Monitoring Avian Productivity and Survivorship (MAPS) Banding

2022 Report

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Project Personnel: Vicki Morgan, Kevin Perozeni, and 10 volunteers

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BACKGROUND

The Monitoring Avian Productivity and Survivorship (MAPS) program has been operating across North America for over 30 years with the goal of collecting information on avian productivity, recruitment, and survival. These vital rates aid scientists in recognizing factors which contribute to population declines and guide actions to directly address threats, removing much of the guesswork from conservation. A key finding of the MAPS program includes the realization that winter habitat and migration routes are crucial components of landbird ecology that contribute to reproductive success in the following breeding season.

The permanence of MAPS data collection allows investigation into long-term phenomena such as the impacts of a changing climate on avian populations and their shifts in phenology, geography, and survival rates. These data allow land and wildlife managers to make decisions and adjustments in management plans to protect avian species in the face of growing environmental threats. At the Jackson Hole Wildlife Foundation (JHWF) and Teton Raptor Center (TRC), we are proud to contribute to a body of knowledge that can inform decision-making and regulations around the globe, as well as at home in Teton County, Wyoming. Our adoption of the local MAPS stations in Teton County has continued adding to a deep and long-standing dataset that began in 1991 with station number 11114-Teton Science Schools (TSS-) station.

This year was JHWF's fifth year running the MAPS banding program in Jackson Hole, Wyoming, under the master banding permit of Bryan Bedrosian, Research Director at Teton Raptor Center. All data were collected according to the Institute for Bird Population's MAPS protocol. Banding took place at both Jackson MAPS banding stations this year – the Teton Science School's Kelly Campus station (TSS-) and the Boyles Hill station (JACK).

MAPS BANDING AT KELLY CAMPUS, TETON SCIENCE SCHOOL STATION #11114 (TSS-)

This marked the 31st consecutive year of operation for the TSS- station, which is one of the ten longest running MAPS banding stations in the United States.

Banding ran from MAPS Intended Periods 4 through 10 (June 1 to August 3, 2022). The team banded a total of ten times between June 1 and August 3, making sure to operate the station at least once every 7 days. This year's effort resulted in a total of 498.83 net-hours. We opened nets late on a few cold mornings and closed nets early on occasion for heat and wind but there was no weather-induced cancellation of any full days of banding. We captured 312 individual birds of 33 species (Table 1).

Table 1. A summary of effort and results for the TSS- MAPS station in 2022.

2022 TSS- Station Summary	
	TSS-
Total net hours	498.83
Total captures	312
Newly banded birds	200
Recaptures	77
Unbanded birds	33
Bands changed	2
Bands lost/destroyed	0
Total Species	33

The ten most frequently captured species were American Robin (55), Yellow Warbler (45), MacGillivray's Warbler (34), Pine Siskin (15), Ruby-crowned Kinglet (14), Broad-tailed Hummingbird (13), Song Sparrow (12), Swainson's Thrush (12), Green-tailed Towhee (11), and Calliope Hummingbird (10; Figure 1).

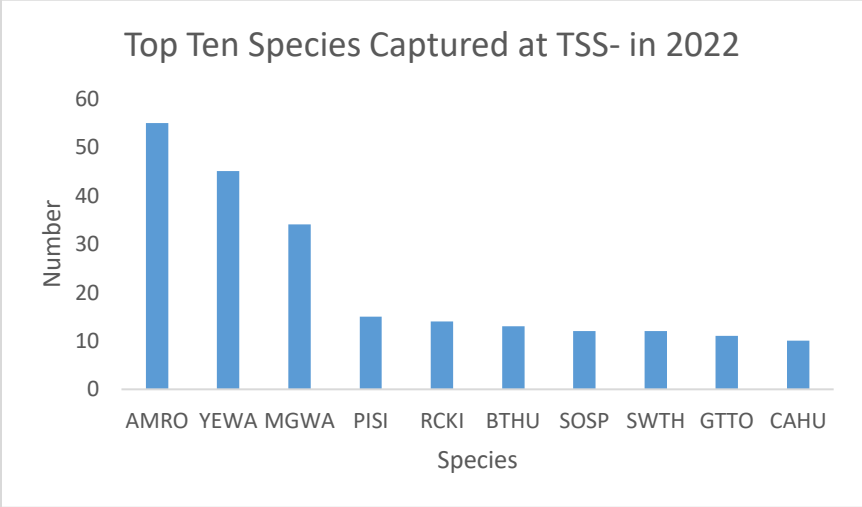

Figure 1. The ten most frequently captured species at the TSS- MAPS banding station in 2022.

We captured an adult male American Kestrel on 6/1 (Figure 2). We also captured an after hatch year female Golden-crowned Kinglet with a brood patch on 7/6. Notably, we did not capture any Brewer's Sparrows this year. We occasionally heard them singing from the sagebrush adjacent to the site, but they were less prevalent this year than they were last year. A full list of species including newly banded birds, recaptures, and unbanded birds can be found in Table 2.

Figure 2. An adult male American Kestrel was captured at our TSS- MAPS banding station during the 2022 field season.

Table 2. A summary of banding data using the ALPHA Code, including newly banded, recaptured, and unbanded birds caught at the Teton Science Schools – Kelly Campus station (TSS-).

TSS- New	
Species	**# of Birds**
AMGO	2
AMKE	1
AMRO	41
AUWA	4
BHCO	1
BHGR	2
CEDW	7
DUFL	1
FOSP	3
GCKI	1
GRCA	4
GTTO	11
HAFL	3
HOWR	2
LISP	1
MGWA	18
MWCS	2
MOCH	7
OCWA	8
PISI	13
PSJU	2
RCKI	11
RNSA	2
SOSP	7
SWTH	9
TRFL	1
UNEM	1
WAVI	3
WETA	3
WIFL	3
WIWA	1
YEWA	25

TSS- Recaptures	
Species	**# of Birds**
AMRO	11
AUWA	1
CEDW	1
FOSP	1
GRCA	6
MGWA	13
MOCH	1
MWCS	1
OCWA	2
PISI	2
PSJU	1
RCKI	3
SOSP	5
SWTH	3
WAVI	5
WETA	1
WIFL	2
YEWA	18

TSS- Unbanded	
Species	**# of Birds**
AMRO	3
BTHU	13
CAHU	10
MGWA	1
MOCH	1
RUHU	3
YEWA	2

MAPS BANDING AT BOYLES HILL, JACKSON STATION #11235 (JACK)

This marked the 18th year of operation for the JACK station.

Banding ran from MAPS Intended Periods 4 through 10 (June 3 to August 4, 2022). The team banded a total of ten times between June 3 and August 4, making sure to operate the station at least once every 7 days. This year's effort resulted in a total of 546 net-hours. We closed nets early on occasion for heat and wind but there was no weather-induced cancellation of any full days of banding. We captured 345 individual birds of 30 species (Table 3).

Table 3. A summary of effort and results for the JACK MAPS station in 2022

2022 JACK Station Summary	
	JACK
Total net hours	546
Total captures	345
Newly banded birds	225
Recaptures	93
Unbanded birds	27
Bands changed	0
Bands lost/destroyed	0
Total Species	33

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The ten most frequently captured species were Yellow Warbler (91), American Robin (38), Cedar Waxwing (37), Gray Catbird (29), Song Sparrow (27), Black-headed Grosbeak (24), Pine Siskin (11), Bullock's Oriole (10), Calliope Hummingbird (10), and Broad-tailed Hummingbird (8; Figure 3).

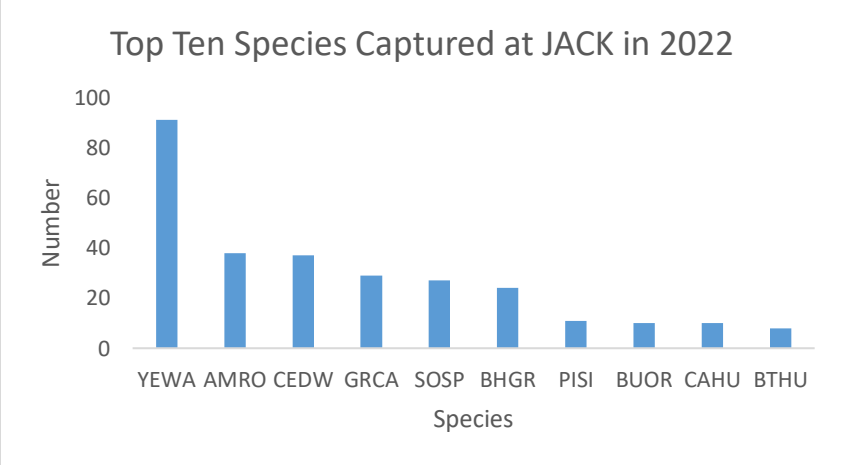

Figure 3. The ten most frequently captured species at the JACK MAPS banding station in 2022.

Notable captures from the season include Brewer's Blackbird, Northern Rough-winged Swallow, and White-breasted Nuthatch. We also had good numbers of Bullock's Oriole this year (Figure 4).

Figure 4. A male Bullock's Oriole was captured at our JACK MAPS banding station during the 2022 field season.

On August 8, our last day of MAPS banding at the JACK station, we captured a Cassin's Vireo, which was a first record for the site. A full list of species including newly banded birds, recaptures, and unbanded birds can be found in Table 4.

Table 4. A summary of banding data using the ALPHA Code, including newly banded, recaptured, and unbanded birds caught at the Teton Science Schools – Boyles Hill station (JACK).

JACK New	
Species	**# of Birds**
AMGO	6
AMRO	28
AUWA	2
BCCH	3
BHCO	2
BHGR	15
BRBL	1
BUOR	7
CAVI	1
CEDW	32

JACK Recaptures	
Species	**# of Birds**
AMGO	1
AMRO	8
BCCH	3
BHCO	2
BHGR	9
BUOR	3
CEDW	5
CHSP	1
GRCA	13
RCKI	2

JACK Unbanded	
Species	**# of Birds**
AMRO	2
BTHU	8
CAHU	10
HOWR	1
RUHU	1
SOSP	3
YEWA	3

CHSP	4
GRCA	16
GTTO	1
HOWR	8
MGWA	2
MOCH	1
MWCS	1
NRWS	2
PISI	11
RCKI	1
RSFL	2
SOSP	16
SWTH	1
TRES	2
WAVI	2
WBNU	1
WETA	2
WEWP	1
WIWA	1
YEWA	53

SOSP	8
WAVI	2
WEWP	1
YEWA	35

Volunteer and Visitor Engagement

We were assisted by 10 volunteers and interns throughout the season. Additionally, we engaged 33 visitors at the banding station in education/outreach this summer. Of these, 11 were reached through the JHWF's Being Wild campaign, a voluntourism outreach effort. One school group traveled from Idaho Falls to visit the banding station, and six other children visited the station with their parents. We hope to expand the outreach and education efforts that occur at the station because a visit to a banding station can be a very influential experience in someone's life, especially for children (Figure 5).

Figure 5. During the 2022 season, a visitor and their children are engaged by the banding crew, a young child releases a bird, and a high school intern releases a hummingbird.