

Shorebird population estimates and trends in the Teshekpuk Lake Special Area (TLSA)



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Teshekpuk Lake Special Area is part of the National Petroleum Reserve – Alaska



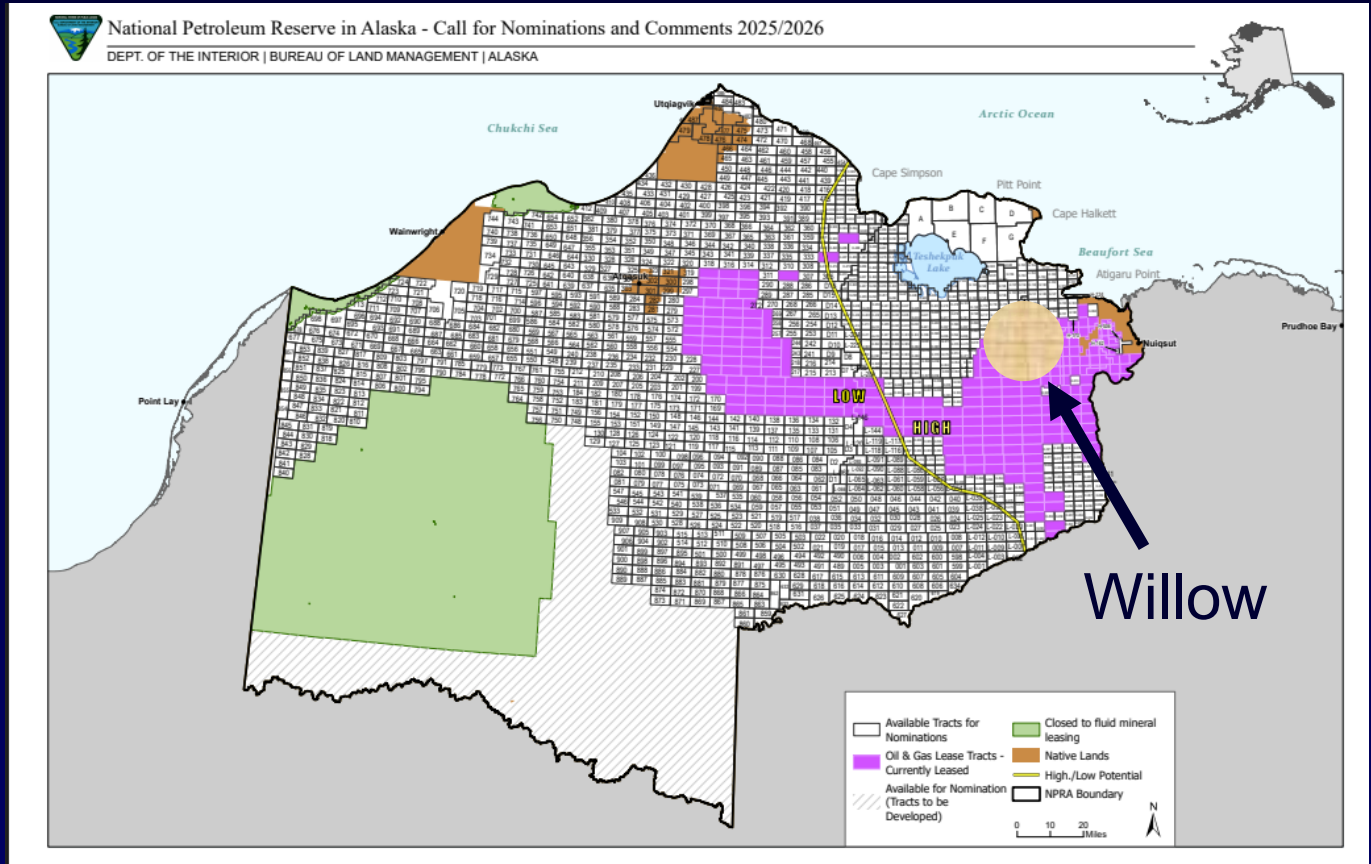
History of NPR-A and TLSA

- 1923 – Congress established the National Petroleum Reserve – Alaska (NPR—A), designated for use by the military during emergencies
- 1976 – Congress directed that “special areas” be created within NPR—A
- 1977 – Created the TLSA to protect the extensive wetlands surrounding Teshekpuk Lake
- Regulation and leasing for NPR-A and TLSA have changed with each government administration



History of NPR-A and TLSA

- 2023 – approval of Willow Oil development project
- 2026 – 400,000 acre lease sale



Teshekpuk Lake Special Area is a Special Area!

- Important area for wildlife, subsistence hunting, and cultural values
 - Up to 90,000 geese (Black Brant) molt primary feathers
 - Up to 46,000 caribou use the area for calving, insect avoidance and migration



Andres, B.A., J.A. Johnson, S.C. Brown, and R.B. Lanctot. 2012. Shorebirds breed at high densities in the Teshekpuk Lake Special Area, Alaska. *Arctic* 65:411-420.

Data collected in 2006 – 2008


- Estimated abundance of breeding shorebirds using ground surveys
- Identified important areas based on latitude and cover types
- Made data available for land use management planning efforts underway at the Bureau of Land Management



This Study – 2023, 2024

- Estimate contemporary abundance of breeding shorebirds using same area and methods
- Identify important areas based on latitude and cover types
- Assess changes in population size over 18 years
- Expand efforts to include other waterbirds
- Make data available for land use management planning efforts currently underway at the Bureau of Land Management
- Inform national shorebird efforts





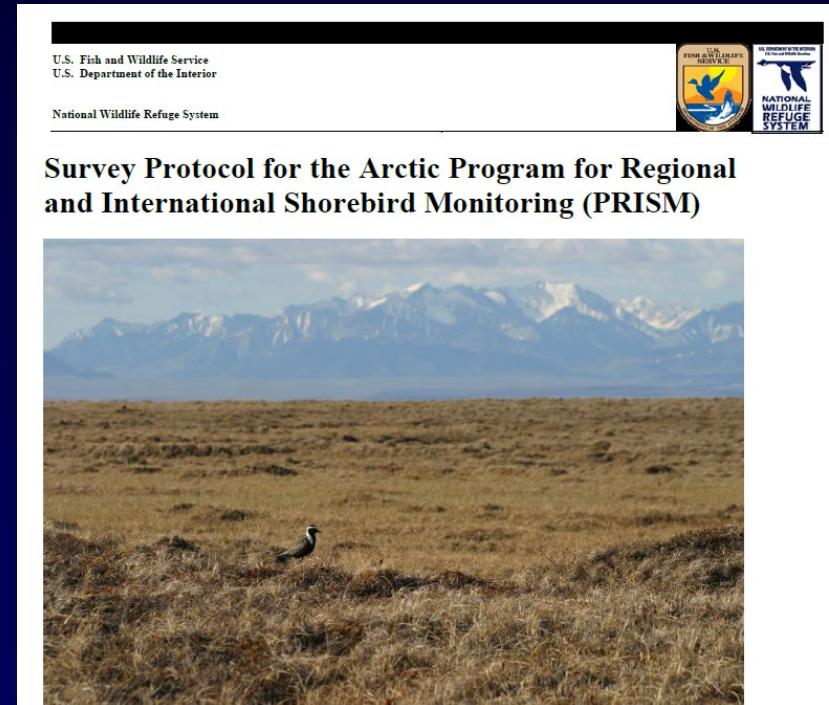
Program for Regional and International Shorebird Monitoring (PRISM)

Landscape level surveys for shorebirds and other waterbirds

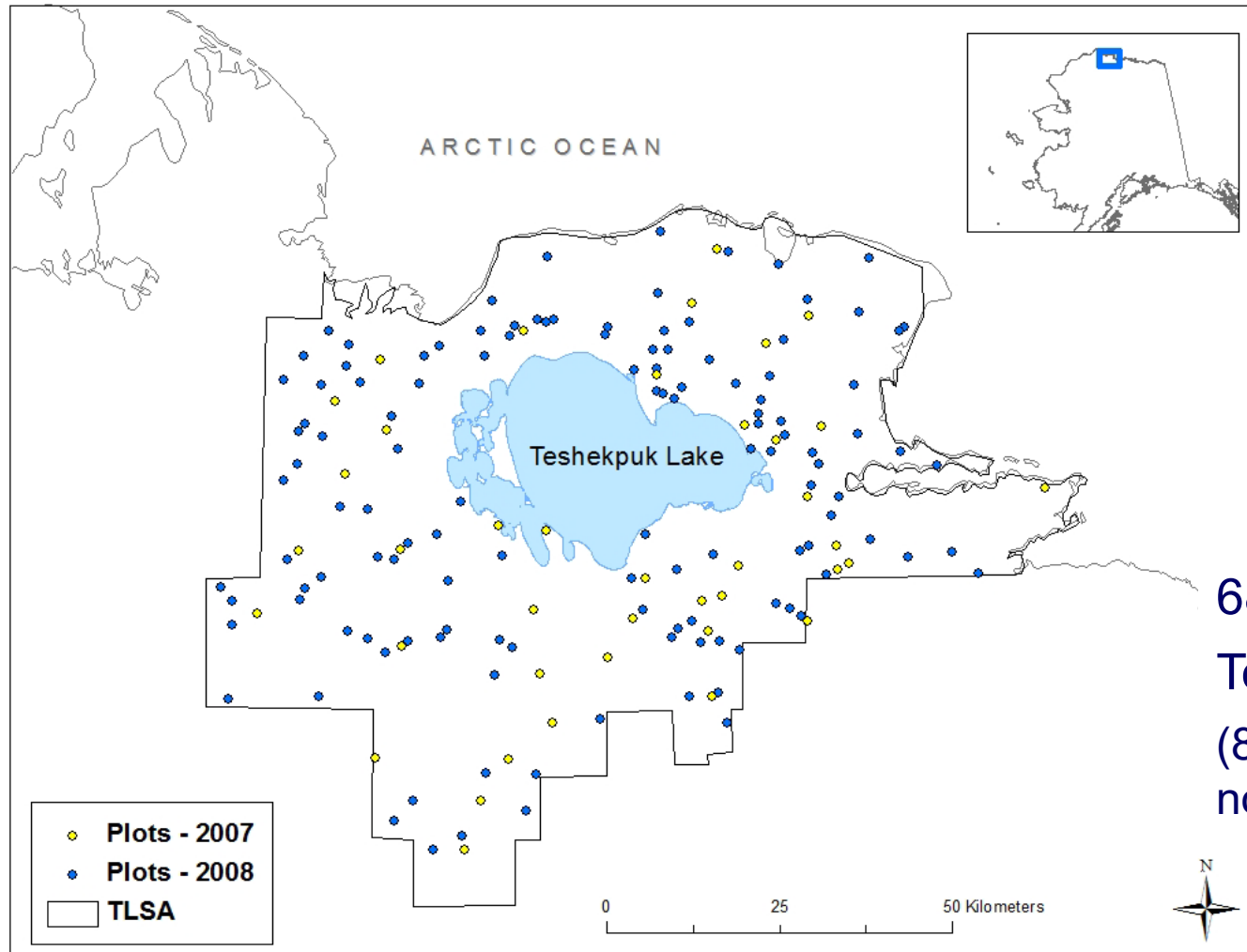


PRISM Methods

- Survey protocol established
- Double sampling approach with rapid and intensive surveys
- Helicopter access to randomly selected 400m² plots
- Area search to estimate breeding pairs



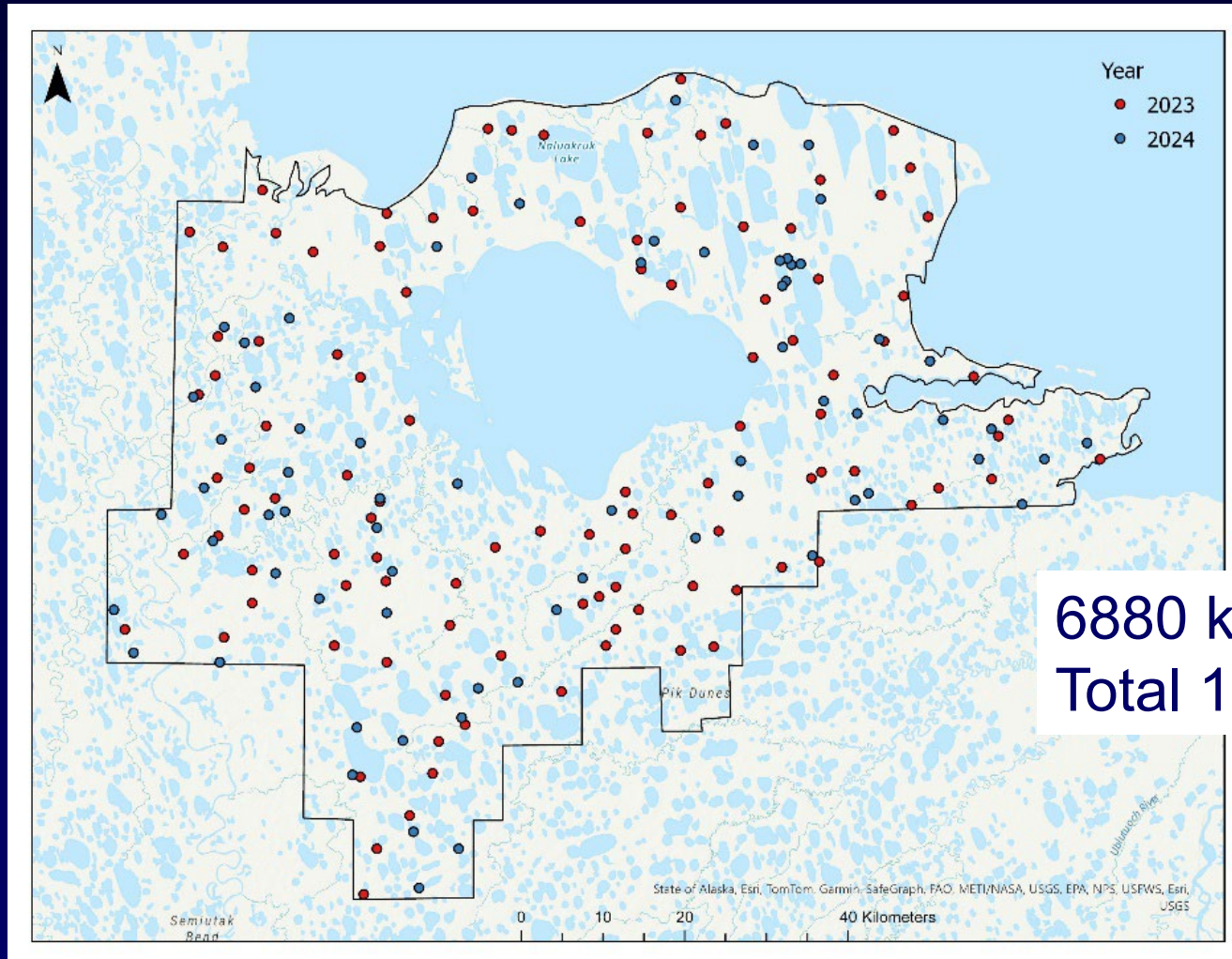
Plot Locations within TLSA – 2006 - 2008



6880 Km²
Total 167 plots
(8 plots in 2006
not shown)



Plot Locations within TLSA – 2023, 2024



6880 km²
Total 171 plots



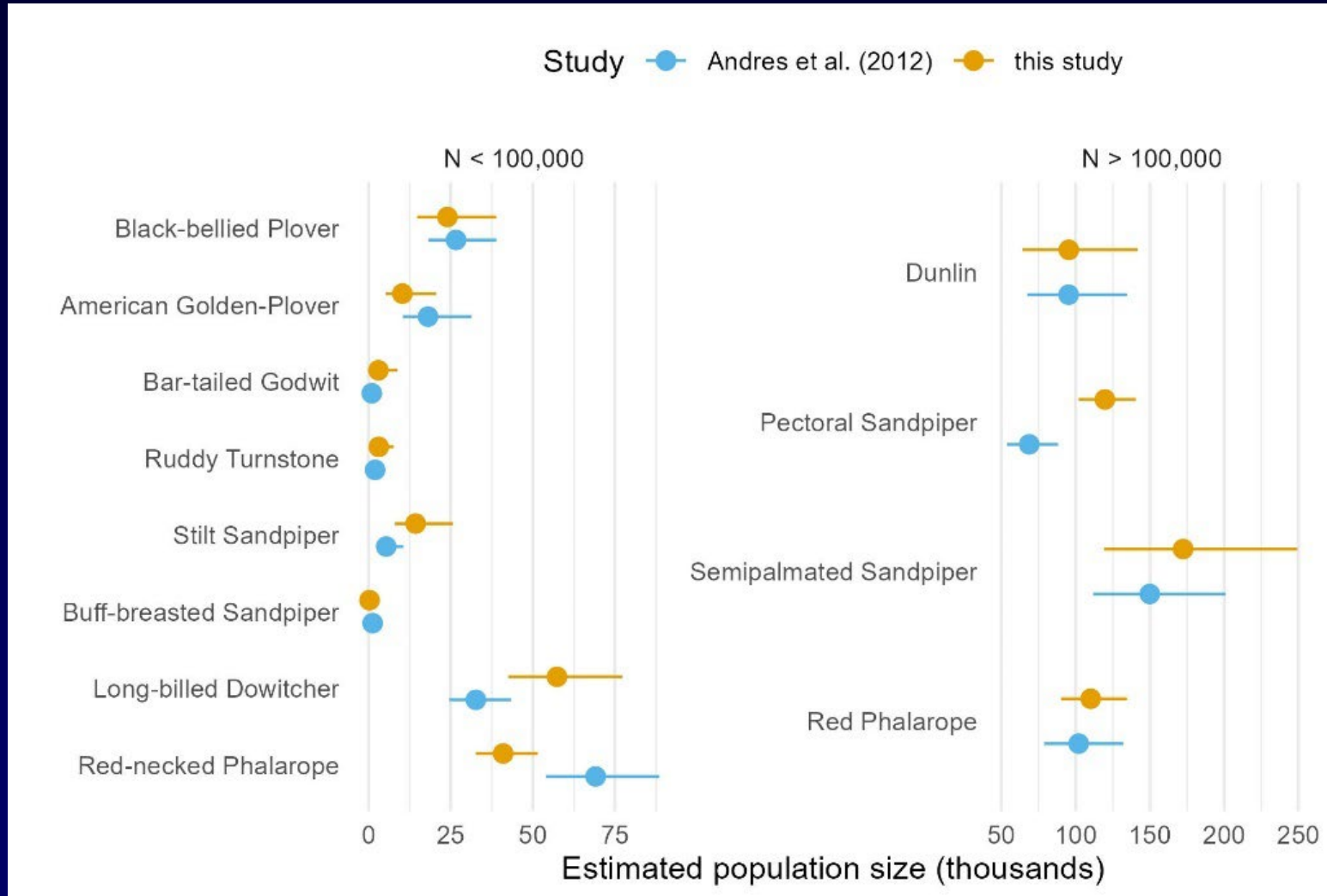
Results are
preliminary

Density of shorebirds on TLSA

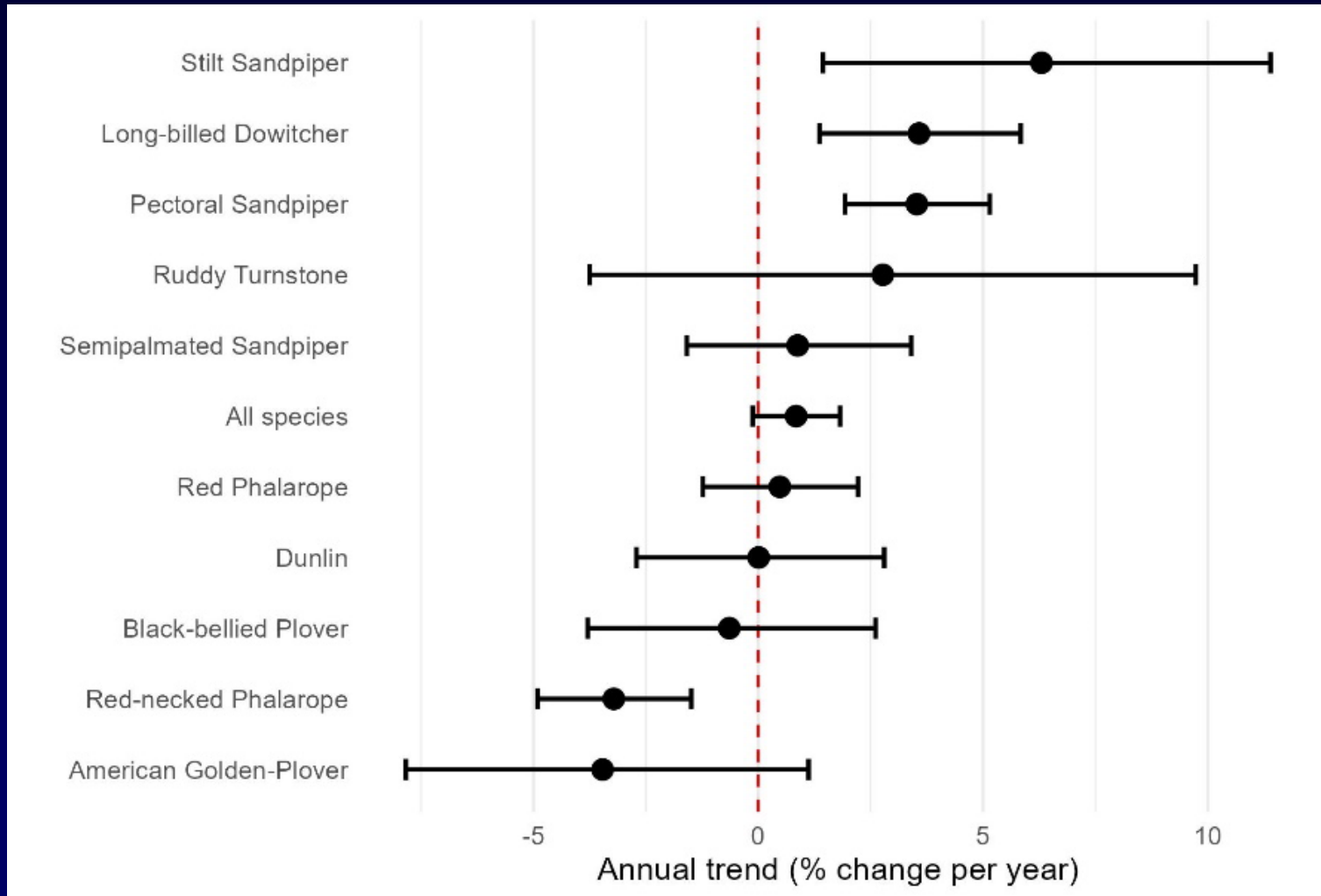
Species	2006 - 2008 Density (birds/km ²) ± 1 SE	2023 - 2024 Density (birds/km ²) ± 1 SE
Black-bellied Plover	5.85 ± 1.14	5.42 ± 1.36
American Golden-Plover	3.98 ± 1.12	2.33 ± 0.82
Bar-tailed Godwit	0.22 ± 0.16	0.68 ± 0.37
Ruddy Turnstone	0.44 ± 0.19	0.70 ± 0.32
Semipalmated Sandpiper	32.94 ± 4.93	38.89 ± 7.39
Baird's Sandpiper	0.26 ± 0.19	0.0 ± 0.0
Pectoral Sandpiper	15.11 ± 1.92	27.01 ± 2.16
Dunlin	20.93 ± 3.69	21.52 ± 4.30
Stilt Sandpiper	1.19 ± 0.41	3.24 ± 0.97
Buff-breasted Sandpiper	0.28 ± 0.14	0.07 ± 0.07
Long-billed Dowitcher	7.18 ± 1.04	12.94 ± 1.94
Red-necked Phalarope	15.19 ± 1.91	9.25 ± 1.11
Red Phalarope	22.42 ± 2.96	24.85 ± 2.49
All Species	125.99 ± 8.51	147.95 ± 10.36



TLSA Estimated Population Totals, 2006-2008 vs. 2023, 2024



TLSA Population Trends, 2006-2008 vs. 2023, 2024



Next Steps

- Refine population estimates and finalize trends
- Identify important areas within TLSA for shorebirds
- Evaluate waterfowl data
- Inform development processes within TLSA
- Contribute data to North American shorebird population estimates
- Put our trend data into perspective with other trend studies
- Identify species in trouble to focus conservation



Question and Thank you!!!

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