

Yellow-billed Cuckoos on the Lower Colorado River, 2010 Field Season



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Yellow-billed Cuckoo *Coccyzus americanus*

- Neotropical migrant
- Breed late June to August
- Insectivorous
- Riparian obligate in West
- Massive population declines following loss and degradation of riparian
- Currently candidate for federal endangered status



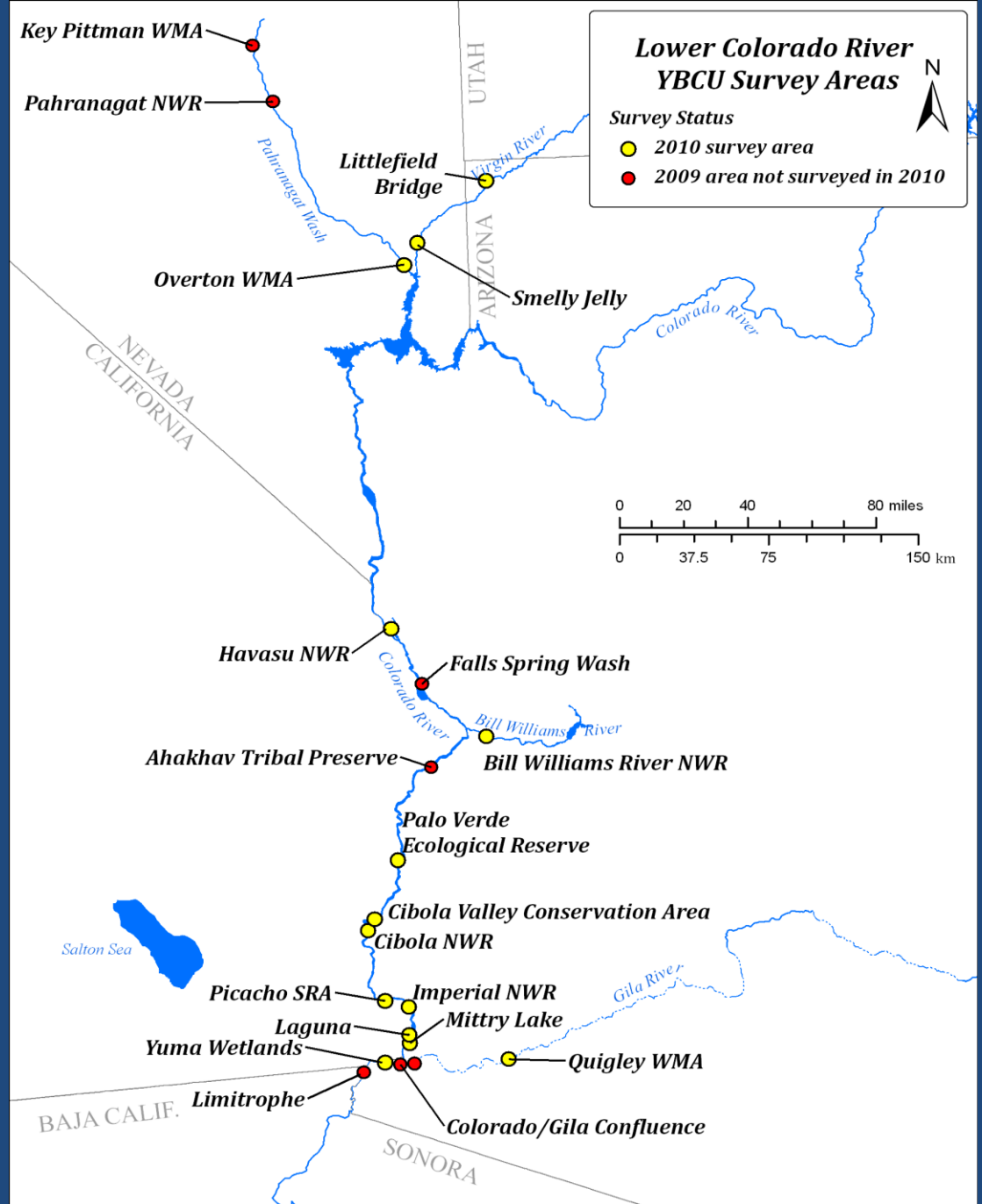
From Halterman
1991

2010 YBCU surveys

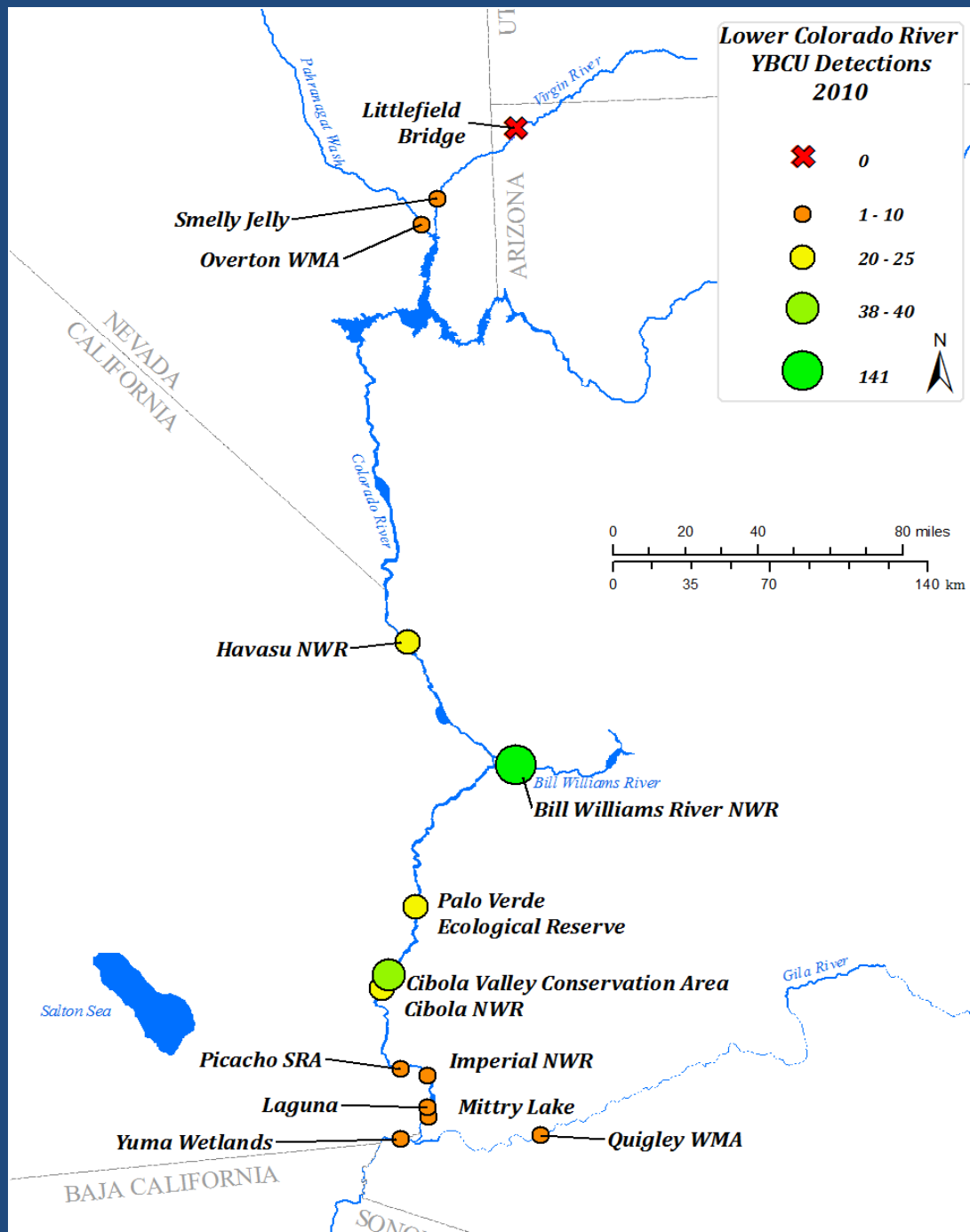
- stop 100m in suitable habitat, play contact call played 5x
- 4 rounds of surveys between mid-June and late August.
- 46 survey routes
- 206 surveys conducted during the summer
- 272 detections



YBCU survey locations 2010



2010 YBCU survey detections



Breeding status

-Detections classified as *possible, probable, or confirmed*.

-31 Possible breeding pairs: Two or more detections in an area at least 12 days apart

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-22 Confirmed breeding pairs: A copulation, stick carry, nest, or fledgling observed.

Estimated number of pairs of Yellow-billed Cuckoos on the lower Colorado River by region.

Region	Minimum	Maximum
North of Bill Williams River	1	5
Bill Williams River NWR	12	31
Sites near Blythe/Cibola	9	16
South Sites – Yuma area	0	4
Total	22	56

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Survey summary

- Detection probability $> 70\%$ for first three survey rounds; dropped to $< 40\%$ in August
- Evidence that southern sites may be used as migration stopovers
- Fall dispersal may begin in early August
- The average occupancy across all sites was 74% .
- Restoration site occupancy (80%) $>$ than natural sites (68%).
- Occupancy increased at restoration sites from 2009

Banding

-27 Adults captured using target netting with stacked nets.







- 24 captures on restoration sites
 - first captures on Beal restoration site (3)

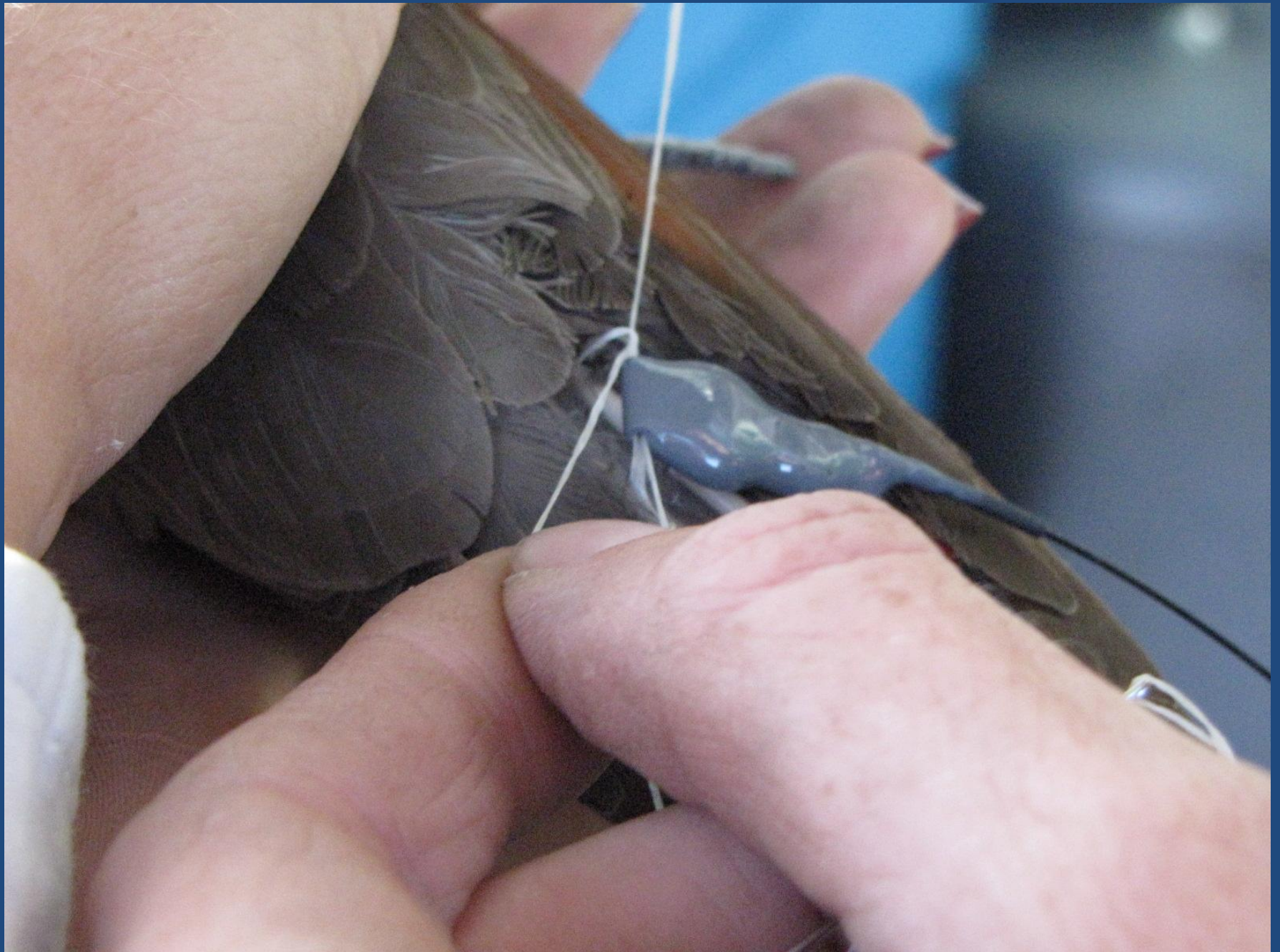
- 2 recaptures from 2009
- 2 resights from 2009
- 25 adults uniquely banded



Banding (con't)

- Our very limited data suggests that dispersal may be sex biased, with philopatric males and dispersing females

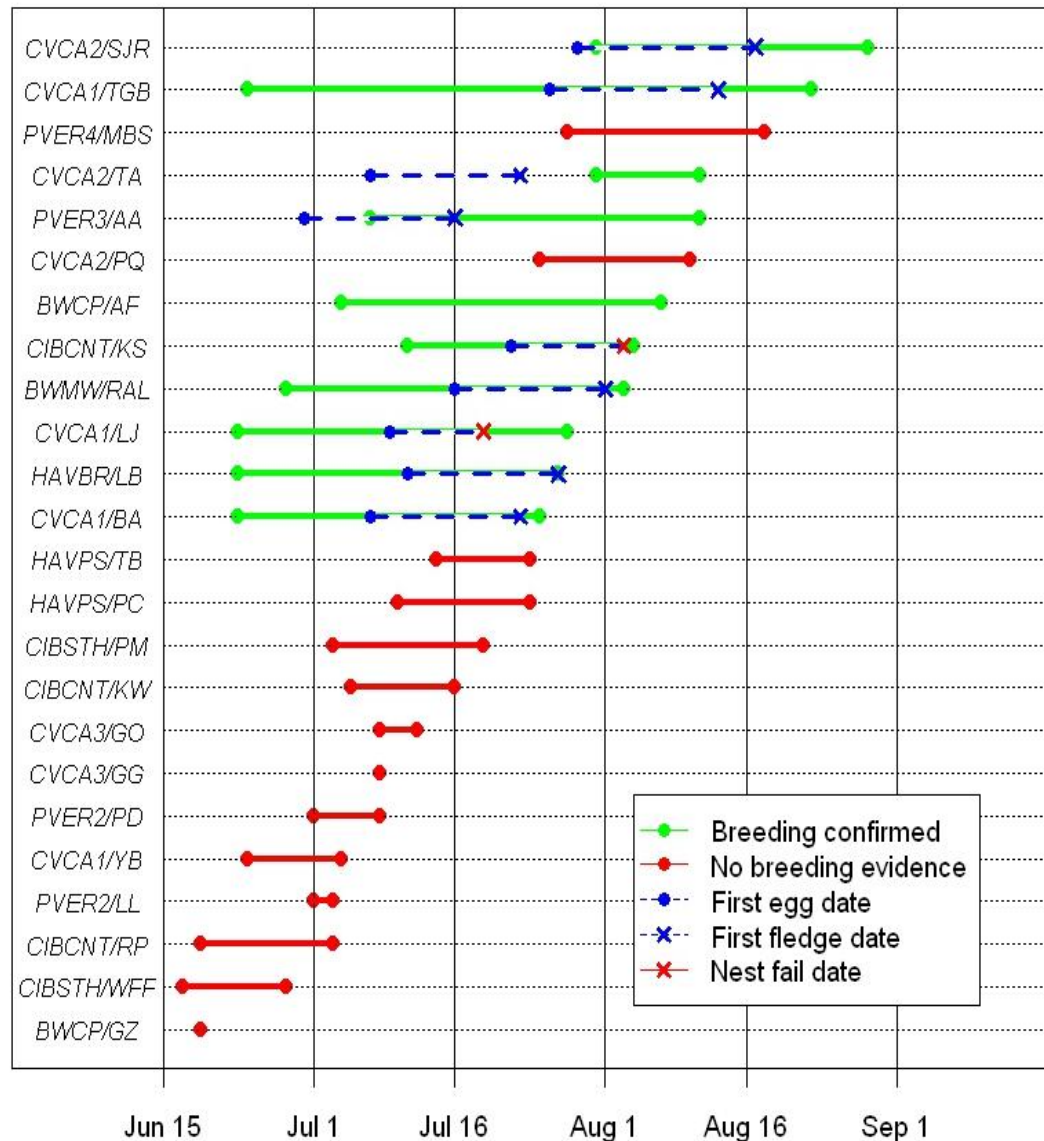




Telemetry

- 23 of the 27 adults captured were fitted with transmitters
- Several birds left before telemetry conducted
- Followed for up to 38 days
- Total of 250 days of telemetry observations
- 95% KDE home range estimate = 21.7 ha (n=19), range 8 -39 ha

Capture, last known presence and nesting dates of banded Yellow-billed Cuckoos, LCR 2010



Breeding

- Confirmed 22 breeding pairs at 13 sites, plus 34 possible or probable breeders
- Located 10 nests at restoration sites, 7 nests at BWR NWR
- 15 successful nests fledged at least 31 young (88% apparent nest success)
- 24 Nestlings banded from 12 nests.
- Nesting synchronized at natural forest sites



Breeding (con't)

- 8 nests in cottonwood, 5 nests in willow, 1 in seep willow.
- Twice as many nests and confirmed breeders as 2009
- Found nests for the first time at:
 - Beal
 - PVER Phase 3
 - CVCA Phase 2
 - Cibola Nature Trail.





Time-lapse video camera

- Placed on one nest at CVCA 2 with 3 nestlings
- 5 days of video observation
- Adults fed katydids, large moths, butterflies, cicadas, and praying mantids, to nestlings.
- Young fledged at 5,6, and 7 days of age.

Habitat Characterization Plots

- Vegetation plots measured throughout the study site from 2006-2009. Veg plots were measured at nest sites from 2007- 2010.
- 11.3 m radius plots
- Analyzed data from 28 variables on vegetation composition and structure including vegetation height, relative abundance of different tree species, ground, shrub, and canopy cover

Habitat Characterization Plots (con't)

- Collected data at 70 sites
- 468 veg plots, 39 of these were nest plots (2007-2010)
- Used an Information Theoretic Approach and Principal Coordinate Analysis to analyze the data
- Analyzed data at the level of the site occupancy, plot occupancy, and nest occurrence.

Results

- Native large tree density was the strongest positive predictor of site and plot occupancy.
- Tamarisk density was a negative predictor of cuckoo occupancy.
- Increased density of cottonwoods was the best predictors of nest occurrence
- Overall – Cuckoos are choosing sites with high density of large native trees.

2011 Field Season:

- Begin banding attempts early in the season
- Increase banding efforts
- 2010 Recommendation
- Delay hunting at select restoration sites until mid-September

YBCU Protocol Training
June 9-10, LHC
Check SSRS website



Acknowledgements

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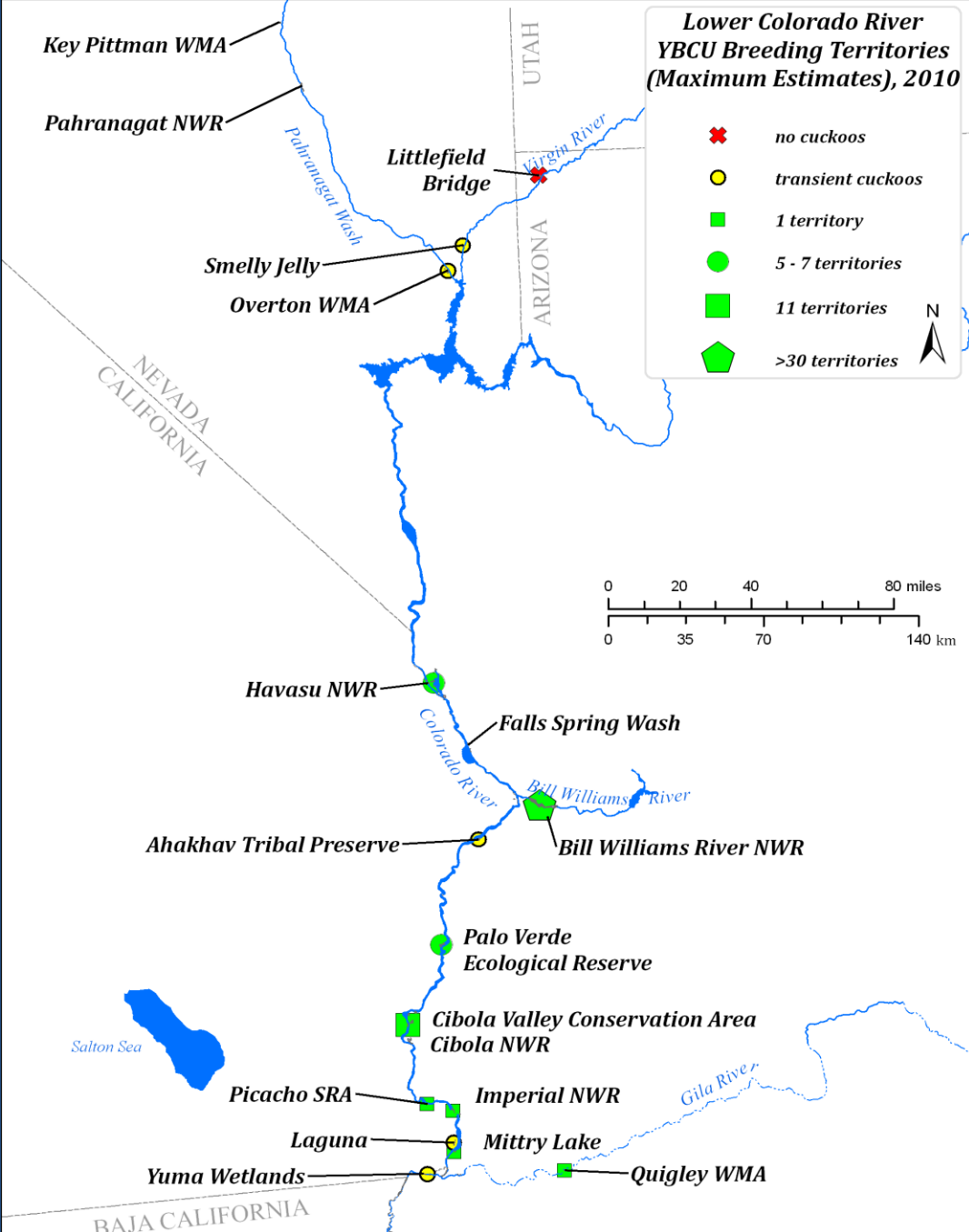
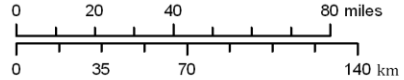
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QUESTIONS?



**Lower Colorado River
YBCU Breeding Territories
(Maximum Estimates), 2010**

- ✖ no cuckoos
- transient cuckoos
- 1 territory
- 5 - 7 territories
- 11 territories
- ⬠ >30 territories



Key Pittman WMA

Pahrnagat NWR

Littlefield Bridge

Smelly Jelly

Overton WMA

Havasu NWR

Falls Spring Wash

Ahakav Tribal Preserve

Palo Verde Ecological Reserve

Cibola Valley Conservation Area
Cibola NWR

Picacho SRA

Imperial NWR

Laguna

Mittry Lake

Yuma Wetlands

Quigley WMA

NEVADA
CALIFORNIA

UTAH

ARIZONA

Salton Sea

Gila River

Pahrnagat Wash

Virgin River

Colorado River

Bill Williams River

Nest timing

