INTERIM REPORT

As Required by

THE ENDANGERED SPECIES PROGRAM

TEXAS

Grant No. TX E-129-R

Endangered and Threatened Species Conservation

A protocol for increasing capture probability of Golden-cheeked Warblers at wintering sites

Prepared by:

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1 October 2012

INTERIM REPORT

STATE: Texas **GRANT NUMBER:** TX E-129-R

GRANT TITLE: A protocol for increasing capture probability of Golden-cheeked Warblers at wintering sites

REPORTING PERIOD: 1 Sep 11 to 30 Sep 12

OBJECTIVE(S):

Develop a mist-netting protocol to increase capture probability of Golden-cheeked Warbler at wintering sites to further knowledge about migration patterns.

Segment Objectives:

Task 1. November 2010-February 2011 - operate at least 12, 12 m mist nets an average of 4 days per week alternating between 2 sites in Chiapas, México. For any individual Golden-cheeked warbler captured, researchers will apply a USGS aluminum band, a unique combination of color bands, and sample tissue (pull two tail feathers and two breast feathers or clip a toe nail) for stable isotope material. After release, a researcher will follow the flock using protocol developed during a winter distribution study to assess feasibility of implementing a large-scale mark/resight study to examine overwinter survival. Researchers will field test a guide to ageing and sexing Golden-cheeked Warblers during the non-breeding season.

Task 2. March 2011 - visit breeding site for further training in extracting birds from mist nets and applying USGS aluminum bands, a unique combination of color bands, and tissue sampling.

Task 3. October 2011-February 2012 – continue netting as in Task 1, above. Pronatura Sur will train researchers studying the Golden-cheeked Warbler across its winter range in techniques to increase capture probability and to age and sex Golden-cheeked Warblers during the non-breeding season.

Task 4. October 2012-February 2013 - continue netting as in Task 1, above. Pronatura Sur will develop and disseminate to other researchers working with the species at wintering sites an electronic copy of a protocol to increase capture probability of the warbler at wintering sites.

Significant Deviations:

None.

Summary Of Progress:

Please see Attachment A.

Location: Chiapas, Mexico.

Cost: Costs were not available at time of this report, they will be available upon completion of the Final Report and conclusion of the project.

Prepared by: Craig Farquhar **Date:** 1 October 2012

Approved by: _____ **Date:** 1 October 2012

C. Craig Farquhar

ATTACHMENT A

PROGRAMA MONITOREO DE BIODIVERSIDAD

INTERIM PERFORMANCE REPORT 2011-12

A protocol for increasing capture probability of Golden-cheeked Warblers at wintering sites

Researchers participating:

Rebecca Peak
Alberto Martínez Fernández
Eric Hernández Molina
Javier Gómez Gómez

Project Responsible:

Claudia Macías Caballero

September 30th 2012

A protocol for increasing capture probability of Golden-cheeked Warblers at wintering sites

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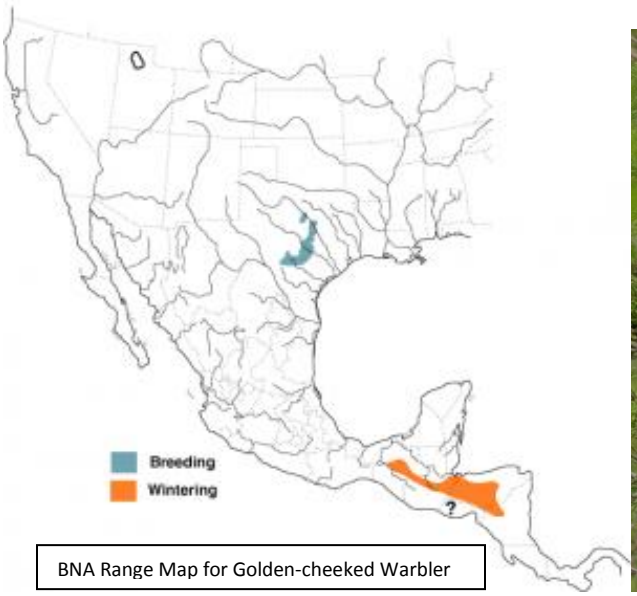
Interim Performance Report
August 1st 2011 – July 31st 2012

Summary of Progress

Task 2: **March 2011 researchers studying Golden-cheeked Warblers at wintering sites will visit a breeding site for further training.**

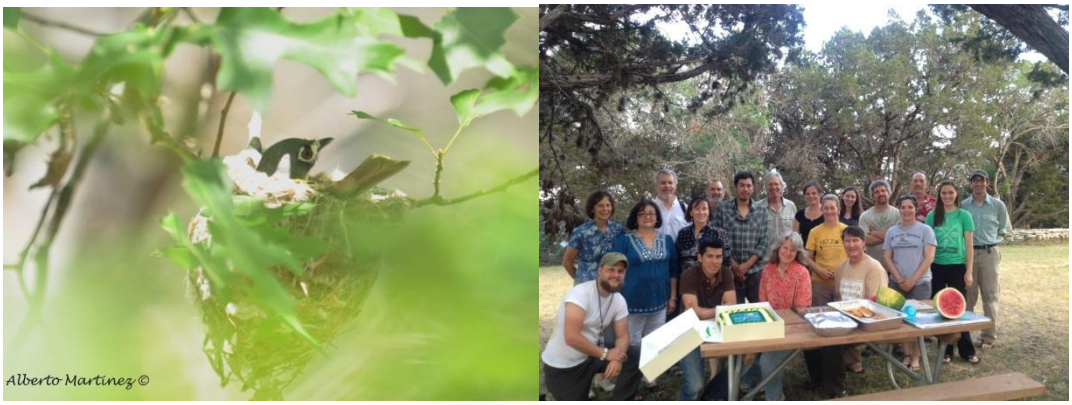
On May 2012, two researchers from Pronatura, Alberto Martínez and Eric Hernandez visited the breeding grounds of Golden-cheeked Warbler (GCWA), the Forth Hood Military Base. They met Rebecca Peak and a number of researchers from Texas. Alberto and Eric had the opportunity to learn more about the efforts by the U.S. Army to preserve habitat for the endangered GCWA.



BNA Range Map for Golden-cheeked Warbler

Alberto and Eric stayed for 2 weeks in Texas. They did some field work together with Rebecca Peak, learning more about the breeding habits for the GCWA, the foraging and nesting behavior, as well as parental behavior of the species during nesting. They participated in activities such as intensive nest search, capture and banding, direct observation during nesting and chicks growing. They did some point counts in several locations, contributing with data for further population analysis.

Additionally they met other people that are doing important efforts to involved local owners for preservation of GCWA habitat in Balcones Canyonlands, National Wildlife refuge, US Fish & Wildlife Service. They also learned about another priority species for Texas, the Black-capped Vireo (*Vireo atricapilla*), a small bird native to the United States and Northern Mexico. It has been listed as an endangered species in the United States since 1987.



Visit to the GCWA breeding grounds in Texas.

Task 3: **October 2011-February 2012 Researchers will operate mist nets an average of 4 days per week alternating between 2 sites in Chiapas, México.**

We set up 7 nets at Moxviquil Ecological Reserve (92°37'58.10"W, 16°45'25.71"N), a 78 ha reserve managed by Pronatura Sur; as well as 9 nets at Laguna de Cochi (La Tovilla-Encuentro) (92°36'9.17"W, 16°43'43.20"N), which is privately owned reserve, 146 ha in size. Since October 2011 to February 2012, we operated 5 to 9 nets for an average of 34 net hours each day (see Appendix 1 for net hours invested during this study).

The number of individual birds captured at Moxviquil was 68, belonging to 19 species. In Laguna del Cochi we captured a total of 29 individuals belonging to 9 species. In both sites we had 16 recaptured individuals (see Appendix 2 for list of recaptured birds).

We captured 3 Golden cheeked Warbler (*Setophaga chrysoparia*) (GCWA) at Moxviquil reserve. The first one was a female, captured on December 8th 2011, banded with the USGS Band # 2630-12252. The second one was an unkown sex individual, captured on Dec 26th 2011. And the third one was a male captured on Dec 28th 2011, banded with the USGS Band # 2630-12264. During January 2012 we followed mixed-foraging flocks and observed the three GCWA banded birds at Moxviquil reserve area, as well as an individual of Hermit Warbler (*Setophaga occidentalis*) that had a metal band.

The species with highest number of individuals captured were Townsend's Warbler (*Setophaga towsendi*) with 35 individuals captures, followed by Black-throated Green Warbler (*Dendroica virens*) wit 11 captured. Other species with captures during the wintering season were Wilson's Warbler (*Wilsonia pusilla*), Greater Pewee (*Contopus pertinax*) and Black-and-White Warbler (*Mniotilta varia*) (see Appendix 2 for List of individual into mixed-foraging flocks were captured).

During this season 6 people participated operating nets stations: Rebecca Peak, Eric Hernández, Angela Zarza, Javier Gómez, Alberto Martínez and Gustavo Ramón.

Significant Deviations

Next season we will need to review better or safer places for setting up nets at Laguna del Cochi site, since people that visit the area did not allow us to operate the nets in a regular way.

We also found that next season will be important to dedicate at least one day per week to follow up mixed foraging flocks around the mist netting sites, in order to follow up banded individuals.

Appendix 1. Net hours effort invested during 2011-12

SITE	DATE	# NETS	EFFORT HOURS
MOXVI 2	10-18-11	7	35
MOXVI 2	10-19-11	7	35
MOXVI 2	10-20-11	7	35
MOXVI 2	10-21-11	7	35
MOXVI 3	10-25-11	5	20
MOXVI 3	10-26-11	8	40
MOXVI 3	10-27-11	6	24
MOXVI 3	8-11-2011	8	32
Laguna del Cochi	11-14-11	5	30
Laguna del Cochi	11-21-11	6	36
MOXVI 2	11-29-11	7	35
Laguna del Cochi	11-30-11	6	30
MOXVI 2	5-12-2011	6	30
Laguna del Cochi	7-12-2011	7	35
MOXVI 2	8-12-2011	8	48
MOXVI 2	9-12-2011	8	40
MOXVI 3	12-13-11	6	30
MOXVI 3	12-14-11	7	35
MOXVI 3	12-15-11	8	40
MOXVI 2	19-12-2011	3	15
Laguna del Cochi	20-12-2011	6	30
Laguna del Cochi	21-12-2011	8	40
MOXVI 2	26-12-2011	7	35
MOXVI 2	27-12-2011	8	40
MOXVI 2	28-12-2011	8	40

MOXVI 2	29-12-2011	8	40
MOXVI 2	9/1/2012	8	40
MOXVI 3	10/2/2012	7	35
MOXVI 2	16-01-2012	8	40
MOXVI 2	14-02-2012	6	30

Appendix 2. List of mixed-foraging flocks individual that were captured.

USGS BAND	COLOR BAND	SPECIE	AGE	SEX	DATE	LOCATION	SITE	# NET
2241-11703		*Contopus pertinax*	AHY	U	12-14-11	Moxviquil	1	5
1601-80155		*Vireo solitarius*	AHY	U	12-27-11	Moxviquil	2	5
2241-11706		*Sphyrapicus varius*	AYH	F	12-19-11	Moxviquil	2	7
2241-11707		*Catharus minimus*	HY	U	12-27-11	Moxviquil	2	5
2241-11708	NB/BL:NB/SI	*Contopus pertinax*	AHY	U	12-29-11	Moxviquil	2	7
2301-20911		*Dumetella carolinensis*	HY	U	10-20-11	Moxviquil	2	2
2301-20912		*Piranga flava*	AHY	F	12-28-11	Moxviquil	2	5
2540-81653		*Mniotilta varia*	HY	F	10-18-11	Moxviquil	2	1
2540-81654		*Passerina cyanea*	HY	M	10-18-11	Moxviquil	2	7
2540-81655		*Mniotilta varia*	HY	F	10-19-11	Moxviquil	2	5
2540-81656		*Mniotilta varia*	AHY	M	10-19-11	Moxviquil	2	7
2540-81659		*Mniotilta varia*	HY	F	12-9-2011	Moxviquil	2	7
2540-81662		*Mniotilta varia*	AHY	M	12-28-11	Moxviquil	2	5
2540-81663		*Vireo huttoni*	AHY	U	12-28-11	Moxviquil	2	7
2540-81666		*Vireo huttoni*	AHY	U	02-14-12	Moxviquil	2	6
2630-12206		*Setophaga townsendi*	HY	F	10-18-11	Moxviquil	2	1
2630-12207		*Setophaga virens*	HY	F	10-18-11	Moxviquil	2	5
2630-12208		*Cardellina pusila*	AHY	M	10-18-11	Moxviquil	2	5
2630-12209		*Setophaga townsendi*	HY	F	10-18-11	Moxviquil	2	5
2630-12210		*Setophaga virens*	HY	F	10-18-11	Moxviquil	2	5
2630-12211		*Setophaga virens*	AHY	F	10-18-11	Moxviquil	2	1
2630-12212		*Setophaga townsendi*	HY	F	10-18-11	Moxviquil	2	3
2630-12213		*Setophaga virens*	AHY	F	10-18-11	Moxviquil	2	3
2630-12214		*Setophaga virens*	AHY	F	10-18-11	Moxviquil	2	5
2630-12215		*Setophaga townsendi*	HY	M	10-18-11	Moxviquil	2	1
2630-12216		*Setophaga virens*	AHY	M	10-18-11	Moxviquil	2	1
2630-12217		*Setophaga townsendi*	HY	M	10-18-11	Moxviquil	2	5
2630-12218		*Oreothlypis ruficapilla*	AHY	M	10-19-11	Moxviquil	2	7

USGS BAND	COLOR BAND	SPECIE	AGE	SEX	DATE	LOCATION	SITE	# NET
2630-12219		*Setophaga magnolia*	AHY	F	10-19-11	Moxviquil	2	6
2630-12220		*Setophaga virens*	HY	F	10-19-11	Moxviquil	2	7
2630-12221		*Cardellina pusila*	AHY	M	10-20-11	Moxviquil	2	6
2630-12222		*Setophaga townsendi*	HY	M	10-21-11	Moxviquil	2	2
2630-12223		*Setophaga townsendi*	HY	M	10-21-11	Moxviquil	2	2
2630-12234		*Setophaga townsendi*	HY	M	11-08-2011	Moxviquil	2	3
2630-12235		*Setophaga townsendi*	HY	F	11-08-2011	Moxviquil	2	4
2630-12236		*Cardellina pusila*	AHY	M	11-14-11	Laguna del Cochi	2	5
2630-12237		*Setophaga townsendi*	HY	F	11-21-11	Laguna del Cochi	2	3
2630-12238		*Empidonax minimus*	U	U	11-30-11	Laguna del Cochi	2	3
2630-12239		*Setophaga townsendi*	HY	F	12-1-2011	Moxviquil	2	6
2630-12240		*Cardellina pusila*	AHY	M	12-5-2011	Moxviquil	2	7
2630-12241		*Setophaga townsendi*	AHY	M	12-7-2011	Moxviquil	2	7
2630-12242		*Cardellina pusila*	AHY	M	12-7-2011	Moxviquil	2	7
2630-12243		*Setophaga townsendi*	HY	M	12-7-2011	Moxviquil	2	6
2630-12244		*Setophaga virens*	HY	F	12-7-2011	Moxviquil	2	1
2630-12245		*Setophaga townsendi*	HY	M	12-8-2011	Moxviquil	2	1
2630-12246		*Setophaga townsendi*	AHY	M	12-8-2011	Moxviquil	2	2
2630-12247		*Setophaga townsendi*	AHY	M	12-8-2011	Moxviquil	2	5
2630-12248		*Setophaga townsendi*	AHY	M	12-8-2011	Moxviquil	2	5
2630-12249		*Setophaga townsendi*	AHY	M	12-8-2011	Moxviquil	2	5
2630-12250		*Setophaga townsendi*	HY	M	12-8-2011	Moxviquil	2	6
2630-12251		*Setophaga townsendi*	HY	M	12-8-2011	Moxviquil	2	3
2630-12252	PI/PI:PI/SI	*Setophaga chrysoparia*	AHY	F	12-8-2011	Moxviquil	3	3
2630-12253		*Setophaga virens*	HY	F	12-8-2011	Moxviquil	2	3
2630-12254		*Cardellina pusila*	AHY	M	12-9-2011	Moxviquil	2	3
2630-12262		*Cardellina pusila*	AHY	M	12-19-11	Moxviquil	2	2
2630-12263		*Setophaga townsendi*	AHY	M	12-26-11	Moxviquil	2	5
2630-12264	DG/DG:DG/SI	*Setophaga chrysoparia*	HY	M	12-28-11	Moxviquil	2	6
2630-12265		*Oreothlypis superciliosa*	AHY	M	12-28-11	Moxviquil	2	7
2630-12266		*Setophaga virens*	AHY	M	11-28-11	Moxviquil	2	7
2630-12267		*Setophaga townsendi*	AHY	M	12-29-11	Moxviquil	2	7
2630-12268		*Setophaga townsendi*	AHY	M	12-24-11	Moxviquil	2	5
2630-12273		*Setophaga townsendi*	SY	M	02-12-2012	Moxviquil	2	7
N	NB/BL:NB/SI	*Contopus pertinax*	AHY	U	12-29-11	Moxviquil	2	7
N		*Myioborus miniatus*	SY	U	02-14-12	Moxviquil	2	2
N		*Oreothlypis*	SY	U	02-14-12	Moxviquil	2	2

USGS BAND	COLOR BAND	SPECIE	AGE	SEX	DATE	LOCATION	SITE	# NET
		superciliosa						
N	NB/NB:NB/DB	*Myioborus miniatus*	U	U	10-28-11	Moxviquil	2	5
N	NB/WH:NB/NB	*Myioborus miniatus*	U	U	10-19-11	Moxviquil	2	7
N	PI:PI:NB/NB	*Myioborus miniatus*	U	U	12-8-2011	Moxviquil	2	7
N	YE/:YE:/NB	*Vermivora superciliosa*	U	U	12-9-2011	Moxviquil	2	7
N	NB/BL:NB/SI	*Contopus pertinax*	AHY	U	12-29-11	Moxviquil	2	7
N		*Myioborus miniatus*	SY	U	02-14-2012	Moxviquil	2	2
N		*Oreothlypis superciliosa*	SY	U	02-14-2012	Moxviquil	2	2
N	NB/MV:NB/NB	*Setophaga chrysoparia*	HY	U	12-26-11	Moxviquil	2	7
1601-80153		*Vireo solitarius*	AHY	U	10-27-2011	Moxviquil	3	6
2241-11702		*Piranga ludoviciana*	AHY	M	12-14-11	Moxviquil	3	1
2540-81649		*Vireo huttoni*	AHY	U	1-10-2012	Moxviquil	3	2
2540-81657		*Vireo solitarius*	AHY	U	10-19-11	Moxviquil	3	4
2540-81658		*Mniotilta varia*			12-26-11	Moxviquil	3	4
2540-81660		*Vireo huttoni*	AHY	U	12-15-11	Moxviquil	3	2
2540-81664		*Vireo huttoni*	AHY	U	9-1-2012	Moxviquil	3	5
2540-81665		*Vireo huttoni*	AHY	U	10-1-2012	Moxviquil	3	2
2630-12224		*Setophaga townsendi*	HY	F	10-25-11	Moxviquil	3	6
2630-12225		*Cardellina pusila*	AHY	M	10-26-11	Moxviquil	3	2
2630-12226		*Setophaga townsendi*	HY	F	10-27-11	Moxviquil	3	7
2630-12227		*Cardellina pusila*	AHY	M	10-27-11	Moxviquil	3	2
2630-12228		*Cardellina pusila*	AHY	F	10-27-11	Moxviquil	3	3
2630-12229		*Setophaga townsendi*	HY	F	10-27-11	Moxviquil	3	7
2630-12230		*Setophaga townsendi*	HY	M	10-27-11	Moxviquil	3	7
2630-12231		*Setophaga virens*	HY	M	10-27-11	Moxviquil	3	5
2630-12232		*Setophaga townsendi*	HY	M	10-28-11	Moxviquil	3	6
2630-12233		*Setophaga townsendi*	HY	M	10-28-11	Moxviquil	3	4
2630-12255		*Setophaga townsendi*	HY	F	12-13-11	Moxviquil	3	8
2630-12256		*Cardellina pusila*	AHY	M	12-14-11	Moxviquil	3	1
2630-12257		*Setophaga townsendi*	AHY	M	12-14-11	Moxviquil	3	5
2630-12258		*Setophaga townsendi*	HY	M	12-14-11	Moxviquil	3	5
2630-12259		*Setophaga townsendi*	HY	M	12-15-11	Moxviquil	3	8
2630-12260		*Cardellina pusila*	AHY	M	12-16-11	Moxviquil	3	6
2630-12260		*Cardellina pusila*	AHY	M	12-16-11	Moxviquil	3	
2630-12271		*Cardellina pusila*	ASY	M	10-1-2012	Moxviquil	3	1
2630-12272		*Setophaga townsendi*	ASY	M	10-1-2012	Moxviquil	3	2
N	RD:RD:NB/NB	*Vermivora superciliosa*	HY	U	10-25-11	Moxviquil	3	8

Appendix 3. Birds that were recaptured.

USGS BAND	COLOR BAND	SPECIE	AGE	SEX	DATE	Ubicación	SITE	# NEST
1601-80155		BHVI	AHY	U	1/9/2012	Moxviquil	3	5
2630-12229		TOWA	SY	F	1/9/2012	Moxviquil	3	7
2630-12232		TOWA	SY	M	1/9/2012	Moxviquil	3	7
2630-12245		TOWA	HY	M	12/19/2011	Moxviquil	2	6
2630-12260		WIWA	AHY	M	12/16/2011	Moxviquil	3	
2630-12262		WISA	HY	M	12/26/2011	Moxviquil	2	2
	NB/MV:NB/NB	CCWA	HY	U	12/26/2011	Moxviquil	2	7
2630-12221		WIWA			7/12/2011	Moxviquil	2	7
2630-12222		TOWA			12/15/2011	Moxviquil	2	2
2630-12226		TOWA			12/13/2011	Moxviquil	3	4
2630-12229		TOWA			12/15/2011	Moxviquil	3	3
2630-12229		TOWA	SY	F	9/1/2012	Moxviquil	3	7
2630-12232		TOWA	SY	M	9/1/2012	Moxviquil	3	7
2630-12245		TOWA			12/19/2011	Moxviquil	2	6
2630-12245		TOWA	HY	M	12/29/2011	Moxviquil	2	6
2630-12262		WIWA	HY	M	12/26/11	Moxviquil	2	2