

Environmental Responsiveness of Hudsonian Godwit Chicks

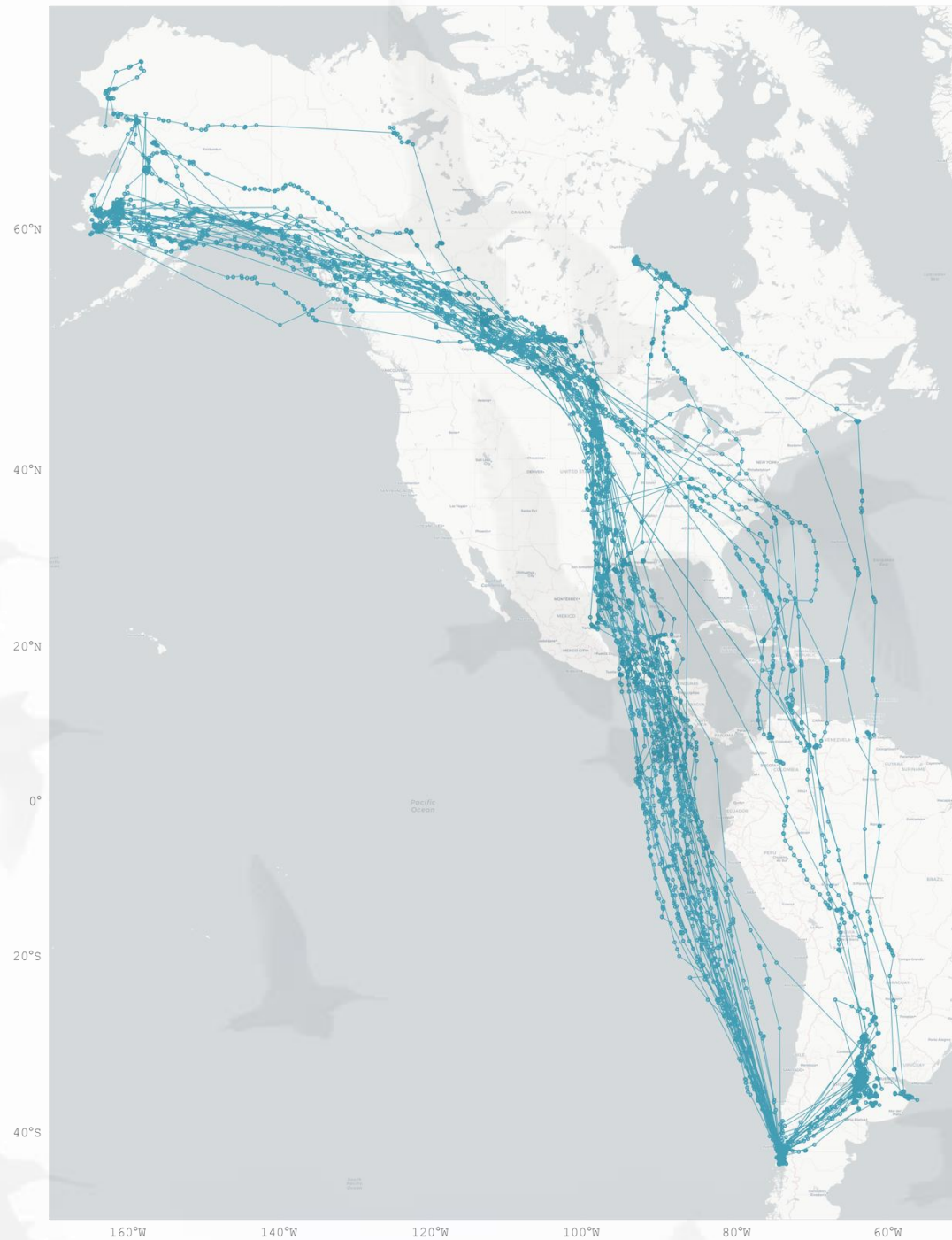
Feipeng Huang

University of Massachusetts Amherst

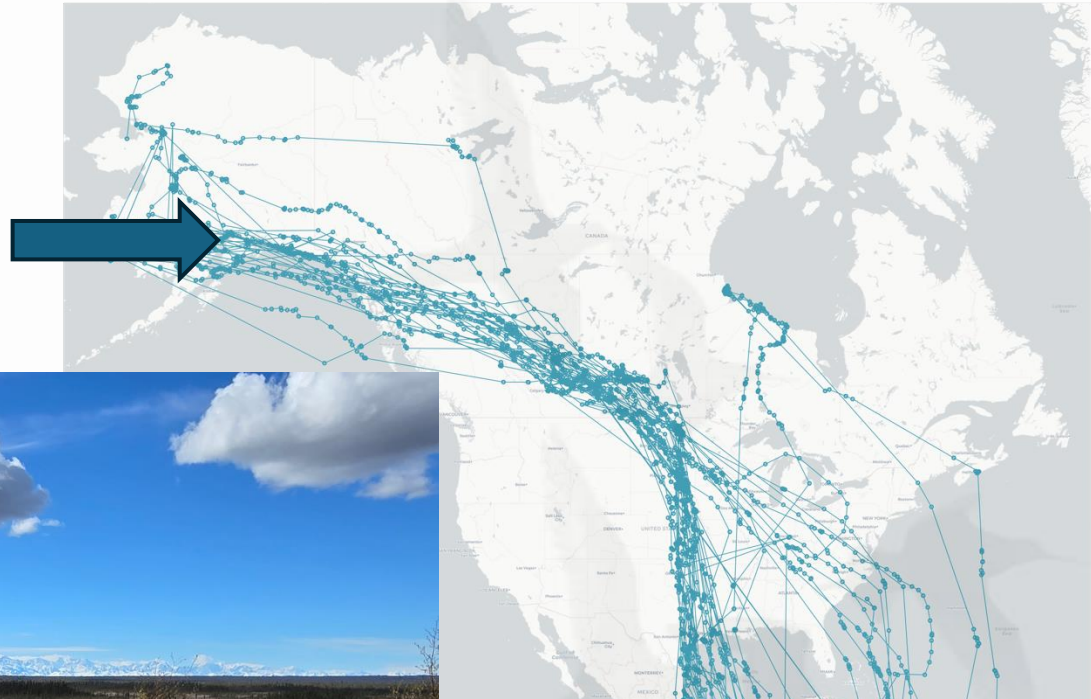
Alaksa Shorebird Group Meeting | February 23, 2026



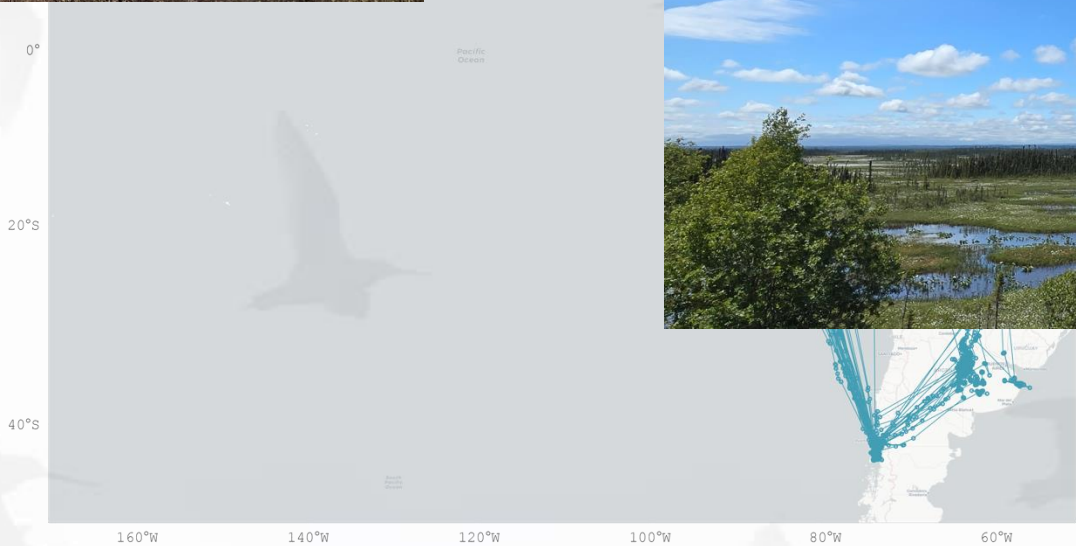
Coauthors: Chris Tyson, Brett Addis, Cory Elowe, Lauren Puleo, Stephan Saint-Juste, Maria Stager, Rose Swift, Luke Wilde, Nathan Senner



*May 13, 2024
Just after snow melt*



*July 8, 2024
End of breeding season*



Resource availability

May 13, 2024
Just after snow melt



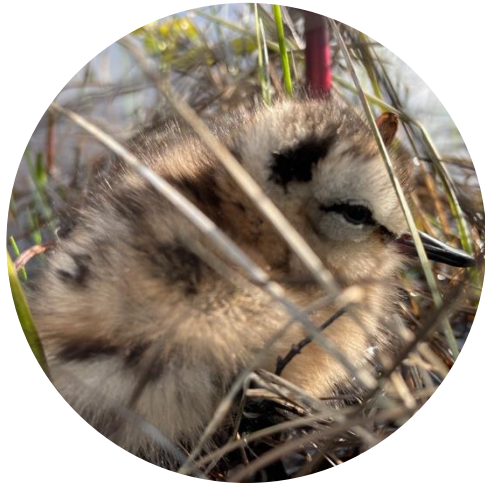
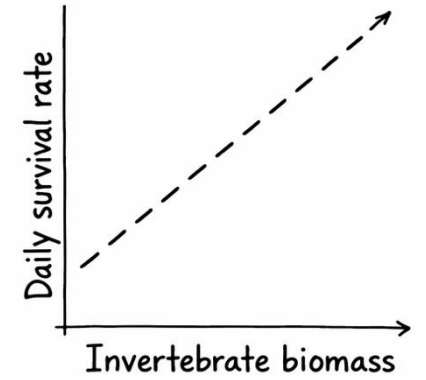
July 8, 2024
End of breeding season



Weather conditions

Behavioral response?
Sex-specific difference?

Resource availability



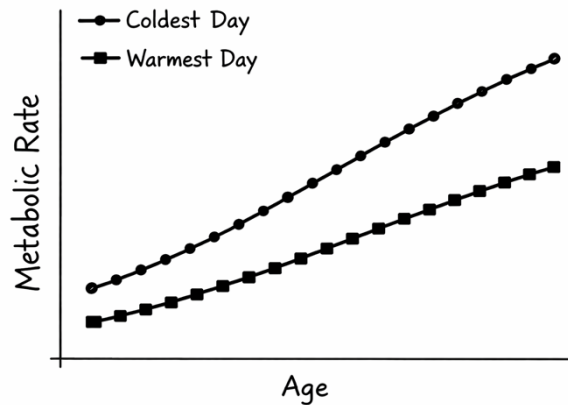
1-day-old



14-day-old



33-day-old



Weather conditions

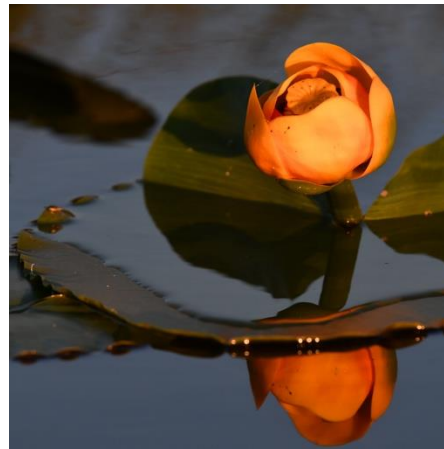


Questions

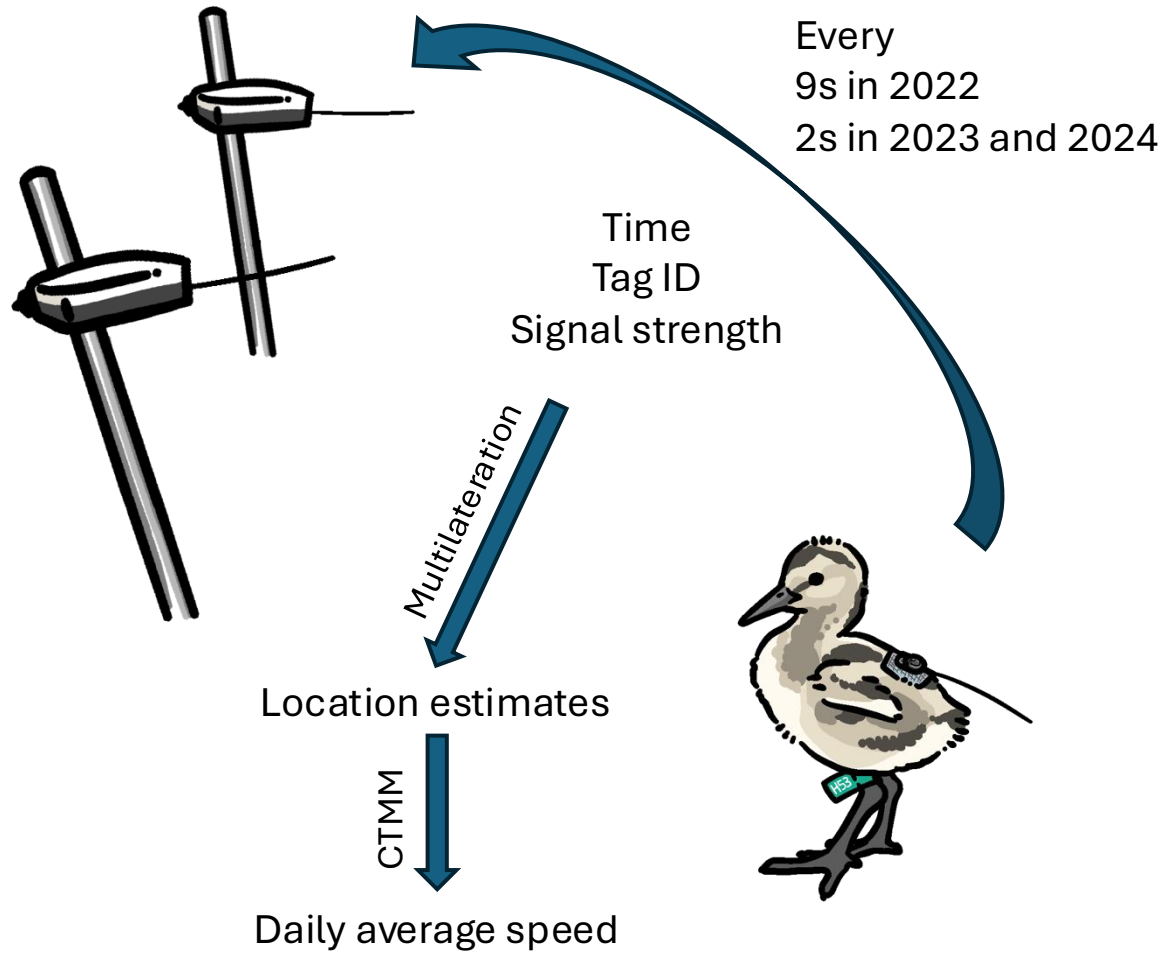
1. *Do movement rates differ between sexes, change with age, or change in relation to weather conditions and resource availability?*
2. *Do growth and survival rates differ between sexes in the context of resource phenology?*

Beluga, since 2009

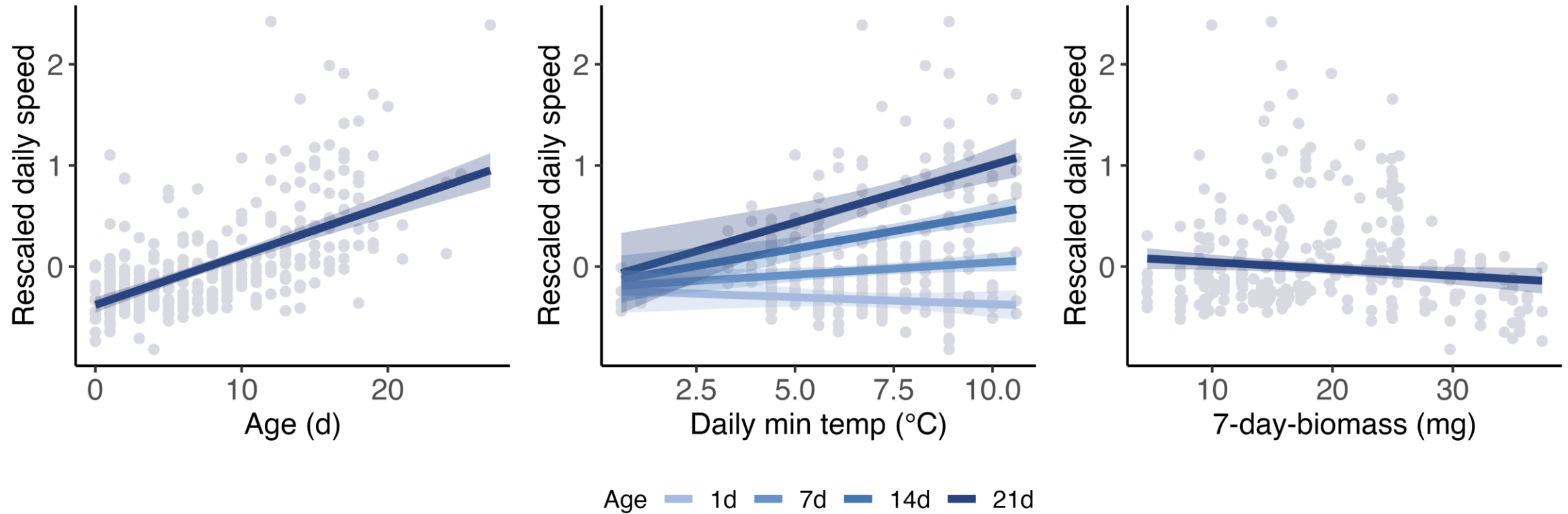
- North plot (2.8 km²) and South plot (1.2 km²)
- Support ~20 breeding pairs
- We collected:
 - Morphological measurements every week
 - Blood for molecular sexing
 - Movement and survival data
 - Daily invertebrate samples

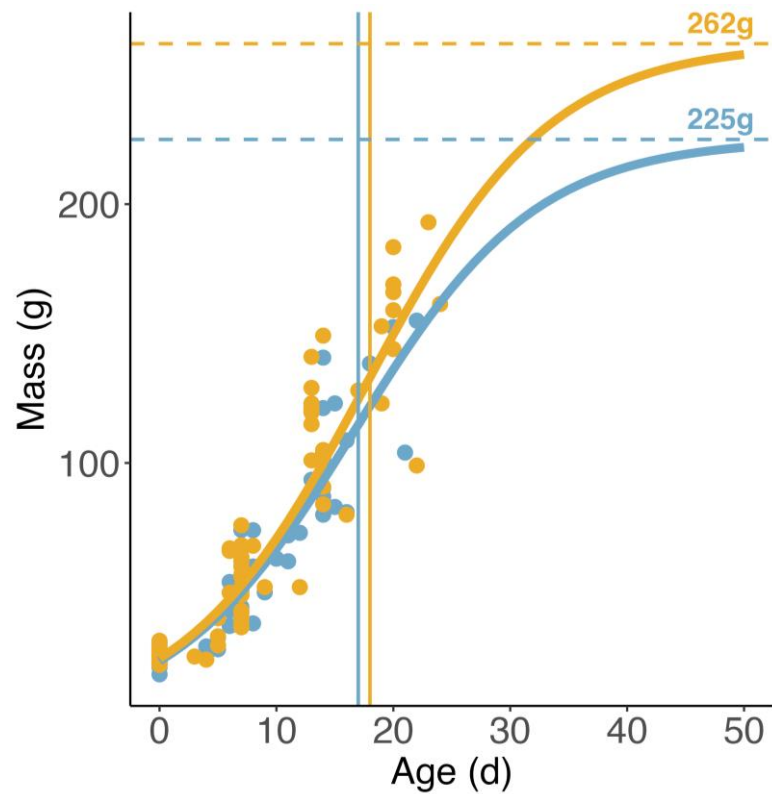


Automated Radio Telemetry Network



Chicks were largely unable to adjust their foraging effort to environmental conditions.



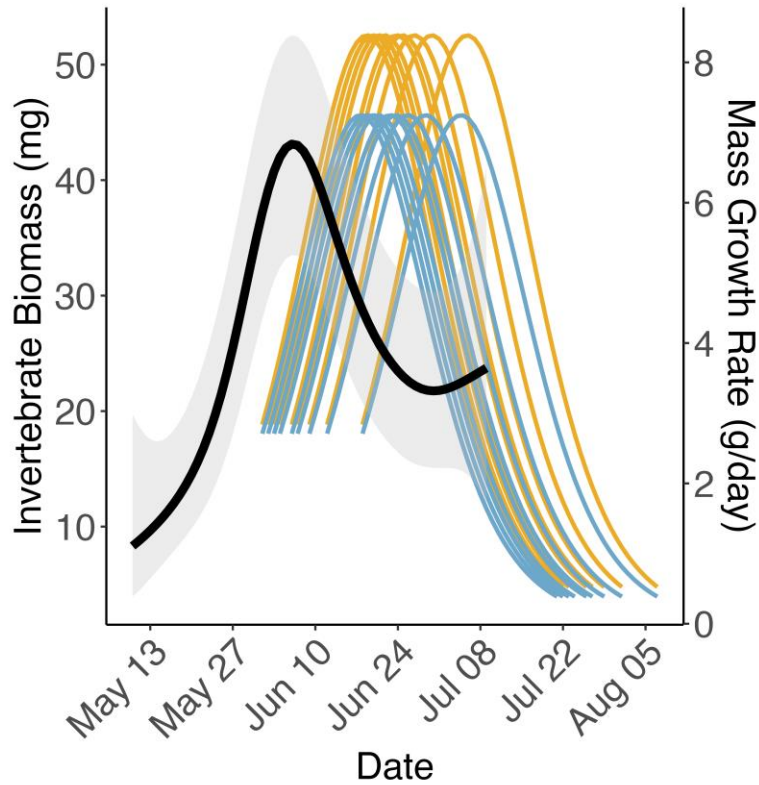


Both sexes did not reach peak growth rates until the third week of life.

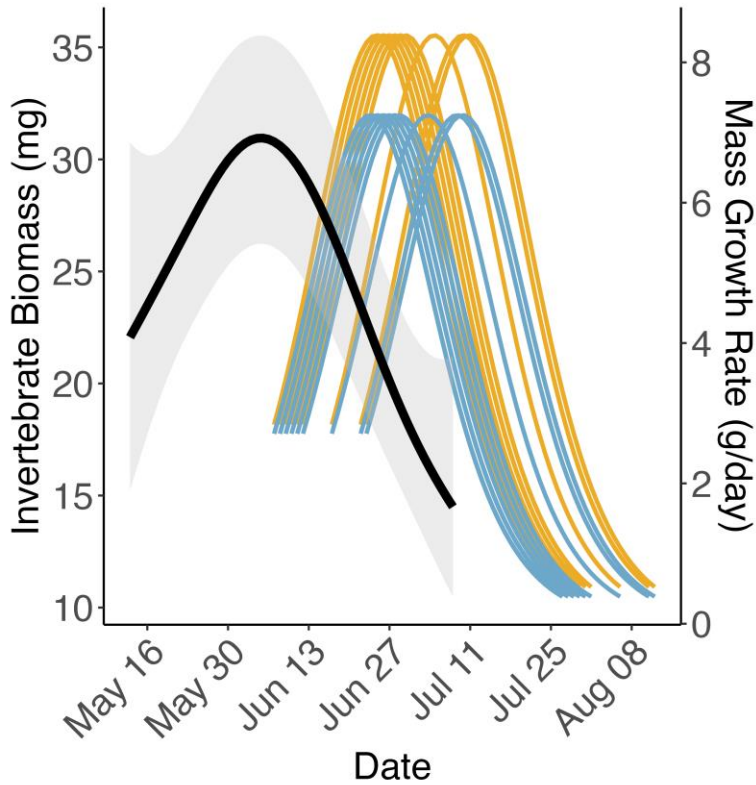
Females reached their highest growth rate 1 day later.

*Growth peak occurred after invertebrate peak.
Females need to sustain a higher growth rate.*

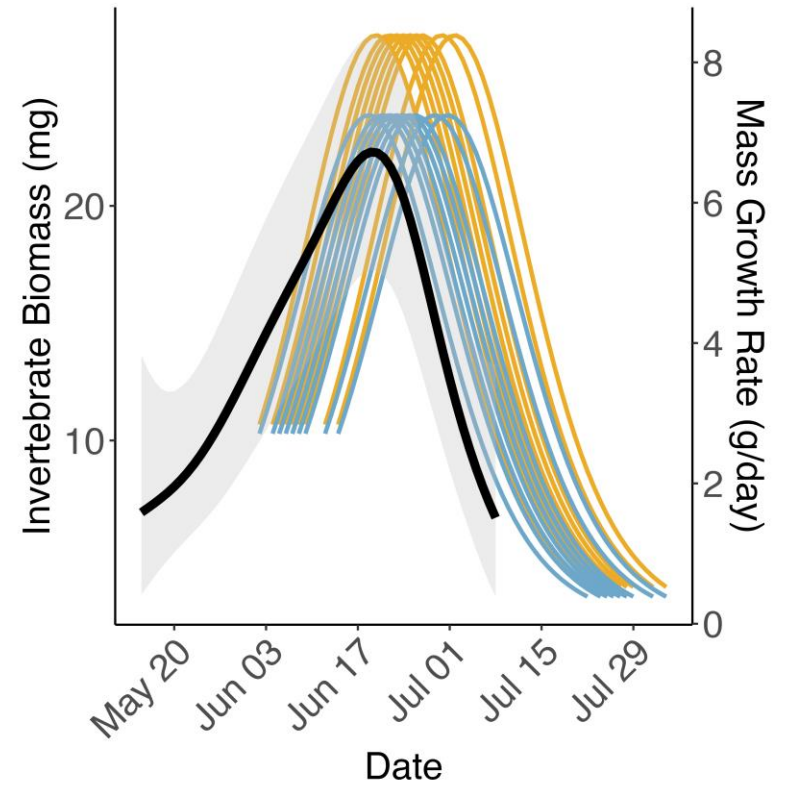
A. 2019



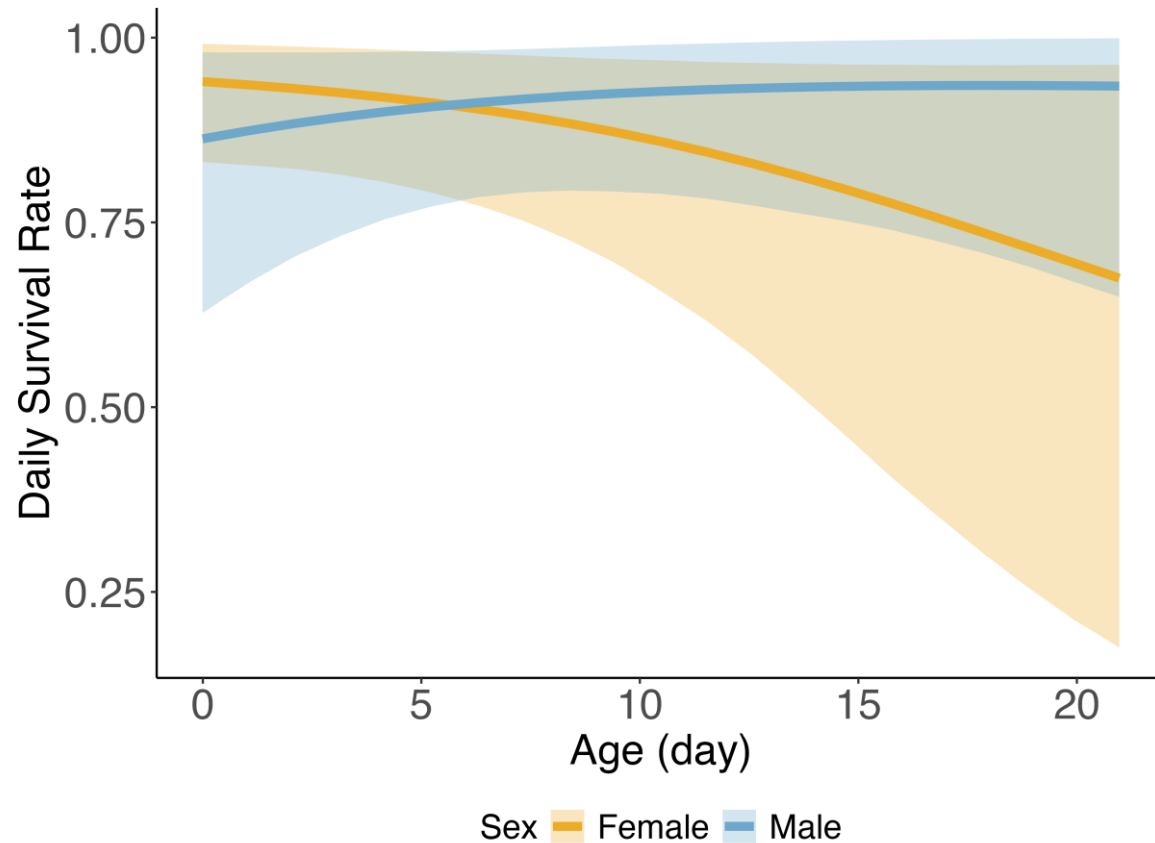
B. 2022



C. 2024



No difference in survival between sexes up to 21 days of age.



The Alaskan population is male-biased, while adult survival is similar between sexes.

Sex-specific vulnerabilities could lead to lower early-life survival and, in turn, skewed adult sex ratios.



Predation risk

Resource availability



1-day-old



14-day-old



33-day-old



Weather conditions

Acknowledgement

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Thank you!

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