

# Golden-cheeked Warbler Preserve Estimates



**Richard Heilbrun**  
**CAC Meeting; 4 Oct 2010**

# Impacts Analysis Assessment

County	Potential Habitat in 2000			Projected Habitat Loss 2009-2040			Annual Loss
	Low Estimate	Mid Estimate	High Estimate	Low Estimate	Mid Estimate	High Estimate	
Bandera	103,919	218,963	244,466	3,090	8,249	9,777	266
Bexar	52,069	92,785	99,880	14,635	26,317	28,404	849
Blanco	20,591	79,526	113,754	240	1,162	1,614	37
Comal	72,016	157,961	173,950	16,573	37,367	40,939	1,205
Kendall	18,778	80,371	112,133	4,253	15,937	21,372	514
Kerr	83,755	201,368	234,591	1,115	3,809	4,604	123
Medina	73,527	113,833	121,440	4,842	6,250	6,434	202
<b>TOTAL</b>	<b>424,655</b>	<b>944,807</b>	<b>1,100,214</b>	<b>44,748</b>	<b>99,091</b>	<b>113,144</b>	<b>3,196</b>
<b>w/o Comal</b>	<b>352,639</b>	<b>786,846</b>	<b>926,264</b>	<b>28,175</b>	<b>61,724</b>	<b>72,205</b>	<b>1,991</b>

Data from Sept 3, 2010 Draft

# Approach

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1. Determine Biological need of Warblers according to the conservation goals that we have already set.
2. Analyze growth by sector, and determine acceptable habitat loss for the species.
3. Ensure that all estimates account for encroachment and management

# Guidance from FWS

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- It is better to err on the high side
  - Lessens the need for major amendment
  - Take commensurate with mitigation
- $\text{Take} + \text{Protected Habitat} < \text{Available Habitat}$
- Be consistent in our process throughout iterations
- Encourage the use of buffers
- We must provide location of Take and Mitigation

# BAT and CAC Conservation Goals

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- A. Protect and manage sensitive native habitats for the GCWA and BCVI, and other native species that depend on these habitats.
- B. Protect and manage karst habitat, surface and subsurface drainage basins, and surface vegetative communities for sensitive karst organisms.
- C. As part of this document, the proposed activities of CAC should contribute to recovery of the species.**
- D. Contribute to the protection of other important ecosystem functions, such as water quality and quantity in the Edward's Aquifer system, through biologically significant conservation actions for the covered species.

# What is Contributing to Recovery?

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- We anticipate being included in 2-3

## Recovery Units

- Recovery is 3,000 breeding pairs / unit
- Average Territory Size ~ 7 acres
- Average Density = 1 pair / 15 acres
- Correction Factor applied for “contributing”

# Biological Method

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- $15 \text{ acres / pair} * 3000 \text{ pairs} * 2 \text{ Units} *.75$   
 $= 67,500 + \text{buffer}$   
 $= \mathbf{84,375 \text{ acres}}$
- Not spatially explicit
- Does not give location of preserve

# Take Method - Assumptions

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We do not know the boundaries of the new Recovery Units

Take must not exceed an area's ability to provide mitigation

Mitigation must be as close as possible to the impact

We must consider the ecological harm to the species when determining acceptable habitat loss rates

Mitigation will occur at an average of 2:1, except in areas with extraordinary threats to the species (3:1 in Bexar County and surrounding areas)



# Take Method

## Scenario 1-Take 100% of Estimated Loss

County	Available Habitat	Estimated Loss	Mitigation Result	Difference
Bandera	218,963	8,249	16498	194,216
Bexar	92,785	26,317	78951	-12,483
Blanco	79,526	1,162	2324	76,040
Comal	157,961	37,367	74,734	45,860
Kendall	80,371	15,937	31874	32,560
Kerr	201,368	3,809	7618	189,941
Medina	113,833	6,250	12500	95,083
<b>TOTAL</b>	<b>944,807</b>	<b>99,091</b>	<b>224,499</b>	<b>621,217</b>
<i>w/o Comal</i>	786,846	61,724	<b>149,765</b>	575,357

**Preserve Size= 187,206 acres**



# **Estimating Mitigation by Sector**

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**Possible Preserve**  
**Size**

**87,727 – 96,638**

**acres**

# Take and Mitigation by County

<b>COUNTY SUMMARIES</b>	<b>2009 Available Habitat - Model L Mid</b>	<b>GCW Habitat Loss 2010 - 2040 (Model L Mid)</b>	<b>Acres of Take Covered - Model L Mid</b>	<b>Acres of Mitigation Needed w/ buffer - Model L Mid</b>
Bandera	216476	5519	1221	3053
Bexar	69375	24487	16925	63111
Blanco	79399	969	194	485
Comal	139225	36949	21770	77759
Kendall	75621	12072	7209	26414
Kerr	200056	2785	804	2011
Medina	112118	3135	627	1568
SEP REGION	892270	85916	48750	174401
SEP REGION w/o Comal Co.	753,045	48,967	26,980	96,642

# Caveats

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We are still waiting on current aerials

We only recently received new data

We cannot determine focal areas

Result: We can only issue preliminary recs.

# Discussion



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# BCVI Take and Mitigation Estim.

County	BCV Habitat Loss 2010 - 2040	Take	Mitigation
Bandera	227	91	272
Bexar	5,425	3,798	11,393
Blanco	24	10	29
Comal	848	594	1,781
Kendall	509	356	1,069
Kerr	889	622	1,867
Medina	1,621	1,135	3,404
<b>SEP-HCP PLAN AREA</b>	<b>9,543</b>	<b>6,605</b>	<b>19,814</b>
<b>SEP-HCP PLAN AREA w/o Comal Co.</b>	<b>8,695</b>	<b>6,011</b>	<b>18,034</b>

**Sample**