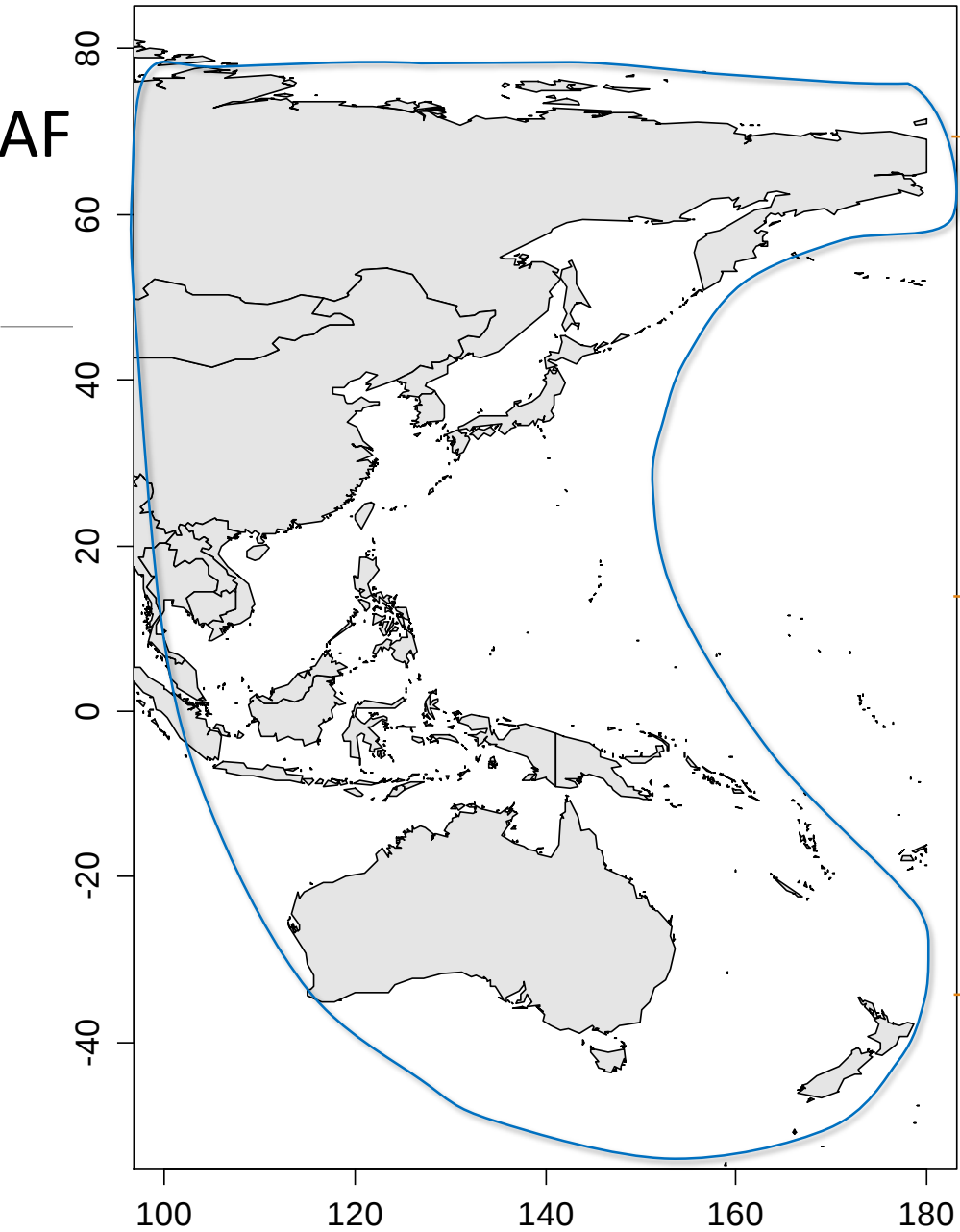


Assessing the consequences of habitat change in a long-distance migratory shorebird

Yaara Aharon-Rotman, Silke Bauer and Marcel Klaassen



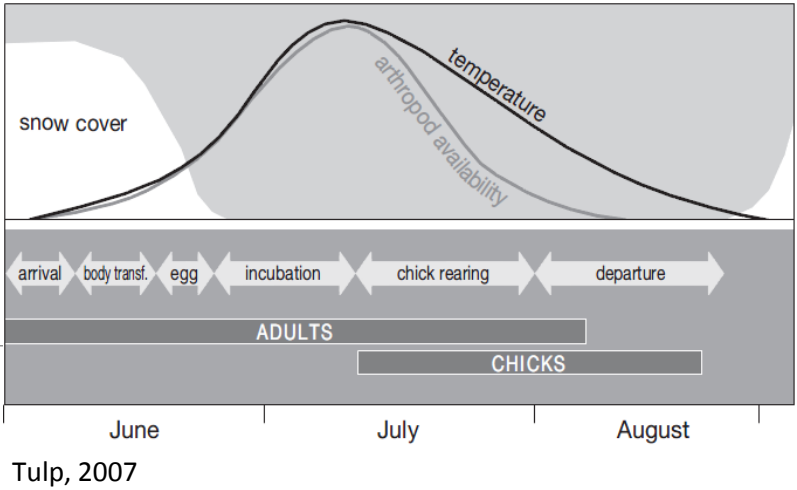
The EAAF



Breeding
(June-August)

Migration

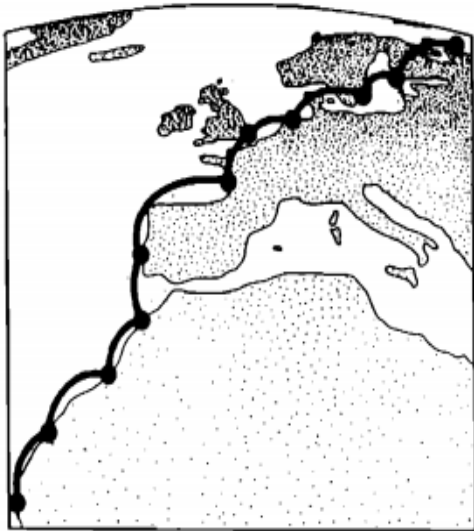
Wintering
(September-April)



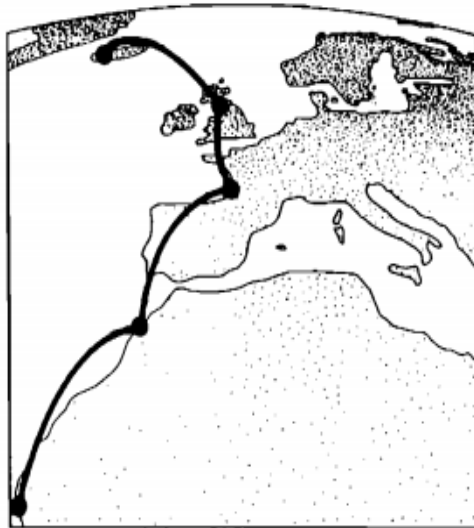
Migration strategies

fuel deposition rate as driver of trans-equatorial long distance migration

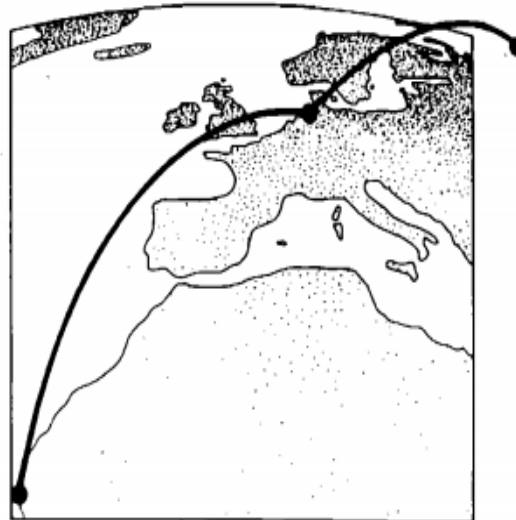
hop



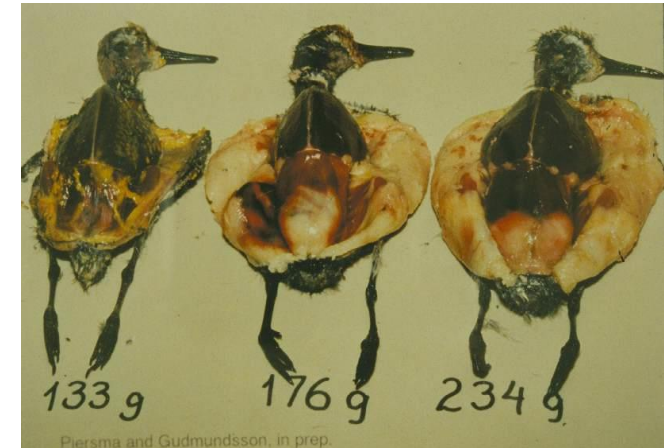
skip



jump



Piersma 1987, *Limosa*



Ruddy Turnstone *Arenaria interpres*

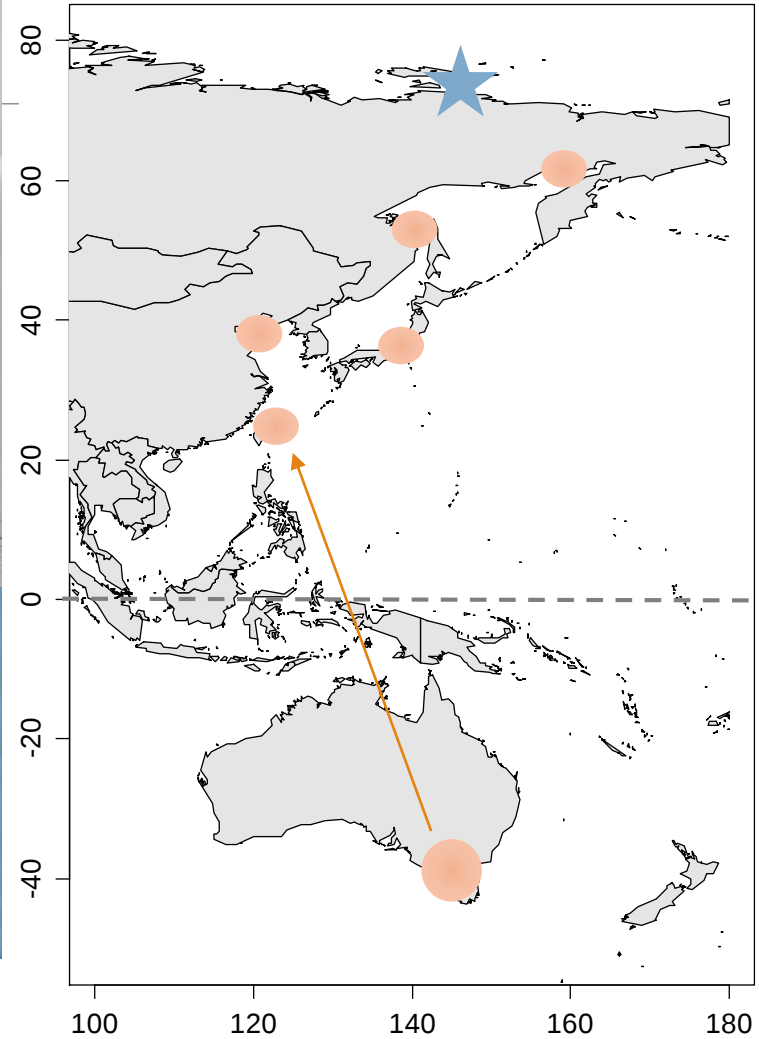


Winter in different areas in Australia
and New- Zealand

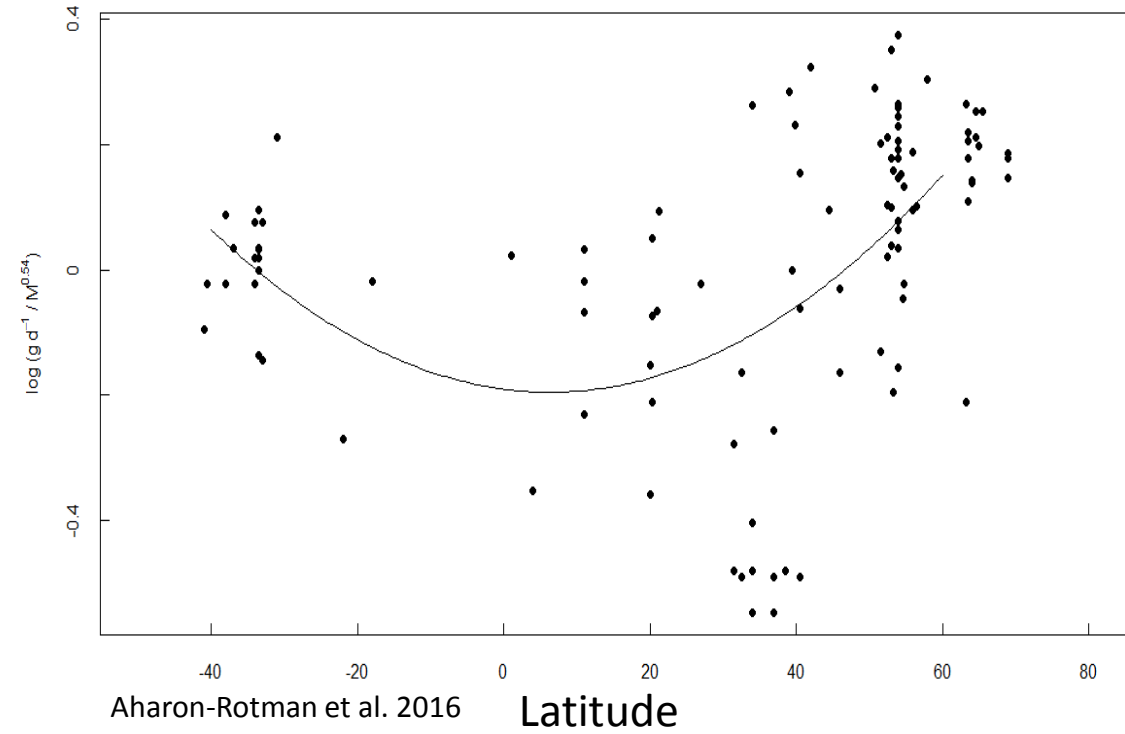




Main stopover sites revealed by geolocators



Fuelling rates increase with latitude



A chain is as strong as its weakest link



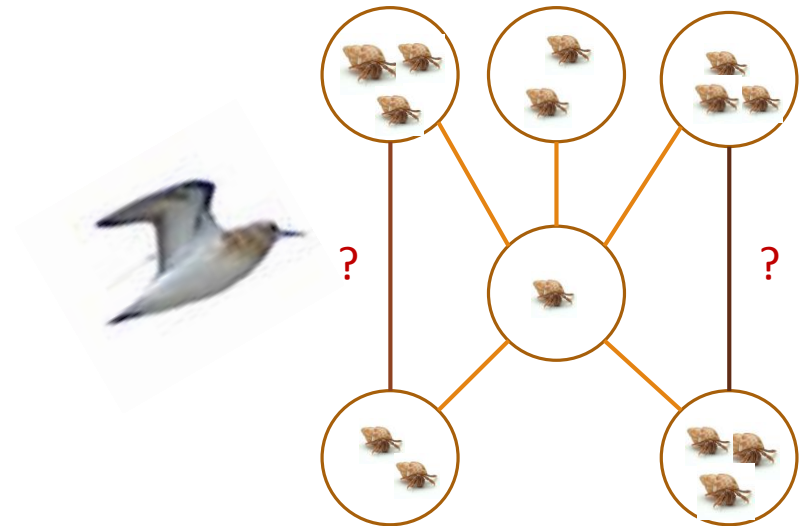
- Habitat loss -main cause for declining numbers along the EAAF
- What are the consequences of changing conditions in a stop-over site on fitness?



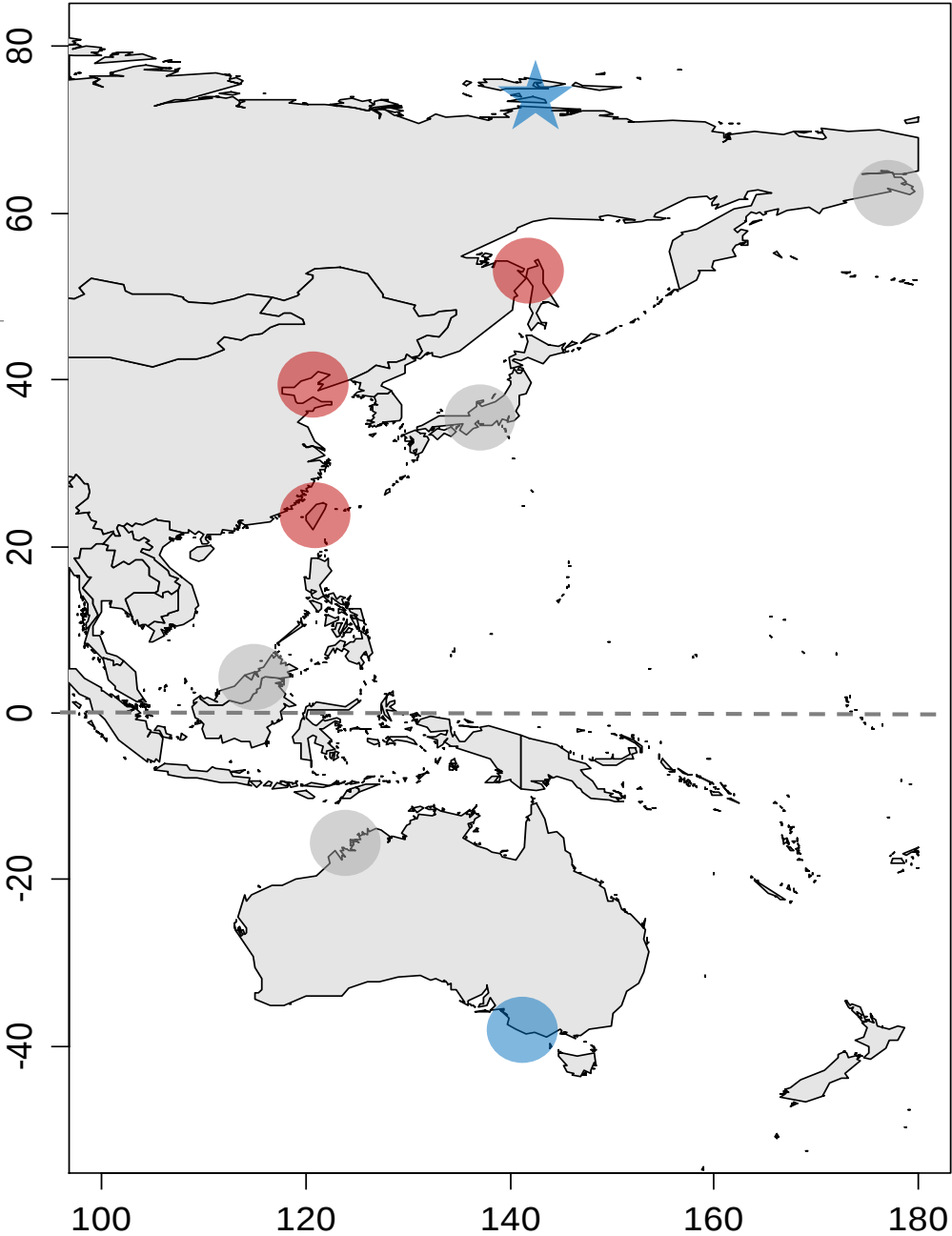
Using SDP

Assess the effect of habitat change on behaviour, survival and reproductive success

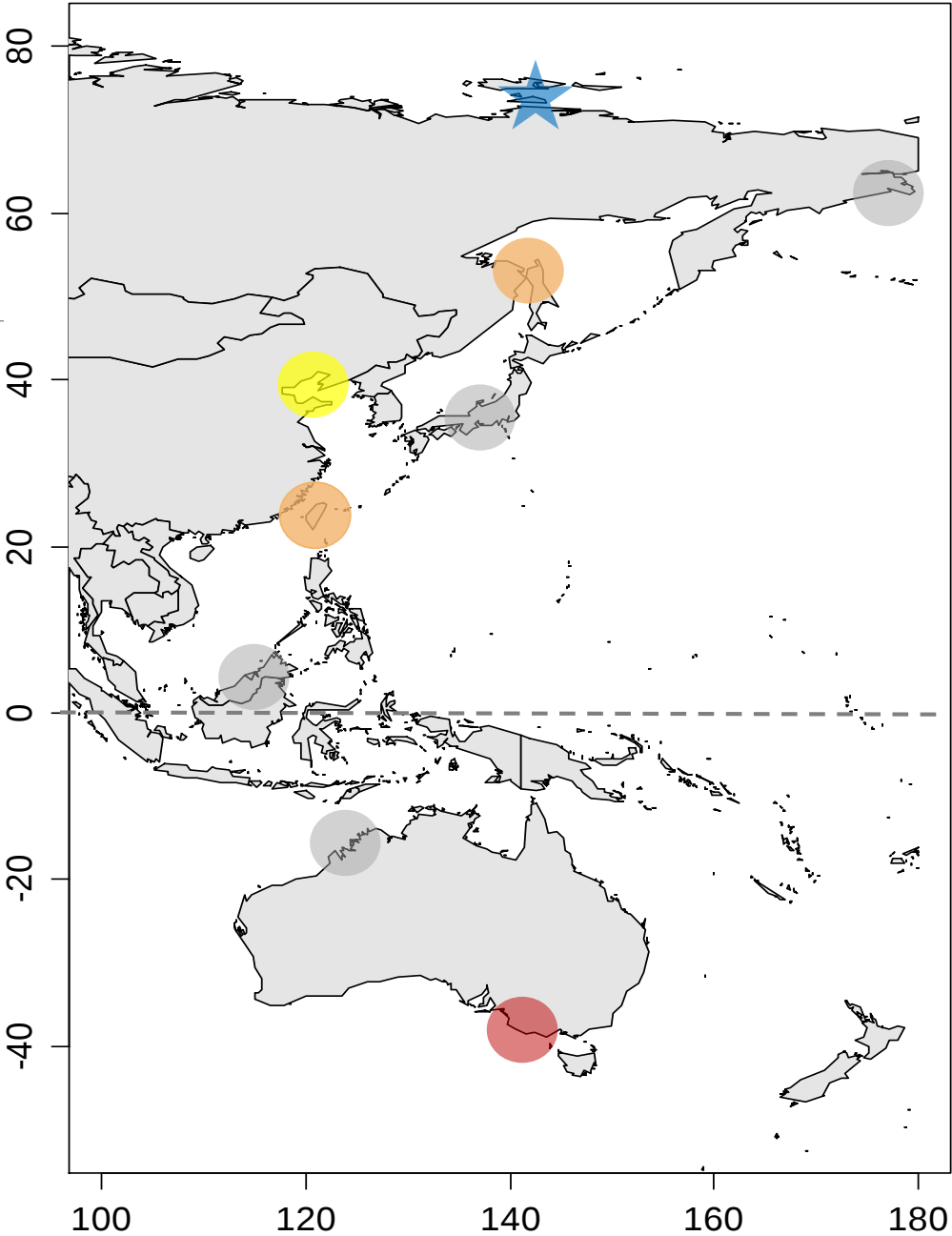
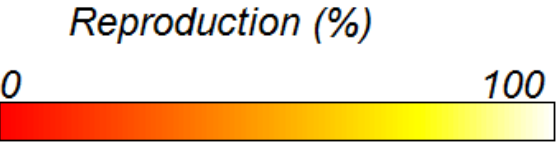
Allows for adaptive flexibility of individual migrants in response to changes



Consequences of decreasing
stopover habitat quality
(by 10-20%)

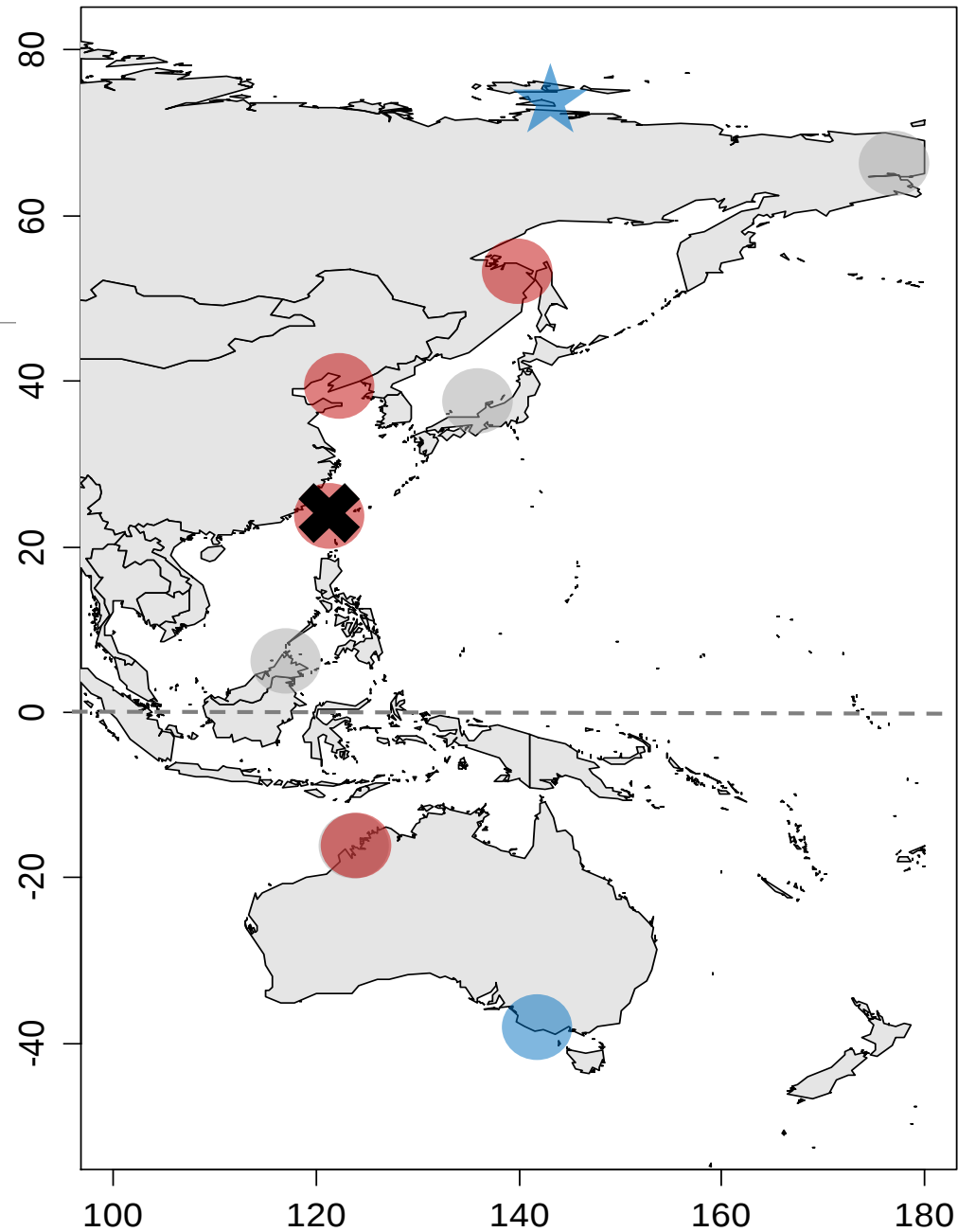


Consequences of decreasing
stopover habitat quality
(by 10-20%)



Consequences of habitat loss

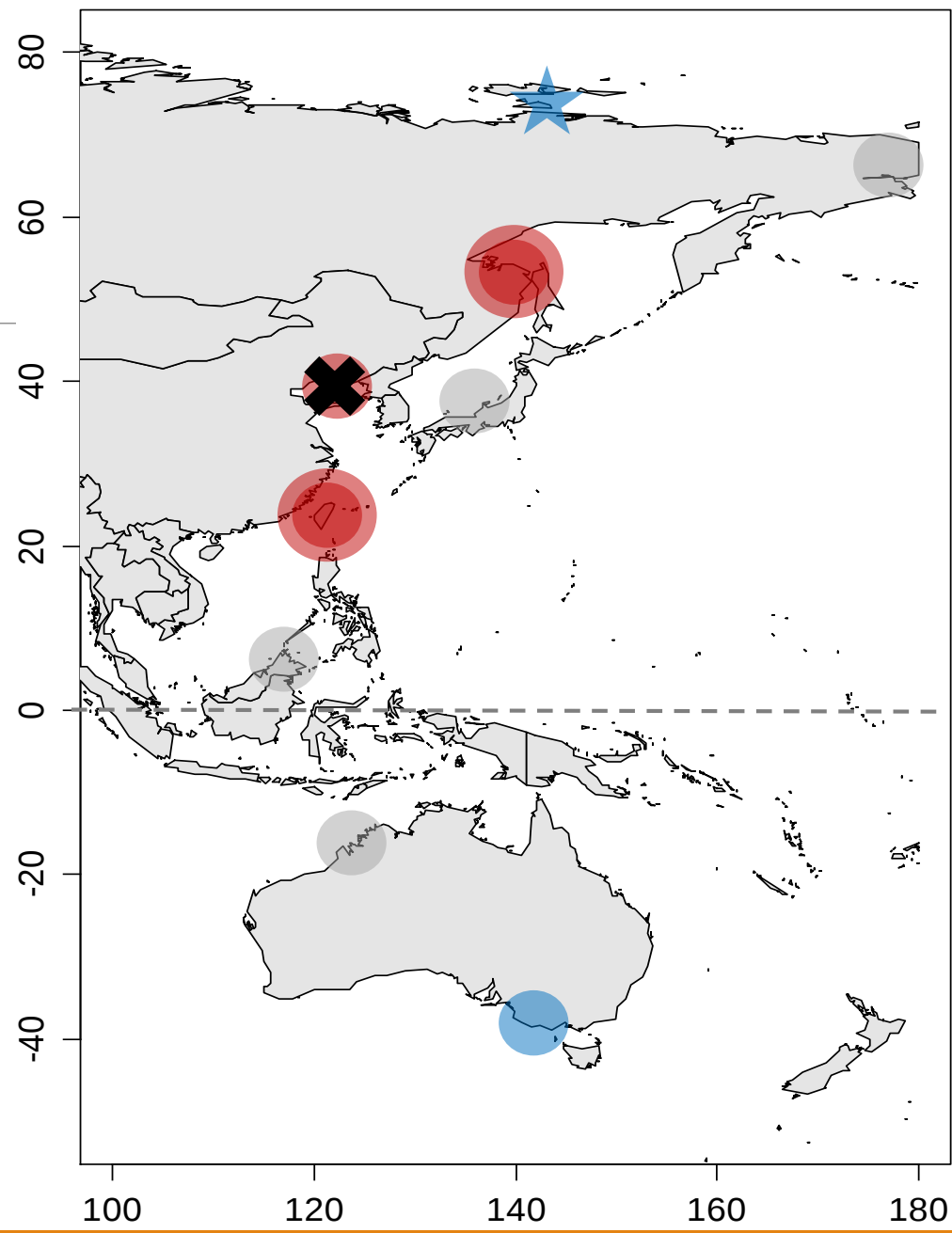
Taiwan



Reproduction ↓

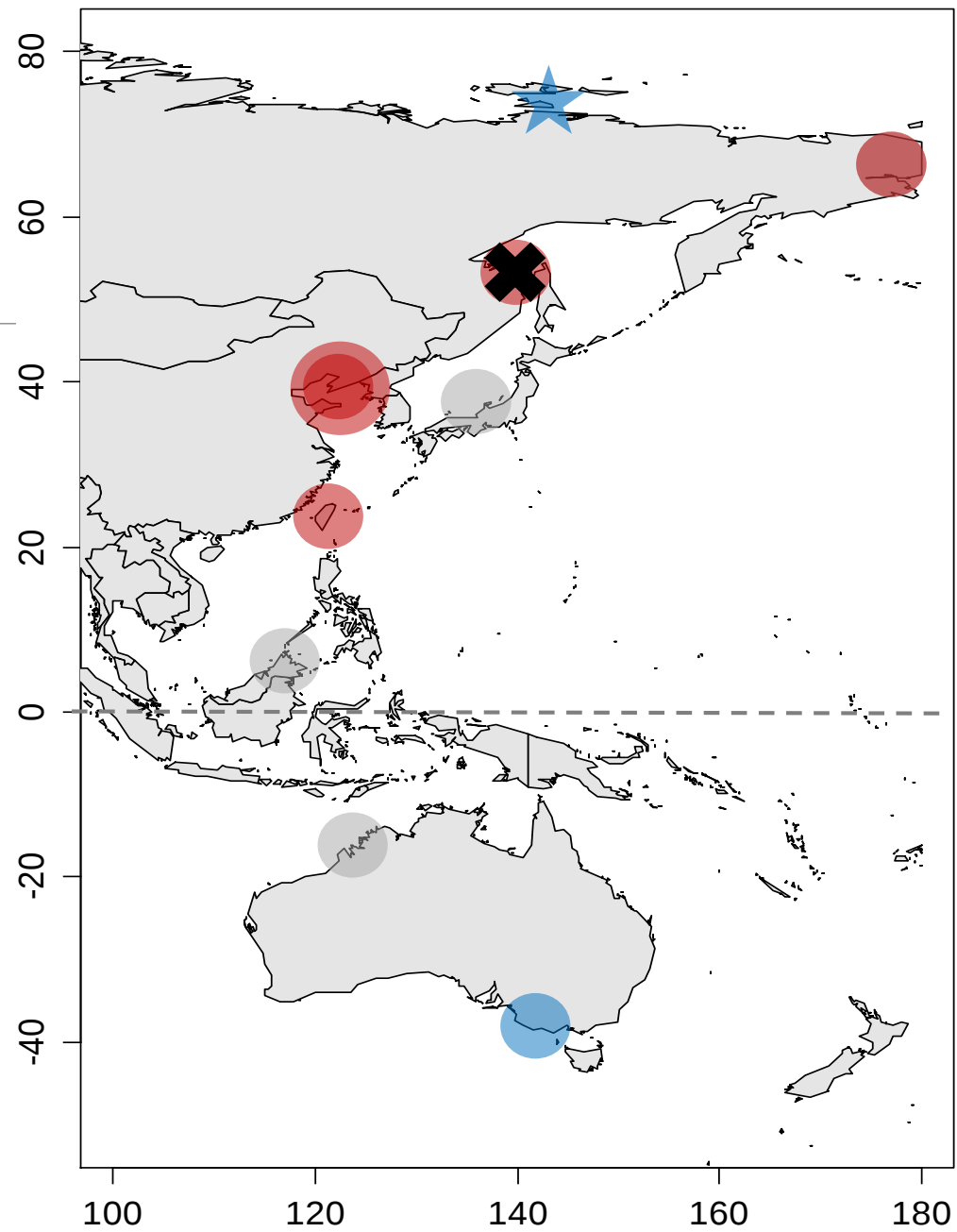
Consequences of habitat loss

Yellow Sea



Consequences of habitat loss

Sakhalin



- Model limitations

- Importance of high-quality wintering grounds for breeding success and survival
- Sites in high latitudes are crucial for maintaining migration and should be considered when prioritizing conservation efforts
- Degradation of sites along the flyway may affect breeding success and survival

Acknowledgements

The Australian Wader Study Group

The Arctic Breeding Conditions Survey

Australian Wildlife Society



Thank you



What happens if sites are lost?

Empirical data
Baseline model

Taiwan was always used unless excluded

Similar for NYS and Sakhalin

Lower reproductive success if Taiwan was excluded

