

Stock Assessment and 2020 and 2021 Forecasts Sitka Sound, Alaska

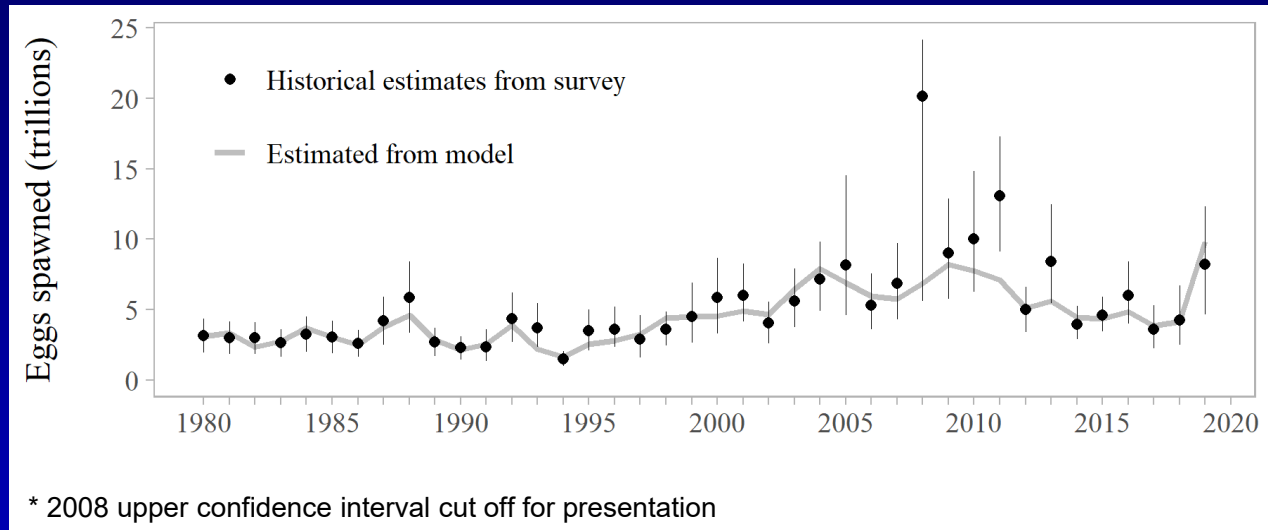


Sherri Dressel
Alaska Department of
Fish and Game

March 12, 2021

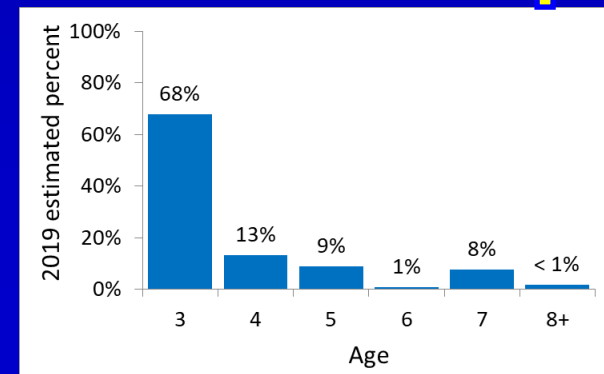
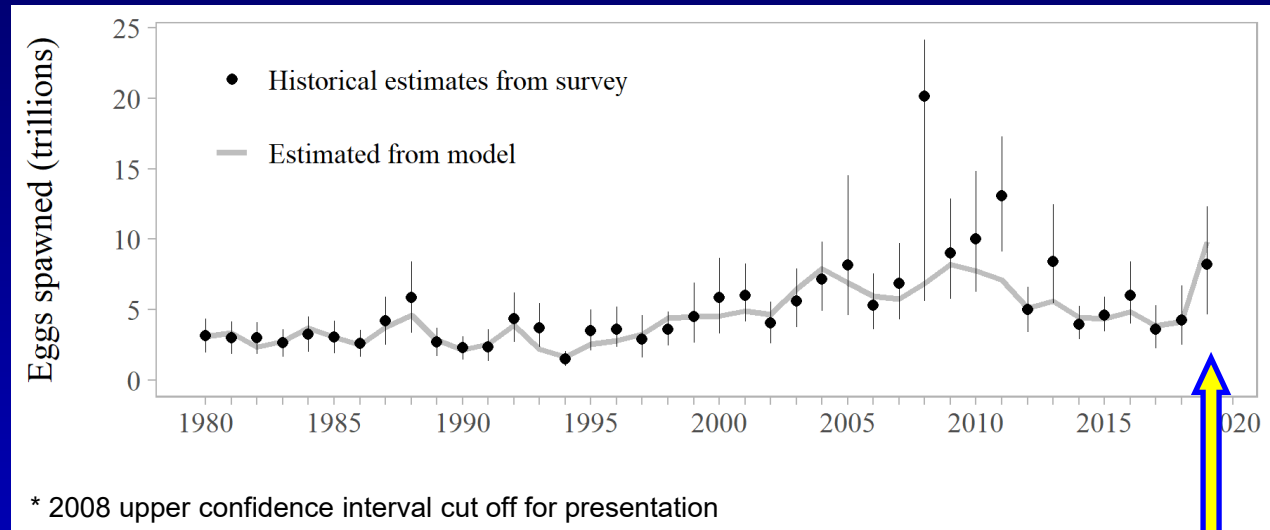
Spawn deposition survey estimates with 95% confidence intervals and model fit

2020
forecast
model



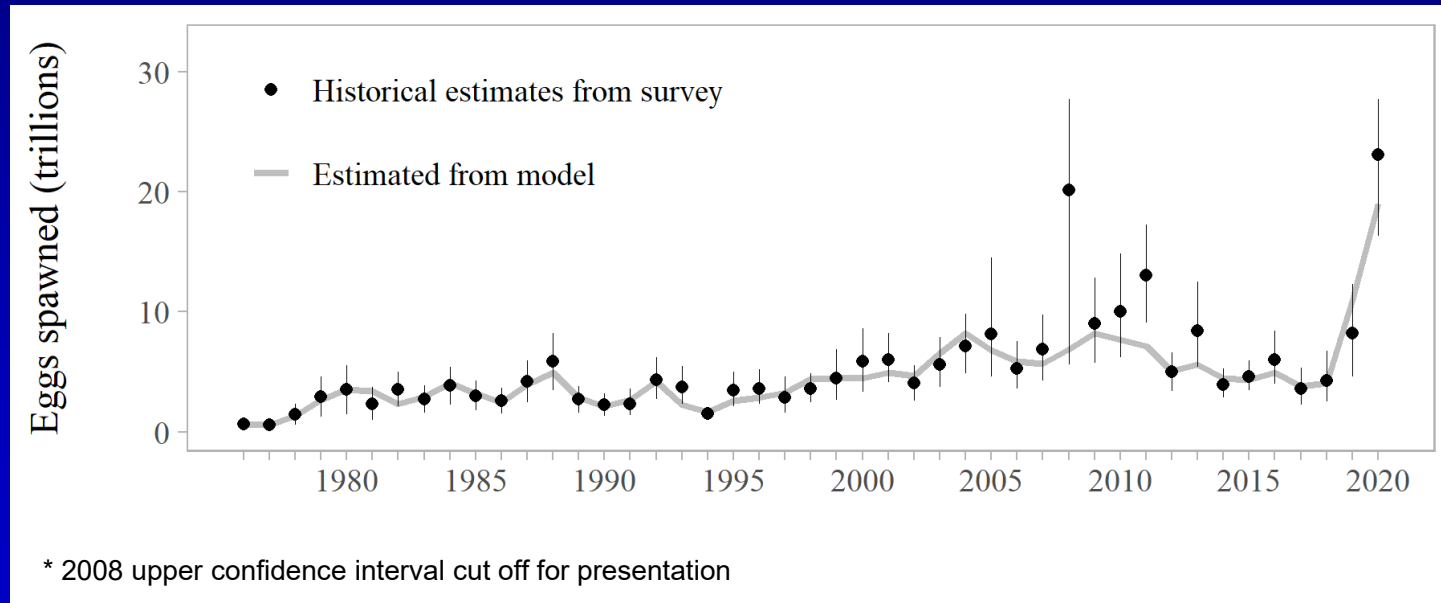
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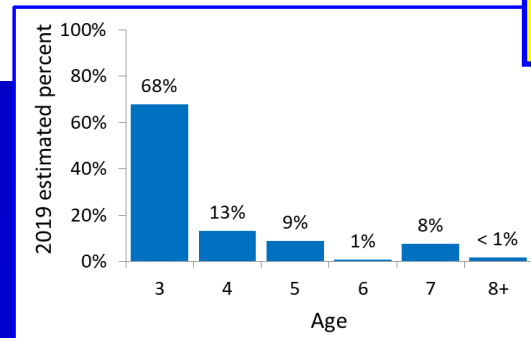
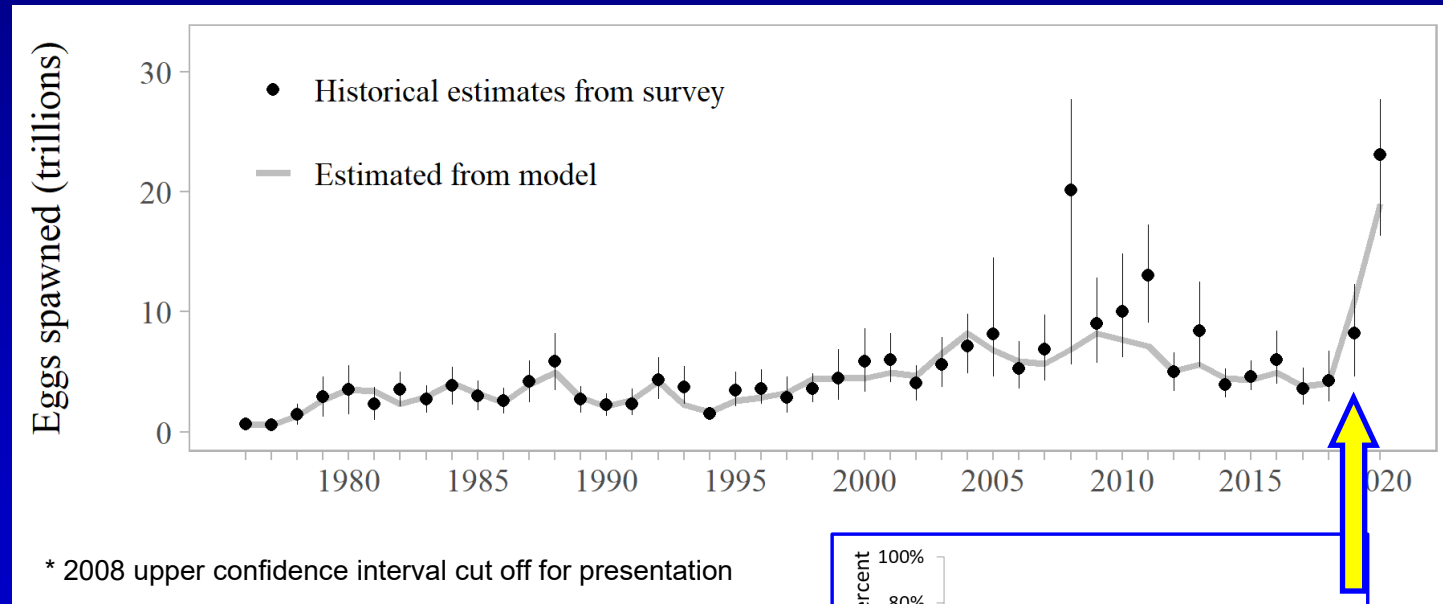
Spawn deposition survey estimates with 95% confidence intervals and model fit

2021
forecast
model



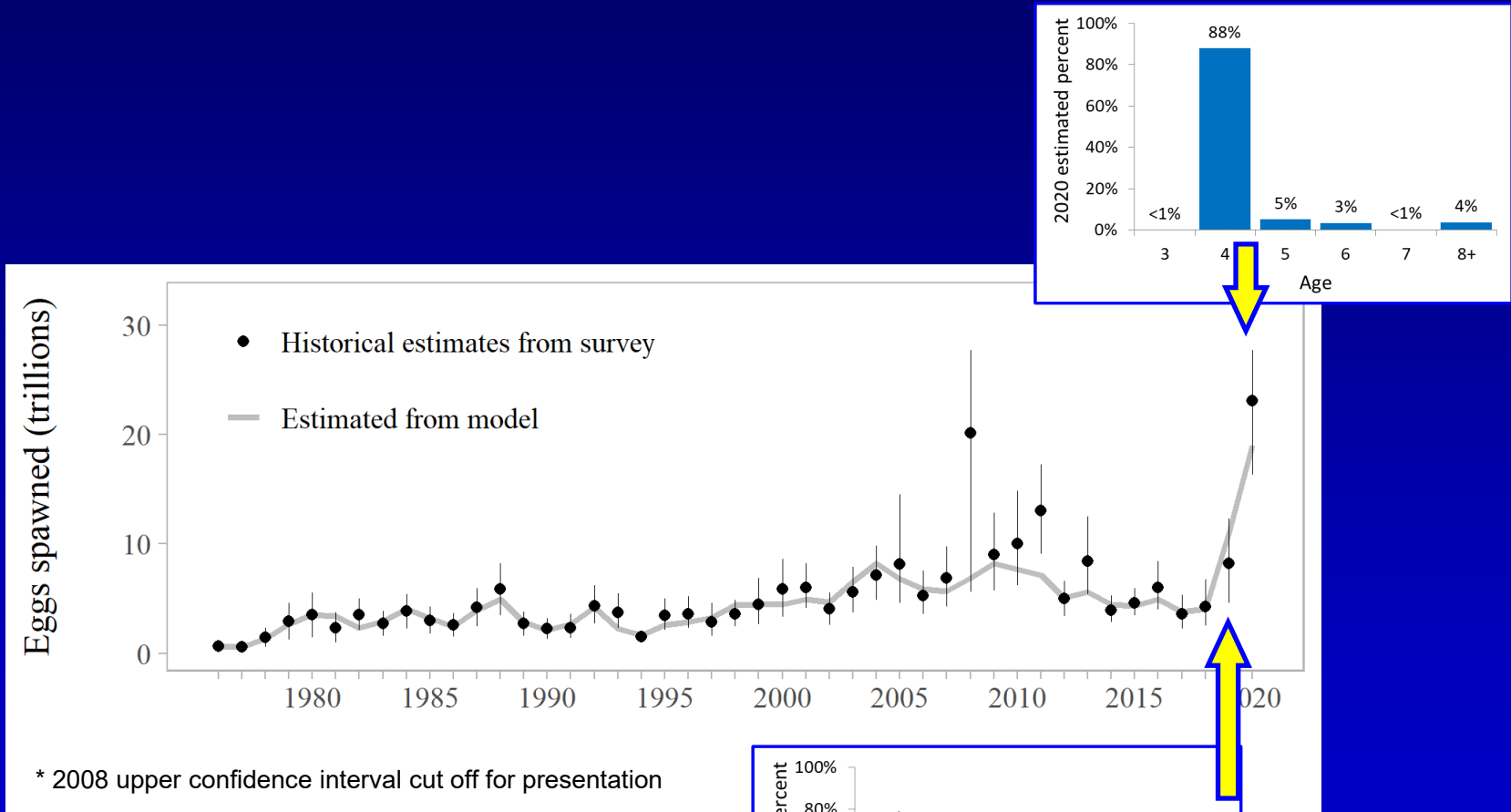
Spawn deposition survey estimates with 95% confidence intervals and model fit

2021
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model



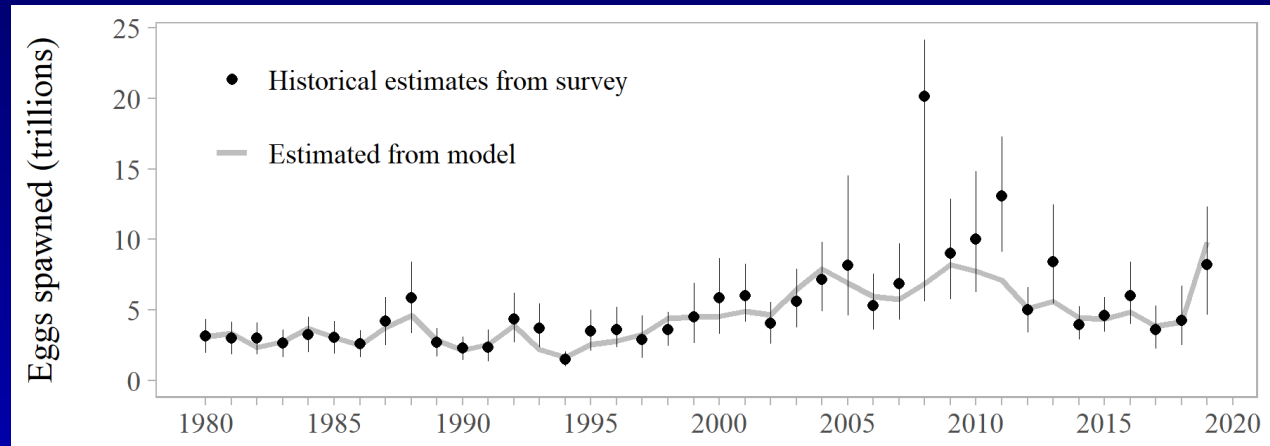
Spawn deposition survey estimates with 95% confidence intervals and model fit

2021
forecast
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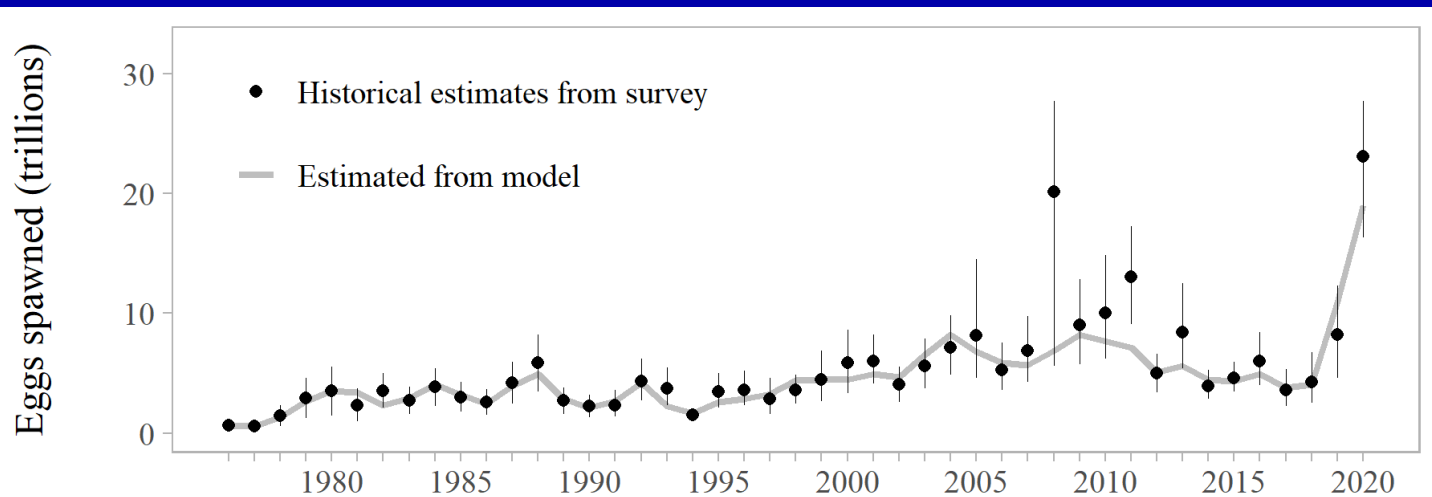


Spawn deposition survey estimates with 95% confidence intervals and model fit

2020
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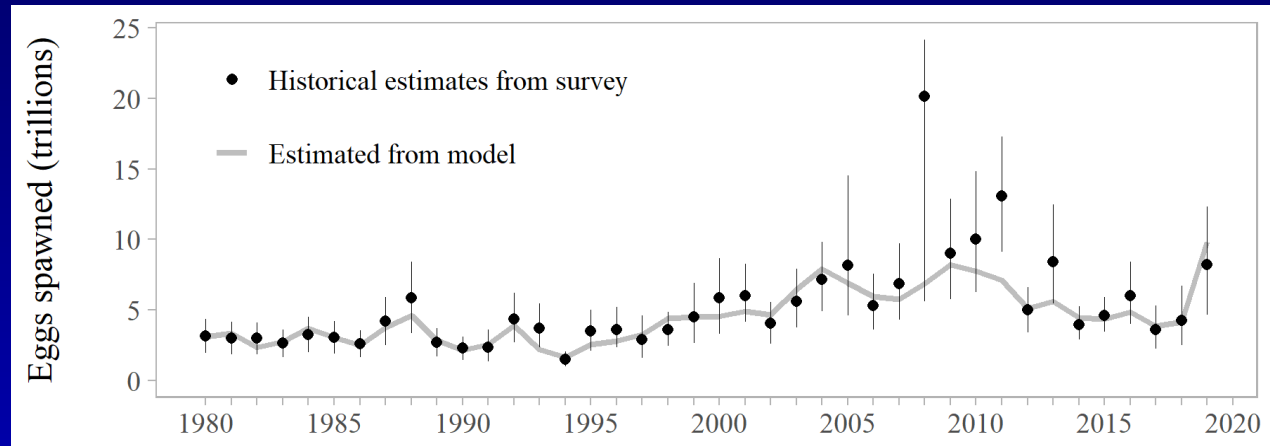
2021
forecast
model



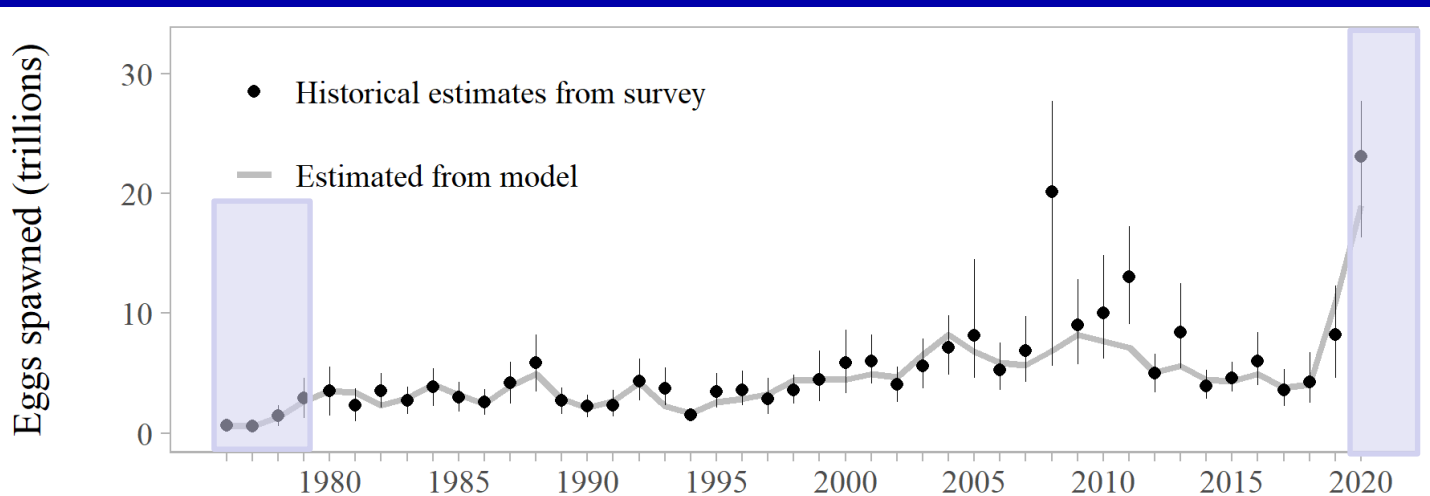
* 2008 upper confidence interval cut off for presentation

Spawn deposition survey estimates with 95% confidence intervals and model fit

2020
forecast
model



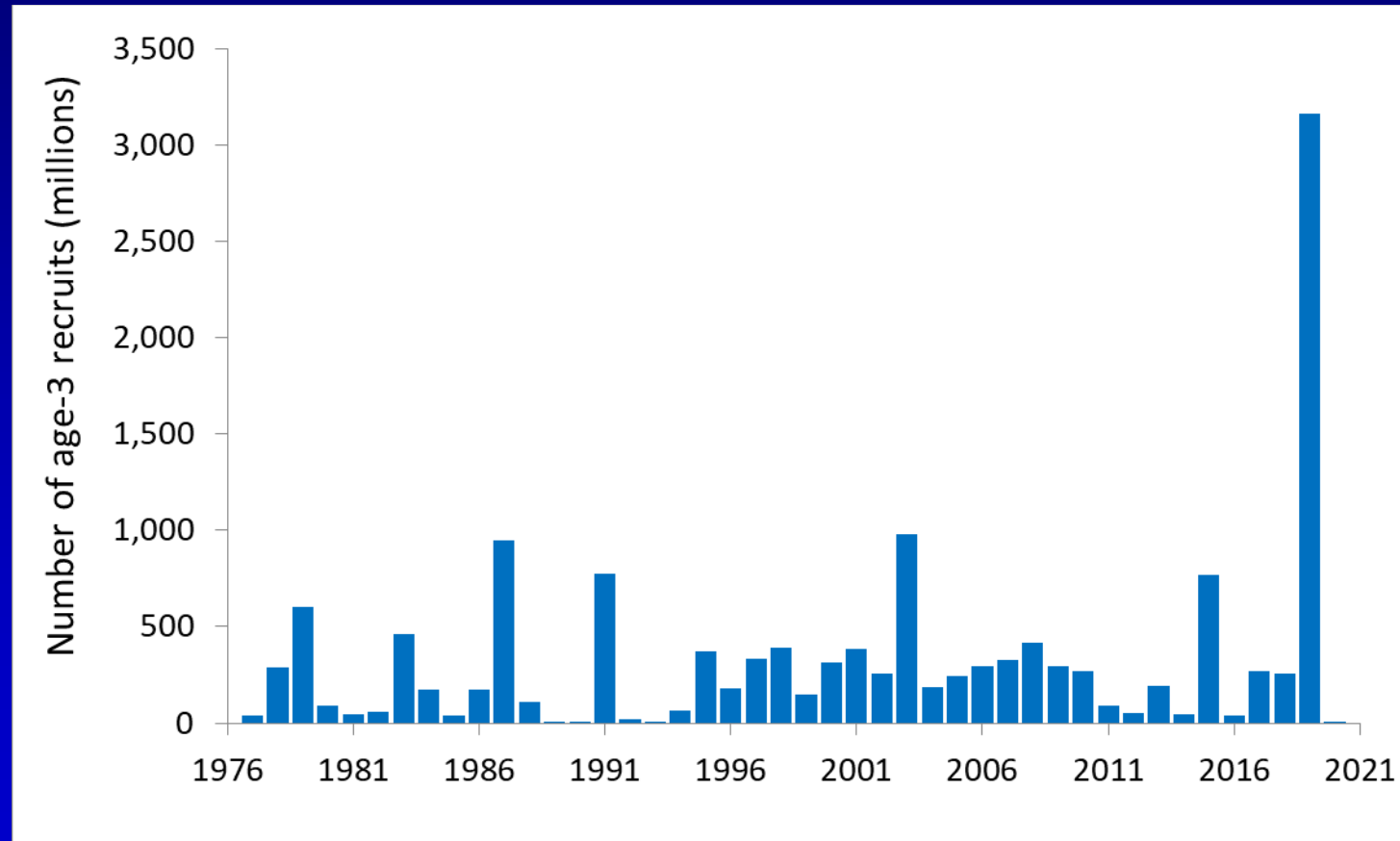
2021
forecast
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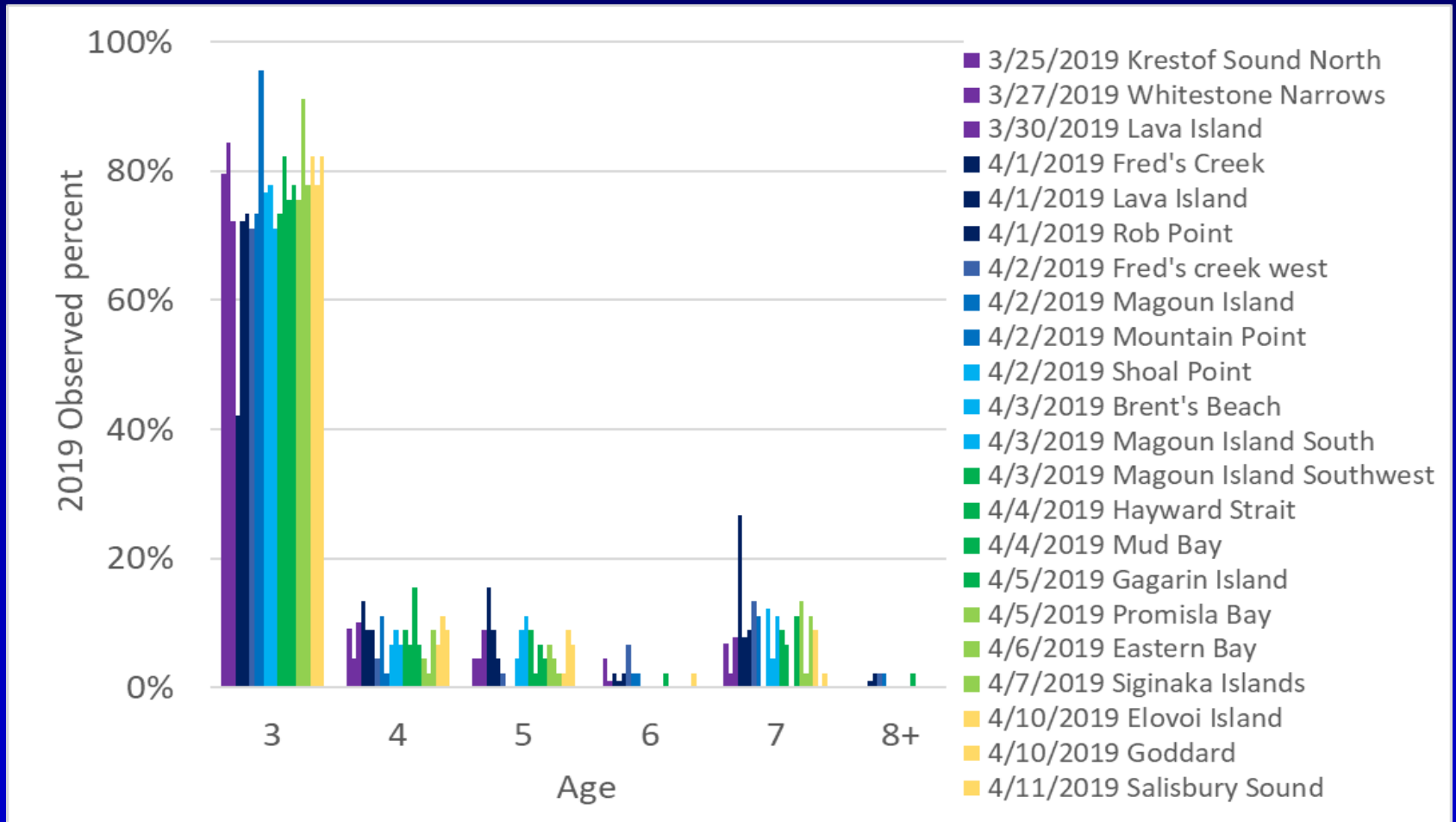
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Sitka Sound recruitment

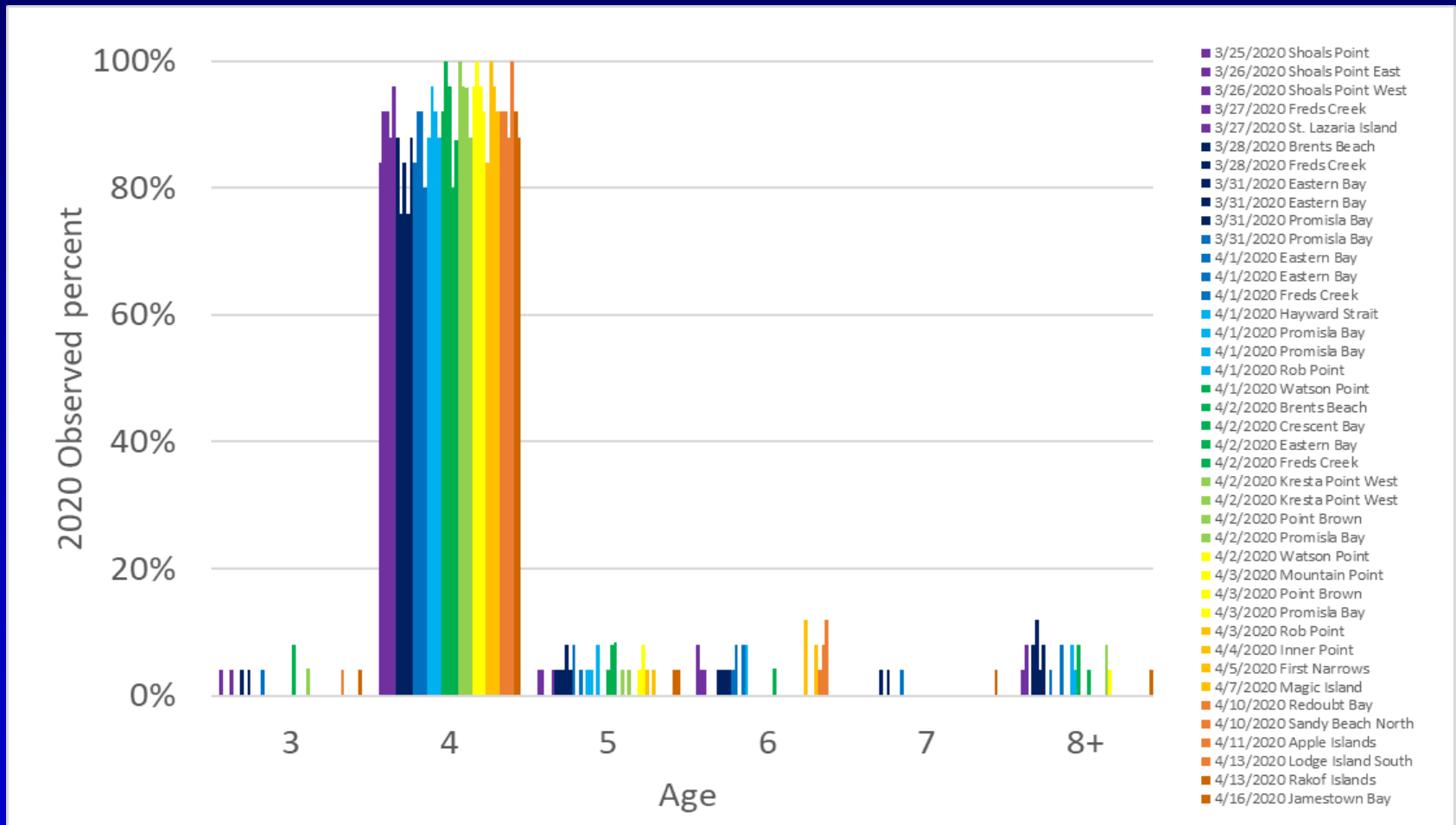
2021 forecast ASA model
(mature and immature age-3 fish)



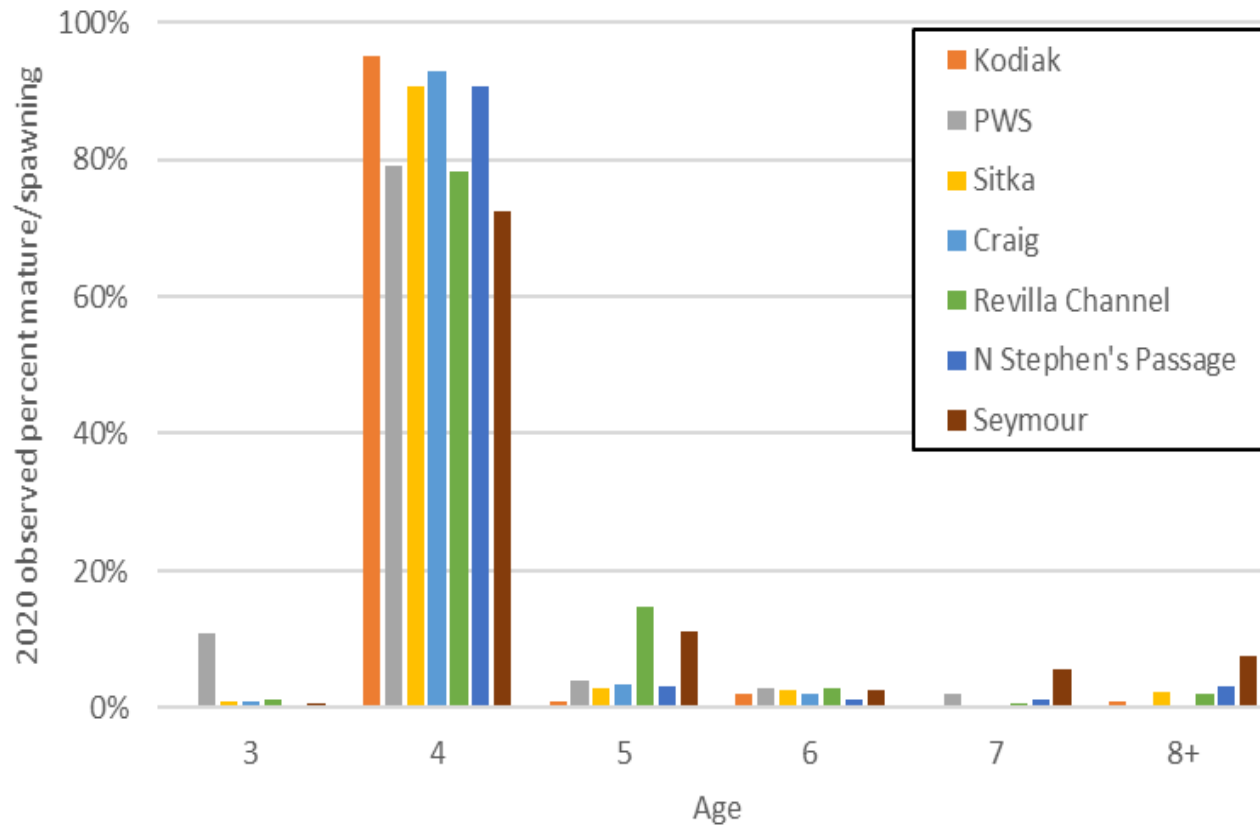
2019 Observed age composition (cast net)



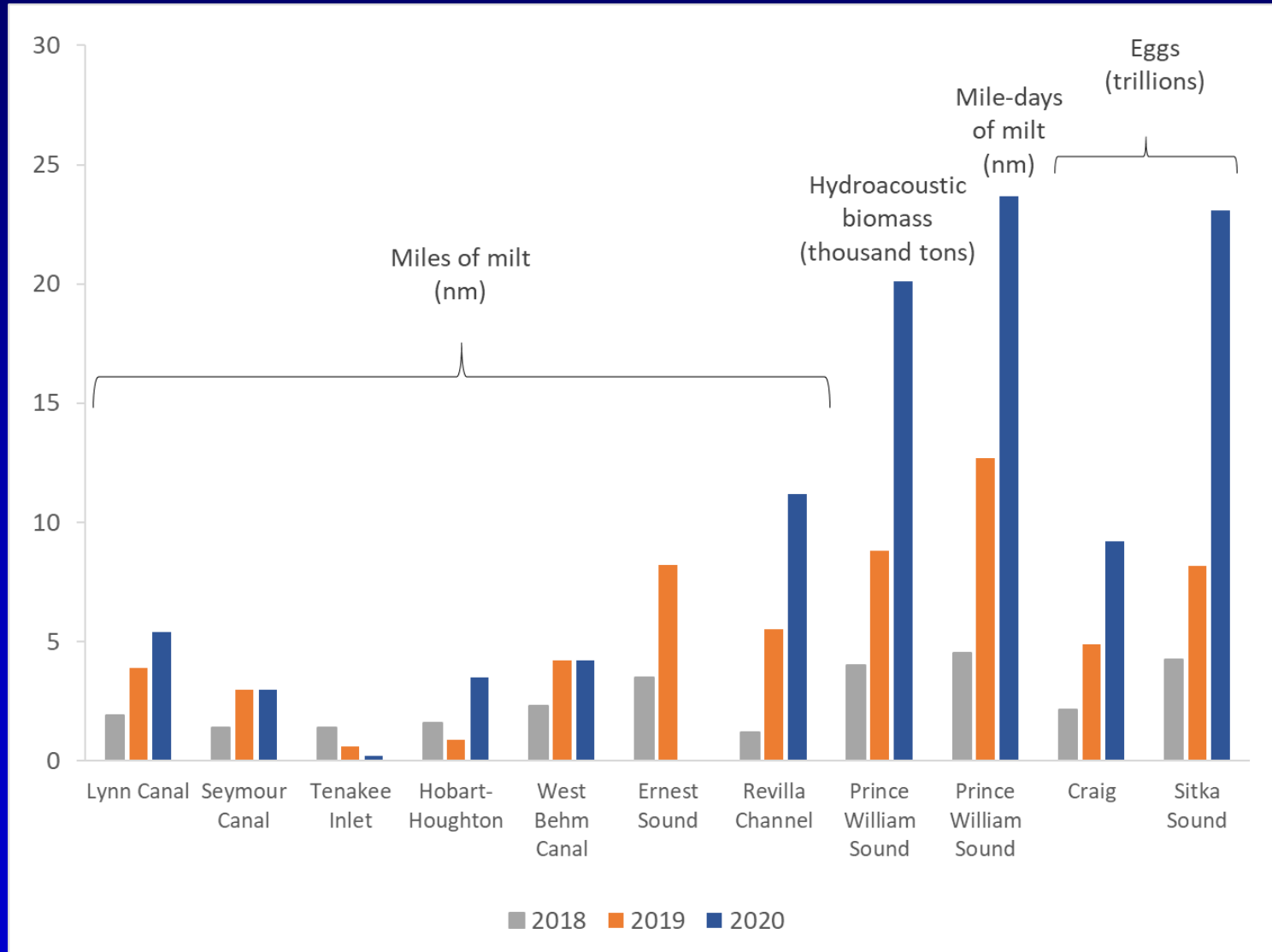
2020 Observed age composition (cast net)



2020 Observed age composition (cast net, seine, trawl)

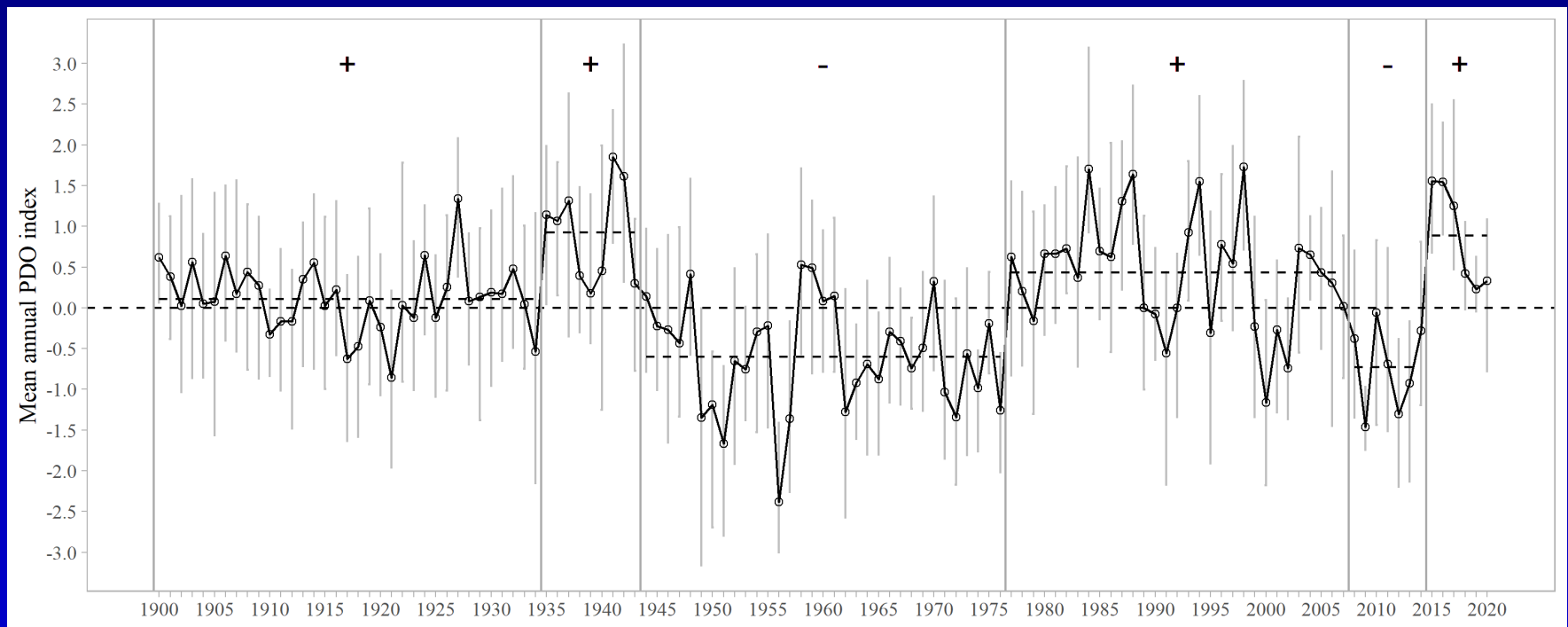


2018-2020 Gulf of Alaska Surveys

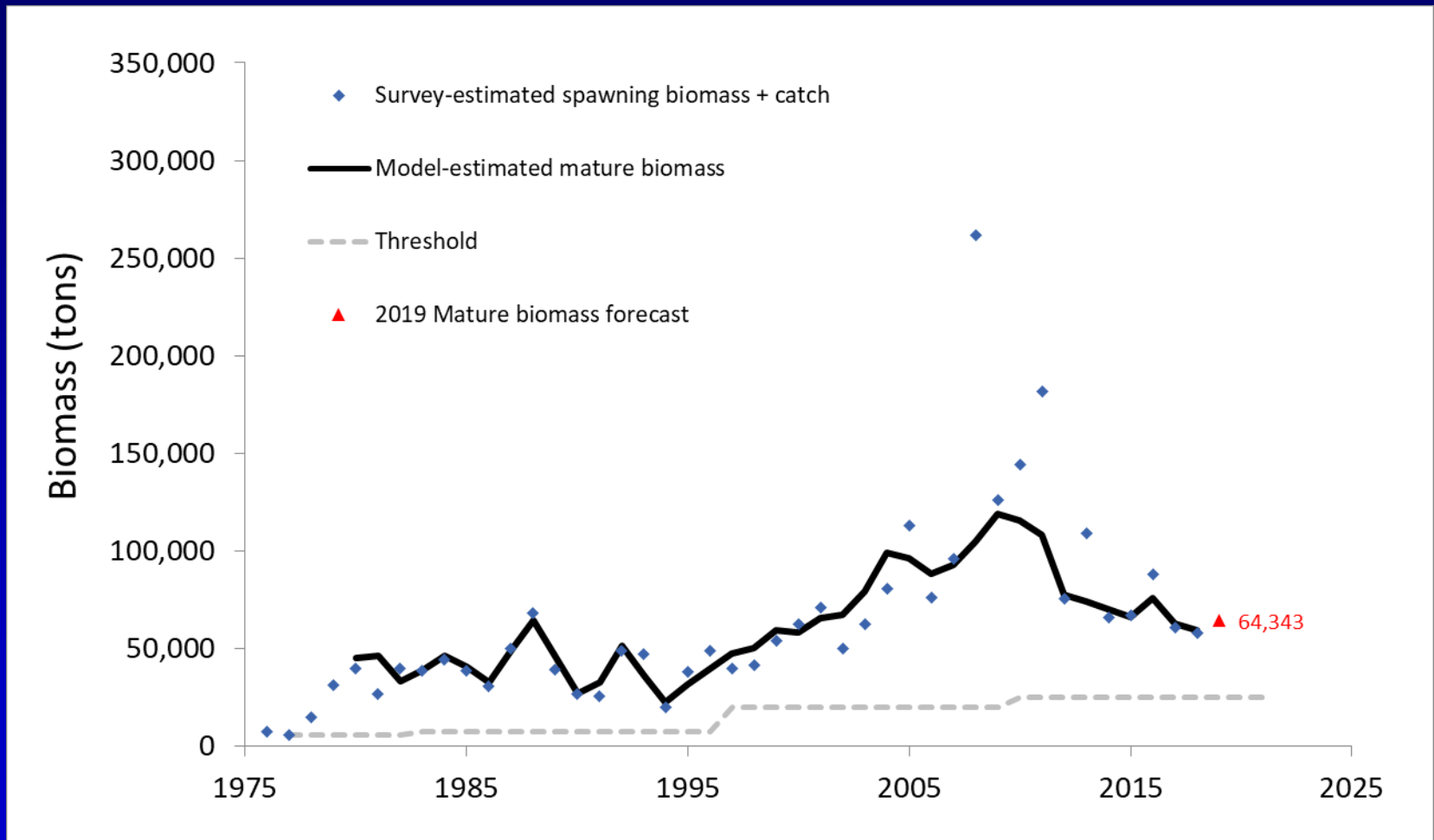


Gulf-wide recruitment event likely resulted from Gulf-wide environmental conditions

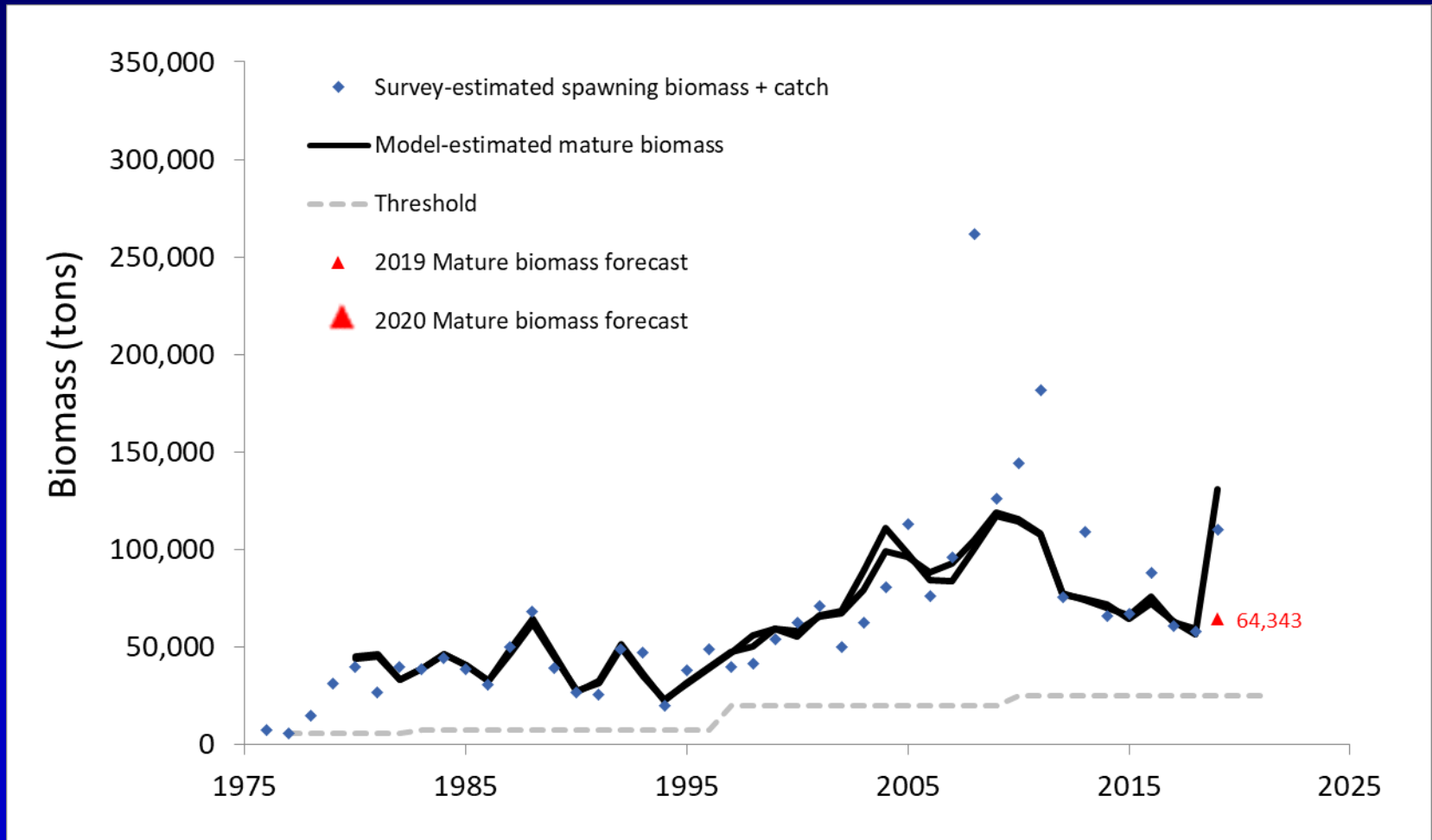
EXAMPLE: Pacific Decadal Oscillation Index (April through March of the noted year) shows ocean temperatures were unusually warm in 2016 when the 2019 age-3 herring cohort hatched in 2016 when the 2019 age-3 herring cohort hatched



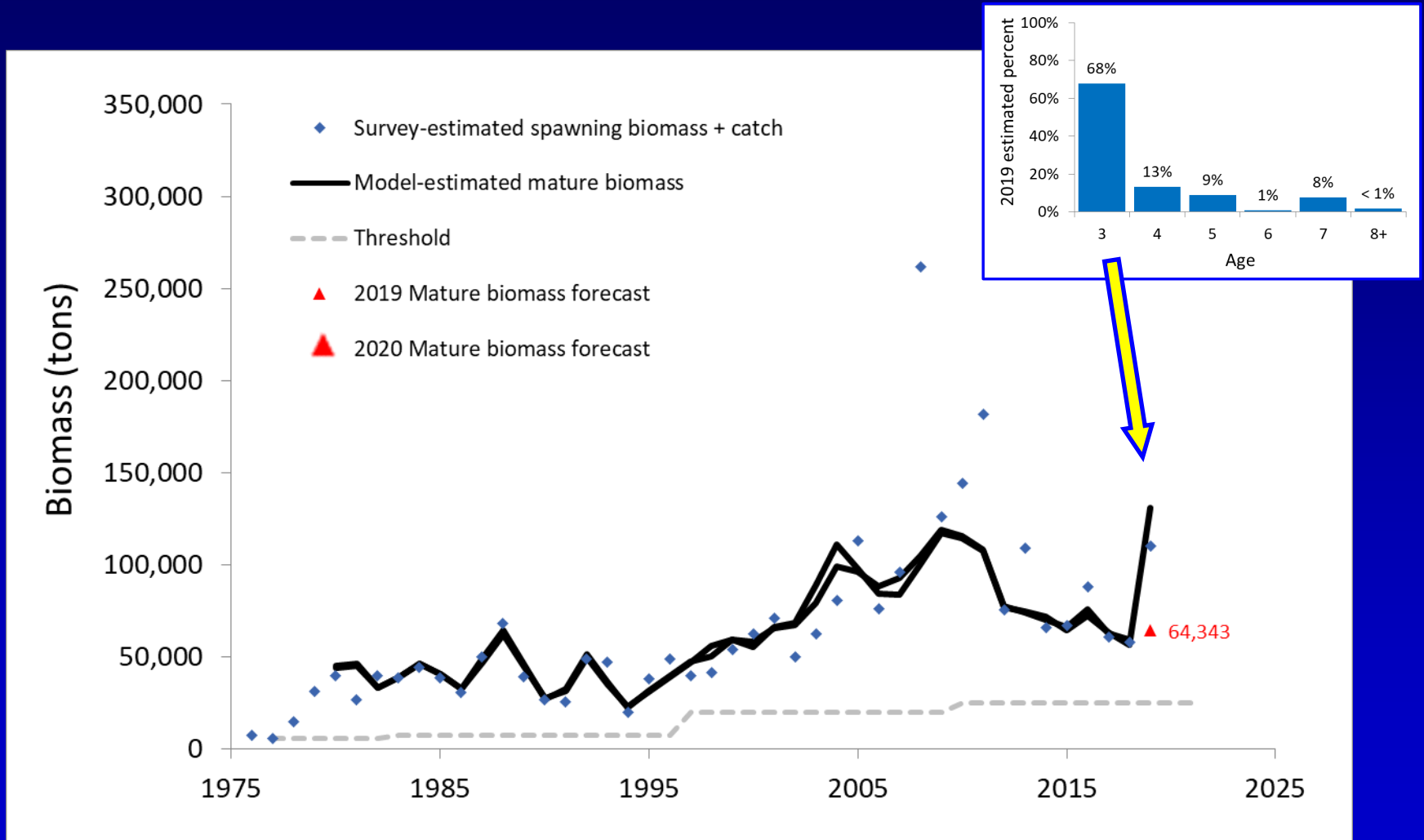
Sitka Sound mature biomass and 2019 forecast



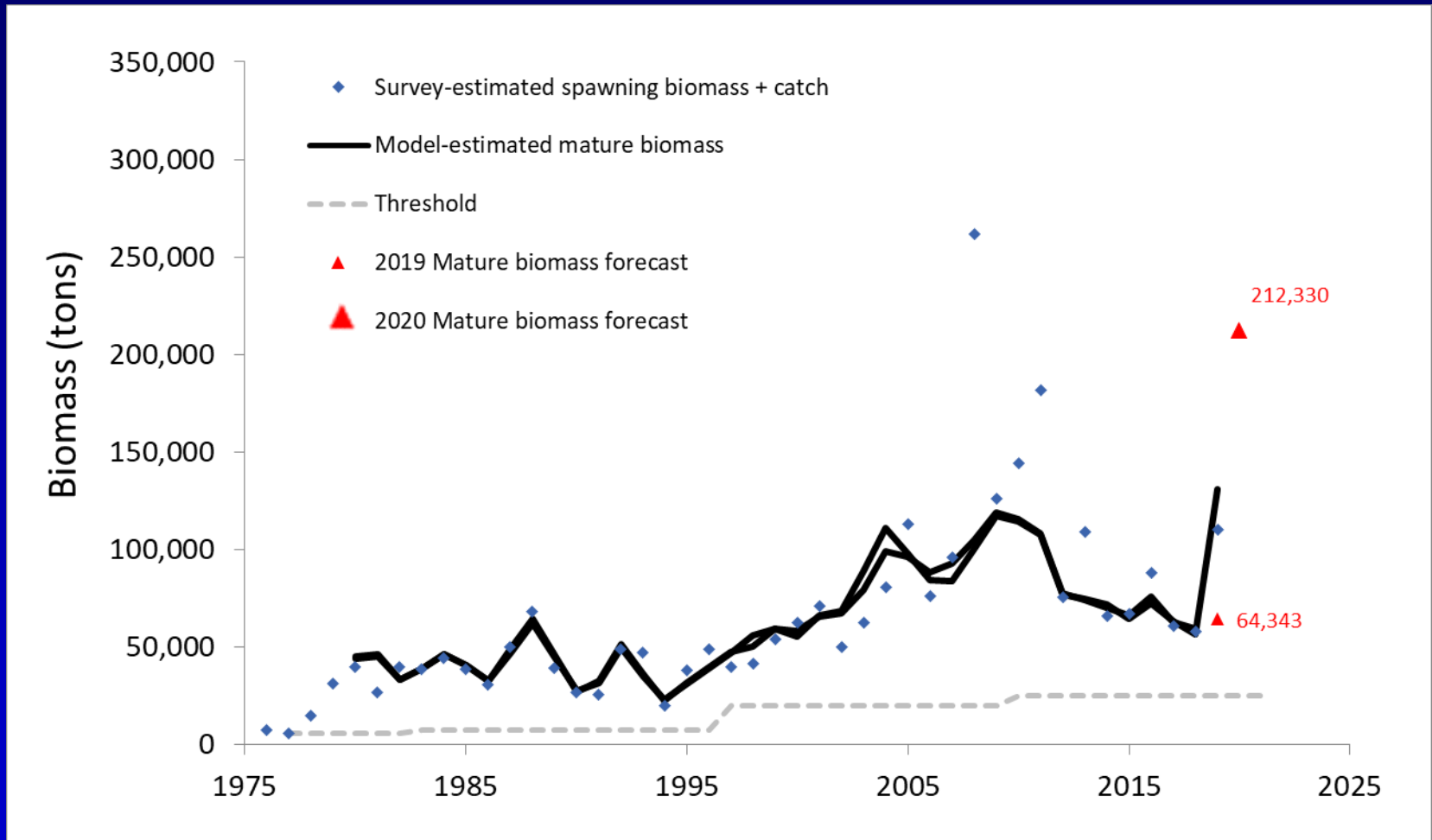
Sitka Sound mature biomass and 2020 forecast



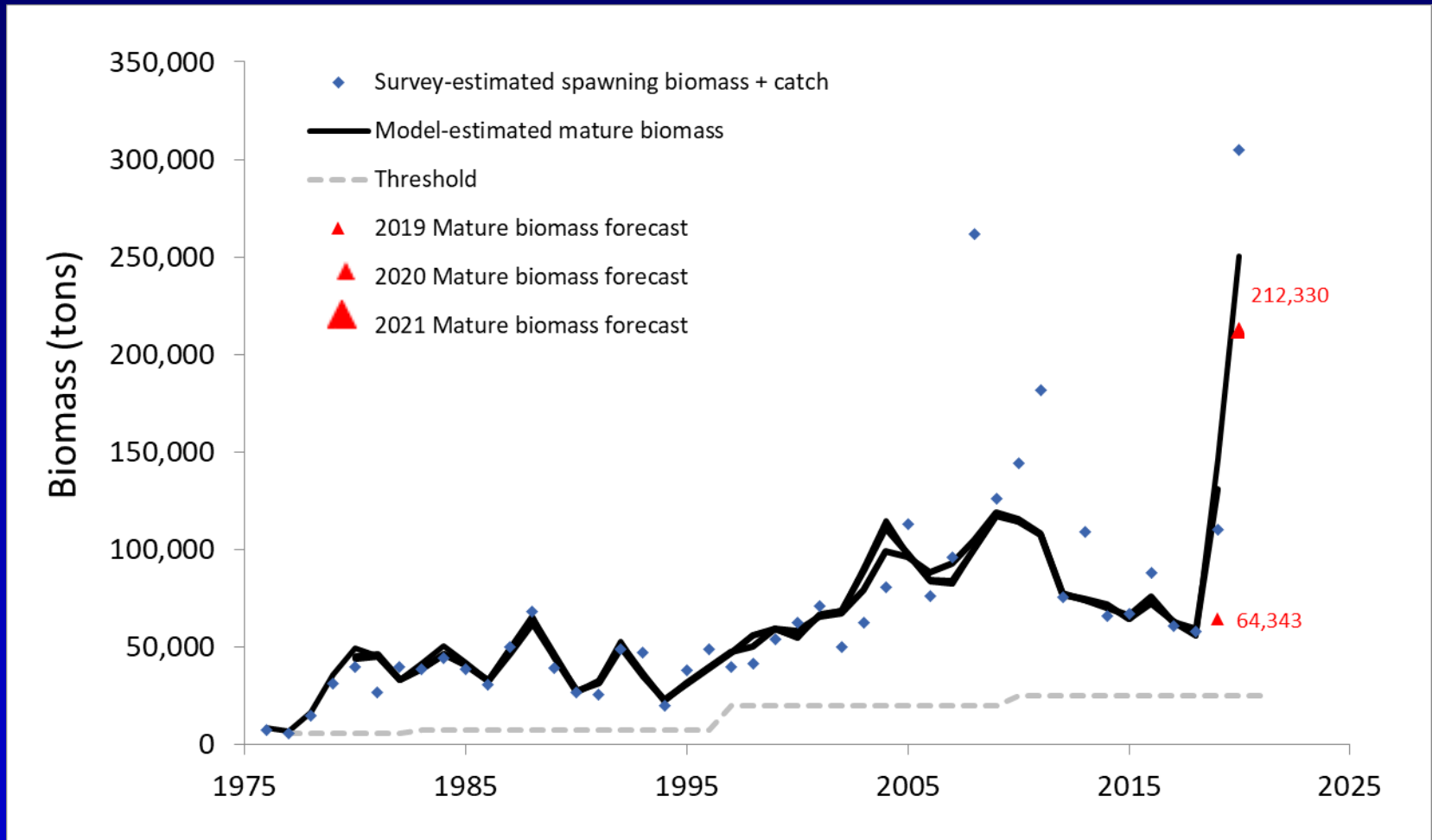
Sitka Sound mature biomass and 2020 forecast



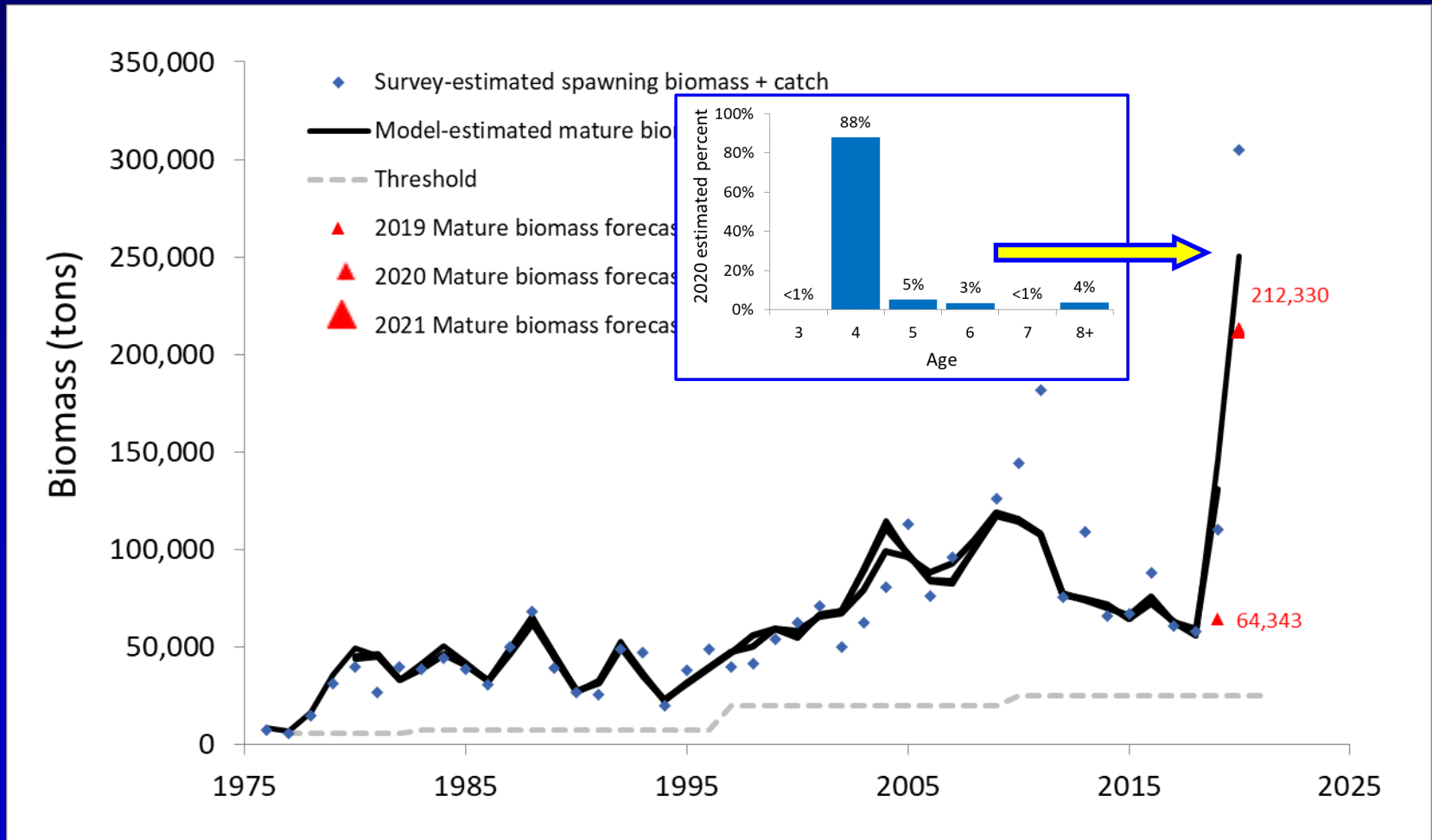
Sitka Sound mature biomass and 2020 forecast



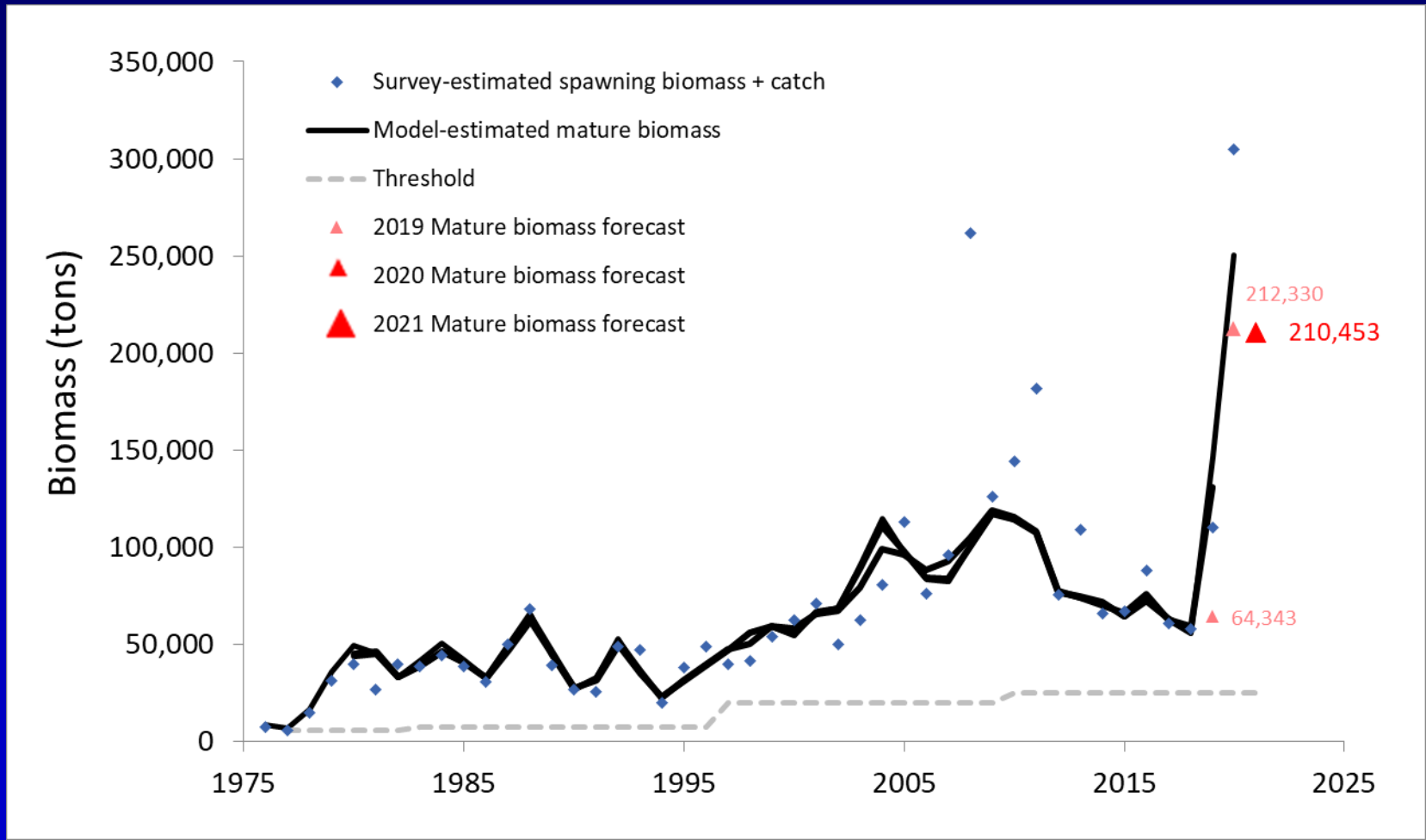
Sitka Sound mature biomass and 2021 forecast



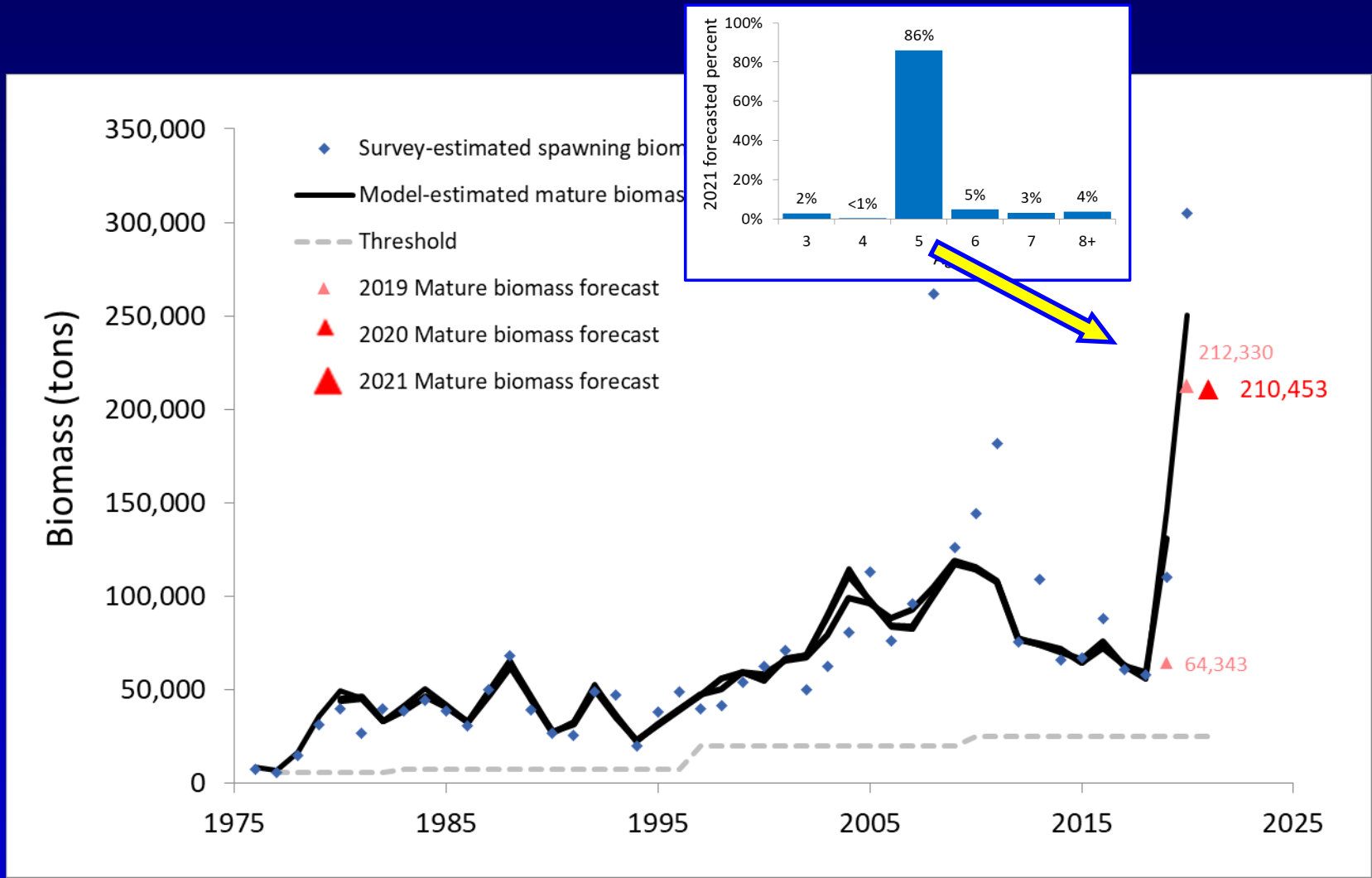
Sitka Sound mature biomass and 2021 forecast



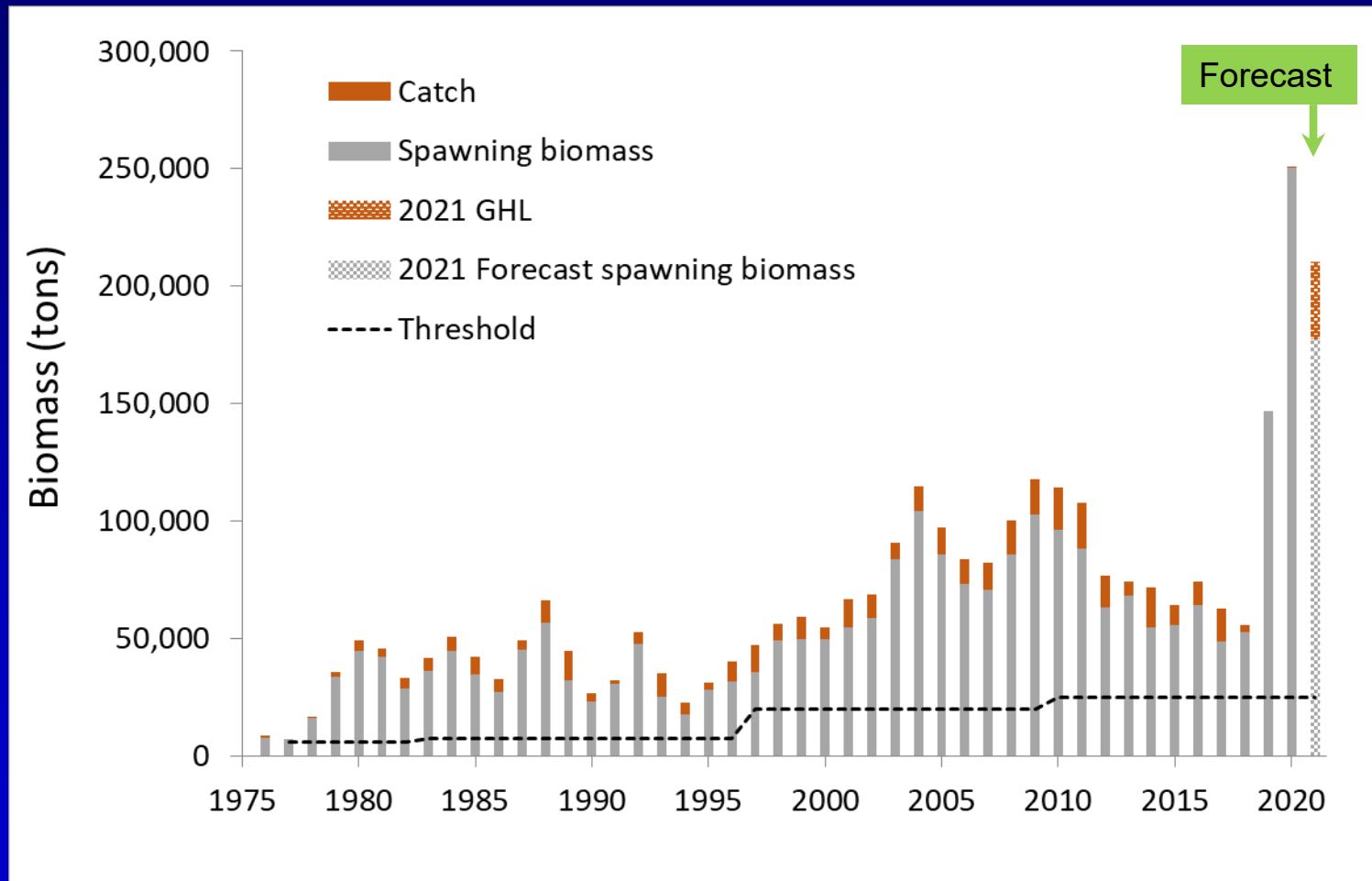
Sitka Sound mature biomass and 2021 forecast



Sitka Sound mature biomass and 2021 forecast



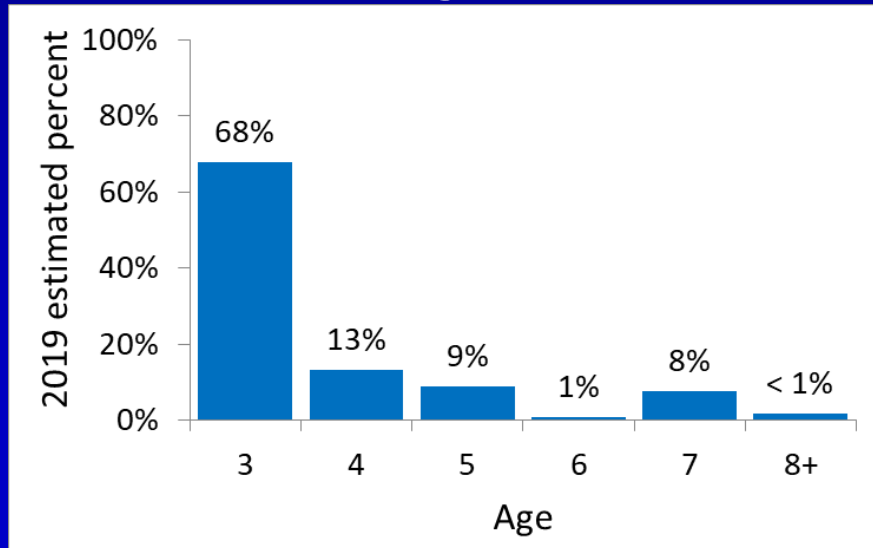
Sitka Sound spawning biomass and harvest (2021 is forecasted biomass and GHL)



Comparison of 2019 model-estimated and 2020 model-forecast age composition

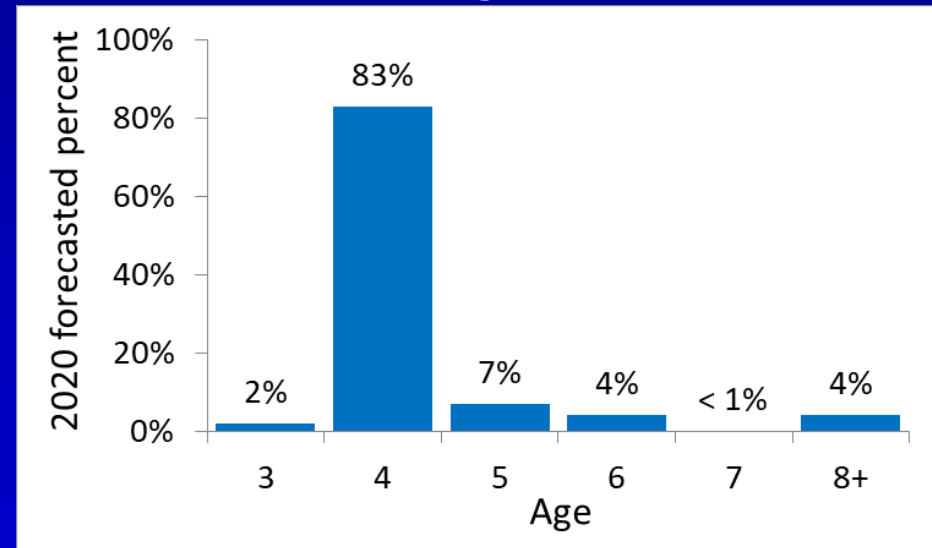
2019

Estimated average wt
= 90 grams



2020

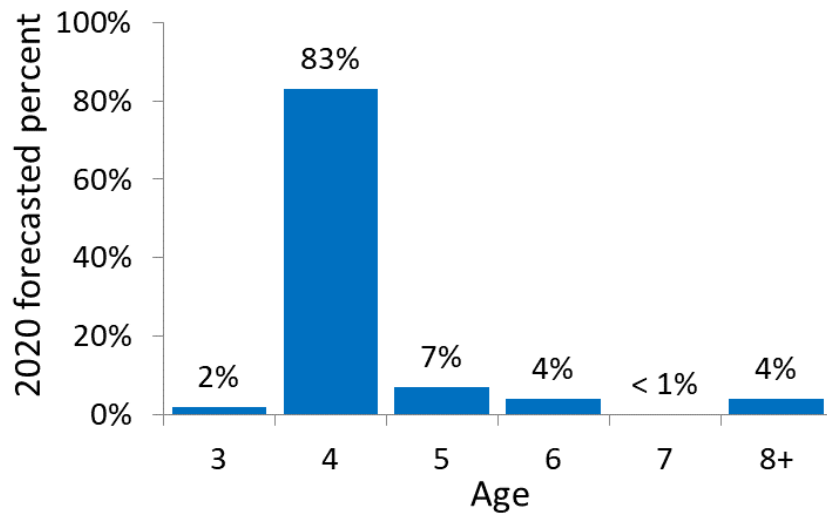
Forecasted average wt
= 97 grams



Comparison of 2020 model-forecast and 2020 model-estimated (hindcast) age composition

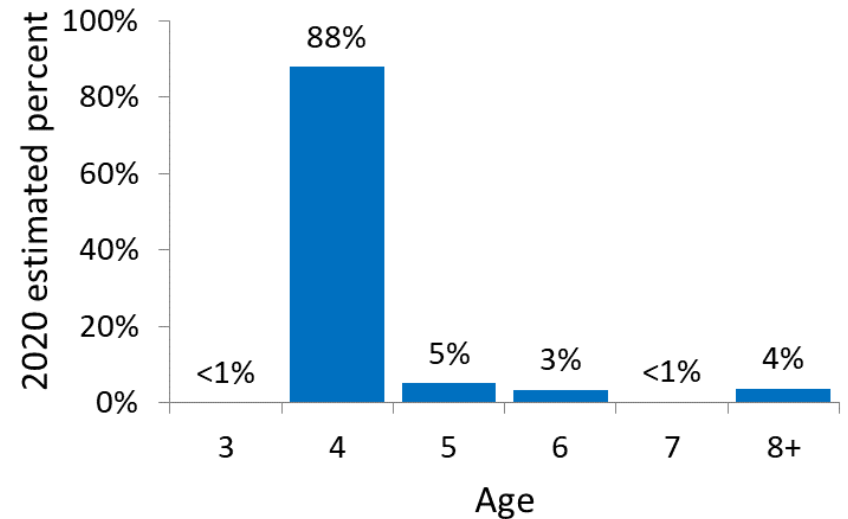
2020

Forecasted average wt
= 97 grams



2020

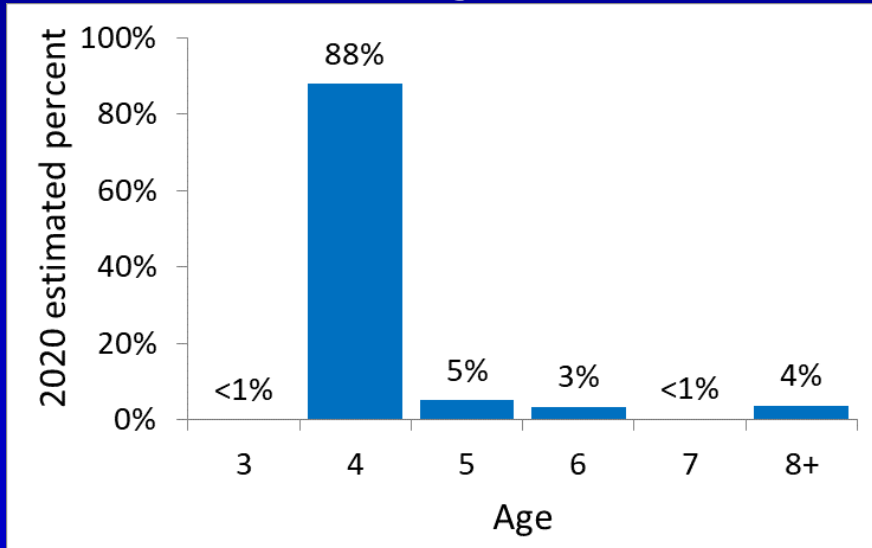
Estimated average wt
= 97 grams



Comparison of 2020 model-estimated and 2021 model-forecast age composition

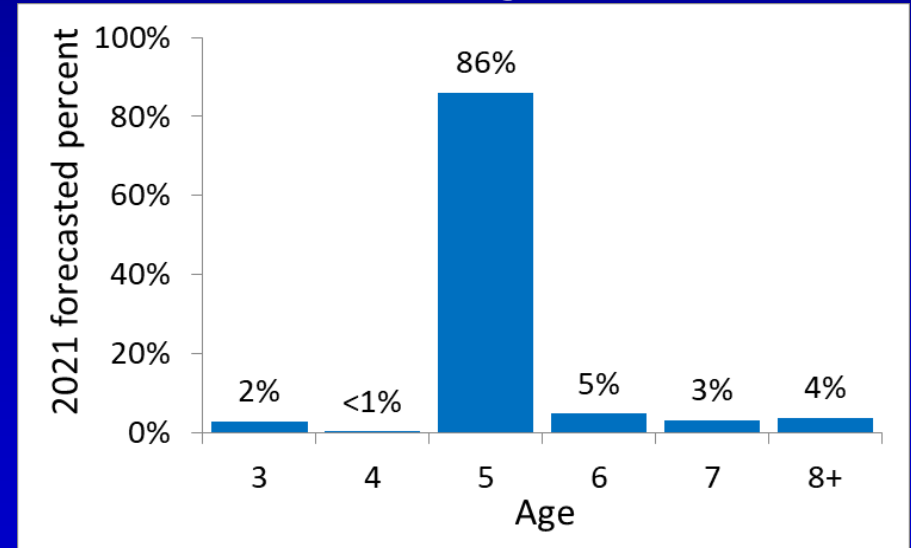
2020

Estimated average wt
= 97 grams



2021

Forecasted average wt
= 112 grams

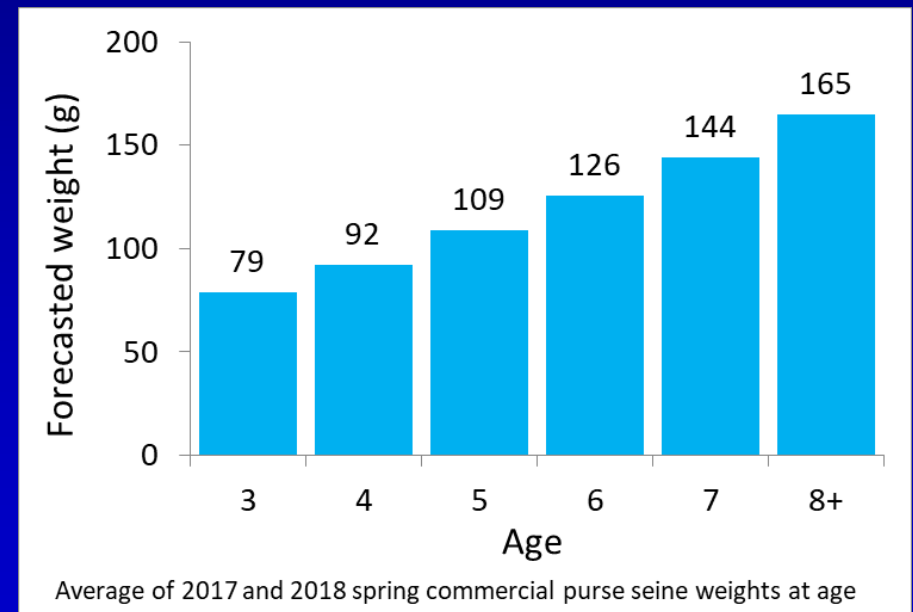
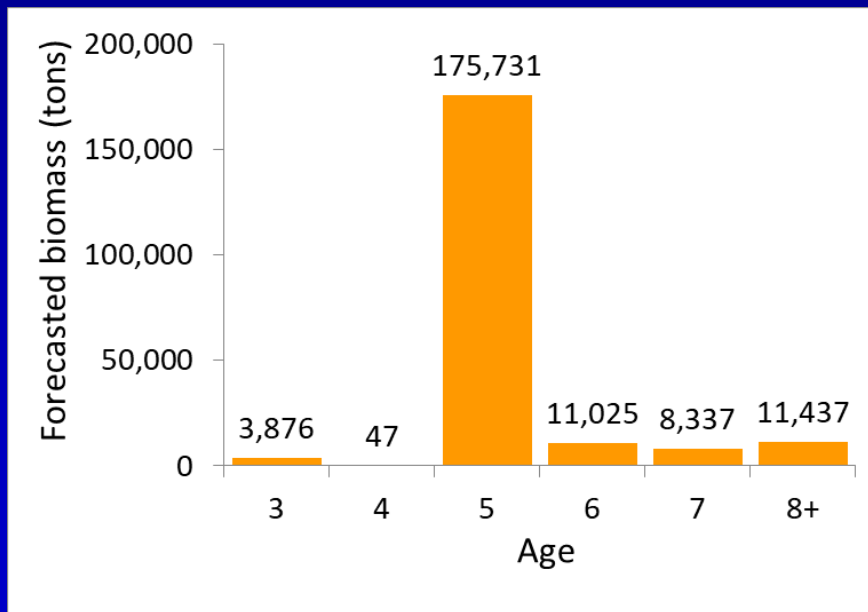


2021 forecast biomass and weight at age

2021 Forecast = 210,453 tons

GHL = 33,304 tons

Forecast average weight = 112 grams



Acknowledgements

- Kyle Hebert
- Sara Miller
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- Pete Rand (PWSSC)
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- ADF&G Dive Team and Kestrel Crew
- ADF&G Sitka office staff

