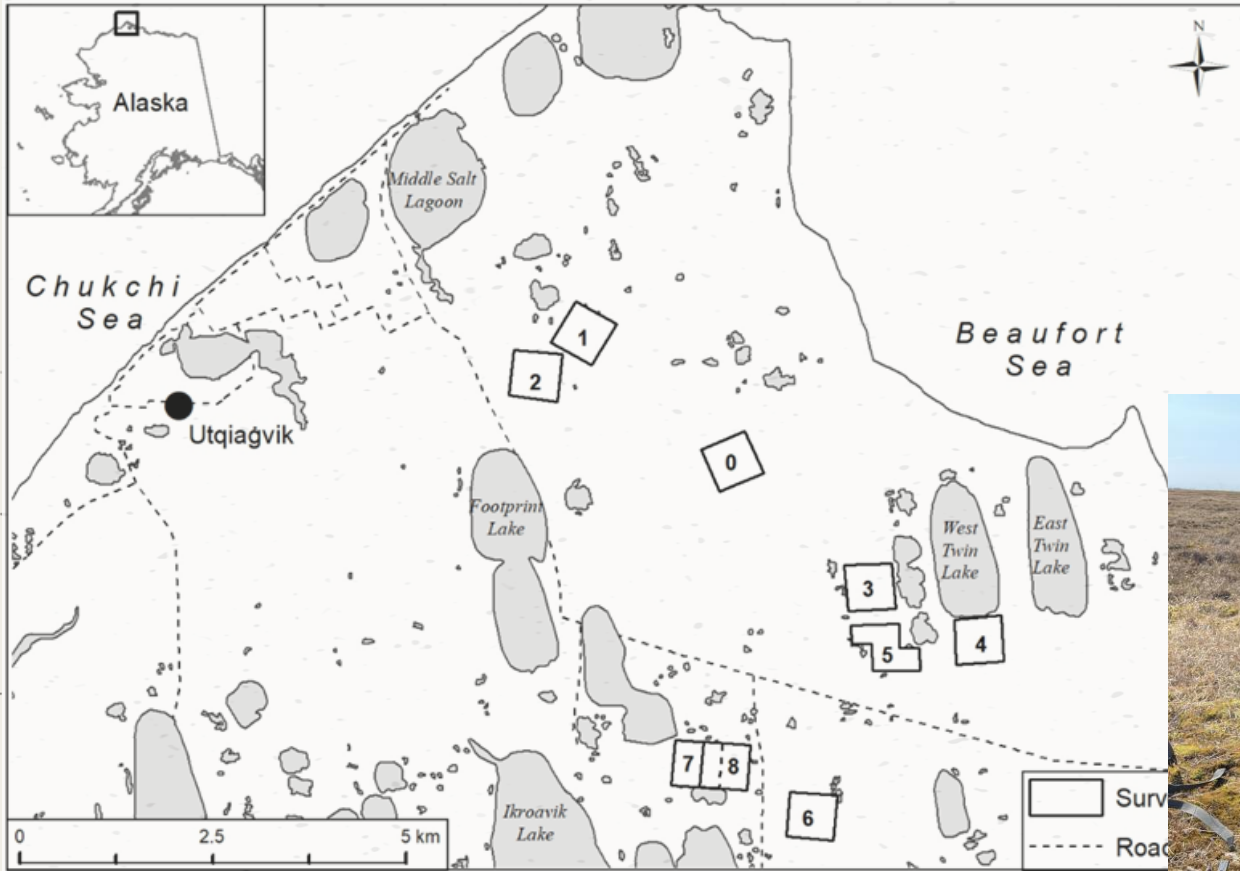


Variation in adult body and egg sizes in shorebirds

A twenty-one year data analysis of temporal variation in Arctic-breeding shorebirds located near Utqiagvik, Alaska

Hunter E Wells, Iowa State University

Approach



- 2003 - present
- 600 x 600m plots
- Located nests of 8 shorebird species
- Measured egg width and length
- Captured adults and measured culmen, wing, tarsus
- Collected covariate data: temperature, snow melt, invertebrates

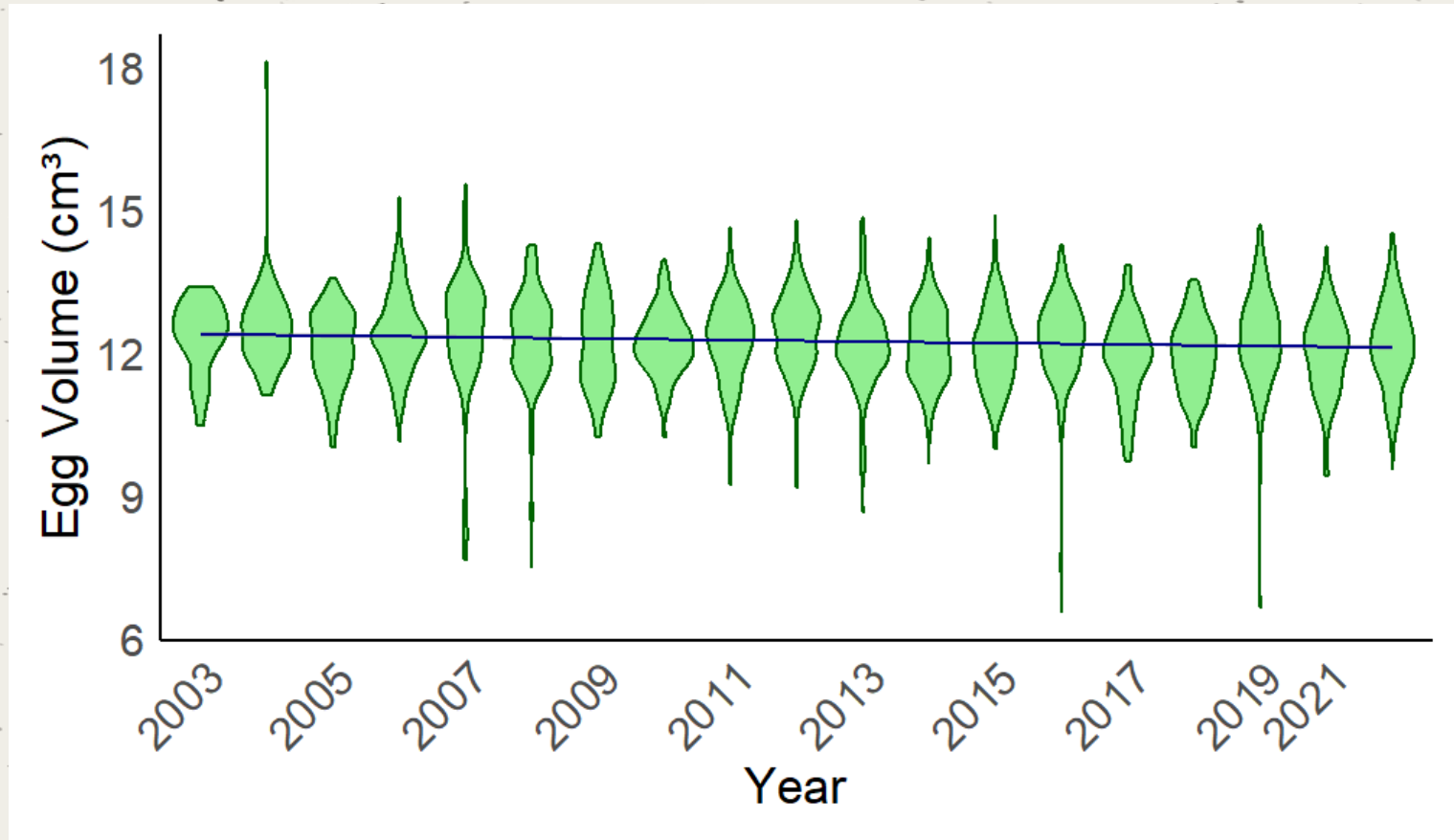
Variation in Egg Size



Objectives:

1. Calculate egg volume using length and width measures.
2. Calculate within and between clutch variation in egg size.
3. Relate variation in egg size to environmental conditions: temperature, invertebrate abundance, seasonality
4. Complete and compare analysis across all species.
5. Collect additional egg size data in summer 2025.

Pectoral Sandpiper Egg Volume Decreased Over Time



$n = 4569$ eggs

$\beta = -0.02$

95 CI =
(-0.02, -0.01)

Variation in Adult Body Size



Objectives:

1. Explore variation in morphological metrics over time: culmen, wing, tarsus
2. Relate variation to environmental conditions: temperature, migration strategy
3. Complete and compare analysis across all species.
4. Collect additional body size data in summer 2025.

Acknowledgments

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Questions?

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