

**2022 Fall Migration Field Note**  
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*Photo: Wilson's Warbler release, Justin Griggs*

## 2022 Season Summary

The University of Montana Bird Ecology Lab (UMBEL) conducted our twelfth consecutive year of migration monitoring. We captured and banded songbirds on the northern floodplain on 36 days from August 9 to October 19 for a total of over 1,751 net hours. We captured a total of 961 birds of 51 species across the season (Appendix I). Our capture rate this year was similar to previous seasons, with roughly 27 birds per 50 net hours (an average banding day). We banded 707 new birds (~74%), recaptured 214 birds on separate days (~22%), recaptured 26 birds on the same day (~3%), and left 16 unbanded (~2%). Among birds we aged, 17% were adults and 83% juveniles which closely matches age ratios in previous years. The five most abundant species we captured included Gray Catbird (103), Black-capped Chickadee (88), Yellow Warbler (88), Gambel's White-crowned Sparrow (77), and Song Sparrow (70). Overall weather conditions were mild and warm, with two weeks of moderate to heavy wildfire smoke in early to mid-September.



In collaboration with MPG researchers, we placed a unique combination of colored bands on all Northern Flickers captured this fall. These colors are visible at a distance, which allows researchers to identify and track individual birds without the need to recapture them.

*Photo: Keyara McCarthy*



## Fall Feels

After a year of wild weather patterns, we welcomed a long, late fall in western Montana. The spring season was one of the wettest on record, with cool temperatures extending farther into the summer than usual. Following a hot July, we experienced the third warmest August on record and a warm September with temperatures about five degrees (F) above average. These weather conditions resulted in beautiful autumnal landscape on the floodplain.



Banding technician Mary Venegas crosses the floodplain to check mist-nets.  
*Photo: Keyara McCarthy*



# Tracking Marathon Migrants with Motus Technology

Since 2019, UMBEL biologists have collected movement data on a long-distance migrant, Swainson's Thrush, by fitting birds with tiny tracking devices called nanotags. We deployed fifteen nanotags this fall and were rewarded with an incredible detection rate of 86% – far higher than any other species we've tagged – beyond the MPG property boundary. Six birds were picked up outside of Montana as they moved east to the Central and Mississippi Flyways. Motus towers in Central America detected three other individuals that we tagged this fall: one bird in Guatemala and two birds in Costa Rica.





## Color Aberration in a Black-capped Chickadee

On August 11, we captured a young chickadee with a very unique appearance. The bird most closely resembled a Black-capped Chickadee, but there were significant brown patches on the head and flight feathers, where we would typically see black or gray. After ruling out any potential hybrids or feather discoloration due to environmental influence or stress, we learned that Black-capped Chickadees can have a genetic mutation which affects melanin synthesis. The two main types of melanin, or dark pigment, are essentially out of balance, leading to the appearance of more brown and less black pigment. This condition is not reported to impact overall health or reproduction. There are only a handful of records in North America documenting this mutation in Black-capped Chickadees: New York (2004), Calgary (2017), Nebraska (2021), and Iowa (2021). Because the trait is sex-linked, birds with this condition are usually female. We hope to recapture this distinctive bird and her offspring next year!





## Species Highlight

Sparrows, often referred to as “little brown jobs”, tend to be underappreciated for their subtle appearance. One such species, Clay-colored Sparrow, even has the Latin word *pallida*, meaning “pale”, in its scientific name (*Spizella pallida*). In the hand however, their earthy, neutral tones show surprising contrast and their distinctive facial patterns are a birder’s best friend. Perfect lines, as if drawn by a fine-point pen, mark the bird’s chestnut crown, buffy eyebrows, tan cheeks, and pale “mustache”. The distinctive gray nape encircles the back of the neck like a dusky collar. We were delighted to catch more Clay-colored Sparrows in 2022 (five captures) than any other year. The incredible beauty of this species will never go unnoticed at our station!

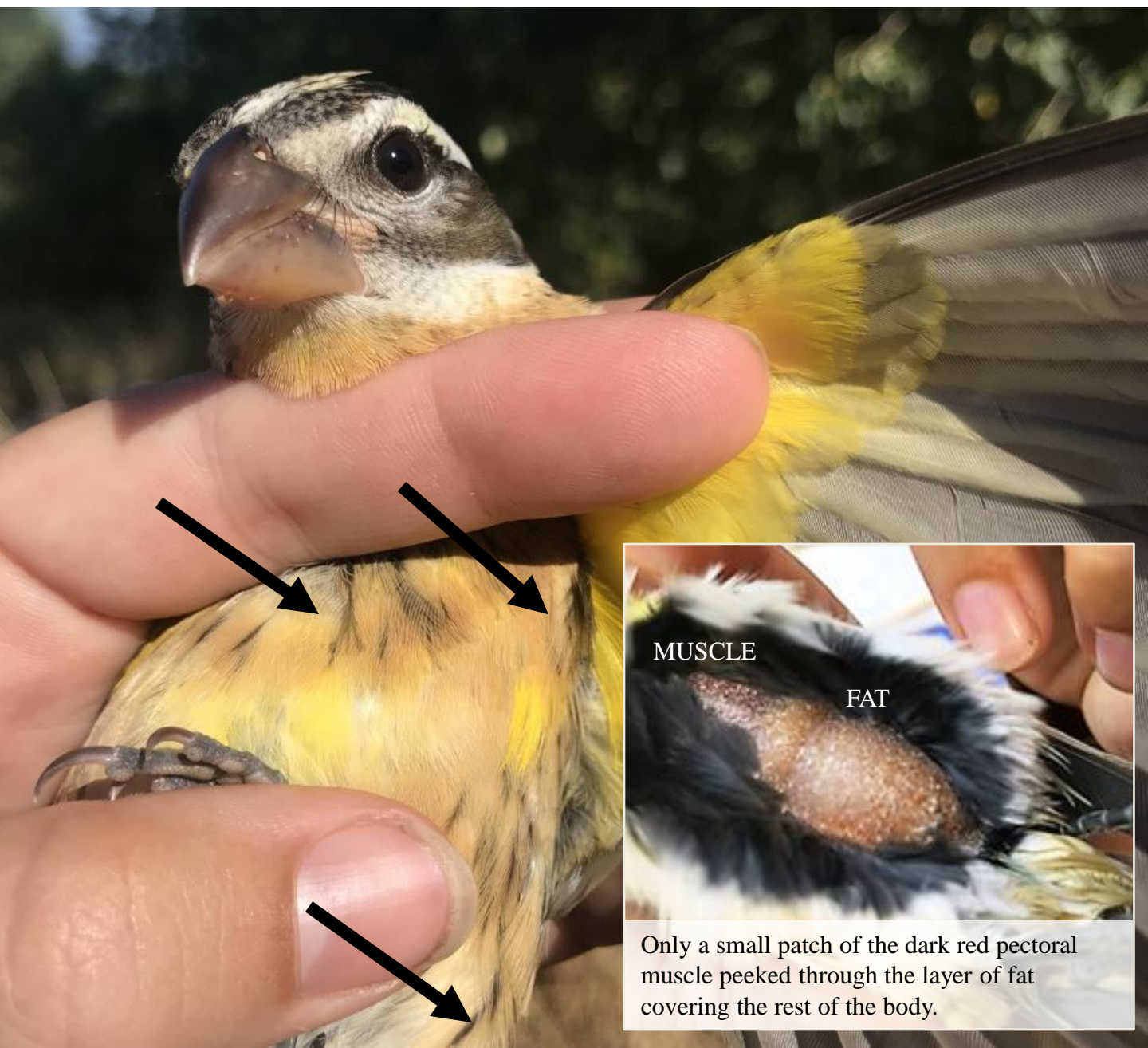


We captured this beautiful Clay-colored Sparrow on August 25.

Photo: Justin Griggs

## Fit or fat?

Fat can be a nuanced topic for humans, but for migrating birds it is an essential energy source. Migrants carry extra fat on their bodies to fuel long, sustained flights and endure bouts of food scarcity along their journeys. We often see birds carrying fat during migration, but we rarely see more than a moderate amount. In fact, in twelve years of migration banding, only ten birds had excessive, bulging fat across their body. We captured three of these birds in 2022: one Gray Catbird and two Black-headed Grosbeaks. We caught one of the grosbeaks (a young female, below) four times over eight days. Small, isolated stores of fat on her upper breast, in her armpits, and on the sides of the rump (black arrows) morphed into a nearly continuous layer of fat across her entire body. Her body mass also increased by more than ten grams (27%)! While the extra weight is risky as it could hinder speed and the ability to escape predators, it increases the chance that this bird will survive the difficult journey of migration.





## **White-throated Sparrow: a Harbinger of Migration's End**

Although migration varies seasonally with differences in timing, capture rates, and species diversity, we can almost always count on the appearance of a White-throated Sparrow as the season winds down. While the species is relatively uncommon (only 27 captures since 2011), we have caught at least one individual in eleven of twelve banding seasons. Our 'token' White-throated Sparrow typically arrives in the last days of September, an average of fourteen days before we close the banding station for the season. This boreal forest-dwelling species provides a dependable, albeit bittersweet, sign that migration will soon be over.





## Acknowledgements

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As we say goodbye to the migrant songbirds, we can still look outside our frosty windows to enjoy year-round residents like this male Red-breasted Nuthatch.

*Photo: Megan Fyelling*



Appendix I. Capture Summary for the 2022 Fall Migration Banding Season.

<b>Species</b>	<b># of Captures</b>
Gray Catbird	103
Black-capped Chickadee	88
Yellow Warbler	88
White-crowned Sparrow (Gambel's)	77
Song Sparrow	70
House Wren	66
Swainson's Thrush	58
Cedar Waxwing	40
Spotted Towhee	40
Wilson's Warbler	36
Orange-crowned Warbler	31
Lincoln's Sparrow	24
Willow Flycatcher	22
Ruby-crowned Kinglet	21
Western Wood-Pewee	20
Common Yellowthroat	19
MacGillivray's Warbler	16
American Robin	13
Black-headed Grosbeak	10
Western Tanager	10
Dusky Flycatcher	9
Lazuli Bunting	8
Red-naped Sapsucker	8
House Finch	7
Dark-eyed (Oregon) Junco	7
Bullock's Oriole	6
Chipping Sparrow	6
Least Flycatcher	6
Clay-colored Sparrow	5
Northern (Red-shafted) Flicker	5

*Continued on next page*



## Appendix I. Capture Summary for the 2022 Fall Migration Banding Season (cont).

<b>Species</b>	<b># of Captures</b>
Yellow-rumped (Audubon's) Warbler	4
American Goldfinch	3
Downy Woodpecker	3
Red-breasted Nuthatch	3
White-breasted Nuthatch	3
White-throated Sparrow	3
American Redstart	2
Marsh Wren	2
Pine Siskin	2
Savannah Sparrow	2
Townsend's Warbler	2
Warbling Vireo	2
Yellow-breasted Chat	2
American Tree Sparrow	1
Cassin's Vireo	2
Eastern Kingbird	1
Pacific Wren	1
Pileated Woodpecker	1
Rufous Hummingbird	1
Vesper Sparrow	1
Western Flycatcher	1
<b>New Captures</b>	<b>707</b>
<b>Recaptures</b>	<b>214</b>
<b>Same-day Recaptures</b>	<b>26</b>
<b>Unbanded</b>	<b>14</b>
<b>Total Captures</b>	<b>961</b>