PSTAT Apr Meeting Day 2

Research Questions & EM Talking Points

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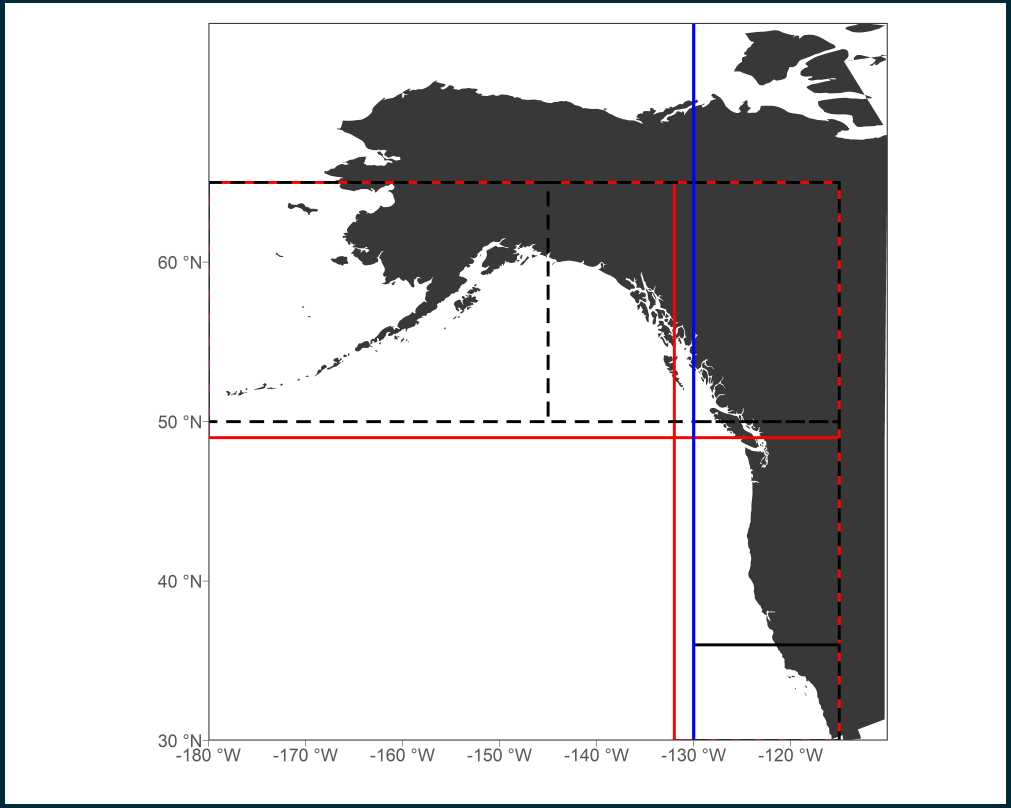
29 Apr 2020

Topics herein

- Luke's spatial proposal (decrease # subareas)
- Research questions from my PhD proposal
- EM Scenarios
- Performance metrics

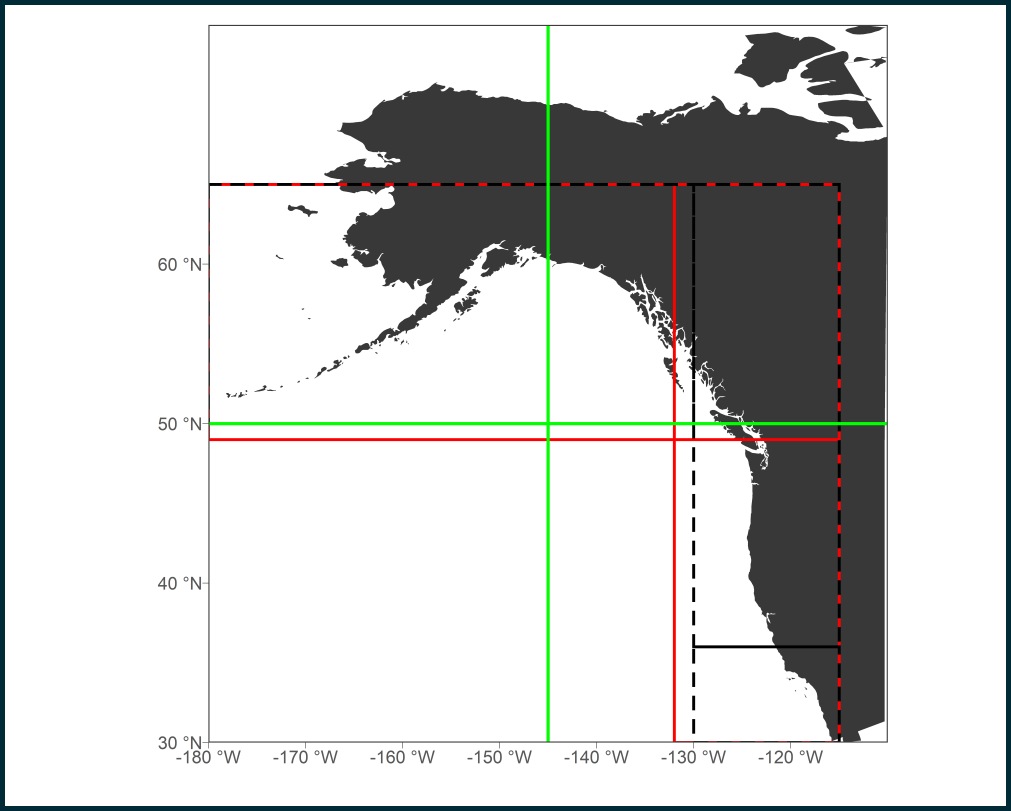
Luke's Spatial Proposal

Delete break @ 130W



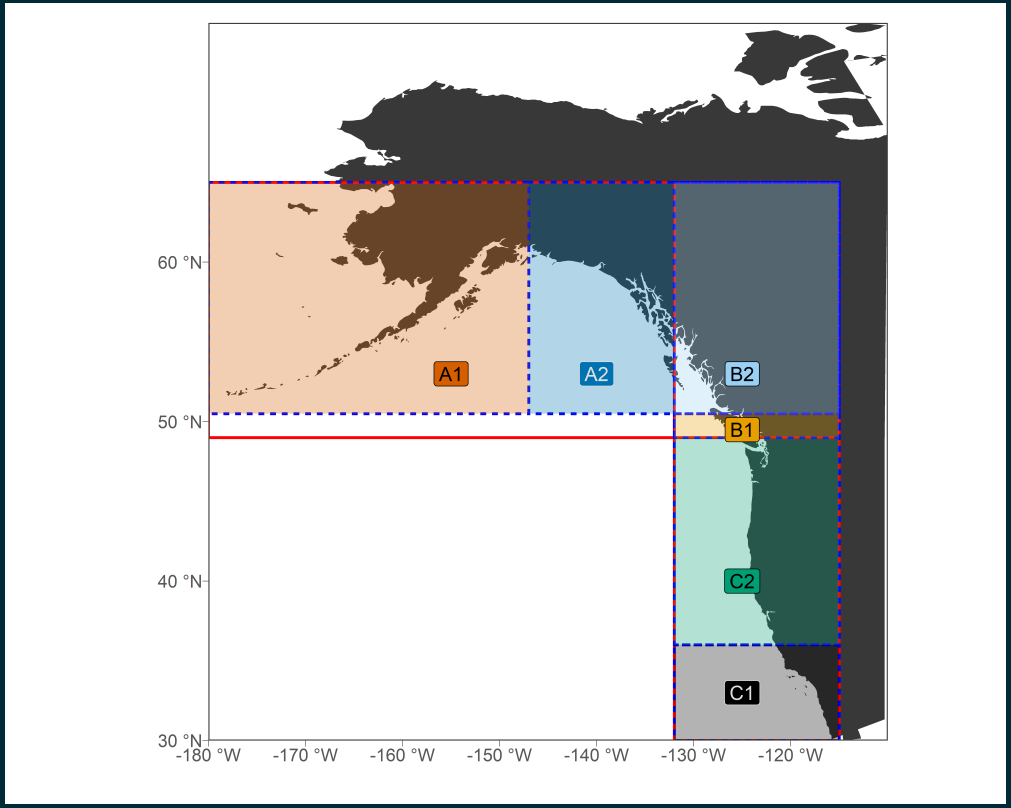
Luke's Spatial Proposal

Shift these to match NMFS boundaries and GMU areas

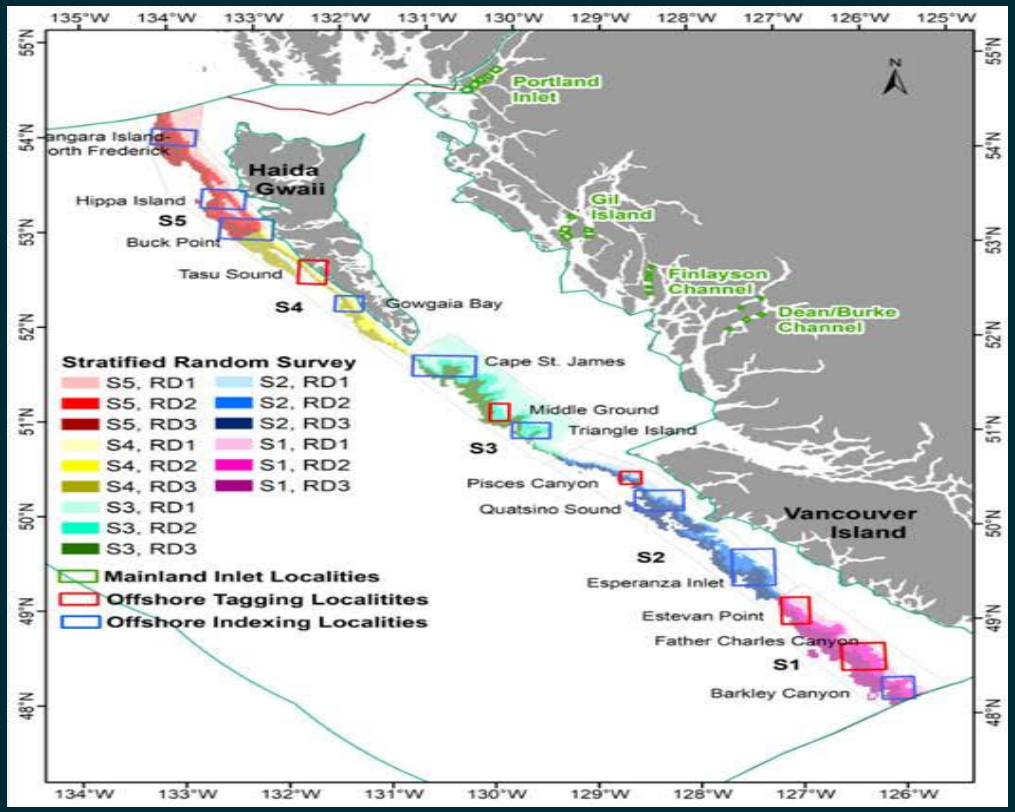


Luke's Spatial Proposal

Resultant new sub-areas (6)



Close up of BC



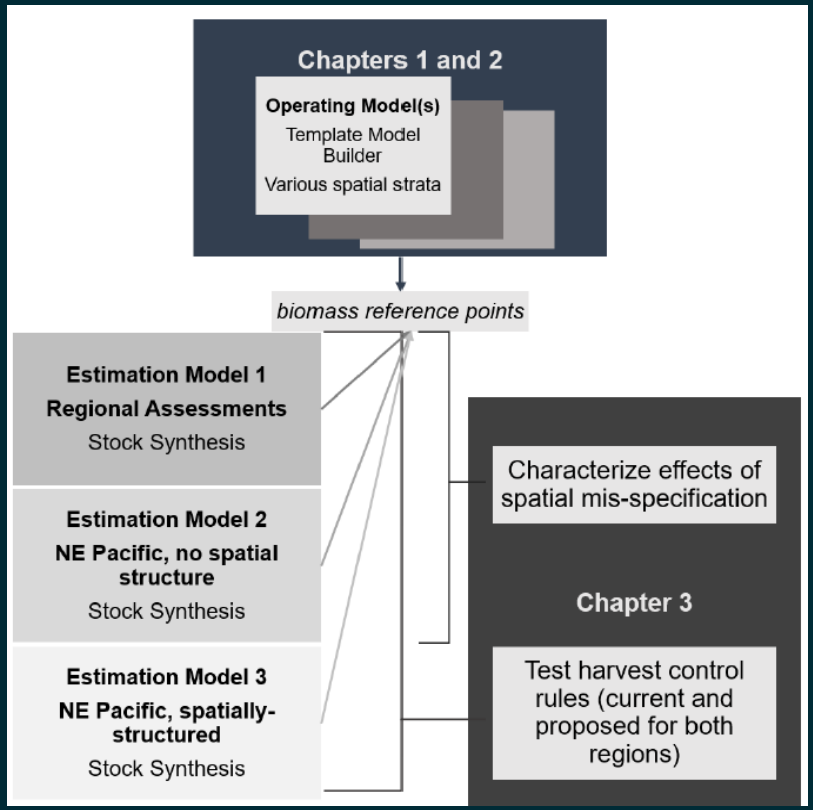
Research Questions from Maia's PhD Proposal

- What are the consequences of a spatially-explicit, range-wide assessment model for NE Pacific sablefish?

Research Questions I

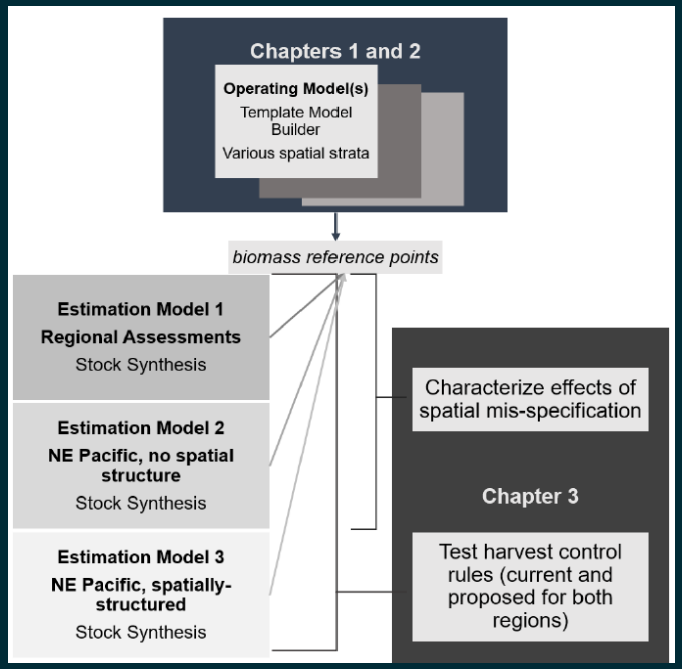
[The present OM]

- Does such an operating model produce similar or different population dynamics as suggested by the current regional assessments?


Chapters 1 and 2
Operating Model(s)
Template Model Builder
Various spatial strata
biomass reference points
Estimation Model 1
Regional Assessments
Stock Synthesis
Estimation Model 2
NE Pacific, no spatial structure
Stock Synthesis
Estimation Model 3
NE Pacific, spatially-structured
Stock Synthesis
Characterize effects of spatial mis-specification
Chapter 3
Test harvest control rules (current and proposed for both regions)

Research Questions II

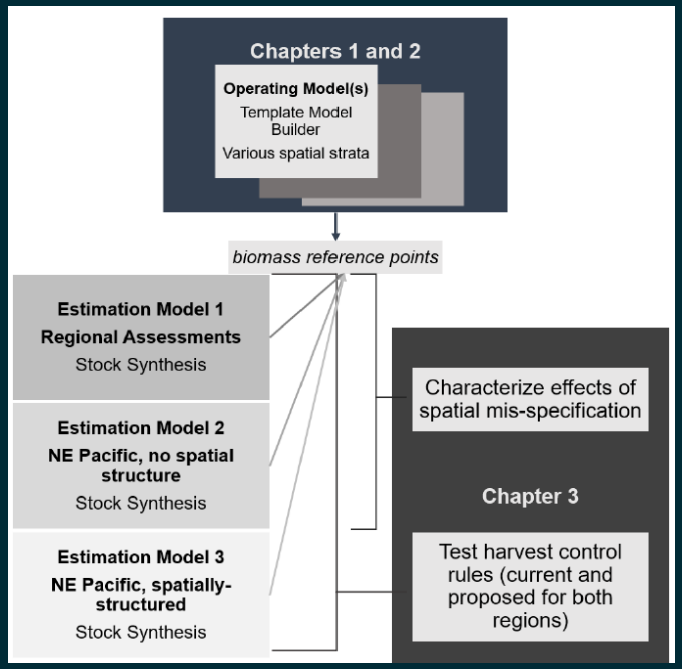
[EMs with spatial structure similar to/distinct from the OM]



What is the degree of bias or error in estimated management quantities for sablefish
if the spatial structure in the assessment diverges from "reality"?

Research Questions III

[EMs with spatial structure similar to/distinct from the OM]



- Are there particular combinations of harvest control rules and spatial assessment frameworks that would reduce undesirable OR preferable outcomes for the sablefish fishery or population?

Thoughts Arising w.r.t Estimation Models I

- "Current management framework" $\neq$ "A regional assessment model", e.g. BC has its own MP which involves an OM and Schaefer model
- Will need to decide on baseline for "current management" -- print data from OM and hand to regional models/MPs? Or use custom EM?

Thoughts Arising w.r.t Estimation Models II

Likely EM Scenarios*

- A near-match to the OM
- A simplification of the OM
- Regional assessments (see previous slide)
- Panmictic .inverse(is this high priority?)]
- others?

*note that much work has been done on spatial mismatch in general, so a full crosswise study may be retracing others' steps

Performance Metrics

- Performance metrics: start simple and steal from others. Ideas: AAV in catch (limit this), Directed yield (maximize this) Minimize discard mortality Keep biomass above trigger limits