

Update on 2018 Disaster Research

Chignik Regional Resiliency Symposium

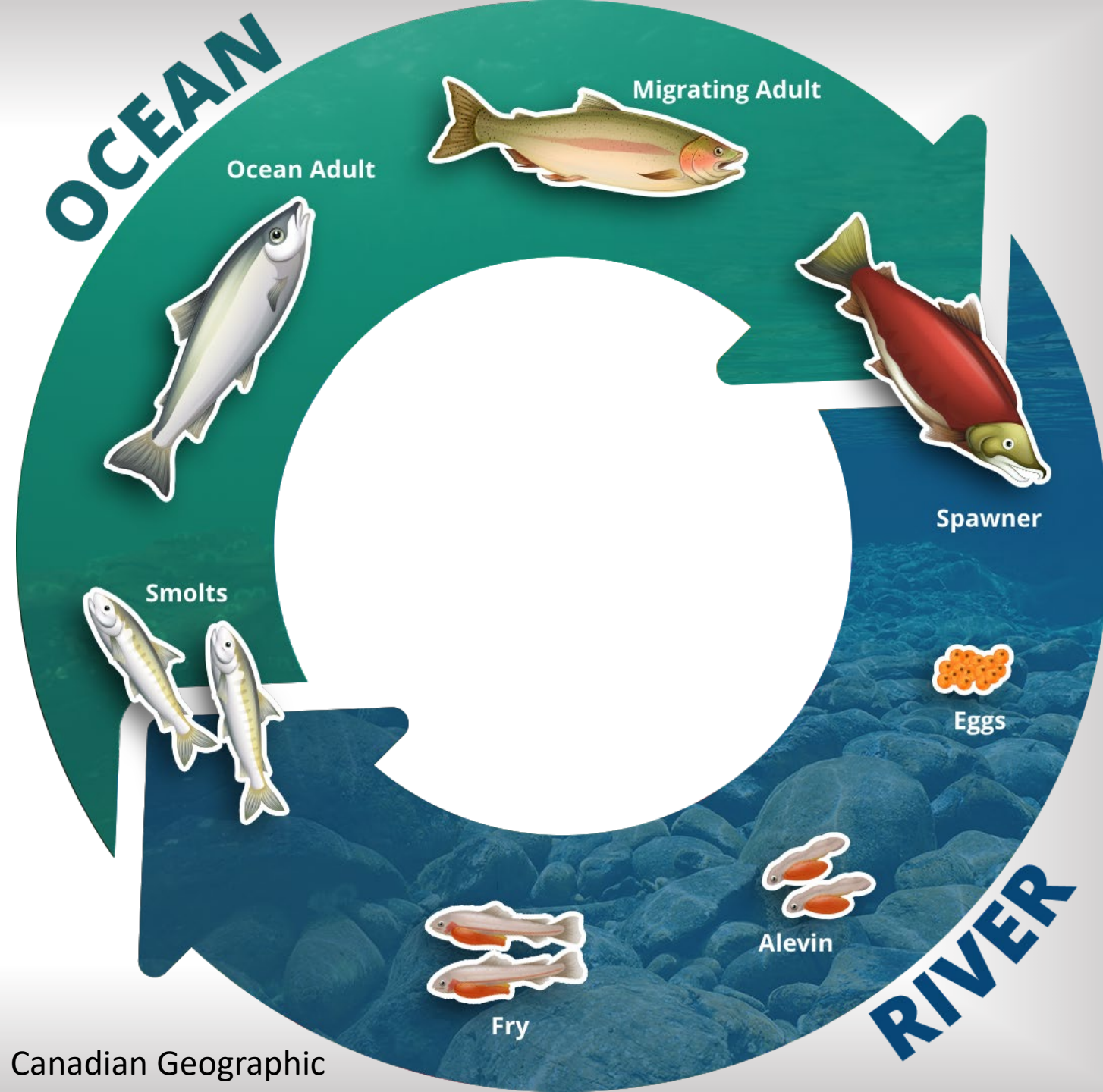
Scott Chandler & Peter Westley

With: Curry Cunningham and Heather Finkle



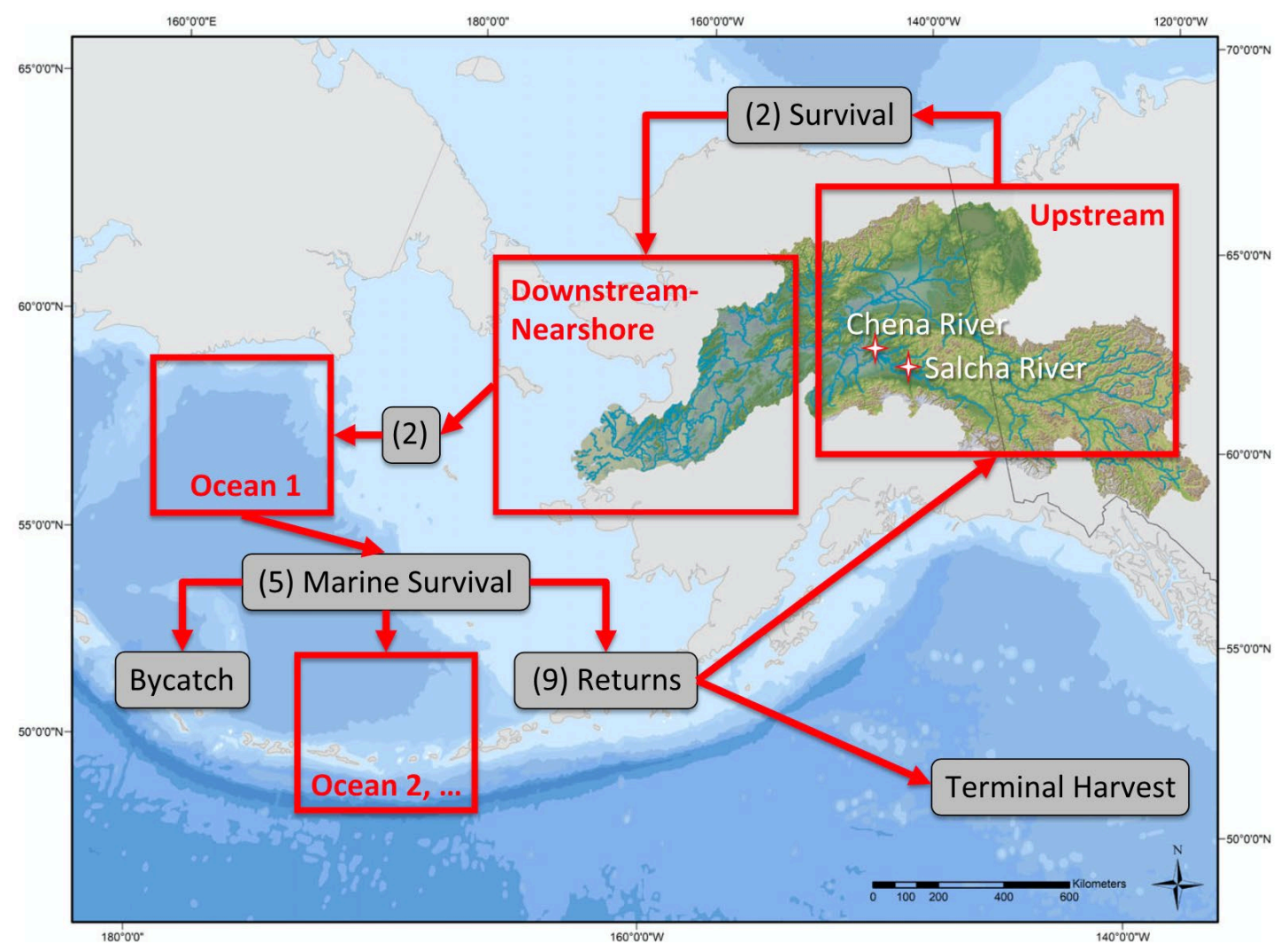
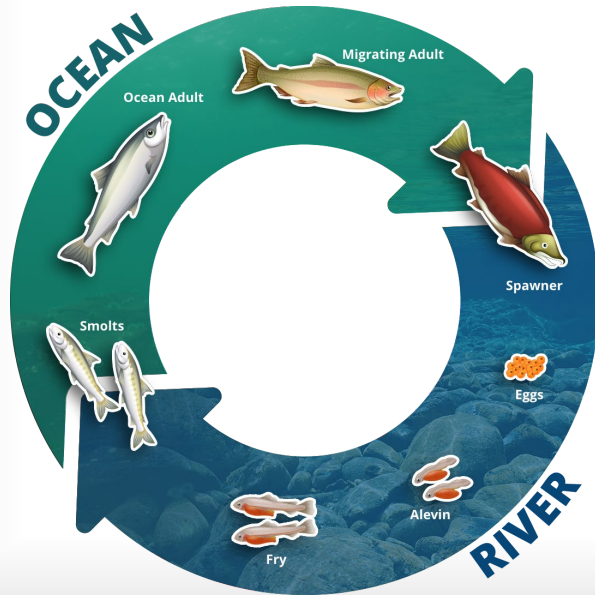
Fishery Disaster Research

Investigate stressors that influence abundance and ecology of Chignik's sockeye salmon that could lead to fishery failures



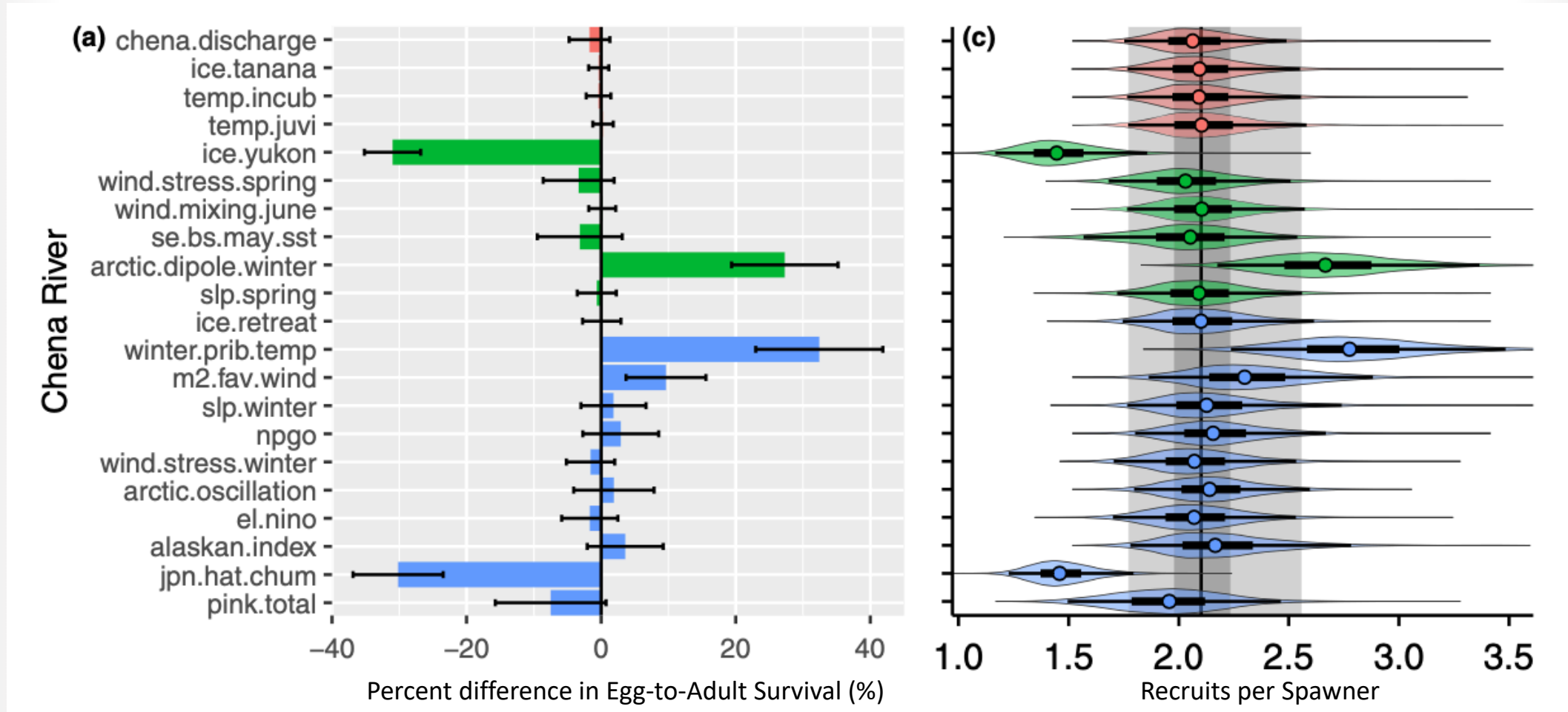
Ultimate goal

Life-history statistical modeling
of survival and potential
stressors



Cunningham et al., 2018. Global Change Biology
(DOI: 10.1111/gcb.14315)

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Cunningham et al., 2018. Global Change Biology
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ADFG Smolt Sampling Data

Sampled outmigrating smolt from 1994 to 2016

Smaller smolts have reduced survival in first year at sea

Looking for patterns in:

- Size (length, mass, “body condition”)

- Run timing

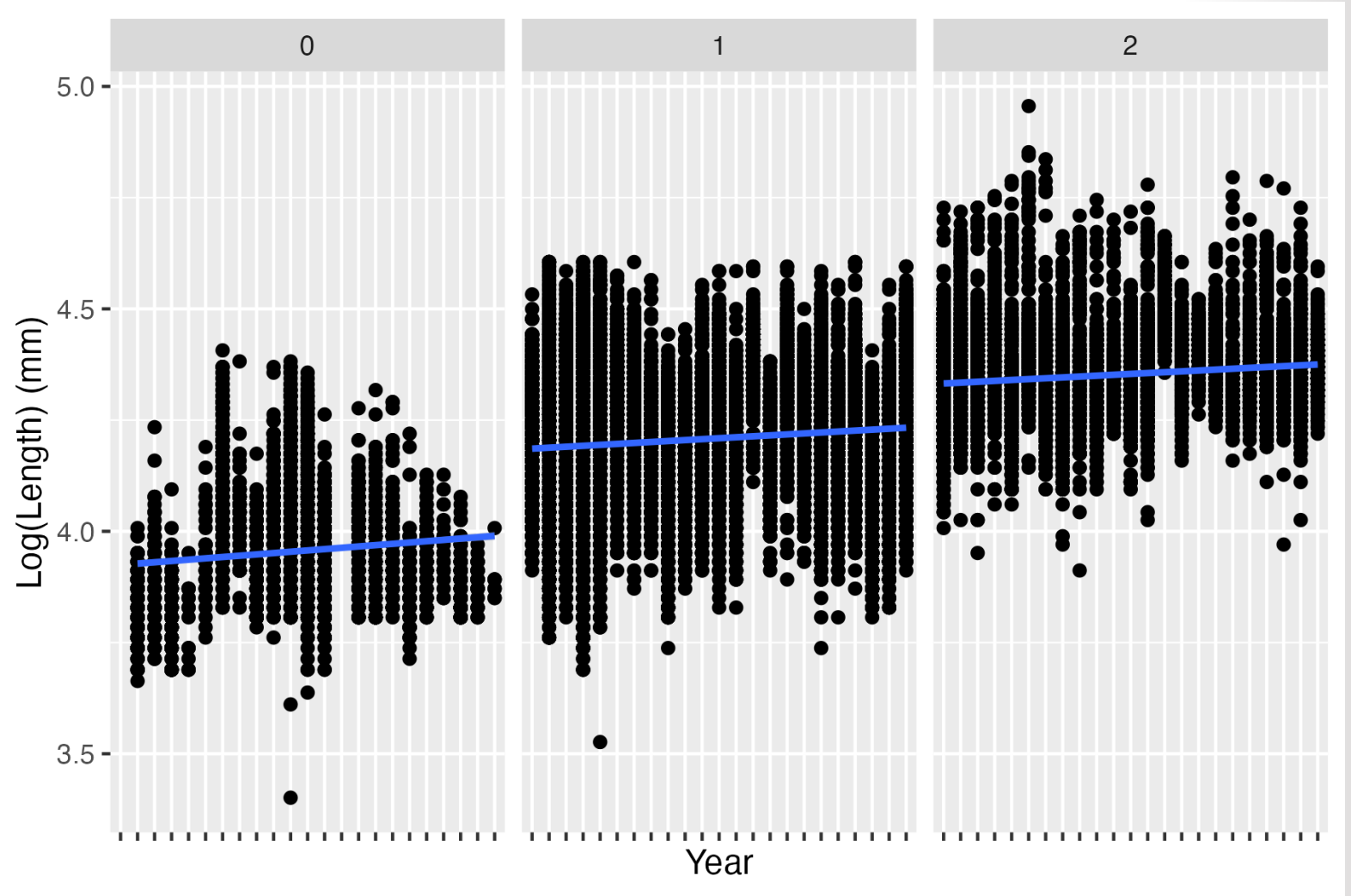
- Differences between runs



So far:

Small increases in smolt length from 1994-2016.

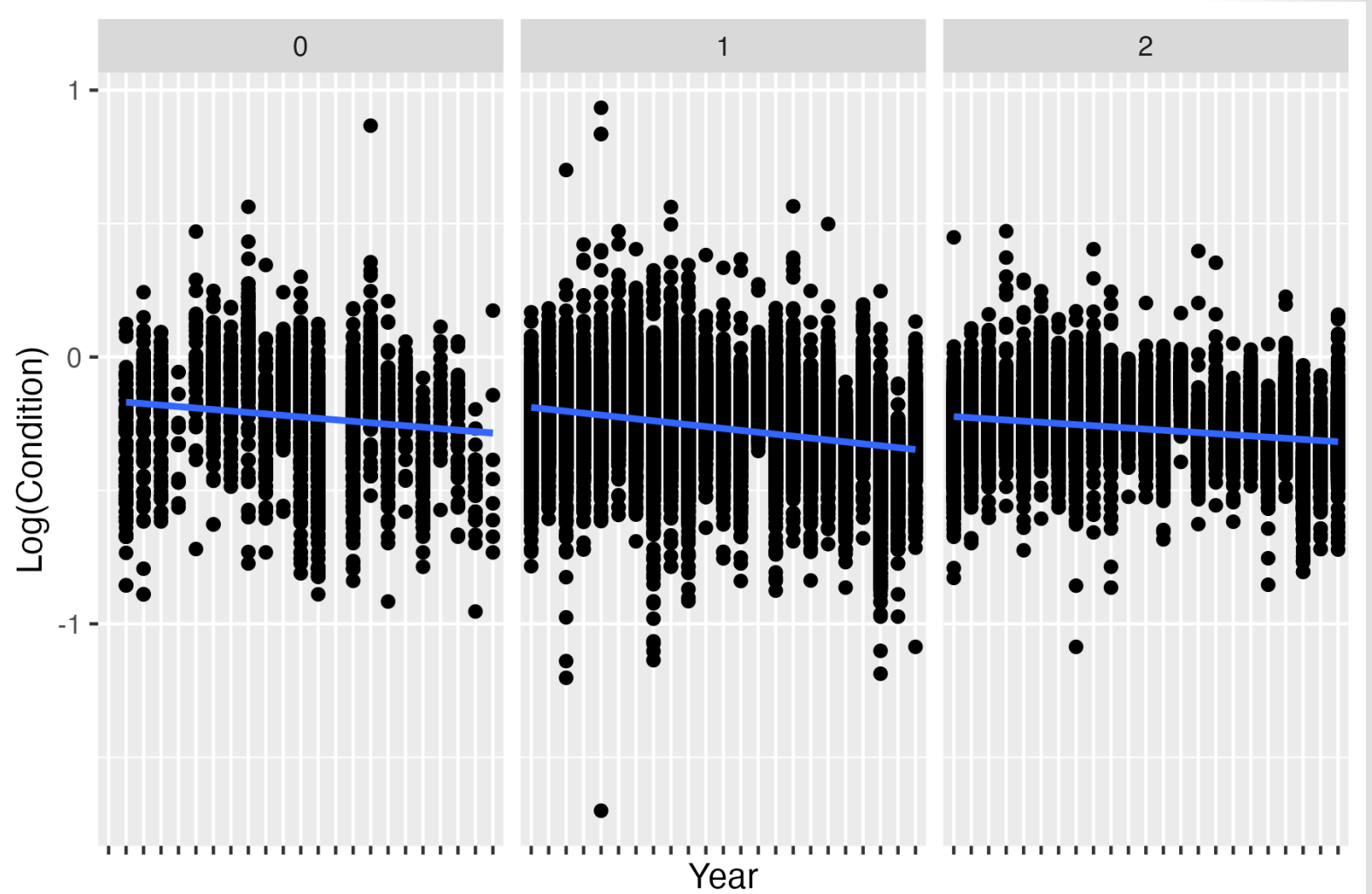
Possibly good.
Bigger is better right?



So far:

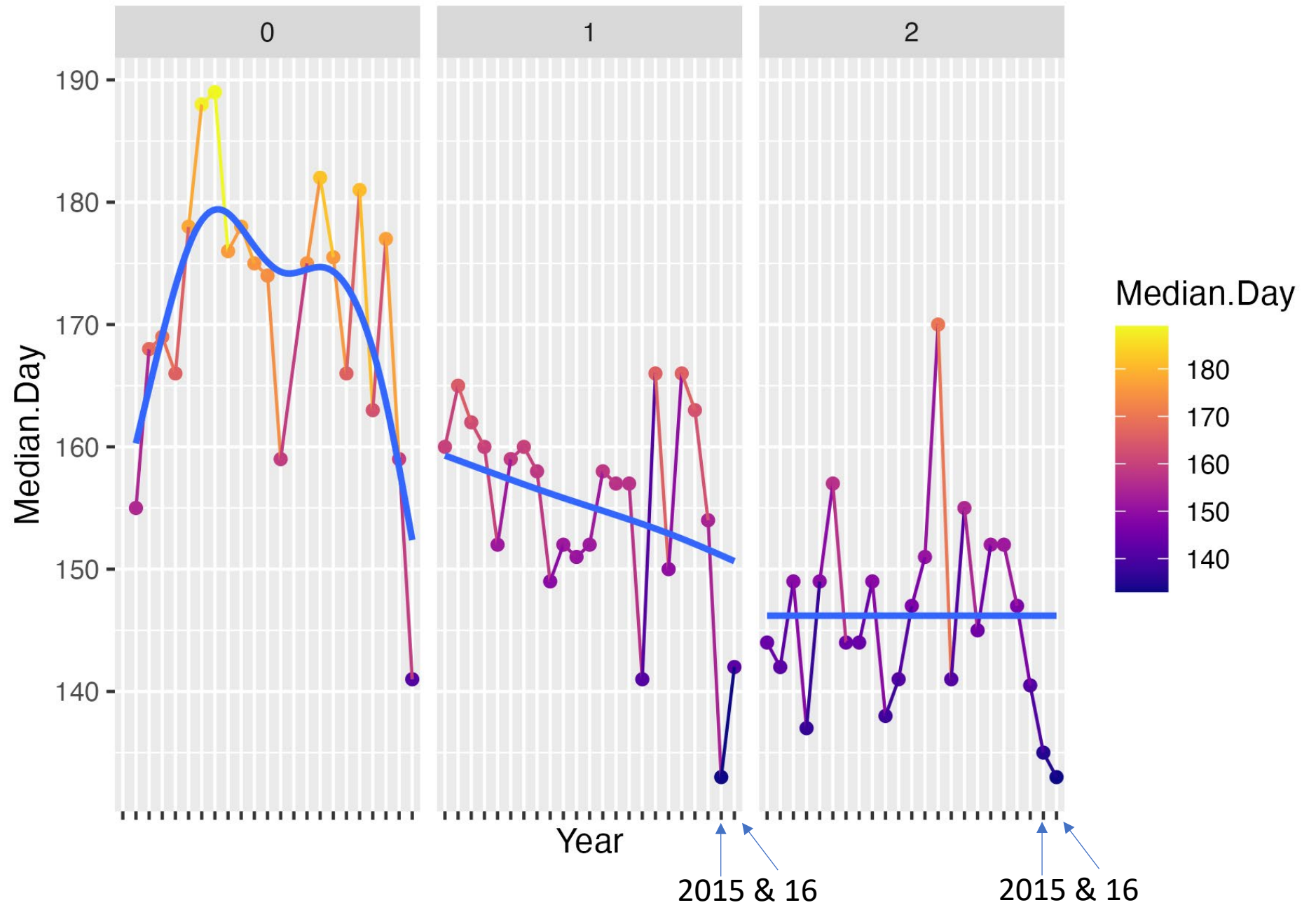
Small decreases in overall body condition over same period.

Leaving to ocean thinner.



So far:

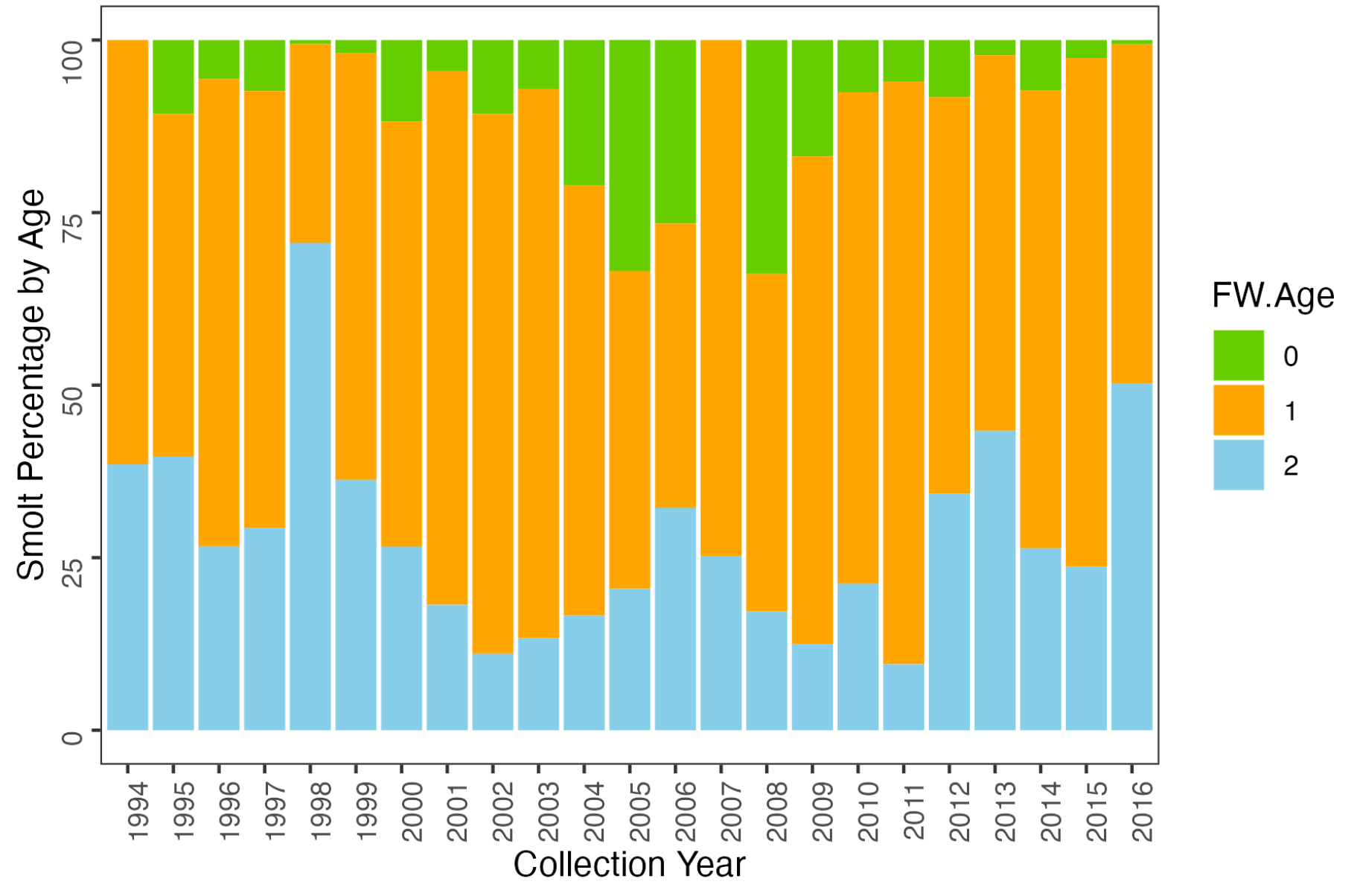
“Run-timing”
varies and was
particularly
early in 2015
and 2016



So far:

Age composition
varies among
years

Younger fish
generally smaller



Next steps

Smolts:

- Integrate genetics

- Relate patterns to environmental conditions

”Shrinking salmon”

Chat with y’all about other aspects to consider

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