



# MOUNTAIN BLUEBIRD NESTBOX MONITORING PROJECT - 2020 ANNUAL REPORT -



Compiled November 2020

## Summary

This year marks the 17th season of the Jackson Hole Wildlife Foundation's (JHWF) 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 2020, May through August, 10 dedicated volunteers plus, three JHWF staff members 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 we had approximately 45 nestboxes used by either Mountain Bluebirds, Tree Swallows or House Wrens, which means that 37.5% out of the 112 nestboxes on the trail were used in 2020 for nesting (Figure 1). Of the occupied nestboxes, 12% were used by MOBL, which is up from the 11% in 2019. The majority of nestboxes on the monitoring trail were occupied by Tree Swallows (87%). House Wrens occupied 1% of the trail. The past two years has been an upward trend of nestboxes used by House Wrens in the sagebrush habitat closest to the Fish Hatchery. However, none of the House Wren nests were successful in producing fledglings, but currently, the reason why is unknown. At the beginning of this project, House Wrens were not present, but now it seems this will be a species to note in terms of productivity and nest selection in the coming years.

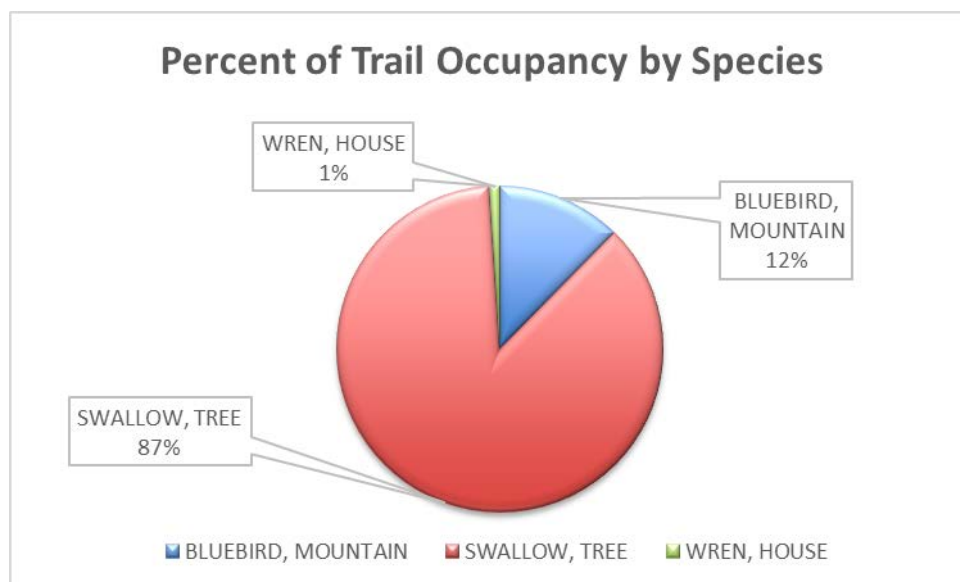


Figure 1: in 2020, the Mountain Bluebird nestbox trail on the National Elk Refuge's western boundary was occupied by three cavity-nesting species – Mountain Bluebird, Tree Swallows and House Wrens.

Mountain Bluebirds successfully fledged 24 chicks in 2020 (i.e., birds that left the nest once their feathers and wing muscles were sufficiently developed for flight) (Figure 1). In counting six eggs that did not hatch, combined with the number of dead nestlings, this equals a 56% success rate for the year. Several nests failed due to depredation (most likely from raccoons

or weasels) and other reasons unknown (most likely due to extreme cold or hot weather conditions).

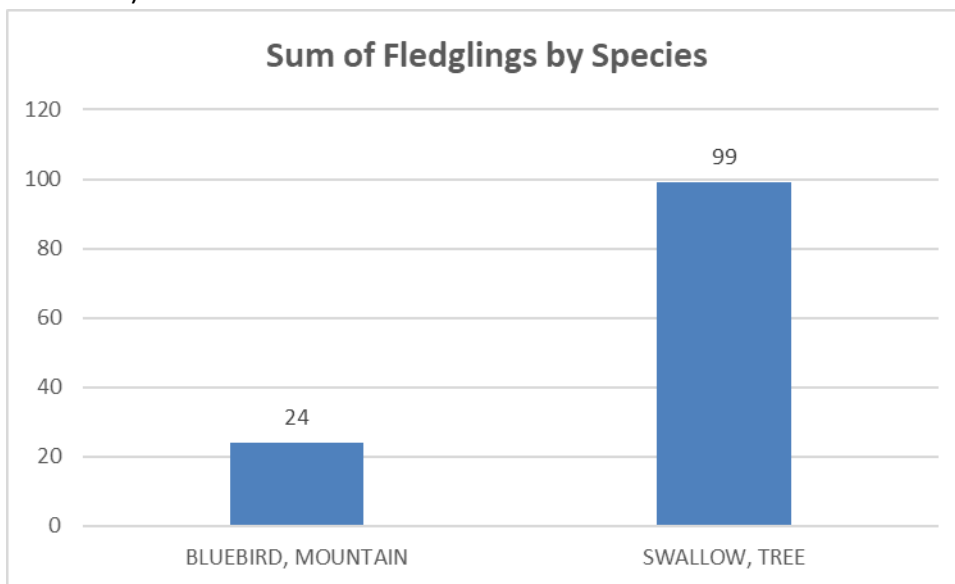


Figure 2: Sum of Fledglings for MOBI and TRES in 2020.

Interestingly, Tree Swallows had 47 unhatched eggs reported due to predation and reasons unknown. Although, Tree Swallows had 99 chicks (Figure 2) successfully fledge the nests, combined with the reported two dead nestlings and the unhatched eggs, this means that their breeding success rate for the year on our nestbox trail equals 67%.

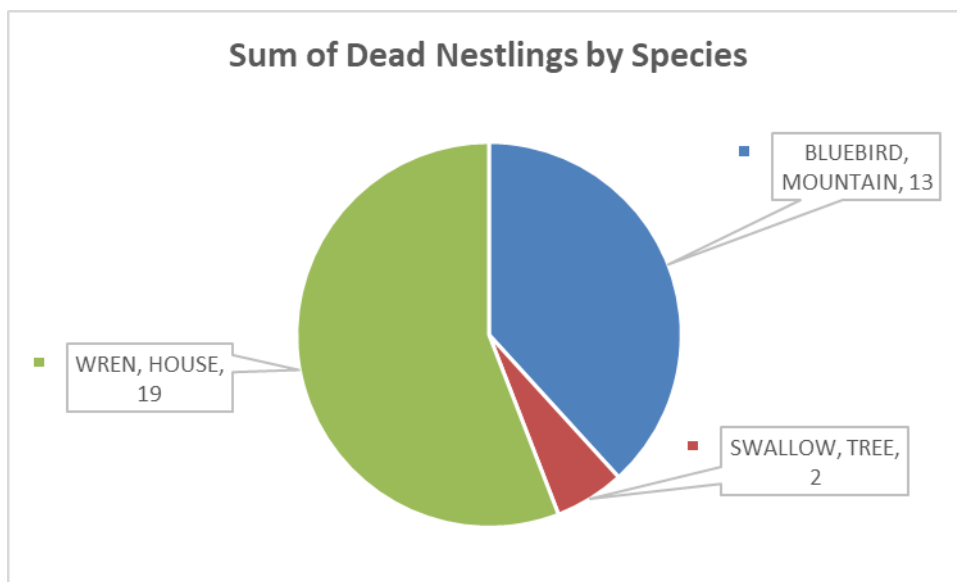


Figure 3: Sum of dead nestlings by species due to either predation or unknown reasons.

Monitors did not report insect infestation a problem this year. In year past we have dealt with blowfly infestations and ants. It is surmised that unexpected deaths of birds on the nestbox trail are likely due to sudden changes in temperature, however, this can not yet be proven. Illness or lack of food could be factors too, and potentially connected to weather.

### Resighted Mountain Bluebirds in 2020

This year we had three solid resight occurrences of previously banded Mountain Bluebirds from our study. Our first resight was in May, and this was an adult female banded in 2019 from Nestbox #60, who this year nested in Nestbox #60 and had a clutch of four eggs that were ultimately unsuccessful. On a much brighter note, twice reported this summer was an adult male (the 74<sup>th</sup> nestling banded back in 2017). This individual bird has been photographed three times and reported by the Bird Banding Laboratory as far away as Texas last winter. This year the adult male had a successful nest in a residential neighborhood just above the Fish Hatchery on the west side of HWY 89. This male is originally from a clutch born in 2017 from Nestbox #66. The photograph on the cover page of this report is of this bird, last spotted towards the end of August.

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).

### Next steps in 2021

Unfortunately, the Covid-19 pandemic did affect the Mountain Bluebird color banding component of our project. We were unable to bring in our usual two permitted bird banders/field technicians to assist the project. Typically, our bird banders oversee communicating with the trail monitors to keep track of egg hatching time and thus, the window of time in which bluebird nestlings can be banded. Because the JHWF overall were short-handed this past summer, focus was on monitoring the nestboxes, resighting Mountain Bluebirds and data collection. We are fortunate that bluebird monitoring could safely abide by Center for Disease Control and Teton County, Wyoming health guidelines. Monitoring was done by either households or as a solo endeavor.

Next year, we sincerely hope the pandemic is behind us all and that our usual seasonal staffing can be brought back up to full capacity. To increase the resighting of Mountain Bluebirds, and especially of adults, we are proposing an additional element to the project whereby we aim to capture birds using mist nets and elsewhere in the National Elk Refuge. The data collected so far indicates several Mountain Bluebirds with color bands seen a couple of miles to the east of our nestbox trail. We aim to capture birds in this area to ascertain the correlation if any, to the nestbox trail further west. Since JHWF does songbird banding elsewhere in the county, we already have on hand the equipment needed to mist net Mountain Bluebirds and we will be making this request to Wyoming Game and Fish Department during our annual reporting and submitting of our annual research permit application.

### **Acknowledgments**

Every year this project is continued by the generous support of the U.S. Fish and Wildlife Service's National Elk Refuge, the Wyoming Game and Fish Department, Teton Conservation District, 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	7:30 AM	Green	Silver	Black	Peach								Per Tim Griffith
8/10/2017	7:30 AM	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
6/14/2019	4:00 PM	Peach	Silver	Pink	Pink			On fence across from gas station along highway	Sitting on fence	Perched	F	Adult	Female had nest in Box 94 and then later in Box 88. Both nests failed. Bird banded in 2018 from Nestbox 16
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	5:20 PM	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.
5/28/2020	8:00 AM	Blue	Silver	Green	Purple	520602	4818690	Jackson, WY	Nestbox #60	Breeding	F	Adult	This is an adult female banded in 2019 from Nestbox #60 who is nesting in Nestbox #60 in 2020; 4 eggs.
6/12/2020		Green	Yellow	Gray	Silver			Elk Terrace View / Jackson, WY		Nesting	M	Adult	Reported to JHWF by Laurie Bay whose friend Martha Van Genderen has this bird nesting at her house on Elk View Terrace, which is above the Fish Hatchery on west side of HWY 89. Successful nesting with fledglings.
8/22/2020		Green	Yellow	Gray	Silver	43° 34'41" N	110° 44'47" W	Jackson, WY		Breeding	M	Adult	Seen north of the National Elk Refuge in the -B- neighborhood by local resident Irene Greenberg