

Deep sea red crab; Tables

Table 1. Total annual mortality due to fishing (landings and mortal discard) during 2003-2005, by sex.

	Males	Females	Total
Average 2003-2005 landings (mt)	1,992	0	1,992
Discard/(total male + female catch)	0.11	0.18	0.29
Catch (mt, includes all discards)	2,238	2,429	4,667
Discard (mt)	246	2,429	2,675
Discard mortality rate (5 x best estimate)		0.5	
Mortal discard (mt)	123	1,215	1,338
Landings + mortal discard (mt)	2,115	1,215	3,330
Total biomass (mt)	56,443	74,689	131,132
90+ CW biomass (mt)	38,220	55,279	93,499
F relative to total biomass	0.04	0.02	0.03
F relative to 90+ biomass	0.06	0.02	0.04

Table 2: Biomass estimates, standard errors and CVs from deep-sea red crab camera/bottom trawl surveys. The standard errors for 1974 estimates are approximations based on the assumption that CVs for variability among samples was the same during 1974 as during 2003 to 2005. The differences in CVs between the two periods are due do differences in assumed effective sample size.

Year	Size groups (mm CW)	Males			Females			Total		
		Biomass (mt)	SE (mt)	CV	Biomass (mt)	SE (mt)	CV	Biomass (mt)	SE (mt)	CV
1974	90+ mm	29,991	6,298	0.21	15,654	3,719	0.24	45,645	7,314	0.16
	114+ mm	23,794	4,303	0.18	2,106	433	0.21	25,900	4,325	0.17
	Fishable	30,302	6,363	0.21	NA	NA	NA	NA	NA	NA
	All	32,190	5,001	0.16	20,674	5,221	0.25	52,864	7,230	0.14
2003 to 2005	90+ mm	38,220	4,298	0.11	55,279	7,033	0.13	93,499	8,242	0.09
	114+ mm	13,770	1,334	0.10	5,224	576	0.11	18,994	1,453	0.08
	Fishable	36,247	4,612	0.13	NA	NA	NA	NA	NA	NA
	All	56,443	4,646	0.08	74,689	10,102	0.14	131,132	11,119	0.08

Table 3. Summary of exploitation based BRPs as MSY or MSY proxy options.

Method	Method or model	Result	Estimate or range of estimates	Uses 1974 survey Information?	Equilibrium estimator?
1	Status quo MSY	MSY	2830 mt	Yes	No
2	Long term sustainable catch	Sustainable yield	1775 mt	No	Yes
3	Updated yield equation applied to 1974 biomass	MSY	549 - 1646 mt	No	No
4	Updated yield equation applied to 2003-2005 biomass	MSY	580 - 1740 mt	No	No
5	DCAC model	Sustainable yield	1785 - 1862 mt	Yes	Yes
6	2-point boundary model	Equilibrium catch	1987 - 2044 mt	Yes	Yes