Piping plover demography and condition throughout the annual cycle: the role of predation and disturbance

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With significant contributions from: Kelsi Hunt, Chelsea Weithman, Dan Gibson, Meryl Friedrich, and Jim Fraser

DEPARTMENT OF Fish and Wildlife CONSERVATION

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A little more about the Missouri River

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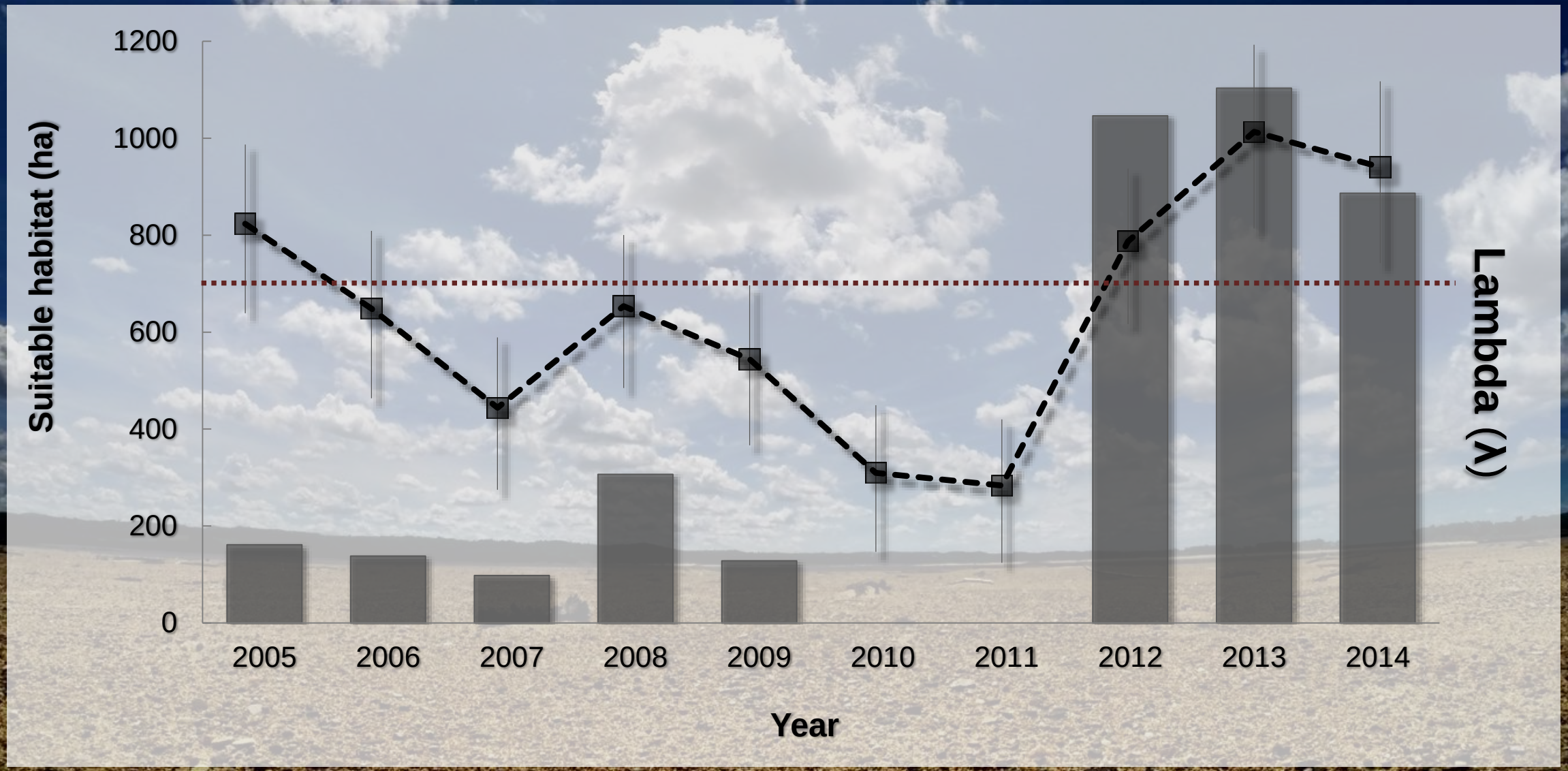
The importance of habitat & nesting density



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What did we learn about condition?

[1]Catlin et al. 2014

The importance of habitat & nesting density

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The importance of habitat & nesting density

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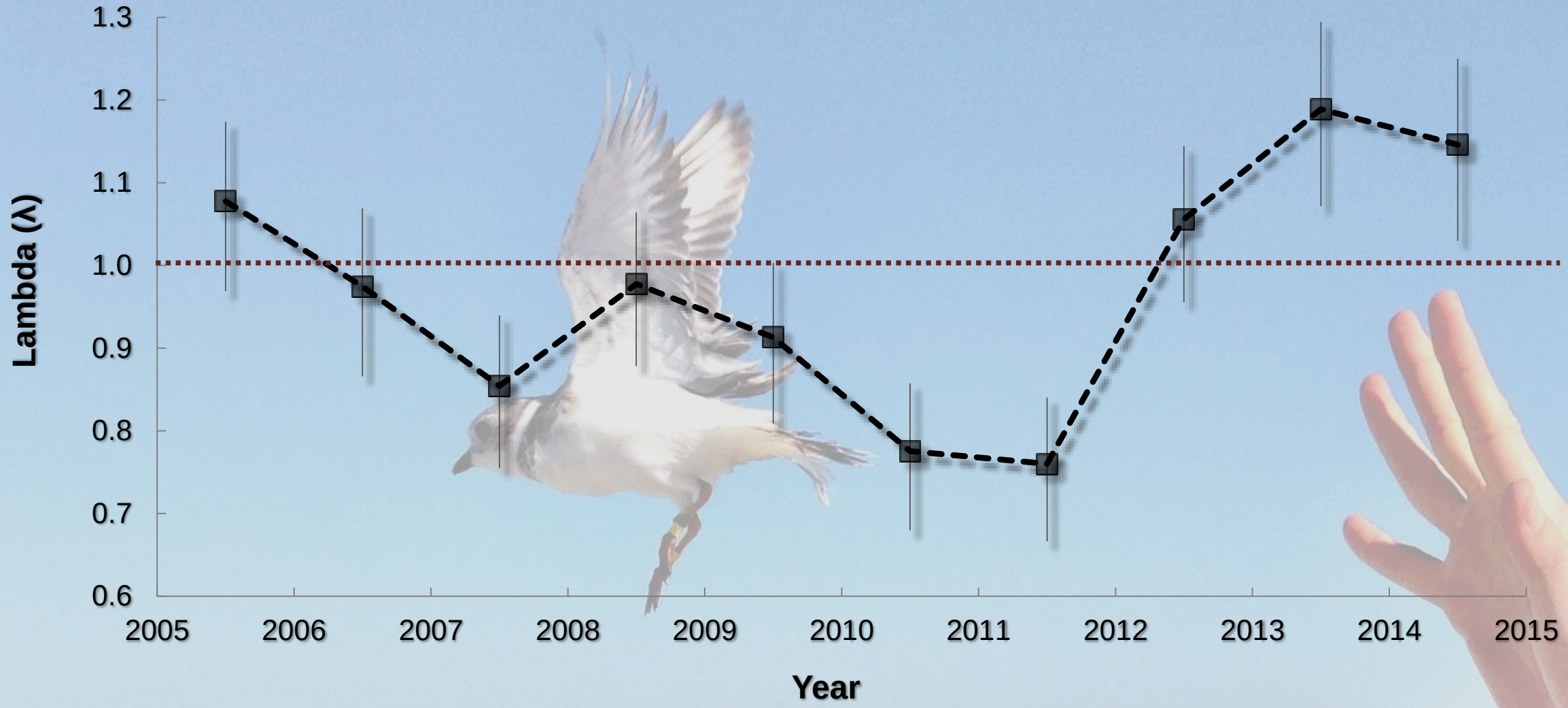
Missouri River population growth (λ)



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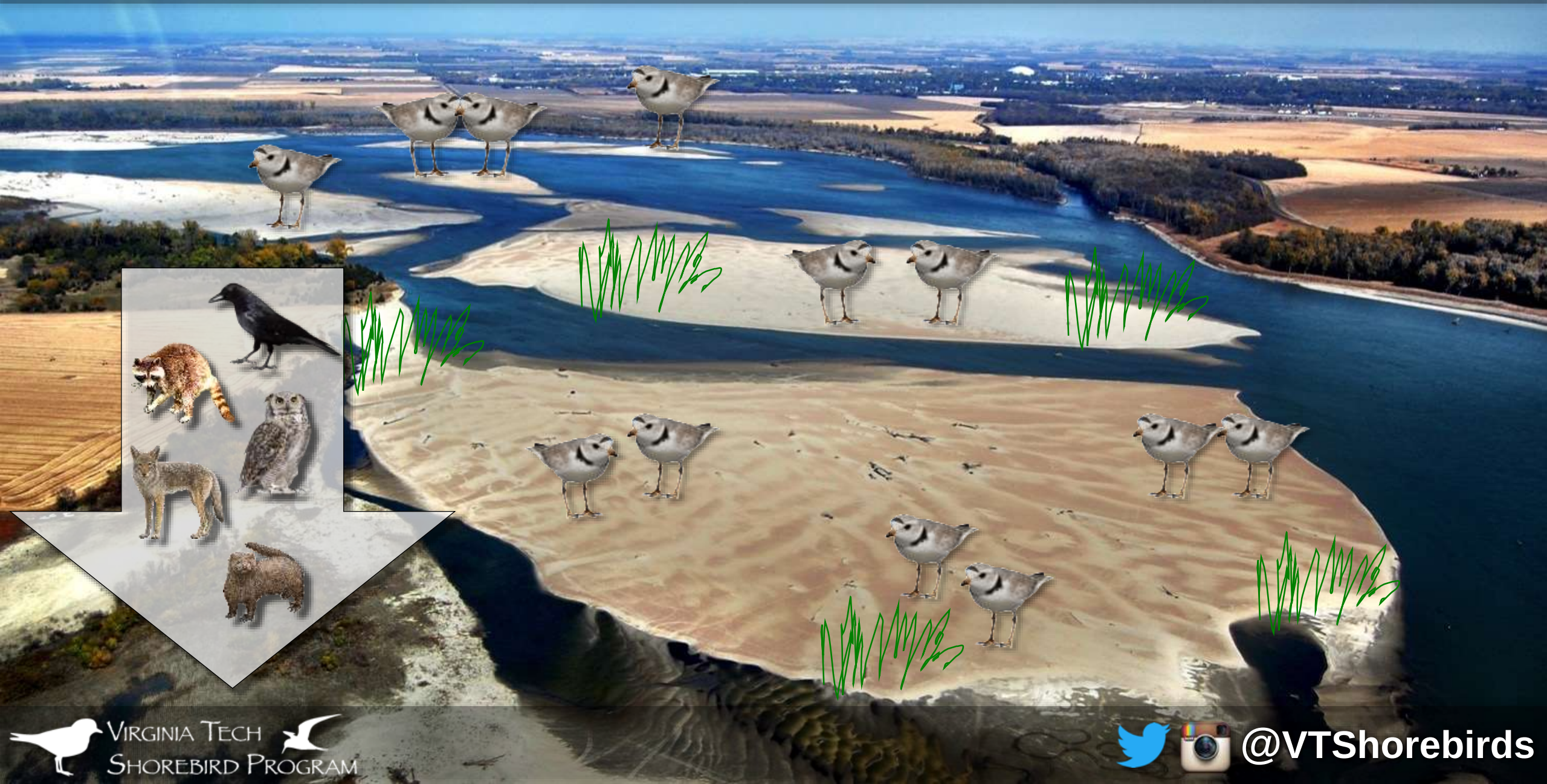
A critical experiment



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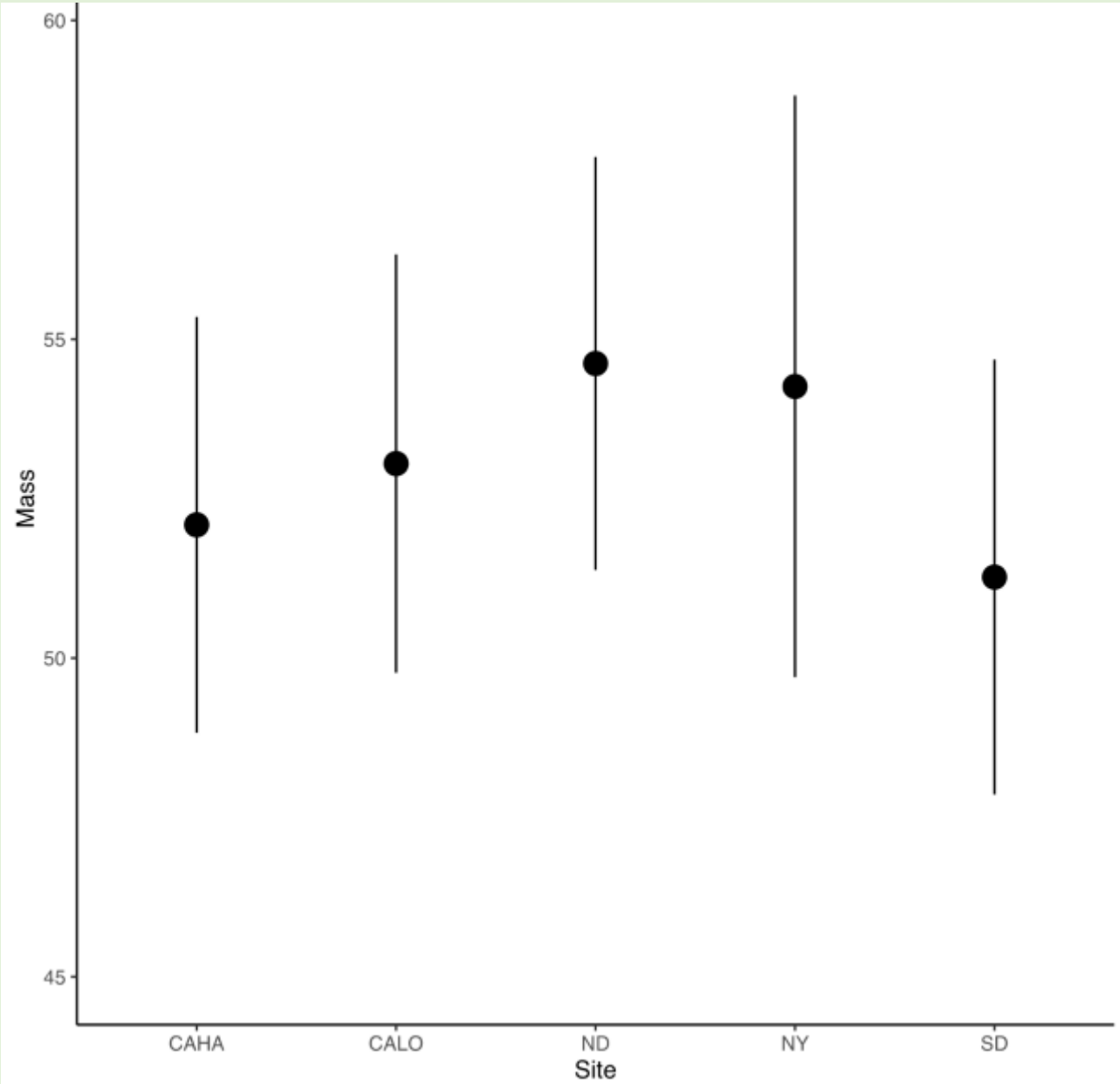
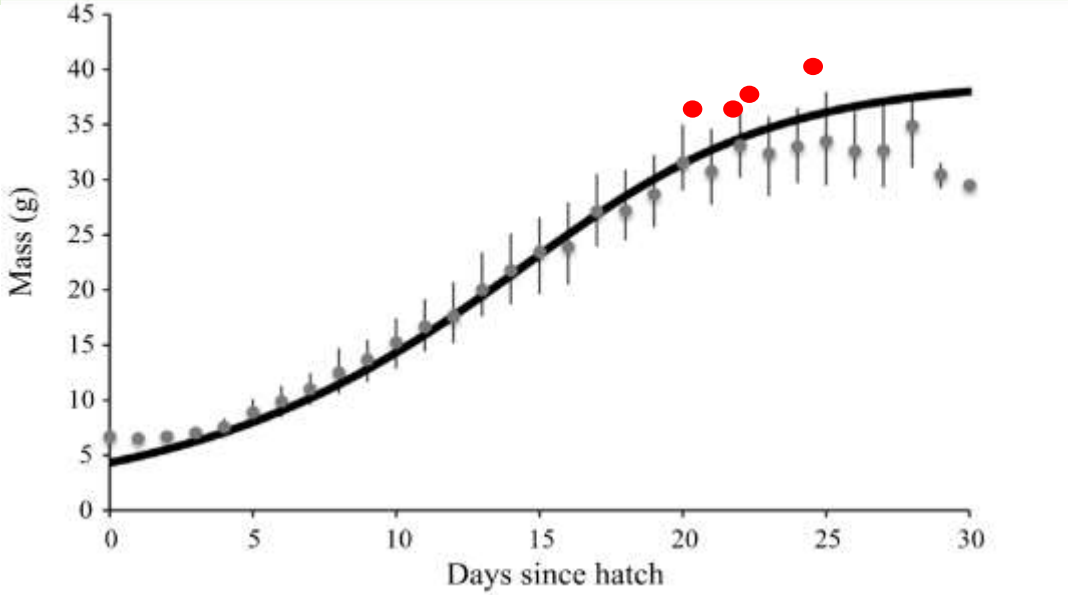
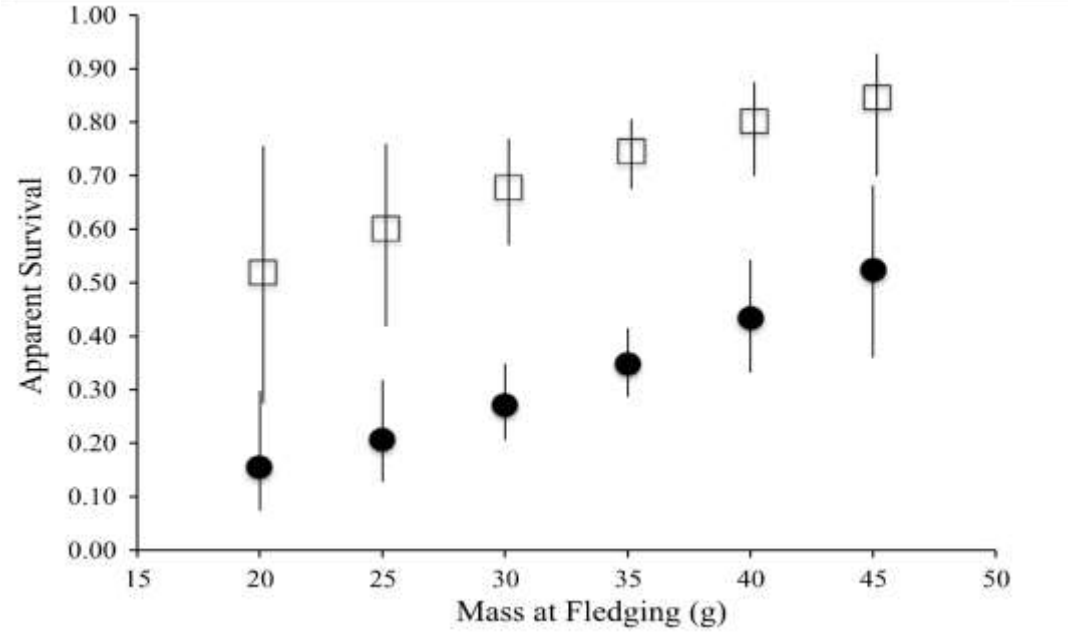
Condition



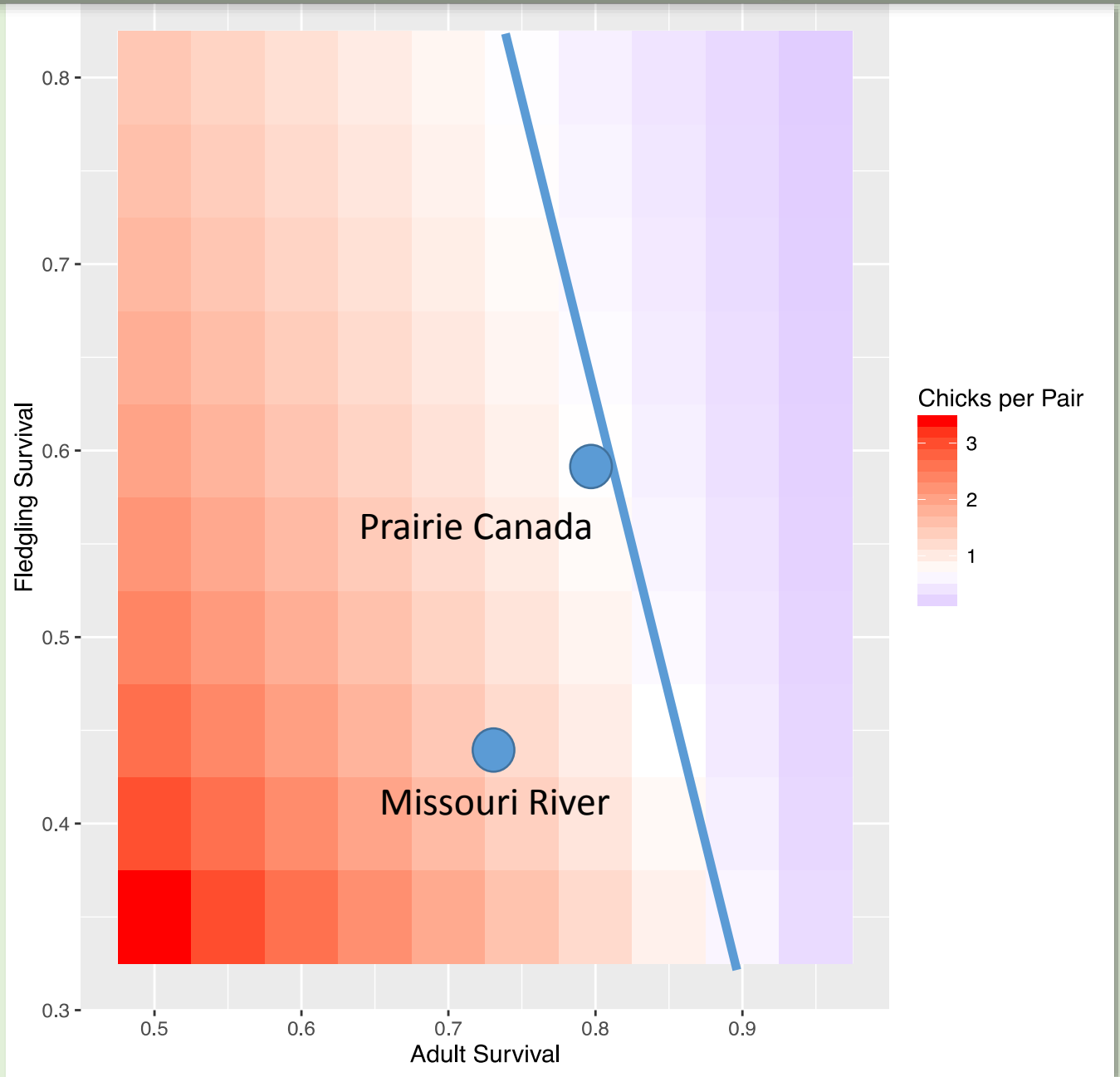




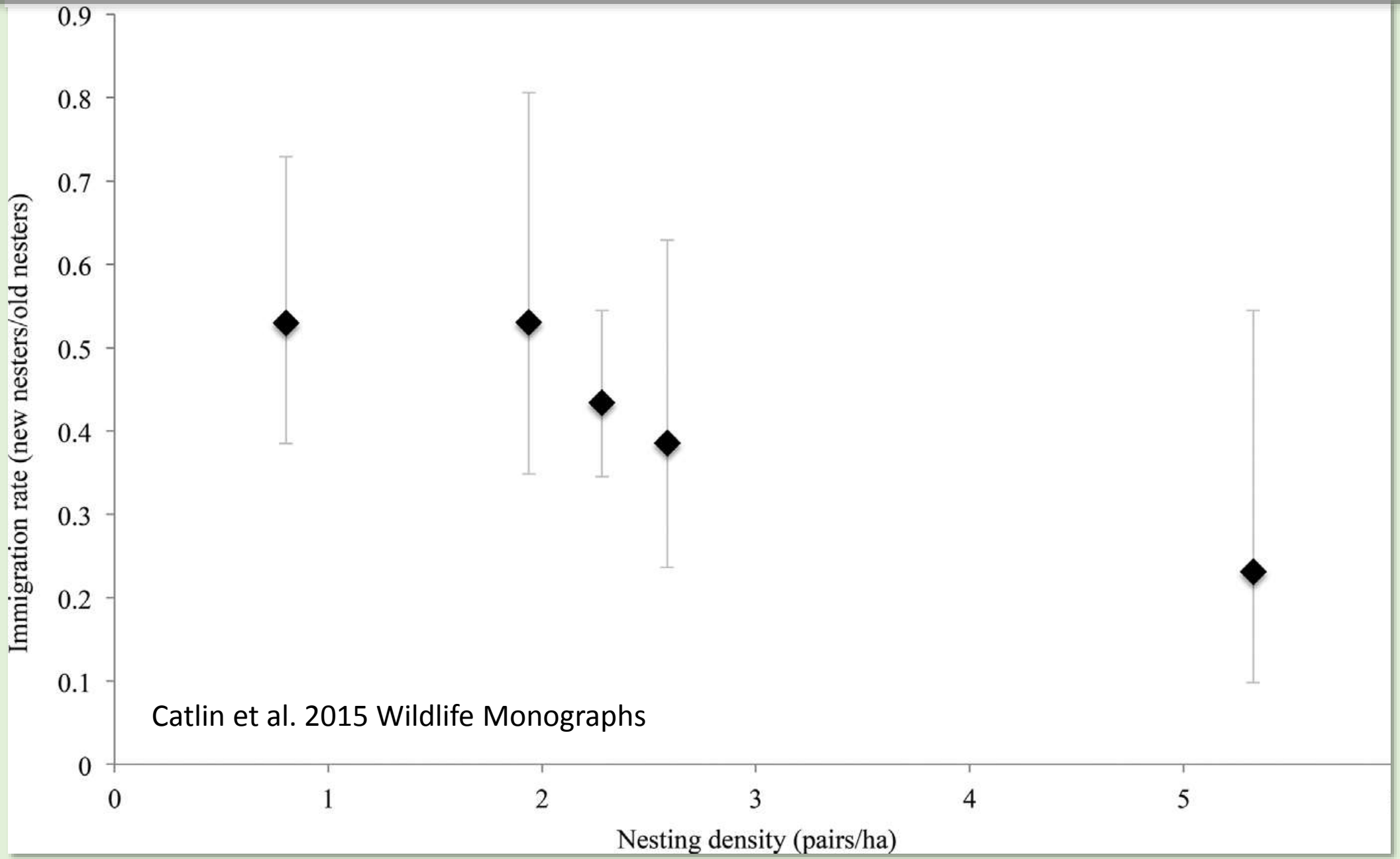
Catlin et al. 2015 Biological Conservation

Stationarity...how do we get there?

Reproductive output and population growth

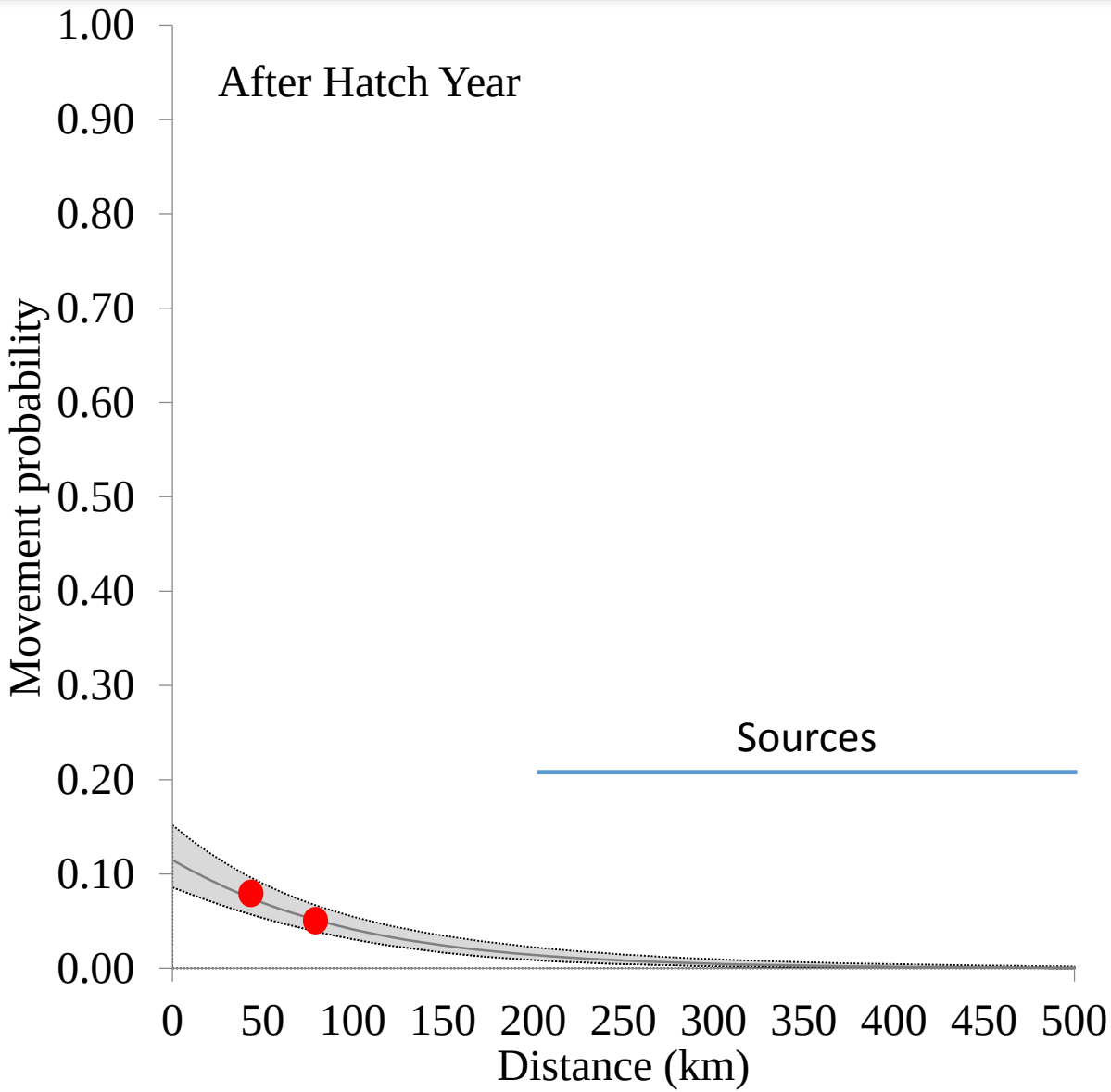


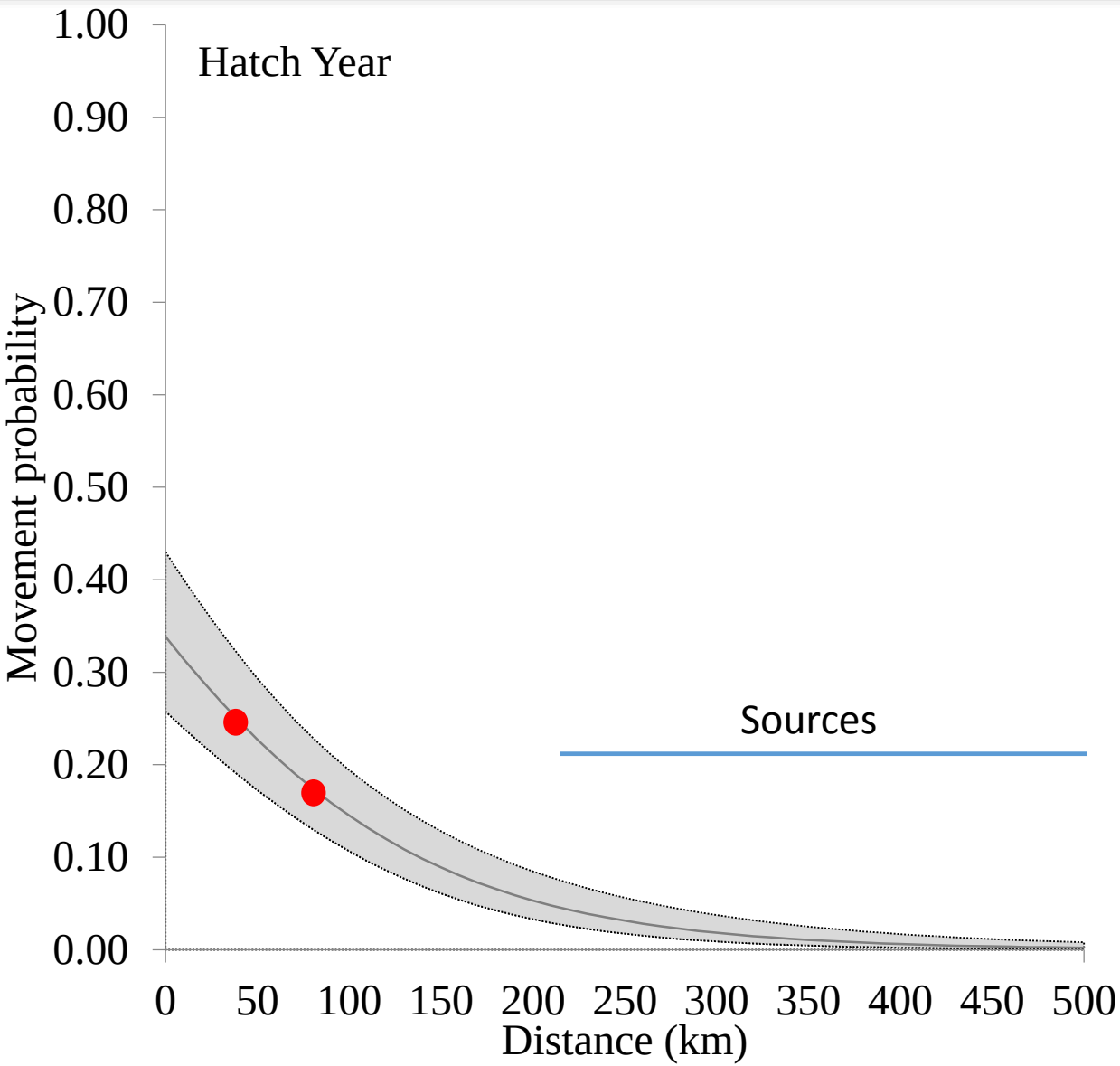
Immigration and density



Catlin et al. 2015 Wildlife Monographs

Immigration and distance

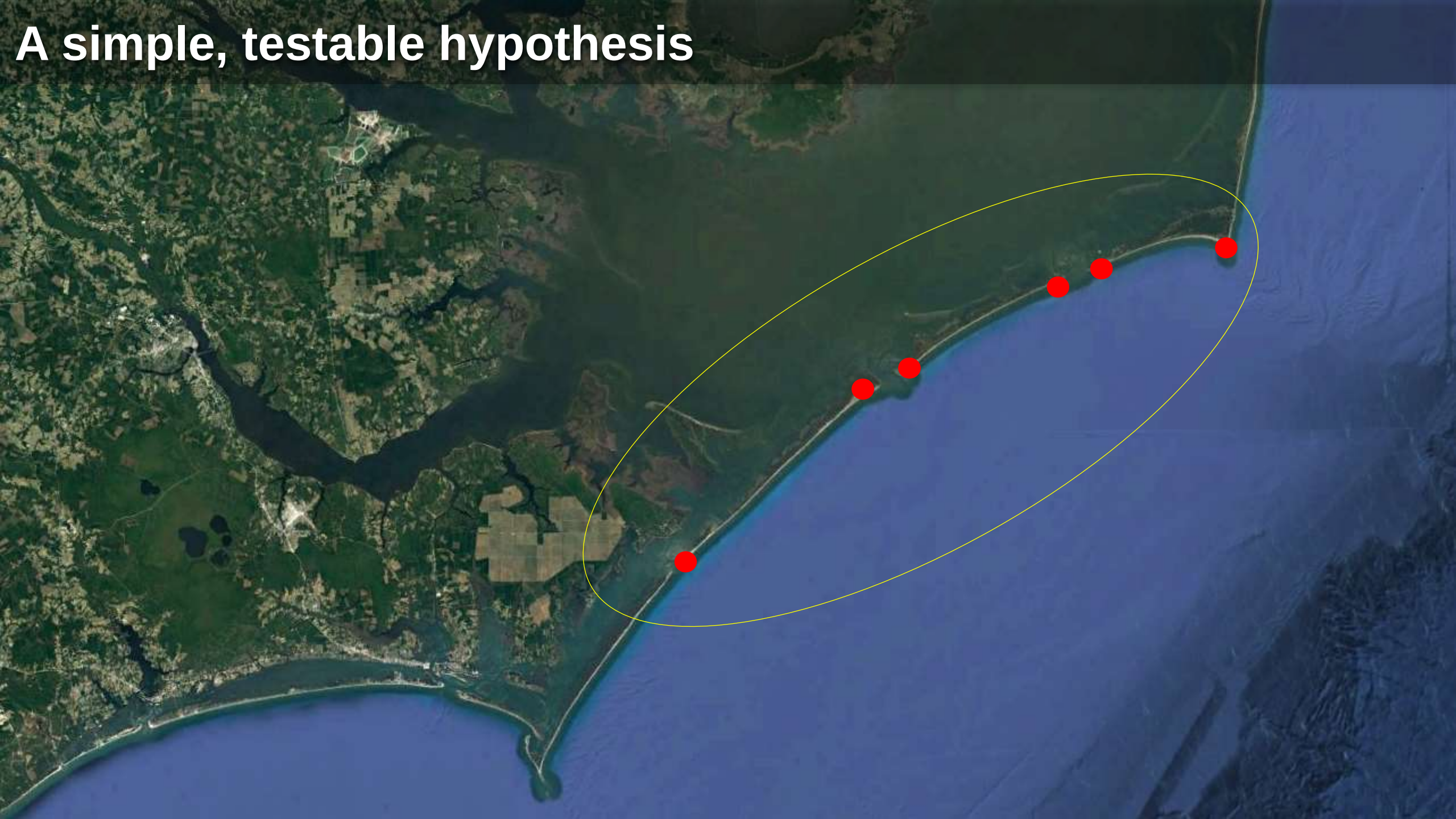




Adapted from Catlin et al. 2016 – Movement Ecology

How many populations do we have?

A simple, testable hypothesis



What do we know about disturbance?

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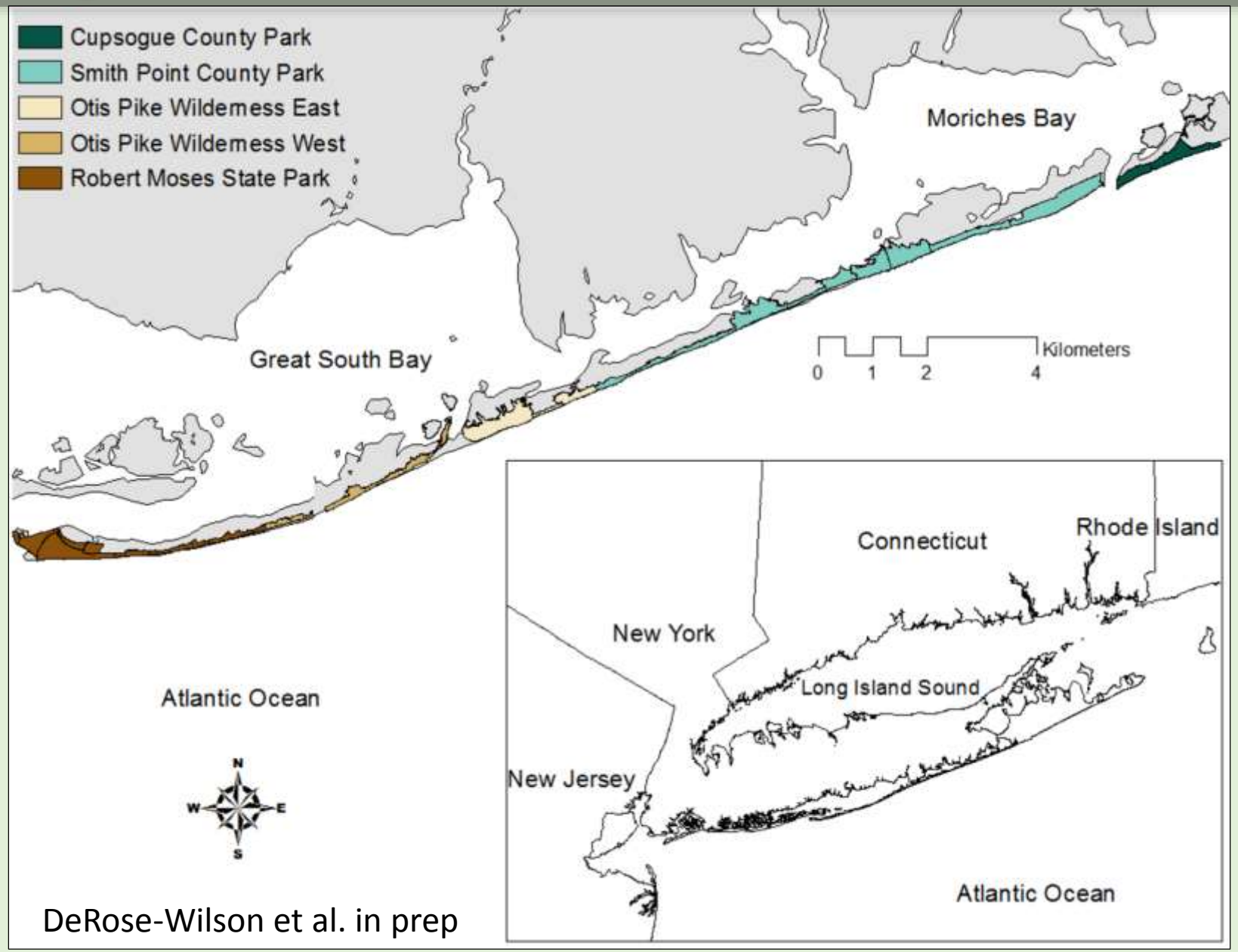
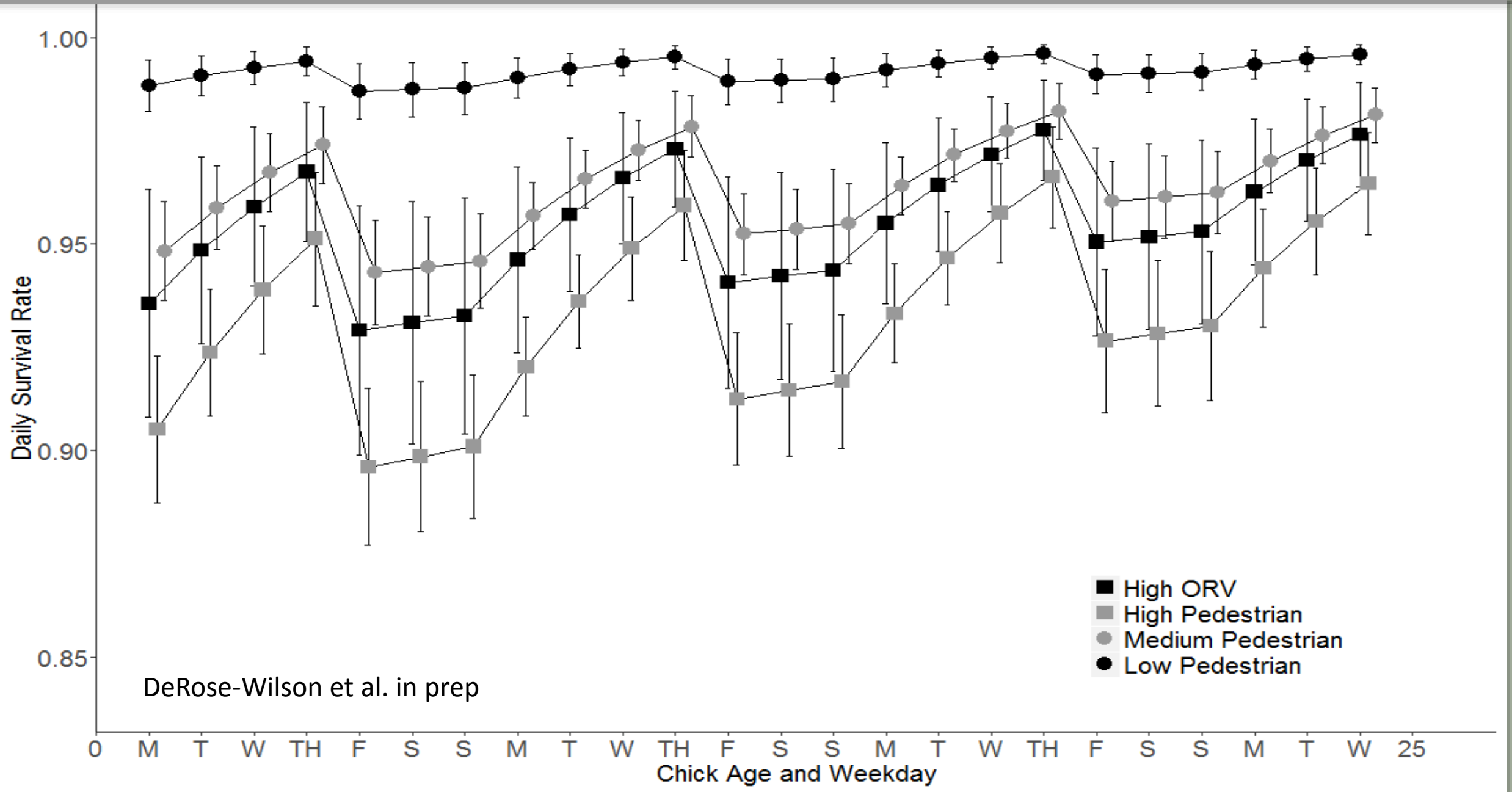
Migration stopover



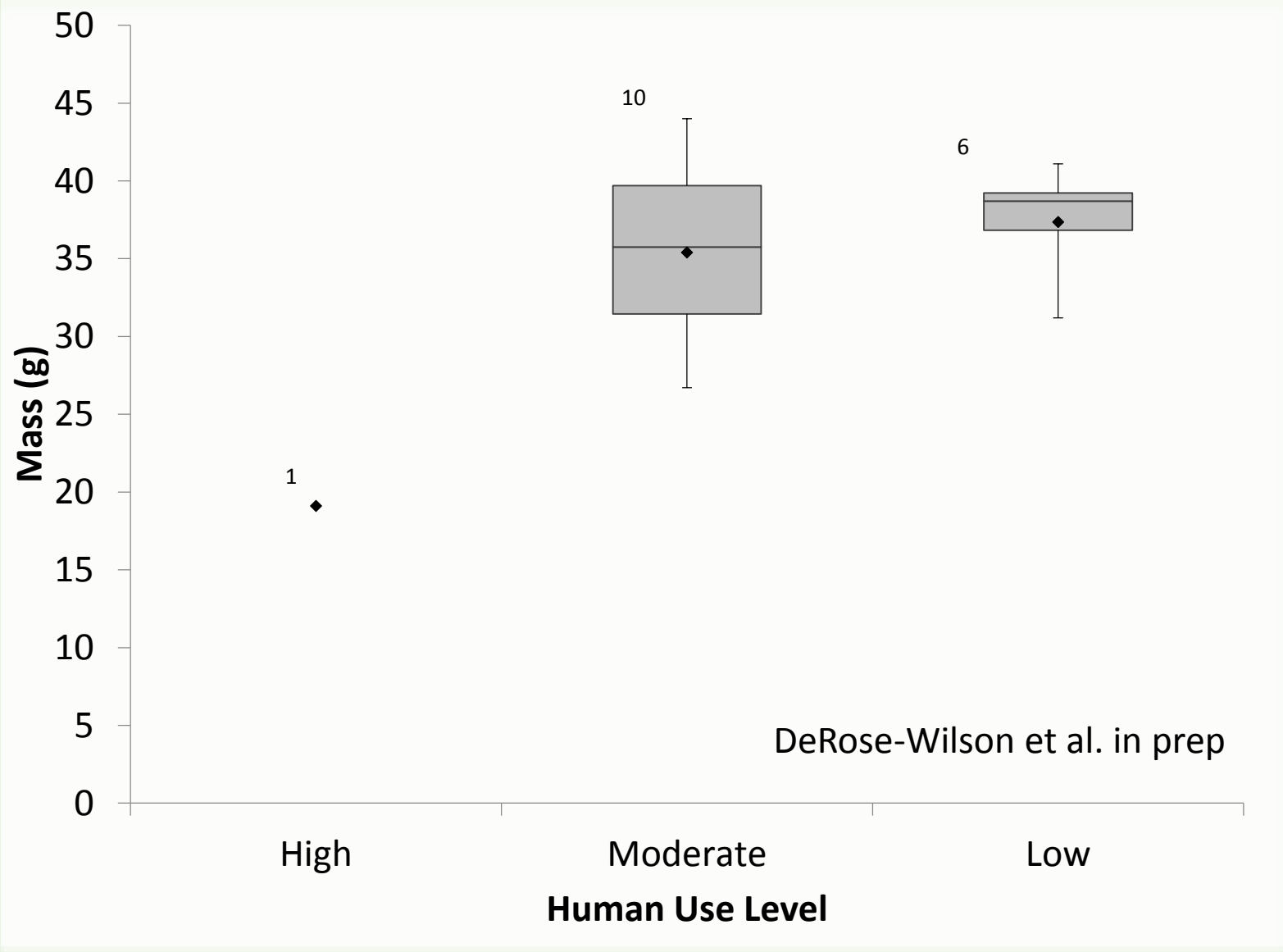
DeRose-Wilson et al. in prep

Disturbance and chick survival

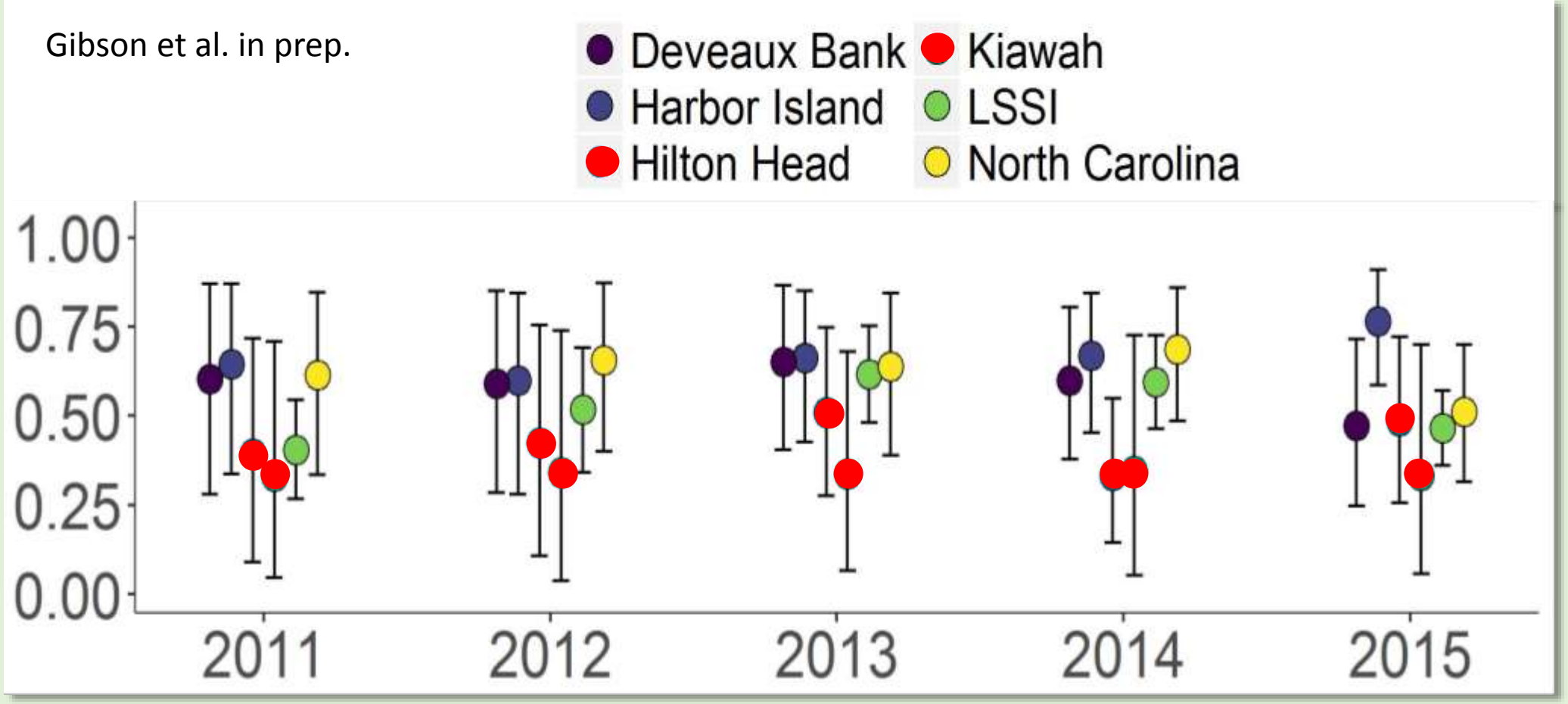


DeRose-Wilson et al. in prep

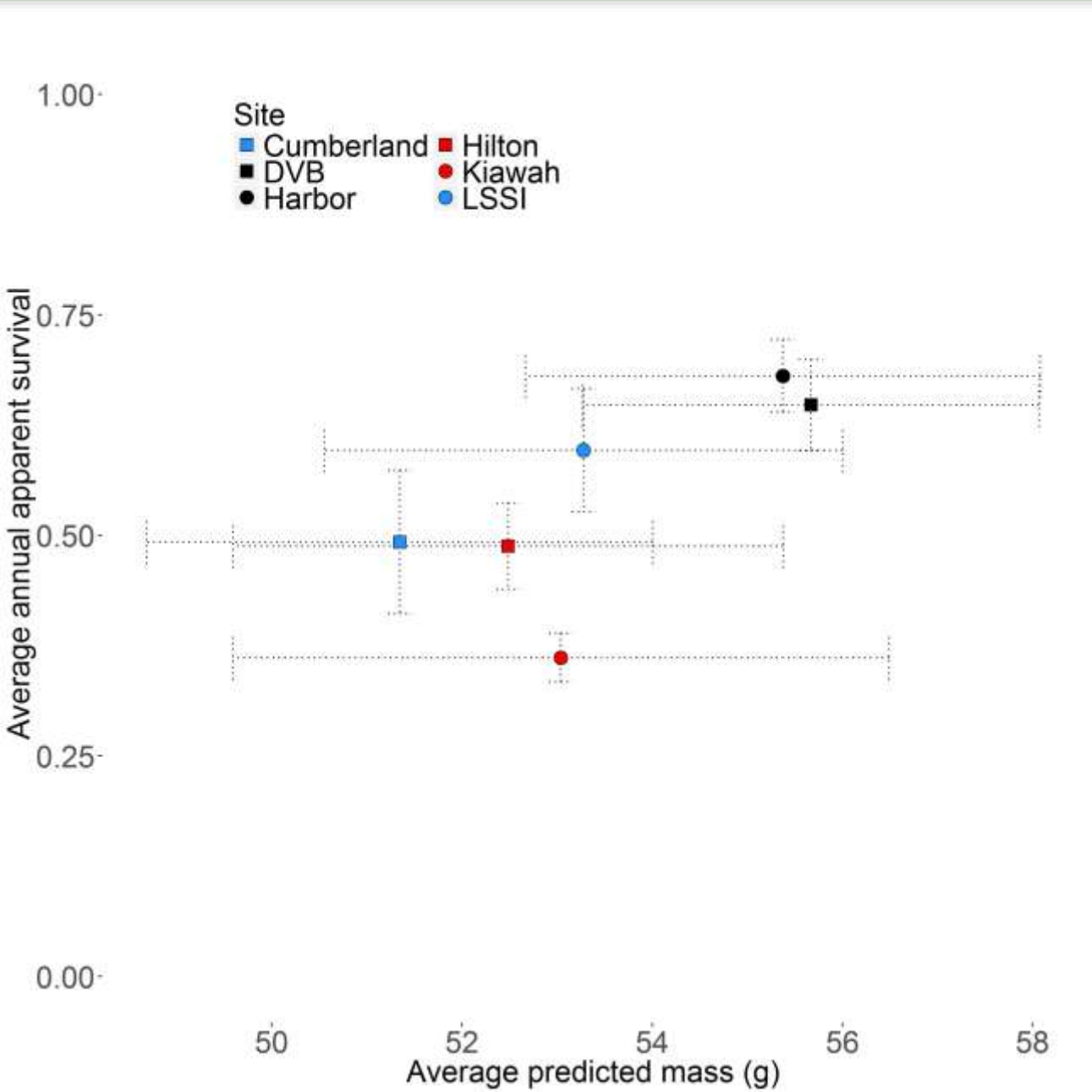
Disturbance and Condition



Disturbance and carryover effects

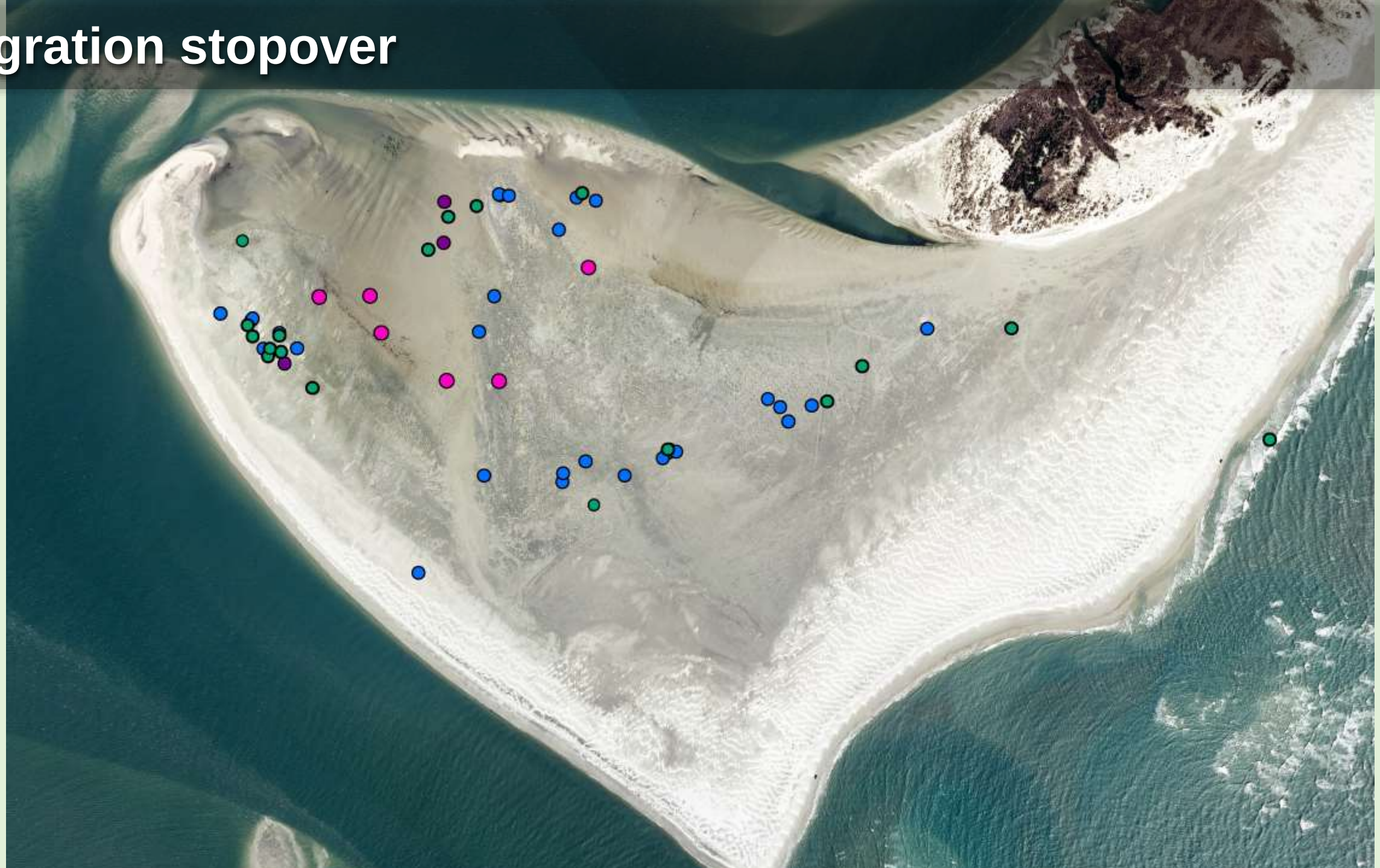


Disturbance and condition

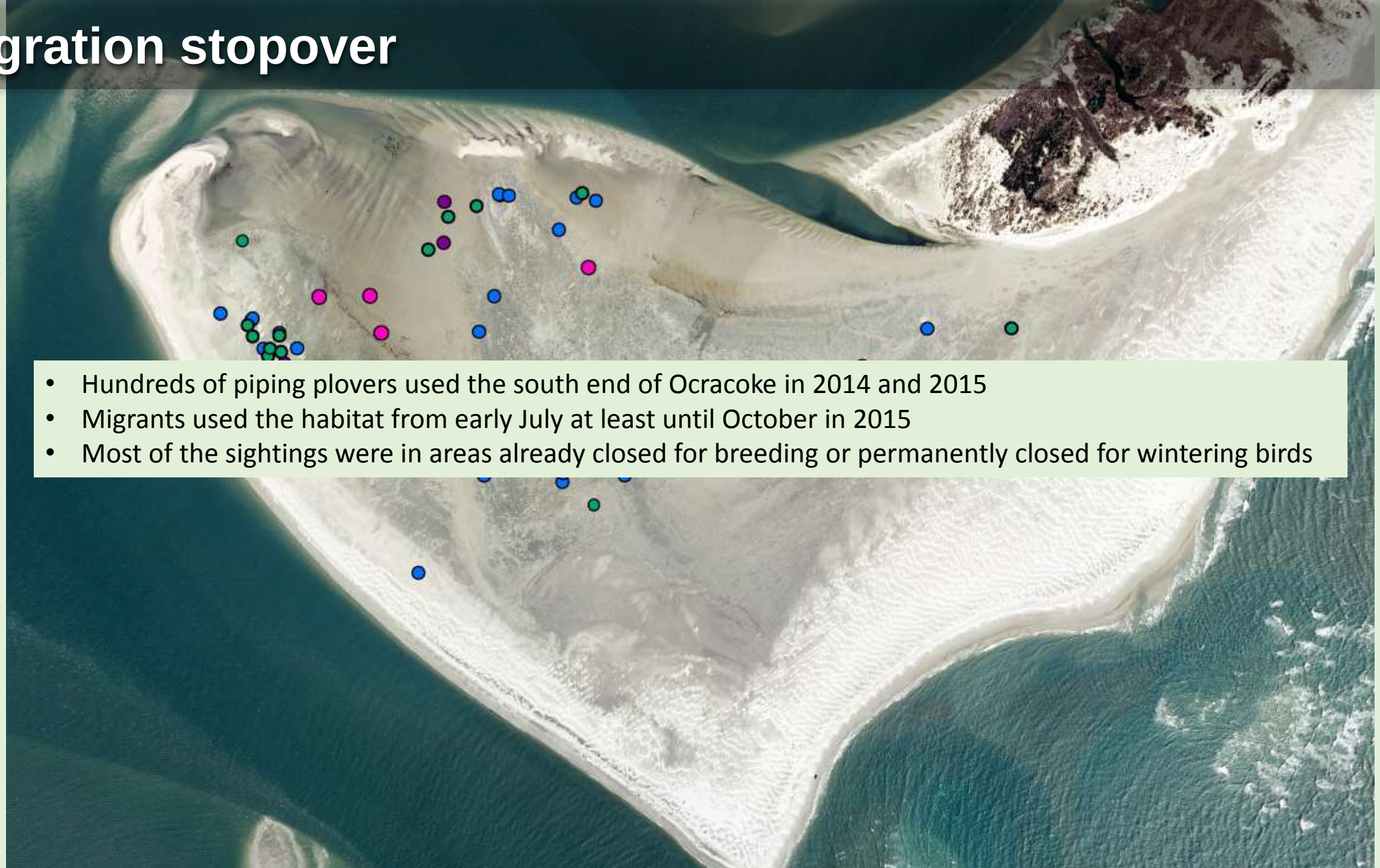


Protection, not just about the breeding birds

Migration stopover



Migration stopover



- Hundreds of piping plovers used the south end of Ocracoke in 2014 and 2015
- Migrants used the habitat from early July at least until October in 2015
- Most of the sightings were in areas already closed for breeding or permanently closed for wintering birds

Thank you!!

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Tech Department of Fish and Wildlife Conservation

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