



Upper Santa Cruz River Important Bird Area and Esperanza Ranch Bird Surveys and Restoration

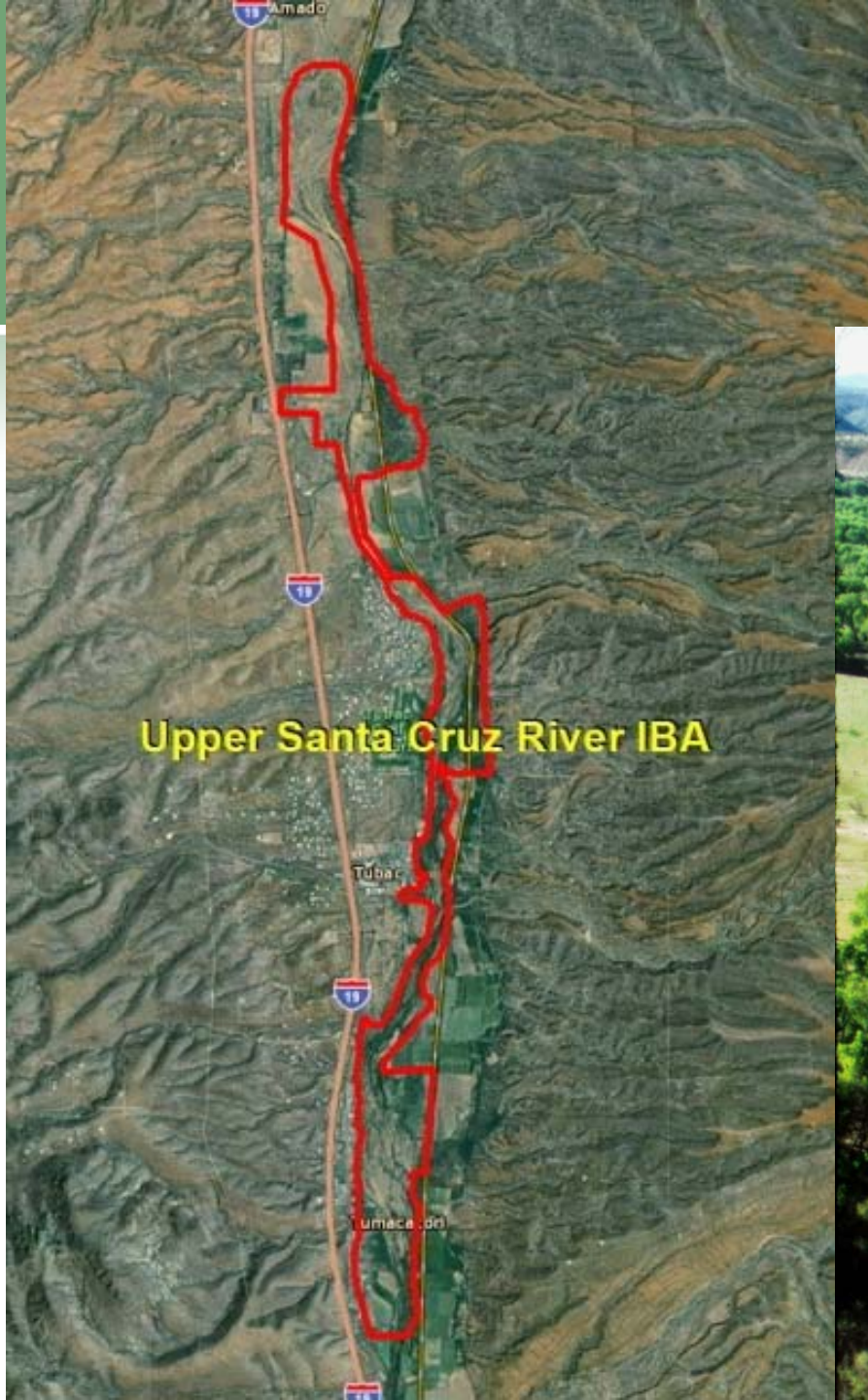
Jennie MacFarland, AZ IBA Conservation Biologist

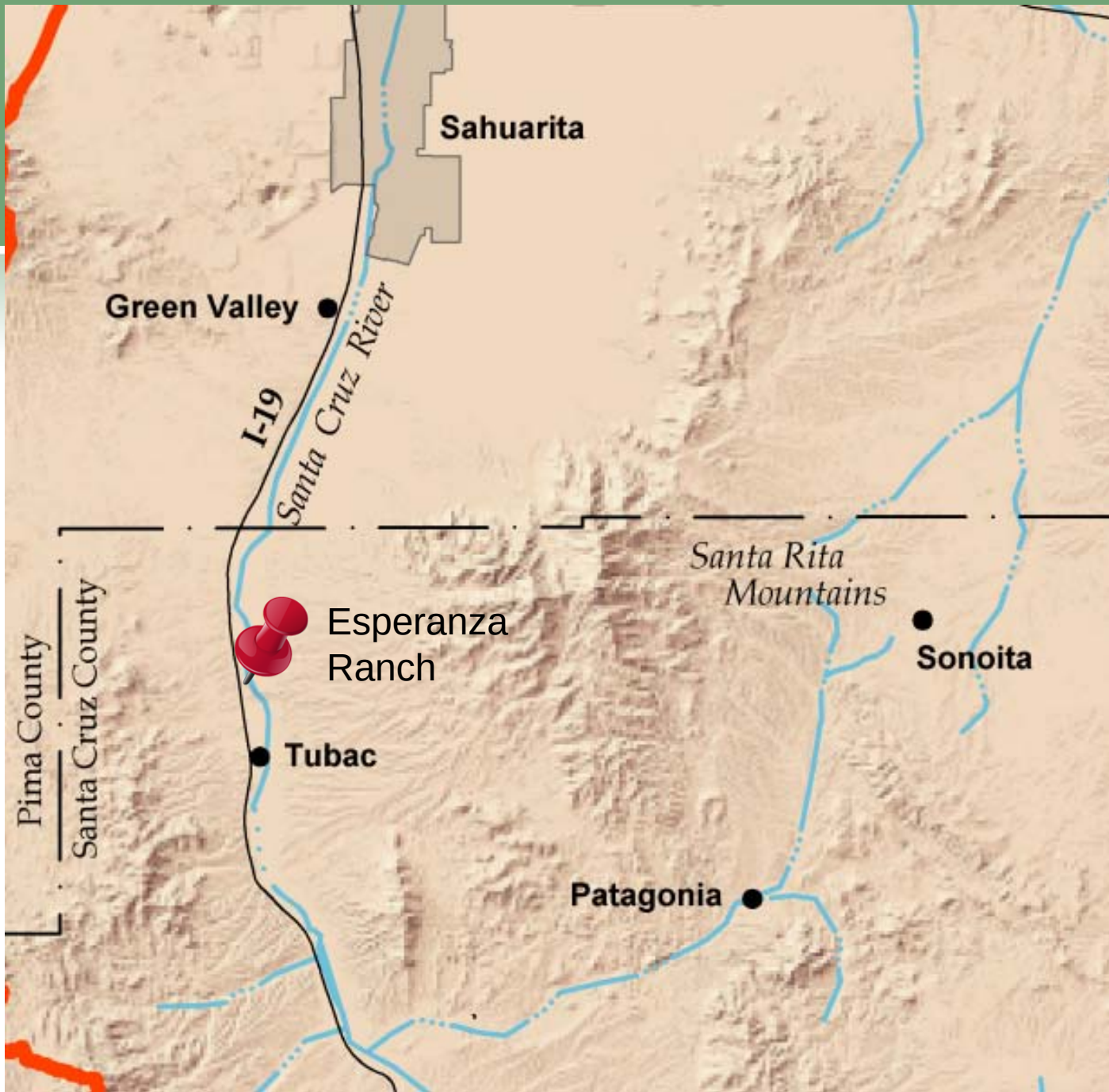
Kendall Kroesen, Habitats Program Manager

Upper Santa Cruz River IBA

- ⊙ Identified 01/2007, Recognized 04/2011
- ⊙ Potentially a Global IBA in the future for Bell's Vireo
- ⊙ 9.5 linear km of riparian corridor from Tumacacori National Historical Park downstream (north) through the conservation easement on Esperanza Ranch held by Tucson Audubon
- ⊙ This reach of the river has the highest groundwater levels and perennial flow provided primarily through treated wastewater
- ⊙ Boundaries of IBA were primarily ecological







Esperanza Ranch

- ◎ The 300 acre easement lies within the 800 acre ranch
- ◎ The easement includes the riparian habitat along the Santa Cruz River and a wildlife corridor through the Chivas Wash.
- ◎ Funding from the Arizona Water Protection Fund, AZ Partners for Fish and Wildlife and the George Binney Foundation has enabled restoration, monitoring and outreach opportunities on the conservation easement.





Bird Monitoring on Esperanza

- ⊙ Regular surveys have been conducted along six transect routes 8 times a year since 2005
- ⊙ For the 2012 season IBA survey protocol has changed to 4 times a year (in all regularly surveyed locations)
- ⊙ Resulting bird data shows how site conditions change over time as a result of on-site restoration efforts.
- ⊙ Over the past century, Esperanza Ranch has been substantially altered by human activities such as farming, grazing, woodcutting and introduction of exotics.





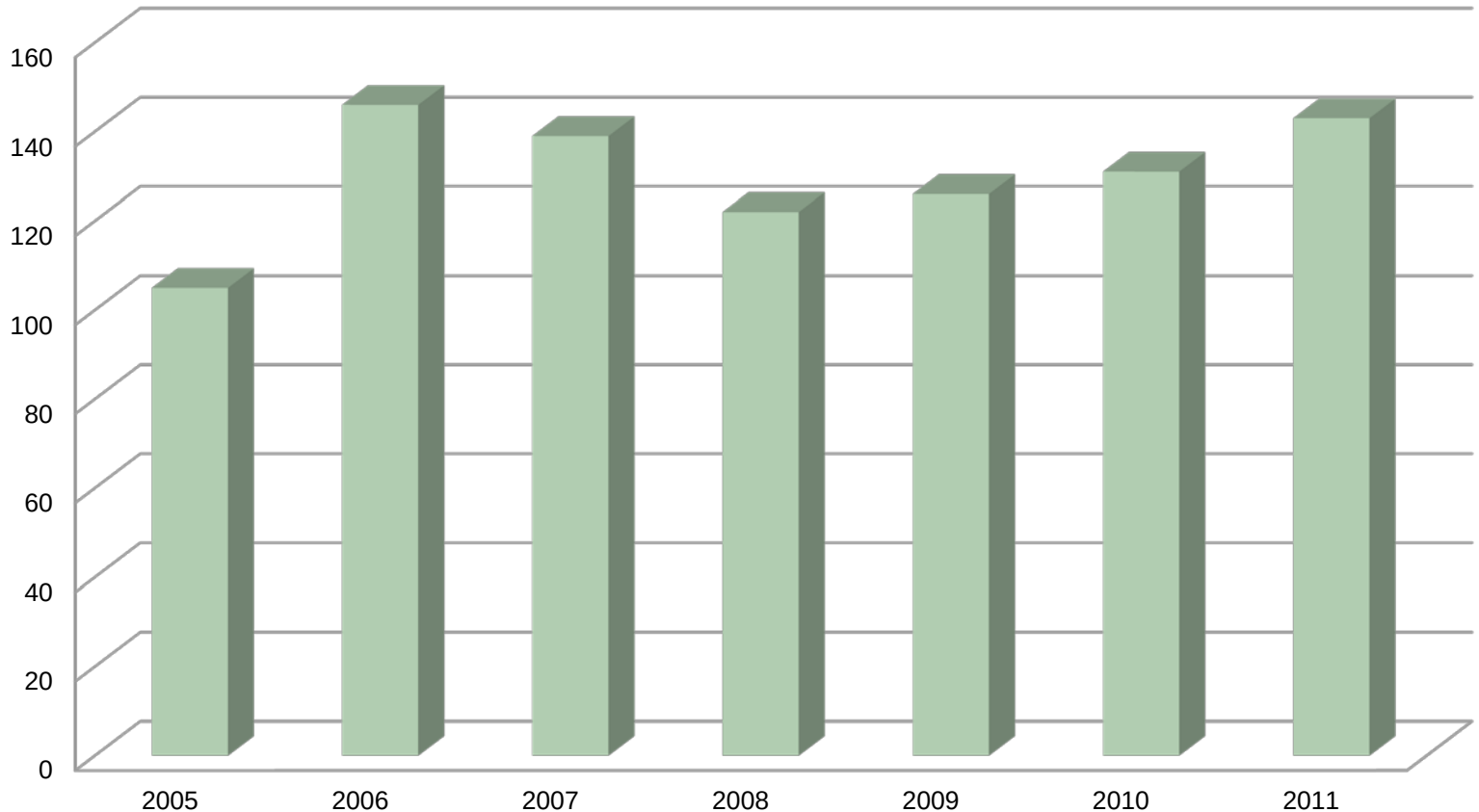
Upper Santa Cruz River, Arizona

- ◎ We use experienced birders, in 2005 began training workshops to cover transect and point count methodologies.
- ◎ Survey routes go through riparian habitat along (and in) the river, mesquite bosque, wash, grassland and abandoned ag fields. This variety of habitats yields high bird diversity



Species Counts for Esperanza

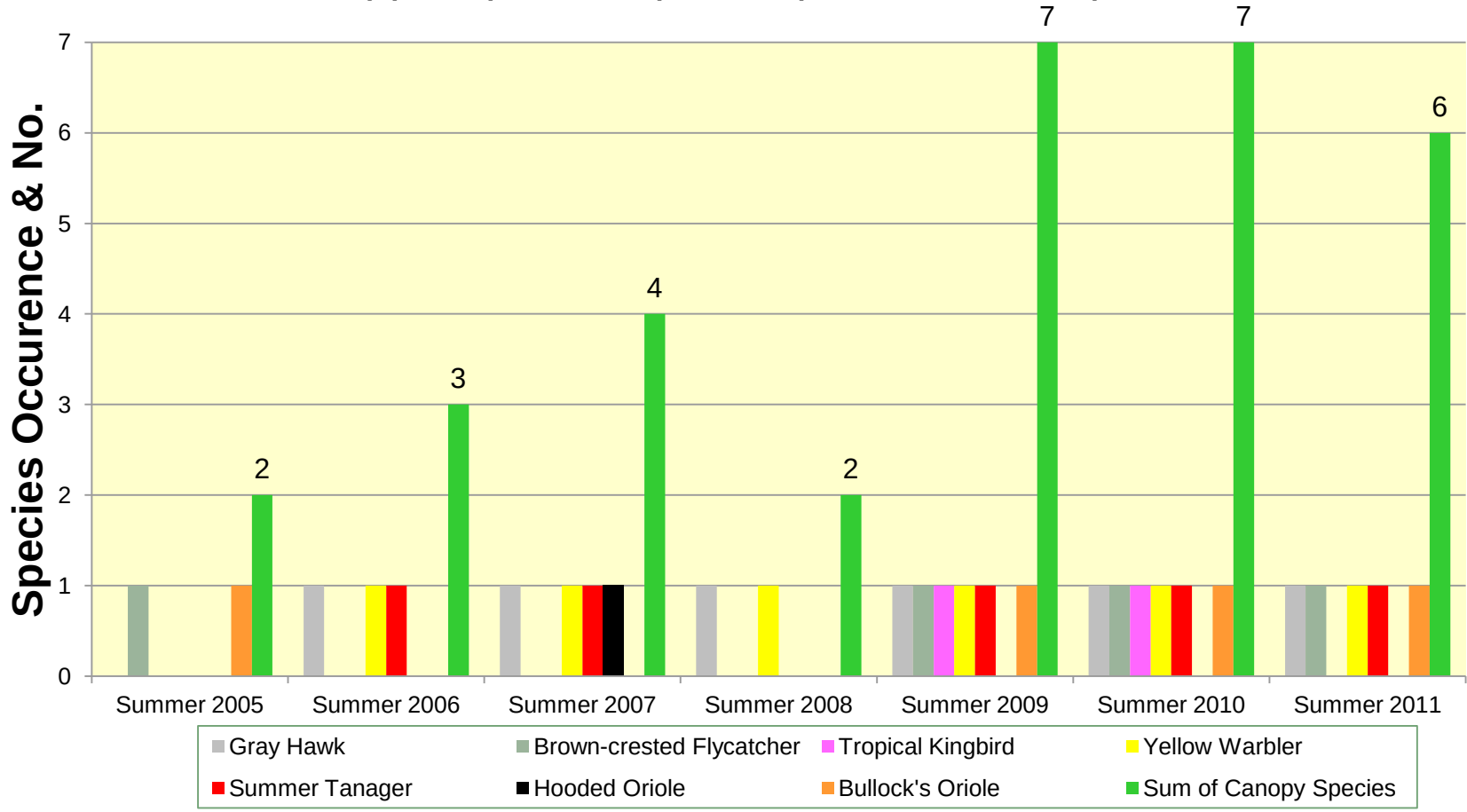
Number of Bird Species Detected





Avian Canopy Guild of Riparian Survey Zone

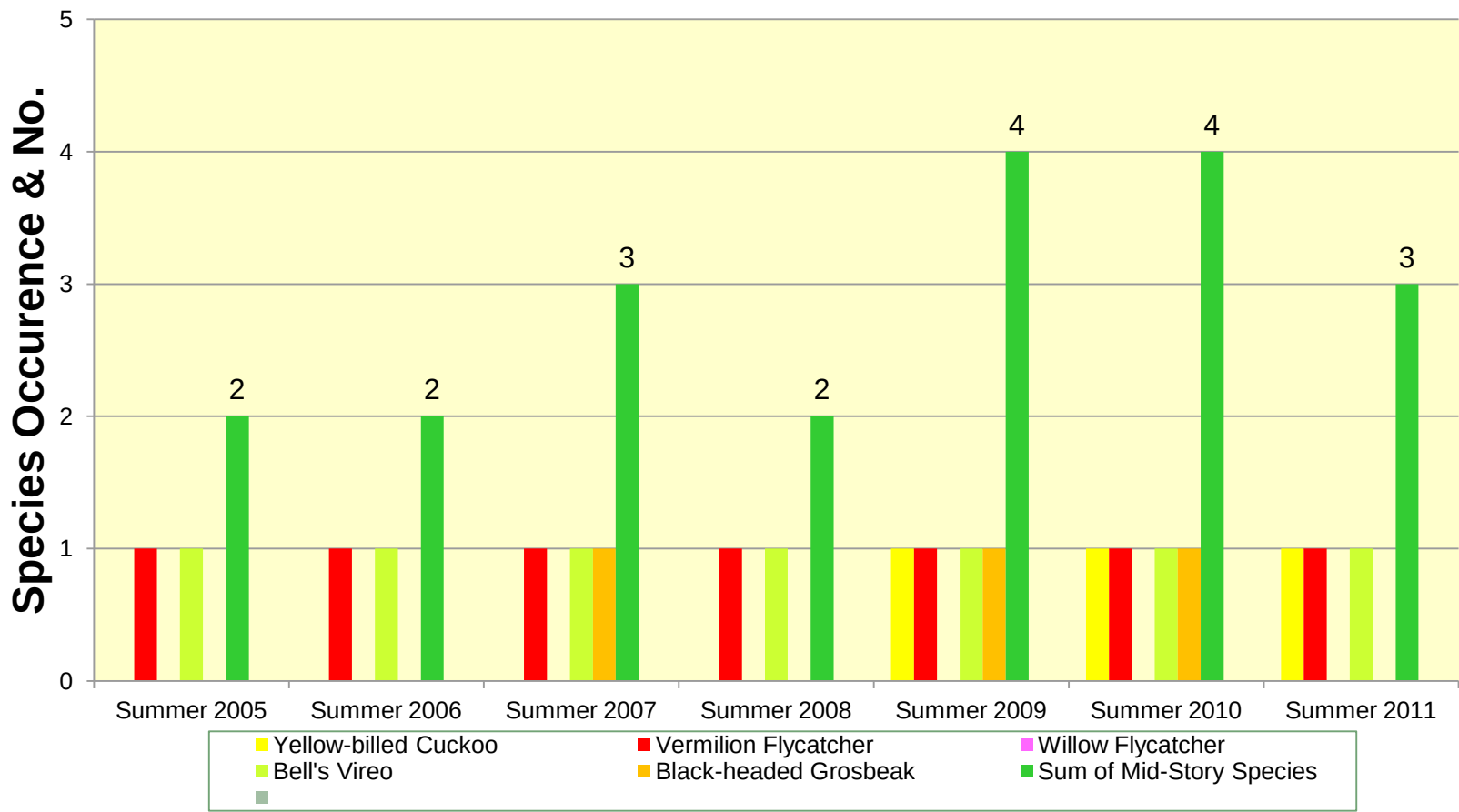
(Species present of 7 potential species in southern AZ)





Avian Midstory Guild of Riparian Survey Zone

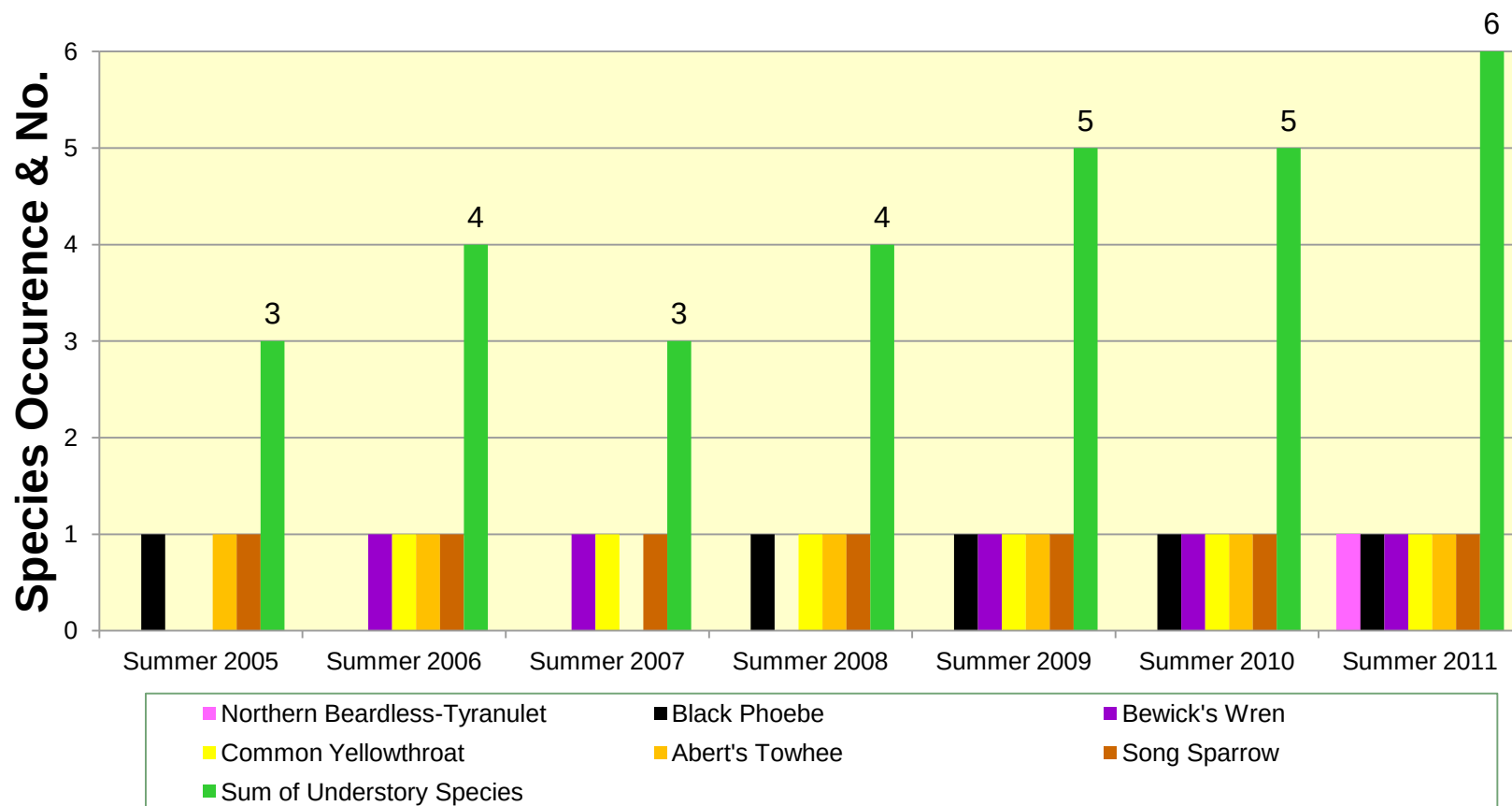
(Species present of 5 potential species in southern AZ)





Avian Understory Guild of Riparian Survey Zone

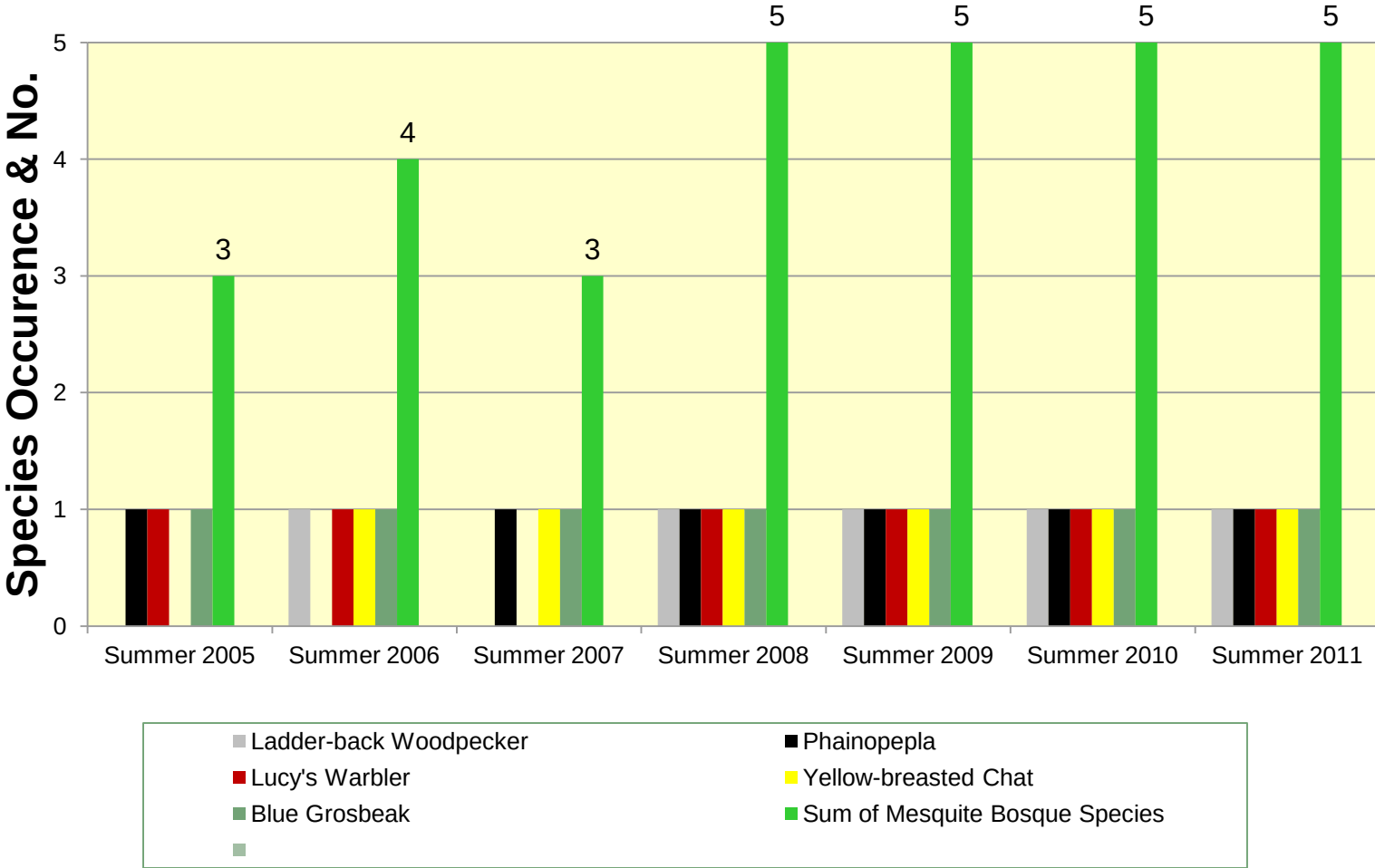
(Species present of 6 potential species in southern AZ)





Avian Mesquite Guild of Riparian Survey Zone

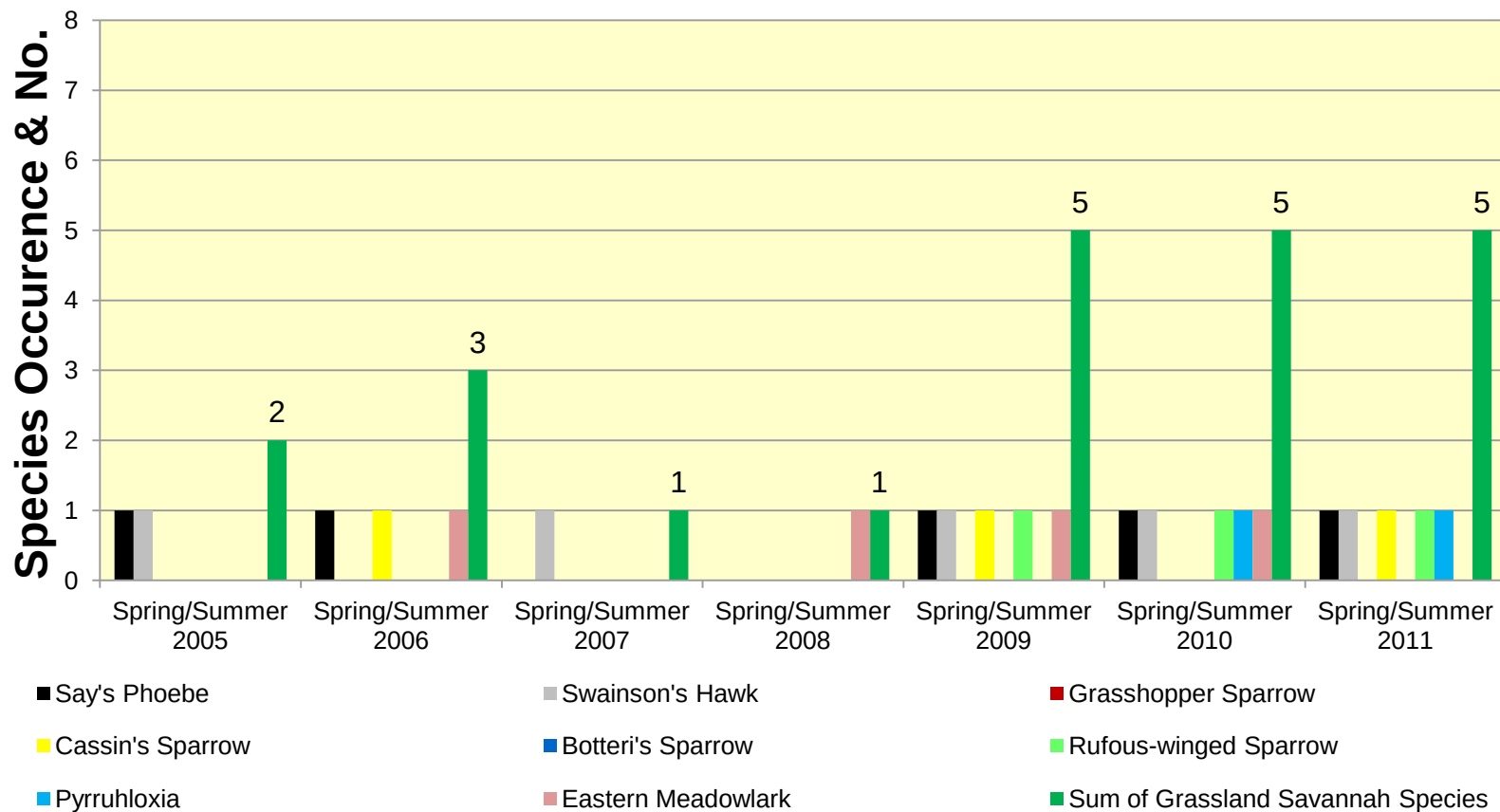
(Species present of 5 potential species in southern AZ)





Avian Grassland Savannah Guild of Upland Survey Zone (T2 & T2A)

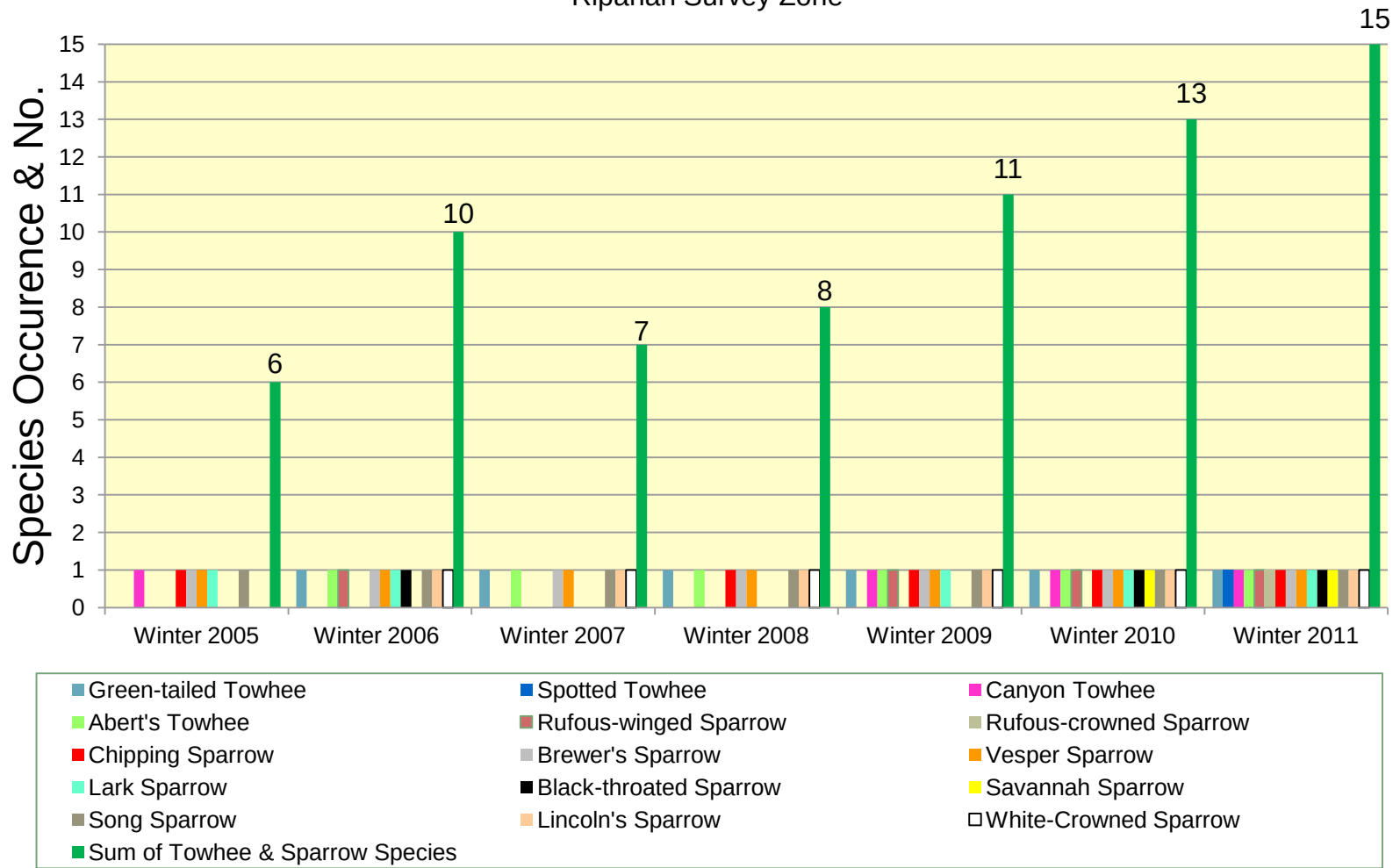
(Species present of 8 potential species in southern AZ)





Winter Towhee & Sparrow Diversity

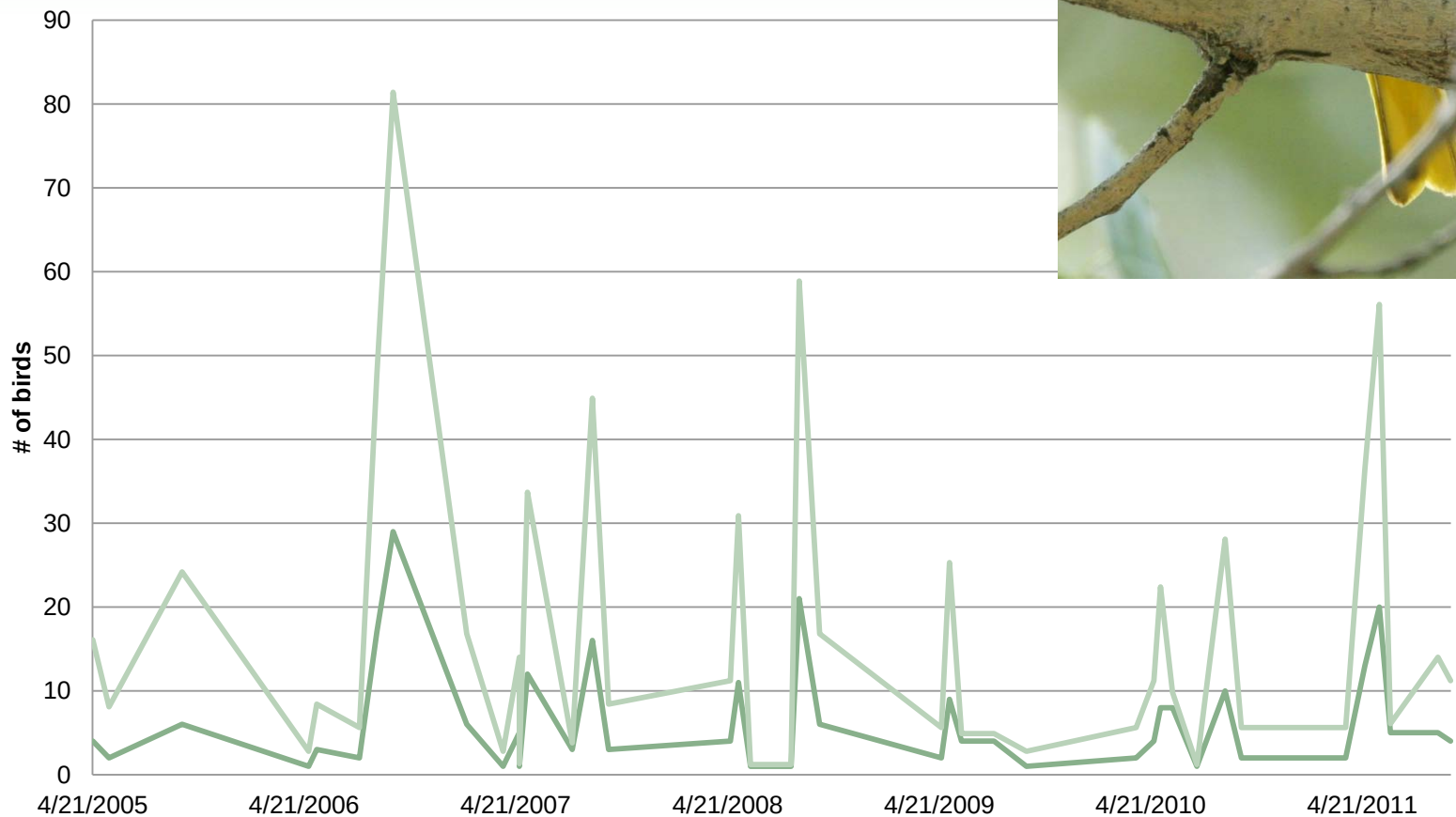
Riparian Survey Zone



Yellow Warbler



Yellow Warbler



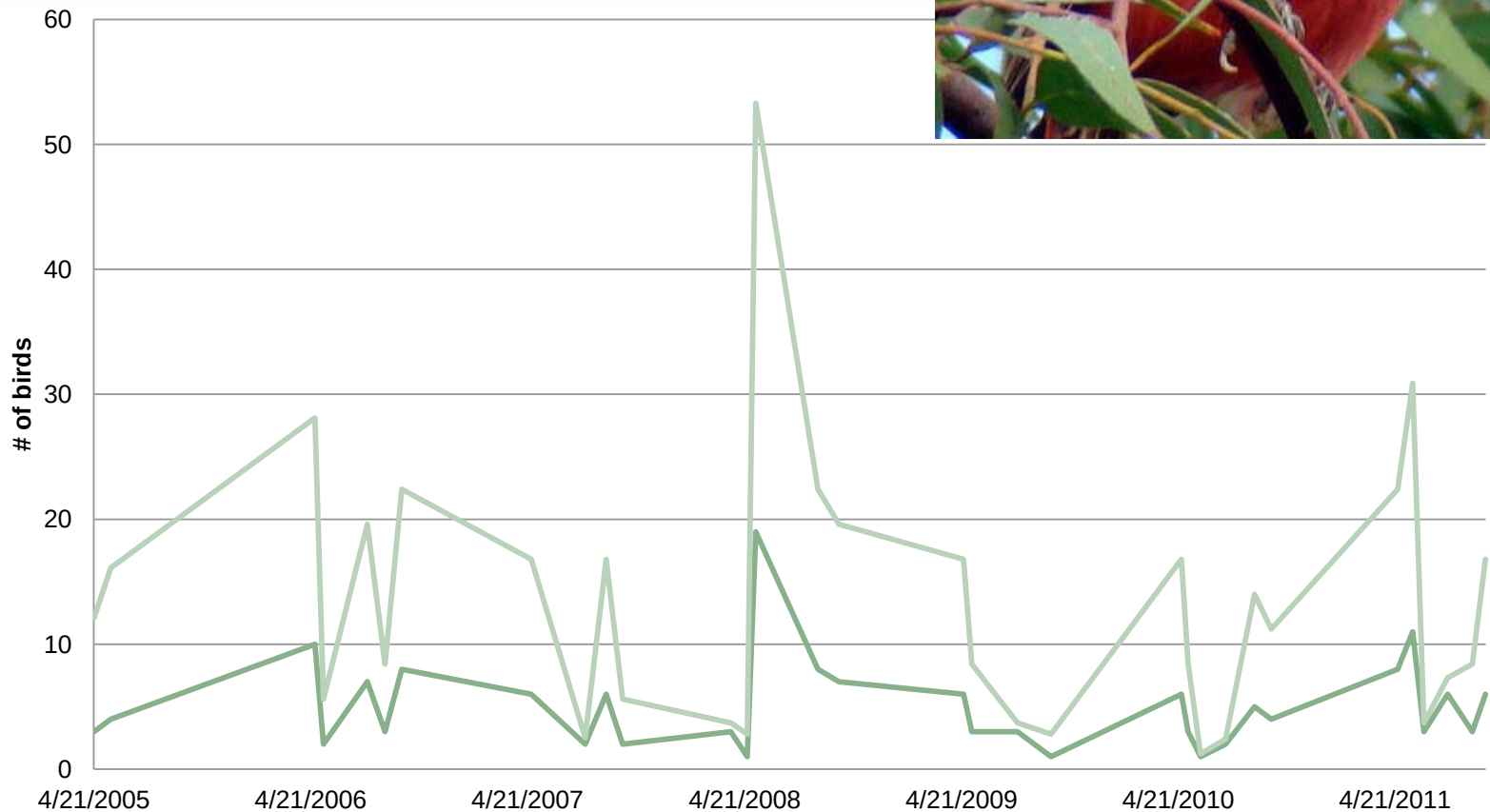
Dark green is actual bird count, light green is estimated density of birds (per km squared)



Summer Tanager



Summer Tanager



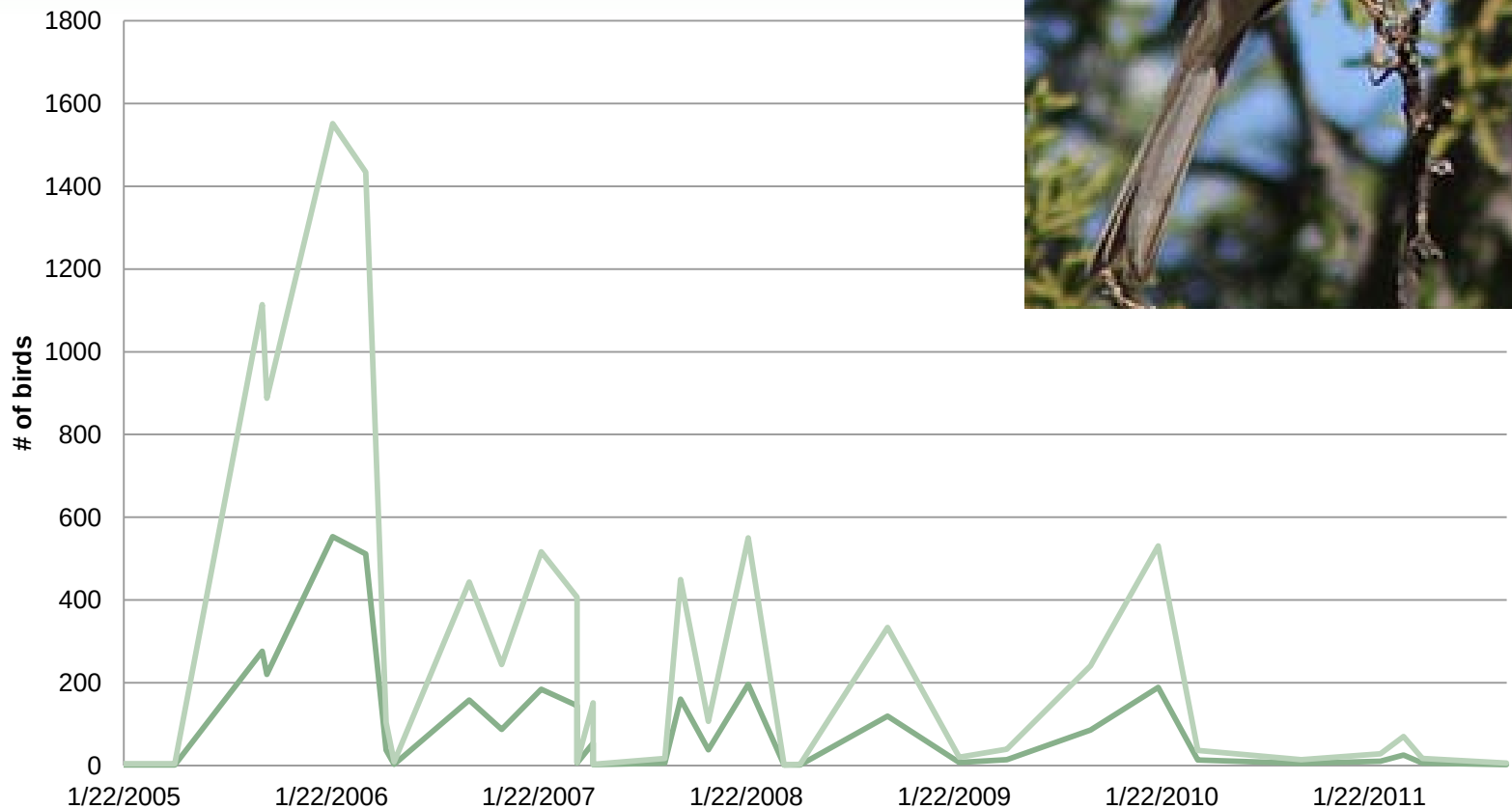
Dark green is actual bird count, light green is estimated density of birds (per km squared)



Brewer's Sparrow



Brewer's Sparrow



Dark green is actual bird count, light green is estimated density of birds (per km squared)



Bird Survey Highlights

- ◎ Gray Hawks have been known to nest on the property with two confirmed successful nests in 2011
- ◎ Yellow-billed Cuckoos have been detected every year since 2007
- ◎ Tropical Kingbirds were present from 2006 to 2010 with a confirmed nest site in 2007
- ◎ Varied Buntings have been detected every year in increasing numbers since 2006



Bird Survey Highlights

- ◎ In 2006 1,350 Brewer's Sparrows were detected.
- ◎ A flock of over 500 Lark Buntings was seen in 2006
- ◎ 2007 a flock of over 100 Lawrence's Goldfinches occurred
- ◎ 2008 four Black-bellied Whistling Ducks
- ◎ 2009 one Short-eared Owl
- ◎ 2010 two Prairie Falcons and a Painted Bunting (male!)
- ◎ 2011 a flock of White-faced Ibis and a Crested Caracara
- ◎ Vaux's Swifts seen during migration every year

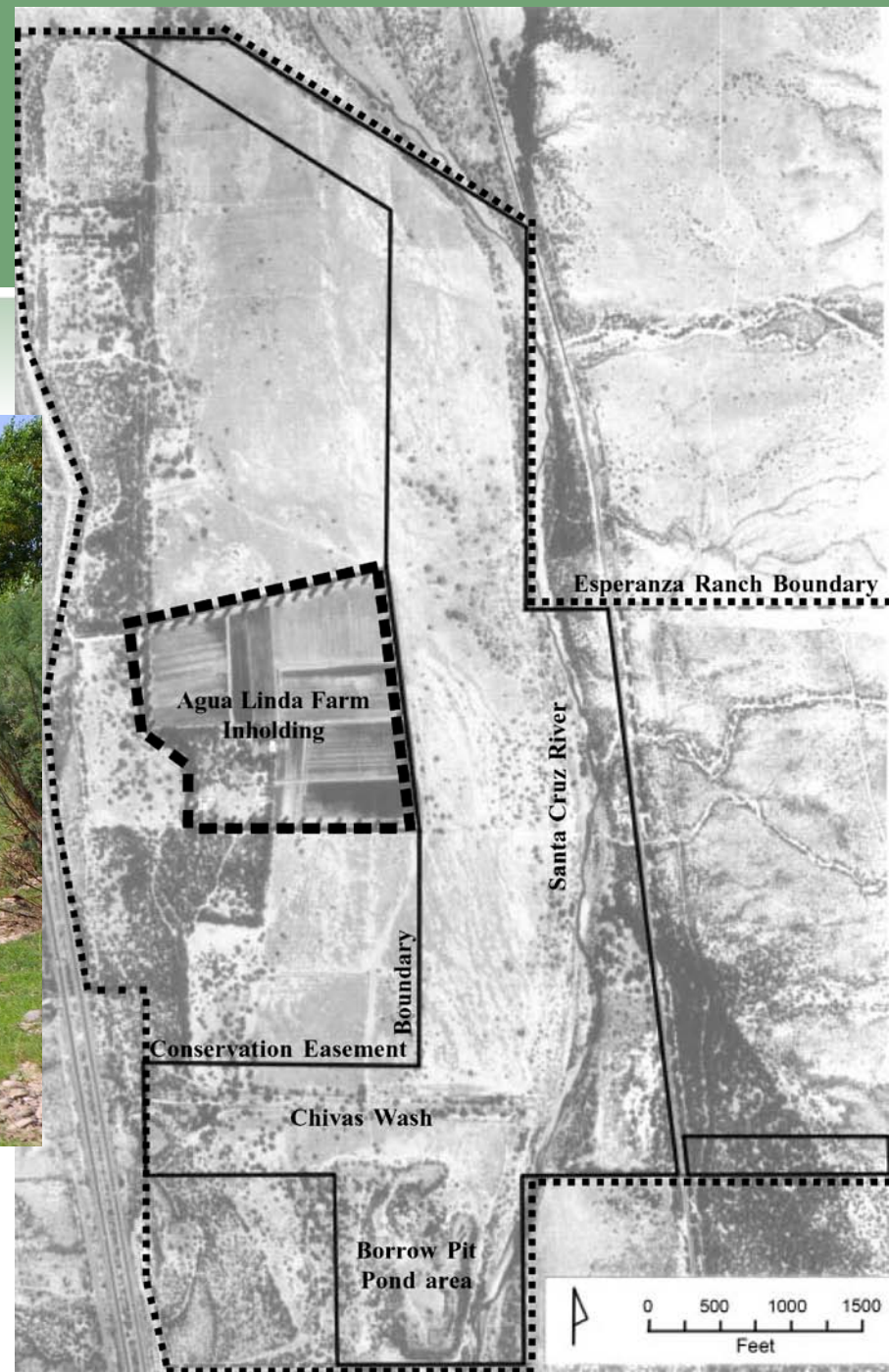


Bird Survey Highlights

- ◎ The IBA Avian Habitat Conservation Plan followed a modified TNC 5-S process of identifying Systems (targets), Stresses, Sources of Stresses, Strategies, and Success Measures
- ◎ Success measures would be bird monitoring results from IBA bird survey teams over time.
- ◎ 2005, intense bird monitoring began at the Esperanza Conservation Easement and continues
- ◎ At the same time restoration activities began within the easement (plantings, seeding, water harvesting techniques, mulching, & erosion control).



Esperanza Conservation Easement



Upper Santa Cruz River, Arizona

- Fencing was completed to exclude cattle, a major stressor to the river ecosystem

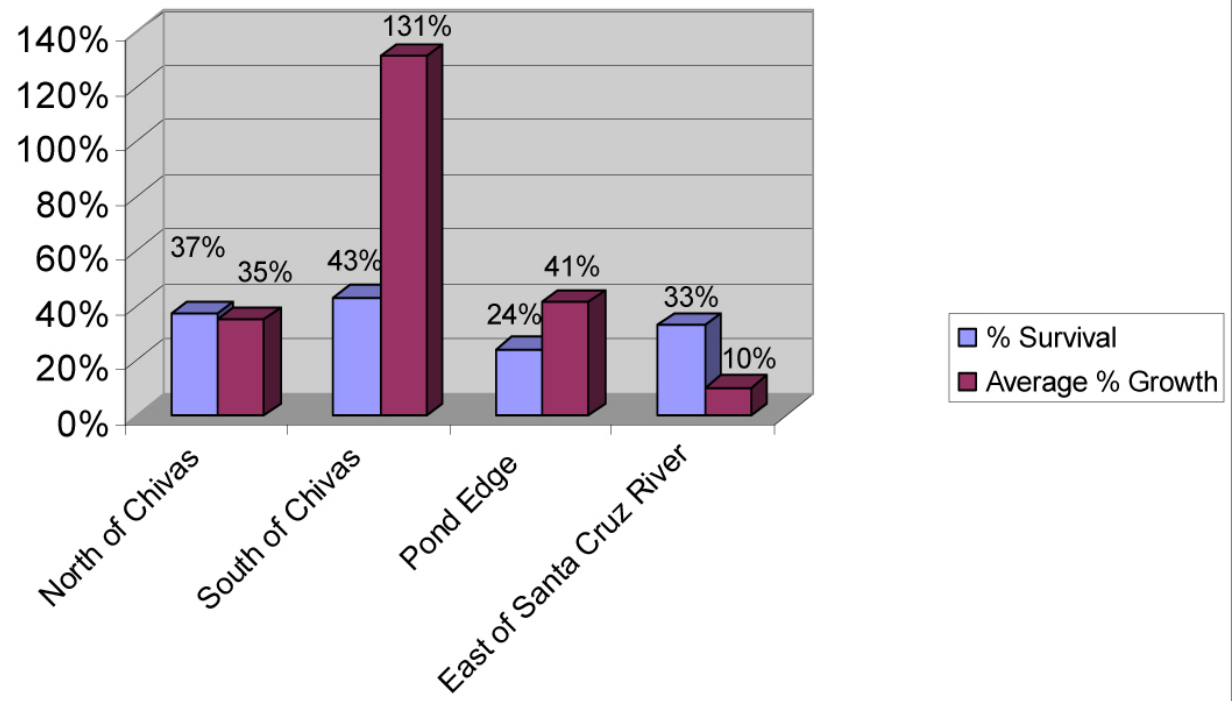




Upper Santa Cruz River, Arizona

- Experimental plantings had acceptable survival levels given no irrigation is available there

Average Percent Survival and Average Percent Growth of Esperanza Site Zones



Upper Santa Cruz River, Arizona



- ◎ Plantings are still maturing, and it will be some years before they contribute significantly to bird habitat
- ◎ Other planting experiments continue



Upper Santa Cruz River, Arizona

- ⊙ Currently we're experimenting with dense grass plantings to see which will compete with *Amaranthus palmeri*



Sporobolus wrightii

Setaria vulpiseta

Leptochloa dubia

Aristida purpurea

Sporobolus contractus

Bothriochloa barbinodis





The end

