BOREAL
Partners in Flight

2024 Summary of Landbird Projects

Compiled by Monica Casner and Rachel Gingras
Lightly edited and formatted by Rachel M. Richardson

April 2025

Contents

Editor's Note

This year marked the 33rd anniversary of Boreal Partners in Flight (BPIF). This annual summary report highlights some of the important work being conducted by BPIF members on landbirds across Alaska and boreal Canada and is intended to stimulate communication and collaboration among educators, researchers, managers, and conservationists. Please contact the individual(s) noted at the end of each summary if you would like additional information on a project. Many thanks to BPIF members for voluntarily submitting summaries for this report. For more information, visit the Alaska Landbird Resource Information System, the official website of BPIF: https://www.usgs.gov/centers/alaska-science-center/science/boreal-partners-flight.

Sincerely,

Rachel M. Richardson
U.S. Geological Survey
Alaska Science Center

Cover: Logo artwork of McKay's Bunting (*Plectrophenax hyperboreus*), American Goshawk (*Accipiter atricapillus*), and Willow Ptarmigan (*Lagopus lagopus*) illustrated by Bryce W. Robinson (ornithologi.com).

2024 Project Summaries by Bird Conservation Region (BCR)

(BCR 1) 2024 update on population monitoring of McKay's Buntings on St. Matthew and Hall islands, Bering Sea, Alaska

Rachel Richardson and Steve Matsuoka, U.S. Geological Survey, Alaska Science Center

The McKay's Bunting (*Plectrophenax hyperboreus*) is the only landbird species endemic to Alaska and one of North America's rarest and least studied birds. It has a small population and a breeding range limited to St. Matthew and Hall islands (332 km^2) in the central Bering Sea, and it is designated as a species of high conservation concern. Recent surveys revealed an estimated 38% decline in the population from 2003 to 2018, qualifying the species for Partners in Flight's Red Watch List and Endangered status according to the IUCN Red List of Threatened Species criteria (Richardson et al. 2023).

In 2024, we replicated the 2003 and 2018 surveys on St. Matthew and Hall islands to determine whether this population decline reflects a short-term fluctuation or a longer-term trend. We surveyed 34 transects totaling 164.9 km on St. Matthew Island and 7 transects totaling 9.5 km on Hall Island between June 3 and June 9. We could not complete 5 additional transects on Hall Island due to weather and logistical constraints. Analyses are in progress to update estimates of trends in McKay's Bunting population size, breeding range size, high-density refugia, and habitat use.

Acknowledgments: Additional field assistance in 2024 was provided by Eva Allaby, Laura McDuffie, Lili Naves, Heather Renner, Matt Rustand, and Dan Ruthrauff. Funding and logistical support were provided by the Alaska Department of Fish and Game, the National Fish and Wildlife Foundation, the USFWS Alaska Maritime National Wildlife Refuge, and the USGS Alaska Science Center. Special thanks to John Faris and the crew of the R/V *Tiĝlax̂* for their hospitality, accommodations, and safe transport to and from St. Matthew and Hall islands.

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Literature cited:

Richardson, R. M., C. L. Amundson, J. A. Johnson, M. D. Romano, A. R. Taylor, M. D. Fleming, and S. M. Matsuoka. 2023. Rapid population decline in McKay's Bunting, an Alaskan endemic, highlights the species' current status relative to international standards for vulnerable species. *Ornithological Applications* 126:1−12. https://doi.org/10.1093/ornithapp/duad064

(BCR 1) Avian monitoring at Eareckson Air Station

Zak Pohlen[1], Jim Johnson[1], and Joel Helm[2]
[1]U.S. Fish and Wildlife Service, Migratory Bird Management, [2]U.S Air Force 611th Civil Engineering Squadron

Monitoring avian populations in BCR 1 presents several challenges including difficult logistics, high cost of accessing sites, and severe weather. In 2021, U.S. Fish and Wildlife Service Migratory Bird Management became involved with a multi-year effort to inventory and monitor birds at Eareckson Air Station, a remote U.S. Air Force installation on Shemya Island in the westernmost Aleutian Islands. The primary objective of the project is to assist the installation in

meeting its aircraft safety and resource management goals by monitoring high-risk Bird-Aircraft Strike Hazard species (e.g., Glaucous-winged Gull, Aleutian Cackling Goose, Common Raven), while also improving our understanding of a poorly studied avifauna. To achieve this, we conducted standardized surveys of all major terrestrial and near shore habitats during the breeding and migratory periods as well as National Audubon's Christmas Bird Count during winter. Here, we will summarize results from our all-species breeding season point counts that followed Alaska Landbird Monitoring Survey field protocols at a point count grid covering the entire island. Detailed reports of this monitoring program can be accessed on the Avifaunal Database for Alaska's Military Lands website: https://usfws-mbm-landbirds.shinyapps.io/ADAML/.

In 2024, we completed 250 point counts from May 11–June 5. Surveys detected 9,516 individuals of 66 species. Of our focal landbird and shorebird species, we detected 680 Lapland Longspurs, 154 *maxima* Song Sparrows, 0 Common Ravens, and 149 *couesi* Rock Sandpipers. Population size estimates of all species except Common Ravens have remained consistent over the last four years. Common Ravens disappeared from the island during the 2021/2022 winter. This year also marked our fourth year of a mark-recapture study of *maxima* Song Sparrows to estimate their apparent annual survival. We look forward to sharing these results in the near future.

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(BCR 2) Willow Ptarmigan density on the Alaska Peninsula

Jaime Welfelt[1] and Leslie Skora[2]
[1]Alaska Peninsula and Becharof National Wildlife Refuges, [2]Katmai National Park

Alaska Peninsula and Becharof National Wildlife Refuges began pilot studies to investigate Willow Ptarmigan (*Lagopus lagopus*) populations on the Alaska Peninsula beginning in 2011 through 2013. In 2015, we established 19 4-km line transect surveys and finalized the monitoring protocol for ptarmigan density estimates. Beginning in May 2021, Katmai National Park joined the efforts and adopted the U.S. Fish and Wildlife Service protocol so that the data could be combined across a larger area of the upper Alaska Peninsula. Staff from the King Salmon Alaska Department of Fish and Game office have assisted with survey efforts.

In May 2024, the Alaska Peninsula & Becharof National Wildlife Refuges conducted 2 line transect surveys at two sites within road access of Naknek and King Salmon. Katmai completed 4 line transects at 2 different locations within the Katmai National Park boundaries. Through our combined efforts, we completed 6 Willow Ptarmigan line transects in 2024.

During six line transect surveys totaling 19 km, we detected 151 male ptarmigan, 6 female ptarmigan, and 52 ptarmigans of unknown sex for a total of 210 ptarmigan. Most observations were of one individual per detection, with a maximum cluster size of two. The highest survey count was at Kukaklek Lake 01, with 81 ptarmigan observed. Mean ptarmigan abundance per transect was 35 (+ 26) for all sites. Mean ptarmigan detection rate (number of birds/km) was 11.34 (+6.4) for all sites. The highest detection rate was 20.3 birds/km at Kukaklek Lake 01, and lowest was 5.3 birds/km at Ralph's Road.

Though not specifically targeted for ptarmigan, we also detected very high numbers of Willow and even some Rock Ptarmigan at higher elevations, on our 2024 Alaska Landbird Monitoring Surveys at Lower Ugashik Lake and the Lower King Salmon River. We hope to conduct full-

scale ptarmigan survey efforts in May 2025.

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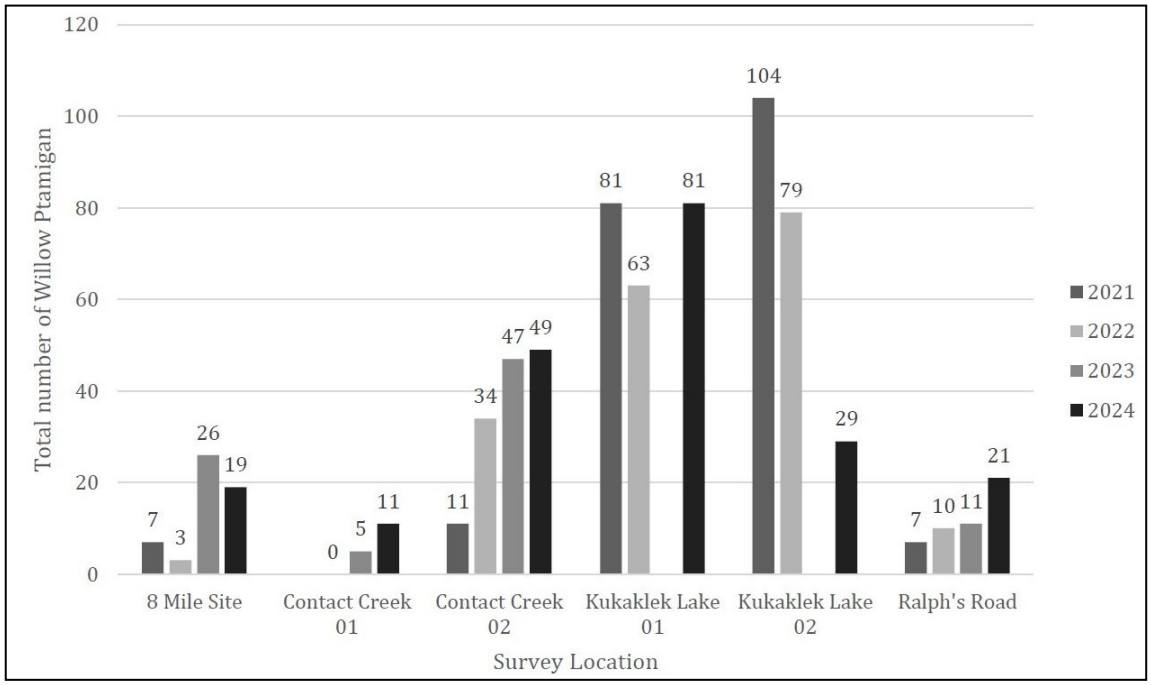

(BCR 4) Creamer's Field Migration Station, Fairbanks, Alaska, 2024 update

Robert Snowden and Tricia Blake, Alaska Songbird Institute

Overview: Creamer's Field Migration Station (CFMS) is a long-term avian migration monitoring program established in 1992 on Creamer's Field Migratory Waterfowl Refuge in Fairbanks, Alaska. CFMS is operated by the Alaska Songbird Institute (ASI), a 501(c)(3) whose mission is to conserve boreal songbirds through education and research. CFMS has contributed to numerous publications over its 30-year history, on topics ranging from avian pathogen transmission to fat deposition strategies during migration.

Season summary: The 2024 spring banding season ran weekdays from April 25 – June 4, operating 18 net arrays (6m and 12m nets, 30mm mesh) for a total of 1,444.8 net hours. Our fall season operated 25 net arrays 5-7 days/week from July 31 – September 25 for a total of 4,181.1 net hours. Our efforts were supported by a full-time seasonal bander in the fall and approximately 1,500 volunteer hours contributed by 38 volunteers and two fall interns. We offered 74 education programs—including K-12 field trips and guided walks—for approximately 1,900 individuals and received approximately 520 additional drop-in visitors at our station.

During the spring season, we recorded 194 total captures of 24 species. These totals consist of 113 newly-banded individuals and 81 recaptures. For the fall, we recorded 1,204 total captures of 28 species. These totals consist of 1,021 newly-banded individuals, 168 recaptures, and 15 birds left unbanded (these included escapes or species not able to be banded under our permit). Detailed capture summaries for the spring and fall are presented in Tables 1 and 2, respectively. During banding efforts, we collected 65 rectrix samples from 11 species to contribute to the Bird

Genoscape Project.

Capture rates in 2024 at CFMS decreased from 2023's high activity and were similar to the rates observed in 2022 and 2021. The fall capture rate of 28.8 birds/100 net hours was slightly below the station's long-term average (~30.6 birds/100 net hours), though spring rates were slightly above the historical average (13.4 birds/100 net hours vs. 11.4 birds/100 net hours). For the spring season, after consecutive years of later and heavier spring melt conditions, we were able to operate nets in the month of April for the first time since 2019. While this did not result in much early-season migrant activity, we did enjoy relatively high species richness throughout the spring; the 24 species captured were tied for the most since 2013. This contrasted with the fall, which had relatively low richness at 28 species banded or recaptured. The ratio of hatch-year aged individuals to after hatch-year aged individuals in fall was the lowest in at least five years, perhaps reflecting the relatively low capture rates. The fall season was marked by a return to wet conditions; the seasonal wetland section of the banding station was consistently inundated for the first time since 2021 after above-normal rainfall in July. This did constrain some net effort in a typically-productive setting and likely impacted capture rates for certain species like Lincoln's Sparrows.

Following the general trend, sparrow activity was much lower than 2023's busy year, with the exception of Dark-eyed Juncos. They were the most abundant bird in the fall and experienced the highest capture rates since 2012. Wet conditions also seemed favorable for species like Rusty Blackbirds, which had been largely absent in our nets most of the past two years. While warbler and thrush capture rates have generally not shown the same degree of interannual variation in the fall as sparrows in recent years, there were a few notable species: we did see relatively high numbers of Wilson's Warblers (highest capture rates in 10 years), while American Robins were caught at the lowest rate in station history. Our spring trends, on the other hand, tend to be heavily influenced by Common Redpoll activity. This year, there were only a few redpolls around, following a relatively busy spring in 2023 for the species.

Some notable captures in 2024 include a springtime recapture of an adult female Tree Swallow that was banded as a nestling in 2020 on the University of Alaska Fairbanks campus through ASI's Swallow Ecology Project. The spring season also brought the return of a Hammond's Flycatcher that was first banded as an adult at CFMS in 2018! In the fall, a female Merlin in mid-August (left unbanded) was our most unique species (12 station records prior to 2024), and a hatch-year Northern Shrike in late September was also of great interest (first capture of the species since 2019.

Acknowledgments: We thank the Alaska Department of Fish and Game for allowing us to conduct our research on Creamer's Field Migratory Waterfowl Refuge and our volunteers for their hard work. CFMS is funded through a combination of grants, revenue, fundraising, and donations—including ASI's members and our Adopt-a-Net sponsors.

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Table 1. Spring captures at Creamer's Field Migration Station in 2024.

	Newly Banded						
Species	**HY/ SY[1]**	**ASY[2]**	**AHY[3]**	**Subtotal[4]**	**Returns[5]**	**Total[6]**	**Return Rate[7]**
American Robin	6	0	7	**13**	4	**17**	0.235
American Three-toed Woodpecker	0	2	0	**2**	0	**0**	0
Black-capped Chickadee	0	0	1	**1**	9	**10**	0.9
Boreal Chickadee	0	0	1	**1**	1	**2**	0.5
Common Redpoll	2	0	1	**3**	0	**3**	0
Dark-eyed Junco (Slate-colored)	13	0	1	**14**	1	**15**	0.067
Downy Woodpecker	0	2	0	**2**	0	**2**	0
Fox Sparrow	1	0	1	**2**	0	**2**	0
Gray-cheeked Thrush	5	1	1	**7**	0	**7**	0
Hairy Woodpecker	0	0	0	**0**	1	**1**	1
Hammond's Flycatcher	1	0	8	**9**	1	**10**	0.1
Hermit Thrush	2	0	0	**2**	0	**2**	0
Lincoln's Sparrow	0	0	1	**1**	0	**1**	0
Northern Waterthrush	0	0	1	**1**	0	**1**	0
Ruby-crowned Kinglet	0	1	2	**3**	0	**3**	0
Rusty Blackbird	1	0	0	**1**	0	**1**	0
Savannah Sparrow	3	1	4	**8**	2	**10**	0.2
Solitary Sandpiper	1	0	0	**1**	0	**1**	0
Swainson's Thrush	11	1	4	**16**	4	**20**	0.2
Tree Swallow	0	0	0	**0**	1	**1**	1
White-crowned Sparrow (Gambel's)	2	0	3	**5**	1	**6**	0.167
Wilson's Warbler	3	0	0	**3**	0	**3**	0
Yellow Warbler	1	2	0	**3**	0	**3**	0
Yellow-rumped Warbler (Myrtle)	11	2	2	**15**	4	**19**	0.211
TOTAL[8]	**63**	**12**	**38**	**113**	**29**	**140**	**0.207**

[1]Newly banded birds aged as Second Year (hatched in current or previous calendar year).
[2]Newly banded birds aged as After Second Year (hatched at least two calendar years prior).
[3]Newly banded birds aged as After Hatch Year (hatched in a previous calendar year).
[4]Combined total of all newly banded birds.
[5]Birds banded in a previous year and recaptured in spring 2024 (repeat recaptures of individuals not included).
[6]Represents total number of unique individuals for each species.
[7]Return Rate = Returns / Total.
[8]Includes Average Return Rate across species.

Table 2. Fall captures at Creamer's Field Migration Station in 2024.

	Newly Banded							
Species	**HY**[1]	**AHY**[2]	**U**[3]	**Subtotal**	**Returns**[4]	**Total**	**AHY Rate**[5]	**Return Rate**[6]
Alder Flycatcher	2	0	0	**2**	0	**2**	0	0
American Robin	5	3	0	**8**	0	**8**	0.375	0
American Tree Sparrow	18	6	1	**25**	0	**25**	0.25	0
Black-capped Chickadee	27	3	0	**30**	15	**45**	0.4	0.333
Blackpoll Warbler	4	2	0	**6**	0	**6**	0.333	0
Boreal Chickadee	5	0	0	**5**	2	**7**	0.286	0.286
Dark-eyed Junco (Slate-colored)	195	24	2	**221**	5	**226**	0.129	0.022
Fox Sparrow	19	4	0	**23**	0	**23**	0.174	0
Gray-cheeked Thrush	26	1	0	**27**	0	**27**	0.037	0
Hairy Woodpecker	1	1	0	**2**	2	**4**	0.75	0.5
Hammond's Flycatcher	3	2	0	**5**	1	**6**	0.5	0.167
Hermit Thrush	1	0	0	**1**	0	**1**	0	0
Lincoln's Sparrow	91	4	3	**98**	0	**98**	0.042	0
Northern Shrike	1	0	0	**1**	0	**1**	0	0
Northern Waterthrush	37	5	2	**44**	0	**44**	0.119	0
Orange-crowned Warbler	115	14	1	**130**	0	**130**	0.108	0
Ruby-crowned Kinglet	22	2	1	**25**	0	**25**	0.083	0
Rusty Blackbird	14	5	0	**19**	0	**19**	0.263	0
Savannah Sparrow	15	1	0	**16**	0	**16**	0.063	0
Sharp-shinned Hawk	1	0	0	**1**	0	**1**	0	0
Swainson's Thrush	106	10	0	**116**	4	**120**	0.117	0.033
Townsend's Warbler	3	0	0	**3**	0	**3**	0	0
Varied Thrush	1	0	0	**1**	0	**1**	0	0
White-crowned Sparrow (Gambel's)	7	2	0	**9**	0	**9**	0.222	0
Wilson's Warbler	49	2	2	**53**	0	**53**	0.039	0
Yellow Warbler	14	1	1	**16**	0	**16**	0.067	0
Yellow-rumped Warbler (Myrtle)	119	13	2	**134**	1	**135**	0.105	0.007
TOTAL[7]	**901**	**105**	**15**	**1021**	**30**	**1051**	**0.134**	**0.029**

[1]Newly banded birds aged as Hatch Year (hatched in current calendar year).
[2]Newly banded birds aged as After Hatch Year (hatched in a previous calendar year).
[3]Newly banded birds of unknown age.
[4]Birds banded in a previous season (including spring 2024) and recaptured in fall 2024; repeat recaptures of individuals not included.
[5]AHY Rate = (New AHYs + Returns) / (New AHYs + New HYs + Returns).
[6]Return Rate = Returns / Total.
[7]Includes Average AHY Rate and Return Rate across species.

(BCR 4) Outreach and education

Callie Gesmundo[1], Zak Pohlen[1], and John Pearce[2]
[1]U.S. Fish and Wildlife Service, Migratory Bird Management, [2]U.S. Geological Survey, Alaska Science Center

Public birding outings leading up to World Migratory Bird Day: Leading up to and including World Migratory Bird Day, from May 7-11, the USFWS Migratory Bird Program led four bird outings at the Audubon Wayside platform along the Coastal Trail near Westchester Lagoon in Anchorage. We watched, identified, and counted birds during the evening high tides, for about 2-3 hours per event, while welcoming passersby and other onlookers to join us. We provided extra binoculars, spotting scopes, and field guides for those that had none and helped look for and identify birds with others. Overall, we reached ~60 people, with ages ranging from 6-60+. See eBird trip report: https://ebird.org/tripreport/289635 for a full list of species seen.

Anchorage Bike to Work Day, USGS-USFWS Joint Booth: The Municipality Health Department in collaboration with other local non-profits (i.e., Bike Anchorage), host an annual "Anchorage Bike to Work Day" encouraging people to bike commute. In 2024, May 17th was the annual Bike to Work Day celebration. Treat stations are the main event during this day, and various groups sign up to man a treat station throughout the city. The USGS Alaska Science Center invited the USFWS Migratory Bird Management to join their treat station near the USGS stream gage in Chester Creek, along the Chester Creek Trail near Arctic Blvd and Valley of the Moon Park. The focus of this year's joint station was giving stream gage tours, and talking about ways people can help birds, including drinking bird friendly certified coffee, switching to lead-free fishing tackle, properly disposing of monofilament line, participating in citizen science like eBird, and learning more about birds via the Merlin App. We handed out stickers, informational flyers, bird decals, and business cards. Overall, we estimated that we reached ~100 people, with ~55 people who visited our USGS Bike to Work webpage over the new few days, with people having spent an average of three minutes on the webpage.

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(BCR 4) Alaska Landbird Monitoring Survey at Eielson Air Force Base

Callie Gesmundo[1], Zak Pohlen[1], Hannah Vincelette[1], Jim Johnson[1], John Haddix[2], and Ron Gunderson[2]

[1]U.S. Fish and Wildlife Service, Migratory Bird Management, [2]U.S. Air Force 354 CES/CEIE Eielson Air Force Base

In 2019, to fulfill Sikes Act and the Strategic Plan for Bird Conservation and Management on Department of Defense (DoD) Lands, the DoD began a collaboration with U.S. Fish and Wildlife Service Alaska Migratory Bird Management to fill knowledge gaps of boreal breeding birds of conservation concern at Eielson Air Force Base (AFB). Work was completed in 2019, 2021, 2022, 2023, and 2024. In 2021, we established 109 Alaska Landbird Monitoring Survey (ALMS) point counts across base and replicated surveys in 2022 and 2024. From June 10–15, 2024, three observers completed 100 point-count surveys (Figure 1), detecting 1,203 individuals of 51 species. On average, surveyors detected 6.5 (±0.3) species per point and 12 (±0.9) individuals per point. Total species, average species, total individuals, and average individuals were comparable among all years (Table 1). During ALMS in 2024, Swainson's Thrush was the most frequently detected species (100% of points), followed by Dark-eyed Junco (70%), American Robin (54%), Yellow-rumped Warbler (51%), and Lincoln's Sparrow (49%). Swainson's Thrush was also the most abundant species (271 detections), followed by White-winged Crossbill (125), Dark-eyed Junco (123), Lincoln's Sparrow (92), and American Robin (75; Table 2).

The ALMS data collected at Eielson AFB represents an important dataset for breeding landbirds in Alaska's Interior and directly contributes to the statewide dataset, a key objective of the Alaska Landbird Conservation Plan. The Eielson AFB ALMS data is currently being analyzed with other ALMS data from National Wildlife Refuges and U.S. Air Force Long Range Radar Sites (LRRS) by Dr. Emily Weiser at the U.S. Geological Survey Alaska Science Center to assess Birds of Conservation Concern habitat associations within BCR 4. This analysis will reveal habitat associations and distributions of three declining boreal-breeding species, Lesser Yellowlegs, Olive-sided Flycatcher, and Rusty Blackbird.

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Table 1. Summary of 2021, 2022, and 2024 ALMS point counts conducted on Eielson AFB including total species, average number of species per point with standard error, total number of individuals, average number of individuals per point with standard error, and total number of points surveyed.

Year	Total Species	Avg. Species	Total Indiv.	Avg. Indiv.	Points Surveyed
2021	51	6.9 ±0.3	1,552	14.2 ±0.8	109
2022	49	6.7 ±0.2	1,149	11.4 ±0.4	101
2024	51	6.5 ±0.3	1,203	12.0±0.9	100

Table 2. Comparison of the five most frequently detected species during ALMS point counts in 2024 and the total number of detections across years.

Species	2024	2022	2021
	Freq (No.)	Freq (No.)	Freq (No.)
Swainson's Thrush	100% (271)	95% (267)	89% (247)
Dark-eyed Junco	70% (123)	75% (127)	85% (204)
American Robin	54% (75)	47% (62)	50% (74)
Yellow-rumped Warbler	51% (60)	43% (64)	50% (75)
Lincoln's Sparrow	49% (92)	47% (88)	31% (56)

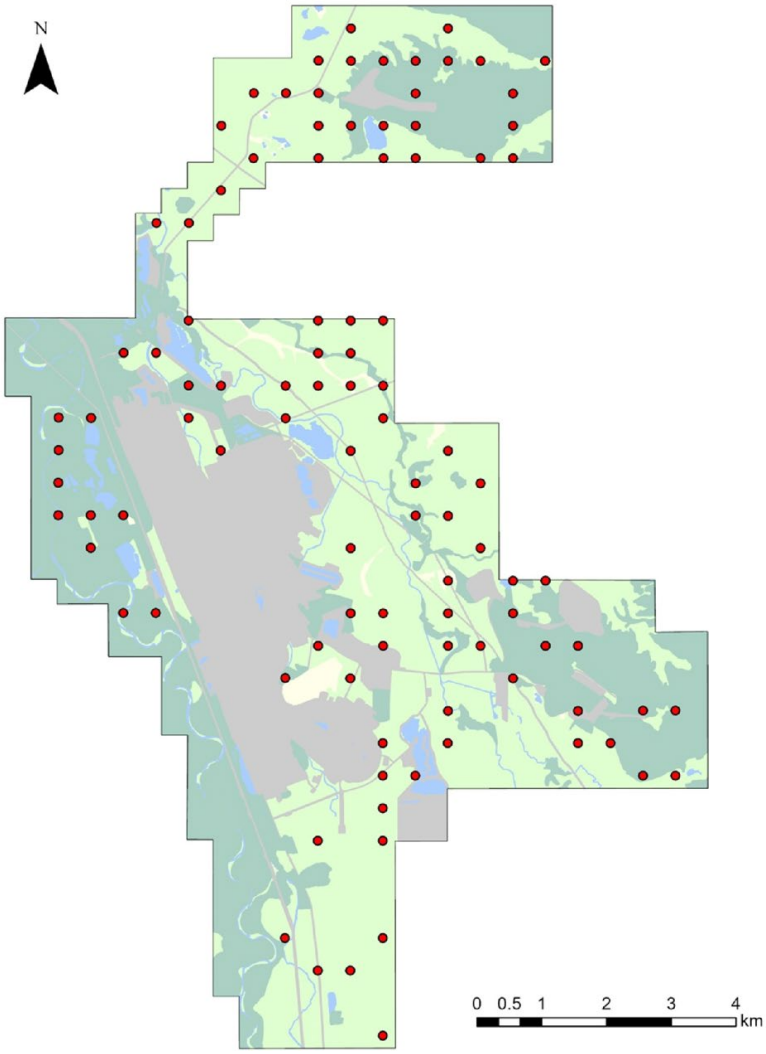

Figure 1. Eielson AFB ALMS point-count locations (n=100) completed in 2021, 2022, and 2024.

(BCR 4) Banding and recapture efforts for Bank Swallows in interior Alaska

Eva Allaby[1], Julie Hagelin[1], Zak Pohlen[2], Callie Gesmundo[2], Jim Johnson[2], John Haddix[3], Corey Clements[3], Jeff Wagner[1], Elaine Gallenberg[4], and Forrest Rosenbower[4]
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The Alaska Department of Fish and Game, in partnership with the U.S. Fish and Wildlife Service, conducted a two-day trapping effort of Bank Swallows (*Riparia riparia*) on Eielson Air Force Base. The ongoing banding and recapture effort follows a larger, 2-year Motus study (2022, 2023) in collaboration with Environment Canada and Carleton University. The study aimed to link variable population trends across the breeding grounds with Bank Swallow migration routes and wintering areas, to target locations where bird populations may be most vulnerable to losses.

The goal in 2024 was to record any recaptures on Eielson and to band new birds to better estimate adult survival. Previously, in 2023, we banded and deployed 67 Motus tags at this colony and 8 birds with bands-only. In 2024, we banded 95 new individuals and recaptured 3 birds banded the prior year, 1 with the Motus tag still attached and 2 bands-only control birds. Motus harnesses were intended to become brittle and drop prior to a bird's return to the breeding grounds.

We are currently assembling recapture data from other collaborators in an effort to determine return rates of bands-only birds vs. those with Motus tags. In the 2022 and 2023 breeding seasons, a total of 890 birds (99 in Alaska) across 13 sites in Canada and Alaska were tagged with Motus devices. Our goal is to compare return rates to determine the impact, if any, tags have on survival. The data will not only provide the first information on survival of Alaska breeders, but it will also inform future methods to minimize impacts of tags on migratory swallows.

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(BCR 4) Cumulative effects and the reclamation of placer mines in Central Yukon

Austin Zeller and Chrystal Mantyka-Pringle, Wildlife Conservation Society Canada

In Central Yukon, disturbances associated with placer mining are the most extensive human footprint within the region. As regional land use planning processes are underway in the region, the need for science-based thresholds and limits to disturbances and development have been identified. Since 2021, we have been monitoring the cumulative effects associated with placer mining on breeding birds. This project aims to identify species which are most affected by the linear and surface disturbances associated with placer mining activities. In addition to assessing the cumulative effects of placer mining in the region we are looking to understand how reclamation of these placer mining sites may affect breeding bird abundances and assemblages. Once a placer mine has finished working in an area, the permit holder is required to promote vegetation regrowth in the area to essentially reclaim the habitat for wildlife. However, the effectiveness of these reclaimed placer mines to provide suitable wildlife habitat, specifically

for breeding birds, is unknown. Our project will fill this knowledge gap by determining whether these reclaimed placer mines can support similar species compositions to that of a mature forest. Furthermore, if reclaimed placer mines support similar communities, we will determine the time since disturbance at which this occurs. To answer these questions, we have deployed over 280 autonomous recording units across various levels of placer mining disturbance and reclamation ages in Central Yukon. From the recordings gathered from our ARUs we have been able to identify 67 species of birds within our study area. Habitat characteristics and disturbance extents have been extracted from remotely sensed data sources across our study area and are currently working on analyses to assess the cumulative effects of placer mining. Additionally, we are in the process of gathering land use history information from the placer mining industry to verify the dates in which our sites within placer mines have been disturbed and begun the reclamation/revegetation process.

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(BCR 5) Tongass National Forest landbird program, 2024 season update

Gwen Baluss, USDA Forest Service, Alaska Region, Tongass National Forest

INVENTORY AND MONITORING

Breeding Bird Surveys: Tongass personnel surveyed or assisted with BBS routes throughout Southeast Alaska. These surveys help inform Tongass, regional, and national bird population trends and conservation needs.

Alaska Landbird Monitoring Survey: Staff implemented ALMS surveys on the Juneau, Thorne Bay, Wrangell and Ketchikan Ranger Districts (n=4). Training for district biologists was provided in spring of 2024 to increase observer capacity.

Bird Genoscape Project: Juneau Ranger District Staff conducted targeted mist netting on NFS and adjacent lands to collect feather samples for the Bird Genoscape Project at Colorado State University. Genetic analysis may help clarify migratory connectivity for the conservation of Alaska bird populations. Species sampled in 2024: Song Sparrow, Oregon Dark-eyed Junco, Warbling Vireo, Yellow-rumped Warbler, Tennessee Warbler, Golden-crowned Kinglet, Ruby-crowned Kinglet, Orange-crowned Warbler, Lincoln's Sparrow, Fox Sparrow and Brown Creeper.

Bald Eagle Nest Surveys: Bald Eagle nest surveys are implemented where Tongass activities may affect nests to support conservation efforts and regulatory requirements with the U.S. Fish and Wildlife Service.

Queen Charlotte (American) Goshawk Surveys: Tongass staff survey for goshawks in areas where activities are likely to affect nesting habitat, generally using a standardized Broadcast Acoustical Survey method. Wildlife personnel catalog all surveys and key findings in the agency's spatial database Natural Resource Manager (NRM) Wildlife. Other raptors, including Sharp-shinned Hawk nests are also cataloged.

Christmas Bird Count: Forest Service staff assisted with community counts in Wrangell.

OUTREACH AND EDUCATION

Yakutat Tern Festival: Yakutat hosts a multi-day festival celebrating terns and other birds, including local landbirds, with field trips, arts, youth activities and lectures annually. This year's activities included songbird banding demonstrations and bird walks led by Forest Service

personnel.

Alaska Hummingbird Festival: The USFS Southeast Alaska Discovery Center helps host this annual, month-long celebration in Ketchikan. Forest Service Staff led bird walks or gave bird-themed evening presentations.

Stikine River Birding Festival: The Stikine River Birding Festival is celebrated in April in Wrangell at the peak of spring migration. Forest Service personnel assist in organizing bird-themed events. Passerine banding at the elementary school reached over 100 students.

World Migratory Bird Day: Juneau Ranger District hosts a celebration annually in partnership with local organizations. In 2023, the public was invited for a bird-banding demonstration and insect hunt.

Mendenhall Glacier Visitor Center Interpreter Training: MGVC Staff receive training annually about local birds and conservation that includes information about prominent Naturewatch species including American Dippers and Barn Swallows. This becomes part of the programs and information provided to over 500, 000 visitors annually.

Metlakatla School Birding Club: Assistance and presentations from Forest Service biologist.

Chatham School District (Angoon): Songbird banding and discussion to students of all grades.

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(BCR 5) Tongass hummingbird project, 2024 season update

Gwen Baluss, Juneau Audubon Society

The Rufous Hummingbird (*Selasphorus rufus*, RUHU) has been identified as a priority for monitoring, research, and management throughout the Western US and Mexico. Significant declines in the species have been registered on the Breeding Bird Survey warranting their placement on the Audubon Alaska Watchlist. A conservation assessment organized by the

Western Hummingbird Partnership is in progress (See https://westernhummingbird.org).

Since 2013, RUHU have been banded for a mark-recapture study near Juneau, AK, following data collection protocols adapted from those used by Rocky Point Bird Observatory (https://rpbo.org/hummingbirds) and the Hummingbird Monitoring Network (https://www.savehummingbirds.org/monitoring.html). Standardized trapping using two Hall traps takes place about every 10 days between late April and late July at the Juneau Community Garden (JCGA), an area of cultivated plots surrounded by natural coniferous forest, deciduous riparian habitat and wetlands. By banding at intervals throughout the season, the effort roughly tracks nesting chronology and the emergence of hatch-year birds.

In 2024, banding was continued with a similar effort to previous years at the JCGA. This season yielded low capture numbers, but an increase over 2023 (Figure 1). One male and one female banded in 2022 were recaptured.

Weather likely is a major factor influencing annual productivity. This spring was characterized by neither a particularly late nor early thaw; however, the summer was comparatively wet, with rainfall records set in July.

Interpreting variability between years is a challenge. Natural food availability is likely one driver of capture numbers, with possibly less birds visiting the feeder trap when natural food takes them elsewhere. Hummingbirds in Juneau have been observed "swarming" at food sources, where high numbers (>20) of adults may congregate one day, and yet be nearly absent from the same location on a different day. This is a breeding-season behavioral pattern that differs from passerines, which tend to be distributed more evenly across suitable habitat with most individuals more closely tied to a specific territory. Thus, with a periodic banding scheme, it is possible to by chance hit or miss the active days.

However, for three consecutive years of standardized banding to yield very low numbers may suggest a true dip in the local hummingbird population. Of the age and sex classes, adult females are the most often captured, and probably the most important driver of the population. Female captures were the third lowest in 2024.

Anecdotal reports from local birdwatchers were of interest. Some have kept feeders in their yards for decades. They universally reported seeing fewer RUHU in 2023 and 2024. The species decline statistically shown in broadscale studies may in fact be reflected in this local population.

Recently, Juneau banding data was included with a network of stations in British Columbia, along with BBS survey data near monitoring stations, for a demographic analysis (English et al. 2023). The authors found that RUHU declines are mainly driven by juvenile survival and recruitment and that human population density negatively impacts RUHU survival.

In addition to the demographic data, most birds are photographed, and plumage variability is recorded. Male RUHU males vary in back color, ranging from all rufous "red" to all green. The role of genetics, molt timing, wear, or other factors in determining the extent of red coloration is not well understood, nor are the ecological implications of color. Photographs will be analyzed for recaptures to determine if males become increasingly red with age, as some literature suggests. Meanwhile, a quick assessment was made based on an ocular estimation in the field of general color classes of males from 319 new captures in the Juneau area since 2013 (this includes birds banded both as part of the standard monitoring, and outside of those times). Figure 2 shows the relative ratios of males with red, green or intermediate backs.

Support for the establishment of hummingbird banding stations was provided by the U.S. Forest Service, Region 10, Alaska. Help from student interns was provided by the Tongass National Forest, Student Conservation Association, and the Juneau Audubon Society. The banding site is maintained by the Juneau Community Garden Association, and the City and Borough of Juneau. Thanks to the many local citizen scientists who assisted with trapping and data collection. Bander-in-charge Gwen Baluss, Federal Banding Permittee.

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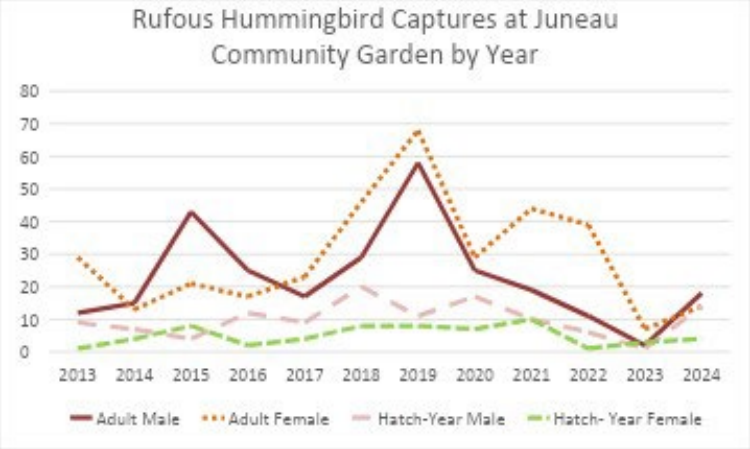

Figure 1. JCGA total Rufous Hummingbird standard-effort captures, including both new bands, and recaptures from previous years.

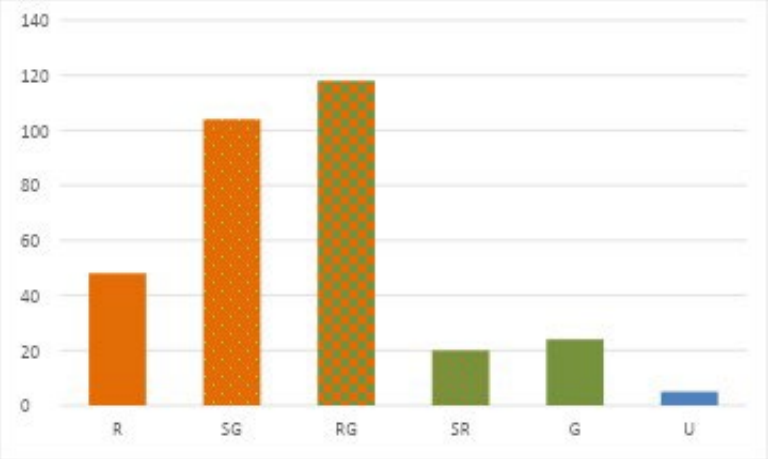

Figure 2. General plumage types of male Rufous Hummingbirds in the Juneau area. Back color of RUHU males (bars) vs. number of individuals captured 2013 to 2024. R – Fully red back; SG – back is mostly red with scattered green feathers; RG – back is mix with neither color dominating; SR – this category for birds where observer was undecided between G or RG rating, birds with more green than red in backs; G – backs fully green; U – data was not recorded in field (due to early escape, or scribe error). Note that these are field ocular estimations; photographs have not yet been analyzed.

Figure 3. This male shows a significant amount of green in his back. Additionally, many feathers appear sun-bleached, this must have occurred well before he arrived in the Alaskan temperate rainforest. Photo by Gwen Baluss.

(BCR 5) Juneau Tree Swallow nest watch, 2024 update

Brenda Wright and Gwen Baluss, Juneau Audubon Society

Since 2015, Juneau Audubon Society has erected and monitored Tree Swallow nest boxes around Juneau. The box design was taken from a standardized program, Golondrinas, formerly run by Cornell, and the citizen science observations were collected using Cornell Nestwatch (http://nestwatch.org/) guidelines. Starting in 2018, data collection protocols evolved to synchronize as possible with other stations in the Alaska Swallow Monitoring Network (https://aksongbird.org/alaska-swallow-monitoring-network).

The project's goals are to contribute to the knowledge base for this aerial insectivore; collect data that is comparable to other box monitoring projects in the state and continent; provide a long-term data set to track phenological change; and provide an opportunity for student studies. Community education is also accomplished by public presentation of the results, recruitment of citizen scientists, and involvement of school and scout groups in nest box construction. Nest boxes, once established in productive areas, are re-erected in the same location, when possible, for annual comparison. Since 2015 there has been an increase in box occupancy. Some locations have changed due to predation issues (bears, human vandalism), or because the original location failed to attract swallows.

In 2024, there were 68 boxes erected at six sites surrounding the Mendenhall Wetlands complex. 55 boxes (about 80%) were occupied by Tree Swallows. Six of those were lost to predation (black bear). Overall, there were 328 eggs and ultimately 245 fledglings. The average number of eggs per nest was 5.4 and 74% of these resulted in fledglings.

Nest box opening was permitted by Alaska Department of Fish and Game. Juneau Audubon Society thanks ADF&G and Southeast Alaska Land Trust and City & Borough of Juneau for hosting the swallow boxes. Thanks to all local volunteers who helped construct and monitor boxes, especially Bird Conservation Interns Noora Parrish and Owen Squires, and the 6th grade class of Floyd Dryden Middle School.

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(BCR 6 & 7) Boreal Bird Monitoring Program – Northwest Territories, 2024

Samuel Haché and Eamon Riordan-Short
Canadian Wildlife Service Northern Region, Environment and Climate Change Canada

There are important gaps in survey coverage across the Northwest Territories (NWT) resulting in uncertainty regarding landbird species distribution and abundance, and imprecise population trend estimations. Since 2017, the Canadian Wildlife Service (CWS) Northern Region has been regionally implementing the national Boreal Bird Monitoring Program (BBMP) to address these gaps and limitations in our understanding of the status of landbird species breeding in the NWT. CWS staff is working closely with partners from many Indigenous communities, the Government of NWT, academia, and other key partners to integrate the BBMP sampling design in a broader NWT Biodiversity Monitoring Program (NWTBMP). This collaborative group works closely on shared priorities related to wildlife monitoring and leverages funding to increase the amount of multi-environmental sensor survey data available for the needs of all collaborators. In 2024, multi-environmental sensor deployments/retrievals, including autonomous recording units (ARUs), took place in 10 different areas across the NWT (~ 650 sampling stations). Since the launch of the BBMP, ~ 32% (~ 4,500/14,000) of the targeted sampling locations across the NWT have been surveyed at least once and resampling (i.e. multiple years of data) events have taken place in a few areas. To date, surveys have been conducted in ~ 75% (23/31) of the ecoregions in this jurisdiction.

Other scientific contributions from the NWTBMP in 2024 include data being used towards: 1) Boreal Avian Modeling (BAM) national models; 2) a worldwide passive acoustic monitoring network; 3) supporting Indigenous data sovereignty in a context of co-produced monitoring data; 4) integration of ARU and wildlife camera data to improve habitat models of Sandhill Crane; 5)

reviewing landbird responses to wildfires and anticipated responses to a "novel" fire regime; 6) an evaluation of song rates from ARUs to predict breeding status of the Olive-sided Flycatcher; and 7) ecological forecasting initiatives to continue to improve our understanding of anticipated winners and losers in response to climate change (Western Boreal Initiative), etc.

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(Alaska-wide) 2024 update on the Alaska Landbird Monitoring Survey

Steve Matsuoka[1], Colleen Handel[1] and multiple collaborators from Boreal Partners in Flight
[1]U.S. Geological Survey, Alaska Science Center

Background: The Alaska Landbird Monitoring Survey (ALMS) uses standardized distance sampling to survey breeding bird populations and their habitats at 12–25 points within 10 km × 10 km blocks selected through a stratified random design of accessible areas across Alaska. The main purpose of the survey is to monitor long-term population trends of birds (primarily landbirds) in off-road areas as a complement to the roadside North American Breeding Bird Survey (BBS). A secondary purpose is to model bird-habitat associations as well as distribution and abundance across the state through analysis of the bird and associated habitat data. Biologists are encouraged to use the ALMS sampling grids and survey protocols to gather systematic inventory data so they can be analyzed in a common framework. This survey is a statewide collaborative program with voluntary participation from governmental agencies and non-governmental organizations, coordinated by the USGS Alaska Science Center (Handel et al. 2021).

Surveys in 2024: Seventeen ALMS blocks were surveyed statewide in 2024, including 2 blocks in BCR 2, 7 blocks in BCR 4, and 8 blocks in BCR 5, the latter approaching the regional target of 12–13 blocks per year. The overall state-wide survey effort remains well below the target of 50 blocks across Alaska now for several years (Figure 1). This puts the statewide ALMS program as currently designed in jeopardy, particularly since the USFWS Refuges I&M program withdrew from the program in winter 2023–2024. Inference into bird population trends away from roads, which is most of the state, will be diminished unless ALMS can be reinvigorated, reenvisioned, or replaced with a different monitoring program. For example, new ALMS surveys could target BCRs (BCR 1–3) and habitats (arctic and alpine tundra) that cannot be effectively sampled by the BBS because of a lack of roads. In these places, surveys could be established near rural airstrips to minimize costs and maximize long-term viability (Mizel 2018). Discussions have begun among BPIF members and others about how to monitor landbird populations in roadless areas across Alaska.

Data release and analyses: The ALMS dataset collected from 2002–2022 was released and is available for download (Handel et al. 2024). This includes ~130,000 bird detections by 114 observers during 10,521 surveys at 2,883 points within 160 blocks. Additional years of data will be added to this data release each year.

Spatial analyses of ALMS data are complete, and manuscripts are being finalized that report on bird abundance relative to 1) habitats across boreal Alaska for 3 species of concern (Weiser et al. in preparation) and 2) stable climate refugia for many landbird species across the Boreal Cordillera ecoregion (Drake et al. in preparation). The Boreal Avian Modelling Project is

finalizing version 5 of their boreal-wide models of avian density that now analyze ALMS data and will predict densities across boreal Alaska for several species. Finally, the USGS plans to repeat an analysis of population trends in Alaska based on roadside BBS data and off-road ALMS data, which was first done using 2003–2015 data (Handel and Sauer 2017). We are interested in determining if population trends are paralleling the recent steep continental declines of many species, as documented primarily from the roadside BBS data (Rosenberg et al. 2019), or if some species are shifting distributions northward in response to climatic changes and increasing in population size.

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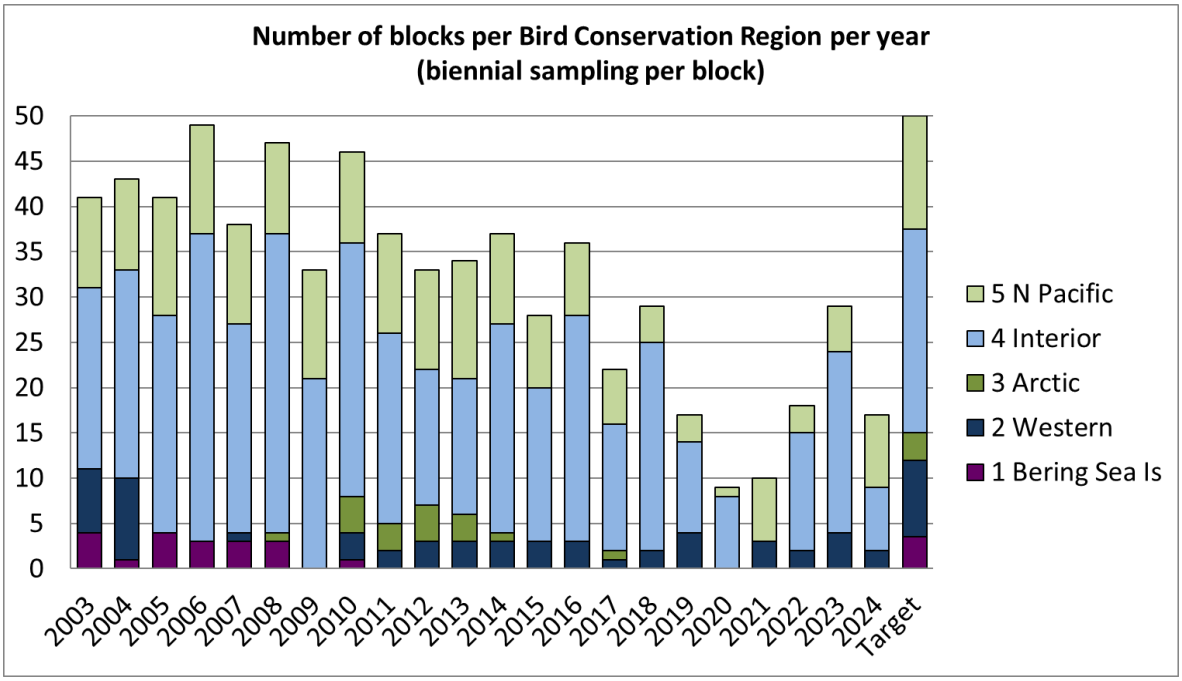

Figure 1. Number of ALMS blocks surveyed each year within the five Bird Conservation Regions in Alaska between 2003 and 2024.

(Alaska-wide) North American Breeding Bird Survey, Alaska, 2024 update

Zak Pohlen, U.S. Fish and Wildlife Service, Migratory Bird Management

Overview of the Breeding Bird Survey: The North American Breeding Bird Survey (BBS) is the continent's most widespread breeding bird monitoring program and the longest running survey of breeding bird populations in Alaska. The Alaska Landbird Monitoring Survey (ALMS) is the off-road complement to the BBS program in Alaska. The program was developed in 1966 to monitor bird populations across large spatial scales. Concerns over pesticide poisoning in birds formed the foundation of the program and today the focus remains the same, as environmental threats persist. The BBS program became operational in Alaska in 1982; 14 years after the first routes were started in the eastern United States. Prior to 1982, the program lacked a regional coordinator and resulted in inconsistent data collection and few established routes. With a dedicated regional coordinator, new BBS routes were slowly added until 1993, when the program expanded considerably due to increased participation by members of Boreal Partners in Flight (Figure 1). Today, the Alaska BBS program is almost exclusively road-based surveys, although some river routes exist. In 2024, we completed 63 of the 92 active routes in Alaska. This is above our 1993-2023 average (67.9; Figure 1). Future goals are to maintain the number of assigned routes each year (~95%) and increase the completion rate of assigned routes (>85%).

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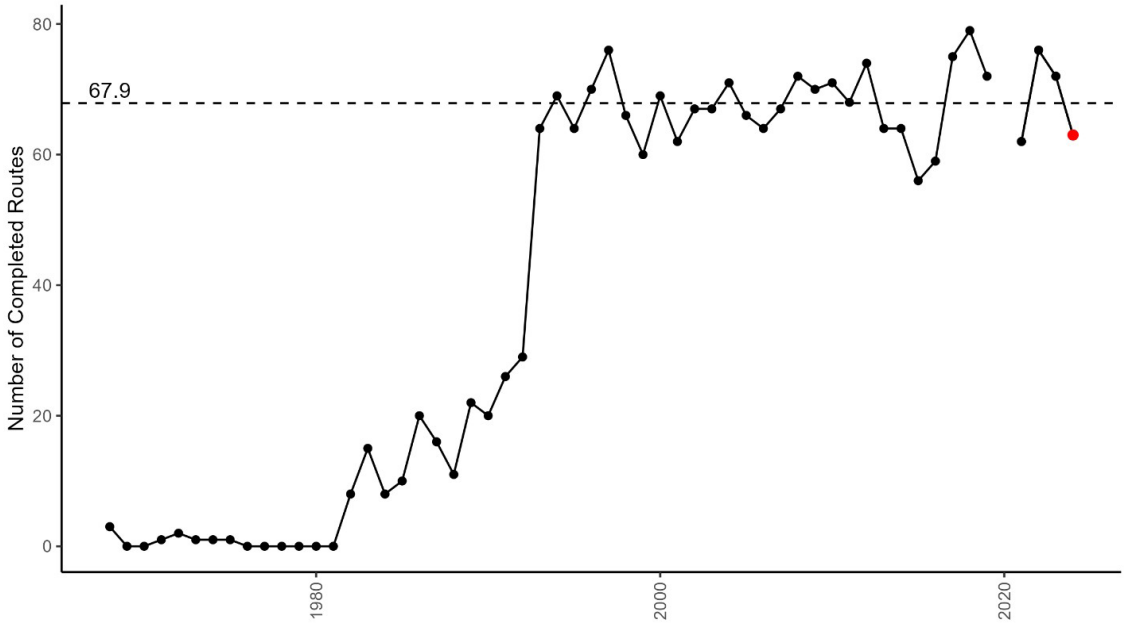

Figure 1. The number of routes completed during the North American Breeding Bird Survey, Alaska (1968–2024). The dashed line refers to the average number of routes completed between 1993–2024.