ALASKA SABLEFISH

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JUNEAU, AK

BOTTOM LINE

- Maximum permissible ABC way up
- Author's ABC 2019 = ABC 2018 (-45%)
- At least 12 reasons why

- Risk-matrix approach (the DoRMF) and Ecosystem and Socioeconomic Profile (ESP)

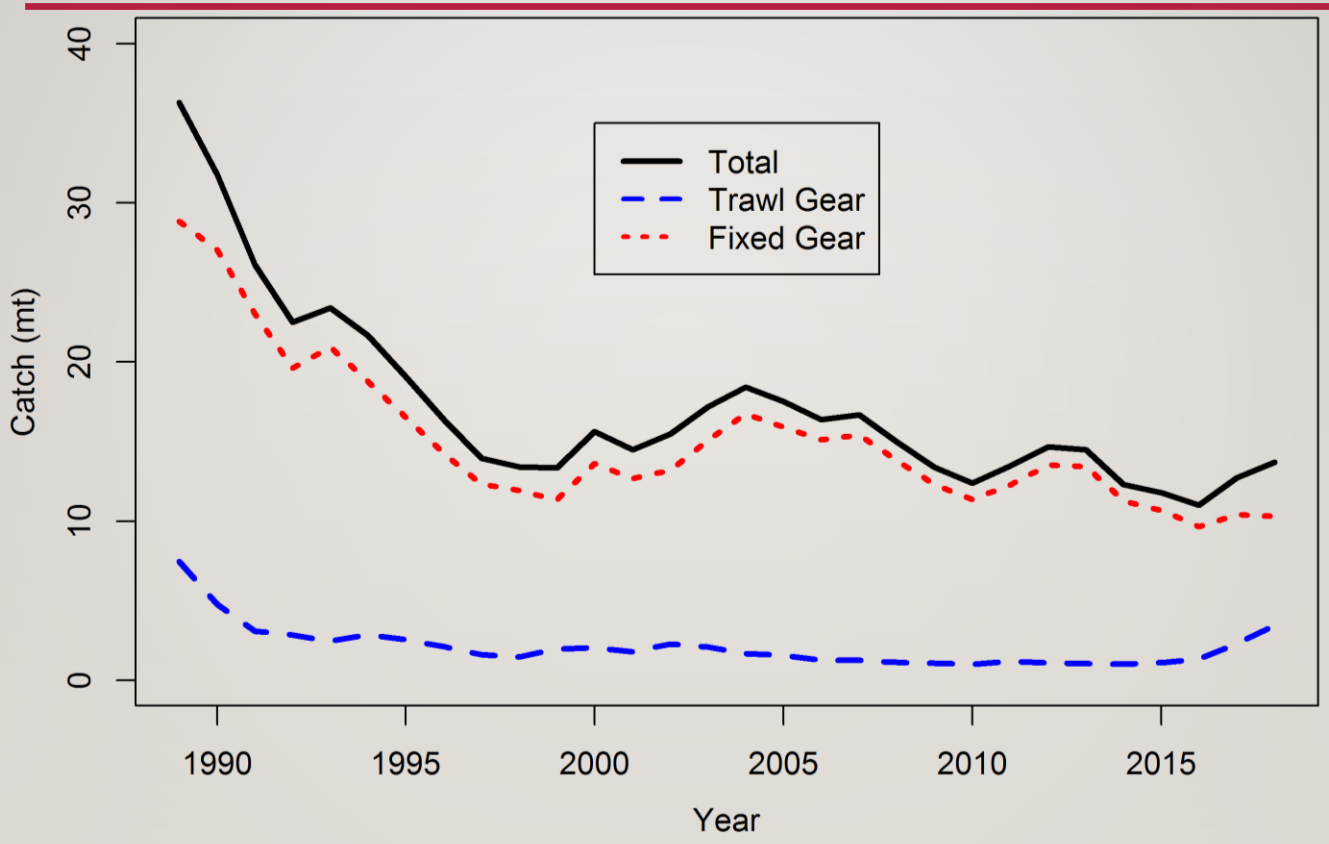
OUTLINE

- Brief Summary of Key Assessment Model Results
- Risk-Matrix ABC Reduction
- Ecosystem and Socioeconomic Profile
- Future priorities

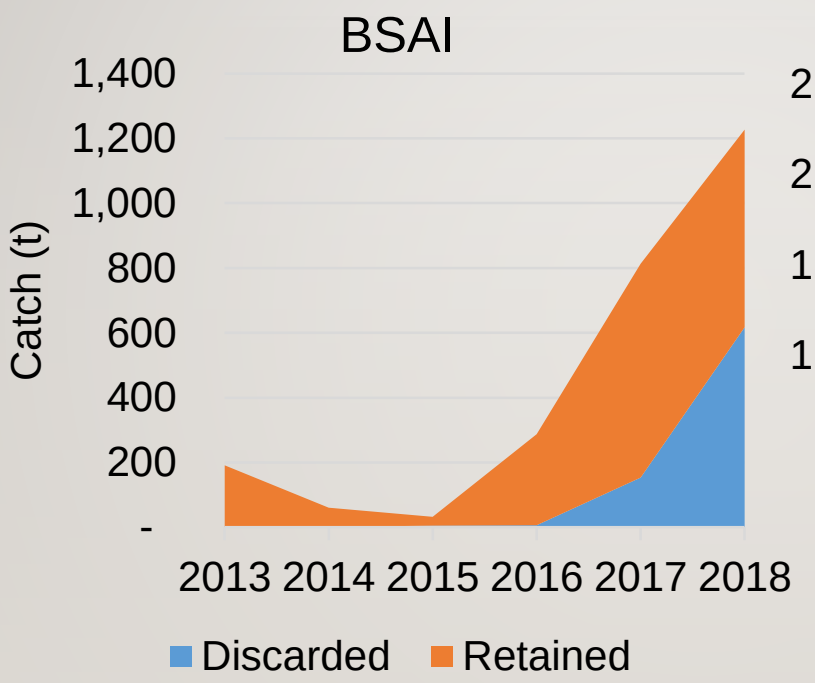
NEW DATA

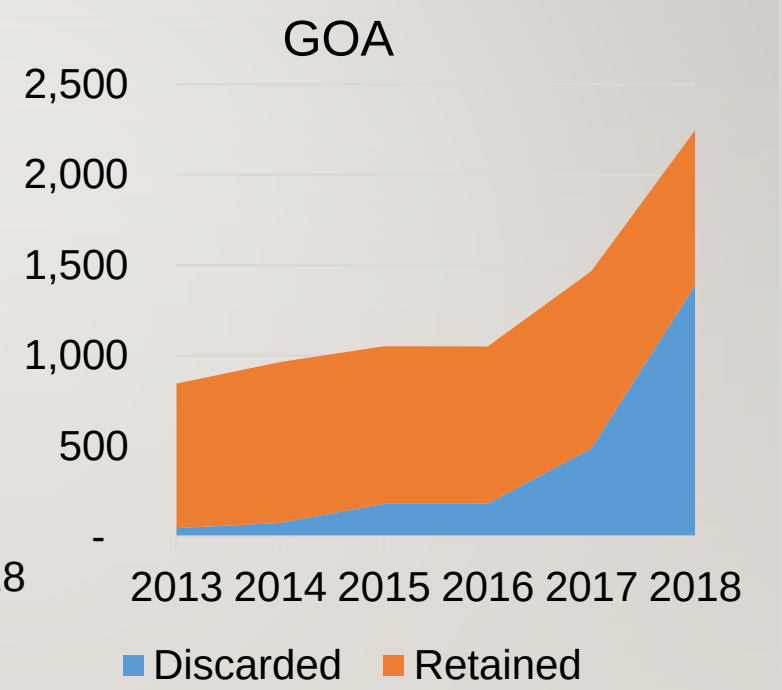
- Catch: updated catch for 2017, new 2018-2020 ests
- Relative abundance: 2018 Longline survey, 2017 longline fishery
- Ages: 2017 longline survey, 2017 fixed gear fishery
- Lengths: 2018 longline survey, 2017 fixed gear fishery, and 2017 trawl fishery

RECENT CATCHES

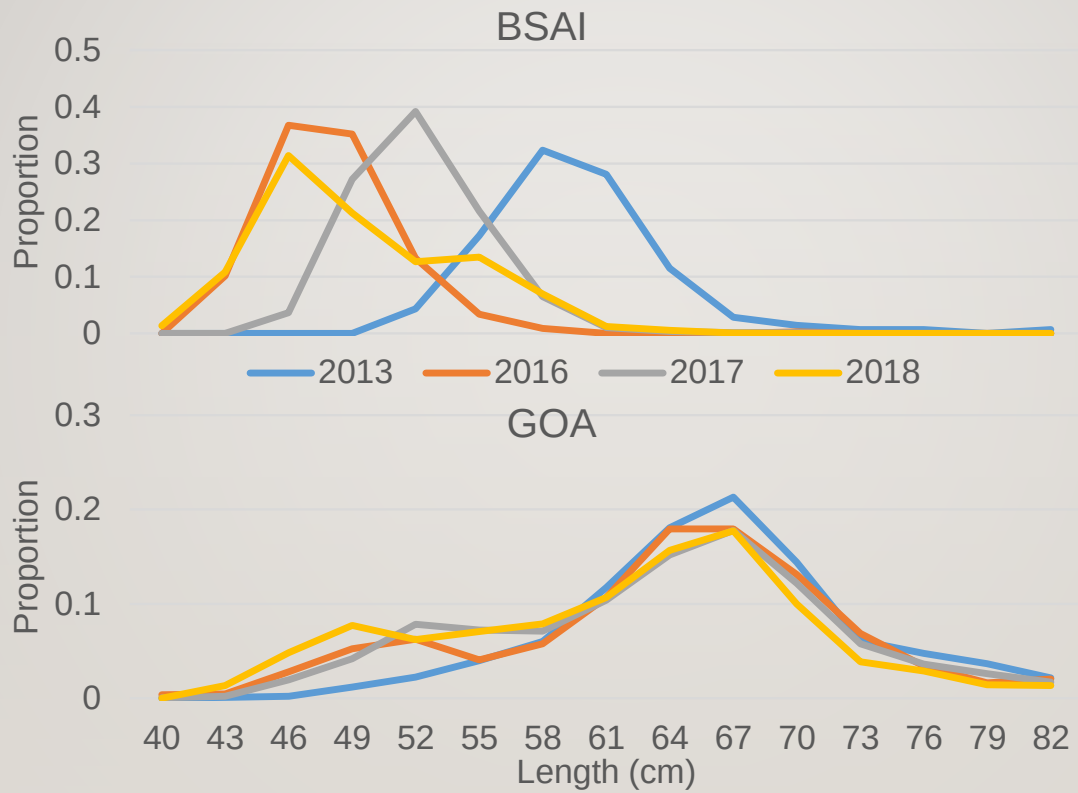


TRAWL CATCH AND RELEASE (ESP)

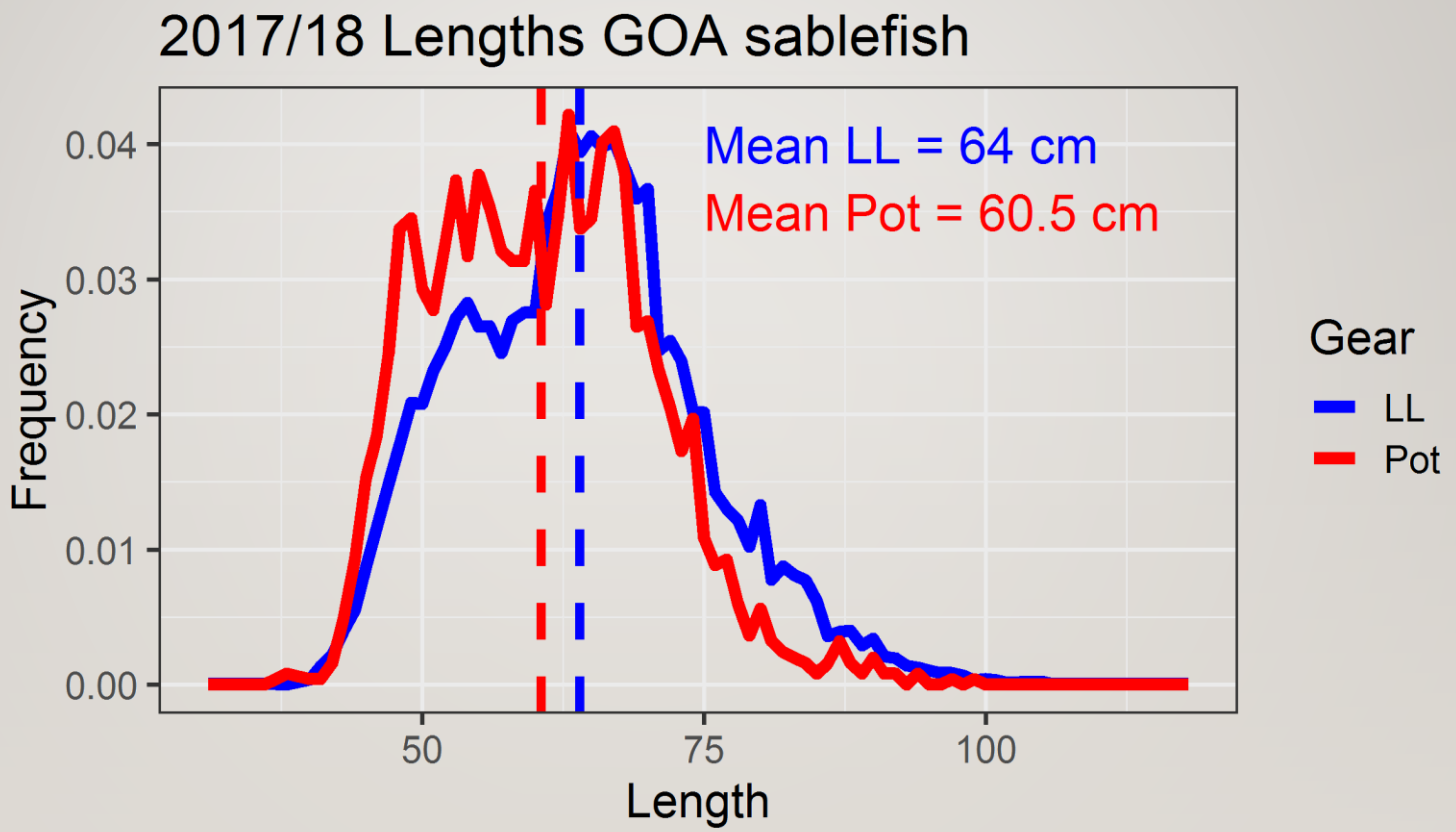




12 TRAWL CATCH AND RELEASE (ESP)

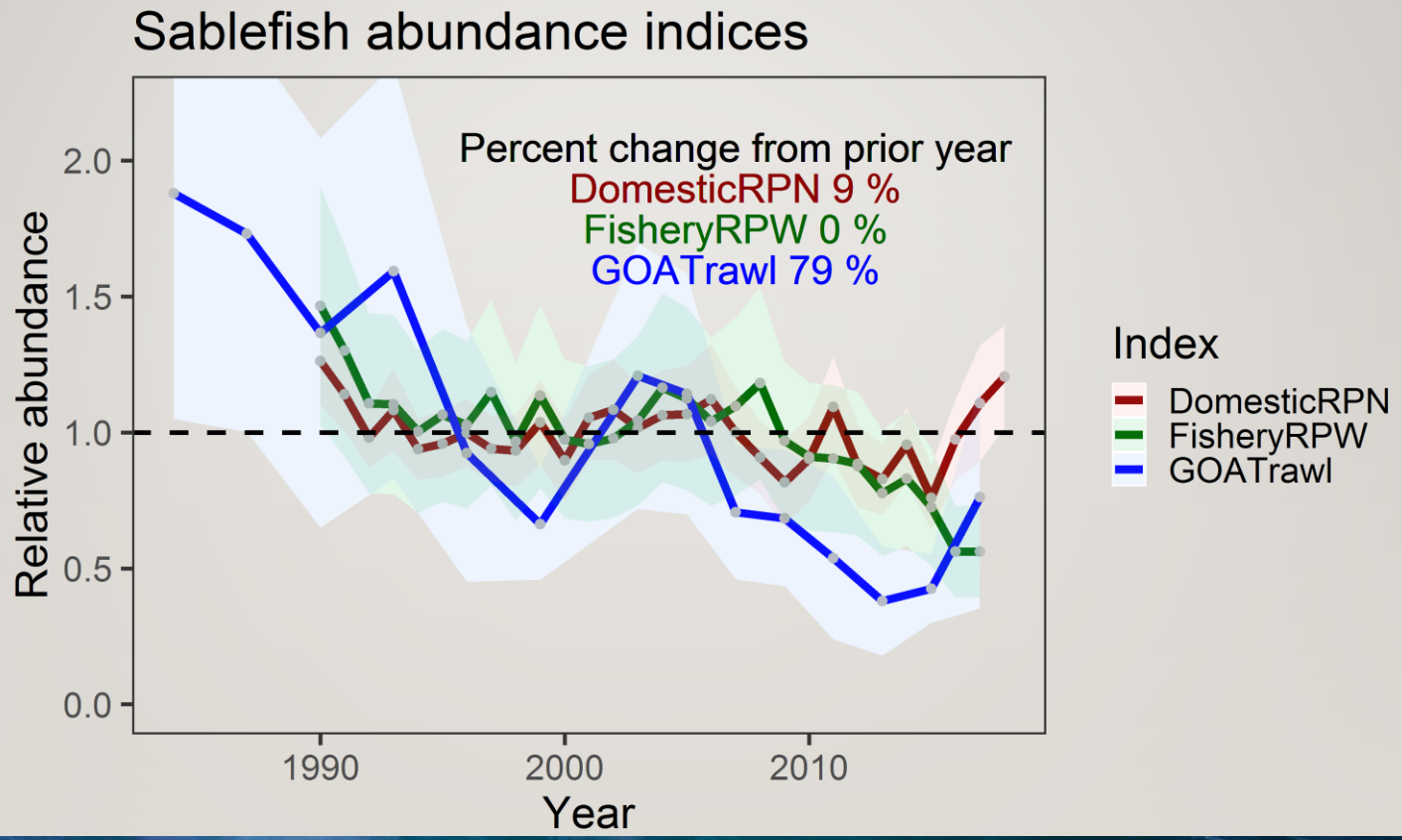


POTS CATCH SMALLER FISH

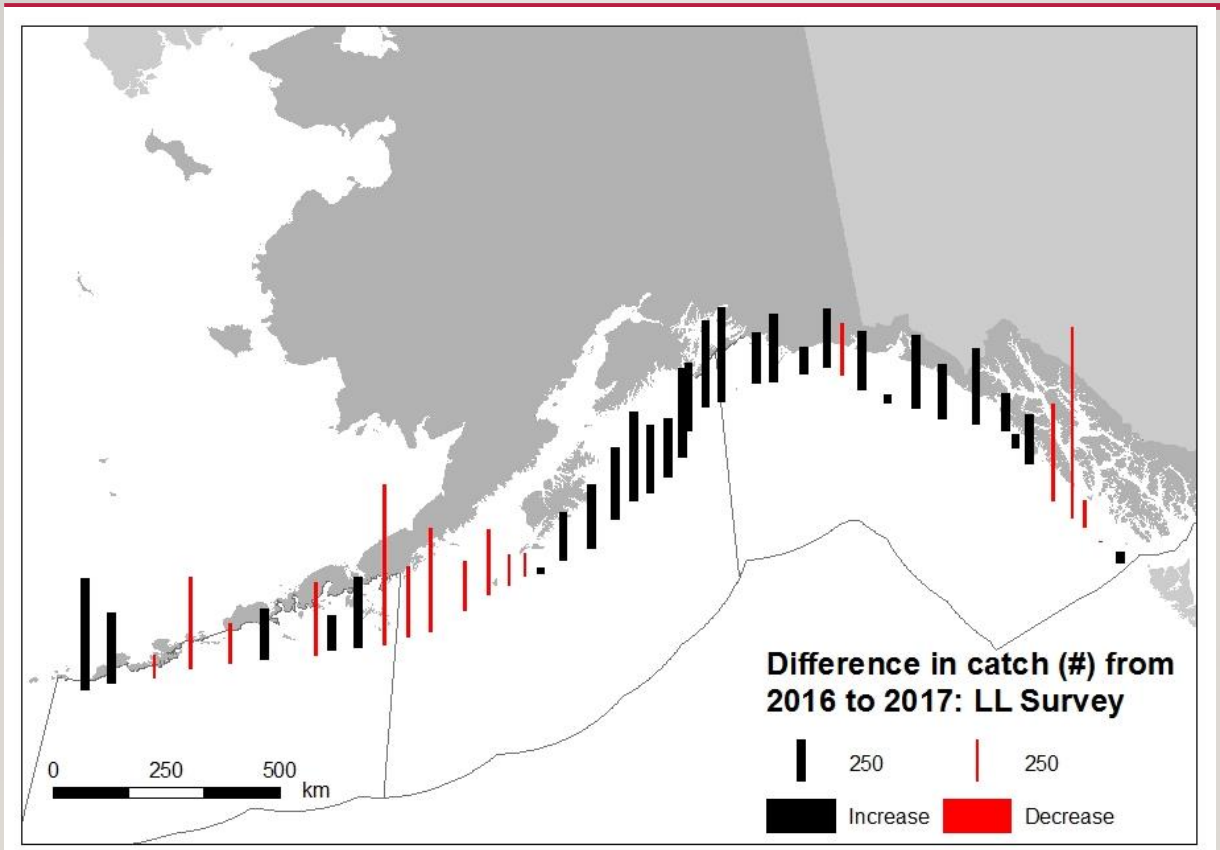


~ 9% of GOA catch is pots, ~900 t in 2017/2018

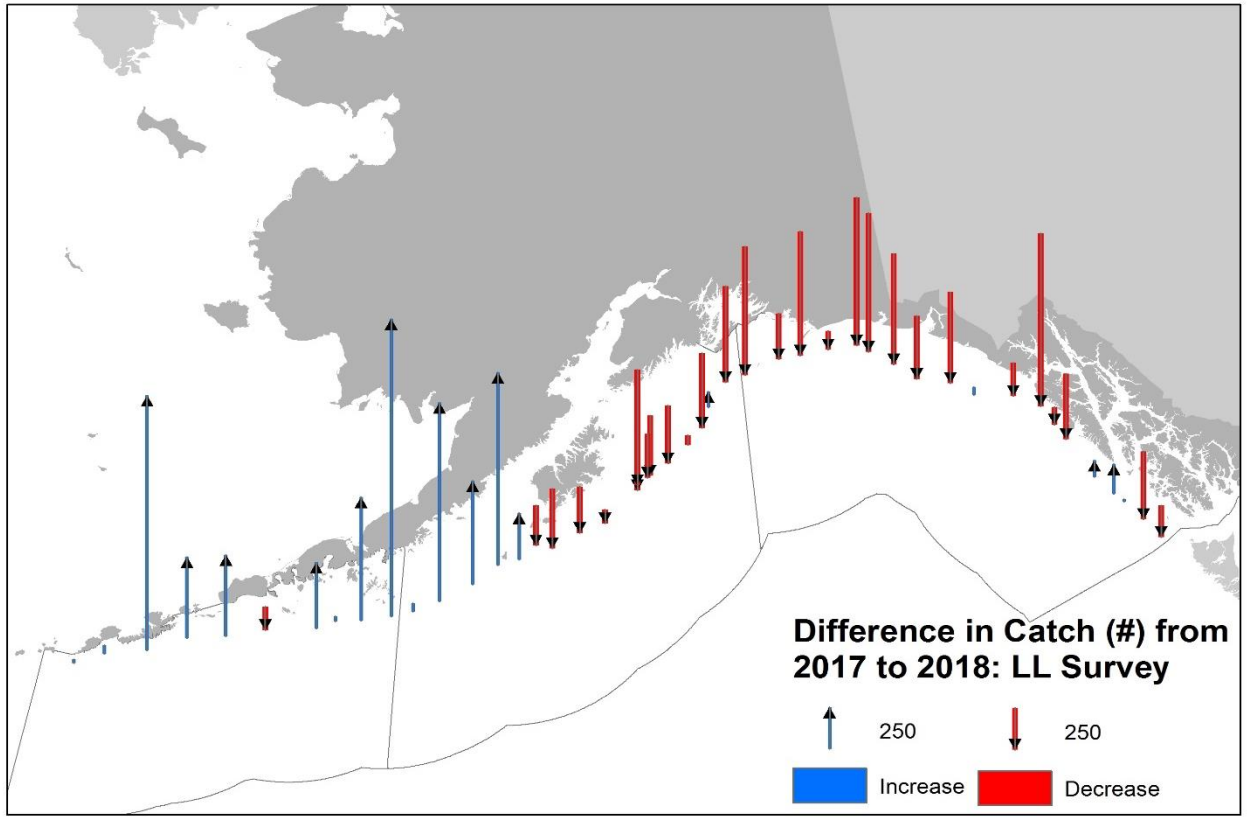
INDICES IN THE MODEL



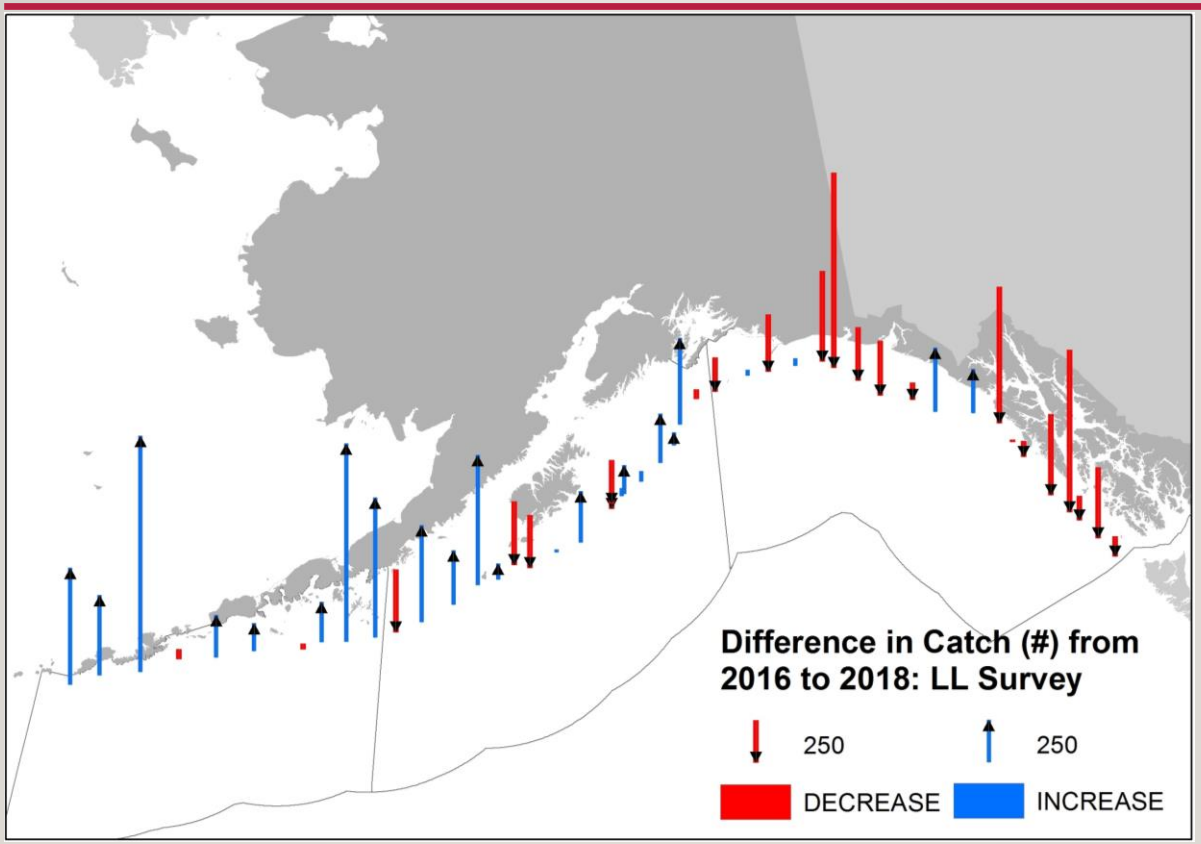
GOA LL SURVEY CATCHES



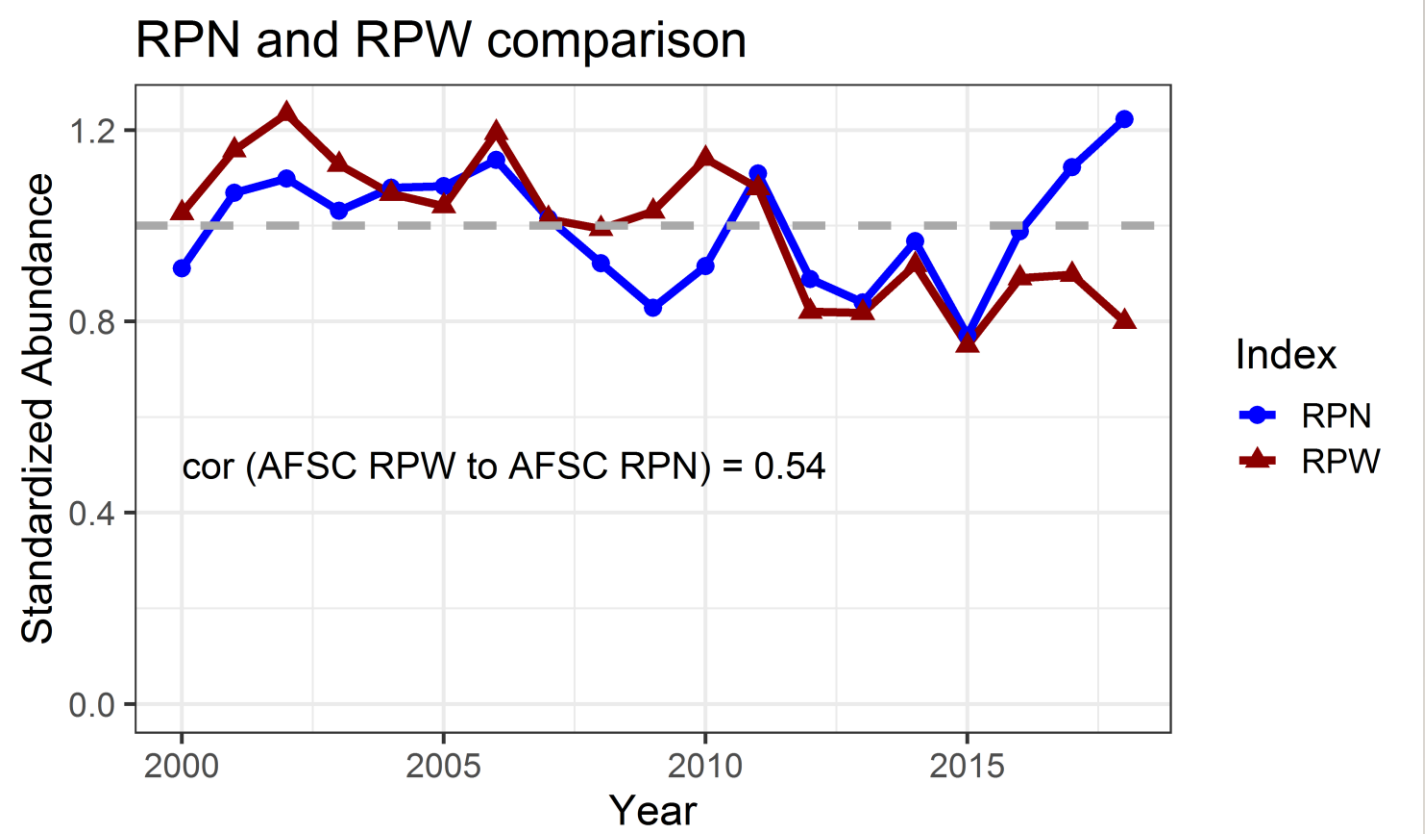
GOA LL SURVEY CATCHES



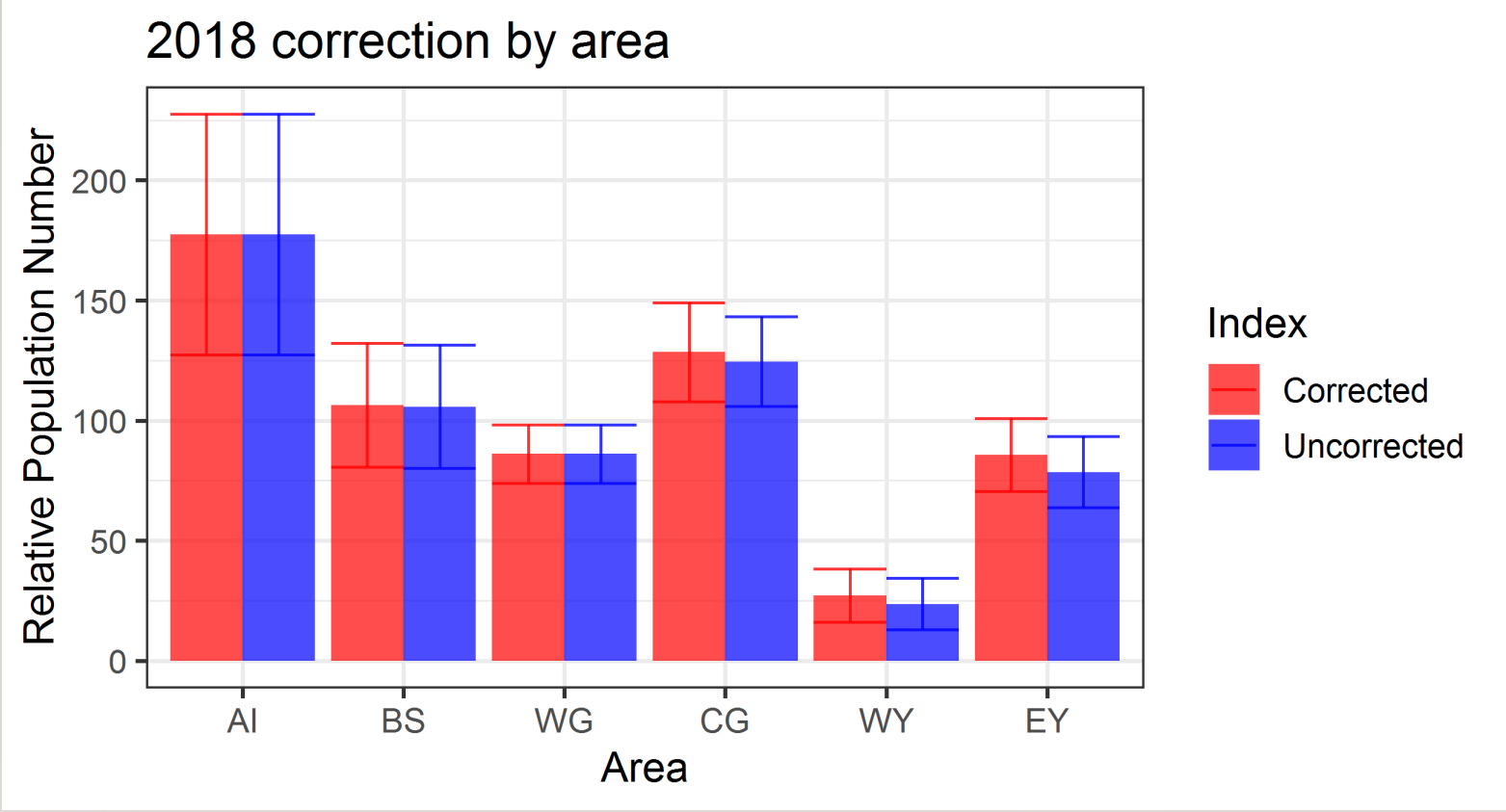
GOA LL SURVEY CATCHES



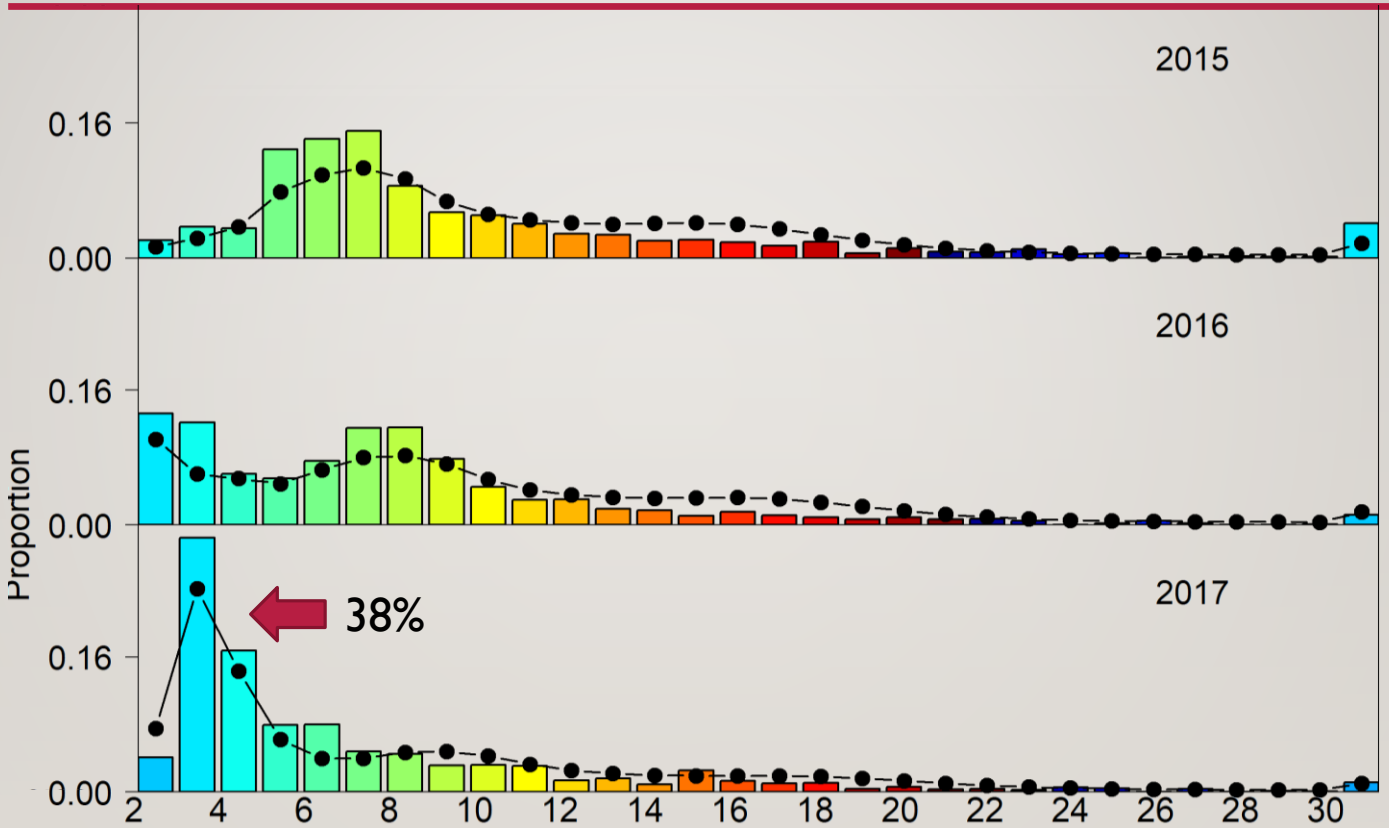
5 A TALE OF TWO INDICES



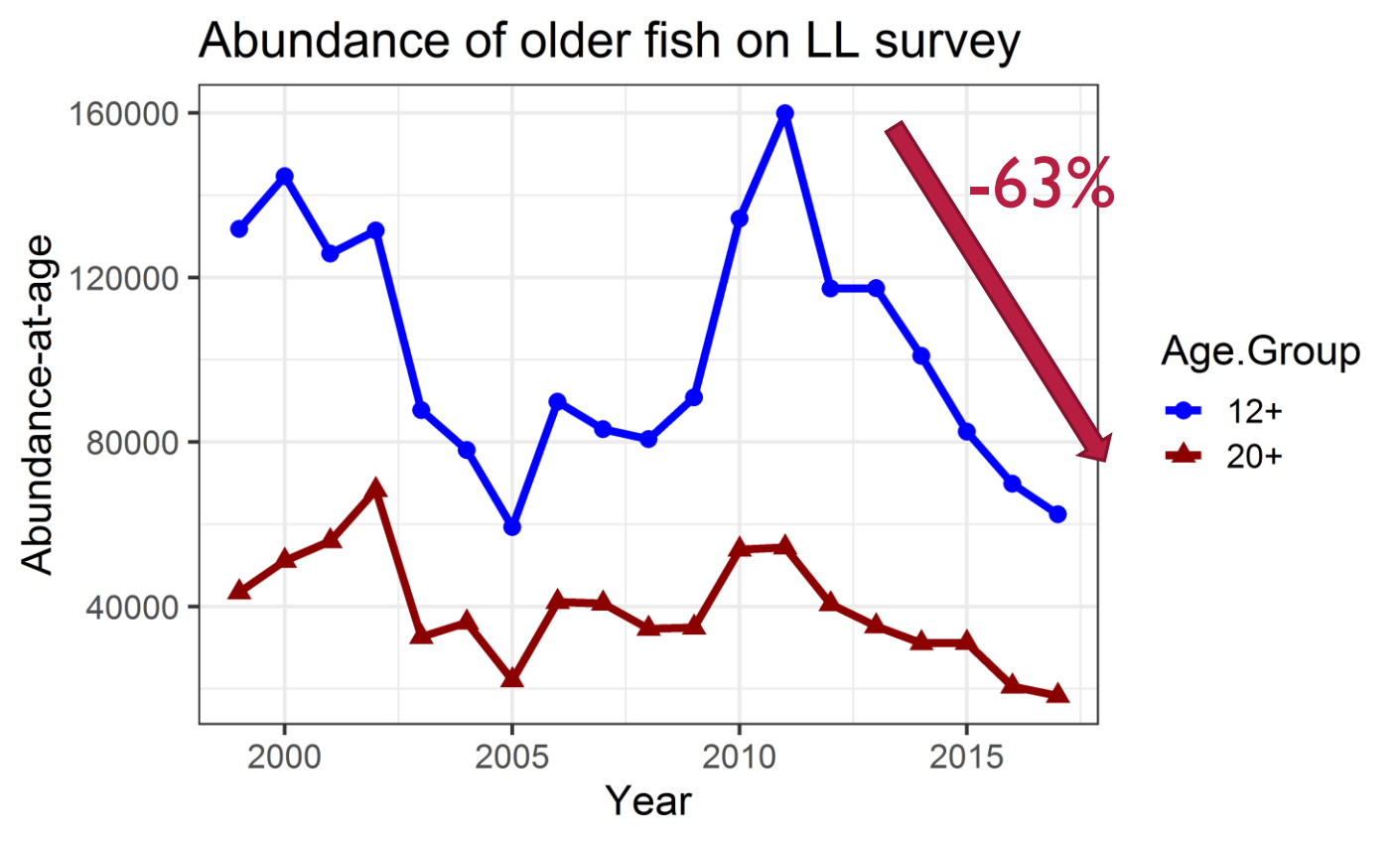
SPERM WHALE CORRECTIONS



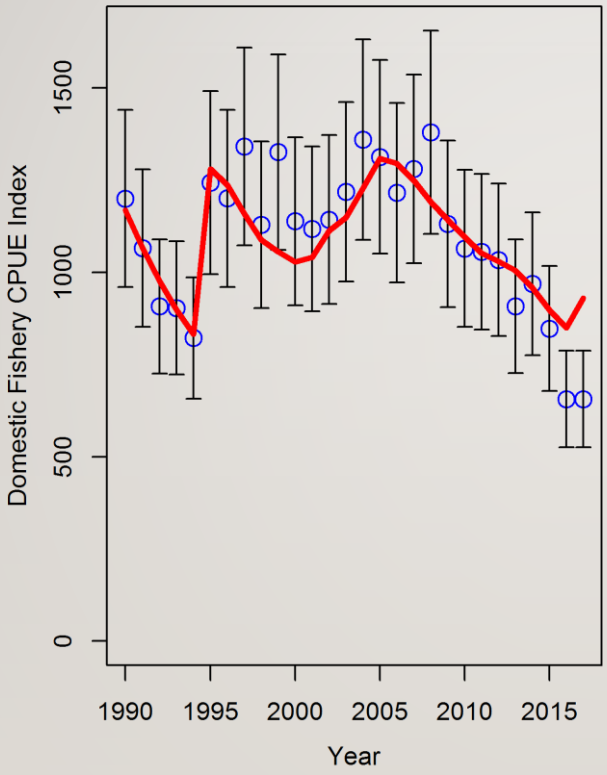
LONGLINE SURVEY AGES

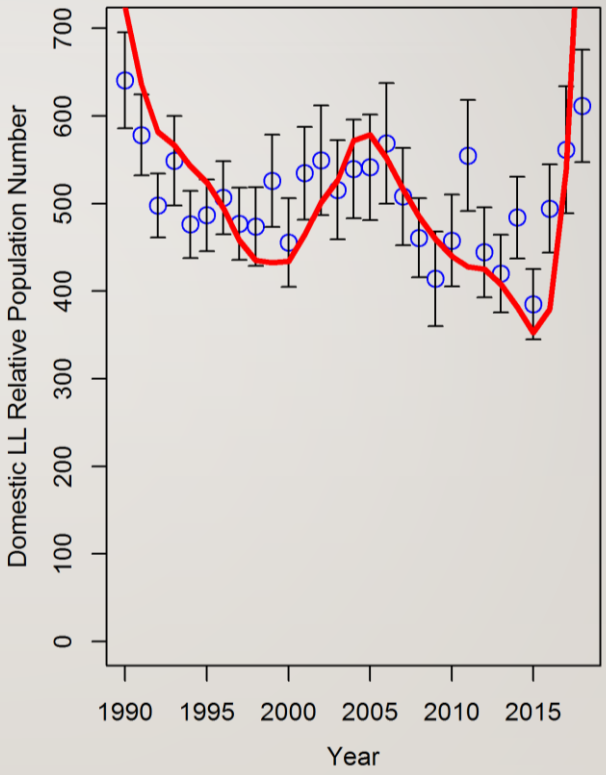


3 DON'T TRUST ANYONE OVER 20

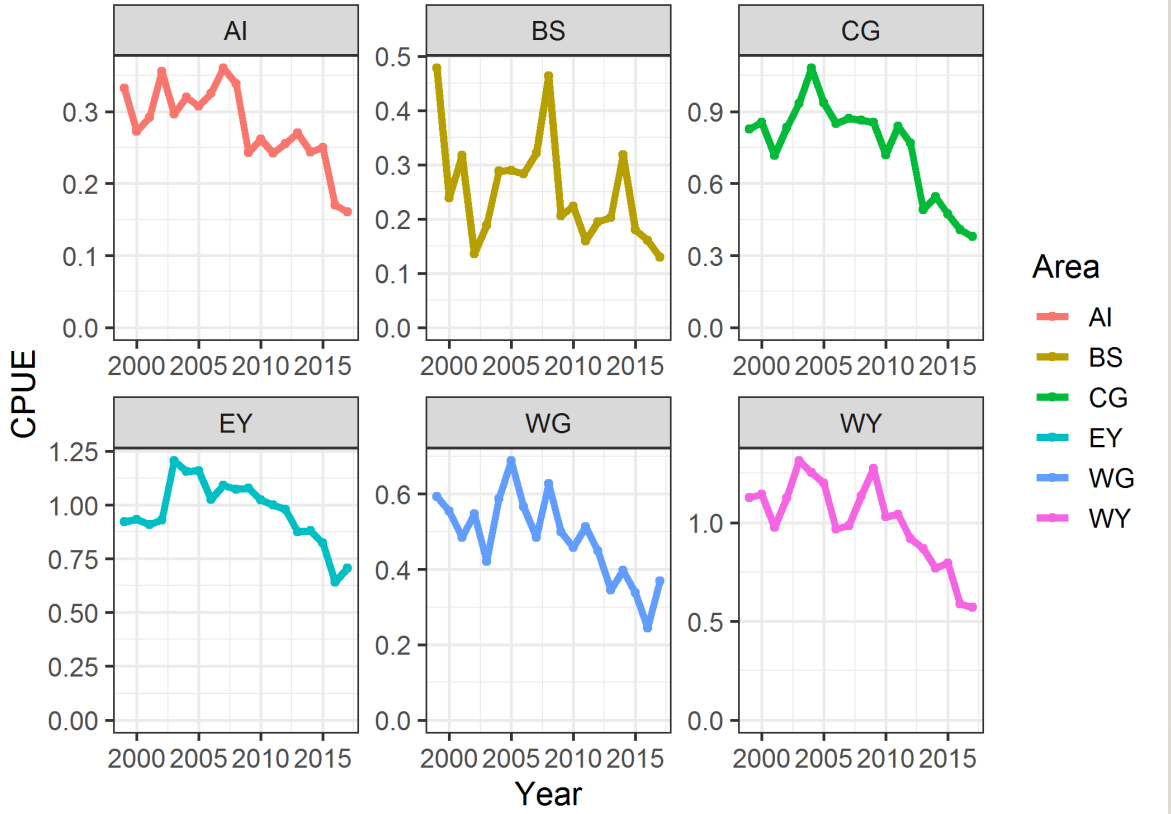


4 FIT TO INDICES IS POOR

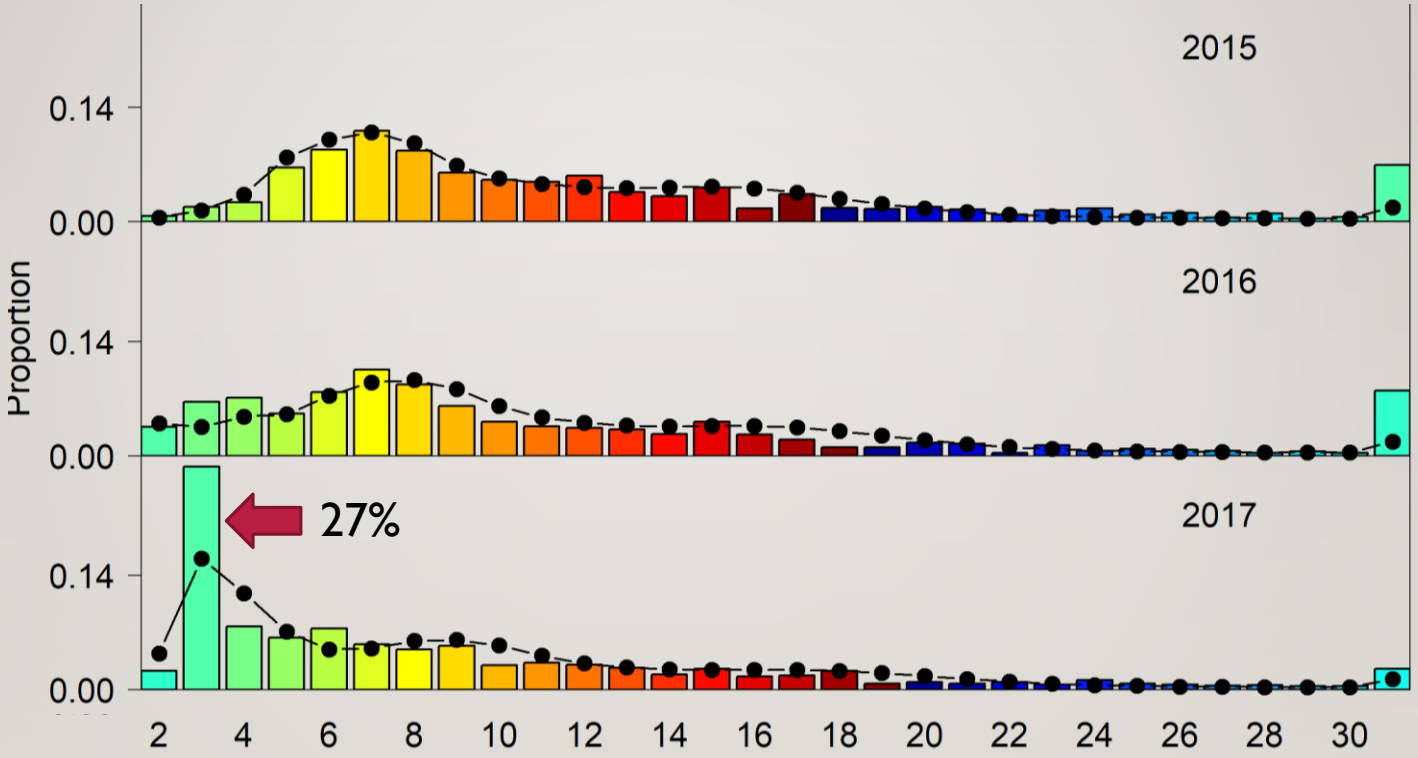




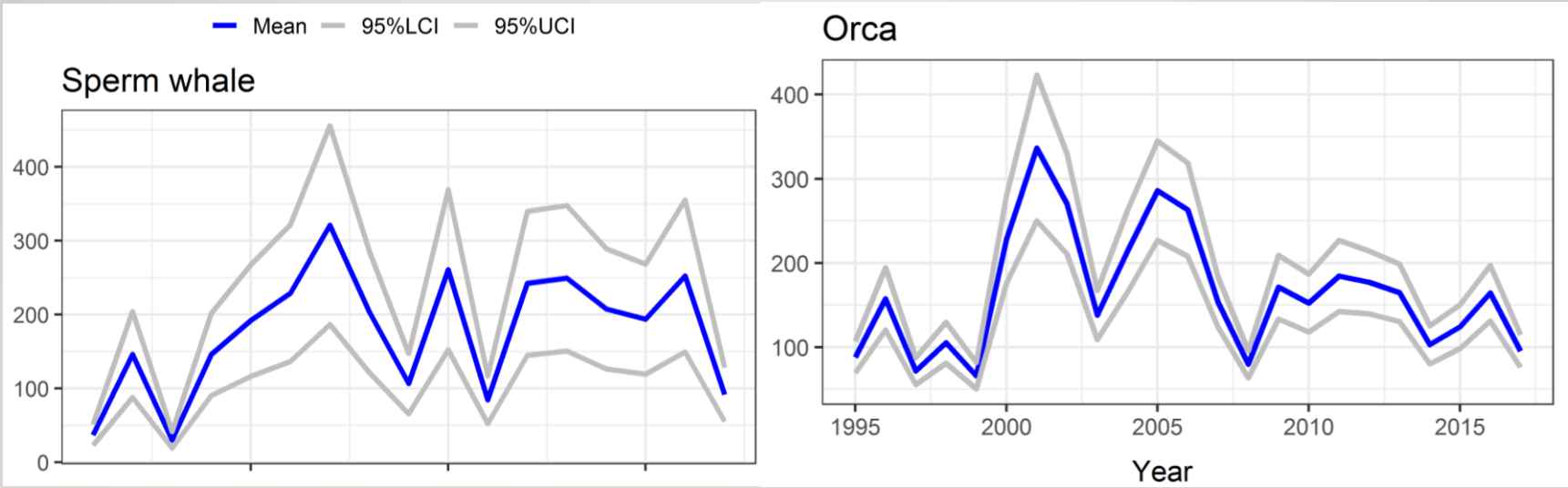
FISHERY CPUE BY AREA



FIXED GEAR FISHERY AGES

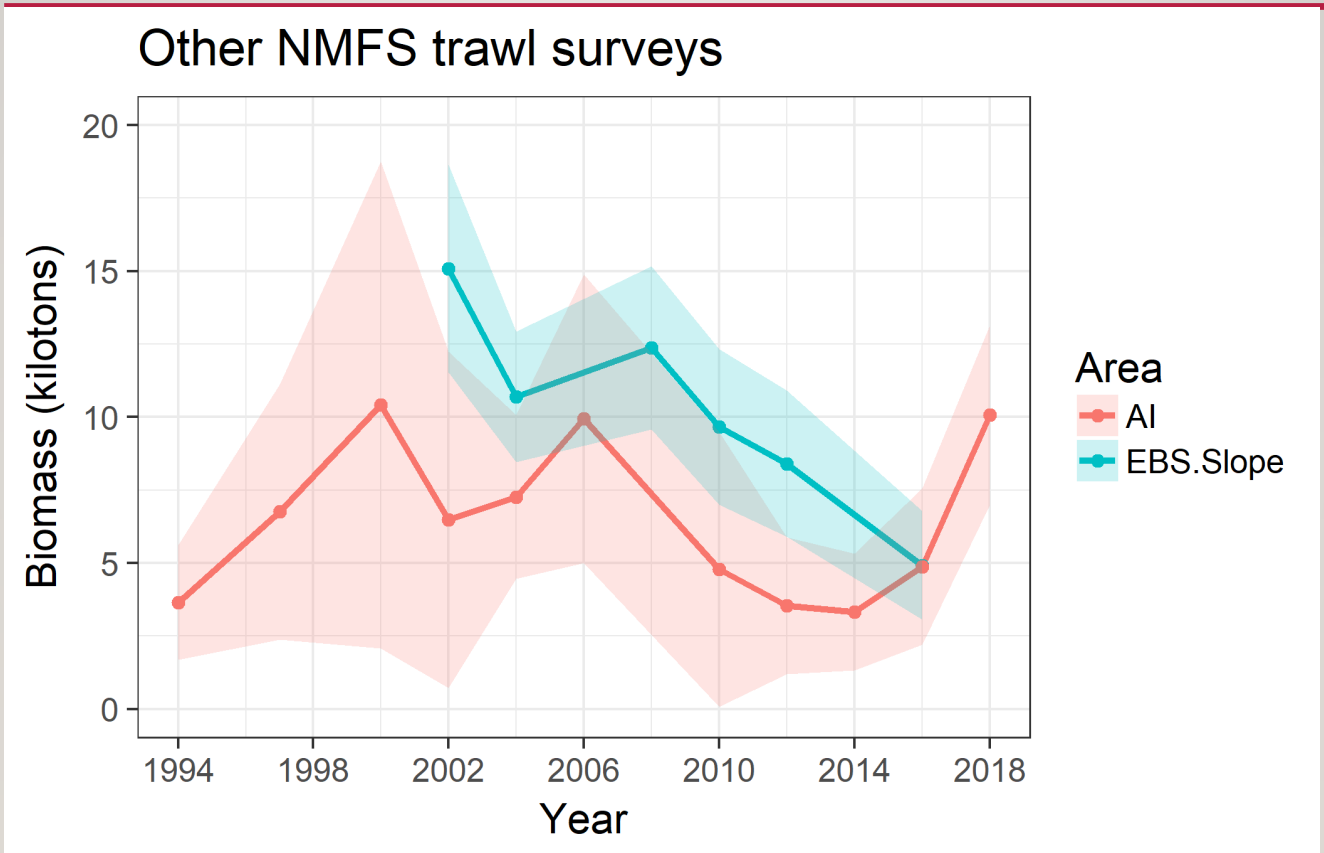


WHALES IN FISHERY

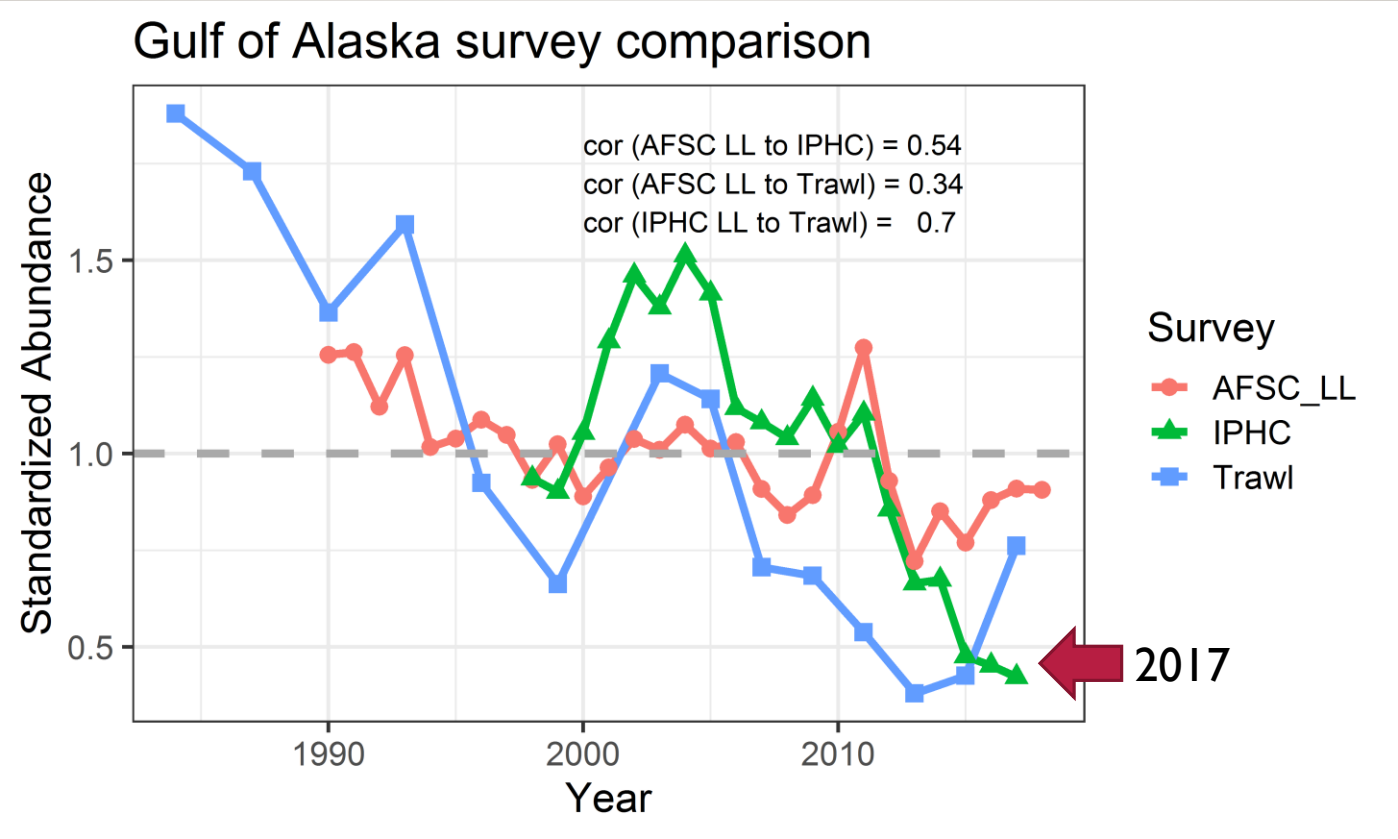


We are now getting whale observations in logbooks!

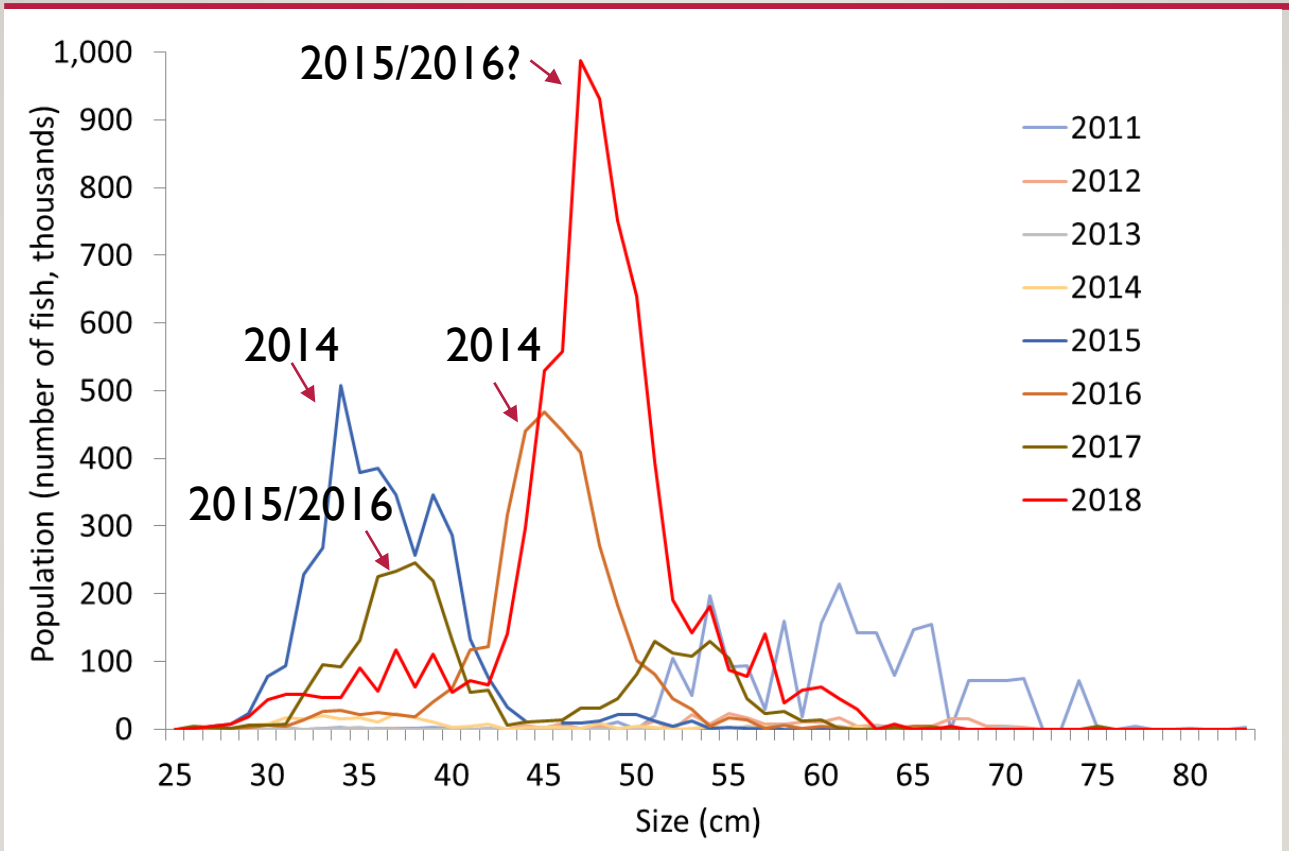
OTHER TRAWL SURVEYS



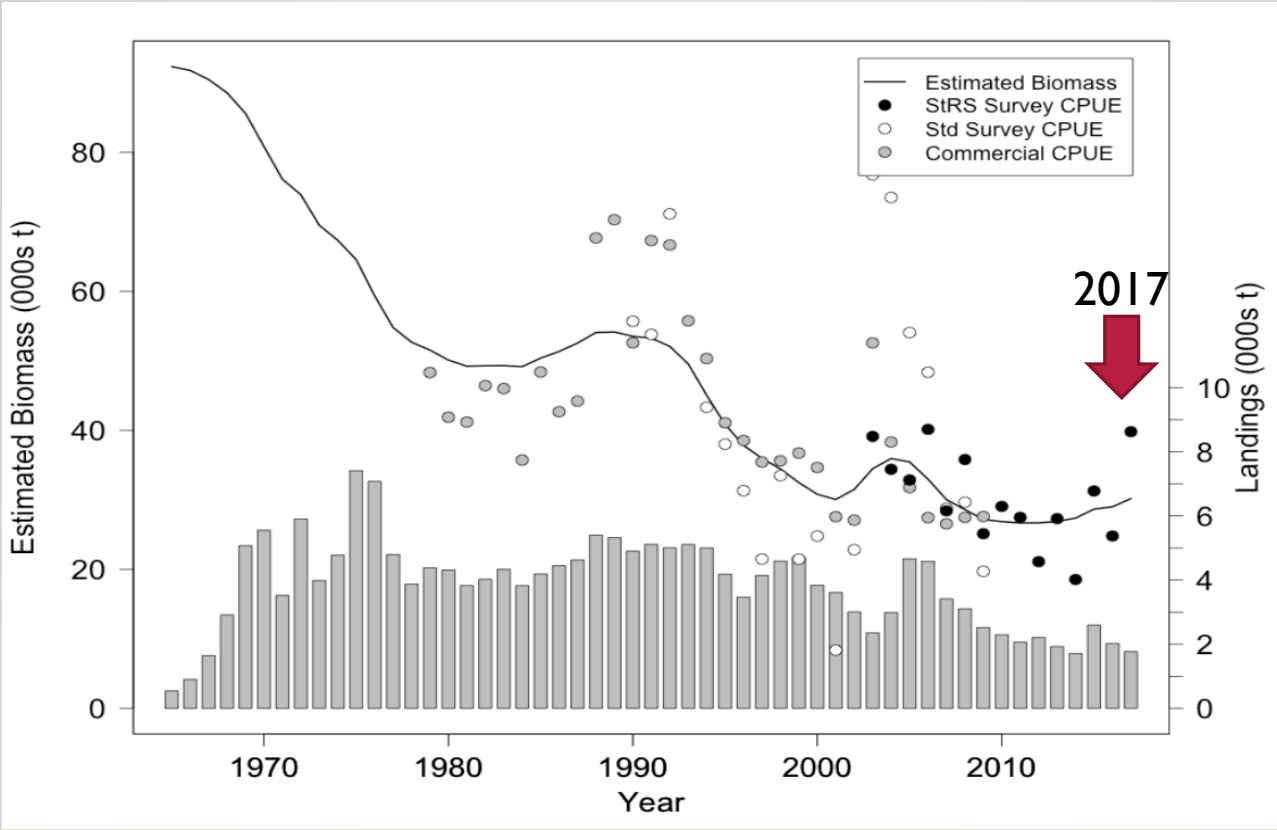
SURVEY NOT IN THE MODEL (IPHC)



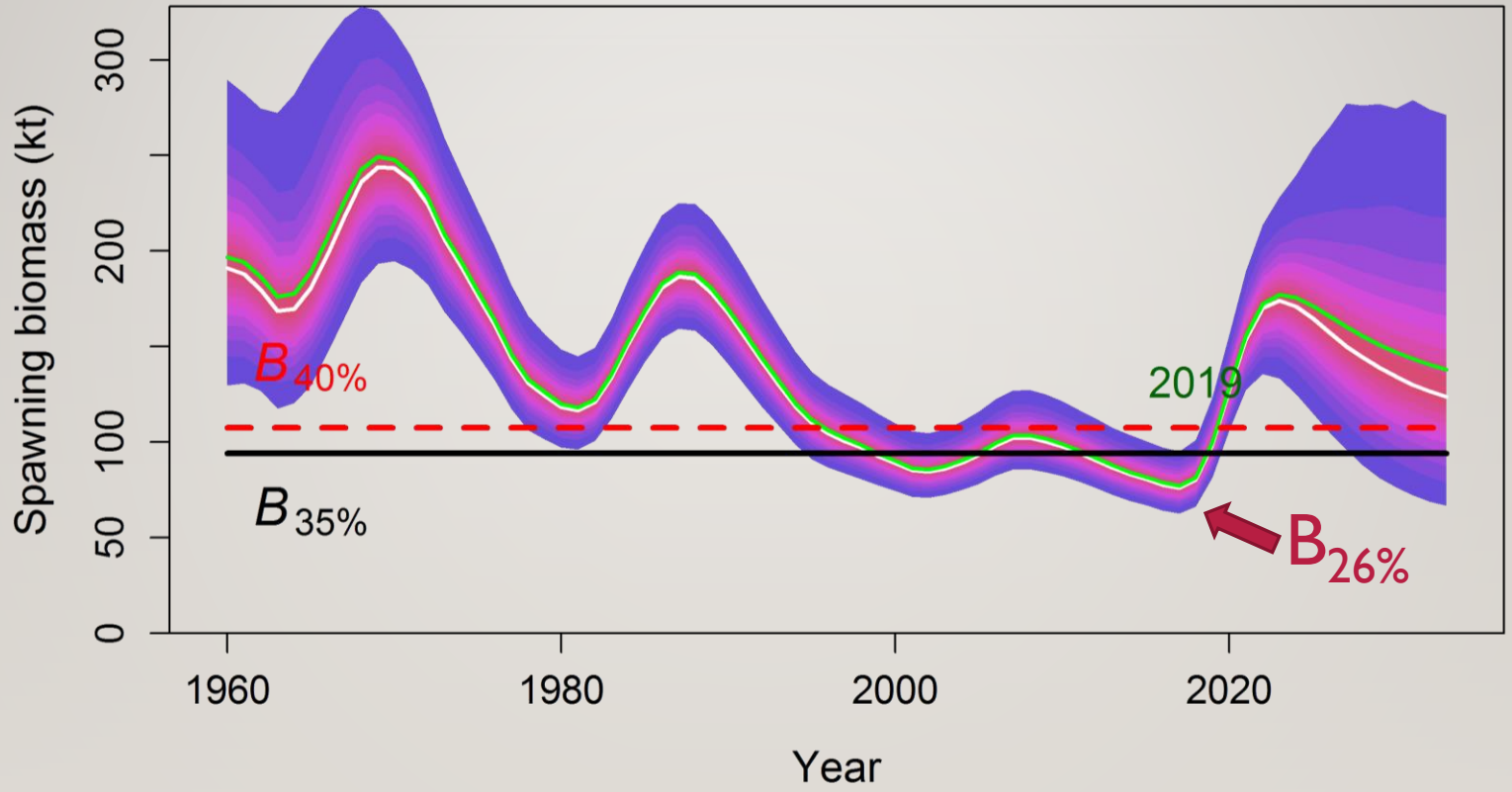
ADF&G LARGE MESH TRAWL (ESP)



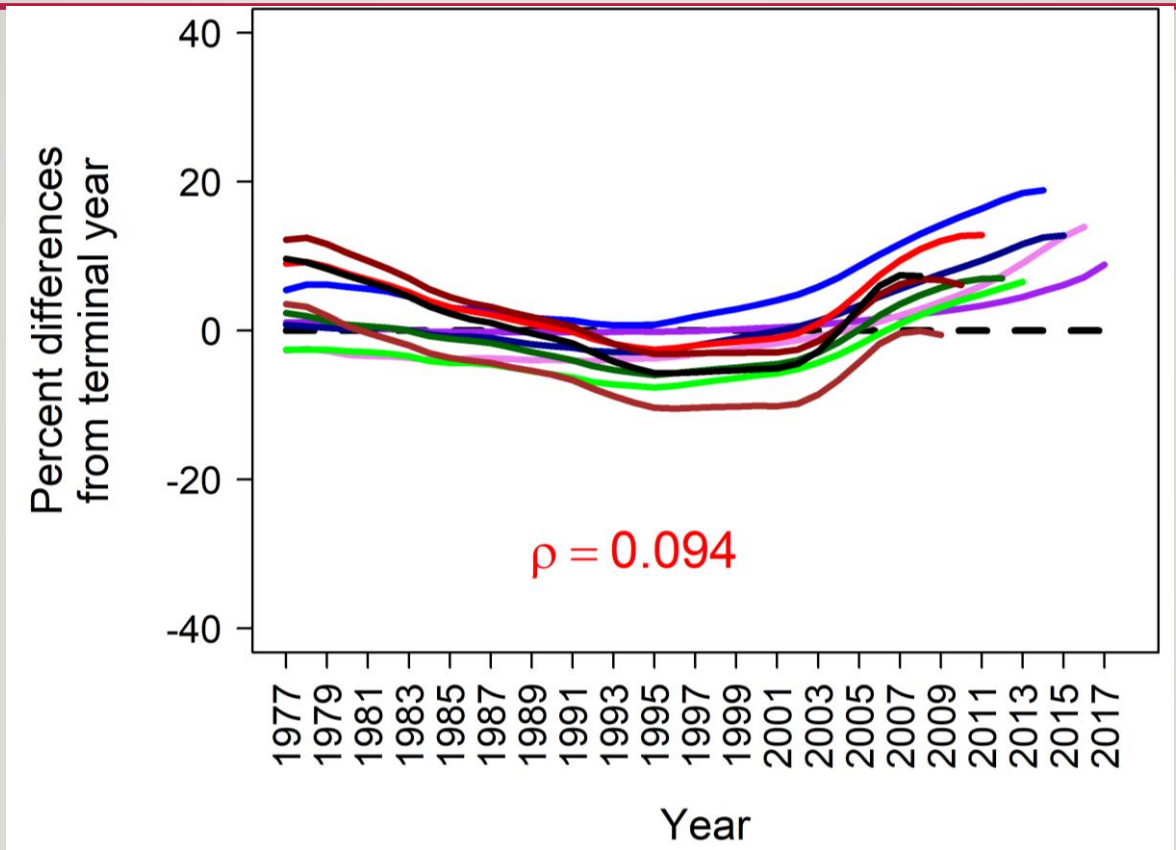
SURVEY NOT IN THE MODEL (BC)



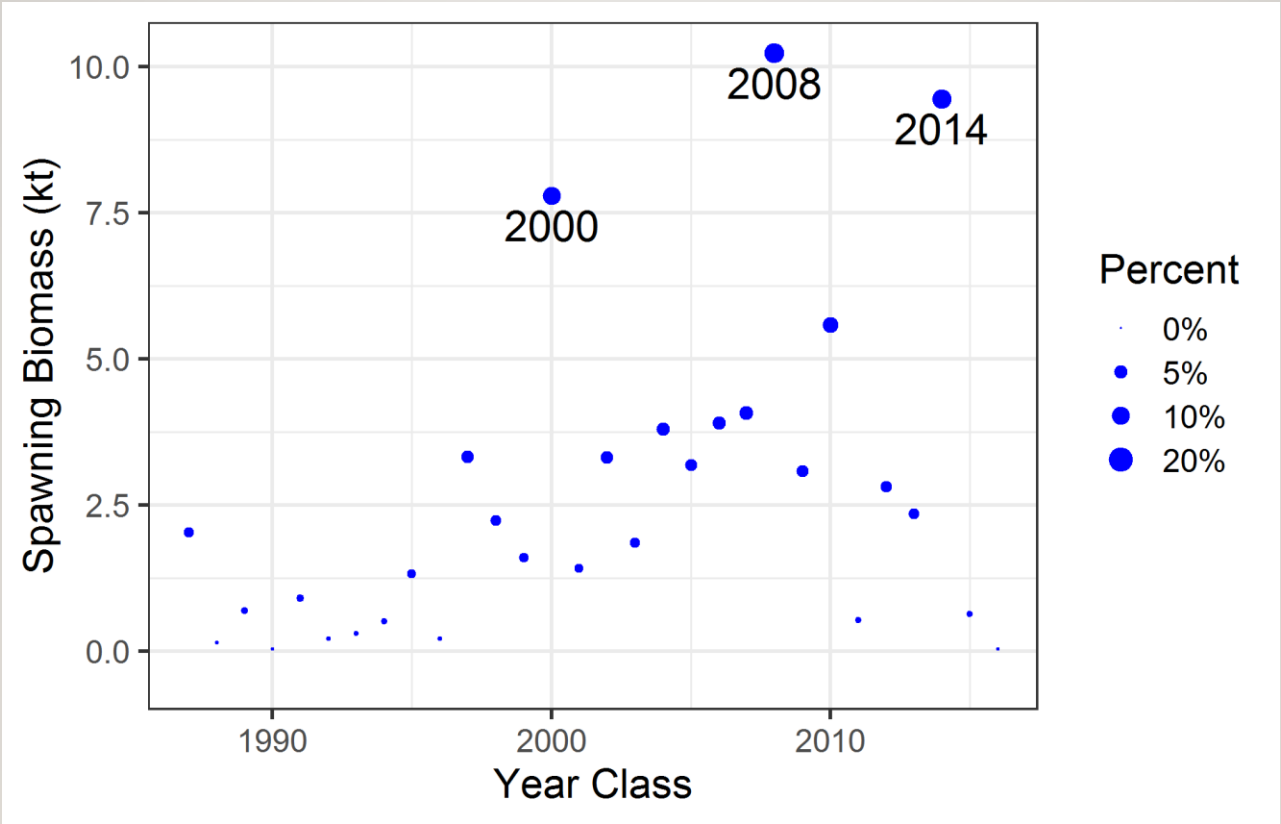
2/3 SPAWNING BIOMASS IS STILL LOW



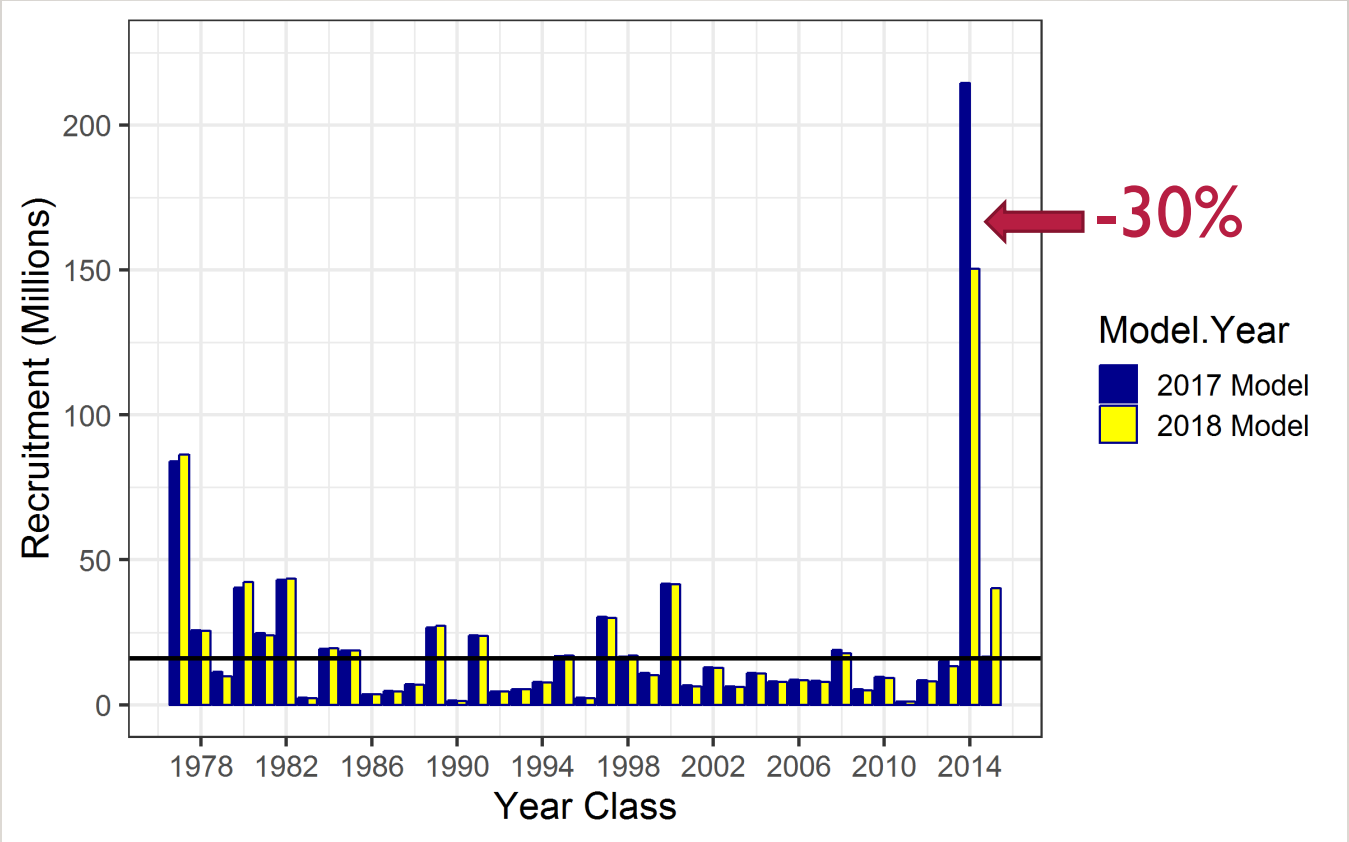
6 RETROSPECTIVE BIAS

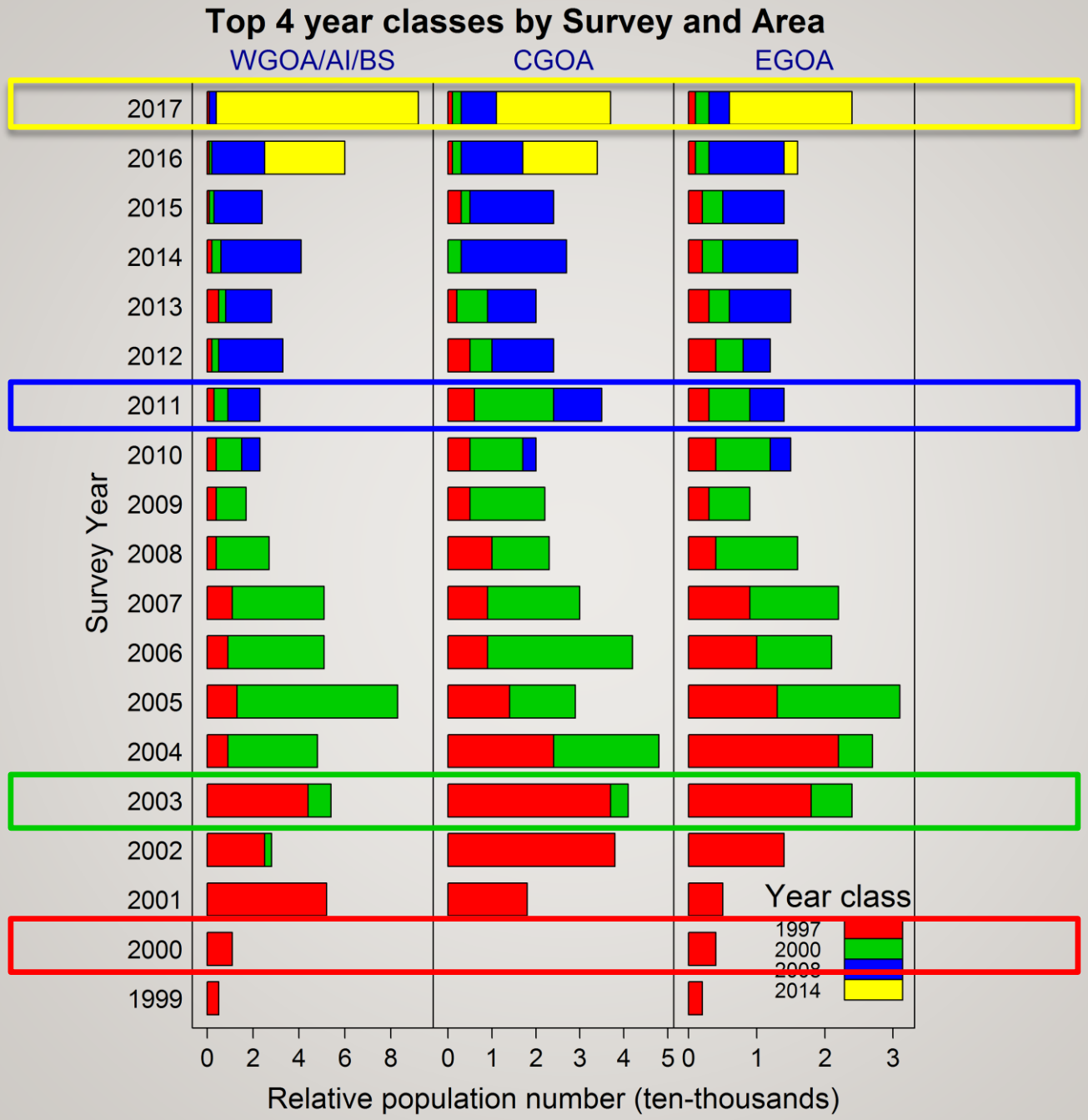


2014, WE'RE COUNTING ON YOU

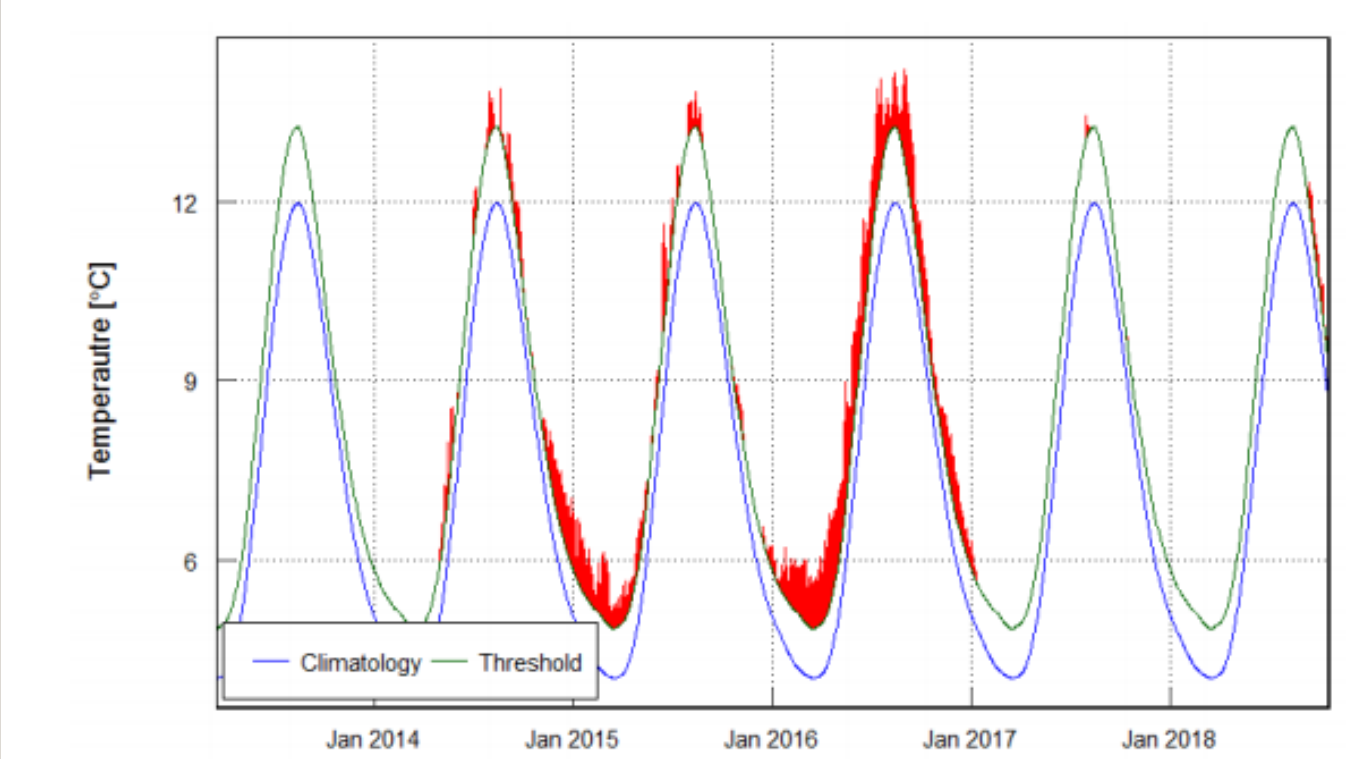


THE 2014 YEAR CLASS DECREASED




Top 4 year classes by Survey and Area
WGOA/AI/BS
CGOA
EGOA
Survey Year
2017
2016
2015
2014
2013
2012
2011
2010
2009
2008
2007
2006
2005
2004
2003
2002
2001
2000
1999
0 2 4 6 8
0 1 2 3 4 5
0 1 2 3
Relative population number (ten-thousands)
Year class
1997
2000
2008
2014

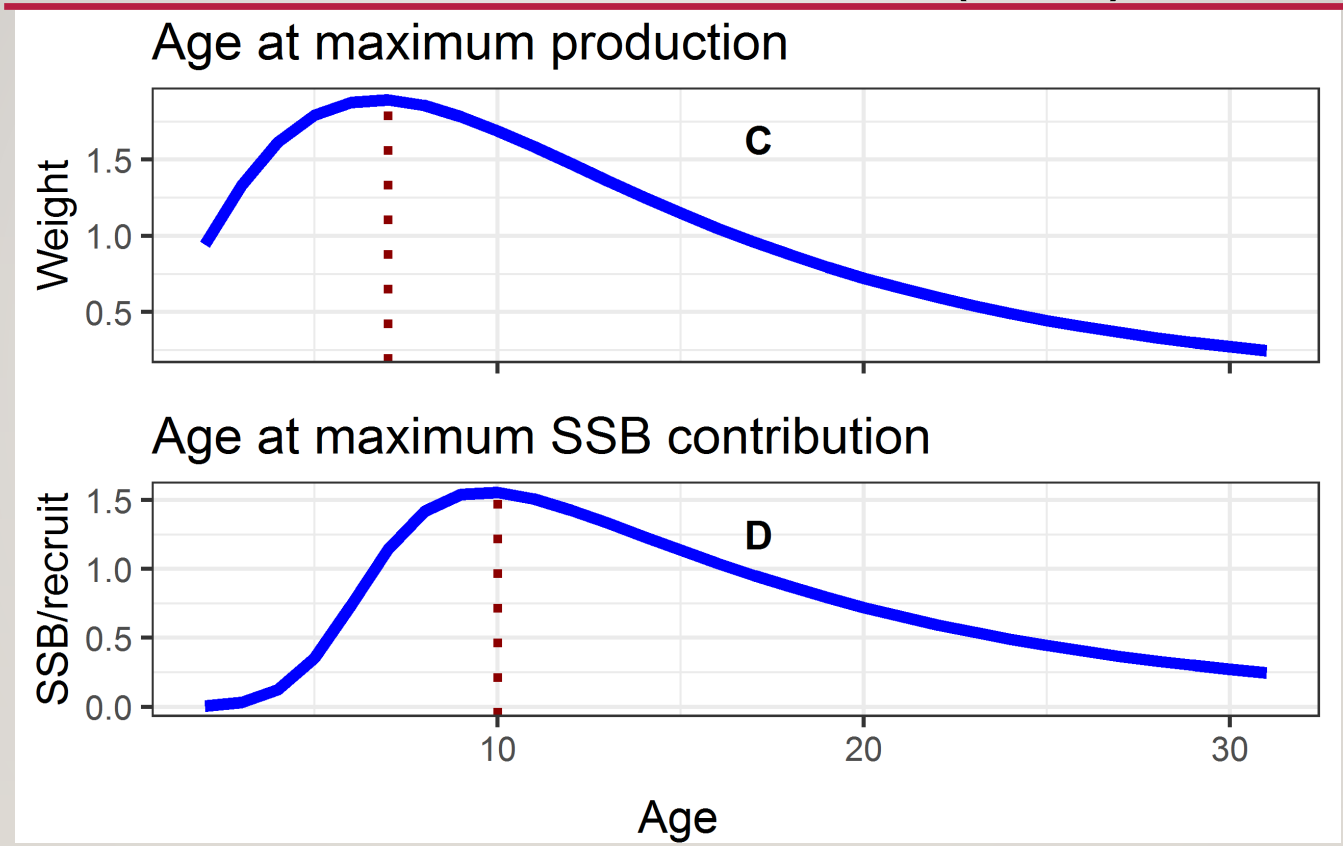
11 HEAT EXHAUSTION (ESR/ESP)



ECOSYSTEM AND SOCIO-ECONOMIC PROFILE (ESP)

- Eco-Positives: High YOY growth and high presence of 2016 YC in ADF&G large-mesh
- Eco-Negatives: 4-year old condition and benthic forager index down
- Soco-Positives: TACs no longer declining
- Soco-Negatives: Value of small fish extremely low, increased incidental catch

ECOSYSTEM AND SOCIO-ECONOMIC PROFILE (ESP)



ECOSYSTEM AND SOCIO-ECONOMIC PROFILE (ESP)

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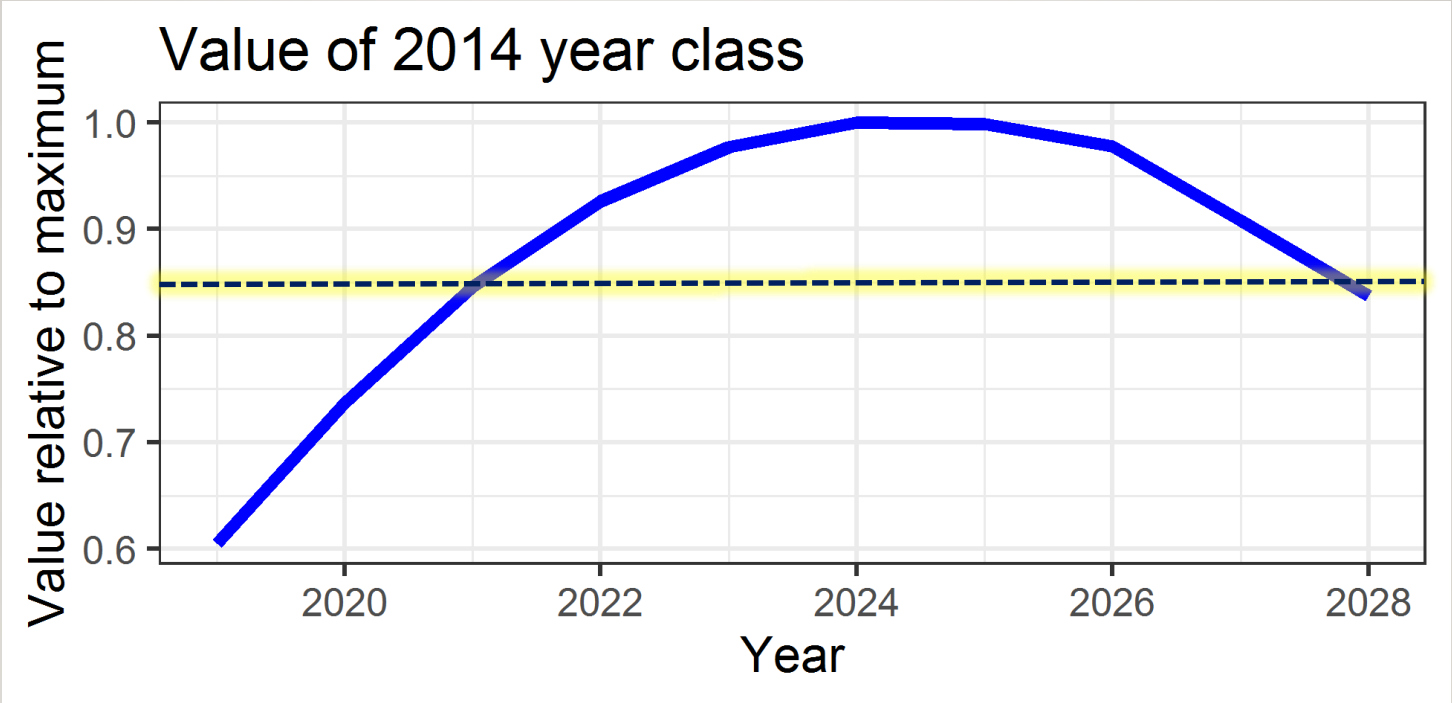
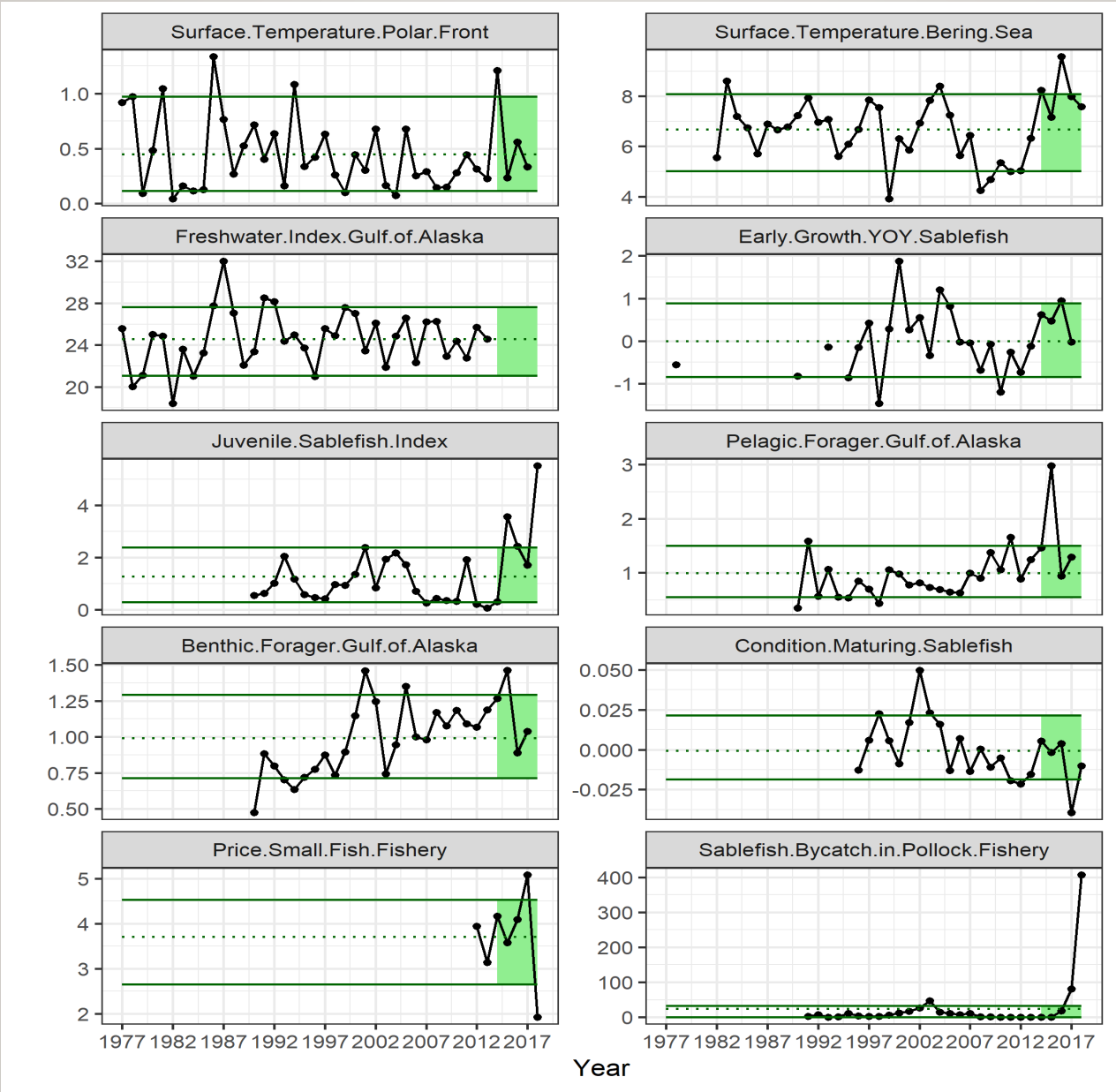
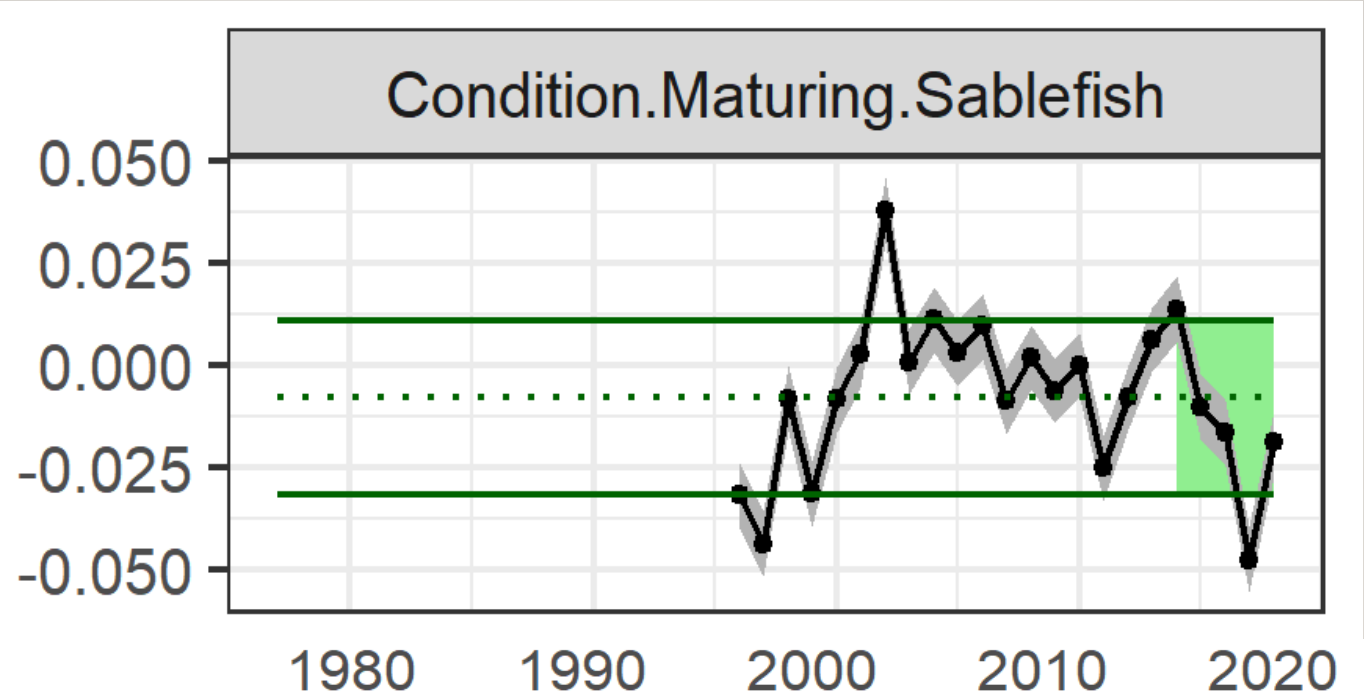


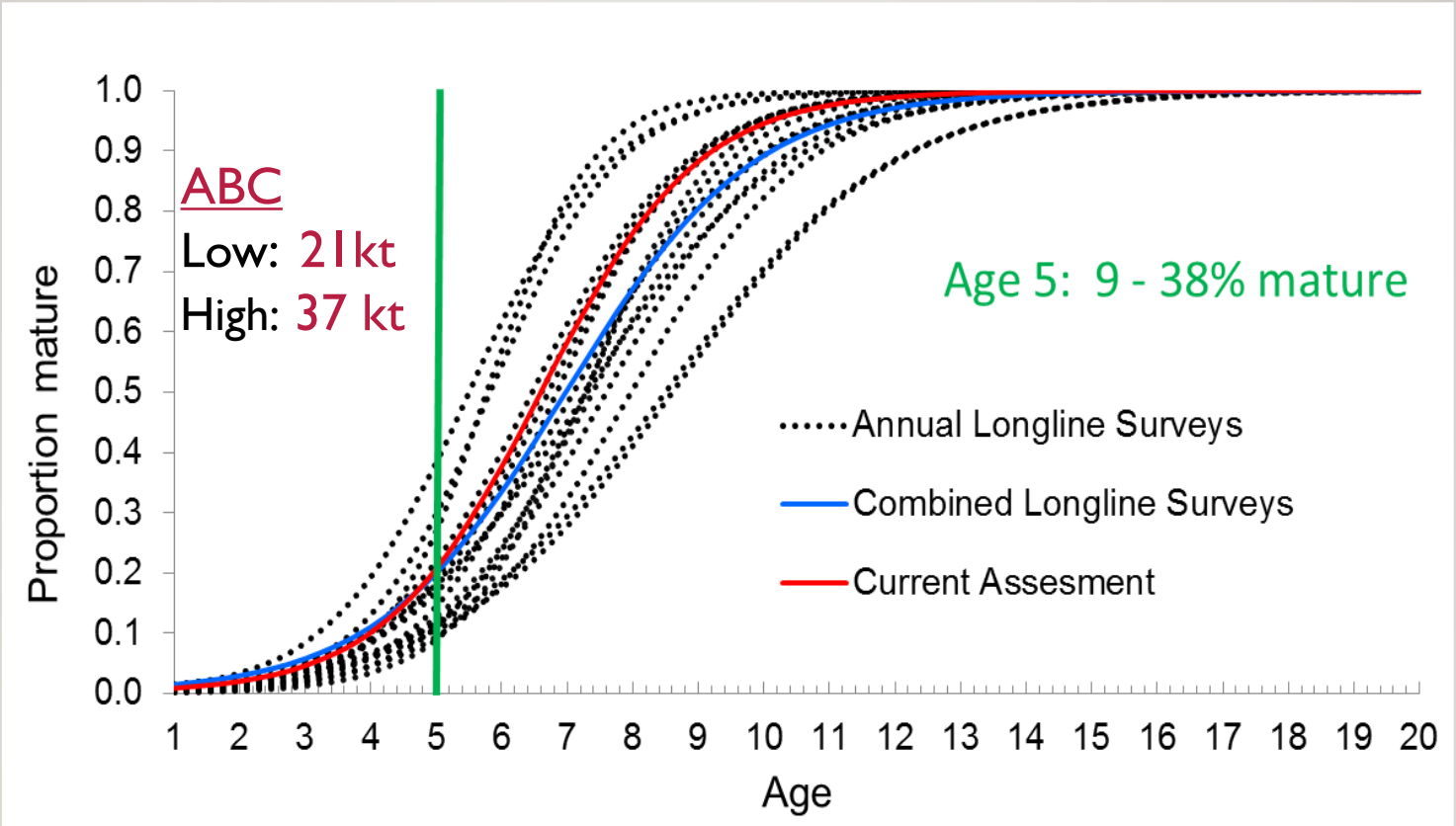
ESP INDICATORS



CONDITION OF 4 IS POOR (ESP)



9 MATURITY MATTERS



ALTERNATIVE MODELS

Model	Description	ABC	SSB	$B_{40\%}$	SPR%
16.5	Recommended in 2016 and 2017	28.2	96.7	116.7	33%
16.5s	16.5 with new natural mortality prior	29.4	98.3	116.6	34%
16.5d	16.5 with non-parametric dome-shape	16.1	79.6	119.2	27%
16.5ds	16.5d with new natural mortality prior	10.2	64.3	108.4	24%
16.5d (2008)	16.5d using 2008 data for 2009 ABC	DNC* (with data before 2010)			
16.5 (2008)	16.5 using 2008 data for 2009 ABC	18.7	97.3	104.9	37%
16.5d (2014)	16.5d using 2014 data for 2015 ABC	8.6	78.4	105.6	30%
Base (2014)	16.5 using 2014 data for 2015 ABC	13.9	93.2	104.2	36%
16.5	Oldest LL maturity at age (2011)	21.4	74.8	107.1	28%
16.5	Youngest LL maturity at age (2003)	37.4	133.0	126.3	42%

ALTERNATE PROJECTIONS

Scenario	Alternative projection scenarios (16.5)	ABC	SSB	B40	Status
1	Recruitments from 1977-2014	28.2	96.7	116.7	33%
2	Recruitments from 1977-2013	34.1	96.7	95.5	40%
3	2014 set to 1977 year class strength, and in B40	20.0	84.0	93.3	36%
4	2014 set to 1977 year class strength, 2015 set to average, and in B40	18.2	82.6	93.3	35%
5	Fixed selectivity set knife-edge at 10+	19.5	95.5	116.7	33%

RISK-MATRIX FRAMEWORK: 4

- New Dorn model of reducing ABC from maximum (the DoRMF)
- Assessment model: **2** (increased concern)
- Population dynamics: **4** (extreme concern)
- Ecosystem: **2** (increased concern)

ABC SUMMARY

- LL survey RPN up substantially from low in 2015
- Fishery CPUE index at time series low in 2016/2017
- 33% unfished spawning biomass (lower than in 2017)
- ABC_w 2018: 14,957 t
- ABC 2019 (Max): 28,171 t (vs. 41,044 t projected)
  - 88 % **increase** from 2018
- Author recommended ABC_w 15,068 (+1%)

BOTTOM LINE

- Author's ABC 2019 = ABC 2018
- Rebuilding spawning biomass above target is primary goal
- ABC 2020 continues with 45% reduction for the now

APPORTIONMENT

- CIE not concerned with static apportionment
- We believe it is best to stay put (and we have no new alternatives prepared)
- MSEs and spatial work continue
- Recent spatial operating model with sablefish-like model shows maximum yield can be achieved with a wide range of apportionments
- SSC agreed at October meeting (while noting the old apportionment has diverged quite a bit)

RECOMMENDING…

- Continuing with the fixed apportionment from 2018 fishery

Area	2018 ABC	Standard apportionment for 2019 ABC	**Recommended fixed apportionment for 2019 ABC***	**Difference from 2018**
Total	15,380	15,380	**15,380**	0%
Bering Sea	1,501	3,085	**1,501**	0%
Aleutians	2,030	2,064	**2,030**	0%
Gulf of Alaska (subtotal)	11,849	10,231	**11,849**	0%
Western	1,659	1,877	**1,659**	0%
Central	5,246	3,978	**5,246**	0%
W. Yakutat**	1,765	1,506	**1,765**	0%
E. Yak. / Southeast**	3,179	2,870	**3,179**	0%

WHALE ADJUSTMENTS

Area	AI	BS	WG	CG	WY*	EY*	Total
2018 ABC	2,030	1,501	1,659	5,246	1,765	3,179	15,380
2019 ABC	2,030	1,501	1,659	5,246	1,765	3,179	15,380
2015-2017 avg. depredation	21	13	78	67	94	39	312
Ratio 2019:2018 ABC	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Deduct 3 year adjusted average	-21	-13	-78	-67	-94	-39	-312
**2019 ABC_w	2,008	1,489	1,581	5,178	1,671	3,141	15,068
Change from 2018 ABC_w	1%	2%	2%	0%	0%	0%	1%

FUTURE

- Re-visiting selectivities
- Modeled fishery CPUE index
- Continue spatial modeling
- Refine Ecosystem and Socioeconomic Profile (ESP) at upcoming workshops