Checking the Pulse on Our Birds

Using IMBCR trends & an updated Rocky Mountain Avian Data Center to assess the status of species across management scales

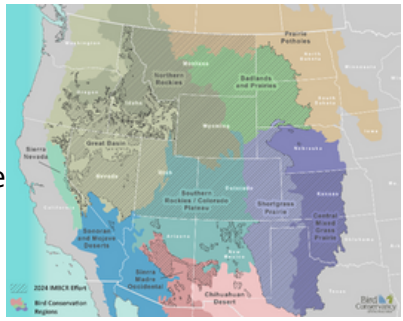

Figure 1. IMBCR monitoring efforts in 2024.

Bird populations in North America have declined precipitously over the last 50 years (Rosenberg et al. 2019). Monitoring the status of both species of concern and formerly common but declining species is thus, an important objective for management agencies. However, while national trends can help inform broad priorities and sound the alarm on range-wide declines, management occurs locally and regionally.

Bird Conservancy's Integrated Monitoring in Bird Conservation Regions (IMBCR) program has now collected avian occurrence and density data throughout the western United States (Fig 1.) for over 15 years in some regions. These data enable the program to provide critical trend information on bird populations at multiple scales, from individual management units to state or region-wide. Here, we highlight the utility of these data for managers and decision-makers to monitor both existing priority species and common species in decline by accessing data via our recently updated Rocky Mountain Avian Data Center, RMADC (**https://app.bcr.eco/rmadc/**).

Case Study: Evening Grosbeak

- Road to Recovery tipping point forest specialist showing long term decline
- Managers in different USFS units may wish to address different concerns
- Variation in trends (Fig. 2)
- Opportunity for comparison

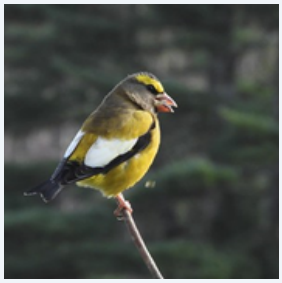

Photo credit: Keith Ramos/ USFWS

Management Unit	Change/yr
Colorado	13%
San Juan National Forest	21%
Montana	
Beaverhead-Deerlodge National Forest	13%
Bitterroot National Forest	-4%
Helena National Forest	12%
Kootenai National Forest	-17%

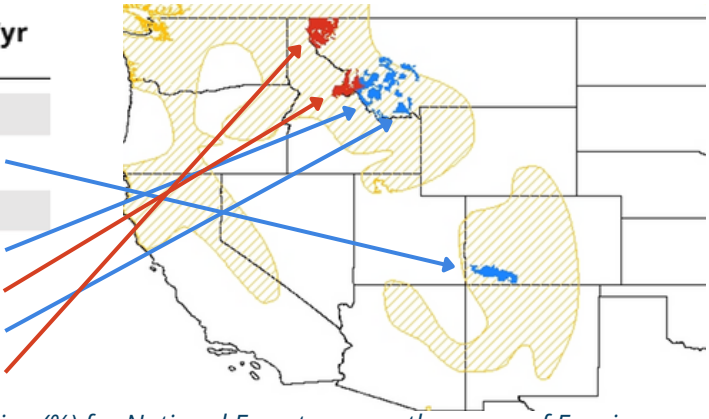

Figure 2. Spatial variation in annual population decline (%) for National Forests across the range of Evening Grosbeak with declining management units shown in red, increasing in blue, and breeding range in yellow (Bird Life International).

Case Study: Savannah Sparrow

- Formerly abundant grassland species in wide decline, but not currently of conservation concern
- Consistent declines (Fig. 3)
- Jurisdictions differ in decline severity implying different causal mechanisms
- Prioritizing the species may be justified

Photo credit: Becky Matsubara

Management Unit	Change/yr
Colorado	-15%
All land in CO-BCR16	-17%
Montana	-4%
BLM land in MT-BCR10	-16%
BLM land in MT-BCR17	-12%
Wyoming	-9%
Yellowstone National Park	-12%
Shoshone National Forest	-10%

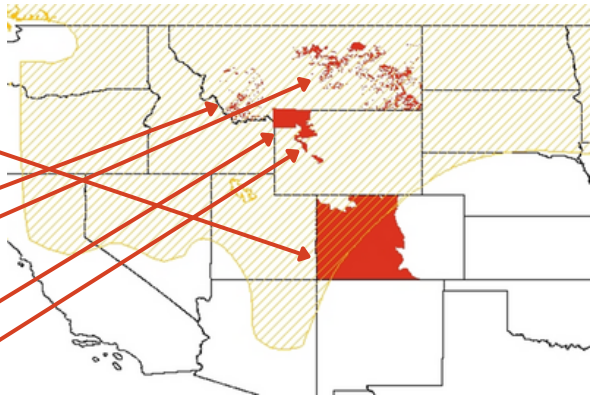

Figure 3. Spatial variation in annual population decline (%) for jurisdictions across the western range of Savannah Sparrow with declining management units shown in red and breeding range in yellow (Bird Life International).

RMADC: Trends at your finger tips

Visit the Rocky Mountain Avian Data Center (**https://app.bcr.eco/rmadc/**) to view trends for species of interest in your management area (Fig. 4). IMBCR estimates are available for numerous focal areas, termed "strata", where partners have invested in monitoring (e.g., Bighorn National Forest). The "Superstratum" filter is helpful to find trends for broader regions or states (e.g., the BCR18-portion of Colorado) that provide context for strata. Filter trends by f-value >0.9 to view only robust estimates.

Trend Estimates by Superstratum

Show 25 entries — Search:

			Trend based on Density			Trend based on Occupancy		
Stratum	Species	Years	Trend	f	95% CI	Trend	f	95% CI
BCR17	Chestnut-collared Longspur	2009-2023	-12.45	1	(-18.53, -5.58)	-8.4	1	(-13.17, -3.55)
BLM Lands in BCR 17	Chestnut-collared Longspur	2009-2023	-11.36	0.99	(-19.46, -2)	-7.25	0.98	(-13.8, 0.45)
MT-BCR17	Chestnut-collared Longspur	2010-2023	-6.85	0.85	(-23.03, 8.24)	-5.39	0.83	(-18.35, 7.14)
MT-BCR17-All Other	Chestnut-collared Longspur	2009-2011	9.15	0.54	(-94.17, 814.49)	34.41	0.6	(-89.51, 667.25)
MT-BCR17-BLM	Chestnut-collared Longspur	2009-2023	-7.74	0.89	(-22.15, 7.05)	-6.94	0.88	(-20.98, 5.42)
ND-All Other	Chestnut-collared Longspur	2013-2023	-15	0.97	(-29.68, 0.91)	-18.82	1	(-30.58, -5.32)

Figure 4. RMADC output showing trend estimates for a species over multiple strata. Red and blue indicate direction of trend change, and yellow denotes statistically robust estimates.

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Integrated Monitoring in Bird Conservation Regions

Bird Conservancy of the Rockies