

# Nightjar Survey Network Update April 2012 – WWG Meeting Reno, NV

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### WHAT'S NEW

**Nightjar Survey Network expanded to cover 37 states.** [Click here for survey home page.](#)

**Status Assessment of Golden-winged Warbler and Bewick's Wren in Virginia.** [Click here to go to assessment page.](#)

**Ravens now online.** The Center has completed the digital library of the Raven. [Click here to go to the Raven page.](#)

# Survey Objectives

- Better understanding of scale and magnitude of nightjar **population changes**
- Better understanding of breeding nightjar **distribution** across range
- Learn how **habitat changes** within a landscape influences abundance over time
- Determine **bias and precision** of survey protocol

# The Western Challenge

Original protocol developed in the Southeast

**Challenges** in the West are:

- Huge land-base to sample
- Access to remote habitats
- Distance to routes
- Volunteer corps smaller / fewer routes run / fewer detections per route = longer time to determine trends and changes in populations
- Topography and visibility
- Limited distribution (eg. Mexican Whip in West)



# Habitat Differences



# Foraging Differences

## Perch & Pounce

- WPWI / MWPW
- CWWI
- COPO

## Active Aerial Hunters

- CONI
- LENI



# Vocalization Differences

- Eastern nightjars have peak calling from ½ hour **after** sunset to several hours later
- Western nightjars often begin calling ½ hour **before** sunset and decrease calling within 2 hours

# Survey Protocol

- Population counts similar to BBS
  - Starting point “can” vary... depending
- Each route consists of 10 stops along a predetermined 9-mile route
- Each stop is 6 minutes
- Stops are 1 mile apart
- Each survey will take about 1.5 hour
- BBS stop descriptions can be entered also

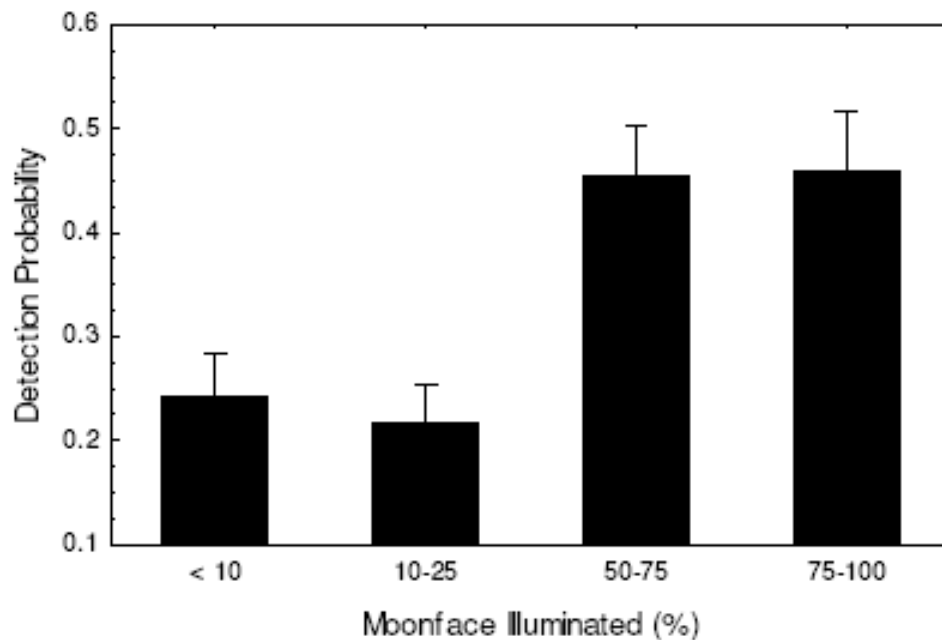




Effects of moonlight and timing

# Detection Probability with % of moon-face Illumination

(for Whip-poor-will and Poorwill)



**Figure 2.** The influence of moonlight on Whip-poor-will detection probability. Values are expressed as  $\bar{x} \pm$  SD.

*(from Wilson and Watts 2006)*

# Survey Period



Coincides with periods of greater than 50% moon phase, during the time of greatest calling

“**Penalized**” with later start times within the Lunar Window



- Survey during one of two Windows**  
**May 28-June 11, 2012 (except high elevations)**  
**or June 27-July 11, 2012**
- Areas south of the dashed line may survey  
**April 19-May 12, 2012 or May 28-June, 2011 in low elevations**  
**and June 27-July 11, 2012 in high elevations**
- Survey May 28-June 11, 2012 or June 27 - July 11, 2012**
- Contact individual state to**  
**determine protocol**



# WWG States Participating - 2009

- WWG – Total states = 11 states
- Total routes run = 94
- AZ = 19
- NM = 8
- Canada = 0 (?)

# 2009 Results

**2009 Results.** Mean (SD) and range calculated only for routes where that species was detected. States with no values for a species indicate none were detected.

State	Number of routes	Number of routes with no birds	Species	Mean $\pm$ SD	Range
AL	5	0	Common Nighthawk	3.0 $\pm$ 0.0	3-3
			Chuck-will's-widow	10.5 $\pm$ 5.45	6-18
			Whip-poor-will	11.7 $\pm$ 6.66	4-16
AZ	19	3	Common Nighthawk	5.0 $\pm$ 1.73	4-7
			Whip-poor-will	13.0 $\pm$ 0.0	13-13
			Common Poorwill	5.3 $\pm$ 5.72	1-18
			Lesser Nighthawk	8.5 $\pm$ 15.47	1-52
AR	11	1	Common Nighthawk	2.0 $\pm$ 1.41	1-3
			Chuck-will's-widow	9.4 $\pm$ 8.96	1-26
			Whip-poor-will	13.1 $\pm$ 7.02	3-27
CA	12	6	Common Poorwill	3.3 $\pm$ 3.86	1-9
CO	7	2	Common Nighthawk	5.6 $\pm$ 4.51	1-13
			Common Poorwill	3.7 $\pm$ 4.62	1-9

# 2012 Survey Efforts

- AZ with **40 routes assigned**; NM with 10+
- State coordinators / contacts
- Announcements / WWG listserve
- Data entry via web-based system
- I can provide data sheets & instructions & informational brochure
- # WWG states participating ?

# Lunar Windows for AZ/NM 2012

- **SOUTHERN AZ/NM** = begin at sunset with at least a half moon waxing
  - ❖ April 29 – May 5
  - ❖ May 28 – June 3
- **NORTHERN AZ/NM** = begin at sunset with at least a half moon waxing
  - ❖ May 28 – June 3
  - ❖ June 26 – July 3
- Check out [www.sunrise-sunset.com](http://www.sunrise-sunset.com) for times



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