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PRBO Conservation Science



Yellow-billed Cuckoos along the Sacramento River: No evidence of response to riparian forest restoration

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June 3, 2013

Outline

- **Background on Western Yellow-billed Cuckoo**
- **Recent surveys on the Sacramento River**
- **Comparison to previous surveys**
- **What do we need to do next?**



Western Yellow-billed Cuckoo

- **Charismatic**
- **Neotropical migrant**
- **Secretive nature**
- **Riparian forest obligate**
- **Feeds on large insects and caterpillars**
- **Short nest cycle**



Background

- **Once ranged throughout Central Valley and Southern California**
- **Today, restricted to small populations in Sacramento, Colorado and Kern River Valleys**
- **Listed as State Endangered in 1988**
- **Federally “warranted but precluded”, currently under consideration**



Sacramento River Yellow-billed Cuckoo Surveys

- **In partnership with California Department of Fish and Wildlife**
- **Main goal was a population estimate**
- **2010 and 2012 surveys of main stem of Sacramento River**



Surveys

- **Call playback surveys at points**
- **Four visits to each point, June 15-August 15**
- **Mostly done by foot, some from boat**



Results

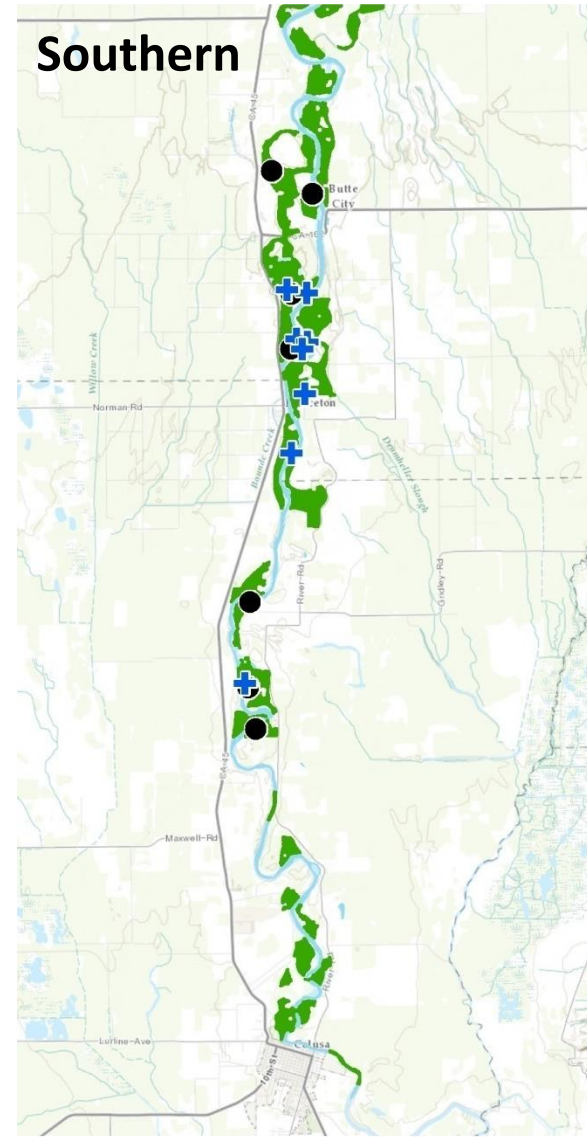
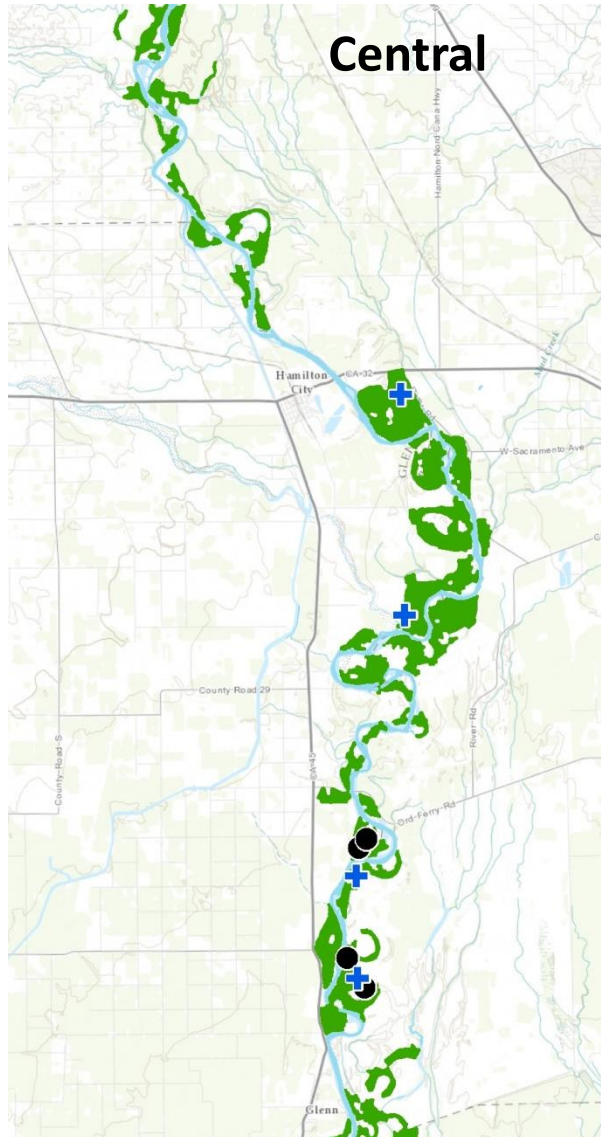
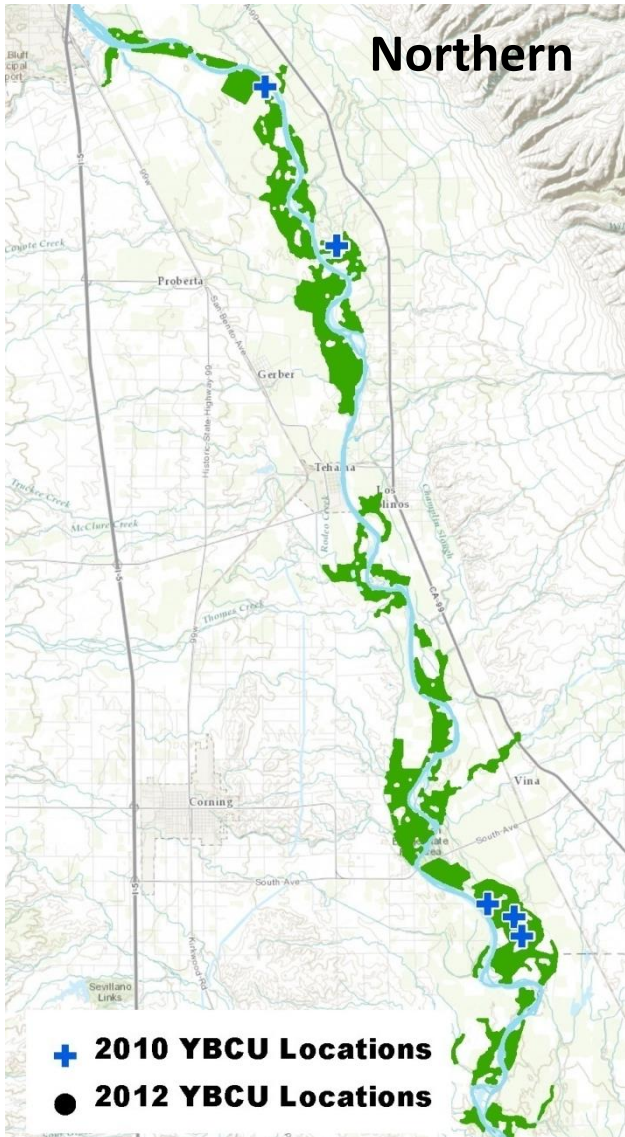
2010 Survey

- 18 cuckoos
- 6 in restoration
- ~1500 survey points/round
- ~1200 total survey hours

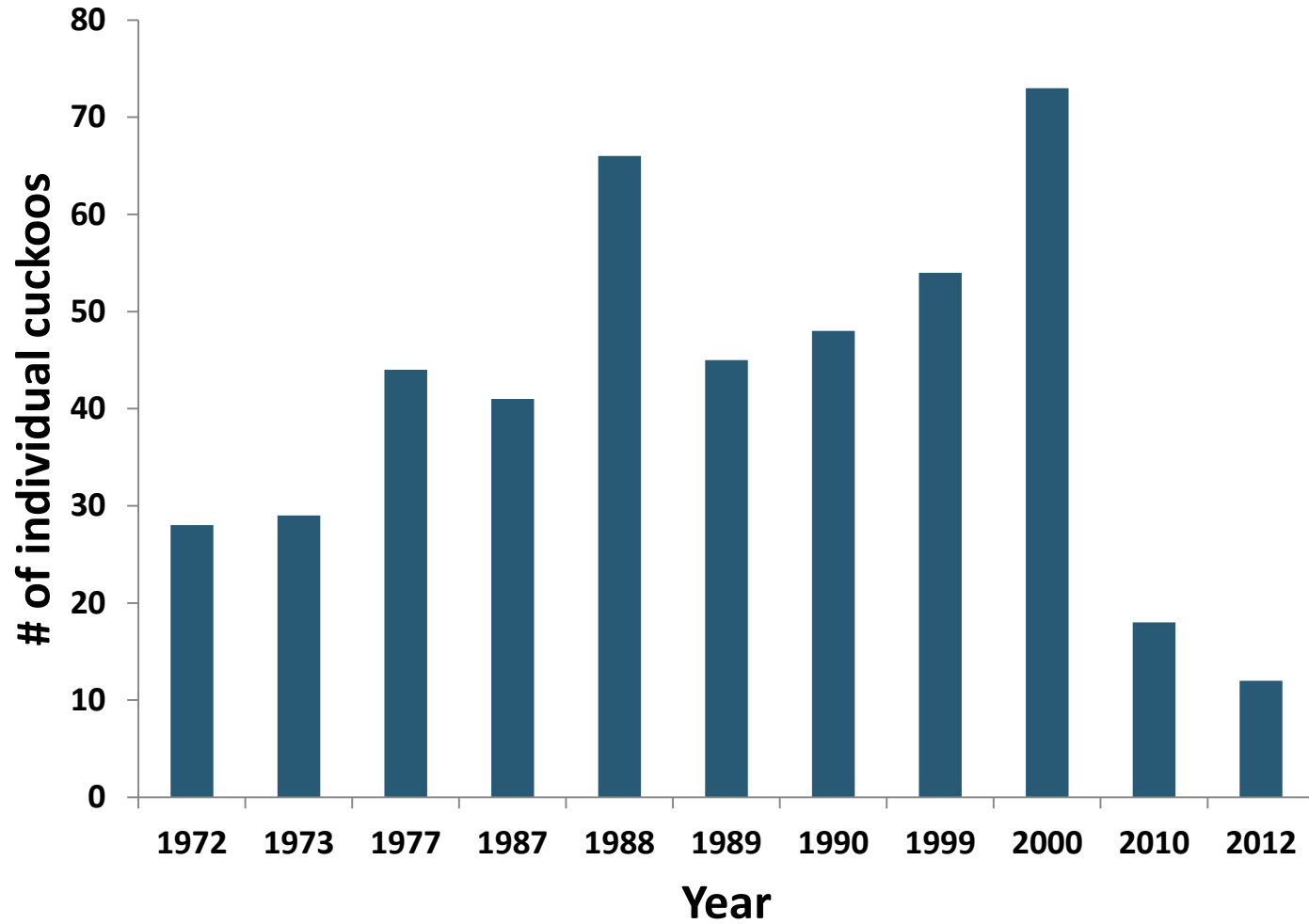
2012 Survey

- 10-12 cuckoos
- 1 in restoration
- ~1100 survey points/round
- ~1100 total survey hours

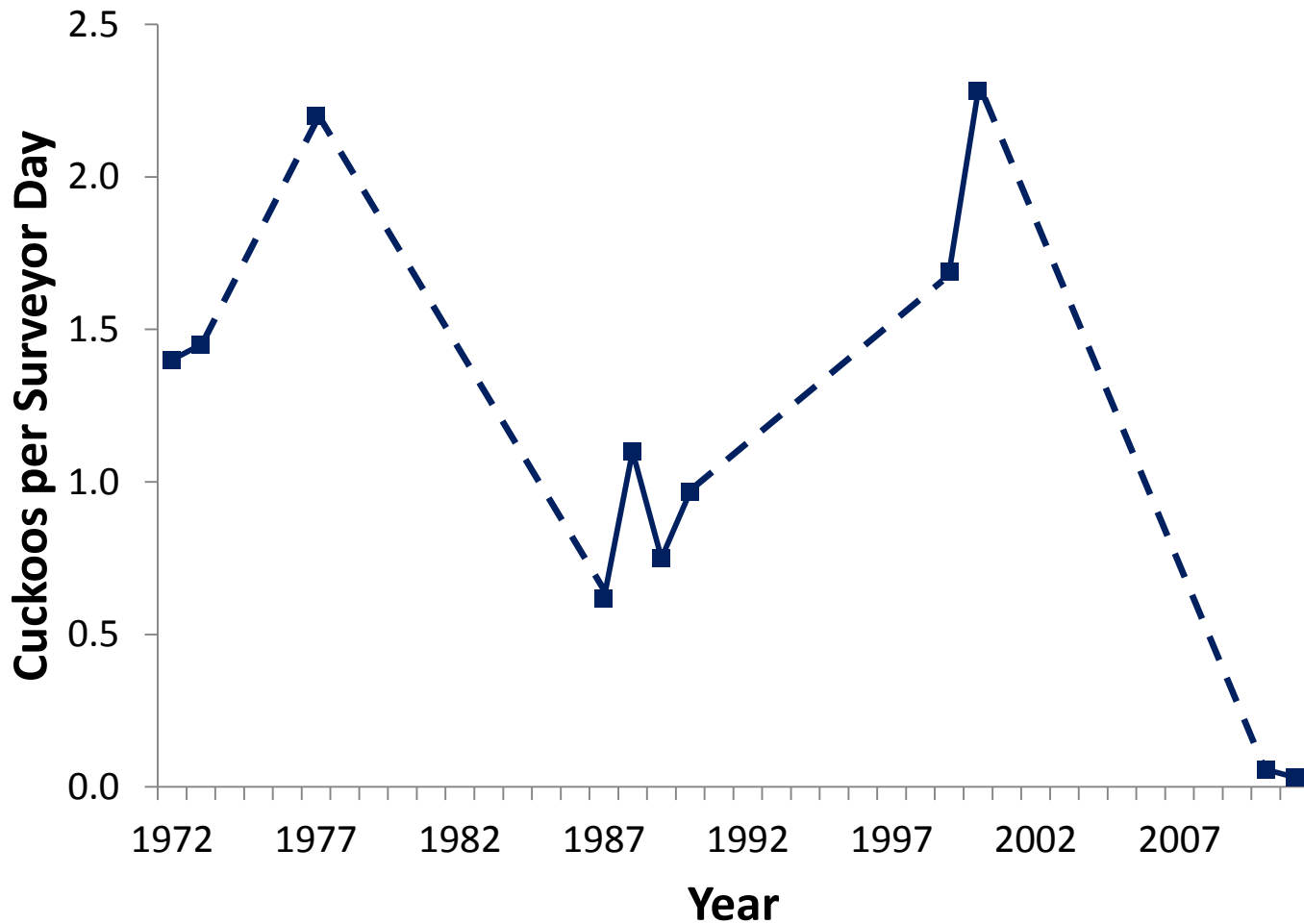
Results



Previous Surveys



Previous Surveys



Previous Surveys

- **Different protocols**
 - Fewer surveys
 - Mostly from the river
 - Different interpretation of responses
- **Difficult to make direct comparisons**



Why the low numbers?

- **Lots of new habitat, more spread out and harder to find**
- **Birds stopping short further south**
- **Survey protocol**
- **Decline in population**



Why the decline?

- **Breeding grounds**
 - Food availability/insecticides
 - Disrupted hydrologic function
 - Predator increase
 - Disease
- **Migration and wintering grounds**
 - Food availability
 - Habitat conversion
 - Disease
 - Unknown



Future Work

- **Monitor the population**
- **Organize and reinterpret previous surveys**
- **More focused studies are warranted**
 - **Blood samples and genetics**
 - **Telemetry**
 - **Geocator/satellite tags**
 - **Wintering grounds**

Conclusions

- **Sacramento River population is declining**
- **It appears that restoration has not increased cuckoo numbers**
- **Other species are responding well**
- **Opportunity to increase our understanding of river ecosystems and the Yellow-billed Cuckoo**

Acknowledgements

- **Funded by USFWS through a Traditional ESA Section 6 grant to CDFW**
- **Henry Lomeli, David Wright, Canh Nguyen**
- **USFWS , Joe Silveira, Kelly Moroney**
- **The Nature Conservancy**
- **California State Parks**
- **River Partners**
- **PRBO Field Technicians**

Drawing by Adrienne Levoy





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