

## **West coast rock lobster catch-at-length sample sizes**

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This document reports the samples sizes and the approximate number of samples associated with the catch-at-length data used in the assessment models for catch-at-length data as well as F% data. For the commercial trap and hoopnet data, the approximate number of samples is calculated by dividing the total sample size by 200, as this was the rough number of lobsters each sample was requested to be.

The decision that needs to be made is if any of these data should be excluded from the model fitting process due to sample size being too small?

The authors have shaded commercial trap and hoopnet data that have an approximate number of samples less than 5 (i.e. relates to less than 1000 total lobster sampled), and recommend that these data not be included in the model fitting process. These suggestions have been implemented in the operating models reported in Johnston and Butterworth (2011).

Johnston, S.J. and D.S. Butterworth. 2011. Updated west coast rock lobster operating models. FISHERIES/2011/MAR/SWG-WCRL/03. 27pp.

Table 1: Area 1+2 (hoopnets)

	Hoops	
	Total samples size	~ No. of samples
1985	25781	129
1986	19214	96
1987	13785	69
1988	7409	37
1989	15010	75
1990	19588	98
1991	17387	87
1992	14204	71
1993	23161	116
1994	27995	140
1995	17774	89
1996	10574	53
1997	12015	60
1998	7131	36
1999	0	0
2000	77	0
2001	0	0
2002	11345	57
2003	10898	54
2004	11000	55
2005	0	0
2006	?	?
2007	?	?

? refers to unknown sample sizes

Table 2: Area 3+4 CAL sample sizes.

	Traps		Hoops		FIMS	
	Total samples size	~ No. of samples	Total samples size	~ No. of samples	Total samples size	
1976	1765	9	6268	31		
1977	2493	12	3353	17		
1978	2136	11	2760	14		
1979	2935	15	2015	10		
1980	6679	33	2542	13		
1981	1537	8	3957	20		
1982	19185	96	7555	38		
1983	10282	51	5215	26		
1984	19686	98	8250	41		
1985	8559	43	6683	33		
1986	10262	51	6930	35		
1987	7952	40	3892	19		
1988	31076	155	10605	53		
1989	24583	123	7938	40		
1990	31309	157	1393	7		
1991	19562	98	525	3		
1992	4127	21	1184	6	3403	
1993	4493	22	1700	9	1116	
1994	41795	209	10517	53	1842	
1995	27254	136	5905	30	452	
1996	14196	71	18719	94	1532	
1997	3129	16	15160	76	174	
1998	8882	44	16789	84	1445	
1999	0	0	0	0	0	
2000	0	0	0	0	1447	
2001	0	0	0	0	404	
2002	9955	50	6393	32	732	
2003	0	0	21421	107	566	
2004	687	3	21801	109	324	
2005	0	0	1257	6	2158	
2006	0	0	2592	13	579	
2007	497	2	21204	106	256	
2008	0	0	13226	66	2445	
2009	0	0	0	0	15	

Table 3: Area 5+6 CAL sample sizes

	Traps		Hoops		FIMS	
	Total samples size	~ No. of samples	Total samples size	~ No. of samples	Total samples size	~ No. of samples
1976	4330	22	947	5		
1977	580	3	2082	10		
1978	2571	13	4259	21		
1979	10808	54	5116	26		
1980	1185	6	1071	5		
1981	14897	74	9563	48		
1982	14968	75	1119	6		
1983	10499	52	2609	13		
1984	9711	49	2267	11		
1985	7207	36	2126	11		
1986	20850	104	3222	16		
1987	15983	80	4616	23		
1988	11472	57	5255	26		
1989	11386	57	1922	10		
1990	13518	68	2114	11		
1991	14874	74	3536	18		
1992	3572	18	132	1	2544	
1993	17616	88	4584	23	204	
1994	10632	53	724	4	539	
1995	7994	40	5942	30	5231	
1996	10388	52	0	0	5862	
1997	8188	41	0	0	276	
1998	563	3	0	0	1752	
1999	0	0	0	0	0	
2000	0	0	0	0	373	
2001	0	0	0	0	143	
2002	227	1	3164	16	1361	
2003	0	0	1207	6	594	
2004	0	0	347	2	167	
2005	0	0	0	0	480	
2006	0	0	2463	12	256	
2007	0	0	6005	30	1520	
2008	0	0	1531	8	1155	
2009	0	0	0	0	432	

Table 4: Area 7 CAL sample sizes

	Traps		Hoops		FIMS	
	Total samples size	~ No. of samples	Total samples size	~ No. of samples	Total samples size	~ No. of samples
1976	1193	6	0	0		
1977	2392	12	0	0		
1978	2549	13	571	3		
1979	5857	29	0	0		
1980	3298	16	192	1		
1981	1372	7	0	0		
1982	0	0	0	0		
1983	10007	50	818	4		
1984	4393	22	0	0		
1985	6975	35	0	0		
1986	10601	53	0	0		
1987	8499	42	0	0		
1988	6998	35	0	0		
1989	10735	54	0	0		
1990	20602	103	0	0		
1991	12072	60	0	0		
1992	1301	7	0	0	8759	
1993	4982	25	0	0	3915	
1994	18192	91	1100	6	3196	
1995	16014	80	0	0	1217	
1996	9198	46	0	0	3005	
1997	28468	142	53	0	4284	
1998	70465	352	3065	15	7063	
1999	0	0	0	0	0	
2000	0	0	0	0	2807	
2001	152	1	0	0	12129	
2002	34687	173	0	0	9028	
2003	?	?	0	0	8210	
2004	?	?	0	0	7156	
2005	0	0	0	0	4945	
2006	51689	258	0	0	3056	
2007	26907	135	0	0	6878	
2008	83852	419	0	0	4108	
2009	0	0	0	0	3200	

Table 5: Area 8 CAL sample sizes

	Traps		Hoops		FIMS	
	Total samples size	~ No. of samples	Total samples size	~ No. of samples	Total samples size	~ No. of samples
1976	1217	6	0	0		
1977	1490	7	0	0		
1978	1760	9	0	0		
1979	0	0	0	0		
1980	2495	12	0	0		
1981	755	4	0	0		
1982	11758	59	2072	10		
1983	6902	35	154	1		
1984	7370	37	395	2		
1985	19934	100	1451	7		
1986	18829	94	2979	15		
1987	8671	43	764	4		
1988	14338	72	90	0		
1989	8962	45	312	2		
1990	14602	73	0	0		
1991	16504	83	95	0		
1992	1874	9	1061	5	26528	
1993	5955	30	0	0	29359	
1994	50250	251	279	1	31200	
1995	4211	21	696	3	33273	
1996	5477	27	2759	14	30740	
1997	2274	11	198	1	34535	
1998	1	0	0	0	37998	
1999	0	0	0	0	0	
2000	0	0	0	0	32932	
2001	367	2	0	0	35285	
2002	29067	145	0	0	30462	
2003	?	?	?	?	32576	
2004	?	?	?	?	32736	
2005	0	0	0	0	28430	
2006	20156	101	38538	193	23257	
2007	7032	35	18619	93	28792	
2008	17037	85	19341	97	30706	
2009	0	0	0	0	31323	