

## *North American bird declines are greatest where species are most abundant*<sup>1</sup>

### One Page Summary

- Researchers from the Cornell Lab of Ornithology set out to develop reliable information about where birds are increasing or decreasing across North America.
  - Over 36 million eBird checklists from 2007–2021 were analyzed, generating statistical data on 495 of 573 breeding bird species in North America.
  - The researchers used models that account for observer effort and bias, making the results more reliable.
  - Importantly, they applied high-resolution (27 km<sup>2</sup>) mapping to detect population changes at local scales—a departure from earlier studies that averaged trends across broad regions.
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### Key Findings

- More than 70% of species showed statistically significant declines, most notably in areas where they are most abundant.
  - Declines were especially strong among:
    - Grassland\* and arid-land species—already under serious pressure.
    - Arctic Tundra breeders, as inferred from non-breeding season data
  - Even in their historical strongholds, some species appear increasingly vulnerable.
  - Local increases were also detected: almost all declining species had specific areas where populations are rising, suggesting they may still thrive under certain environmental conditions.
  - Understanding what's driving declines in strongholds is critical for reversing them.
  - The availability of high-resolution trend data now enables targeted conservation—allowing management interventions to focus on landscapes where action will be most effective and resources best invested.
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### Potential Drivers of Decline

1. Climate change
2. Habitat conversion, including agriculture and urban development
3. Pollution

*These pressures may be outpacing some species' ability to adapt.*

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## Key Takeaways

The combination of community science data, high-resolution bird population trend maps, and local environmental information gives conservationists, funders, and policy-makers powerful tools to:

1. Pinpoint where birds are declining, and
2. Prioritize action and recovery efforts based on the areas and species most in need.

## Citation:

<sup>1</sup>Johnston, A., Rodewald, A. D., Strimas-Mackey, M., Auer, T., Hochachka, W. M., Stillman, A. N., Davis, C. L., Ruiz-Gutierrez, V., Dokter, A. M., Miller, E. T., Robinson, O., Ligocki, S., Jaromczyk, L. O., Crowley, C., Wood, C. L., & Fink, D. (2025). *North American bird declines are greatest where species are most abundant*. *Science*, 380(6650), 532–537.

\*Bird species, such as Grassland Birds, were grouped in the paper according to their biome type, as defined in the [State of the Birds 2022](#) report