Using telemetry to elucidate the roles of estuarine predators and likely impacts of restoration

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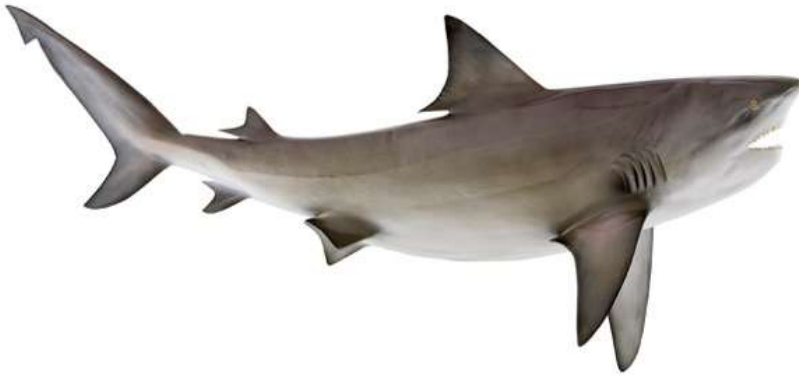
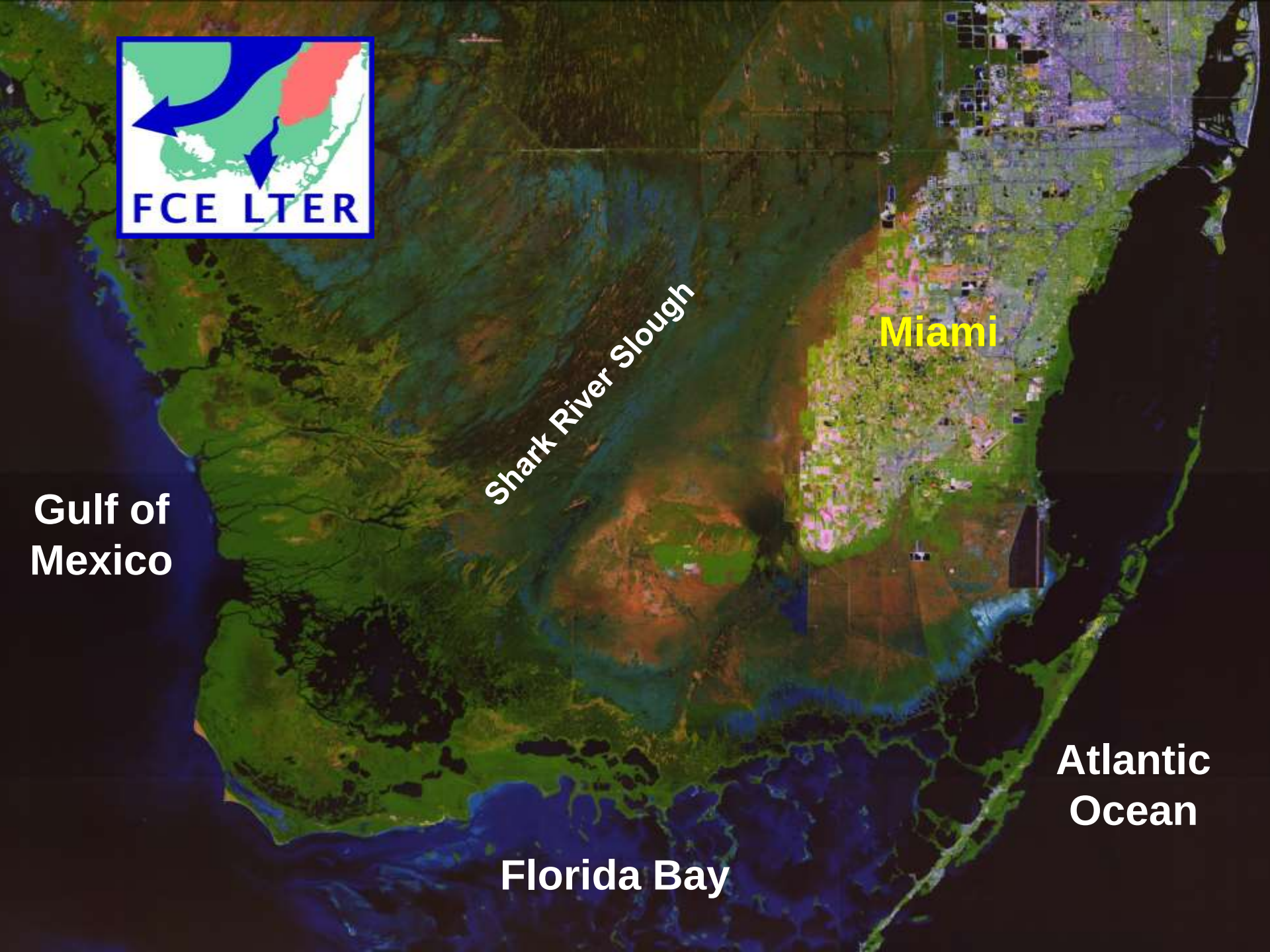
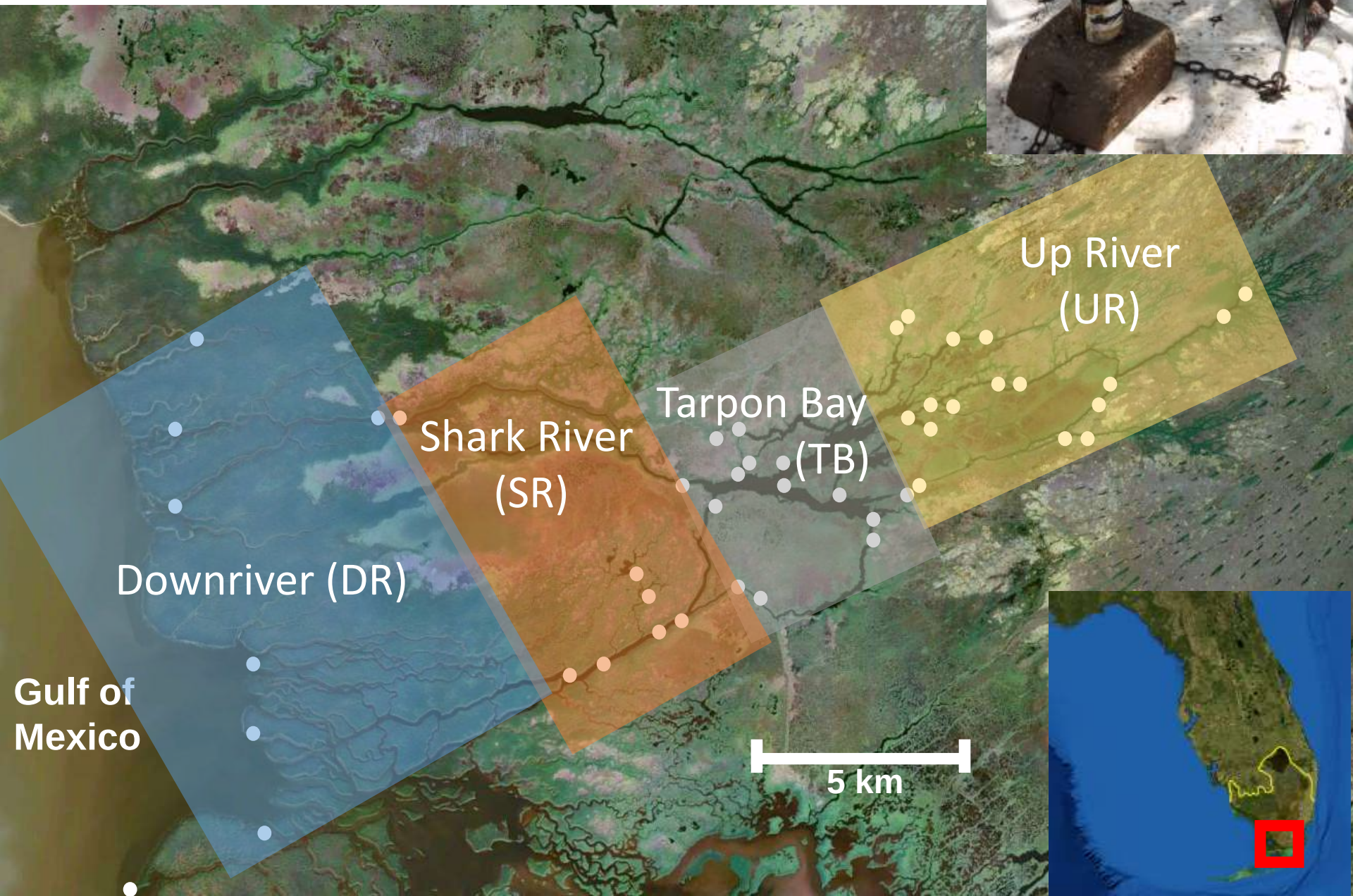
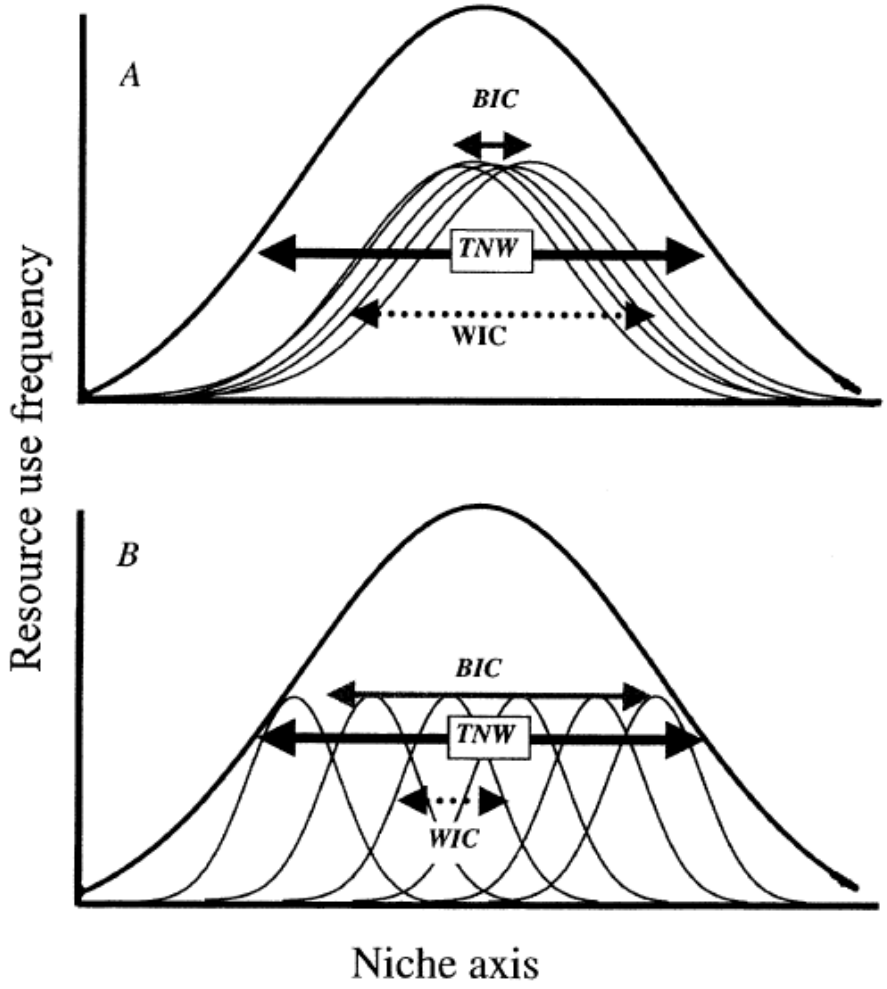



FCE LTER
Shark River Slough
Miami
Gulf of Mexico
Atlantic Ocean
Florida Bay

Passive acoustic telemetry



Inter-individual variation in movements



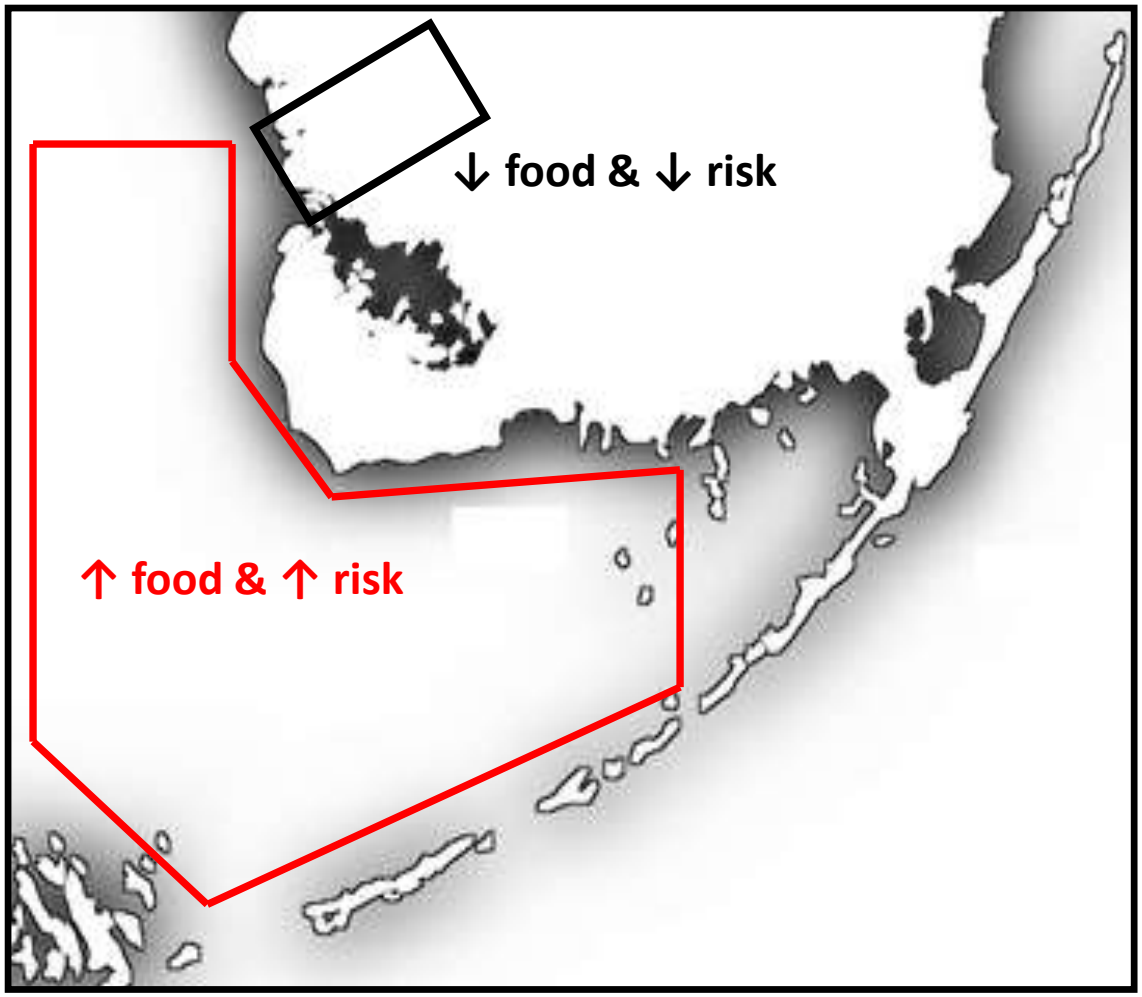
- Demographics
- Individual specialization

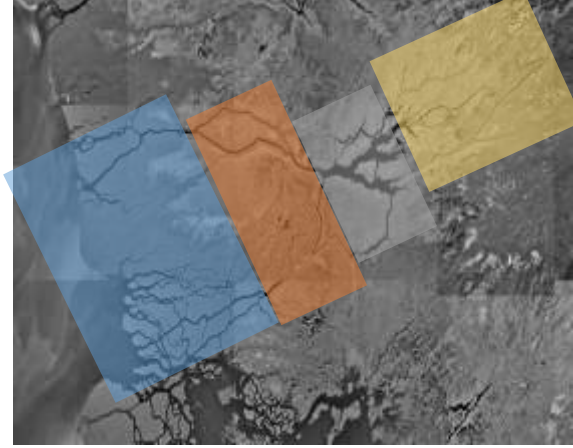
TNW = Total Niche Width

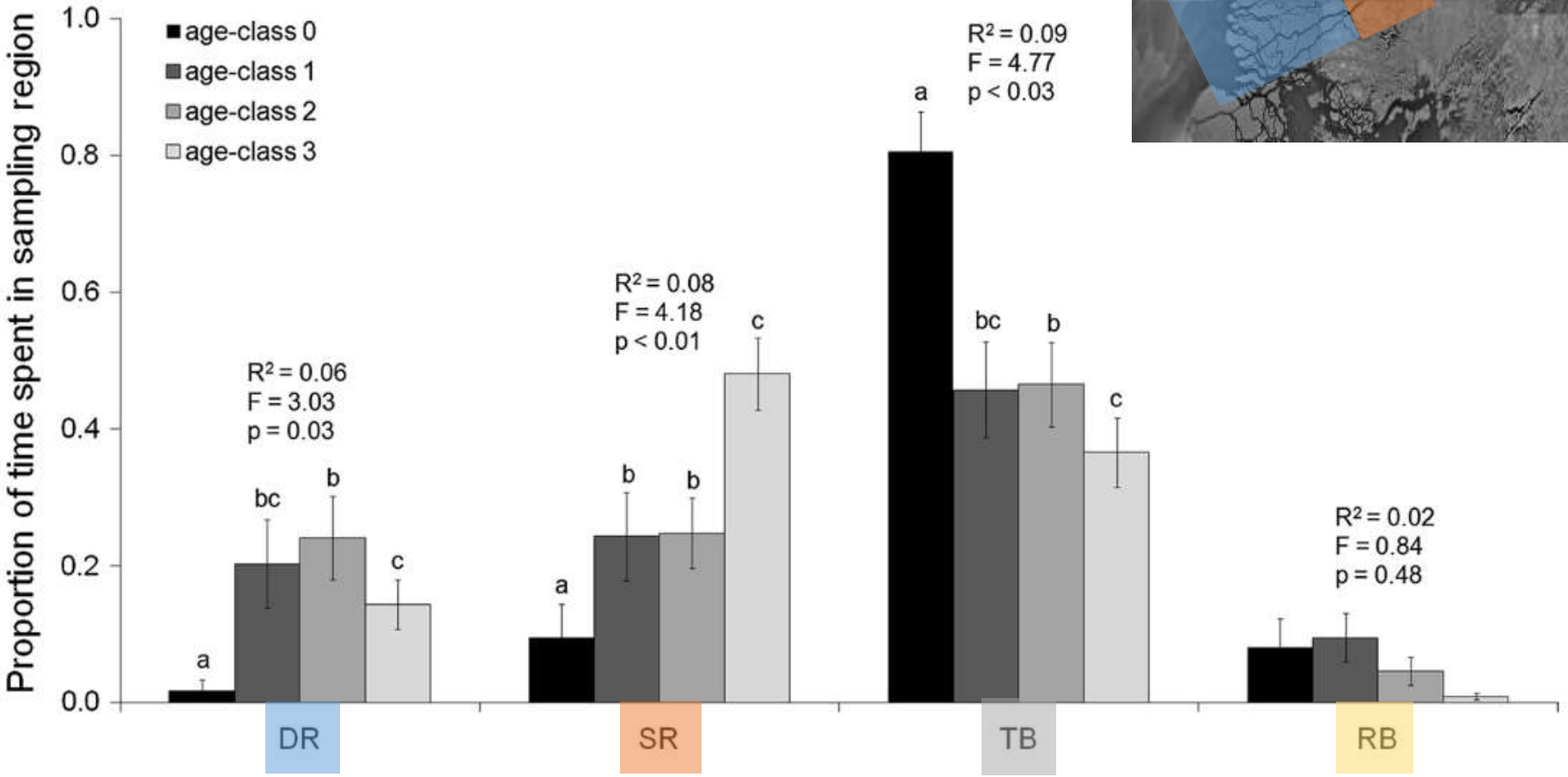
WIC = Within Individual Component of variation

BIC = Between Individual Component of variation

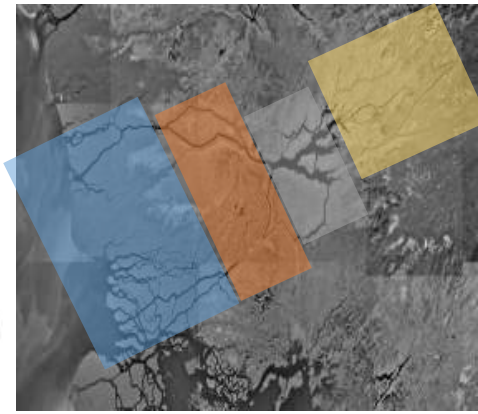
Bolnick et al. 2003; *American Naturalist*

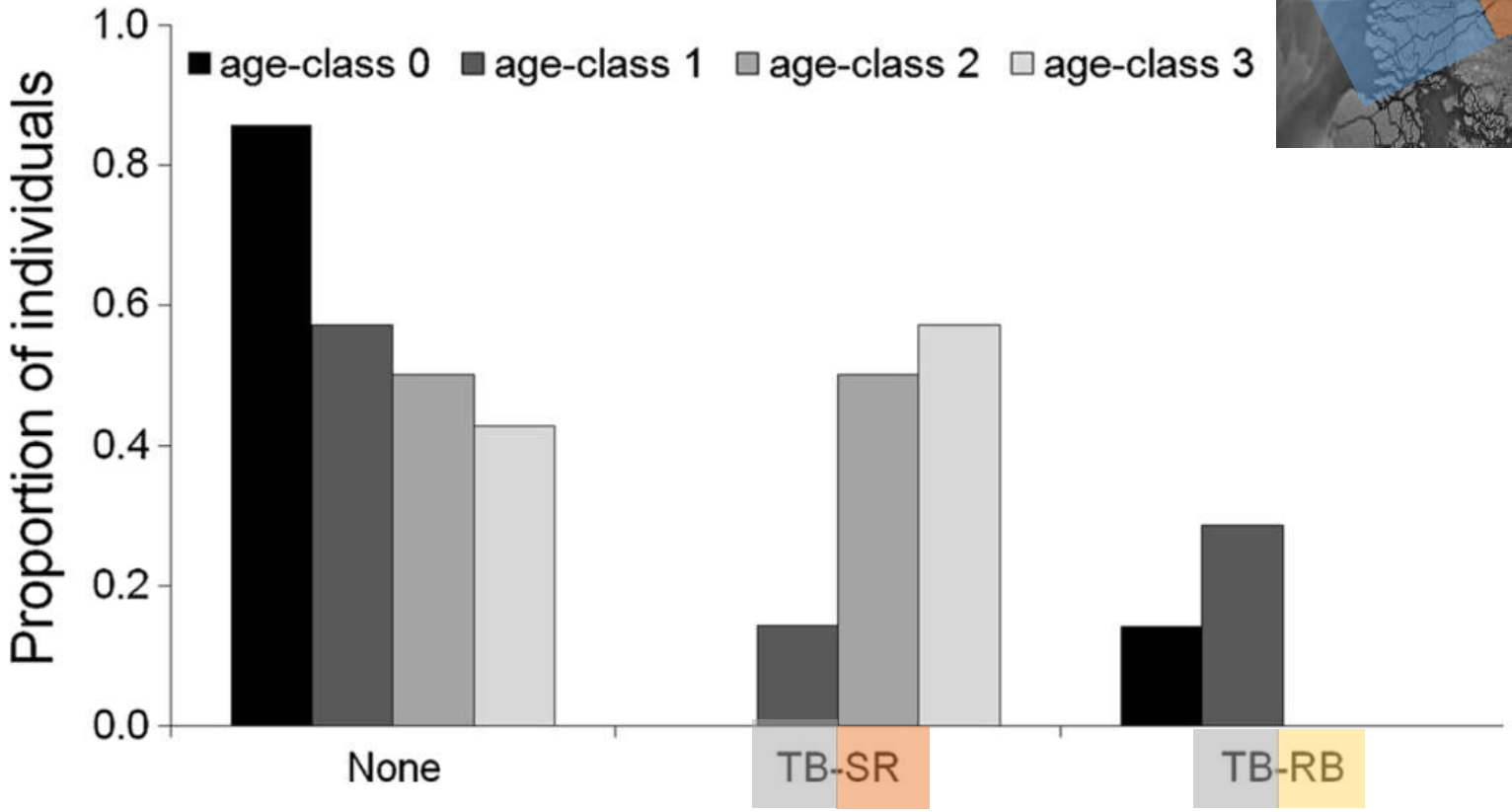

↓ food & ↓ risk
↑ food & ↑ risk



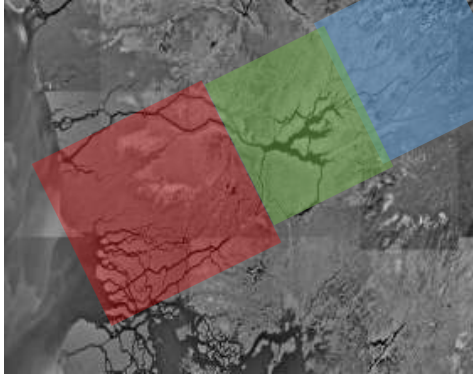


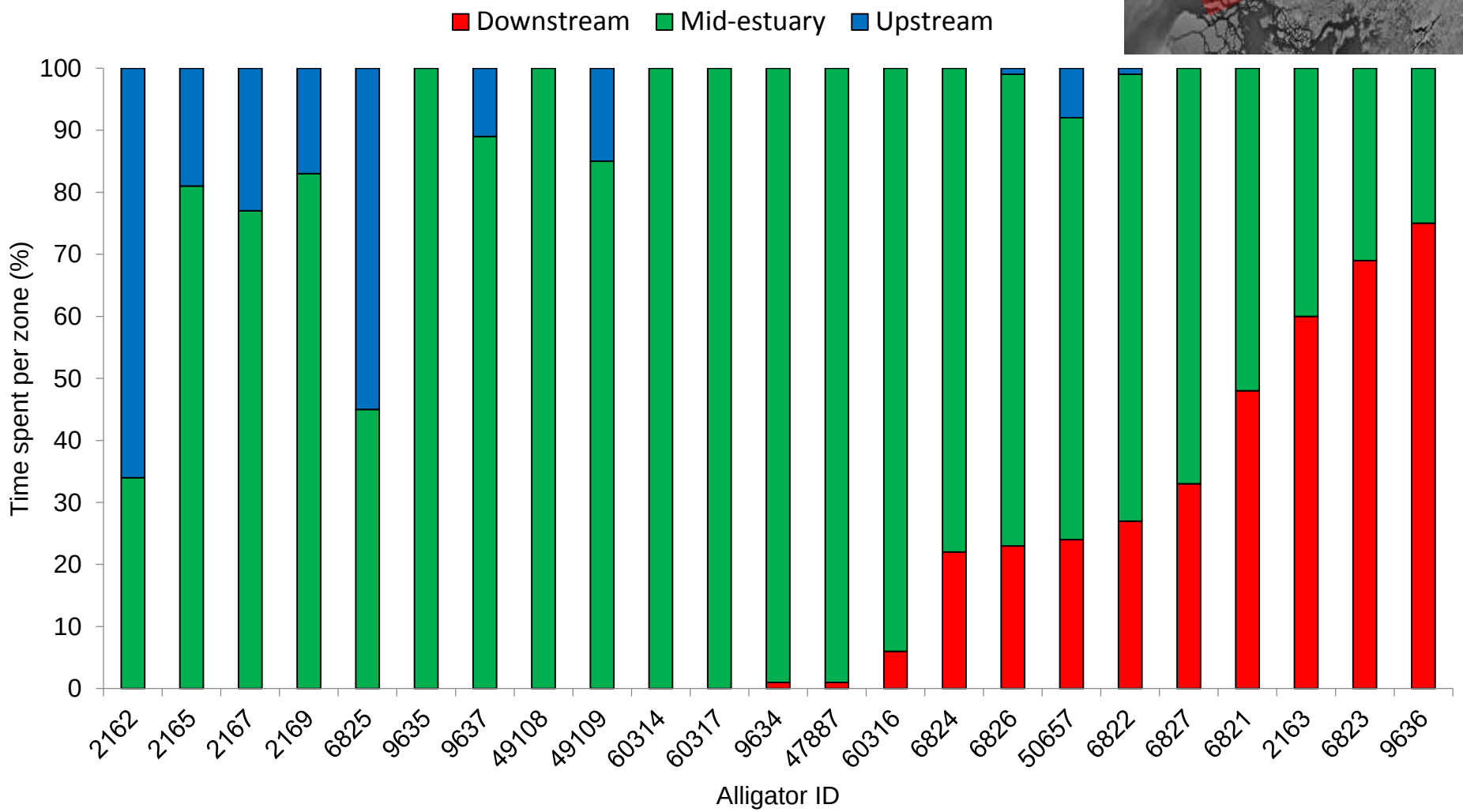
Matich and Heithaus 2015; *Oecologia*





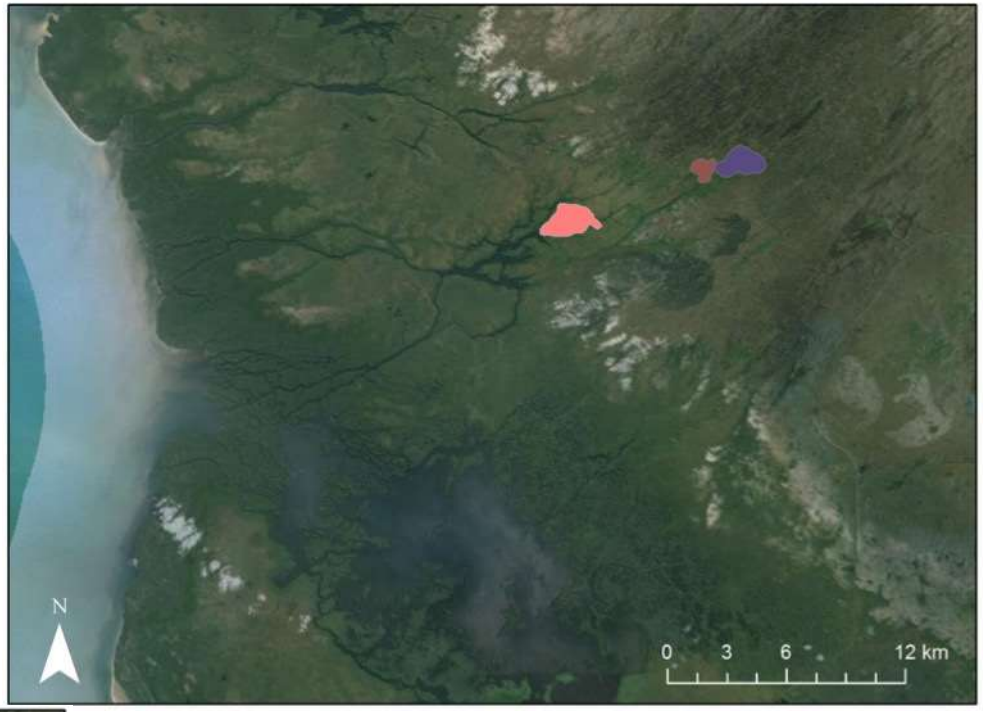
Matich and Heithaus 2015; *Oecologia*



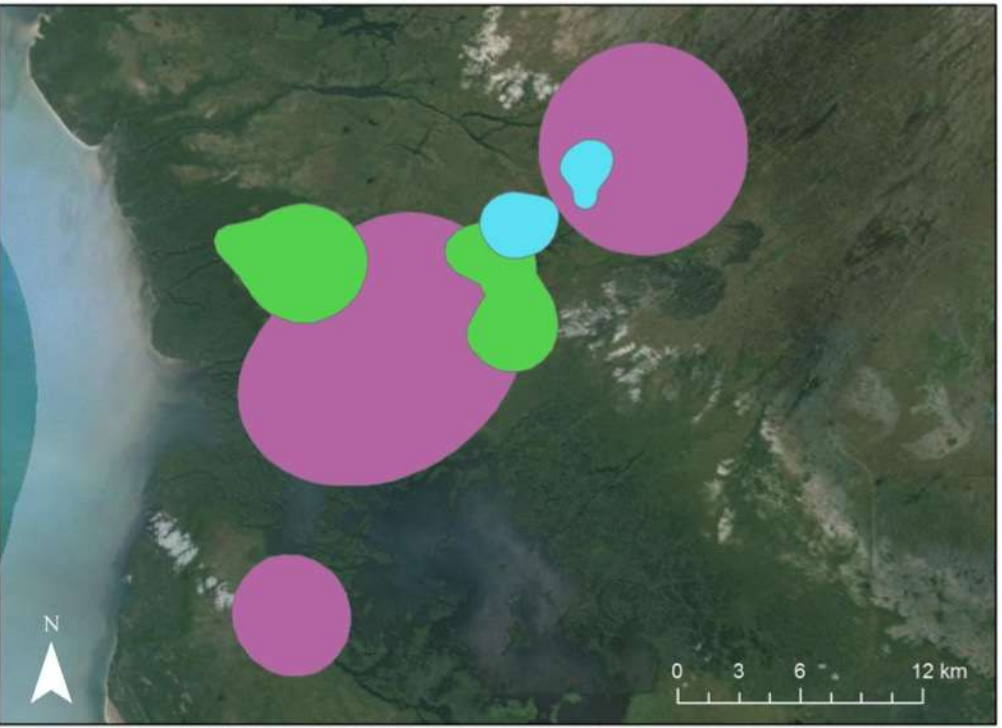


Rosenblatt et al. 2013; *Estuarine, Coastal, and Shelf Sci.*

Satellite Tracking:
Jan 2013 to Jan 2016

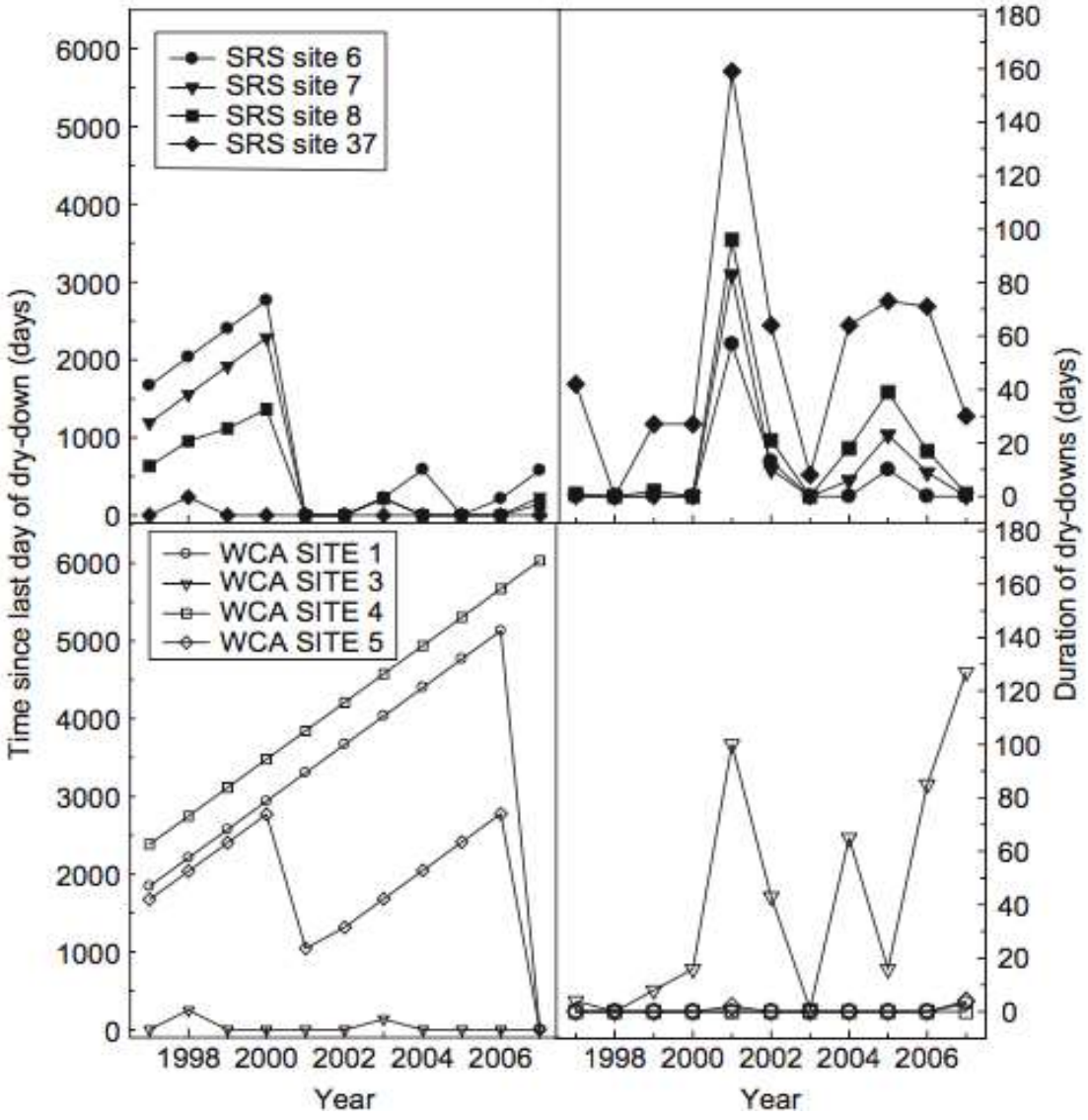


A subset has very large ranges

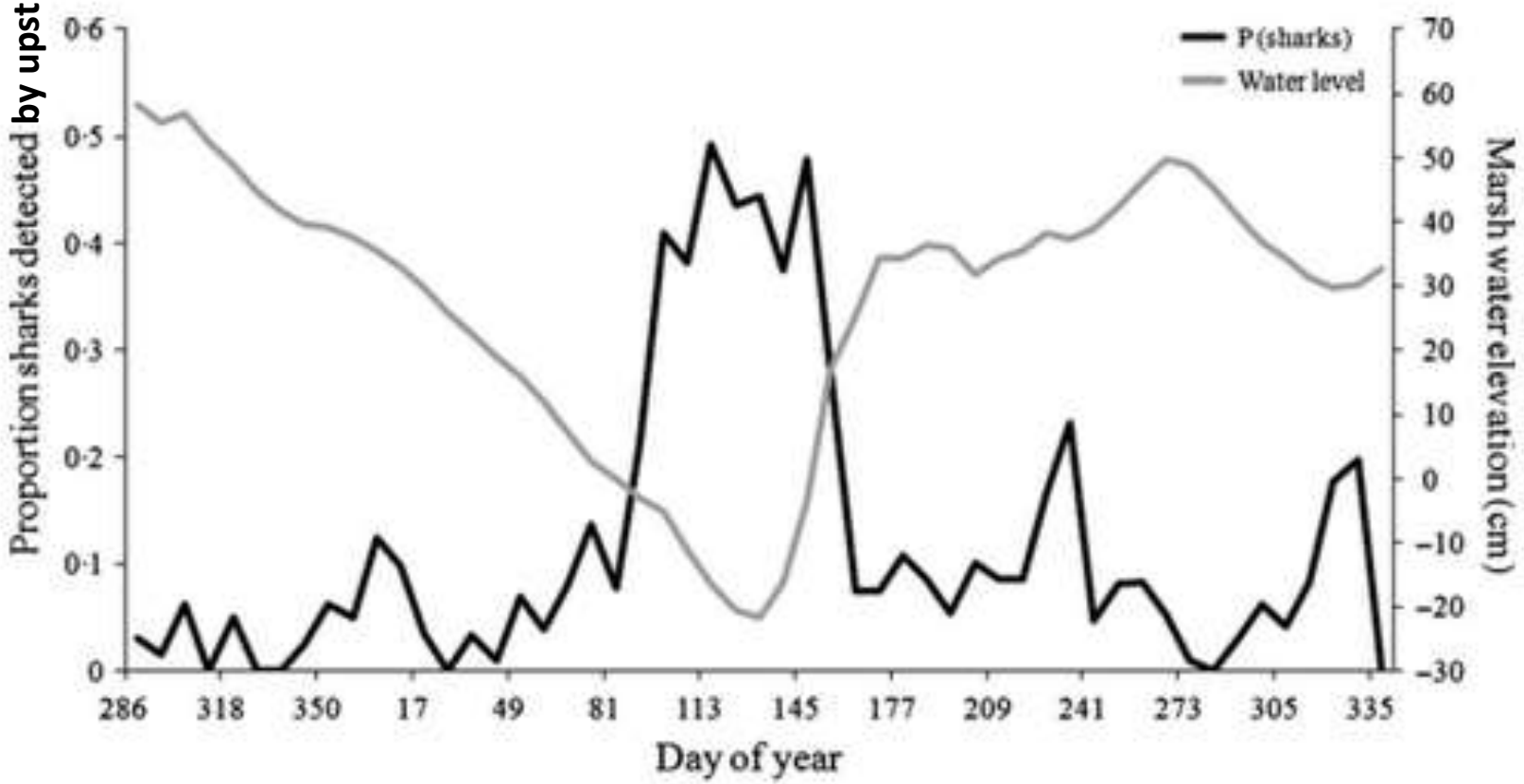


Some exhibit small ranges

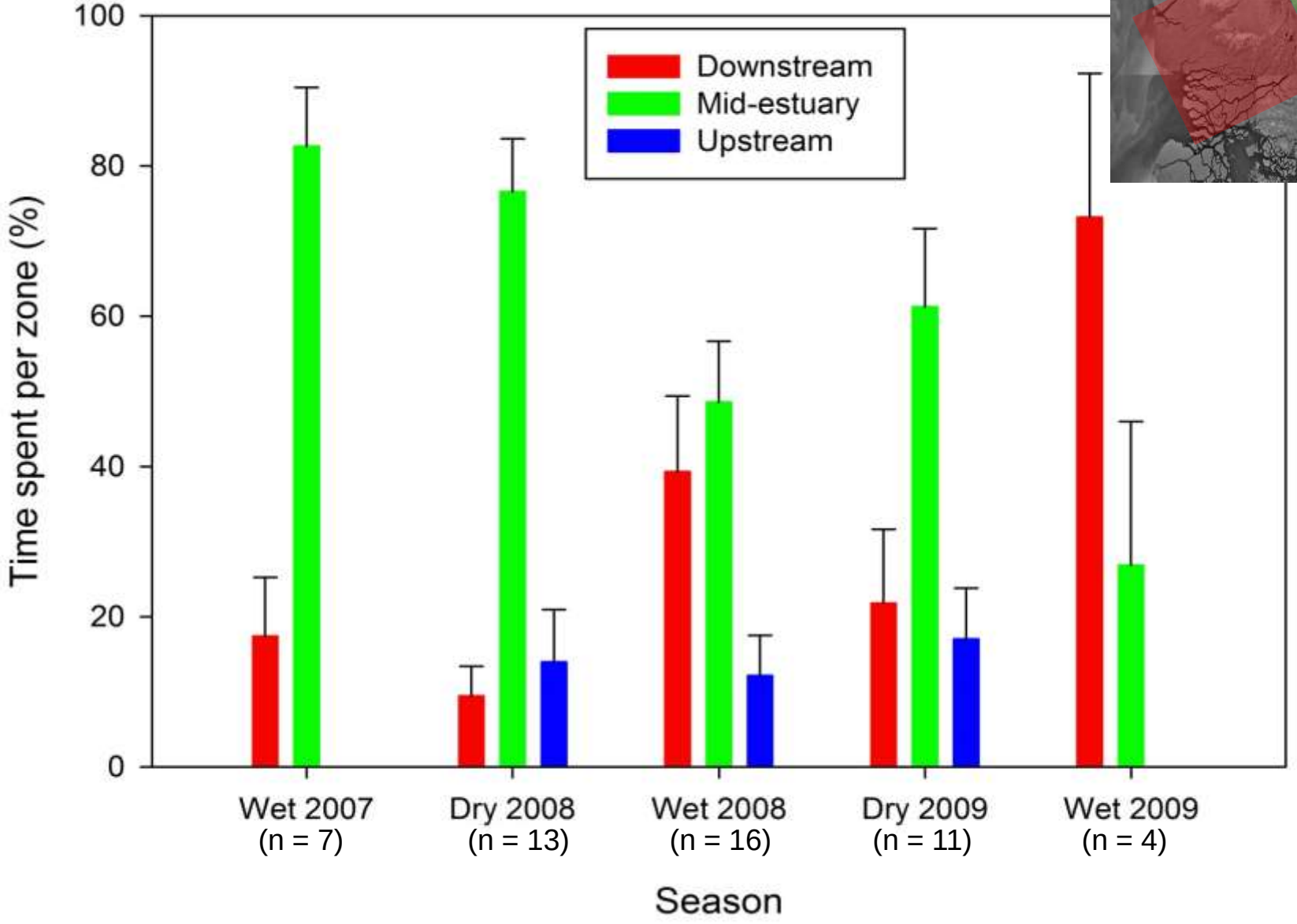
Seasonal and inter-annual variation in movement



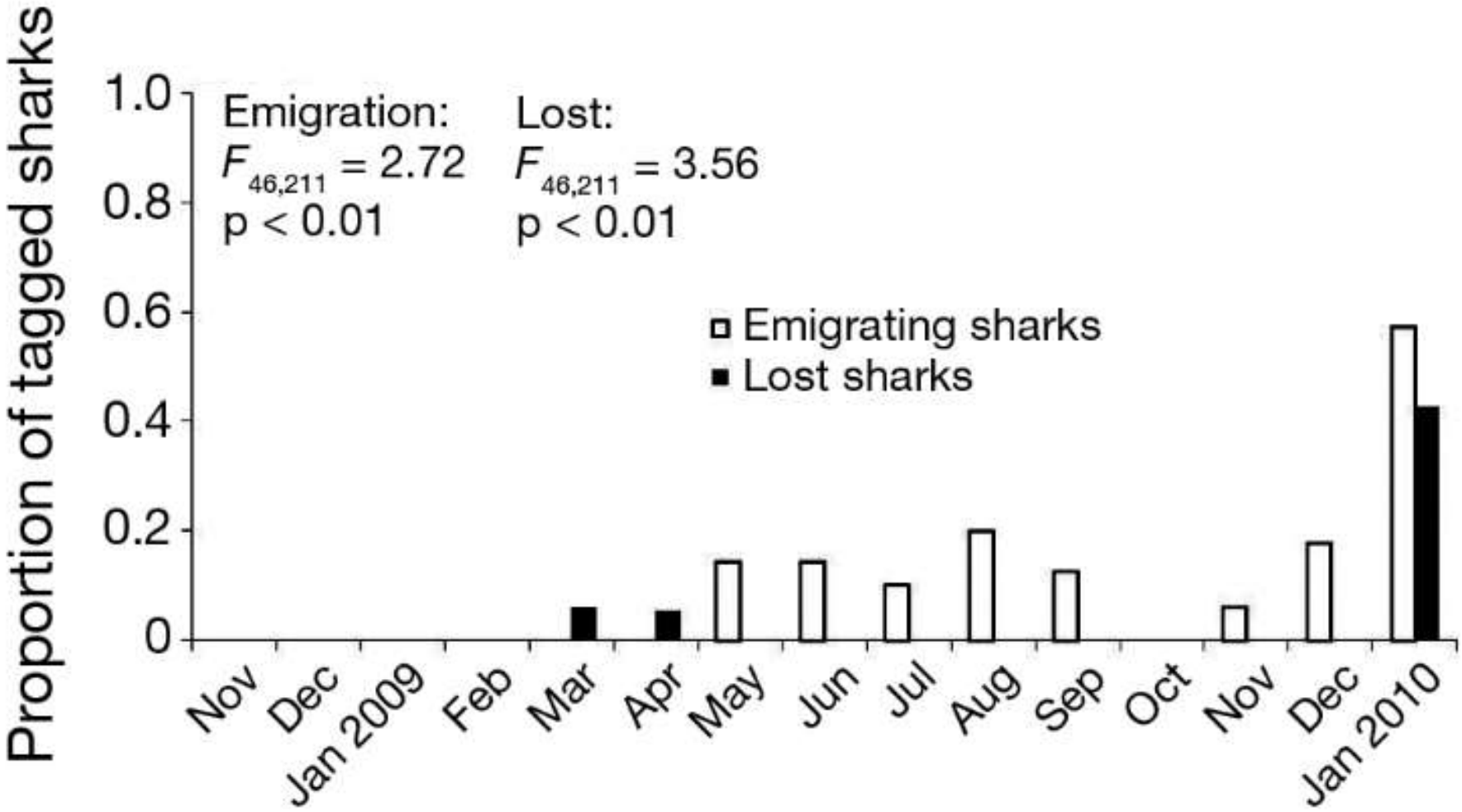
Parkos et al. 2011; *Oikos*



Matich and Heithaus 2014; *J. Animal Ecology*



Rosenblatt and Heithaus 2011; *J. Animal Ecology*



Matich and Heithaus 2012; *M.E.P.S.*

A predictive framework…

Acknowledgements

- Mazzotti Lab
- Heithaus Lab