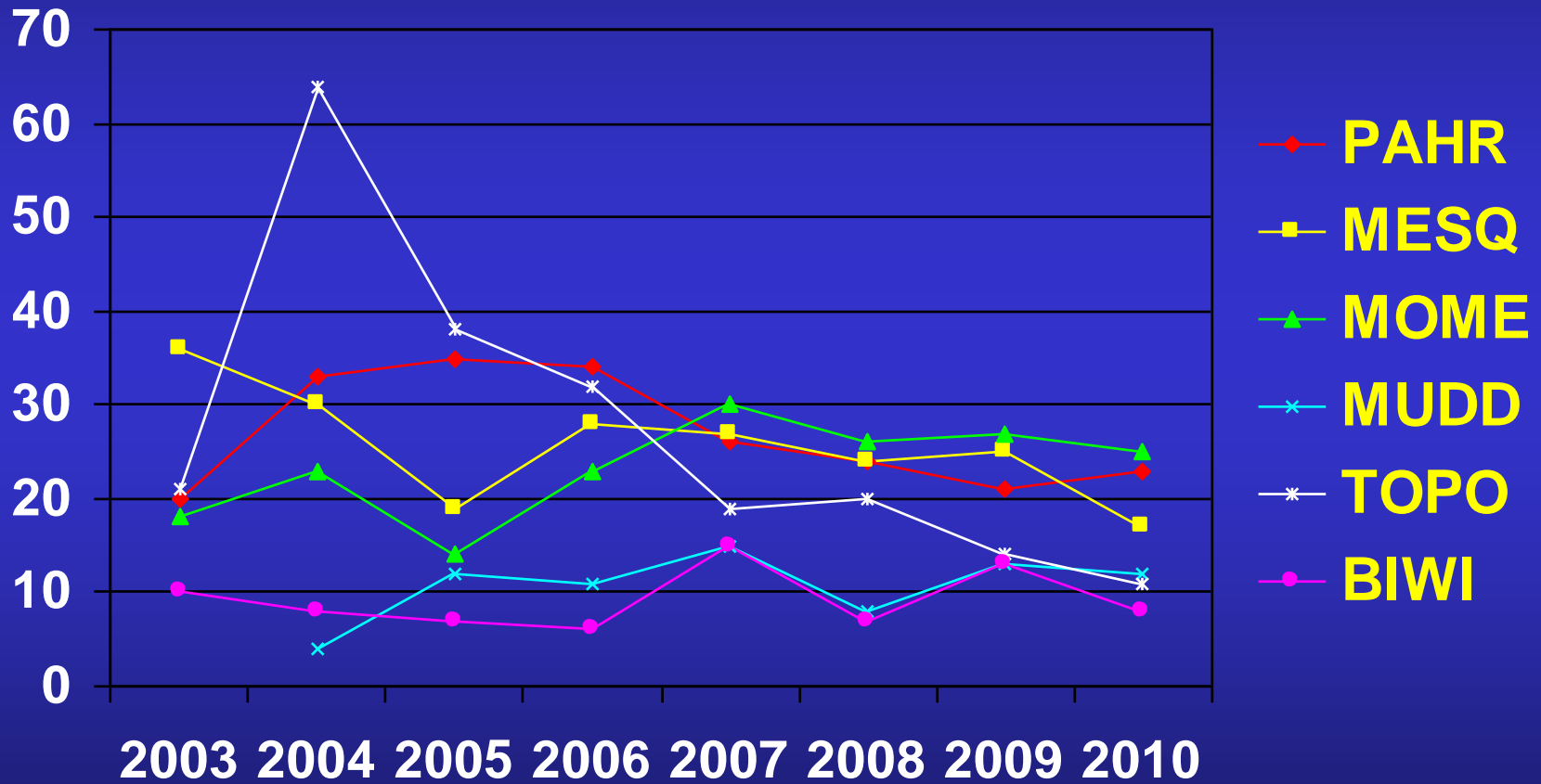
Muddy River – mixed-exotic

Topock – exotic

Bill Williams – mixed-native



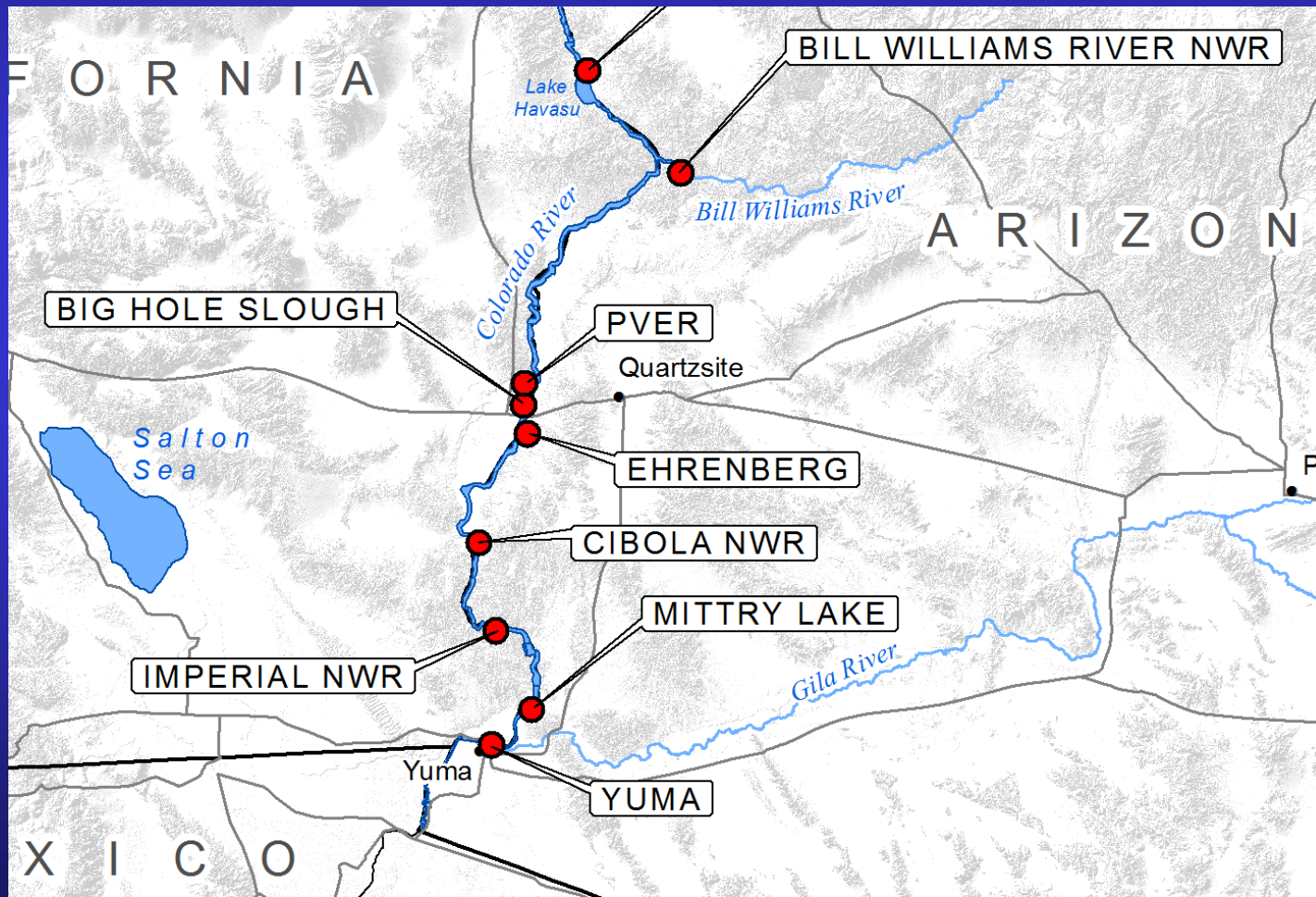
Resident Adult Flycatchers



Flycatchers on Southern LCR

No resident willow flycatchers recorded south of Bill Williams

Migrant willow flycatchers detected through early-June



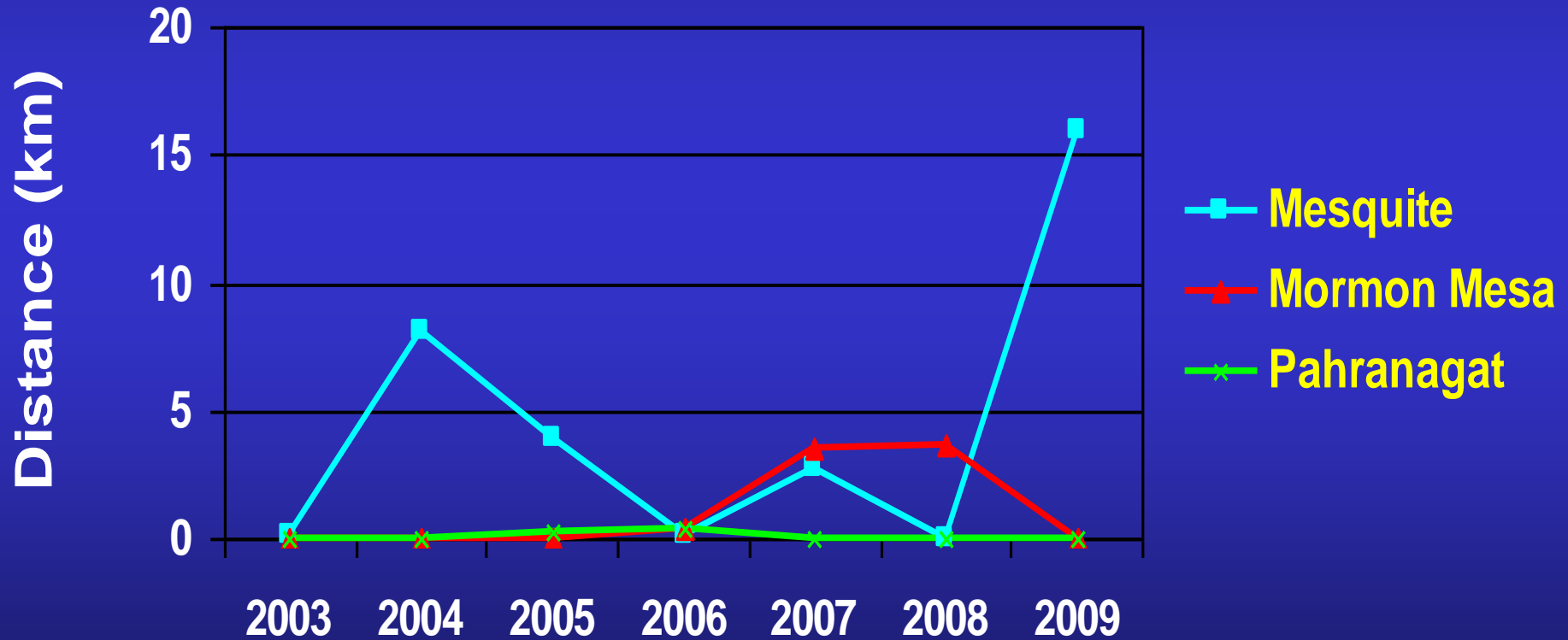
Habitat conditions 2010

Pahranagat

Mesquite West



Annual Distance Moved



Pahranagat Response to Changes in Hydrology

- Compared pre-levee-failure years (n=5) to post-levee-failure years (n=3)
- No significant change in annual distance moved
- No significant change in fecundity or number of successful nests per female
- Lower proportion of successful first nesting attempts
- More nesting attempts per female at Pahranagat post levee-failure
- Majority of nest failures due to depredation



Conclusions

Water is ...

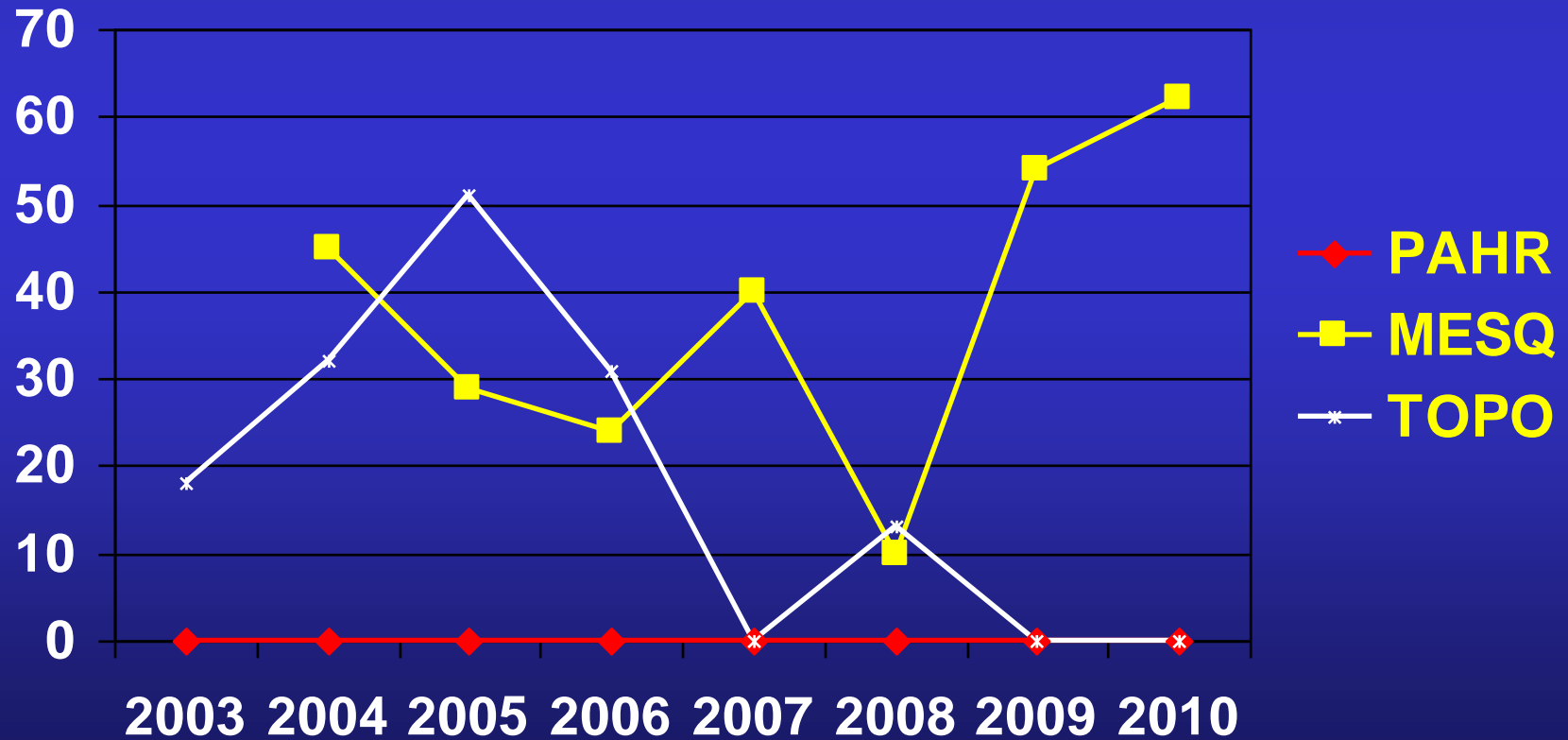
IMPORTANT

Conclusions

- Not enough data to draw too many conclusions
- Good illustration of mobility of species when faced with changing habitat conditions

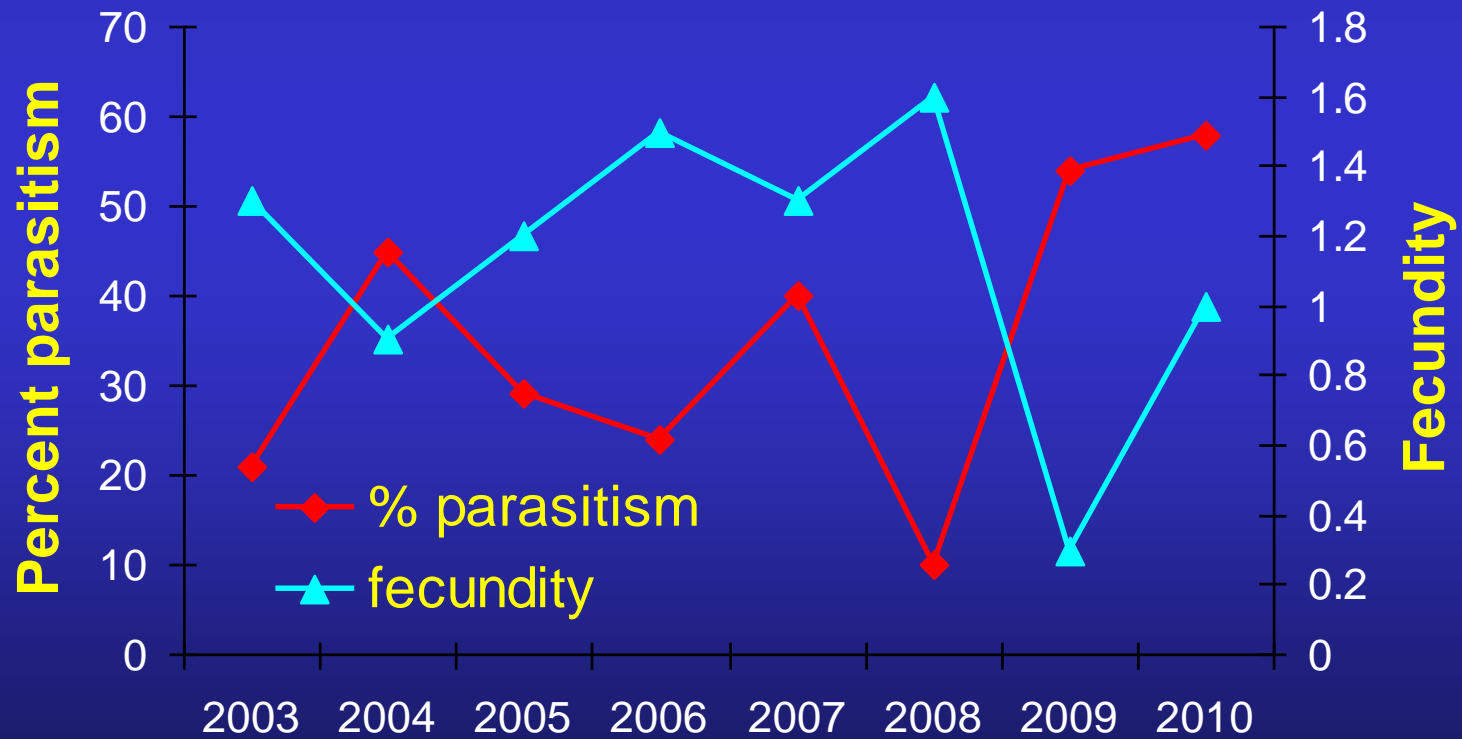


Percent Brood Parasitism





Mesquite





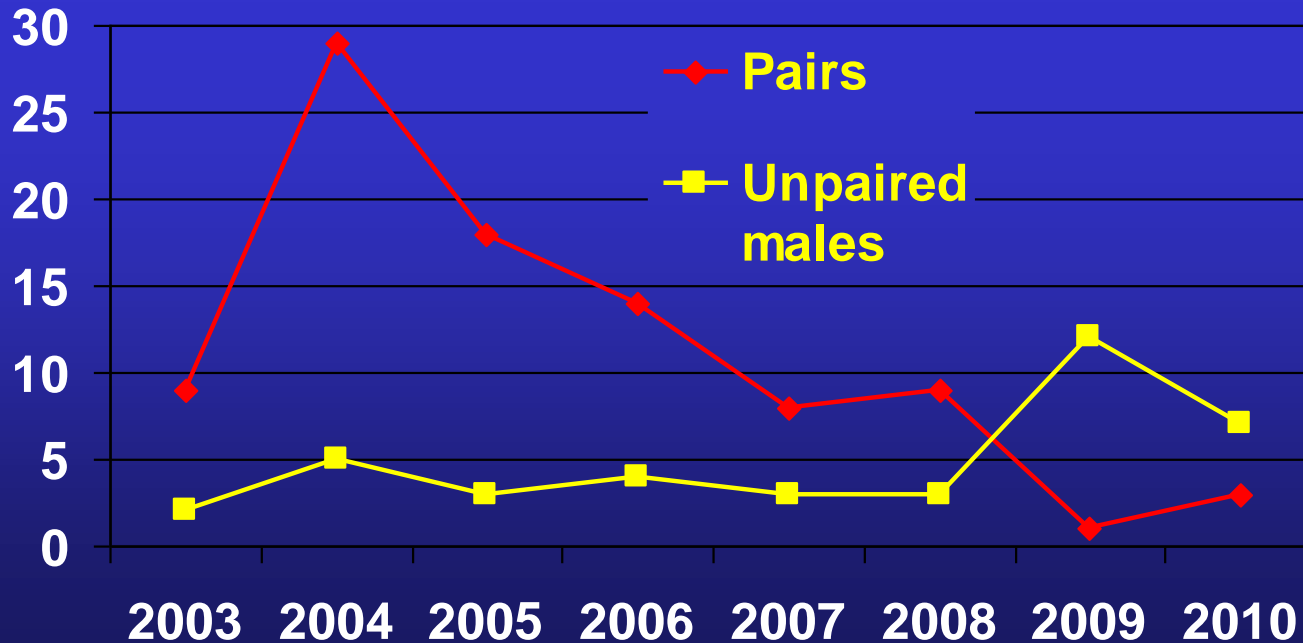
Cowbird Egg Addling Results

- Addled eggs in many nests. Only four parasitized nests incubated to hatching
- Only one egg hatched; lower rate than previous years; BHCO nestling removed
- No adverse reactions by females to addling or BHCO nestling removal
- Three of four parasitized nests with addled eggs successfully fledged flycatchers

Topock Marsh

Simultaneous drop in nesting and rise in unpaired males;
lowest number of resident birds recorded

- Only 3 confirmed females; 1 additional territory with a potential female
- 1 pair with no detected nesting attempt
- Similar pattern seen at Roosevelt Lake in 2002
- Possible indication of poor habitat quality



Microclimate and Vegetation Study Design

Within active territories at Mesquite and Bill Williams NWR

- 20 m from territory center
- T/RH logger as soon as territory identified
- Vegetation at end of season

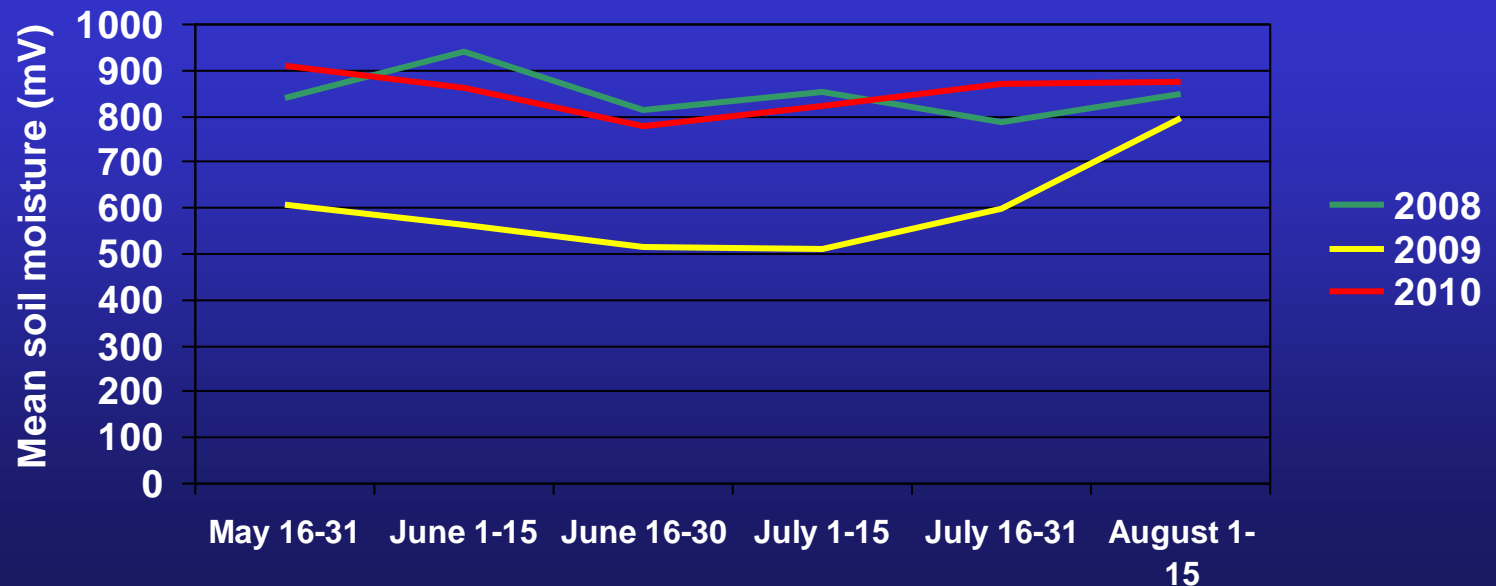
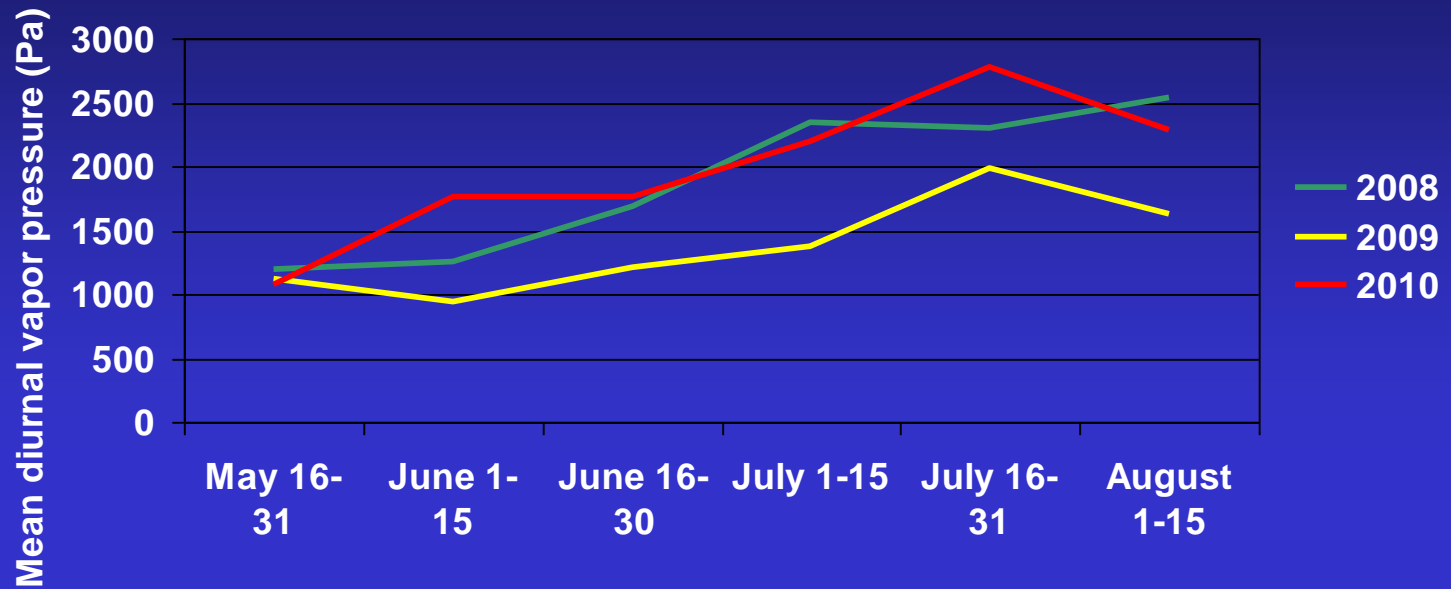
Pahranagat North

- Set up 28 random points throughout site
- T/RH logger hung in June
- Vegetation at end of season

Provide description of occupied habitat in various vegetation types and initial assessment of effects of changes in hydrology

- Combine with data collected within territories in previous years

Mesquite Microclimate Results



Pahranagat Microclimate Results

- 2010 soil moisture higher than 2009; not different than 2005–2007 July–Aug
- June 2010 drier than June 2005–2007
- Humidity intermediate between 2009 and 2005–2007



Tamarisk Beetle Update

- Arrived at Mesquite West in late July
- Seen down river of Bunkerville Bridge within 9 km of Mormon Mesa
- Also seen in Logandale, 13 km from Mormon Mesa and 11 km from Overton WMA



Acknowledgements

- Bureau of Reclamation – Chris Dodge and Theresa Olson
- USFWS Regions 1 and 2
- Federal Bird Banding Laboratory
- Arizona Game and Fish Dept.
- Nevada Division of Wildlife
- California Dept. of Fish and Game
- Utah Division of Wildlife Resources
- Refuges:

Pahrnagat NWR
Havasu NWR
Bill Williams River NWR
Cibola NWR
Imperial NWR

- Grand Canyon National Park
- Hualapai Tribe
- Colorado River Indian Tribes
- Lake Mead NRA
- Bureau of Land Management
- Key Pittman WMA
- Overton WMA
- Private landowners

**Special thanks to
our field crews.**