



NOAA
FISHERIES

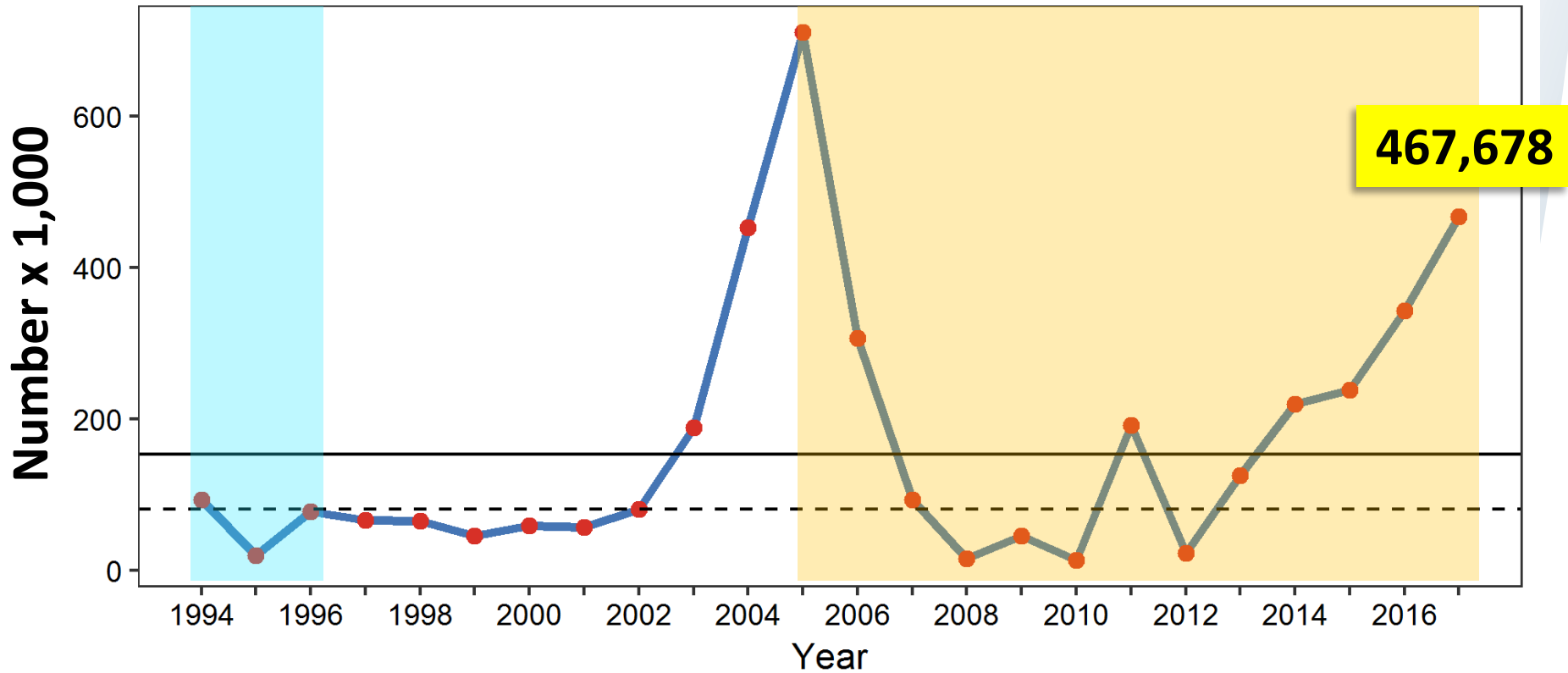
Genetic stock composition analysis of chum salmon from the prohibited species catch of the 2017 Bering Sea walleye pollock trawl fishery and Gulf of Alaska groundfish fisheries

C. Kondzela, J. Whittle, E. Yasumiishi, J. Watson, Hv. Nguyen, M. Marsh, D. Cuadra, D. Nicolls, and J. Guyon

Auke Bay Laboratories
Juneau, Alaska

NPFMC meeting
June 3-6, 2019
Sitka, AK

Bering Sea chum salmon bycatch

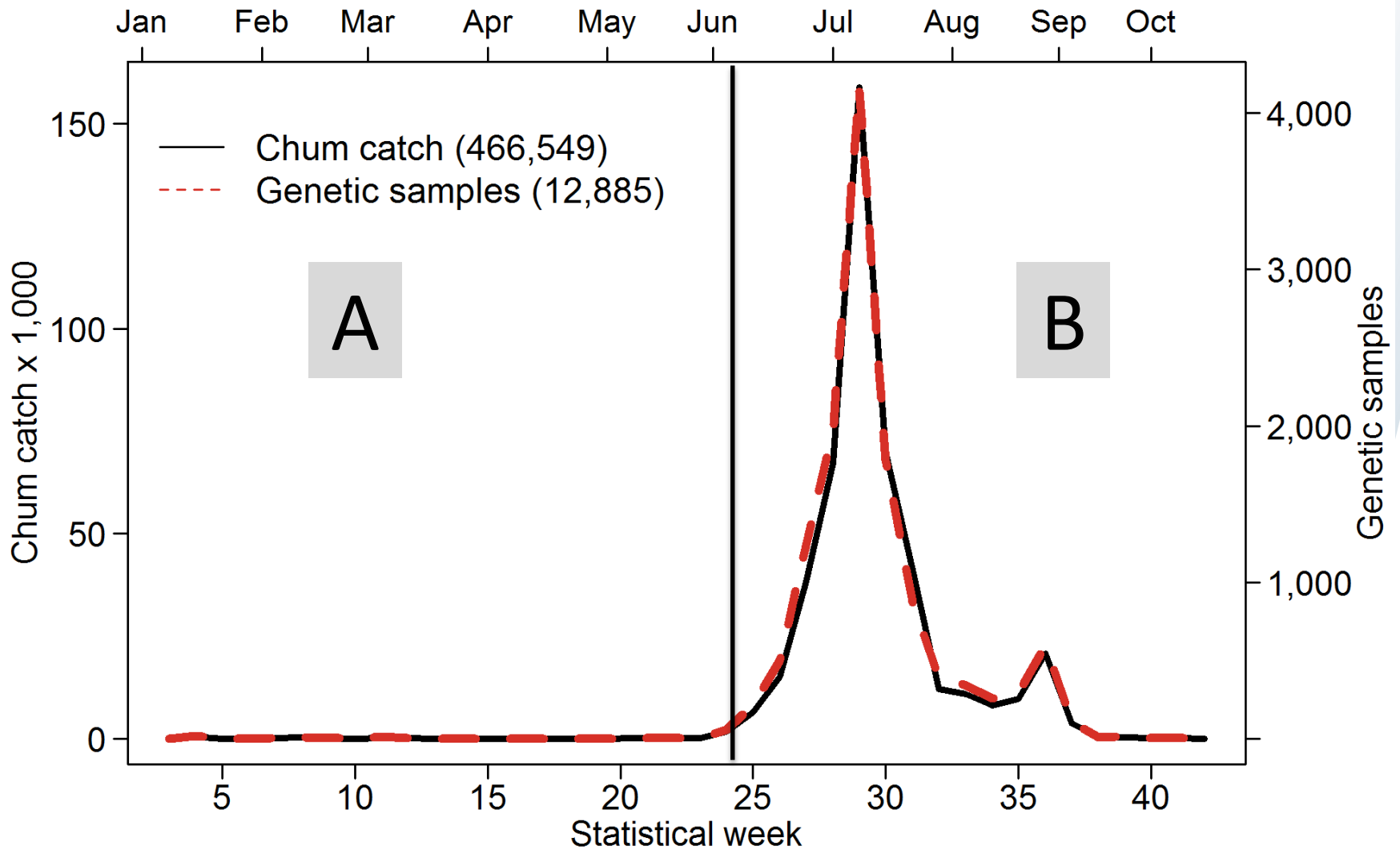


1994: Scales
1994 – 1996: Allozymes

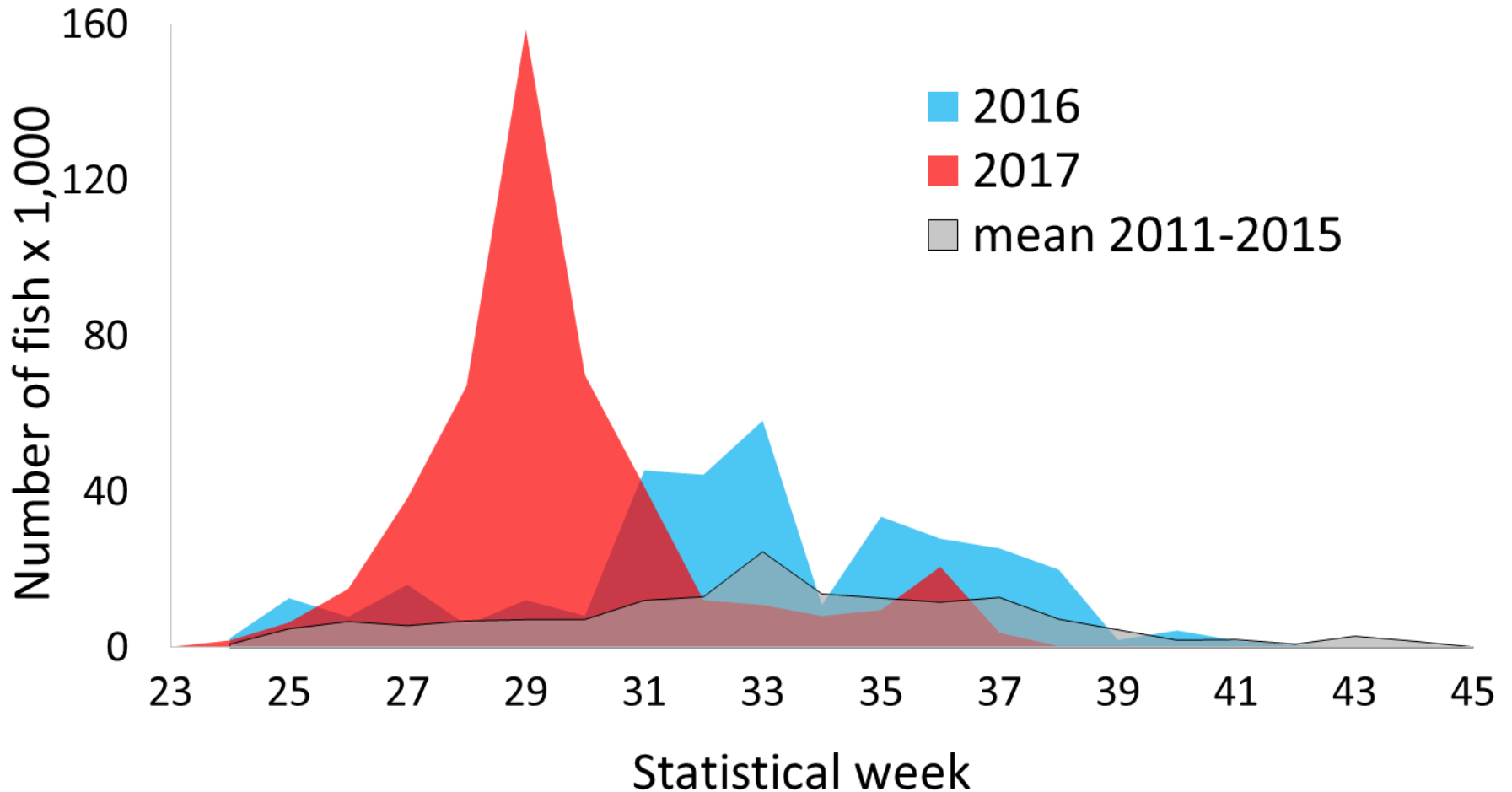
2005 – 2017: Microsatellites



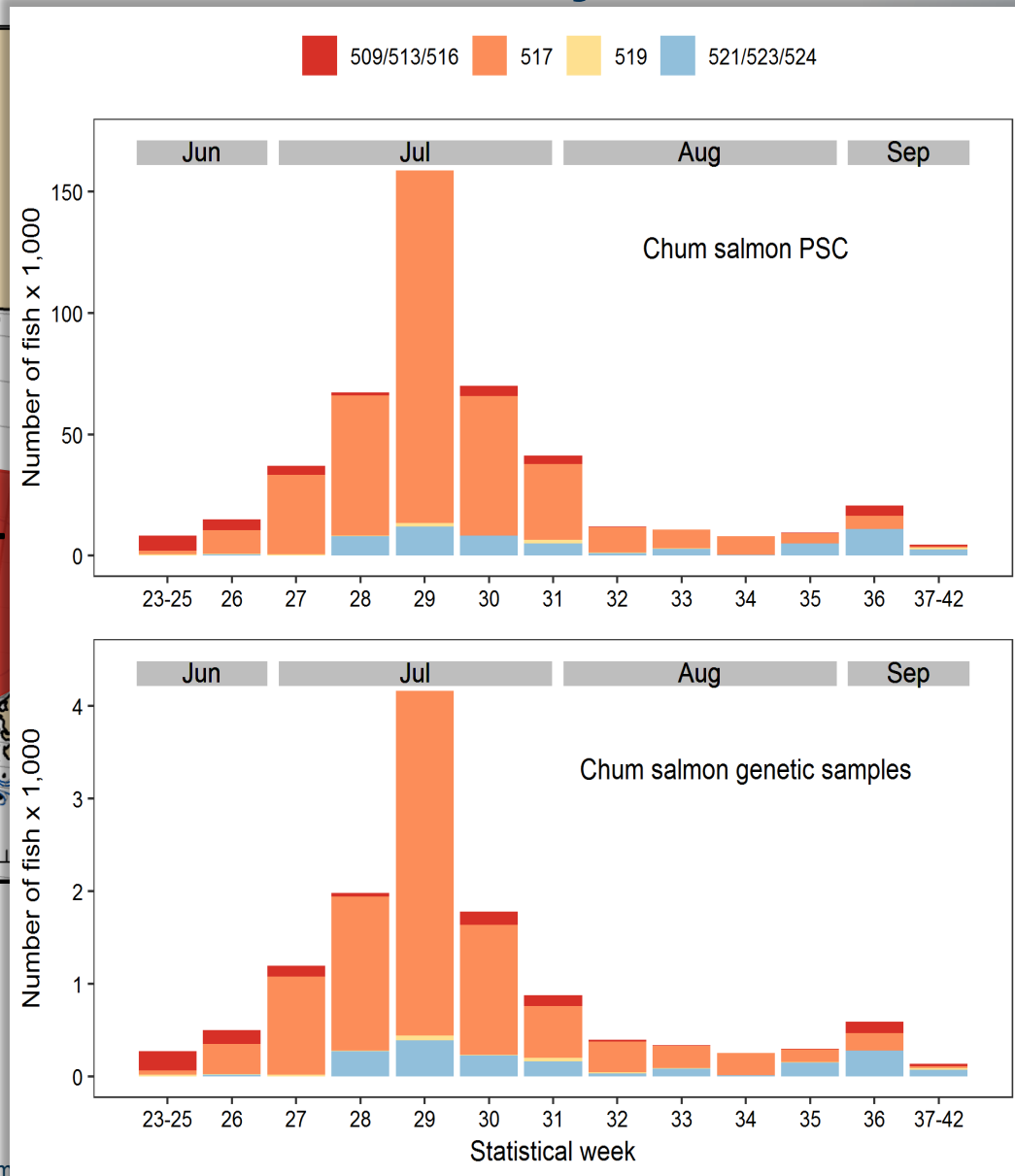
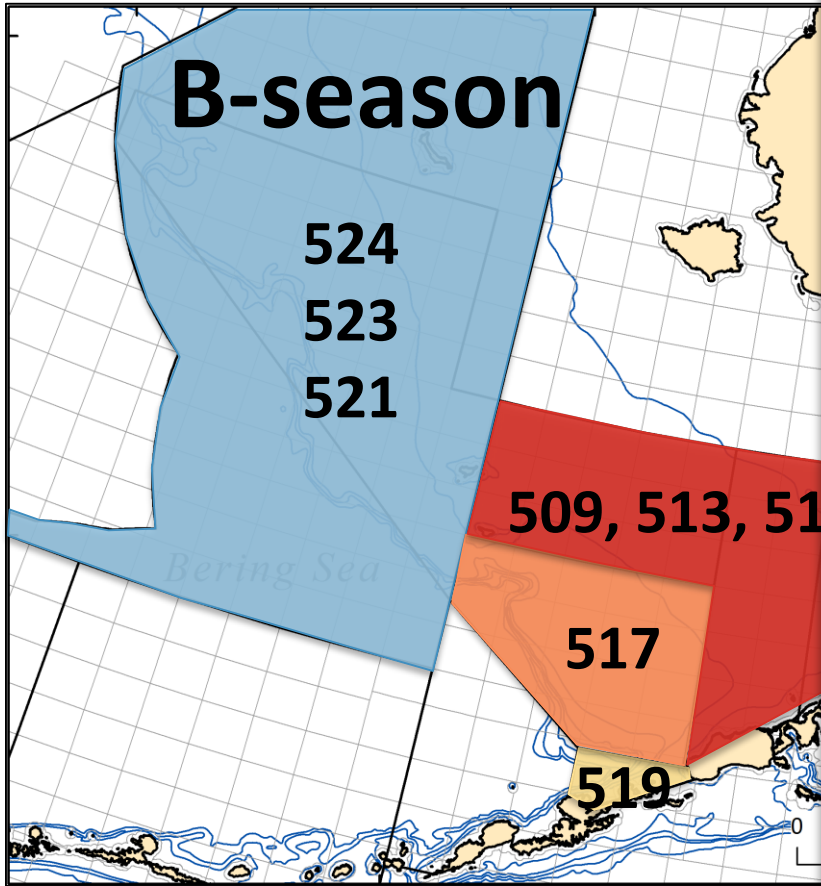
2017 Bering Sea chum salmon bycatch



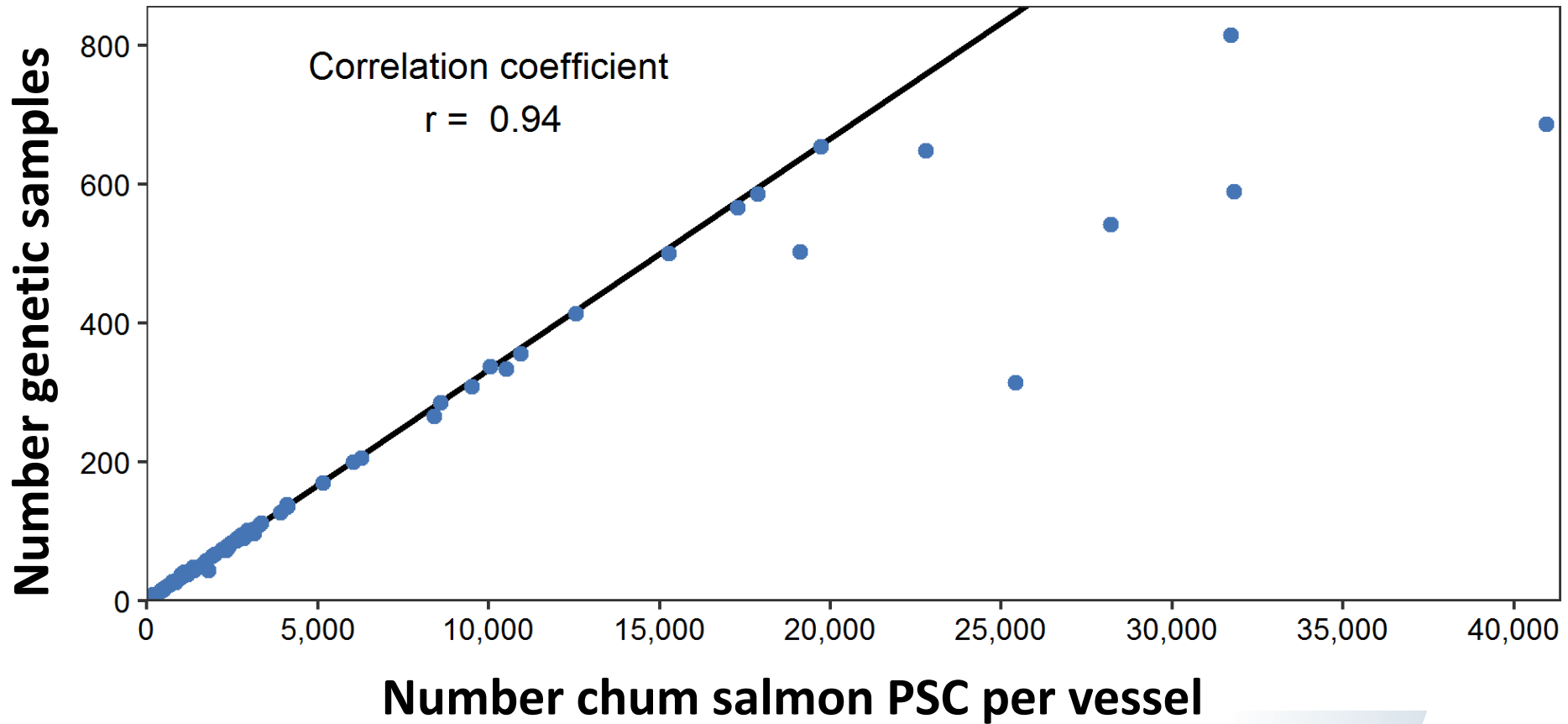
Bering Sea chum salmon bycatch



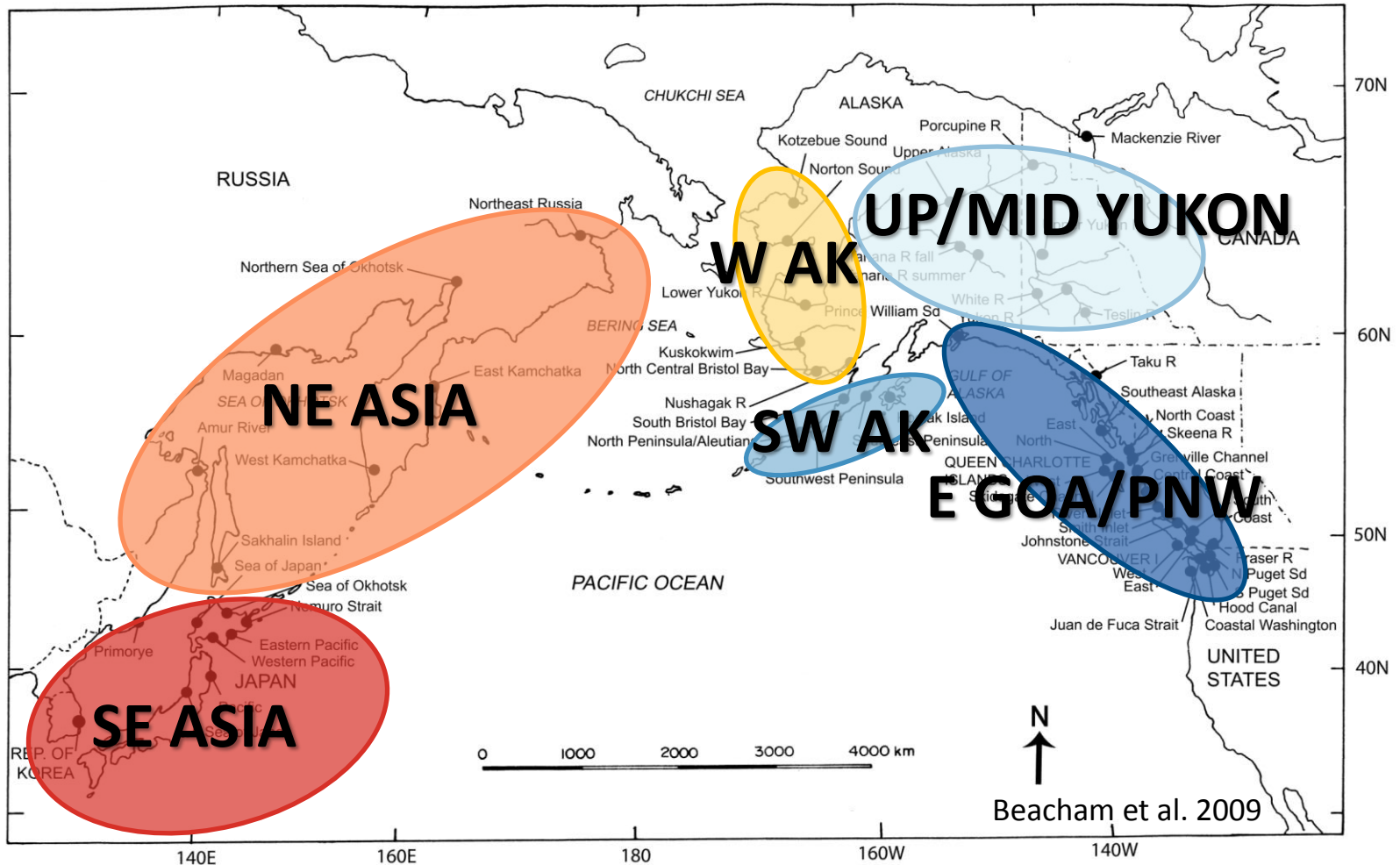
2017 Bering Sea chum salmon bycatch



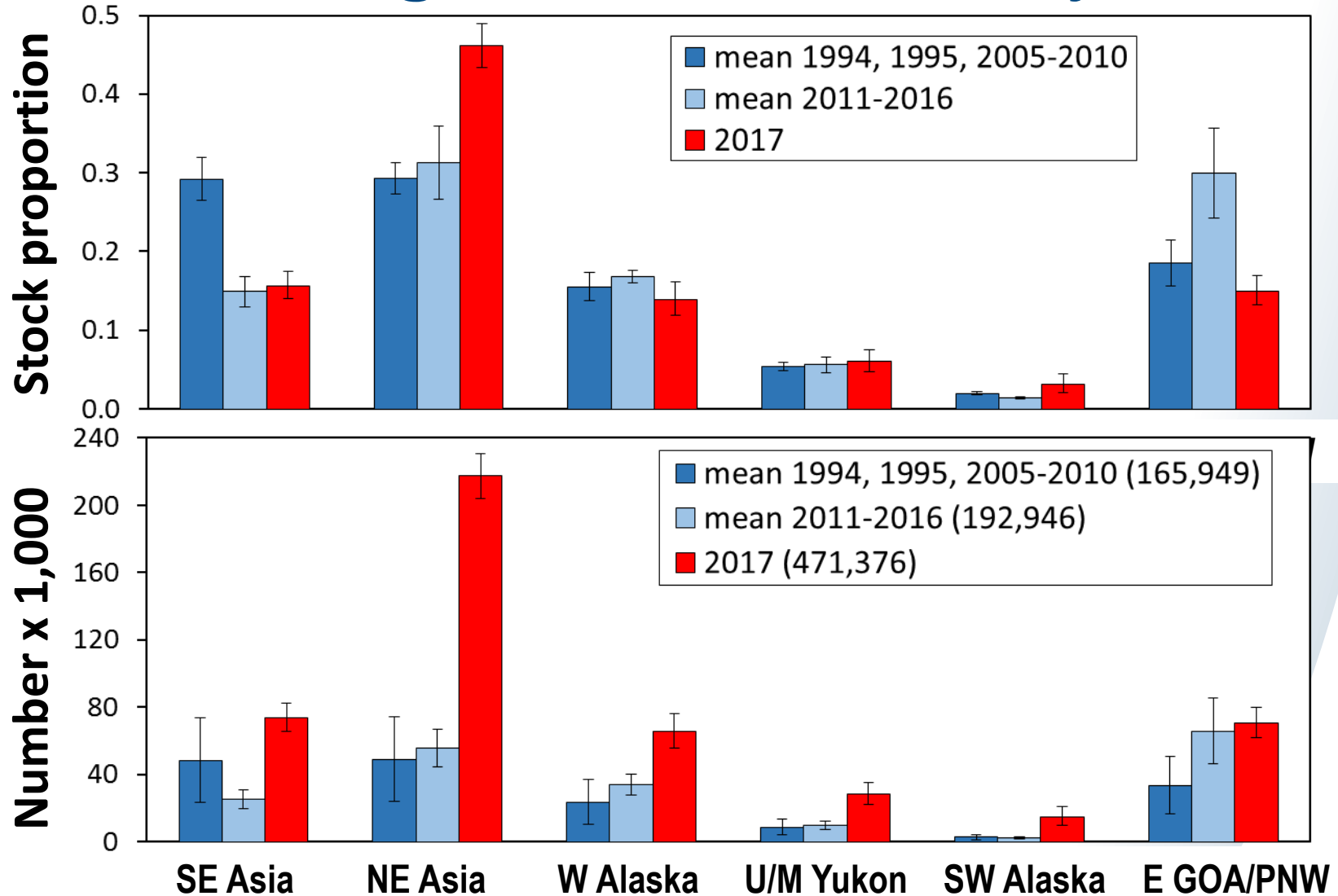
2017 Bering Sea chum salmon bycatch



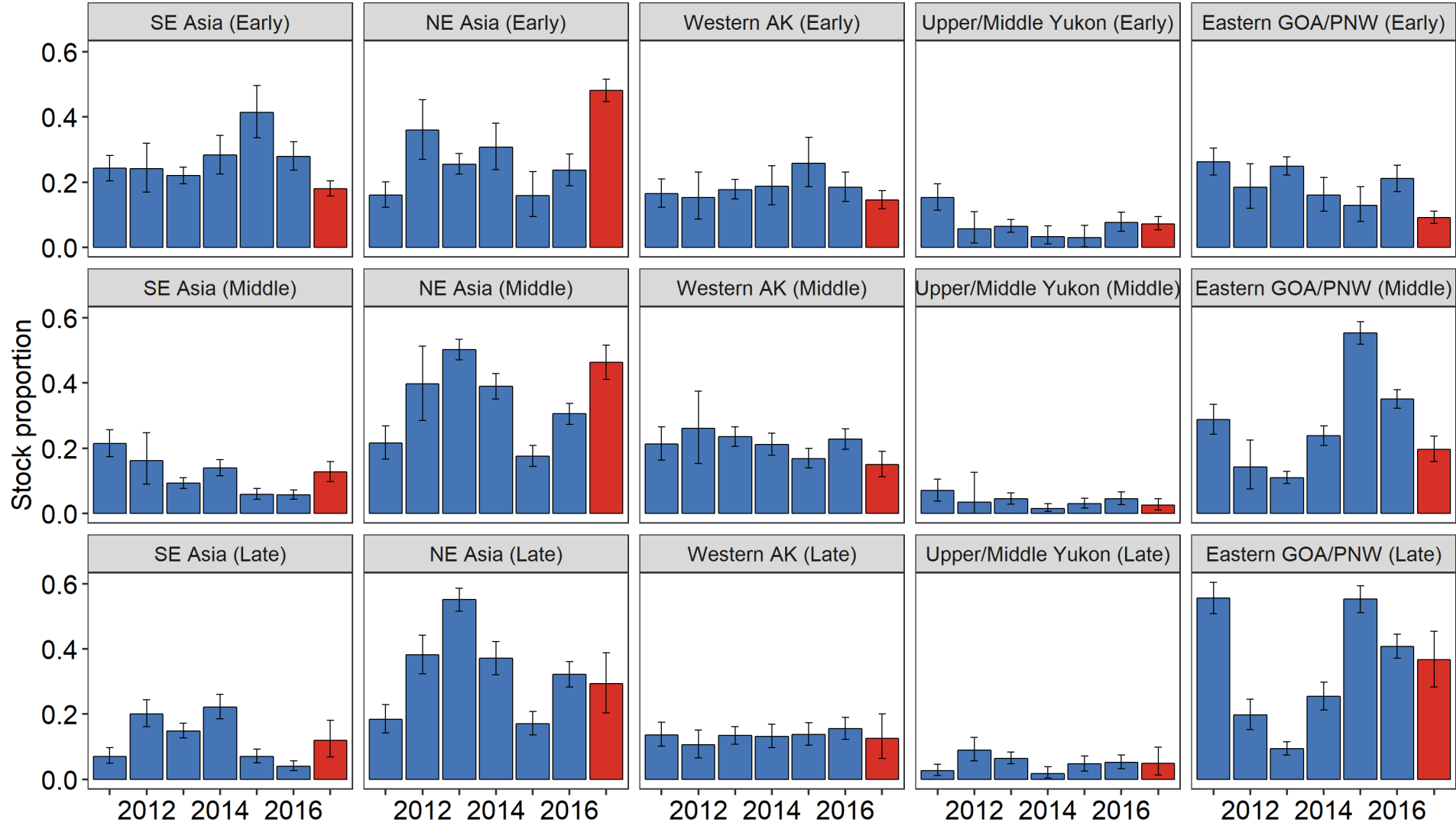
Chum salmon stock groupings



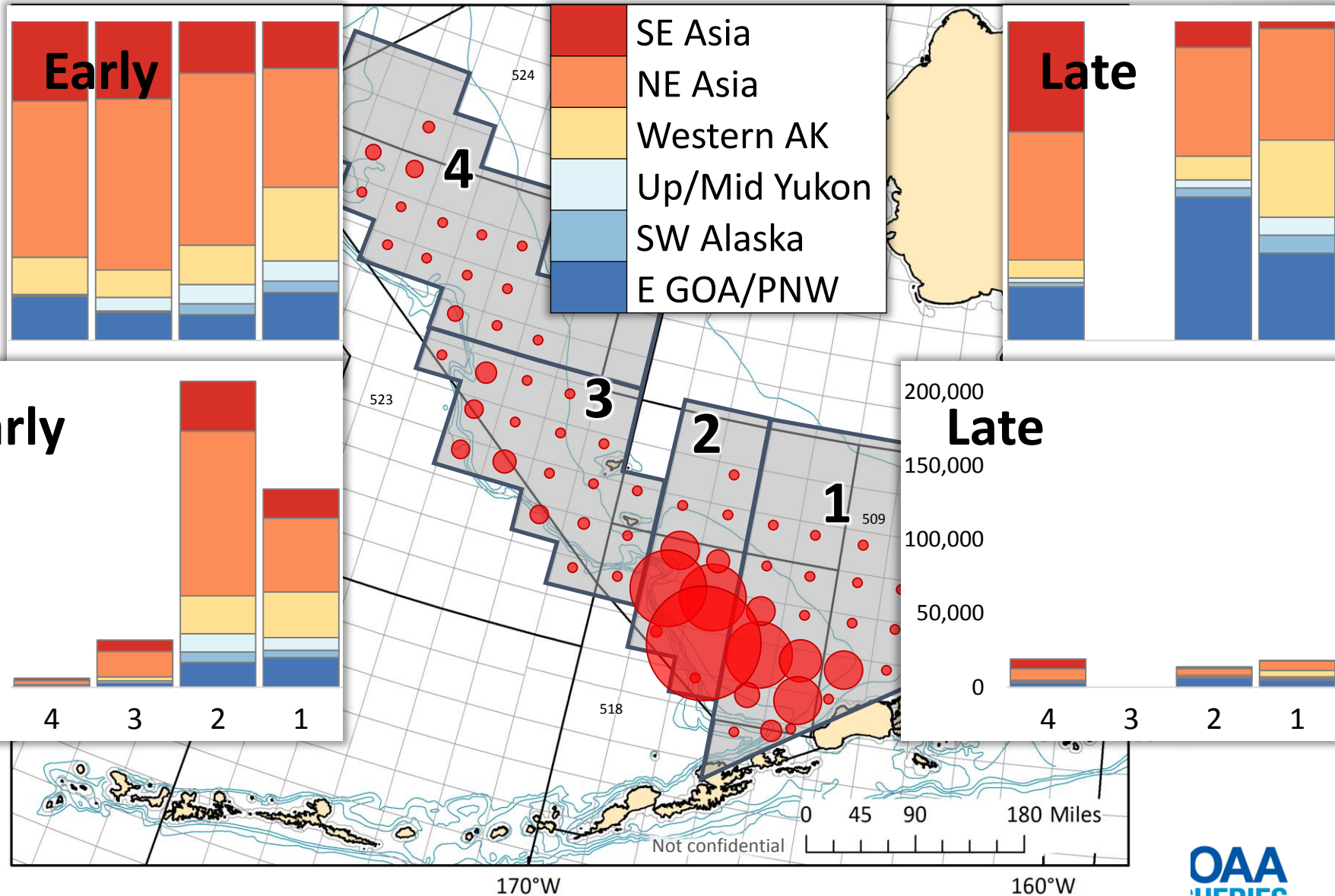
2017 Bering Sea chum salmon bycatch



Bering Sea chum salmon bycatch



2017 Bering Sea chum salmon bycatch



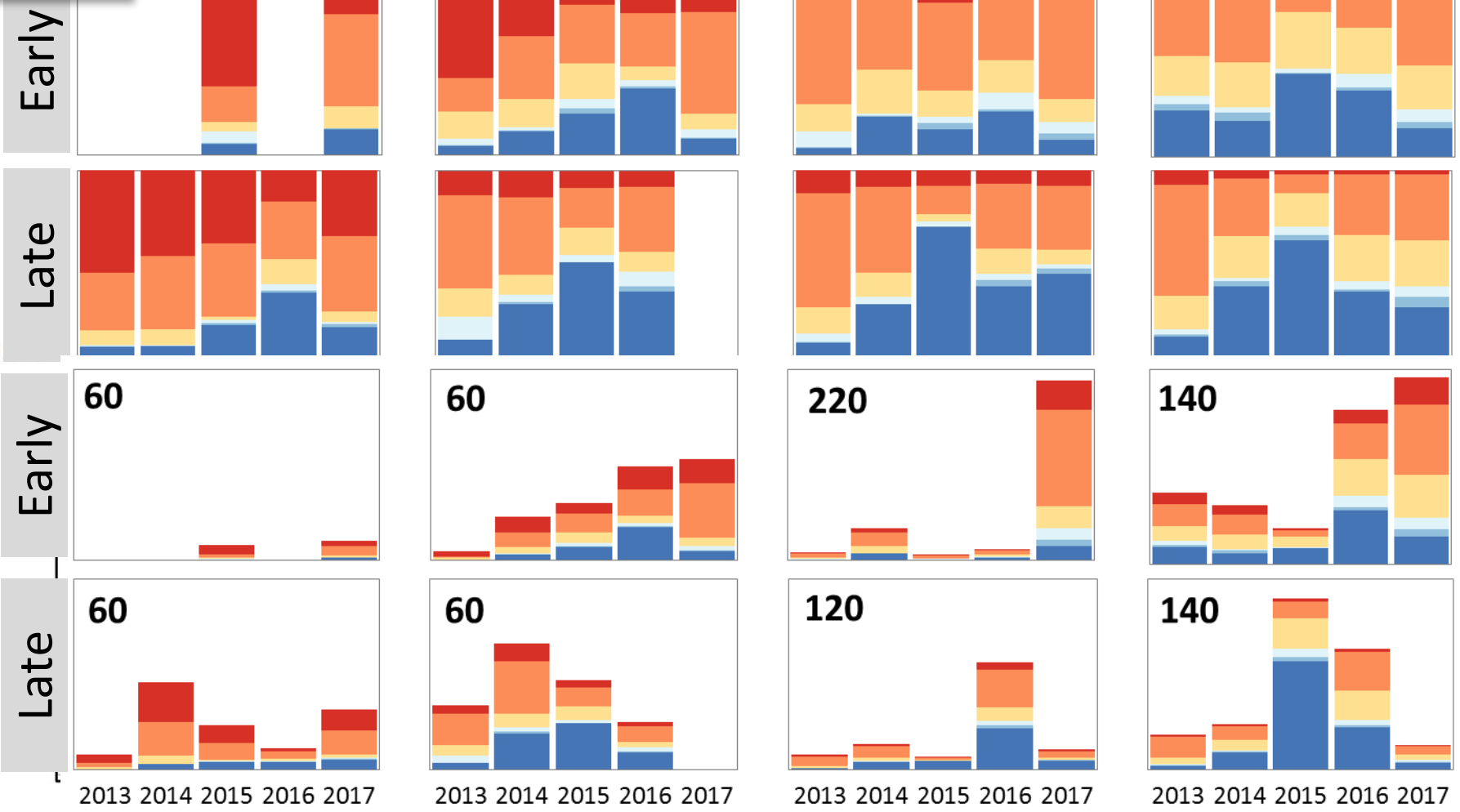
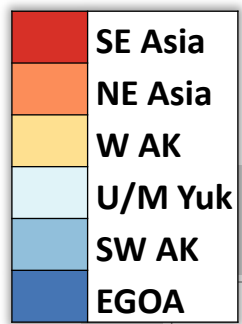
Bering Sea chum salmon bycatch

Area 4

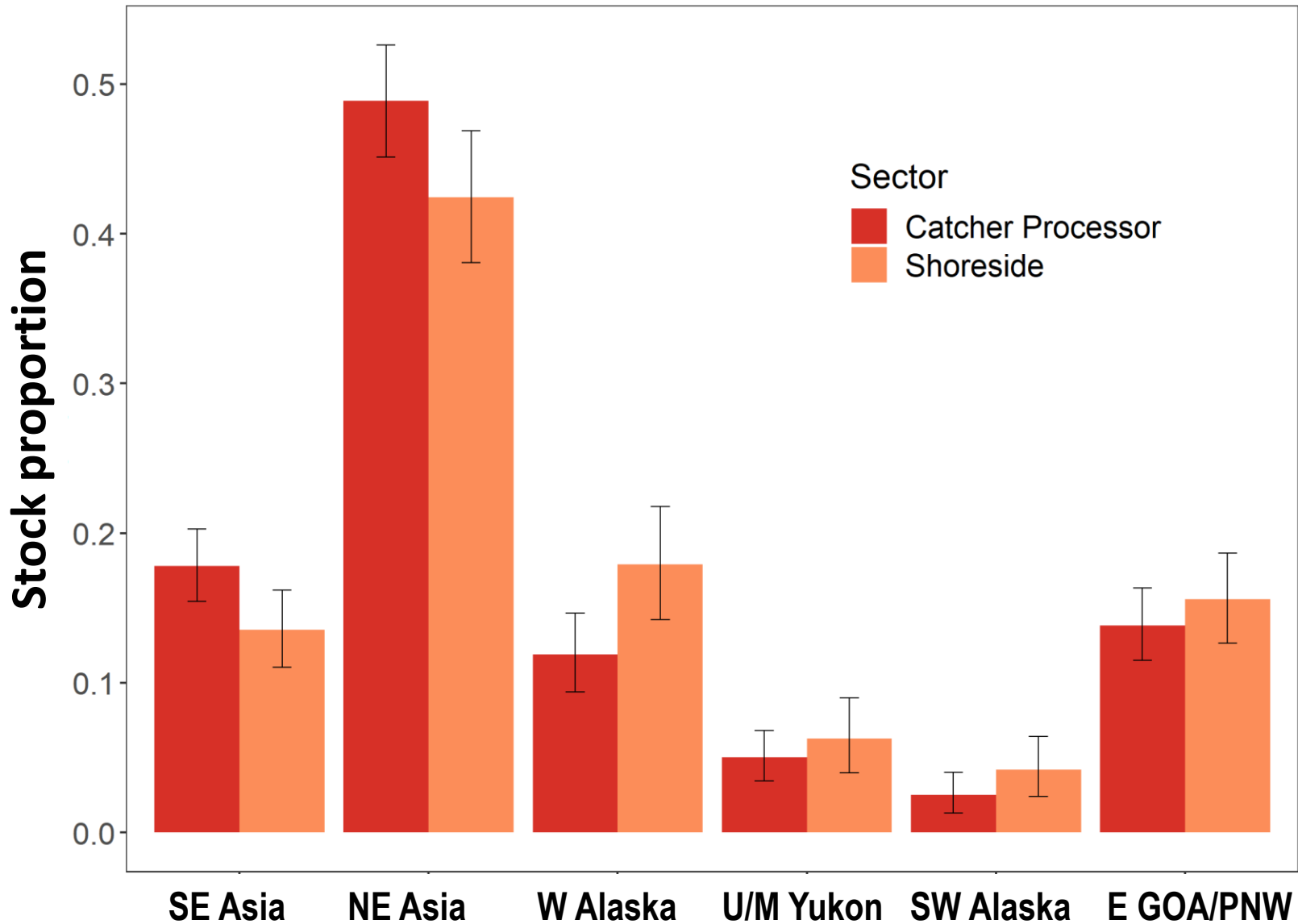
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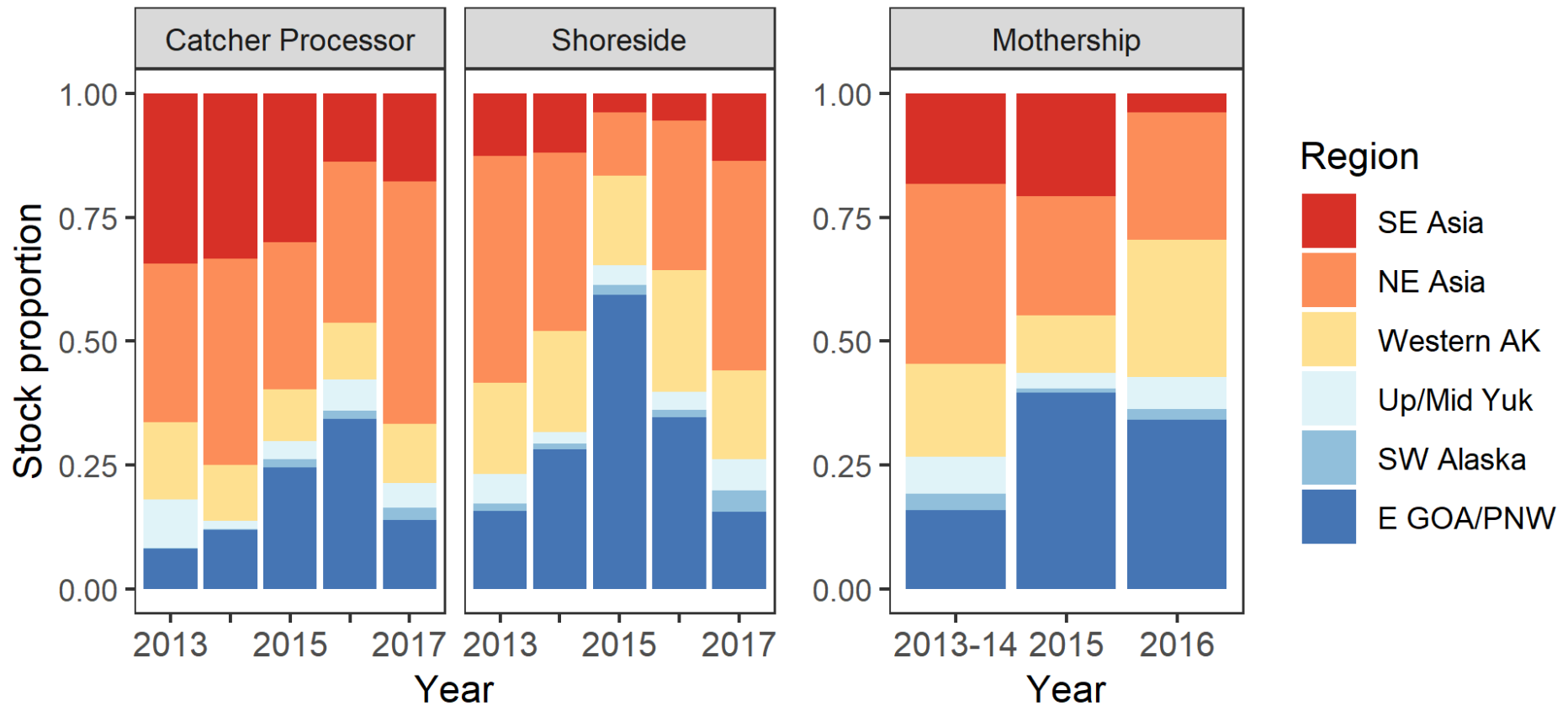
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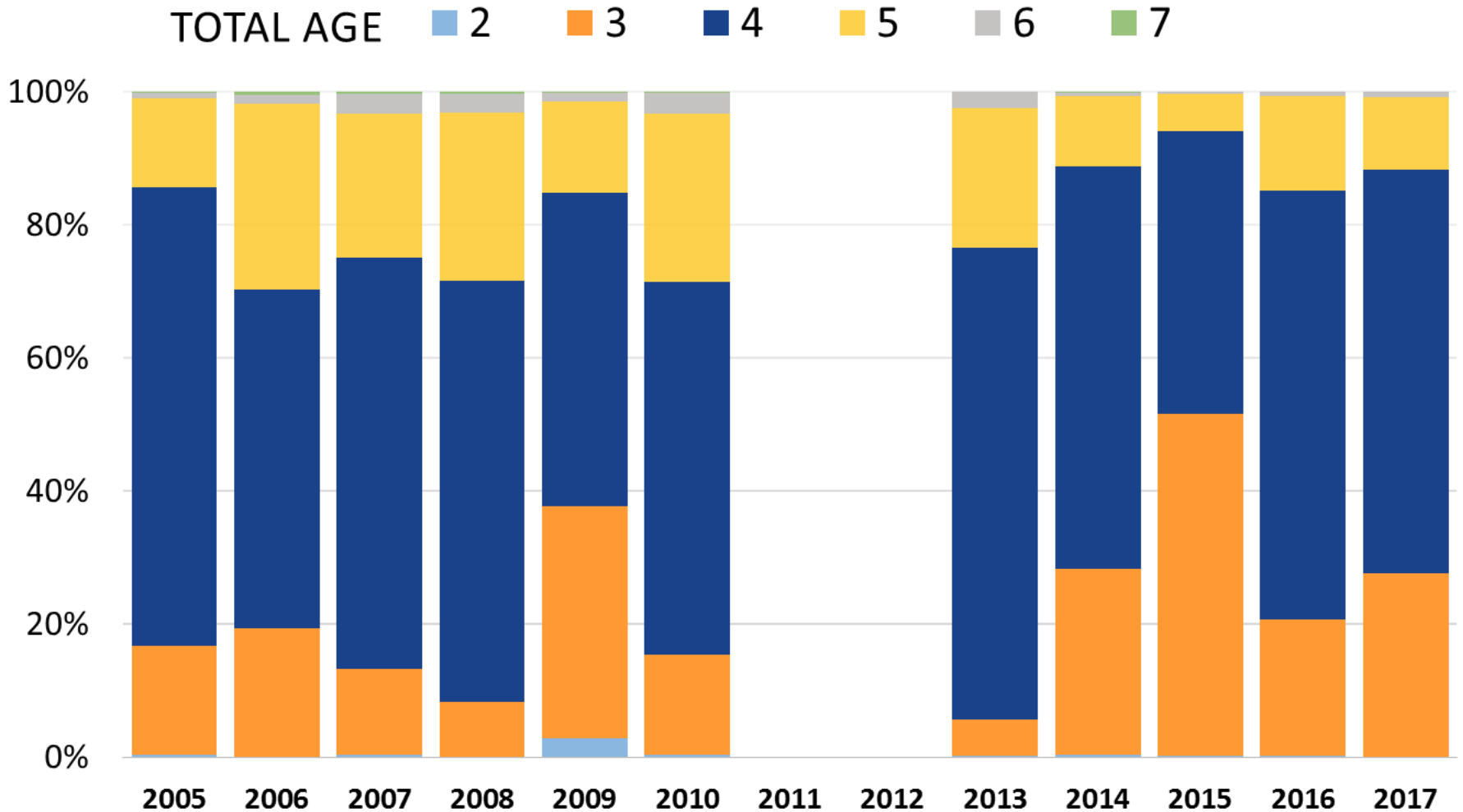
2017 Bering Sea chum salmon bycatch



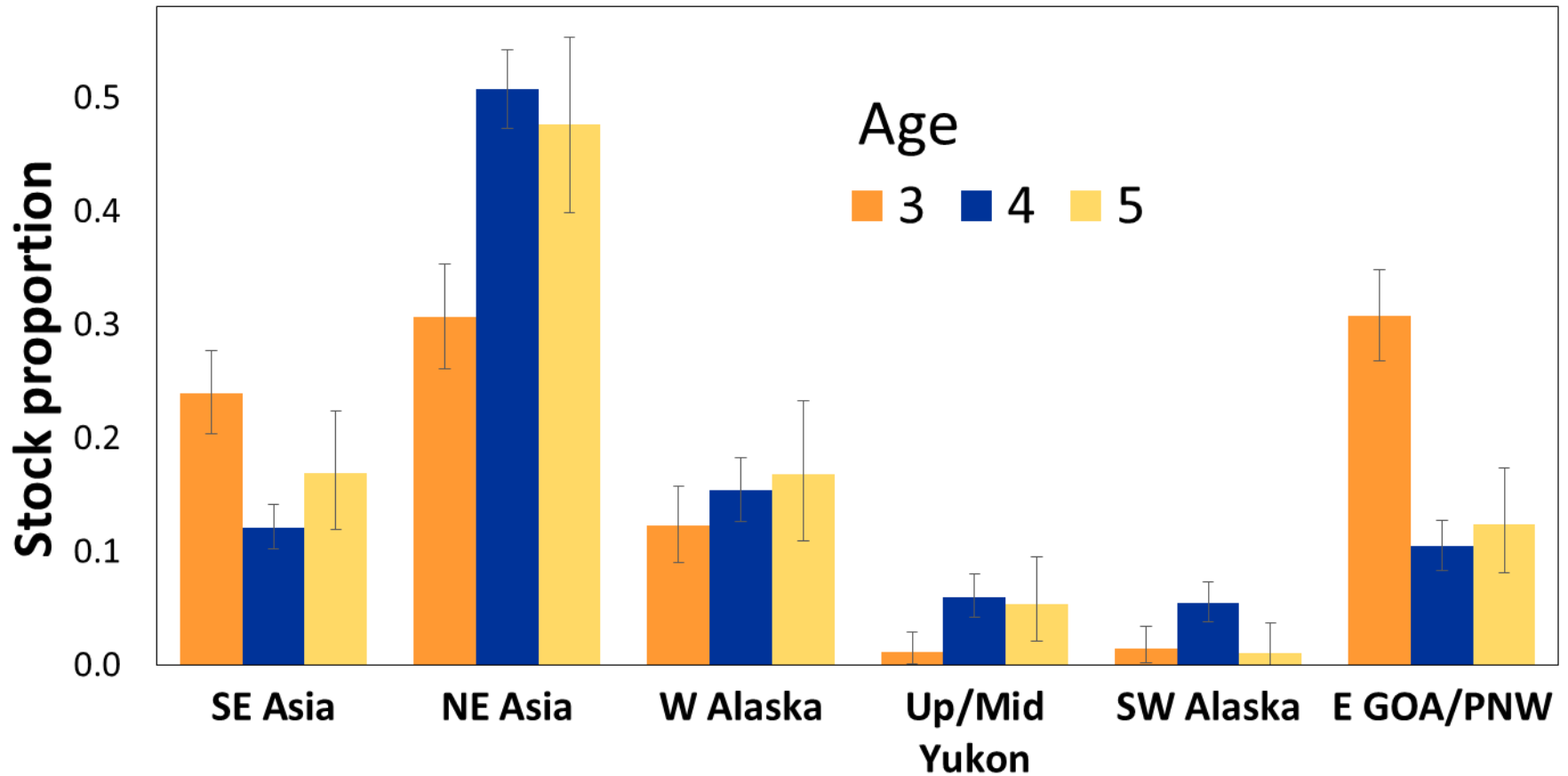
Bering Sea chum salmon bycatch



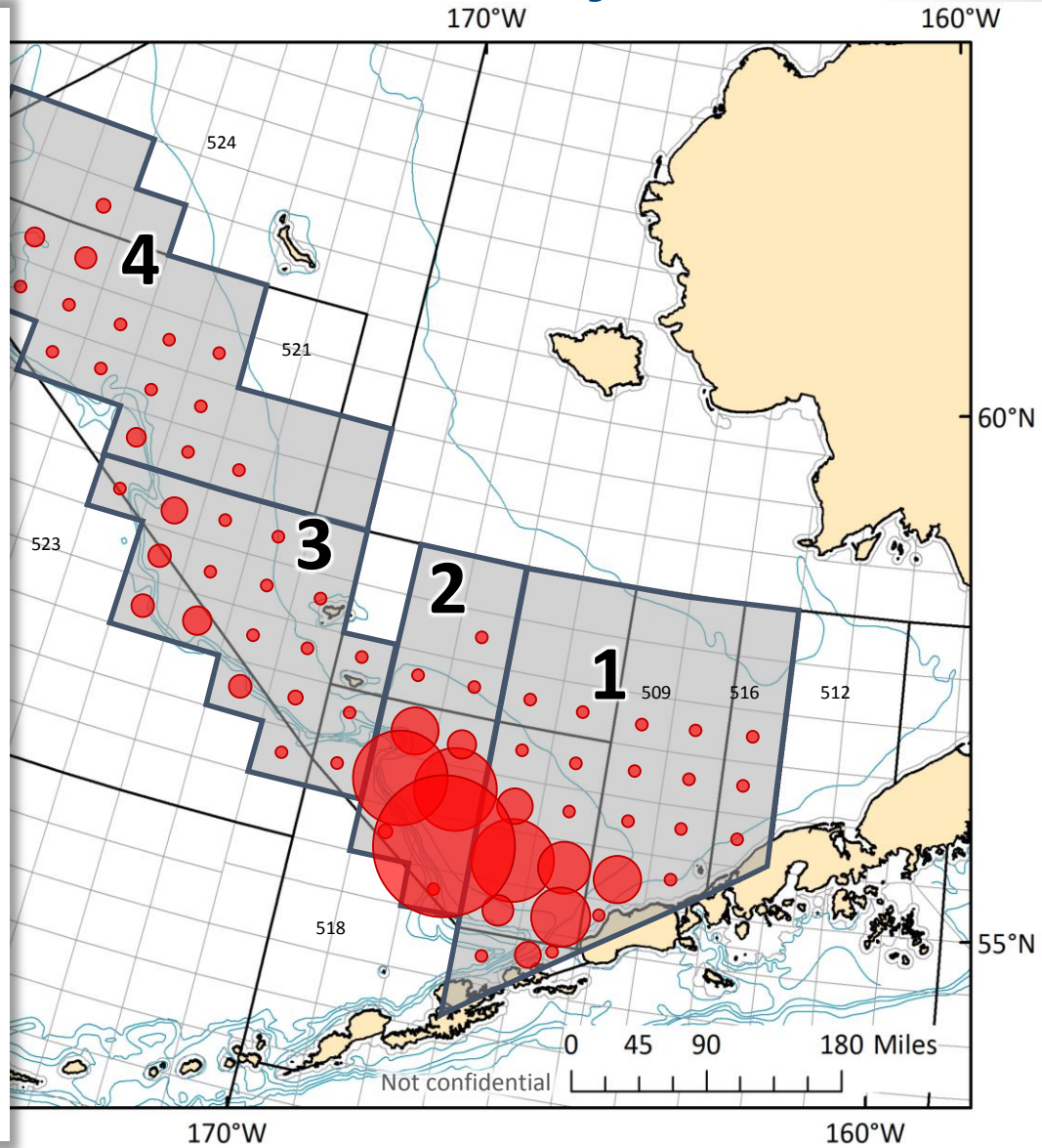
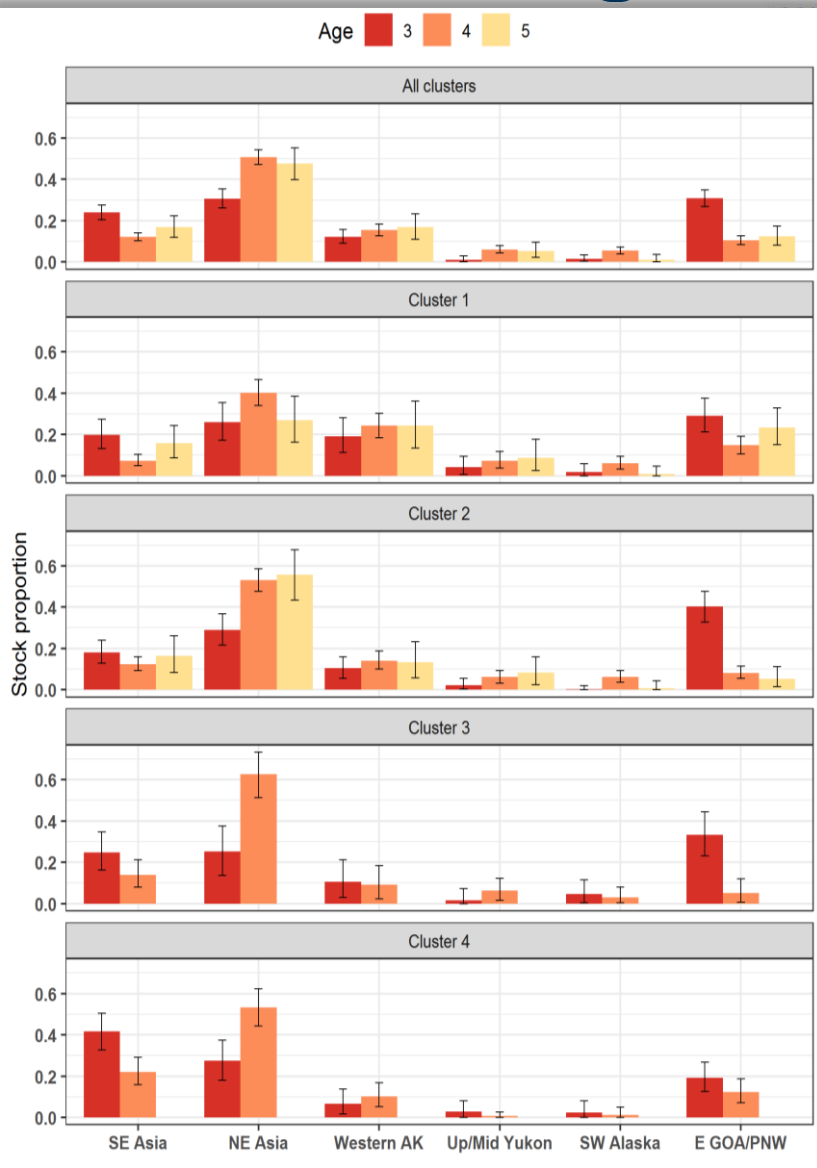
Bering Sea chum salmon bycatch



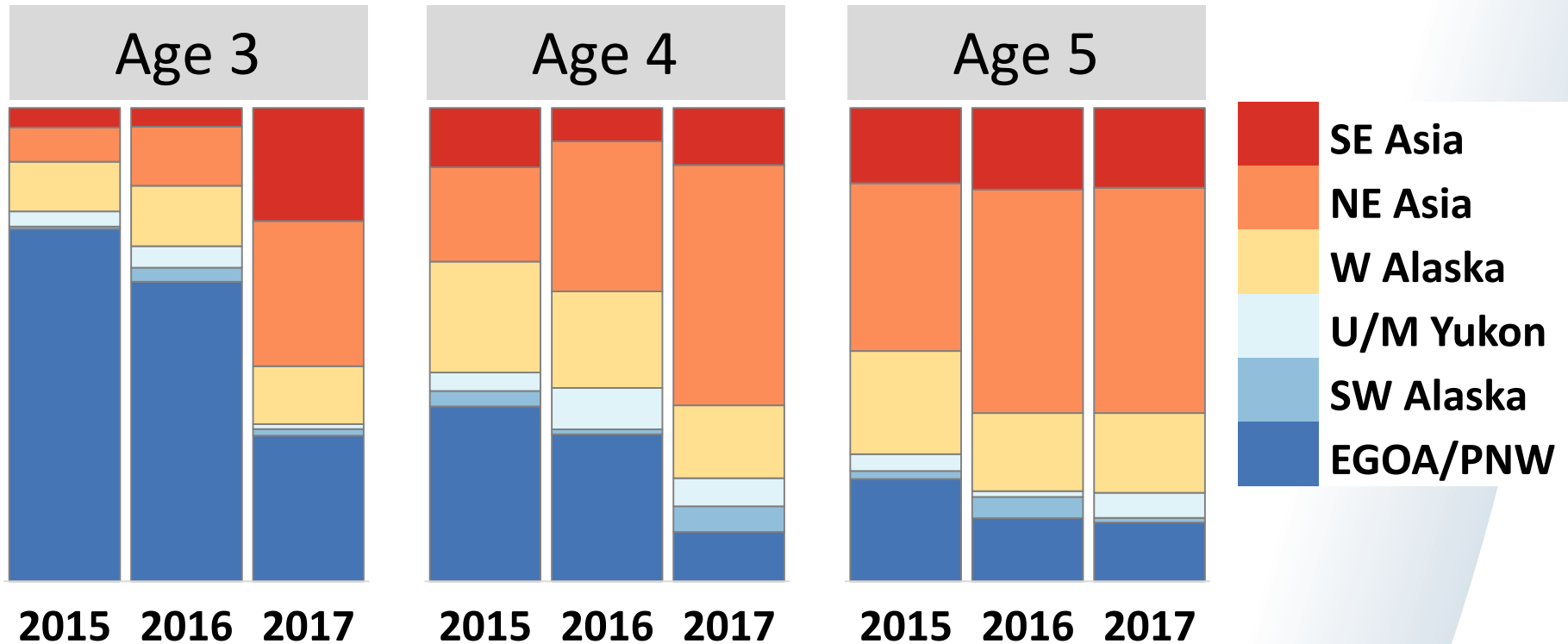
2017 Bering Sea chum salmon bycatch



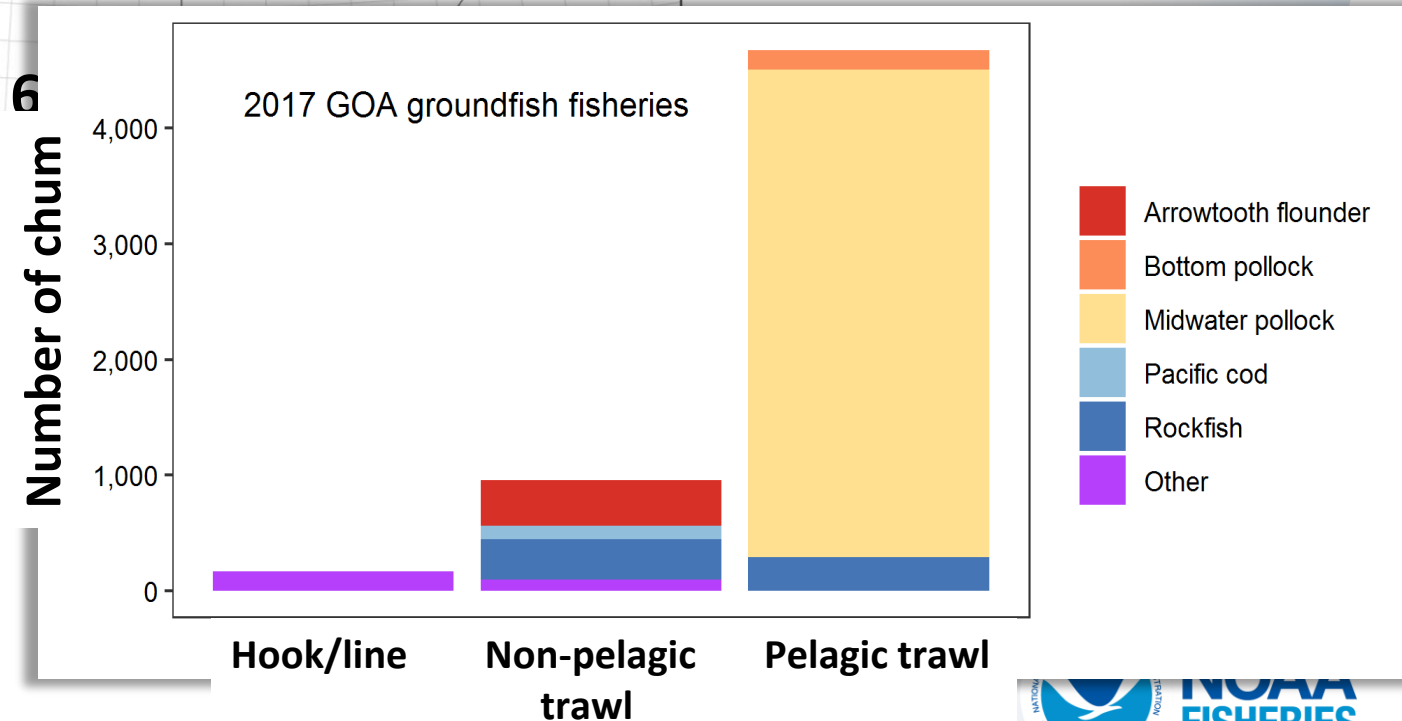
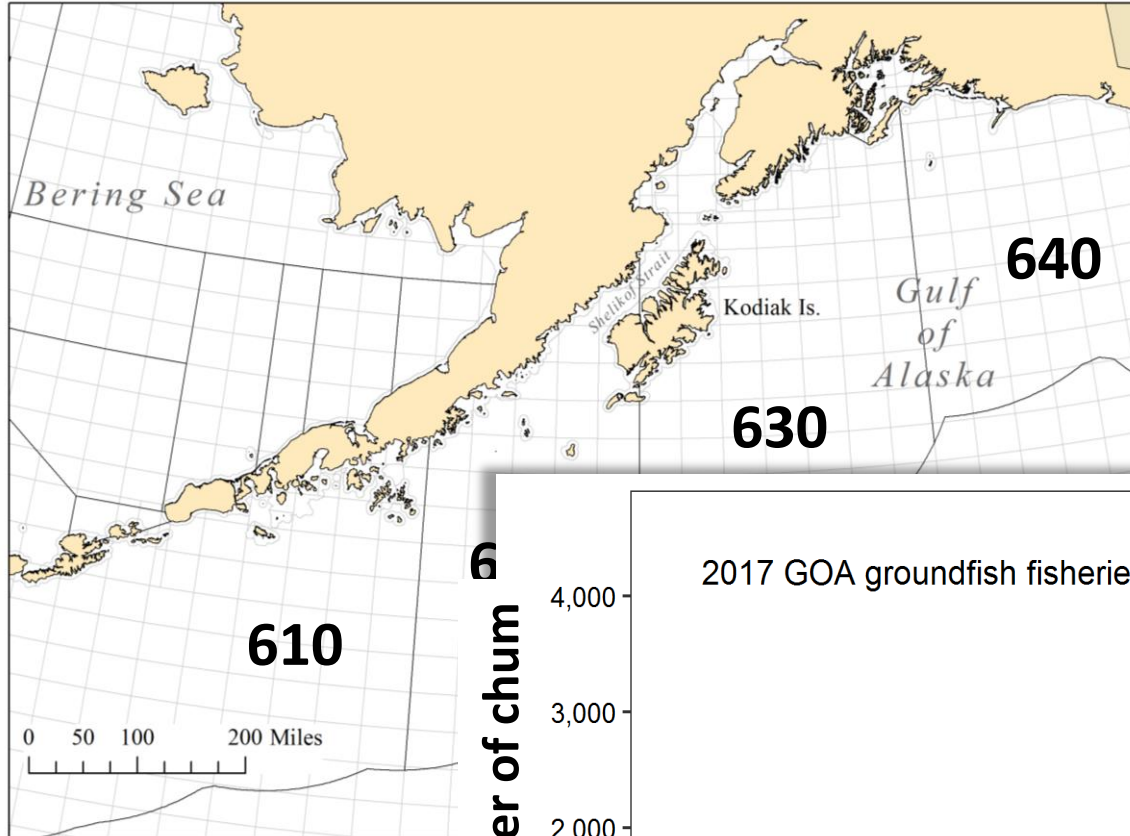
2017 Bering Sea chum salmon bycatch



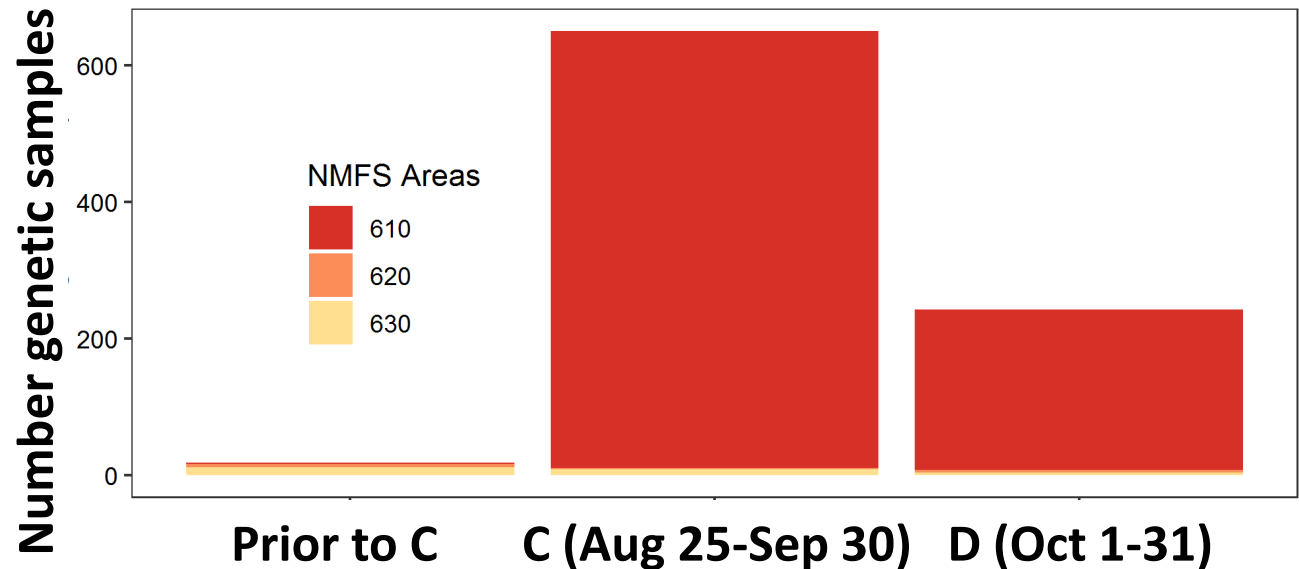
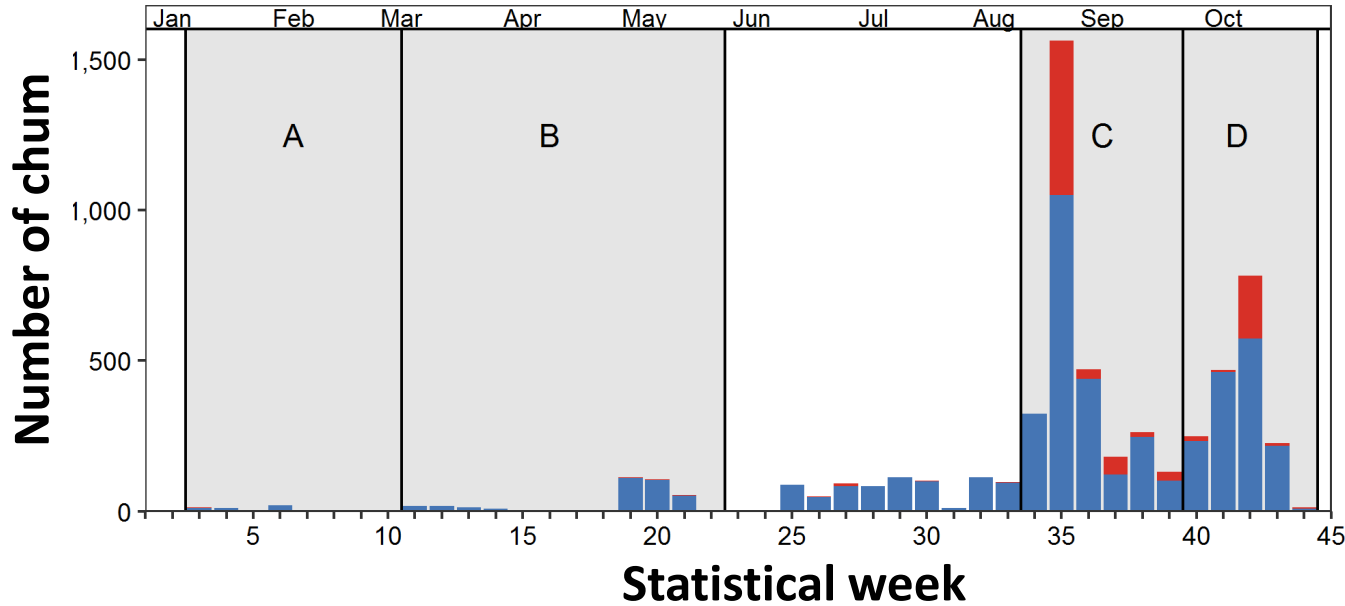
Bering Sea chum salmon bycatch



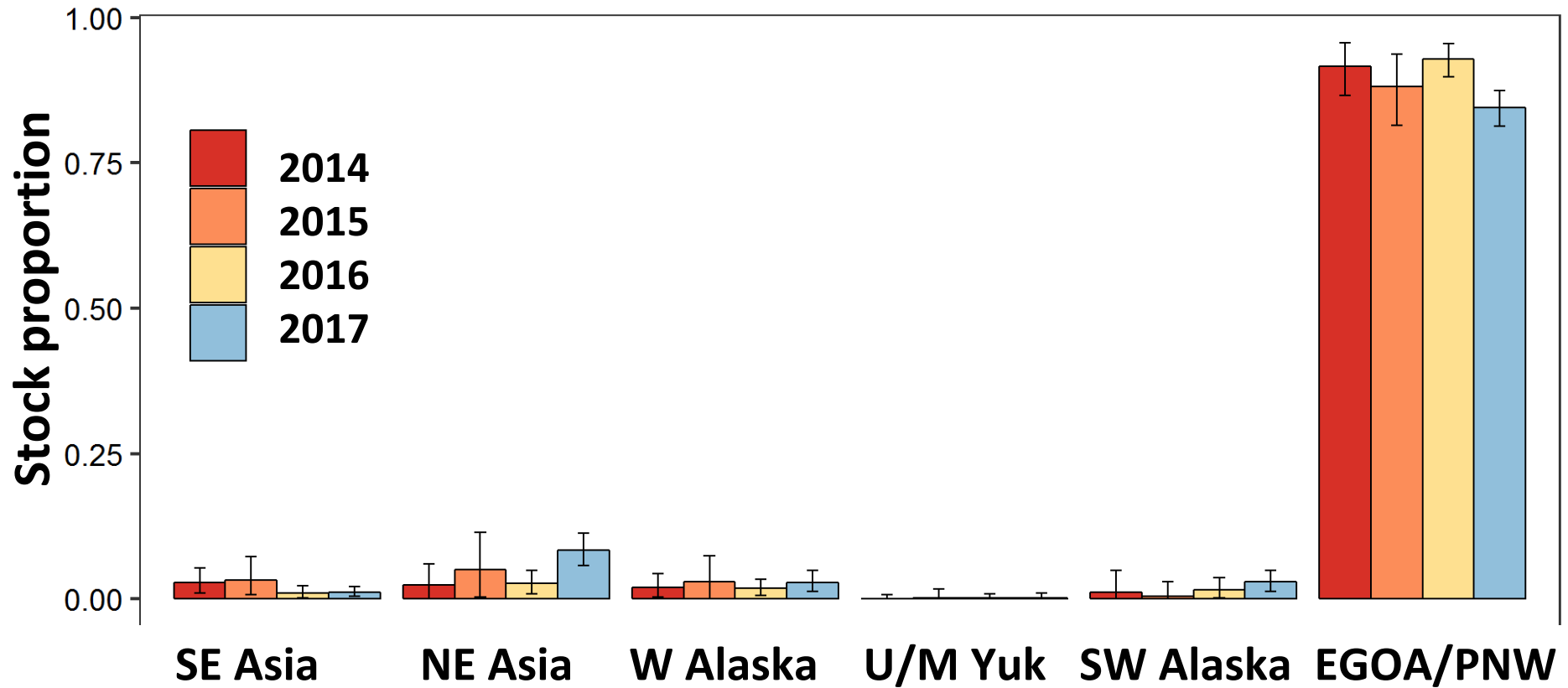
2017 GOA chum salmon bycatch



2017 GOA chum salmon bycatch



GOA chum salmon bycatch



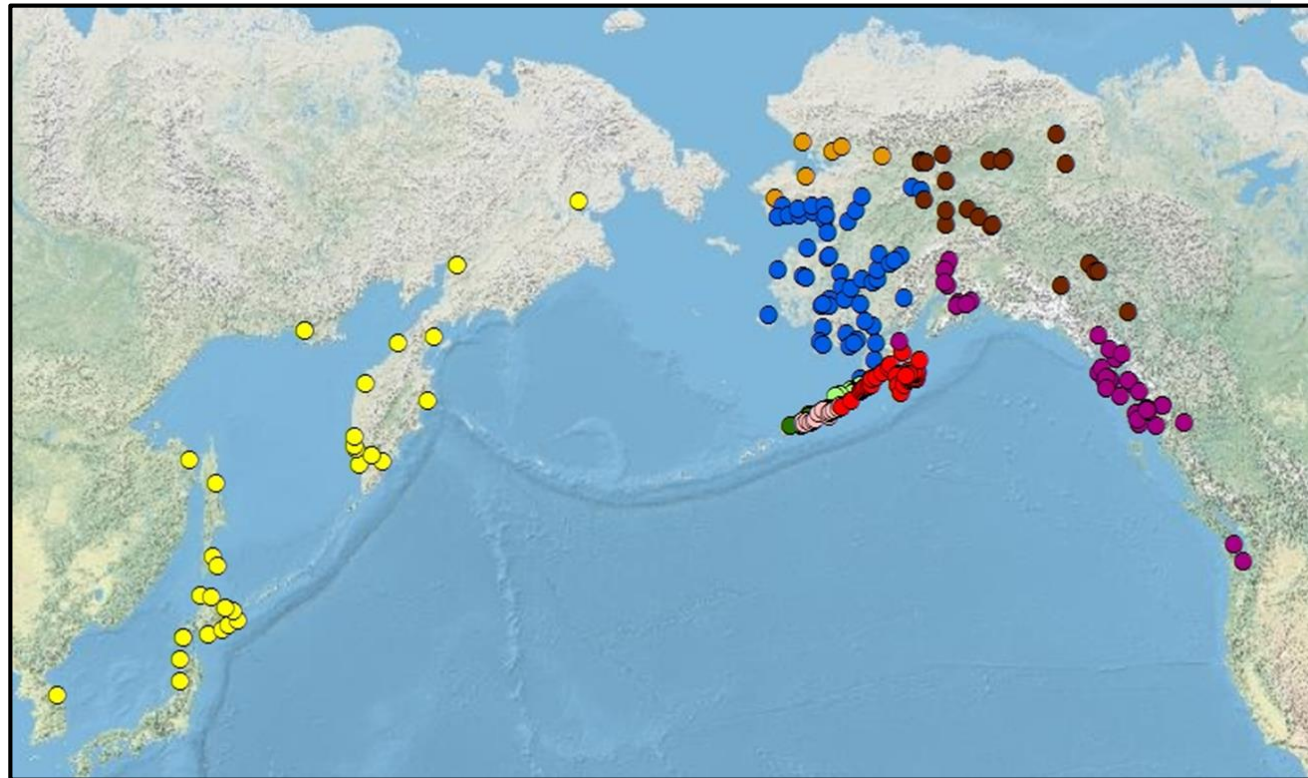
Future work

Near term

- Microsatellites → SNPs
- Mixed-stock analysis software

96-SNP, 310 pop
chum baseline
developed by
ADFG

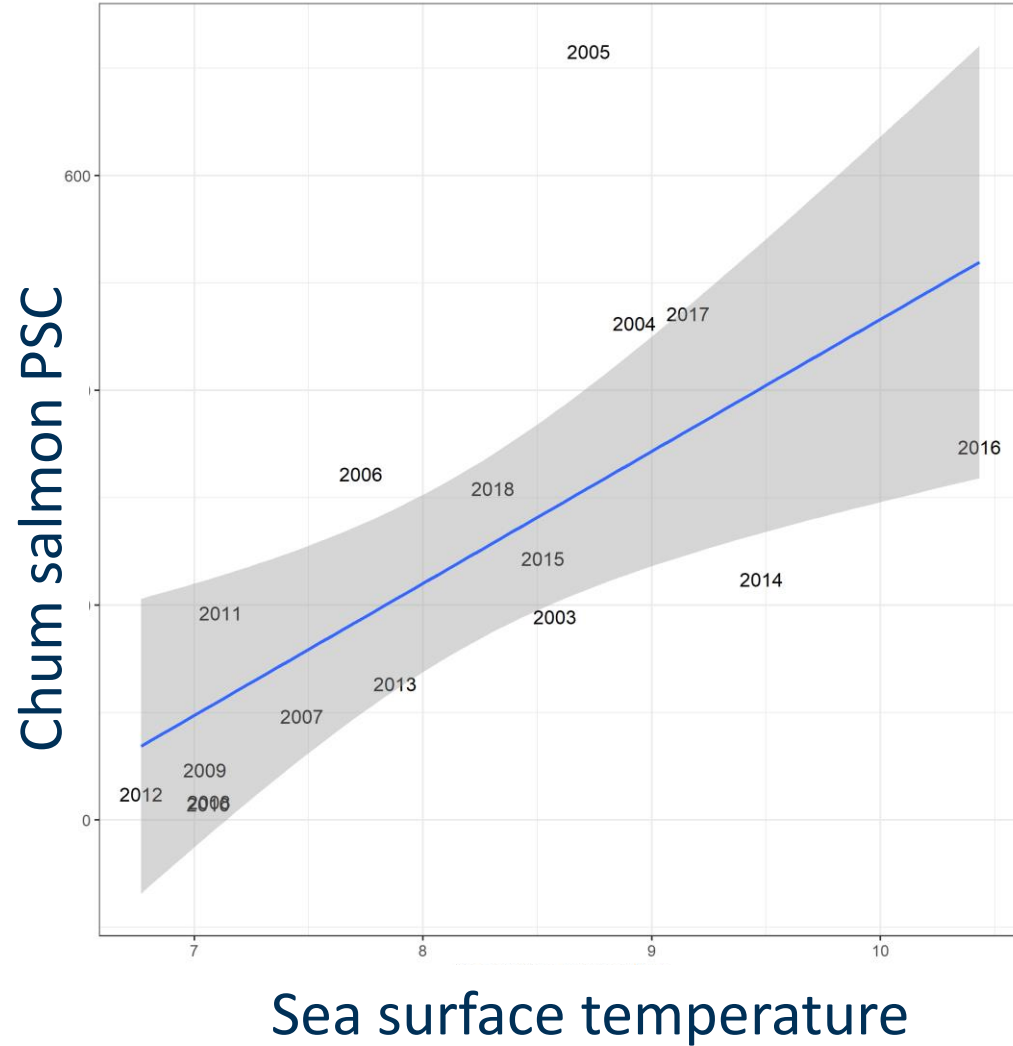
Switch from
BAYES software
to R package
“rubias”



Future work

Near term

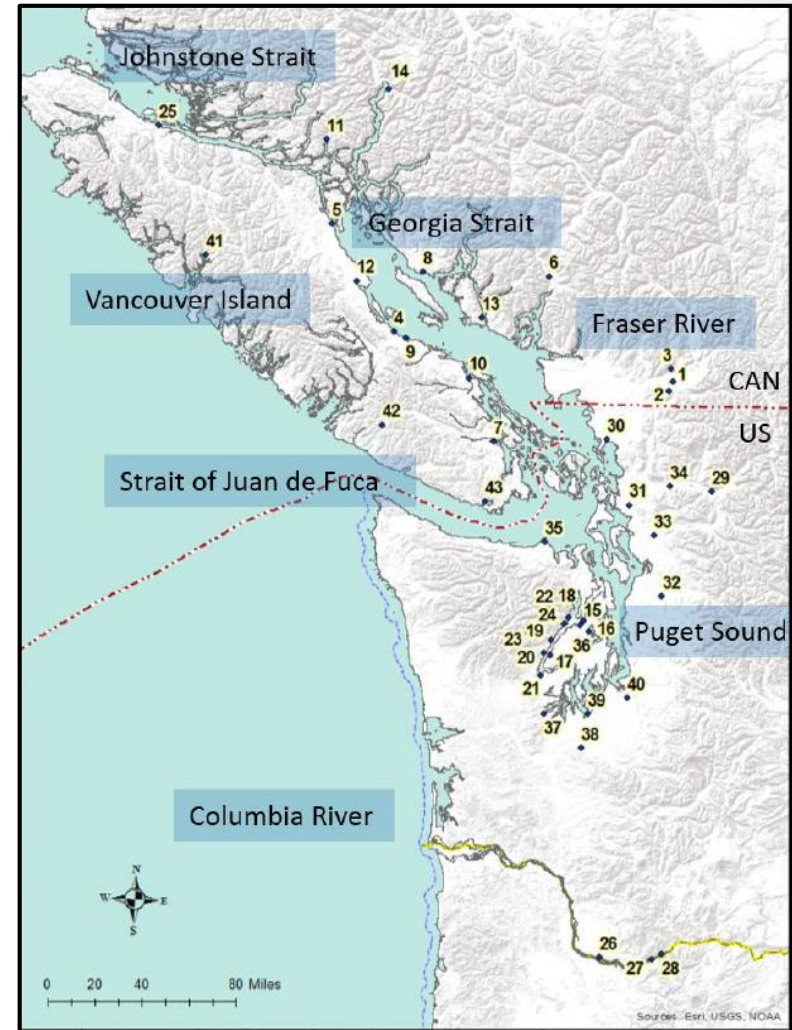
- Exploring new ways to display data
- Link satellite environmental data to stat area
- Update AKFIN reports to include genetic, age, SST data.



Future work

Longer term

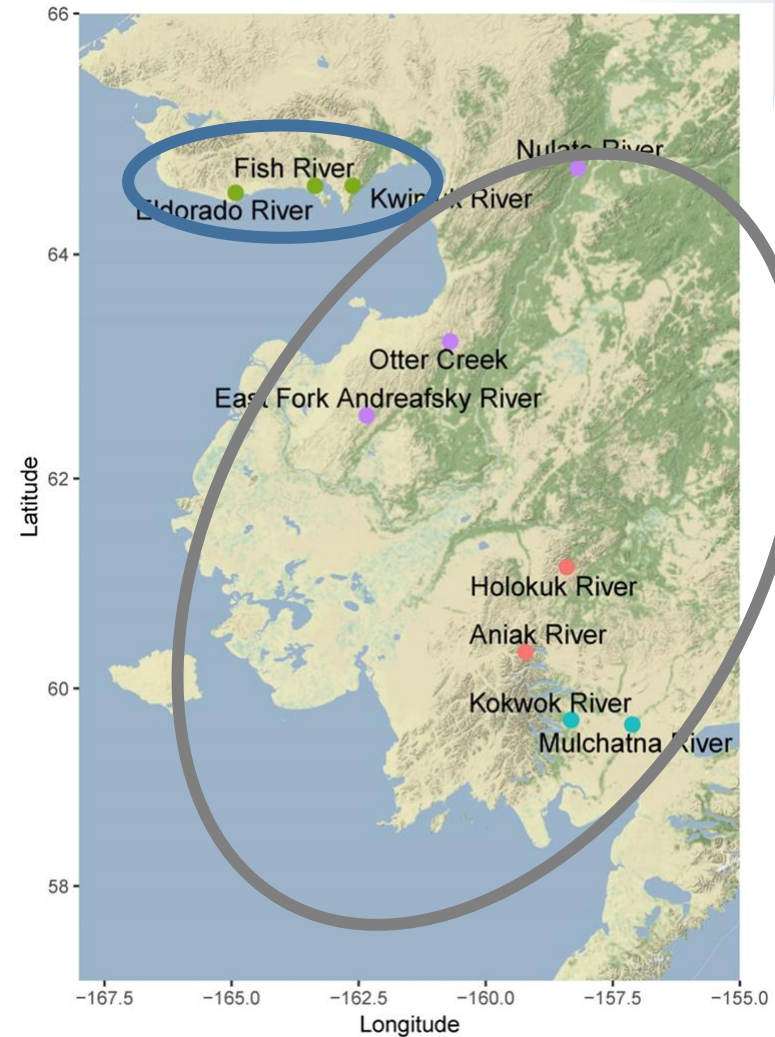
- New genetic markers
- Update baselines
- Evaluate stock groupings



Future work

Longer term

- New genetic markers
- Update baselines
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Acknowledgements

NMFS-ABL Genetics Program

Jackie Whittle
Hanhvan Nguyen
Max Marsh
Dione Cuadra
Jeff Guyon

NMFS-ABL EMA Program

Ellen Yasumiishi
Jordan Watson
Dave Nicolls

NMFS-FMA

Observers
Jennifer Ferdinand
Lisa Thompson
Jennifer Cahalan
Marlon Concepcion

NMFS-Alaska Region

Mary Furuness
Jennifer Mondragon
Jason Gasper

Pac States Marine Fish Comm (AKFIN)

Bob Ryznar
Rob Ames
Camille Kohler (Nexus Data Solutions)



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