



Addendum to C5 – Snow Crab PSC Data Report

1 Table 1 update

Table 1 is updated to add snow crab PSC usage inside and outside COBLZ for the groundfish fishery in 2018, and to report directed fishery data for the year in which the snow crab fishing occurred, rather than the start of the crab fishery year. The snow crab fishing year runs from October through May, but vessels typically do not begin fishing until January. In the previous version of Table 1, data were displayed showing the year in which the season began rather than the year during which the crab were caught (e.g., crab caught in January 2018 were shown in the 2017 data line). ADF&G requested that the table be modified to show the calendar year in which crab were caught rather than the year in which the season started. Therefore, directed fishery data for each year in the original Table 1 are now shown in the revised Table 1 as year + 1; e.g., directed fishery retained catch and discards that were previously shown as year 2009 are shown for 2010 in the revised table.

2 How to interpret Table 1 and Figures 1-3

Table 1 and Figures 1-3 are both derived from observer data, but they do not show the same data. Table 1 shows retained snow crab and extrapolated estimates of snow crab bycatch in the directed snow crab fishery and snow crab bycatch (referred to as PSC usage in the table) in Federal groundfish fisheries. The weight of bycatch in Federal fisheries is extrapolated from observer samples by NMFS.

Figures 1-3 show the spatial distribution of fishing events that encountered snow crab bycatch in trawl, hook & line, and pot fisheries from 2009 – 2018. Values shown in the legends of Figures 1-3 do not indicate the magnitude of bycatch in any particular fishing event. Figures 1-3 use the Kernel Density tool in ArcGIS to calculate the density of fishing events with snow crab bycatch in the area around that event. Each fishing event where snow crab bycatch occurs is given a value of 1 for the specific point at which the event was recorded. A curve is applied to the point, reaching zero at 10 nmi from the recorded point. The density at each cell (5,067 meters) is calculated by adding the values of all the kernel surfaces where they overlay the cell. In Figures 1-3 unshaded cells are those for which no fishing event that encountered snow crab bycatch was recorded. Colors transition from pink and red to green and blue as more fishing events that encountered snow crab bycatch are recorded in the area. Values are not integers because the value from each bycatch event drops from 1 to 0 along the 10 nmi curve. Each Figure (1-3) uses the same legend to allow a comparison of relative densities between fishing gears. Additional information on the kernel density analysis tool is available at <https://pro.arcgis.com/en/pro-app/tool-reference/spatial-analyst/kernel-density.htm> and <https://pro.arcgis.com/en/pro-app/tool-reference/spatial-analyst/how-kernel-density-works.htm>.

The table shows extrapolated weight of bycatch, the maps show the spatial distribution of fishing events with observed bycatch. Taken together, Table 1 and Figures 1-3 show the amount of snow crab bycatch, and where it occurred in the Federal groundfish fisheries

Table 1. Retained and discarded catch and discard mortality in the directed snow crab fishery compared to snow crab PSC usage in the BSAI nonpelagic trawl (NPT), pelagic trawl, pot, and hook and line fisheries from 2008 – 2017 within (COBLZ) and outside (NON) COBLZ. All reported in metric tons. Directed fishery catch and discards is reported in standard tons and converted to metric tons for this table by multiplying standard tons by 0.907185. Directed fishery data from ADF&G (2.21.19). Dashes indicate no catch reported.

	Directed Fishery				NPT PSC		PT PSC		Pot PSC		H&L PSC		GF Total
	COBLZ	NON	Discards	30% Discard Mortality	COBLZ	NON	COBLZ	NON	COBLZ	NON	COBLZ	NON	
2008	24,478.08	4,110.97	6580.59	1974.18	187.37	29.66	1.33	0.06	14.14	176.21	-	23.25	432.02
2009	22,350.32	4,206.62	5,131.31	1,539.39	119.23	23.88	0.28	0.07	-	136.45	-	14.15	294.06
2010	16,287.60	5,491.19	4,262.18	1,278.65	401.54	11.02	1.12	0.11	-	175.49	-	8.79	598.07
2011	16,567.92	8,045.82	4,473.98	1,342.19	166.51	6.91	1.3	0.27	0.13	41.3	-	16.9	233.32
2012	31,890.27	8,403.25	3,899.24	1,169.77	122.1	4.82	0.53	0.31	-	10.13	-	18	155.89
2013	22,008.31	8,044.01	5,565.41	1,669.62	146.69	14.06	0.47	0.05	-	6.7	-	9.79	177.76
2014	19,689.54	4,796.29	11,692.07	3,507.62	90.9	11.99	0.63	0.07	-	41.64	-	9.43	154.66
2015	11,450.49	19,639.65	16,067.39	3,920.22	74.14	1.87	0.41	0.01	-	57.44	-	7.14	141.01
2016	8,349.73	10,071.57	13,114.65	3,934.39	28.01	0.95	0.14	0.00	-	8.43	0.01	3.81	41.35
2017	5,912.12	3,871.87	4,631.60	1,389.48	26.94	1.64	0.05	0.02	-	24.42	0.01	2.15	55.23
2018	7,781.83	820.10	6,317.70	1,895.31	274.5	1.15	0.04	0.01	-	9.71	0.01	2.62	288.04