

D2 TRAWL SABLEFISH OVERAGES

STEVE MACLEAN

JUNE 2021

MARY FURUNESS

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- In December 2020 the Council requested a discussion paper to examine management tools that the Council could consider to limit or prevent overages of trawl sablefish area- and sector-specific allocations
 - Time/Area closures
 - Reduced Allocations to target species with high sablefish bycatch
 - Inter-cooperative agreements and incentive programs
 - Lower MRA or extended MRA (no trawl sablefish directed fishing)
 - Actions taken by other Councils to manage sector allocations

- In response to public comment and a letter submitted to the Assistant Administrator for NOAA Fisheries



STOCK ASSESSMENT AND MANAGEMENT

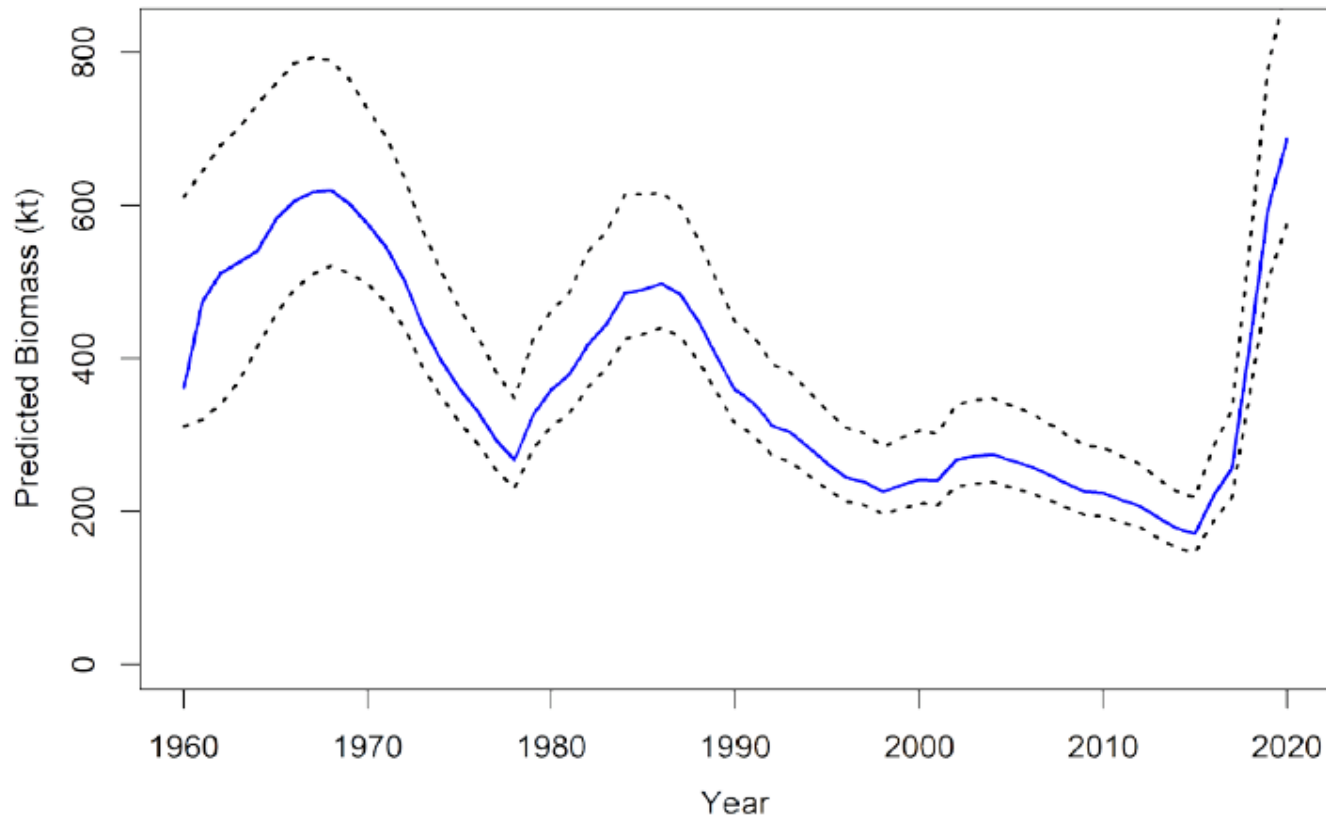


Figure 1. Estimated sablefish total biomass with 95% MCMC credible intervals
p2



STOCK ASSESSMENT AND MANAGEMENT

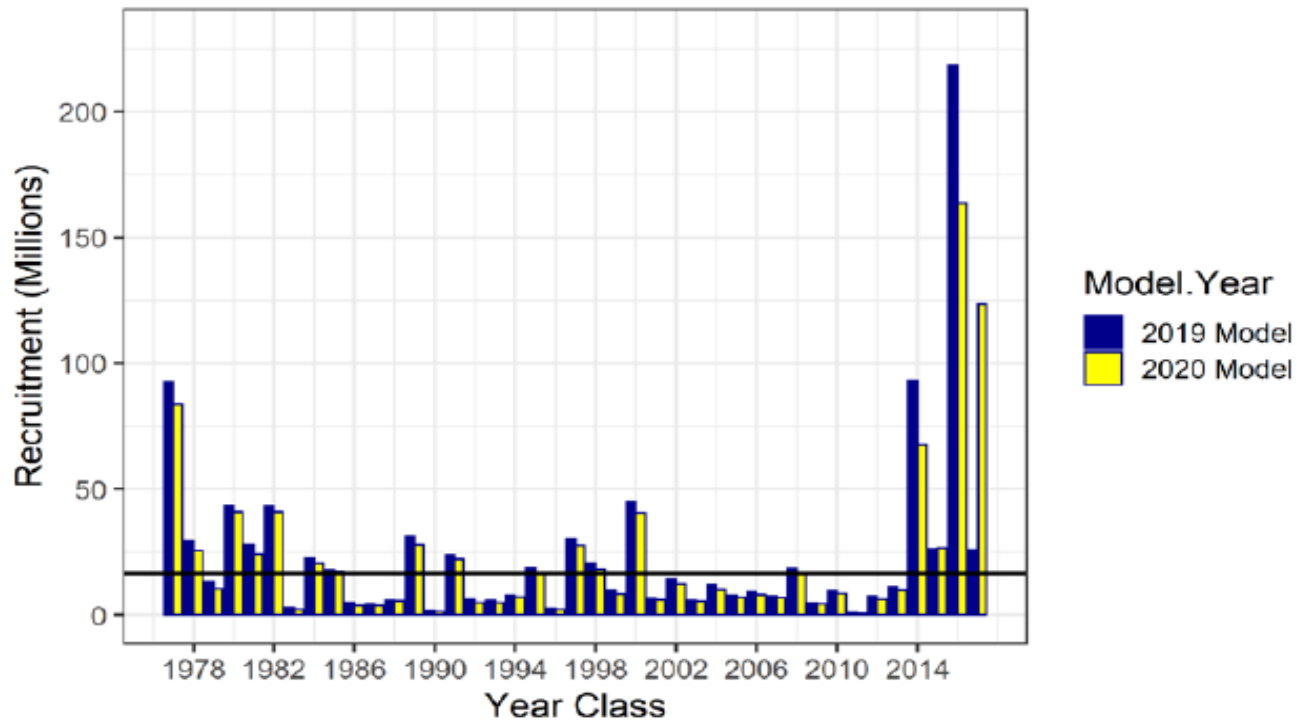


Figure 2. Estimated recruitment by year class (1977-2017) in number of age-2 fish for the 2019 and 2020 stock assessment models
p3



STOCK ASSESSMENT AND MANAGEMENT

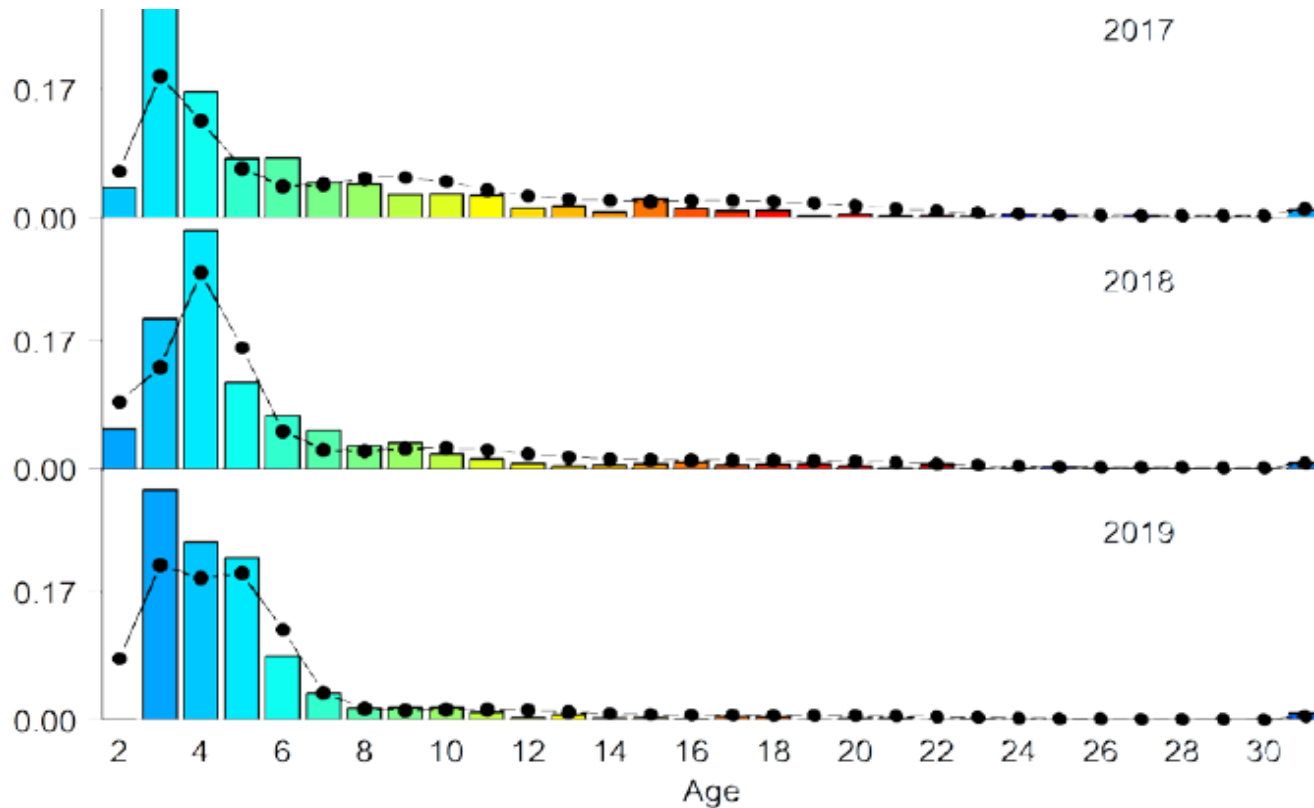


Figure 4. Domestic longline survey sablefish age composition. Y axis is proportion of population. Select years from Goethel et al. 2020.

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STOCK ASSESSMENT AND MANAGEMENT

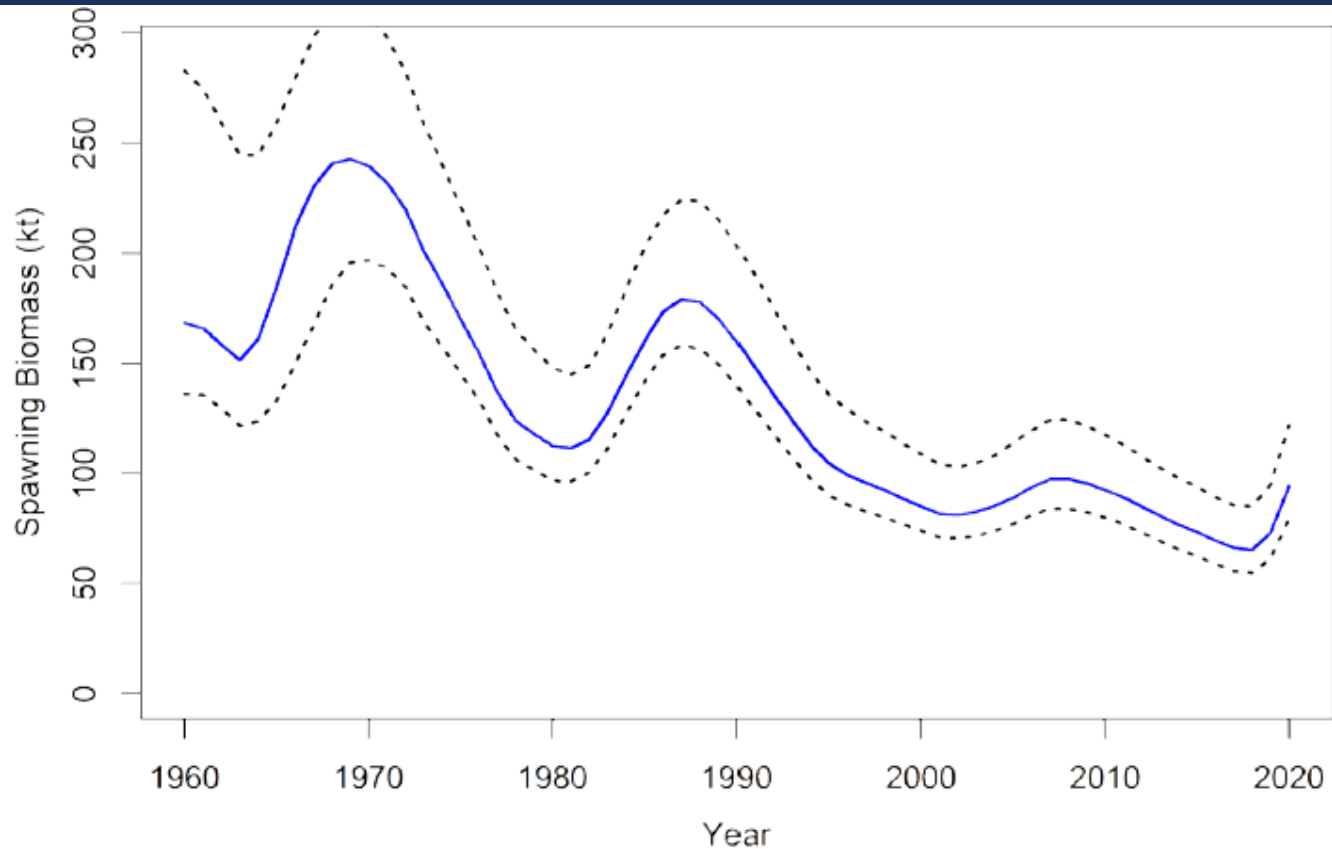


Figure 3. Estimated spawning stock biomass with 95% MCMC credible intervals.
p3



STOCK ASSESSMENT AND MANAGEMENT

Table 2. 2013 to 2020 Alaska wide sablefish biomass, Annual Catch Limits (OFL, ABC, TAC) and Total Catch
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YEAR	Catch	TAC	ABC	MAX ABC ¹	OFL	Biomass
2013	13,781	16,230	16,230	16,230	19,180	192,000
2014	11,597	13,772	13,772	13,722	16,225	178,000
2015	11,013	13,657	13,657	13,657	16,128	171,000
2016	10,252	11,795	11,795	11,795	13,396	221,000
2017	12,330	13,083	13,083	13,509	15,428	256,000
2018	14,402	14,957	14,957	25,583	29,507	421,000
2019	16,695	15,068	15,068	28,171	32,798	597,000
2020	19,165	18,293	22,009	44,065	50,481	687,000



STOCK ASSESSMENT AND MANAGEMENT

Alaska wide Sablefish Catch and Allocation by Fixed Gear and Trawl Gear

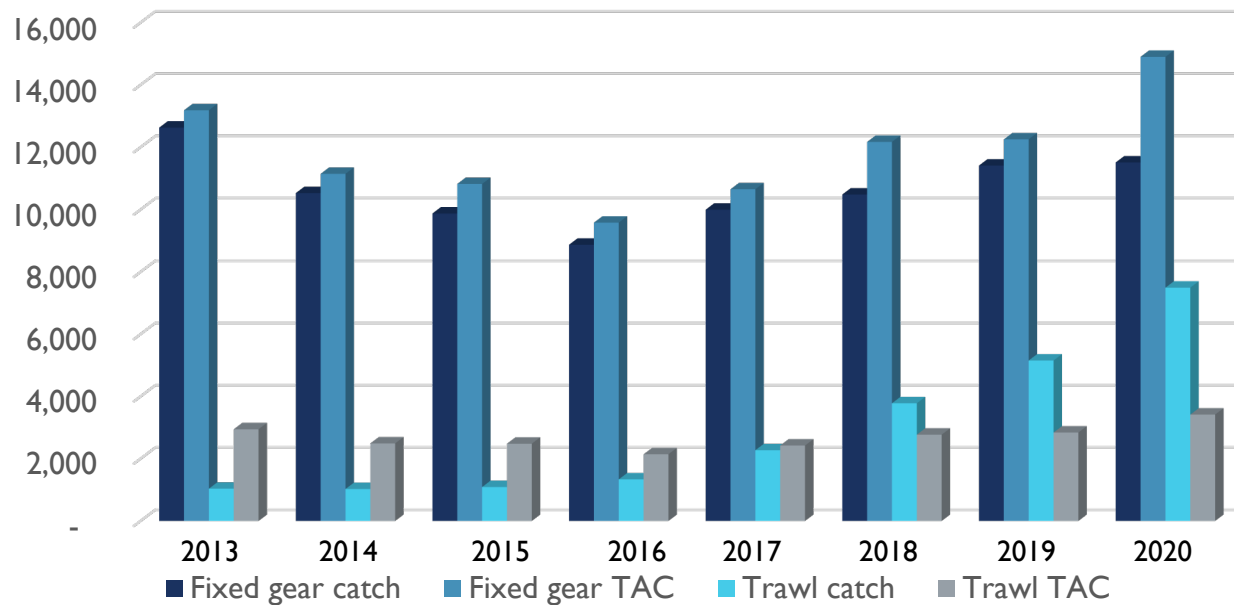


Figure 6. Alaska-wide sablefish catch and allocation by fixed gear and trawl gear
p7



STOCK ASSESSMENT AND MANAGEMENT

Quota Allocation

	Western GOA	Central GOA	Eastern GOA
Fixed Gear	80%	80%	95%
Trawl Gear	20%	20%	5%

	EBS	AI	
Fixed Gear	50%	75%	
Trawl Gear	50%	25%	



STOCK ASSESSMENT AND MANAGEMENT

Maximum Retainable Amounts

- GOA:
 - 1% for pollock, Pacific cod, Atka mackerel, arrowtooth flounder, shallow flatfish, “other species”, aggregated non groundfish
 - 7% for deep flatfish, rex sole, flathead sole, Pacific ocean perch, northern rockfish, dusky rockfish, demersal shelf rockfish (southeast outside), thornyhead rockfish
- BSAI
 - 1% for pollock, Pacific cod, Atka mackerel, arrowtooth flounder, Kamchatka flounder, rock sole, yellowfin sole, Alaska plaice, other flatfish, aggregated non groundfish
 - 15% for flathead sole, Greenland turbot, Pacific ocean perch, northern rockfish, blackspotted/Rougheye rockfish, Shortraker rockfish, other rockfish
 - 3% for “other species”



STOCK ASSESSMENT AND MANAGEMENT

Area allocation of harvests

- 5-year exponential weighting of survey abundance index and fishery CPUE data from 1999-2012
- Fixed apportionment based on 2013 assessment since 2013.
- Research on alternative apportionment methods continues

Regional apportionment to management areas can have different impacts on the population

- Concentrate harvest on younger fish in the west or older fish in the east
 - Recent recruitment and abundance of younger fish has increased directed and incidental catch of young fish
 - But there is not enough information to determine what impact that has on population rebuilding
 - Given the magnitude of recent year classes, it is unlikely that moderate increases in catch of young fish will harm the stock



TRAWL SABLEFISH CATCH

Table 3. Total trawl sablefish catch in the Bering Sea, Aleutian Islands, Western GOA and Central GOA from 2013-2020. BSAI includes CDQ trawl, pollock, and A80 fisheries
p10

Bering Sea				
	Catch (t)	Quota (t)	Remaining Quota (t)	% Taken
2020	4468	931	-3537	479.91
2019	2506	745	-1761	336.38
2018	1017	732	-285	138.93
2017	679	637	-42	106.59
2016	257	532	275	51.69
2015	17	617	600	2.76
2014	34	619	585	5.49
2013	134	731	597	18.33

Aleutian Islands				
	Catch (t)	Quota (t)	Remaining Quota (t)	% Taken
2020	695	509	-186	136.54
2019	241	502	261	48.01
2018	178	459	281	38.78
2017	129	402	273	32.09
2016	30	360	330	8.33
2015	16	417	401	3.84
2014	26	419	393	6.21
2013	58	495	437	11.72

Western GOA				
	Catch (t)	Quota (t)	Remaining Quota (t)	% Taken
2020	183	388	205	47.16
2019	320	316	-4	101.27
2018	224	309	85	72.49
2017	66	270	204	24.44
2016	47	255	208	18.43
2015	43	295	252	14.58
2014	61	296	235	20.61
2013	13	350	337	3.71

Central GOA				
	Catch (t)	Quota (t)	Remaining Quota (t)	% Taken
2020	2064	1289	-775	160.12
2019	1960	1036	-924	189.19
2018	2124	1032	-1092	205.81
2017	1192	903	-289	132.00
2016	826	805	-21	102.61
2015	802	932	130	86.05
2014	752	936	184	80.34
2013	660	1108	448	59.57



TRAWL SABLEFISH CATCH

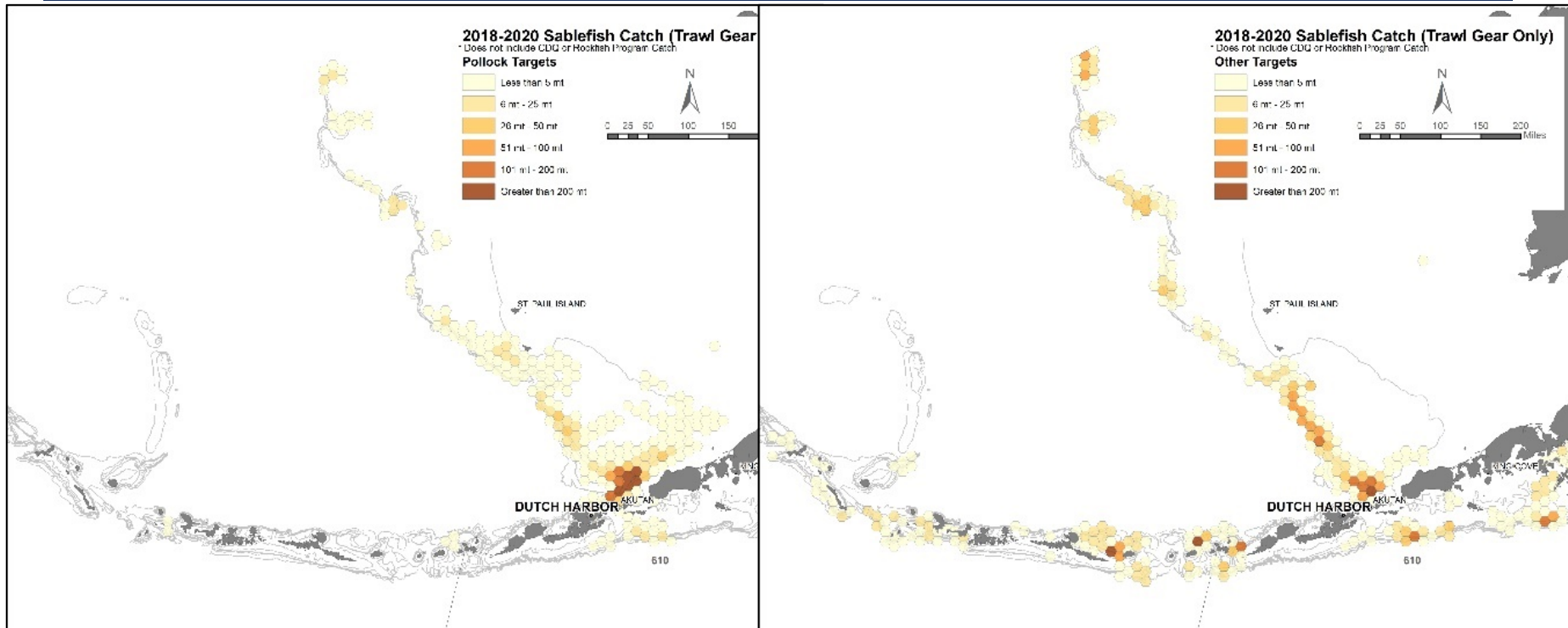


Figure 7. Distribution of sablefish catch by pollock (left) and other target (right) trawl fisheries in the BSAI from 2018 – 2020.

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TRAWL SABLEFISH CATCH

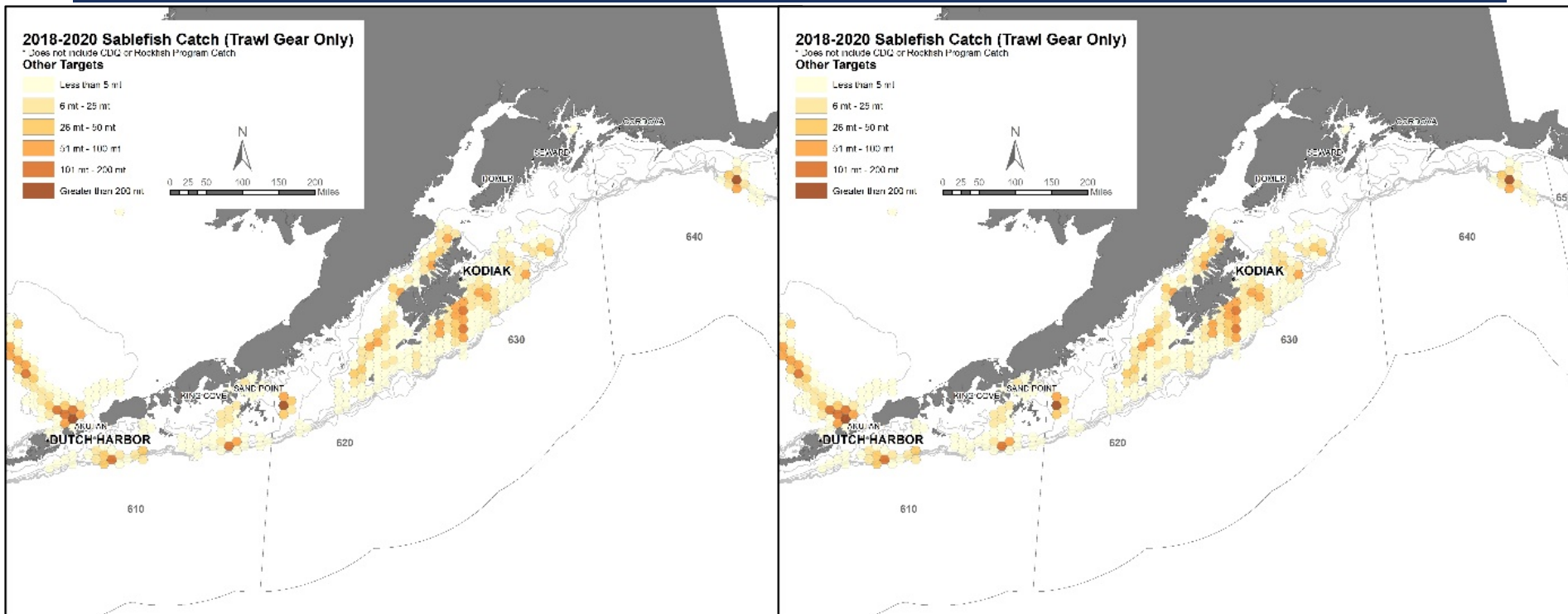


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TRAWL SABLEFISH CATCH

Table 4. Bering Sea trawl sablefish total catch by sector
p13

YEAR	Amendment 80	AFA pollock	CDQ	Open Access
2020	1,057	3,393	15	3
2019	1,272	1,186	45	3
2018	596	385	32	4
2017	561	86	30	1
2016	226	16	15	0
2015	17	0	0	0
2014	33	0	1	0
2013	129	0	5	0



OPERATIONAL FACTORS

Amendment 80

- Varied portfolio of allocated target species and groundfish not in Amendment 80 program (sablefish)
- Subject to multiple hard caps
- Must make complicated decisions on when and where to fish to consider target fisheries, PSC, and choke species.

AFA and CDQ Pollock

- Operate within a number of bycatch and PSC hardcaps
- Chinook and chum salmon bycatch reduction Incentive Plan Agreements
- Cooperatives monitor bycatch rates and can move some or all vessels



POTENTIAL MANAGEMENT MEASURES

December 2020 motion requested discussion of

- Time/Area closures
- Reduced allocations to target species with high sablefish bycatch
- Inter-cooperative agreements and incentive programs
- Lower MRAs or extended MRA status
- Actions taken by other Councils

In this discussion we have not attempted to predict the effect that implementing these may have on total sablefish catch, or quantitatively predict the impact on trawl or fixed gear sectors. When possible, we have included qualitative summaries of potential impacts to each sector

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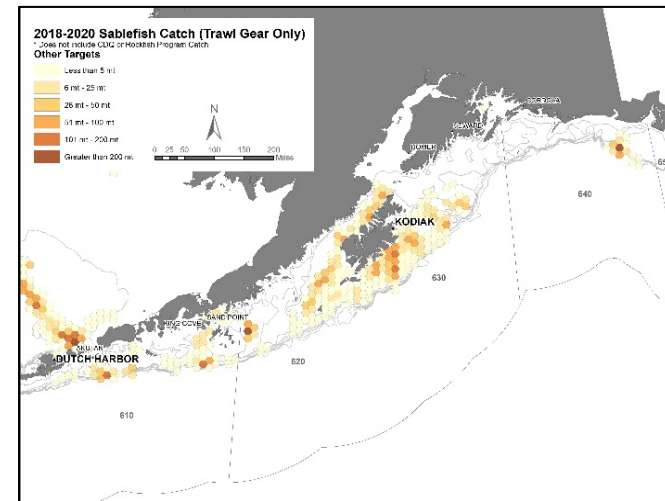
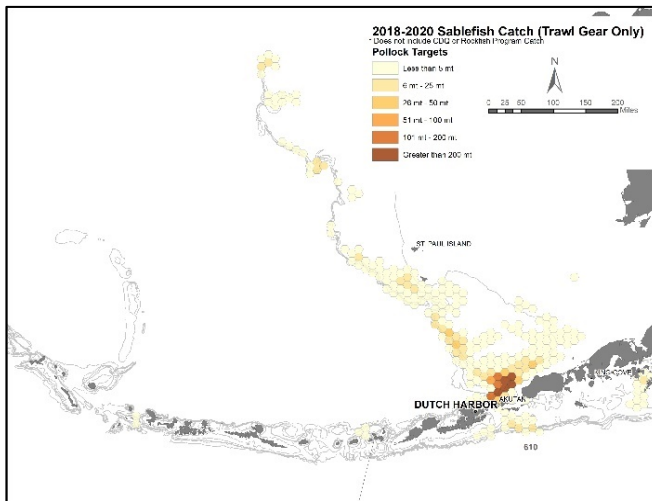
Predicting the behavior of the fleet under hypothetical management measures is difficult



POTENTIAL MANAGEMENT MEASURES

Time/Area Closures

- Effective for discrete areas
- Coral garden Habitat Conservation Zones are a good example
- Sablefish are not bound by time or space, and appear to be ubiquitous



POTENTIAL MANAGEMENT MEASURES

Time/Area Closures

- Effective for discrete areas
- Coral garden Habitat Conservation Zones are a good example
- Sablefish are not bound by time or space, and appear to be ubiquitous
- Catch could be reduced, unaffected, or increased depending on sablefish and target species distribution
- Could affect catch of other species of concern
- No way to know the effect on the sablefish population

Impacts of Time/Area Closures

- Affected operators likely to redeploy to adjacent areas to recuperate catch and revenue
- Catch is not likely foregone, but operational costs are likely to increase
- Static closures may affect different age classes differently as fish mature and move to other areas
- If large year classes contribute significantly to SSB, ABC may not be reduced relative to MaxABC, but closures may remain.



POTENTIAL MANAGEMENT MEASURES

Inter-cooperative agreements and incentive programs

- In place for trawl fisheries in the Bering Sea
- Help cooperatives manage Chinook and chum bycatch
- Track in-season catch rates for other prohibited species and have recently begun tracking sablefish

Considerations for ICAs and IPAs

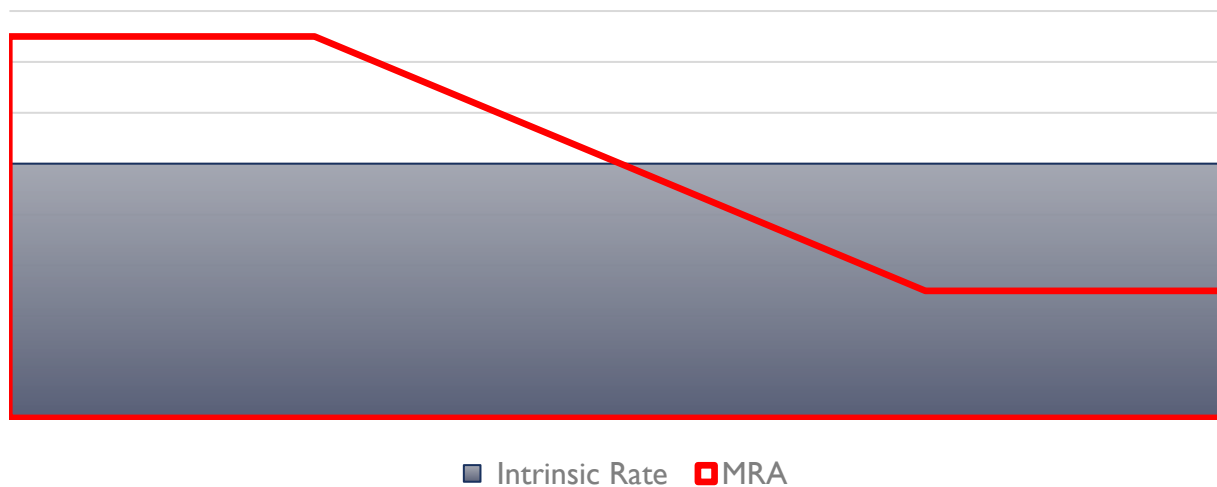
- ICAS and IPAs could contribute to managing sablefish bycatch
- Likely that specific objectives are needed to develop alternatives and mechanisms



POTENTIAL MANAGEMENT MEASURES

Maximum Retainable Amounts

- Limit the amount of a species closed to directed fishing that may be retained
- Previous analysis identified the “intrinsic catch rate”



POTENTIAL MANAGEMENT MEASURES

- Reduced allocations to target species with high sablefish bycatch
- The Council annually balances conservation and optimum yield to set TACs for all species in the BSAI and GOA during harvest specifications



POTENTIAL MANAGEMENT MEASURES

Actions take by other Councils

- No other Council facing the same circumstances
- Other Councils have implemented
 - Time/Area Closures
 - Set-asides
 - Cooperative agreements
 - Moving species to Ecosystem Component
- The Pacific Fishery Management Council staff are interested as they are anticipating large sablefish year classes affecting their fisheries

