



MOUNTAIN BLUEBIRD NESTBOX MONITORING PROJECT - 2019 ANNUAL REPORT -

COMPILED OCTOBER 2019

Summary

This year marks the 16th season of the Jackson Hole Wildlife Foundation's Mountain Bluebird Nestbox Monitoring Project. This project was created in partnership with the National Elk Refuge - U.S. Fish and Wildlife Service. Like most birds, the bluebird population depends in part the weather, predators, and the availability of food. It is also directly affected by the availability of and competition for nest sites. Currently Mountain Bluebird (MOBL) populations are probably low but stable. Installation of nestboxes such as ours, has helped increase stable and declining populations. In 2019, May through August, 15 dedicated volunteers helped check our monitoring trail's 112 boxes on a regular basis, all while recording information about the breeding activity of MOBL and other cavity nesting bird species.

This season approximately 11% of nestboxes were occupied by MOBL. The majority of nestboxes on the monitoring trail were occupied by Tree Swallows and several House Wrens.

While many of our MOBL nests successfully fledged (i.e., birds that left the nest once their feathers and wing muscles were sufficiently developed for flight), several nests failed due to depredation (most likely from raccoons or weasels) and nest abandonment (likely resulting from one parent being hit by a car or taken by a predator thus, preventing the eggs from being incubated). To mitigate for future predation incidents, all nestboxes on the JHWF monitoring trail that have a history of invasion now have predator safeguards installed – 25 nestboxes in total.

Color Banding

Three years ago, JHWF began color banding MOBL to calculate how many fledglings are returning to Jackson and the National Elk Refuge each year. Each nestling (a bird still in the nest) is given a unique color band combination on their legs. When 'resighted' in the future we can identify exactly which nestbox the bird came from, how old it is and more. This provides valuable information about reproductive success, fledgling recruitment, population health, and future management actions.

In 2019, we banded 43 nestlings and eight adults. Unfortunately, compared to previous years (72 in 2018 and 85 in 2017) this season had rather low productivity. This is most likely due to the late spring, which prevented MOBL from establishing early nests



Figure 1: Nestlings banded in 2019 are recognized by a blue band on their left leg.

and created a deficiency of food and resources. Additionally, since birds were nesting later this year, they had no time to re-nest, thus further decreasing this year's productivity.

Stories of Resighted Mountain Bluebirds from 2017 to Present

While we only had four recorded resights this year, that is expected given that our project is still in its early stages, and the high dispersal distances of returning fledglings. However, adults often return to the same location and even same nestbox, year after year. We fully expect to see these adults returning in 2020.

But what can we say about the Mountain Bluebirds that have been resighted so far? In total, we have 10 resight encounters recorded – two in 2017, four in 2018 and four in 2019. Three of these encounters were reported back to us by the Bird Banding Laboratory (BBL) and the remaining observations reported by residents of Jackson Hole. No resights from this year's cohort were made before the seasons changed, but eight resights are from the 2017 cohort and two resights from the 2018 cohort. We know of two bluebirds banded by us that are now deceased; one by motor vehicle accident and the other due to a window strike.

Resighting birds is typically reliant on using strong binoculars and spotting scopes. Our first ever resight was a juvenile Mountain Bluebird who crossed the highway and was seen in the parking lot of the National Museum of Wildlife Art. Fledglings can fly quite well, but many are still being fed by the adults, which means they will often stay in place long enough to get a good look at colored-bands on their legs.

Sighted in April, of this year was an adult male banded in 2017, from Nestbox #57-a. We also have an individual male Mountain Bluebird, banded as a nestling in 2017 from Nestbox #80, which has been reported twice over the course of two years. His "bling" was observed at 5:20pm on a sign beside the north entrance to the Miller House Complex (campground) along the Elk Refuge Road on September 23, 2019. He was also resighted last year in about the same location, which could indicate that he dispersed from our monitoring trail on the other side of the Refuge and for the past two years has returned to the same place. Possibly he is nesting with a mate. We shall see what we can glean from future observations.



Figure 2: A juvenile male MOBL from Nestbox #80 banded in 2017 and resighted on 8/19/2018 on the Elk Refuge Road. Credit: Britton Parker



Figure 3: Same male MOBL seen in Figure 2, but now as an adult. Seen on the Elk Refuge Road on 9/23/2019. Credit: Walt Nilsen

Perhaps the most heartwarming observation of a color-banded bluebird from our study is that of the adult female from Nestbox #90. Adult bluebirds tend to have higher site fidelity, meaning they are more likely to return to the same site to breed for multiple years. In 2017 and 2018, we had the same female nest in Nestbox #90. This was a triumph since her nest in 2017, became infected by parasitic blowfly killing three nestlings from her clutch that summer. She and her two remaining chicks were found to be on death's door during a routine monitoring check. After cleaning out the nestbox and refashioning a new nest, her babies lived to survive, and she lived to come back a year later. We did not see this same individual return in 2019, but hopefully she returns in 2020.

Most resights have not been too far from the monitoring trail, but we have one report from quite far-away in Fort Worth, Texas on October 2, 2019. This encounter was reported to the BBL and from the color band combination we know it is the 74th nestling banded since the start of the project back in 2017, and it is a female from Nestbox #66. From Jackson to Texas, next stop is Mexico!

What next?

As the years go by and the number of individuals birds banded by us has increased, the number of potential resights of MOBL should be a successful effort. We are also looking into adapting the project to include different capturing methods of MOBL to increase the resight data. In the meantime, we continue to urge our citizen scientists to keep their eyes on alert for Bluebirds with Bling! especially, come springtime. By March, we will thankfully see bluebirds take up their perches again on fence posts and other high spots. The flash of that incredible shade of blue, like a piece of sky, is always a welcomed sight after a long Jackson Hole winter.

Note, for a full record of all resight encounters involving our Mountain Bluebirds please consult JHWF's master resighting datasheet (MASTER_MOBL_Resighting Data Sheet.xlsx).

Acknowledgments

This project is made possible by the generous support of the U.S. Fish and Wildlife Service's National Elk Refuge, the Wyoming Game and Fish Department, Meg and Bert Raynes Wildlife Fund and the North American Bluebird Society. We also thank our tremendous volunteers for monitoring nestboxes, spreading the word, and encouraging others to get involved.

Date	Time	Color Band Combination				Location: Specific		General Location	Substrate (e.g. fence post, ground, telephone wire, etc)	Behavior	Sex	Plumage	Notes
		Right: Top	R: Bottom	Left: Top	L: Bottom	UTM Easting	UTM Northing						
8/8/2017	7:30am	Green	Silver	Black	Peach								Per Tim Griffith
8/10/2017	7:30am	Green	Silver	Red	Black			East side of Refuge, North of Miller's Butte					Per Tim Griffith
3/7/2018		Green	Silver								M		Per Tim Griffith
5/2018		Yellow	Silver	Black	Red	519480	4816223	on MOBL trail	Nestbox #90	Nesting	F	Adult	Per Sarah Ramirez
6/27/2018		Peach	Silver	Yellow	Black			2820 Rungius Road, Jackson, WY		Deceased	F		Reported to BBL by Barbara Long; Band #2821-04917; Caught due to striking or being struck by: motor vehicle.
9/2/2018		Peach	Silver	Gray	Gray			865 Tribal Trail Rd./Jackson, WY		Deceased	M		Reported to BBL by Mike Halpin; Band #282104909; Caught due to striking: stationary object other than wires or towers; deceased and band removed.
4/3/2019	4:40pm	Green	Silver	Gray	Gray			Elk Refuge Road	on a rock	Perched	M	Adult	Seen by Sheena Patel; from Nestbox 57-a
8/19/2019		Green	Silver	Peach	Hot Pink			National Elk Refuge Road	on a road sign	Perched	M	Spotted	Per Britton Parker; photo on file; from Nestbox 80
9/23/2019	5:20pm	Green	Silver	Peach (faded)	Hot Pink			North entrance to the Miller House Complex (campground) along the Refuge Road	on a road sign	Perched	M	Adult	Photo (on file) snapped by National Elk Refuge Volunteer, Walt Nilsen; from Nestbox 80
10/2/2019		Green	Yellow	Gray	Silver			Fort Worth, Texas		Alive			Reported to Bird Banding Laboratory. Resighted and photographed. The 74th nestling banded since the start of the project back in 2017, from Nestbox #66. Was sexed as Female as a nestlings.