

Bat and Bird Field Note
Bat Houses, Nocturnal Flight Calls, Raptor Counts,
Songbird and Raptor Banding
9/21/14
Debbie Leick



Bat Box Installation.....	2
Nocturnal Flight Calls.....	5
Songbird Banding.....	8
Shrubby Draw Surveys.....	13
Raptor Counts.....	15
Raptor Trapping.....	16

Bat House Installation

Bat Conservation International (BCI) provides detailed guidance on bat house construction and placement. Their research shows that boxes placed within $\frac{1}{4}$ mile of an open water source and near diverse habitats have higher occupancy rates. This week we installed bat houses at the locations shown below based on these recommendations.



Gus and William installed one of the boxes on the Orchard House barn (below). Boxes placed on buildings or poles attract bats more often than those hung on trees. BCI's studies also show that bats like it hot; William painted the houses black to maximize heat absorption.



Gus used the bucket truck to place this bat house as high as possible. Guidelines recommend placement at least 12 feet off the ground and at least 20 feet away from obstructions such as branches and power lines. Bats occupy the majority of installations within the first year.



Fall Migration Nocturnal Flight Calls August 2013 vs. August 2014

In August 2013, our acoustic monitoring stations recorded 656 nocturnal flight calls from migrating sparrows and warblers (“tseeps”). This year, detections nearly tripled with 1809 detections. During the second and third week of August 2014, big spikes in “tseep” calls occurred (Figure 1). Differences in atmospheric conditions between August 2013 and August 2014 might explain this increase. We used data from the Sainfoin Bench weather station to explore relationships between barometric pressure, precipitation, and the number of nocturnal flight calls.

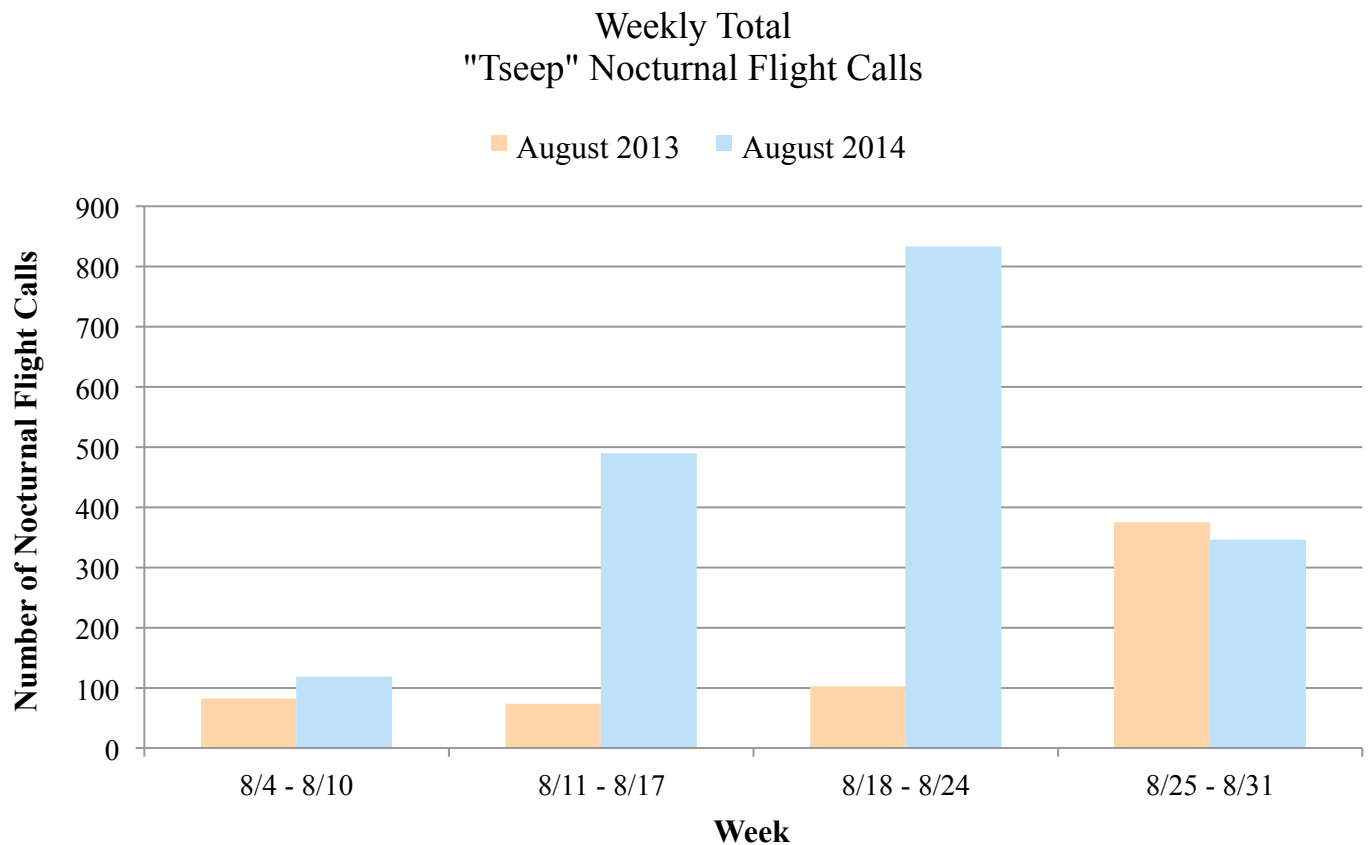
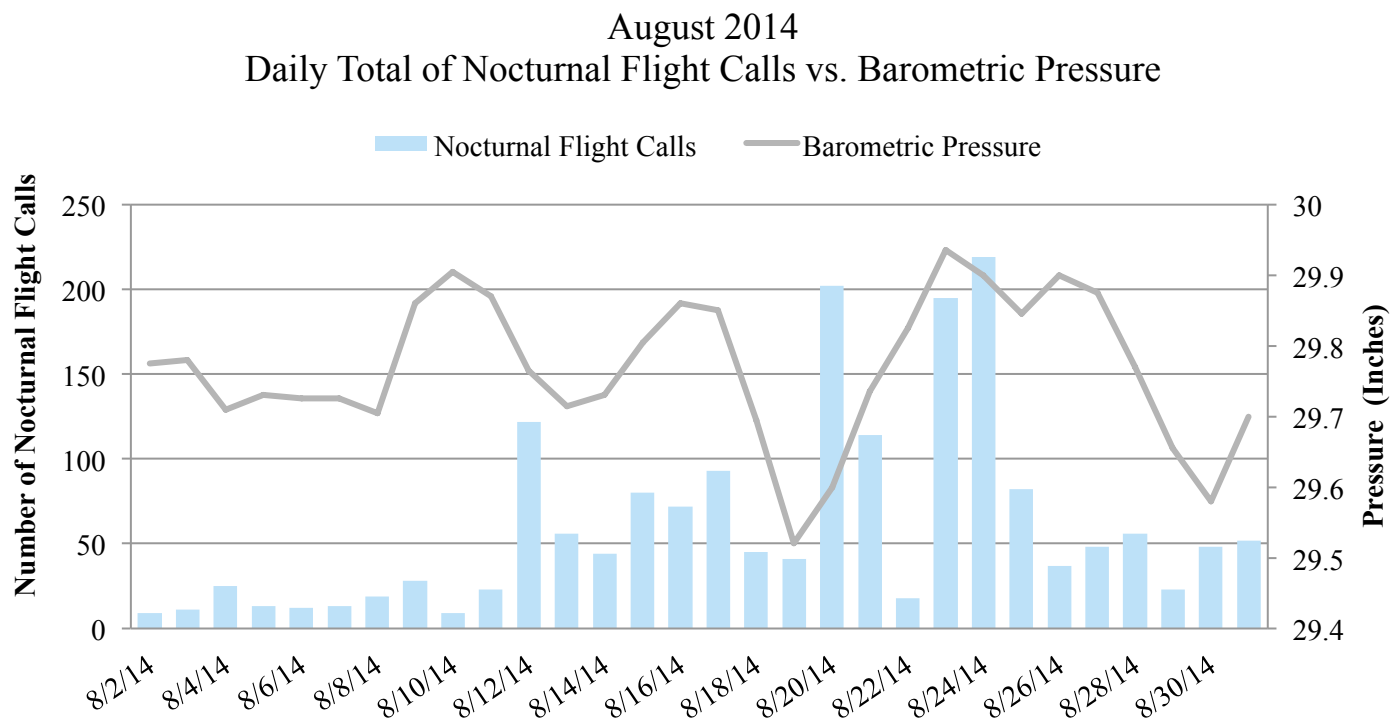
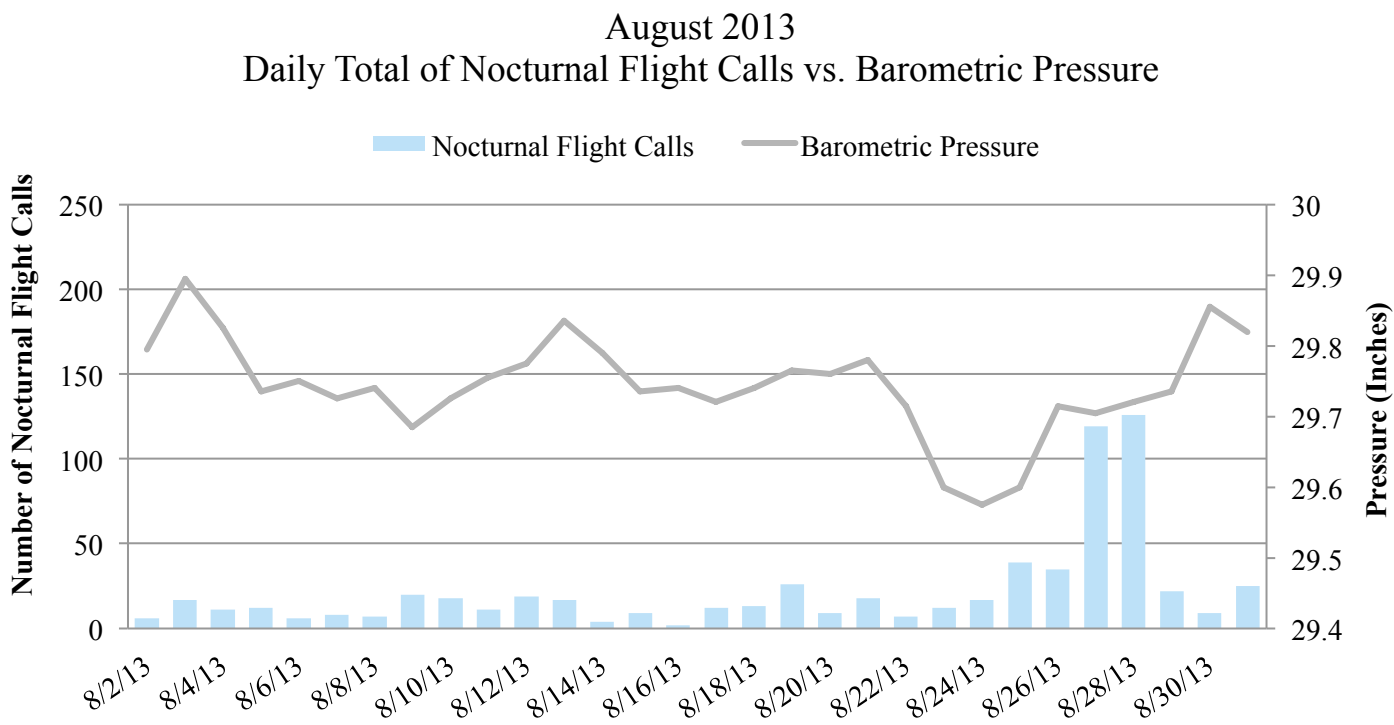


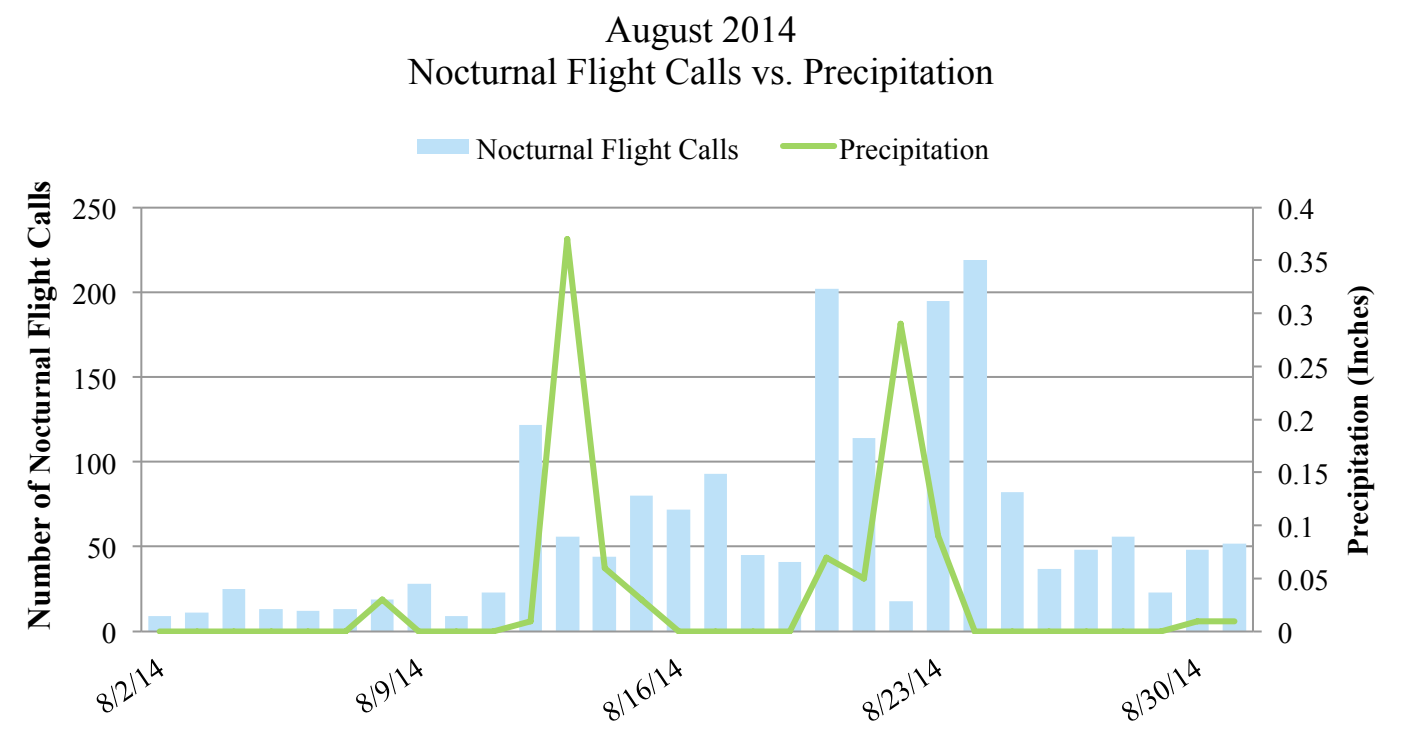
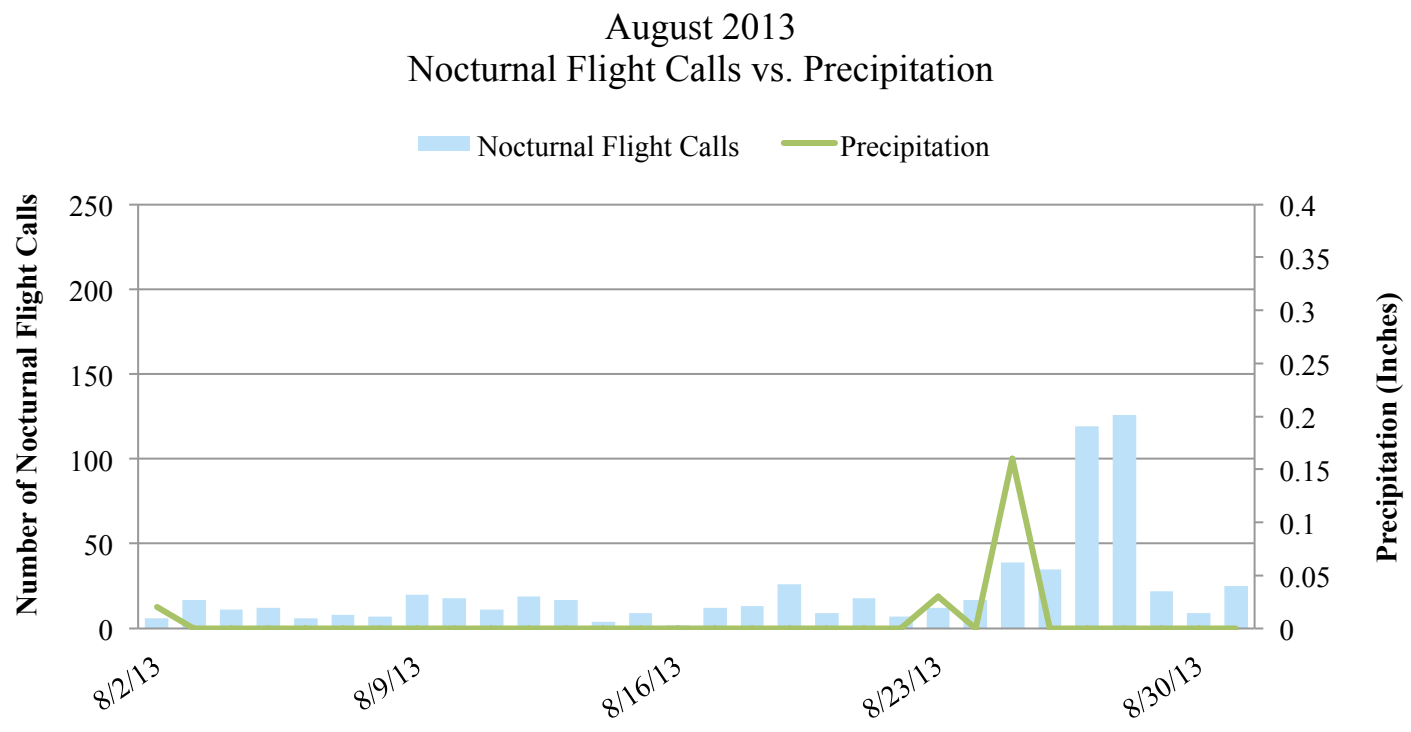
Figure 1. Bar height shows August 2013 and 2014 weekly “tseep” nocturnal flight calls.

When we compared the daily call totals to barometric pressure, August 2014 showed stronger dips and rises indicative of more unsettled weather (Figures 2 and 3).



Figures 2 (above) and 3 (below). Bar height shows the number of August nocturnal flight calls in 2013 and 2014; the lines track barometric pressure over the same period.

Increases in nocturnal flight calls coincided with precipitation events (Figures 4 and 5). We plan to incorporate weather variables into all future nocturnal flight call analyses to see if these patterns persist.



Figures 4 (above) and 5 (below). Bar height shows the number of August nocturnal flight calls in 2013 and 2014; green lines track precipitation over the same period.

Avian Science Center: Fall Migration Highlights

9/8-9/12/14

We had a busy week banding migrants; in five days we captured 349 birds, with 134 on the floodplain, 127 at Sheep Camp, and 88 at West Baldy Ridge. The highest daily capture occurred on Tuesday, 9/9, with 97 birds captured across all three sites. We captured our first White-crowned Sparrows of the season and saw an increase in Ruby-crowned Kinglets and Dark-eyed Juncos. Captures of *Spizella* sparrows (e.g., Chipping, Clay-colored, Brewer's Sparrows) decreased this week.



Lincoln's Sparrow



A red crown patch on a Ruby-crowned Kinglet indicates a male (arrow). During the breeding season, this energetic species spends most of its time in the treetops. In the fall, they stay closer to the ground, which allows us to capture numerous individuals.



This White-crowned Sparrow displays the black-and-white “racing stripes” characteristic of an older bird; young birds display the same pattern, but in a tan-and-brown coloration. Five subspecies of White-crowned Sparrows exist. Gray lores and an orangish bill identify this bird as a Gambel’s White-crowned Sparrow.





Common Yellowthroats provide a classic example of sexual dimorphism. Females (above) display drab, indistinct yellow and olive-brown plumage. Males (below) exhibit brighter plumage with a distinct black and gray facial mask.



People often mistake Pine Siskins for sparrows due to their brown, streaked plumage and thick bill, but they belong in the Finch family. Pine Siskins exhibit irruptive migration; instead of predictable annual movements, they migrate wherever food resources are available.



Shrubby Draw Surveys: 9/12/14

For the first time, a warbler species surpassed the sparrows in sheer numbers; Yellow-rumped Warblers occupied the draws in numbers well above our previous observations. Vesper and Chipping Sparrow numbers decreased.

Species detected in shrubby draw surveys September 12th, 2014				
	Partridge Alley	Sheep Camp	Tongue Creek	Total
Yellow-rumped Warbler	23	52	16	91
Chipping Sparrow	4	49	4	57
Vesper Sparrow	12	15	12	39
Spotted Towhee		20	1	21
Unknown Sparrow	2	7	8	17
Western Meadowlark	11			11
American Goldfinch	7	2	1	10
American Pipit	8		1	9
Mountain Chickadee		9		9
Ruby-crowned Kinglet		9		9
White-crowned Sparrow		7	1	8
Gray Partridge		7		7
House Wren	1	5	1	7
Red-breasted Nuthatch		6		6
Savannah Sparrow	2		4	6
Unknown Bird	3		3	6
Black-capped Chickadee		5		5
Black-billed Magpie	4			4
Clark's Nutcracker		4		4
Orange-crowned Warbler		2	2	4
Rock Wren	4			4
Unknown Flycatcher	1	3		4
Cedar Waxwing		3		3
Horned Lark			3	3
Mourning Dove		1	2	3
Pine Siskin		3		3
Western Tanager		3		3
Wilson's Warbler		3		3
American Kestrel	1		1	2
Mountain Bluebird		2		2
Nashville Warbler		2		2
Say's Phoebe		2		2
American Robin		1		1
Gray Catbird		1		1
Grasshopper Sparrow	1			1
Hairy Woodpecker			1	1
Lincoln's Sparrow		1		1
Merlin		1		1
Northern Flicker			1	1
Song Sparrow	1			1
Warbling Vireo		1		1
Total	85	226	62	373
Species Richness	13	27	15	38

Large flocks of American Pipits foraged on insects in the former crested wheatgrass areas.



Raptor Migration Update: Raptor Counts

9/9 - 9/15/2014



This week we had three 100+ count days (Sept. 9, 12, and 15). Top birds included Turkey Vultures, American Kestrels, and Cooper's Hawks. We expect Accipiter numbers to continue increasing over the next two weeks. Buteo and Eagle numbers should increase in October.

Weekly (9/9-9/15) and Seasonal Raptor Totals			
		Weekly Total	Season Total
Eagles	Golden Eagle	2	3
	Bald Eagle	4	5
	Unknown Eagle	0	0
Accipiters	Sharp-shinned Hawk	57	66
	Cooper's Hawk	70	86
	Northern Goshawk	6	7
	Unknown Accipiter	17	27
Buteos	Red-tailed Hawk	65	82
	Rough-legged Hawk	0	0
	Swainson's Hawk	9	9
	Broad-winged Hawk	12	14
	Ferruginous Hawk	3	3
	Unknown Buteo	9	9
Falcons	American Kestrel	110	137
	Merlin	2	6
	Peregrine Falcon	3	3
	Prairie Falcon	4	4
	Unknown Falcon	1	2
Other	Northern Harrier	18	24
	Osprey	18	21
	Turkey Vulture	130	130
	Unknown Hawk	8	8
TOTAL		548	646

Raptor Trapping: 9/9 - 9/15/2014

We captured 15 raptors, with similar numbers at both sites. We caught more Falcons at the lower Indian Ridge station, and more Accipiters at West Baldy Ridge. Based on the visibility of our lure birds and the observed behavior of migrants, we think we may capture more birds at Indian Ridge than at any other previous MPG trapping site.

Trapping summary for (9/9-9/15)

		Weekly Total		Season Total	
		Indian Ridge	West Baldy	Indian Ridge	West Baldy
Accipiters	Sharp-shinned Hawk	1	2	1	6
	Cooper's Hawk	0	4	0	6
Buteos	Red-tailed Hawk	1	1	1	1
Falcons	American Kestrel	5	0	5	0
	Merlin	1	0	1	0
TOTAL		8	7	8	13

As Accipiters age, their eye color changes from yellow to red. The orange iris of this Cooper's Hawk is common in second-year birds.



This Red-tailed Hawk was the first adult raptor captured this season.



Adam banded and released five American Kestrels at the Indian Ridge station.



Tyler releases a hatch-year Red-tailed Hawk from the Indian Ridge Station.



Additional Photo Credits
KS: Kate Stone

