Amendment 80 Fisheries Bycatch



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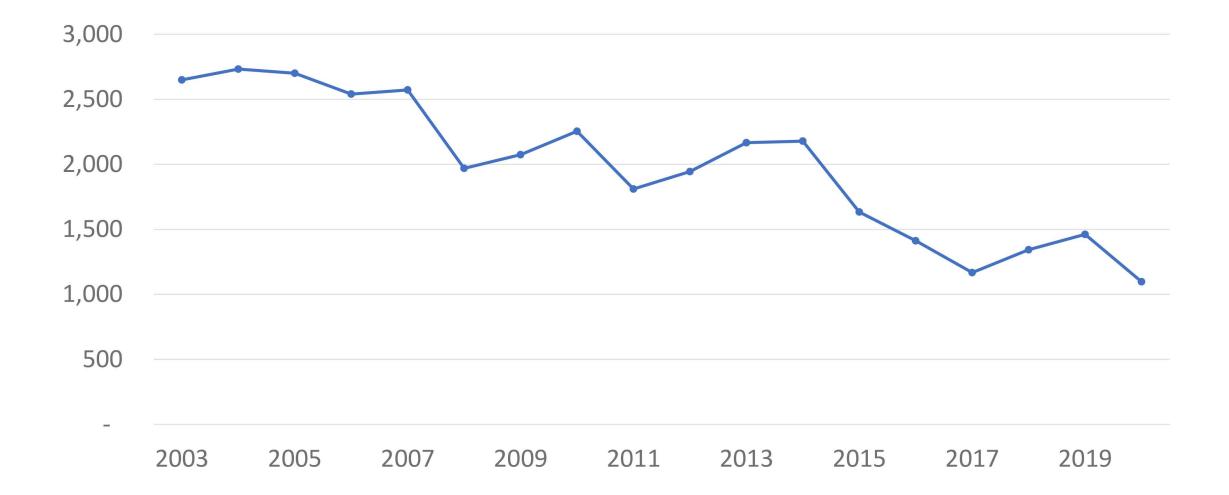
Halibut Bycatch Reductions





- Fishing target choice, location, time of day
- Small test tows
- **Excluders**
- Vessel to vessel comms
- Weekly bycatch calls
- Deck sorting
- Halibut Avoidance Plan

BSAI Non - Pollock C/P Fleet Halibut PSC (2003 - 2020)



Red King Crab Bycatch (2010 – 20)

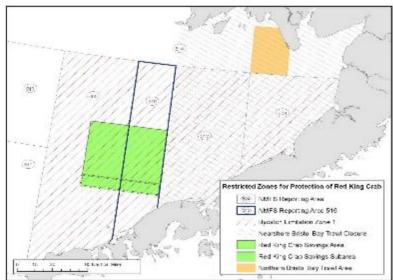


Bristol Bay Red King Crab (RKC) Percent of total mortality by gear

201087.1%11.8%1.1%0.0%7,767201188.3%10.1%1.4%0.3%4,148201293.2%5.5%0.9%0.5%3,953201387.8%8.9%1.4%1.2%4,646201484.2%12.2%0.6%2.2%5,400201587.2%8.9%0.8%1.4%5,394201690.1%7.7%1.5%0.6%4,447201786.5%7.5%2.5%3.5%3,691201877.2%14.5%2.9%5.4%2,720201980.5%13.9%3.6%2.0%2,274202080.7%13.7%5.1%0.5%1,628	Year	Directed Fishery Retained + Cost Recovery	Directed Fishery Discards	Trawl Bycatch Mortality	Fixed Gear Bycatch Mortality	Total Mortality (t)
201293.2%5.5%0.9%0.5%3,953201387.8%8.9%1.4%1.2%4,646201484.2%12.2%0.6%2.2%5,400201587.2%8.9%0.8%1.4%5,394201690.1%7.7%1.5%0.6%4,447201786.5%7.5%2.5%3.5%3,691201877.2%14.5%2.9%5.4%2,720201980.5%13.9%3.6%2.0%2,274	2010	87.1%	11.8%	1.1%	0.0%	7,767
201387.8%8.9%1.4%1.2%4,646201484.2%12.2%0.6%2.2%5,400201587.2%8.9%0.8%1.4%5,394201690.1%7.7%1.5%0.6%4,447201786.5%7.5%2.5%3.5%3,691201877.2%14.5%2.9%5.4%2,720201980.5%13.9%3.6%2.0%2,274	2011	88.3%	10.1%	1.4%	0.3%	4,148
201484.2%12.2%0.6%2.2%5,400201587.2%8.9%0.8%1.4%5,394201690.1%7.7%1.5%0.6%4,447201786.5%7.5%2.5%3.5%3,691201877.2%14.5%2.9%5.4%2,720201980.5%13.9%3.6%2.0%2,274	2012	93.2%	5.5%	0.9%	0.5%	3,953
201587.2%8.9%0.8%1.4%5,394201690.1%7.7%1.5%0.6%4,447201786.5%7.5%2.5%3.5%3,691201877.2%14.5%2.9%5.4%2,720201980.5%13.9%3.6%2.0%2,274	2013	87.8%	8.9%	1.4%	1.2%	4,646
201690.1%7.7%1.5%0.6%4,447201786.5%7.5%2.5%3.5%3,691201877.2%14.5%2.9%5.4%2,720201980.5%13.9%3.6%2.0%2,274	2014	84.2%	12.2%	0.6%	2.2%	5,400
201786.5%7.5%2.5%3.5%3,691201877.2%14.5%2.9%5.4%2,720201980.5%13.9%3.6%2.0%2,274	2015	87.2%	8.9%	0.8%	1.4%	5,394
2018 77.2% 14.5% 2.9% 5.4% 2,720 2019 80.5% 13.9% 3.6% 2.0% 2,274	2016	90.1%	7.7%	1.5%	0.6%	4,447
2019 80.5% 13.9% 3.6% 2.0% 2,274	2017	86.5%	7.5%	2.5%	3.5%	3,691
	2018	77.2%	14.5%	2.9%	5.4%	2,720
2020 80.7% 13.7% 5.1% 0.5% 1,628	2019	80.5%	13.9%	3.6%	2.0%	2,274
	2020	80.7%	13.7%	5.1%	0.5%	1,628

Source: J. Zheng (et al) Bristol Bay Red King Crab Stock Assessment in Fall 2021, pp. 32-33. Sep 2021

- In 2022 NOAA to reduce PSC limit by ~66%
- Trawl bycatch historically is < 2% of the total removals.
- In addition to existing closures, NOAA will also close Red King Crab Savings Sub Area in 2022.



Snow Crab Bycatch (2001 – 2020)



- In 2022 NOAA will reduce PSC limits by ~45%
- Trawl bycatch mortality is historically < 1% of the total removals.
- Much of surveyed snow crab biomass is located in areas off-limits to A80.
- Re-building plan will provide additional analysis to ID any new potential solutions.

Snow Crab (opilio) estimated proportion of total mortality by gear type

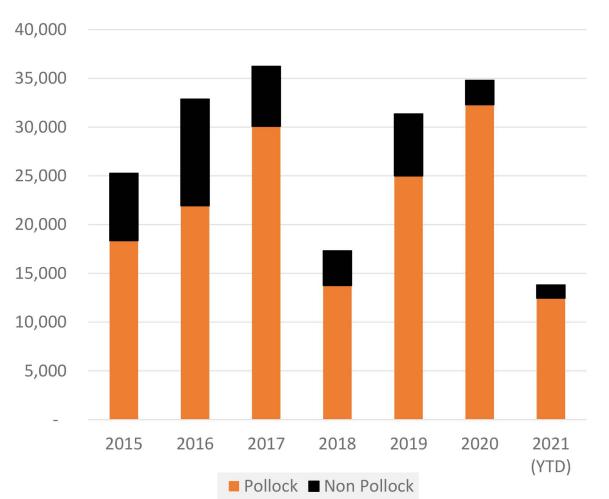
Year	Directed Fishery Retained	Directed Fishery Discard Mortality	Trawl Bycatch Mortality	Total Mortality (kt)
2010	97%	2%	0.6%	25.38
2011	95%	4%	0.4%	42.31
2012	92%	7%	0.7%	32.62
2013	88%	12%	0.4%	27.94
2014	89%	11%	0.4%	34.64
2015	85%	14%	0.6%	21.58
2016	87%	12%	0.5%	11.06
2017	81%	18%	0.4%	10.59
2018	80%	18%	1.5%	15.62
2019	74%	25%	1.2%	20.76
2020	78%	22%	0.3%	26.28

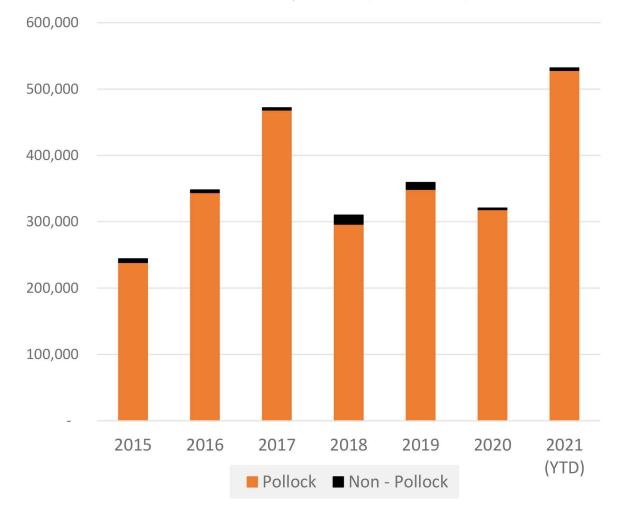
Source: C. Szuwalski, An Assessment for Eastern Bering Sea Snow Crab, p. 33, Sep 2021

BSAI Trawl Salmon Bycatch



Chinook Bycatch (# of Fish)





Non - Chinook Bycatch (# of Fish)

Questions?