

Raptor nesting on northeast Colorado's Central Plains Experimental Range

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Introduction

In the 1930s, the U.S. Forest Service established the Central Plains Experimental Range (CPER), headquartered 10 miles northeast of Nunn, CO to research range management strategies, and to evaluate long-term impacts of livestock on grassland communities.

Since then, CPER's research has affected agricultural practices throughout eastern Colorado and beyond, with emphases on developing techniques to ensure long-term sustainability of grazing lands, both for cattle, and for native plants and wildlife of CPER's grassland ecosystem.

In this study, we are quantifying the long-term species density, fidelity, productivity, richness, and success of raptor territories on CPER.

Results

In 2015 and 2016, we monitored the nests of Golden Eagles (*Aquila chrysaetos*), Great-horned Owls (*Bubo virginianus*), Red-tailed Hawks (*Buteo jamaicensis*), and Swainson's Hawks (*Buteo swainsoni*) nesting on CPER (Figure 1).

We found relatively consistent density between years: 0.17 nests/km² in 2015 and 0.16 nests/km² in 2016. Regarding fidelity, we found 6 of 12 territories active in both years, but only 4 of these produced young in both years.

Across species, nests produced 8 young in 2015 and 9 in 2016. We found 52% success overall across years and species (Table 1).

Discussion

We documented relatively consistent species density, fidelity, productivity, richness, and success across raptor territories on CPER in 2015 and 2016. Two of the raptor species we monitored, Golden Eagles and Swainson's Hawks, are listed as Tier-1 species of greatest conservation need by Colorado Parks and Wildlife.

Of these, the Golden Eagle nest we monitored produced 1 nestling annually, surpassing average productivity of Golden Eagles across the western U.S.

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Table 1. Nest success for active territories (adult attending nest) at the Central Plains Experimental Range in northeast Colorado in 2015 and 2016

Species	2015		2016		Cumulative	
	Active Count	Percent Success	Active Count	Percent Success	Active Count	Percent Success
Golden Eagle	1	100%	1	100%	2	100%
Great-horned Owl	3	33%	1	0%	4	25%
Red-tailed Hawk	2	50%	2	50%	4	50%
Swainson's Hawk	5	60%	6	50%	11	55%
Total	11	55%	10	50%	21	52%

Field Trips

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Weather and trail conditions allowing, we will hit the trails on the North side of I-70 in Genesee Park. I will scout and make the call on which side (North or South of I-70) the week before.

Plan on a 5 mile hike with hopefully lots of mountain birds.

Register online or contact leader.

Banner Lakes SWA (Weld County)

**Sunday, February 26
7:30 AM - 12:00 PM**

Rebecca Laroche & Mary Geder (Email: RebeccaLLaroche@gmail.com Phone: 626-318-4435)

Trail Difficulty: Moderate

Maximum Participants: 12

Directions: Meet at the wildlife area for a half-day trip. Take I-76 east; at the Hudson exit (exit 31), go four miles east on CO 52. The main parking lot is on the left (north) just past CR 53 (Delorme 31 D6).

We will bird both the north and south sides of the area. There are numerous small to medium sized ponds, many ringed with marshes, Russian olives, and junipers.

There is moderate on- and off-trail hiking of about 2 to 3 miles, looking for owls in the surrounding trees.

Scopes would be helpful but not necessary. Potential for a hawk/owl search of the DIA loop in the afternoon. **Register online or contact leader.**

—Scheduled by Chris Owens

(Kochert et al. 2002). In contrast, the Swainson's Hawk territories we monitored produced fewer fledglings than average, 52% across years, compared to typical success rates of around 70% in other studies.

The difference in our findings versus those of other studies may be due to definitions. We documented success of active territories, meaning a territory where a pair of Swainson's Hawks actively attended a nest, but did not necessarily lay eggs.

Other studies often documented use of active nests, meaning nests containing eggs or young. As our research continues, we'll explore this potential difference in baselines, and its influence on conclusions regarding productivity across studies.

Our future research will also

explore relationships between nest success and range management practices on CPER. Though connections seem intuitively likely, our findings of raptor mortality to date suggest otherwise.

We have observed mortality due to nest collapse, apparent predation, vehicle collision, and electrocution on overhead power lines. We have not yet seen any patterns relative to any particular range management practice.

However, as our sample size develops, we will be able to quantitatively evaluate hypotheses in this respect.

Acknowledgements

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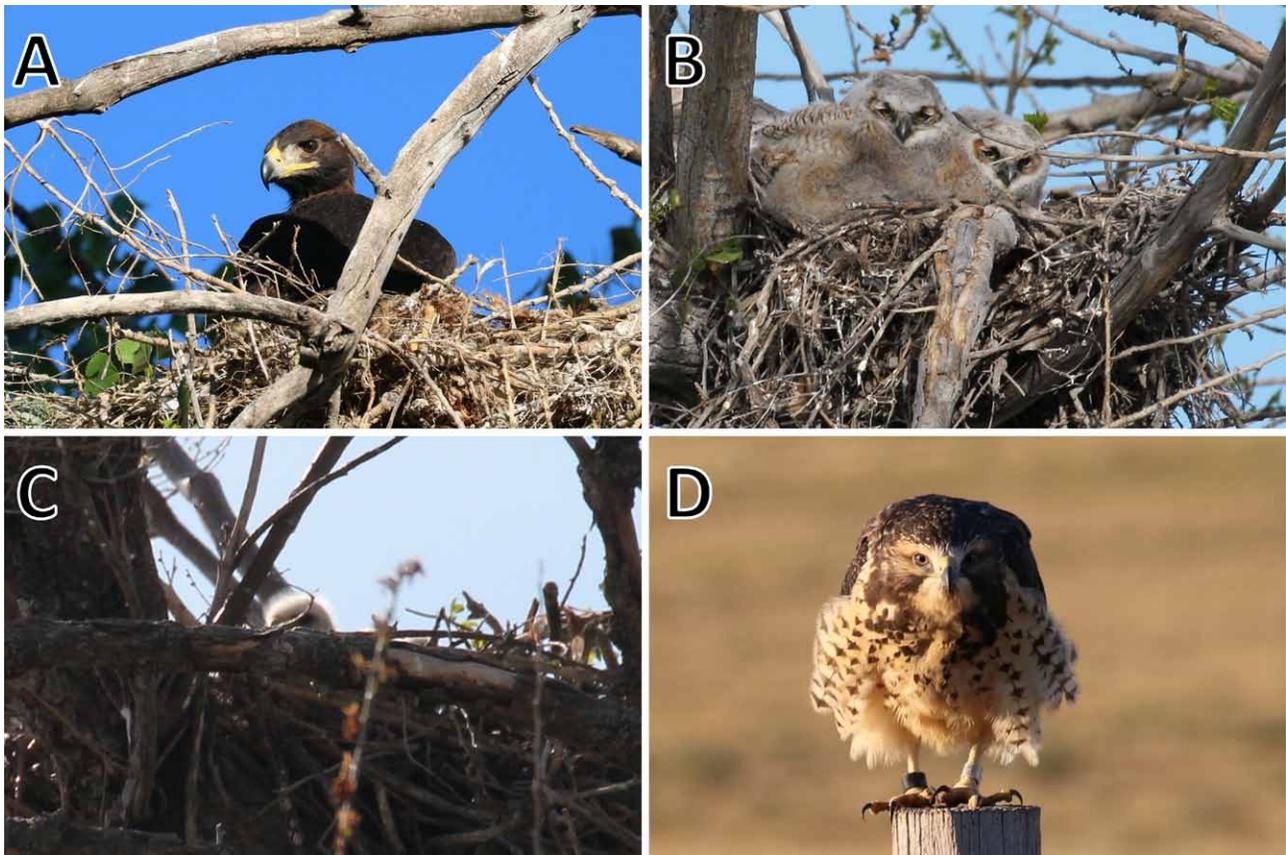


Figure 1. A. Nestling Golden Eagle. B. Nestling Great-horned Owls. C. Nestling Red-tailed Hawk. D. Fledgling Swainson's Hawk