

Available Age and Length Composition Data for the Nine Data-Moderate Stocks Assessed in 2013

Brown Rockfish

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1974		2	1987			2000		
1975		14	1988			2001	23	
1976		3	1989			2002	47	
1977	114	508	1990			2003		
1978		458	1991			2004	4	
1979		60	1992			2005		
1980	25	398	1993			2006		
1981	1	132	1994			2007	19	
1982		223	1995			2008	1	
1983	7	137	1996			2009	16	
1984	2	350	1997			TOTAL	293	2439
1985	34	154	1998					
1986			1999					

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
1978								1		3	2	8	9	4	5	5	5		
1980													2	2	2	3	5	5	1
1981													1		2	1	5	1	
1982										2	3	2	1	4	3	2			
1983										1	1	1		3					
1984							1	1	3	4	3	1		2					
1985								1	1	2			1	1	2	2	1		
1986												1		1					
1988							1												
1990							1												
1991				1	1	3	8	3	7	14	3	5	3	1		1	1		
1992			16	115	214	280	288	247	253	163	115	86	36	14	12	7	5	1	
1993			6	26	55	77	70	67	69	54	33	6	10	13	9	8	5	5	2
1994		3	31	110	81	76	57	63	51	48	54	30	10	5	3		1		
1995	1		5	17	44	77	74	35	39	35	38	20	15	3	3				
1996	1	1	4	42	85	143	141	132	135	85	38	23	10	5	4				
1997		19	53	59	125	179	159	132	107	104	72	40	29	23	9	4	1		
1998			1	2	8	32	24	21	13	13	9	3	3	3	1				
1999			1	8	37	67	119	178	146	146	143	82	40	33	17	16	2	1	
2000				2	11	59	80	90	93	97	79	47	27	8	5	2	1		
2001				2	7	48	65	108	150	169	136	99	63	31	7	4	1	1	
2002						15	28	42	51	52	50	49	37	23	7	3	1		
2003						5	13	9	12	17	13	5	5	2					
2004						6	4	5	11	18	15	9	1	3	2	1			
2005						1	3	4	10	7	12	9	7	4	3				
2006						2	2			1	1	1							
2007				2	1	4	12	9	7	7	2	4	1						
2008				1			2	3	5	6	2	4	1			2		1	
2009						6	6	20	16	29	30	13	12	14	6	1	1		1
2010					2	15	53	74	77	73	70	48	30	18	4	1			
2011					1	1	11	46	48	43	41	15	14	14	5	2	3		
2012						5	7	26	28	37	43	31	18	6	2				

Recreational

Year	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
1978										1	4	8	20	20	28	20	29	42	26	28	11	3	3	4	
1979									1	1	5	13	15	20	23	27	30	22	9	6	5	3		1	
1980									1	3	3	3	11	15	25	25	44	21	28	17	6	6	2		
1981										2	1	4	3	9	13	4	11	12	6	6	5	2			
1982											3	1	18	21	14	21	17	17	9	8	5	4	1	1	
1983								1			3	6	17	20	20	22	20	5	11	5	4	1	1		
1984										1	2	3	10	26	39	27	25	29	22	19	8	4		2	
1993			1	3	12	12	24	26	27	30	38	48	55	62	41	23	17	14	9	3					
1994						2	3	11	12	15	20	24	24	18	16	10	3	7	3	1	1			1	
1995					1	1	5	6	9	25	32	32	30	31	20	15	13	2	3	1	1				
1996					2	5	7	22	46	40	64	56	72	55	51	27	13	9		1	1				
1997					1	1	5	8	21	19	19	27	30	18	20	8	6	1							
1998					2		2	5	11	12	29	42	56	44	21	14	9	6	1						
1999							4	5	17	51	67	126	161	192	108	60	20	5	4	2		1			
2000			1			1	2	5	12	12	32	29	51	63	65	55	24	7	7	3					
2001							4	25	16	32	34	45	75	67	88	83	47	24	4	6	3				
2002								11	24	34	67	85	81	69	77	70	31	22	9	5	6				
2003		1	1	1	2	1	6	14	27	56	82	90	137	180	246	269	161	112	48	25	10				
2004				2	6	6	8	14	39	92	123	160	219	207	221	218	193	130	66	26	13	5		1	
2005	1	1		1	2	19	29	89	135	170	228	342	421	393	427	507	458	246	155	50	22	5	2	1	
2006					2	6	27	105	219	290	415	520	661	686	589	442	332	189	99	49	25	17	2	2	1
2007						3	11	47	107	219	351	536	649	591	542	411	277	154	85	45	22	7	1	4	
2008					1	11	32	71	141	216	302	419	532	652	624	471	277	127	71	45	27	11	7	2	1
2009				2	5	25	43	76	103	148	249	403	634	715	717	565	393	226	116	34	21	4	1	4	
2010		2	4	18	18	26	53	154	153	215	327	435	537	646	688	602	384	196	70	36	16	5	5		1
2011		2	5	20	14	17	29	99	177	268	411	537	600	539	515	422	316	162	87	34	13	11	2	3	3
2012			4	18	8	15	27	91	151	293	479	565	564	389	325	259	222	144	54	39	19	8	4	1	2

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, northern and central California (Fort Bragg to Morro Bay) data.

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	Total
1987						2	1		1				1							5
1988			2	16	39	70	90	83	103	86	70	49	42	10	10	4	4			678
1989			1	3	12	33	66	94	124	118	99	75	57	46	22	18	3	3	3	777
1990				2	3	8	22	40	39	36	26	20	14	7	4	1	1			223
1991		2	2	10	31	48	62	81	99	55	67	45	31	22	13	3		2		573
1992			2	5	16	30	42	73	58	60	41	35	14	8	5	2				391
1993			2	11	15	24	29	46	53	54	43	18	9	5	1					310
1994			4	11	19	32	49	55	42	39	32	28	17	14	7	4		2		355
1995		1	3	17	22	46	67	108	83	112	109	115	69	46	31	9	6	2		846
1996	1	3	8	12	18	36	60	92	95	77	84	51	31	14	6	2	1			591
1997			10	19	50	63	99	102	91	81	51	24	13	4	3					610
1998				8	21	45	103	134	158	161	112	72	27	20	3	3	1			868
Total	1	6	34	114	246	435	691	909	945	880	734	532	324	197	105	46	16	9	3	6227

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, southern California data.

Year	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	Total
1975		1	5	13	17	41	45	40	37	30	37	25	22	54	60	56	36	27	11	11			569
1976			1	14	23	46	52	82	90	88	62	43	43	43	30	33	24	18	3	4	1		700
1977		5	5	23	44	50	84	82	87	96	109	69	63	52	44	20	19	10	2	1	1	1	867
1978	1	2	13	20	13	25	21	19	23	32	35	13	10	10	10	3	3	6	1				260
1986				5	10	21	19	22	28	20	15	8	9	1	2			1					161
1987			1		1	19	36	42	15	18	25	15	14	4	1			1	1				193
1988				1	10	27	35	43	35	28	29	20	8	7	7	1	4	3	2				260
1989				3	5	17	37	53	71	69	38	18	9	2	2	1	1						326
Total	1	8	25	79	123	246	329	383	386	381	350	211	178	173	156	114	87	66	20	16	2	1	3335

Oregon Data

Nearshore research otoliths by year and 2-cm length bins (none aged).

Year	Aged?	No length	18	20	22	24	26
2001	no		1				1

Recreational otoliths by year and 2-cm length bins (some aged), 2011 and 2012 data are preliminary.

Year	Aged?	24	26	28	30	32	34	36	38	40	42	44	46	48	50
2005	no							1							1
2006	yes				90										
2007	no	1													
2007	yes		5												
2008	no		7								1	2			
2009	no											1			
2010	no									1					
2011	no		1											1	2
2012	no		1										1		
2012	yes			41											

Recreational length frequencies by 2-cm length bins.

Year	36	40	42	44	46	48	50
2005	1						1
2008			1	2			1
2009				1			
2010		1					
2011						1	
2012					1		

Washington Data

Commercial otoliths (none aged).

Year	20	22	24	26	28	30
1976	11	27	58	63	16	2

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
1976	11	27	58	63	16	2											
1982				2	4	7	13	15	11	12	4	4	2	1		1	
1983	3	10	27	42	35	14	23	30	28	30	16	17	7	4	3	3	2
1988					2			2				1					
1989					2			2				1					
1991			1	1	3		1										

Recreational

Year	16	20	22	24	26	28	30	32	34	36	38	40
1993	1		2	2		1	2					
1994					2	7	4	5	1	1	5	1
1995				1	1							
2011												1
2012												1

NWFSC Hook-&-Line Survey Data

Lengths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
28-29						1				1
30-31	1			1	1	1				4
32-33									1	1
34-35									1	1
36-37								1		1
38-39		1					1	1		3
40-41				1				1	1	3
42-43										0
44-45		2								2
Totals	1	3	0	2	1	2	1	3	3	16

Otoliths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
28-29						1				1
30-31	1			1		1				3
32-33									1	1
34-35									1	1
36-37								1		1
38-39		1					1	1		3
40-41				1				1	1	3
42-43										0
44-45		2								2
Totals	1	3	0	2	0	2	1	3	3	15

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

2003-2012 Total Numbers divided by 10 of:					2005-2012 Total numbers of:		
Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
5	22	13	13				

AFSC Triennial Survey, 1980-2004 (average 1980-2004 numbers: total divided by nine years).

Tows > 0	Lengths	Weights	Age Structures	Age reads
4	6			

China Rockfish

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1977		28	1995		
1978		26	1996		
1979		1	1997		
1980	5	28	1998		
1981	3	9	1999		
1982		15	2000		
1983	9	2	2001		
1984	2	7	2002		
1985	1	3	2003		
1986		2	2004		
1987			2005		
1988			2006		
1989			2007		
1990			2008		
1991			2009	1	
1992			2010	1	
1993			TOTAL	22	121
1994					

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	66
1985															2			
1991							1		1									
1992			1	9	13	41	40	86	69	26	23	4	1					1
1993				2	12	25	28	30	25	21	16	11	14	1				
1994	1		4	7	30	50	73	73	47	28	14	9	3	1			1	
1995				3	10	24	32	17	24	13	6	5	4	3	1			
1996			1	6	18	28	31	31	17	13	12	7	5	4				
1997				2	5	19	48	48	28	14	11	2	4					
1998		1		3	10	9	8	6	7	2	1							
1999						3	18	49	77	71	62	30	11	3				
2000							1	31	45	33	26	10	4	1		1		
2001							3	39	43	35	24	13	6		1			
2002							1	23	26	26	15	3	1		2			
2003								1	10	10	5							
2004						1		10	12	28	34	9	1					
2005						1	4	17	38	32	7	4						
2006						1	2	9	16	16	17	8	4					
2007							3	34	60	67	54	23	5	1				
2008							2	8	37	61	56	18	4			1		
2009							5	24	54	72	32	21	1					
2010							1	10	32	39	28	15	4					
2011								13	4	1								
2012								8	4		1							

Recreational

Year	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
1978									3	2	3	8	5	3			1
1979								2	1		6	6	4	1		2	1
1980									2	2	6	11	10	8	4		1
1981										1	5	2	2	1			
1982								1	1		1	4	1	4	3	2	
1983											3	5	3	3	1	1	
1984									1	3		3	3		1		1
1993						2	5	7	23	38	26	13	19	4	5		
1994							4	7	29	41	34	24	17	8	5		
1995							2	6	11	22	21	11	11	5	1		
1996						3	6	9	29	56	58	28	15	8	5		
1997							2		1	4	4	6					
1998								4	6	12	10	6	2	3	1	3	3
1999						4	2	6	14	29	36	30	20	16	4	4	2
2000							3	6	10	16	16	18	29	5	1	5	1
2001							2	12	11	24	19	14	6	2		2	
2002						1	2	13	30	44	49	25	4	7	2	1	
2003							7	16	55	76	75	49	13	7		1	
2004						6	8	25	60	91	132	83	31	13	10	3	1
2005						6	11	36	72	155	209	144	60	17	16	3	3
2006					1	2	6	42	104	187	252	195	81	46	17	5	1
2007						1	25	38	107	204	250	228	122	47	30	10	
2008						6	15	62	157	275	364	260	153	73	38	11	3
2009	1					4	26	84	192	364	379	292	135	73	26	13	
2010					2	7	23	69	182	310	338	201	89	29	25	8	5
2011					1	20	32	96	180	323	381	172	120	45	19	2	2
2012						4	12	58	121	248	269	149	77	64	43	20	2

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, northern and central California (Fort Bragg to Morro Bay) data.

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	Total
1987				4	1	2	3	3	2						15
1988	1	1	11	7	43	74	106	109	49	25	10	7	6		449
1989		1	5	17	35	70	66	73	43	20	18	9	3		360
1990				7	6	27	33	24	6	6	6	3	1		119
1991		1		1	4	24	55	32	13	5	3				138
1992			1	2	16	40	35	22	14	5	1	1			137
1993			2	9	27	44	50	37	28	12		1		1	211
1994			2	8	24	60	49	51	27	5	8	2			236
1995			5	7	26	50	58	30	18	14	2	2			212
1996			6	10	21	64	86	72	41	10	3	1			314
1997			3	7	21	40	65	45	29	8	6	3			227
1998			1	1	16	24	33	19	7	1	1	1	1	1	106
Total	1	3	36	80	240	519	639	517	277	111	58	30	11	2	2524

Oregon Data

Commercial otoliths by year and 2-cm length bins (some aged), 2011 and 2012 data are preliminary.

Year	Aged?	No length	< 30	30	32	34	36	38	40+
1995	no		9	30	20	23	14	5	1
1996	no		11	23	34	25	15	8	2
1998	no		4	19	44	39	20	9	3
1999	no		10	36	40	16	15	9	4
2000	no		20	236	287	323	219	110	37
2001	no		5	360	566	549	338	133	40
2001	yes		1	12	11	17	12	6	4
2002	no		5	216	394	392	302	124	40
2002	yes	2		13	38	30	24	11	3
2003	no		1	139	234	206	144	65	24
2003	yes		2	20	48	48	39	17	7
2004	no		3	109	196	181	114	28	15
2004	yes			9	13	17	9	6	1
2005	no			28	47	55	44	20	9
2005	yes			2	2	3	1	4	2
2006	no		3	39	75	118	94	55	25
2006	yes			1	8	10	6	4	
2007	no		4	48	149	193	198	108	24
2008	no			28	64	118	83	56	27
2009	no		2	37	99	131	89	51	21
2010	no		3	48	104	175	130	49	20
2011	no		4	64	199	283	279	123	45

Recreational otoliths by year and 2-cm length bins (some aged), 2011 and 2012 data are preliminary.

Year	Aged?	No length	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
2005	no					161	1	53											
2005	yes	1				23	355	380	315	105	30	7	2		1			1	1
2007	no		1																
2008	no		1																
2009	no	1		1															
2010	no	1		1															
2011	no		1	5															
2012	no			1															

Recreational length frequencies by 2-cm length bins.

Year	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
2005					5	15	20	12	2	2								
2006		1	5	13	19	41	60	34	12	5							1	
2007	1	4	5	15	31	59	92	36	16	4		1						
2008		4	10	13	25	68	75	51	16	5	1			1				
2009		3	9	19	21	36	43	35	13	3								
2010			2	8	14	36	41	47	19	4	3							
2011		1	7	14	36	51	69	43	9	3	2	1						1
2012		1	3	8	33	50	52	57	18	4	1							

Nearshore research otoliths by year and 2-cm length bins, 2011 and 2012 data are preliminary.

Year	Aged?	24	26	28	30	32	34	36	38	40	42	44	46
1998	yes					1							
1999	yes				1	1	6	2	2				
2000	yes	1				1		3				1	
2001	yes	1		1	1	2	3	1		2			2

Washington Data

Recreational otoliths by year and 2-cm length bins (some aged).

Year	Aged?	<14	20	22	24	26	28	30	32	34	36	38	40	42
1998	yes						5	6	19	13	7			
1999	no				1		8	26	39	33	13	2		
1999	yes					2	2	10	25	11	4	1		
2000	yes					2	5	10	13	20	3	2		
2001	no							3	5	3			1	
2001	yes				1	1	2	7	6	6	1	1	1	
2002	yes						1	2	8					
2004	no							4		1	1			
2004	yes			1		3	5	30	48	46	20	14	2	
2005	no								1	2				
2005	yes			2		1	12	31	60	60	22	15	3	
2006	yes	1					5	12	33	25	8	4	1	
2007	yes					2	3	10	33	46	15	9	1	
2008	yes				1	2	3	7	24	28	7		1	
2009	yes						1	6	10	4				1
2010	yes		1					2	8	7	3		1	
2011	yes							4	16	19	7	4		
2012	no								1					
2012	yes							2	8	7	5	2		

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	38	40
1980	2	1

Recreational

Year	<14	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	52	>54
1993							2	2	4									
1998						5	6	19	13	7								
1999				1	2	10	36	64	44	17	3							
2000					2	5	10	13	20	3	2							
2001				1	1	2	10	11	9	1	1	2						
2002						3	6	24	5	12	9	8	2					
2003						3	11	13	9	6	8	8	1		1			
2004			1	1	4	9	38	58	63	27	18	4						
2005			2	1	1	16	50	110	107	44	27	5						
2006	1			1	1	11	39	87	85	32	15	4						2
2007					2	5	23	49	61	38	23	6	3	1	2	2		
2008				3	3	8	19	39	47	15	4	3	1					
2009		1			1	8	15	30	23	17	7	4	4	3	3	2		
2010		2				1	6	14	18	12	13	10			1	1		
2011				1	1	2	12	36	48	43	26	11	2					
2012					2		3	16	14	14	15	9	2				1	

Copper Rockfish

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1975		88	1992		
1976		273	1993		
1977		380	1994		
1978		345	1995		
1979		42	1996		
1980	14	192	1997		
1981		76	1998		
1982	7	133	1999		
1983	12	75	2000		
1984	28	66	2001		
1985	23	13	2002		
1986	2	5	2003	1	
1987	1		2004	6	
1988			2005		
1989			2006		
1990			2007	5	
1991			TOTAL	99	1688

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	62	
1978										2													
1979														6	9	5	5	1					
1980						1	1	1	3		3	3	6	5	2	3	4	2					
1981											1		1		1	1							
1982											1				1	1		2	1				
1983										3	1	2		1	5		2	1					
1984								1	1	1	2	4	6	4	2	9	8	4	1				
1985						1	1	1	1	3	2	3	5	1	5	3	2						
1986							1				7	4	4	6	3	7	2	1	1				
1987					1		1		2	3	3	1	4	3		4							
1988							1	1	1		2	4	2	5	4	3	3		1				
1989								2	2	1	1	3	4	3	5	3							
1990													2										
1991					1		1	8	12	10	16	19	14	13	12	15	4	1					
1992			1	4	6	17	39	53	64	65	90	70	71	34	38	32	43	26	7	2	1	1	
1993	1	6	19	17	34	29	45	61	61	69	79	91	80	55	62	52	25	16	6				
1994		1	6	17	16	21	25	20	16	17	27	35	38	26	32	29	19	4	5				
1995	1		4	12	14	19	39	42	41	42	44	41	24	35	38	24	13	9	7	1			
1996			4	7	17	21	26	41	52	48	53	48	54	41	21	22	13	5	6				
1997		1		3	7	14	40	42	66	62	72	67	49	44	23	23	7	4	1				
1998				2	12	24	32	65	73	78	94	75	68	20	22	10	3	1					
1999			1	4	12	20	36	35	46	52	66	41	70	47	55	35	25	10	3	6	3		
2000					4	9	6	8	5	8	8	7	14	3	6	5	7		1				
2001				1	6	2	9	20	17	24	31	26	16	21	24	27	15	4	2				
2002				1	1	2	4	6	11	5	11	16	8	3	6		1		1				
2003				1			4	8	17	12	13	8	2	14	5	4	2						
2004								1	3		3		5		6	11	3	4					
2005												6	3	2	4	2	1	1					
2006							2	1	1	5	3	3	1	1	1		1						
2007				1	2		2	1	3	5	6	7	6	17	14	6	4						
2008					1	3	3	5	1		5	8	9	6	14	5	4	3	4	1			
2009					2	2	5	5	7	7	3	9	6	2	1	3							
2010					2	8	10	8	8	12	9	8	9	4	3		1	1					
2011				2	10	16	10	10	5	4	4	1		1	3				1				
2012				3	8	15	17	10	6	3	2	3	2	2	1			1					

Recreational

Year	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
1978									1	1	2	4	12	10	19	24	35	48	62	45	37	29	8	5		1	1
1979											3	1	7	3	19	27	13	21	35	35	33	21	9	4	2		1
1980											1		7	14	9	11	21	16	23	37	34	11	10	3	1	1	
1981									1	1	1	2		7	4	4	4	4	8	18	10	18	8	2			
1982											1	1	2	7	10	10	12	21	14	27	21	15	5	2			
1983									1					4	4	9	9	11	16	9	21	8	3	2	1		
1984									1				4	2	2	8	6	4	15	17	10	18	11	3		1	
1993					6	7	7	22	35	43	54	56	38	32	21	25	19	25	11	7	12	4	8	1	1		
1994							1	3	6	27	41	34	33	23	18	19	26	16	10	15	10	2	2	1			
1995								3	8	15	27	26	28	20	17	12	15	4	11	6		1					
1996							3	7	24	22	28	44	49	44	29	40	28	25	21	20	8	3	2	4	1		
1997						1			2	1	10	10	9	2	1		4	2	2	3							
1998							2	8	14	13	18	21	27	29	25	22	21	17	8	5	1	2					
1999						2	1	5	10	41	53	68	90	80	58	59	57	41	39	17	12	4	3				
2000										6	14	25	31	40	29	28	43	33	20	9	3	1					
2001							3	1	6	2	8	9	13	19	23	27	16	15	4	7	2						
2002								3	10	25	14	24	28	28	17	27	14	12	13	6	3	1			1		
2003							1	2	8	13	31	61	67	60	54	50	43	38	17	14	11	1	2	3			
2004							1	4	10	22	50	106	119	123	105	87	94	69	59	38	35	17	8	3		1	
2005						5	22	33	31	84	99	150	171	201	213	203	246	173	146	111	49	28	12	4	6		
2006				1	2	6	54	110	178	228	265	229	284	276	292	289	233	192	139	77	39	13	9	8	1		
2007					1	5	37	84	187	293	342	349	317	318	385	373	345	273	190	101	56	24	10	2	1		
2008				1	2	1	7	27	75	130	279	382	437	385	329	266	268	240	170	111	76	47	23	8	5		
2009						2	10	29	54	75	143	224	306	337	311	276	256	247	176	115	96	53	16	7	4	1	
2010				1	1	2	25	76	125	152	164	167	243	229	190	221	186	142	101	51	23	14	4	3	2		
2011				1		3	8	46	89	178	237	325	331	295	302	234	250	181	135	89	57	30	10	7	3	1	1
2012	1		1	1		5	16	63	132	241	366	531	555	444	311	267	233	223	165	109	62	41	25	5	2	2	

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, northern and central California (Fort Bragg to Morro Bay) data.

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	Total	
1987					1		1	2	1	2	3	4	4	1	4	1	2							26
1988				14	43	25	43	26	27	60	64	46	54	45	42	23	21	12	3	1	1	1		551
1989			4	6	29	39	59	75	76	88	86	82	67	47	53	44	37	23	8	1				824
1990		1	2	5	4	8	25	29	49	46	40	39	37	29	26	21	9	5	2	1				378
1991				2	8	17	13	25	22	38	29	32	31	20	14	13	4	2	1		1			272
1992			3	4	7	13	29	56	64	104	100	99	91	72	46	25	11	8	2	1				735
1993		1	2	5	11	23	34	67	82	113	158	141	123	69	54	40	25	17	8	3	1			977
1994		1		9	14	16	39	41	42	53	61	70	59	43	46	13	11	9	2		1			530
1995		1		7	13	34	76	47	121	100	90	73	87	44	15	12	4	2	2					728
1996	1	3	3	6	15	30	43	55	58	56	61	61	65	28	21	7	1	3	3					520
1997			4	10	24	33	43	48	51	62	77	74	44	38	21	17	4	2	1	1				554
1998				7	15	20	26	22	27	29	29	33	22	7	9	4	2							252
Total	1	7	18	75	184	258	431	493	620	751	798	754	684	443	351	220	131	83	32	8	4	1		6347

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, southern California data.

Year	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	Total	
1975					2	3	1	4	2	4	2	4	2		3		1									28
1977					1	1	1	1				1														5
1978	1		4	2	9	19	34	25	26	37	34	70	110	142	105	80	37	9	8	3						755
1986			4	14	16	26	29	20	24	18	31	29	27	36	21	16	10	11	1	4	2	2		1		342
1987		2	15	52	62	65	70	50	45	35	62	59	53	87	80	60	52	35	17	6						907
1988			4	18	26	50	69	74	60	39	26	21	24	29	26	11	9	8	7	4	5					510
1989	1	1	1	11	17	52	104	142	131	105	77	68	63	57	43	37	23	12	6	7	2					960
Total	2	3	28	97	133	216	308	316	288	238	232	252	279	351	278	204	132	75	39	24	9	2	0	1		3507

Oregon Data

Commercial otoliths by year and 2-cm length bins (none aged)

Year	< 36	36	38	40	42	44	46	48	50	52+
1999	2			2			2	2	2	
2000	11	11	10	10	5	5	6	8	11	8
2001	27	9	6	10	5	7	11	6	10	1
2002	5	4	3	1	4	3	2	1	2	3
2003	4	4	2	4	4	4	9	3	4	2
2004	4	3	4	6	3	9	5	4	11	4
2005	1		2	2	2	1	2	1		
2006		1	1	7	6	13	7	3	2	1
2007	4	2	2	2	3	7	6	3	1	2
2008		1		5	2	6	5			
2009	2	1	1	2	1	2	3	3		
2010	2	4	4	4	8	8	6	2	2	2
2011	8	6	8	6	10	10	15	8	7	2

Recreational otoliths by year and 2-cm length bins (some aged), 2011 and 2012 data are preliminary.

Year	Aged?	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
2005	no		1														
2006	no	1															
2006	yes		31	56	70	97	146	174	213	230	249	166	67	33	6	4	2
2007	no	1															
2007	yes	1															
2010	no		2	8	10	18	1										
2010	yes		2	2	2	13	56										
2011	no	1															
2012	no	1															
2012	yes		1														

Recreational length frequencies by 2-cm length bins.

Year	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
2005			1	1	3	3	6	8	17	8	7	3			1		
2006			2	3	3	4	10	13	29	29	28	20	5	1	2	1	
2007	2	2	3	9	1	6	14	24	30	34	31	21	5	5	1		1
2008	1	3	7	15	12	10	10	21	22	40	42	18	9	6		1	
2009		2	4	9	15	20	18	9	13	21	24	14	6		1		
2010		1	7	8	11	19	34	39	32	29	44	30	12	6		1	1
2011	1		3	9	15	16	26	24	33	31	32	27	13	4	1	1	
2012		1	5	2	10	19	28	36	37	38	41	33	17	11			

Nearshore research otoliths by year and 2-cm length bins (none aged), 2011 and 2012 data are preliminary.

Year	Aged?	No Length	26	28	30	32	34	36	38	40	42	44
1998	no	1										
1999	no		1			1	2	1				
2000	no				1		1	1				1

Washington Data

Recreational otoliths by year and 2-cm length bins (some aged).

Year	Aged?	22	24	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1998	yes				2	5	6	8	9	9	2	2	3				
1999	yes	1	1	9	11	14	20	18	16	16	14	10	6				
2000	yes			1	5	6	7	2	2	2	1						
2001	no																1
2001	yes					2	5	6	8	1	3	3	3	1			
2002	yes			1	1	1	4	5	4	1	2						
2004	yes			2	12	21	20	17	34	24	29	17	9	3			
2005	no			1	3	3	5	7	8	4	15	8	5	1			
2005	yes			2	4	8	18	22	38	25	17	17	8	4	1	1	1
2006	yes			2	1	3	10	11	12	9	6	6	3	1			1
2007	yes				5	10	4	11	20	16	10	6	3	1			
2008	yes		1		2	5	9	7	15	5	9	7	5				
2009	yes			1		2	5	6	6	5	3	5	1		1		
2010	yes					1	1	1	2	5	5	5	1	3			
2011	yes					1	3	5		5	1	6	5	1			
2012	yes				1		1	4	5	5	5	5	7	1		1	

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54	
1979	2	1	5	5	6	4	4	2														
1982									5	4	3	2	3	8	2	5	4	3		1		
1983					2		4	2	3	1		1	1	1								
1988							1			1												
1989						2	8	14	25	23	26	18	13	7	1	5						
1990								1	1	3	7	11	7	13	15	16	10	6	5	4	1	
1991									3	1	2	6	2	2	2	3	2					
2004												1										
2006														1	1	1						1

Recreational

Year	<14	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1993			2	4	8	16	17	21	16	10	16	11	5	2		1			
1994								1	1	2	4	5			1				
1995				3	4	5	2	5	5	7	5	1	1						
1998							2	5	6	8	9	9	2	2	3				
1999			1	1		9	11	14	20	18	16	16	14	10	6				
2000						1	5	6	7	2	2	2	1						
2001								2	5	6	8	1	3	3	3	1			1
2002						1	4	6	10	15	19	15	6	2	1	3		1	
2003				1		1	1	5	3	13	11	4	2	2	3				
2004						2	13	23	31	25	41	31	31	23	14	8	1	1	
2005						4	7	18	49	55	80	63	76	51	22	11	3	3	1
2006					1	4	2	7	20	24	28	22	24	24	11	1			1
2007		1				1	8	13	8	14	26	26	20	18	11	5	1		
2008				1			5	8	10	8	17	11	13	11	7				
2009						1		4	12	14	13	10	4	8	2	1	1	1	
2010								1	1	2	7	11	9	9	8	7	2		
2011	1					1	1	1	8	13	11	13	13	16	23	12	8	5	2
2012							2	1	2	6	9	12	14	12	12	4	3	1	1

NWFSC Hook-&-Line Survey Data

Lengths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
20-21						1	1			2
22-23					1			2		3
24-25								2	1	3
26-27			2		1	2	1	2	1	9
28-29	1		1	2	4	2		2	3	15
30-31		2	2	4	2	1	2		6	19
32-33		5	4	2	5	6	1	3	6	32
34-35	3	5	7	7	6	5	1	4	7	45
36-37	4	7	11	11	9	19	6	11	7	85
38-39	4	10	8	12	5	23	4	9	4	79
40-41	5	7	10	14	18	17	3	7	9	90
42-43	7	10	8	10	10	8	2	8	10	73
44-45	6	17	4	9	4	9	2	3	5	59
46-47	2	2		3	2	10	1	2	2	24
48-49	1	4	2	2	1	1			2	13
50-51		1						1		2
52-53				1						1
Totals	33	70	59	77	68	104	24	56	63	554

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
8	48	32	32				

AFSC Triennial Survey, 1980-2004 (average 1980-2004 numbers: total divided by nine years).

Tows > 0	Lengths	Weights	Age Structures	Age reads
4	12			

Otoliths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
20-21						1	1			2
22-23					1			1		2
24-25								1		1
26-27			2		1	2		2	1	8
28-29	1		1	2	4	2		2	3	15
30-31		2	2	4	2	1	2		6	19
32-33		5	4	2	5	4	1	3	6	30
34-35	3	5	7	7	6	5	1	4	7	45
36-37	4	6	11	11	9	18	6	11	7	83
38-39	4	10	8	11	5	23	4	8	4	77
40-41	5	7	10	14	18	17	3	7	9	90
42-43	7	10	8	10	10	8	2	8	10	73
44-45	6	17	4	9	4	9	2	3	5	59
46-47	2	2		3	2	10	1	2	2	24
48-49	1	4	2	2	1	1			2	13
50-51		1						1		2
52-53				1						1
Totals	33	69	59	76	68	101	23	53	62	544

English Sole

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1966	3911		1978	2102		2001		
1967	5848		1979	900		2002		
1968	7267		1980	4065		2003	74	
1969			1981	2510		2004	56	
1970	4522		1982	2446		2005	280	
1971			1983	1047		2006	60	
1972	2428		1984	1100		2007		
1973	2598		1985	1975		2008	187	
1974	500		1986	775		2009	35	
1975	644		1987	899		2010	10	
1976	625		1988	125		2011	8	
1977	3586		1989	25		TOTAL	50608	0

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
1978									2									
1979						1		1										
1980										1								
1982									1									
1991						1	6	17	11	9	7	7	3	1				
2001	12	24	12	15	2	4	14	39	46	32	22	8	3	1				
2002							3	18	26	24	25	12	7		1			
2003			1	11	11	10	40	132	198	147	55	13	7	5				
2004				2	3	7	35	142	279	273	161	64	18	8				
2005						2	28	147	334	324	232	90	29	4	2	2	1	2
2006				2	5	10	44	130	354	495	465	282	103	28	3	1		
2007				7		4	37	169	409	569	379	193	72	18	4			
2008				2	1	9	45	238	492	466	376	196	76	24	2			
2009					2	10	60	202	350	351	268	164	78	17	3	2		
2010		1	2	2	7	23	82	157	258	187	120	61	32	7	3	2		
2011			1		3	4	51	60	70	44	30	22	9	7	1			
2012					5	24	105	159	211	192	104	49	25	3				

Recreational

None.

Oregon Data

Commercial otoliths by year and 2-cm length bins (some aged)

Year	Aged?	No length	< 30	30	32	34	36	38	40	42+
1966	no			14	40	48	51	28	14	9
1966	yes		13	71	288	419	293	180	82	52
1967	no		6	19	16	19	11	15	7	8
1967	yes		25	98	250	461	513	389	178	85
1968	no			1	4	20	14	10	2	1
1968	yes		18	88	330	523	515	406	214	137
1969	no			1		1	4			
1969	yes		49	199	423	512	497	333	207	124
1970	no			4	4	9	16	5	9	6
1970	yes		55	293	498	559	479	309	191	127
1971	no	1						1		
1971	yes	1201	11	27	50	119	89	51	28	24
1972	no		1	4	9	5	1	1		1
1972	yes	1	27	139	337	412	294	167	88	92
1973	no	1		1			2			
1973	yes		18	122	357	329	260	121	59	30
1974	no		4	5	33	39	14	7	3	2
1974	yes		36	57	162	204	208	112	53	48
1975	no			5	52	54	45	37	6	2
1975	yes		54	97	246	275	199	117	74	35
1977	no		7	38	100	118	95	38	19	11
1977	yes		114	202	376	397	335	230	116	72
1978	no		5	21	37	42	15	7	3	3
1978	yes		90	290	476	446	370	245	113	54
1979	no	9	5	34	113	113	83	45	12	11
1979	yes		23	145	251	275	191	120	51	29
1980	yes		107	465	623	590	385	216	124	103
1981	no		45	69	42	31	29	15	14	35
1981	yes		208	698	888	831	574	318	147	62
1982	no		93	79	24	9		1		70
1982	yes		263	682	901	798	459	247	92	62
1983	no		20	47	29	11	3			
1983	yes		96	273	378	304	208	90	47	23
1984	no		22	20	6	1				
1984	yes		58	137	189	126	76	44	24	7
1985	no		40	16	5	1				
1985	yes		139	247	276	194	129	40	14	12
1986	no		78	209	196	118	69	25	10	1

Year	Aged?	No length	< 30	30	32	34	36	38	40	42+
1986	yes		54	126	111	66	33	12	1	1
1987	no		77	72	79	59	36	26	9	6
1987	yes		241	287	298	232	90	31	12	3
1988	no		19	82	87	52	27	13	6	
1988	yes		63	156	206	126	70	28	11	8
1989	no		18	14	39	37	20	4	4	
1989	yes		63	292	370	233	137	50	16	4
1990	no		1			1				
1990	yes		71	230	326	252	130	28	10	
1991	no			1	1		1			
1991	yes		39	173	335	245	101	34	12	7
1992	yes		70	220	274	160	53	19	7	
1993	no		31	133	231	182	75	26	11	7
1993	yes		9	43	51	29	12	4	1	
1994	yes		72	228	253	158	82	34	3	8
1995	no		1		2					
1995	yes		90	165	138	103	47	21	12	8
1996	no		3	43	65	32	8	2	1	
1996	yes		120	210	193	130	44	5	5	2
1997	no		52	103	125	102	44	14	5	3
1997	yes		259	557	515	251	95	29	11	5
1998	no		215	418	383	186	67	16	6	4
1998	yes		55	142	138	68	38	12	4	4
1999	no		295	451	472	293	168	67	20	9
2000	no		188	402	457	247	115	39	11	10
2001	no		214	481	718	469	213	78	25	14
2001	yes		16	50	63	42	21	7	1	
2002	no		316	490	651	498	222	96	38	21
2002	yes		11	47	65	46	25	5	2	
2003	no		97	272	415	360	155	59	20	3
2003	yes		6	44	79	45	26	2	1	5
2004	no		67	218	395	333	191	62	21	6
2004	yes		2	27	69	48	40	13	4	
2005	no		105	365	526	407	215	89	31	13
2005	yes		15	44	54	47	29	12	1	1
2006	no		270	434	610	522	273	112	29	11
2007	no		54	118	237	281	203	129	47	10
2008	no		19	92	153	242	210	87	30	7
2009	no		62	136	242	255	202	98	42	8
2010	no	1	74	165	284	334	312	137	52	21

Year	Aged?	No length	< 30	30	32	34	36	38	40	42+
2011	no		98	147	204	190	167	77	41	66

Washington Data

Commercial otoliths by year and 2-cm length bins (some aged).

Year	Aged?	<14	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1961	no										9	21	15	14	11	9	7	5	3	5	1		
1962	no				3	12	5	1							1								
1963	no								2	28	64	115	71	66	43	44	15	15	15	12	4	1	3
1964	no								1	17	34	26	14	4	2	2							
1969	no								2	41	197	221	141	100	55	39	21	7	4				
1970	no	1	1		7	32	109	120	169	199	233	268	257	274	187	113	47	22	4	1			
1974	no			2	9	31	50	89	86	79	39	41	37	11	9	5							
1978	no					1	4	5	11	13	21	16	11	12	3	1		1					
1979	no		1	2	12	22	53	77	131	225	295	282	201	121	82	37	20	5	5	2	1	1	
1980	no			1	5	7	12	38	58	150	439	627	704	543	336	198	115	55	22	4	1	1	
1981	no			1	5	12	18	34	90	240	376	451	427	384	200	143	61	17	11				
1982	no	1		2	8	20	38	63	100	247	558	627	550	590	411	245	120	61	20	4	2		1
1983	no			3	8	17	32	50	95	201	464	399	350	207	123	86	43	15	6				
1984	no				1	4	6	26	85	209	442	535	435	320	193	113	47	20	5		1		
1985	no								13	98	478	602	519	335	190	104	44	25	14	4	2		
1986	no								3	31	117	142	124	108	120	83	39	13	3				
1987	no								1	40	229	321	236	131	91	48	22	6	1				
1988	no							1		26	135	259	248	205	131	73	23	17	2		1		
1989	no									10	117	233	242	169	71	42	19	5	2	2			1
1990	no									5	73	269	254	126	50	24	4	4					
1991	no							3	5	34	169	385	312	211	87	66	20	6					
1992	no								7	54	209	342	320	182	79	28	15	4	2				
1993	no							1	5	38	157	276	159	82	52	24	14	3					
1993	yes									9	48	67	54	24	15	6	3	1					
1994	no	1						1		31	117	223	171	86	52	20	5	3	2				
1995	no	2							6	46	199	271	270	163	125	75	37	15	2	1			

Year	Aged?	<14	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1996	no	1						1	4	26	89	194	187	143	80	48	17	5	3				
1997	no								3	23	67	178	254	259	252	152	69	26	6				1
1997	yes														1		1						
1998	no								16	58	99	196	205	212	187	182	105	32	2	1			
1999	no	2							1	11	133	266	236	132	96	65	44	9	4			1	
2000	no									1			1	2	1								
2000	yes								5	45	101	196	203	133	119	109	62	15	4	3			
2001	no									1		2	1	2	3			1					
2001	yes									5	66	211	244	201	131	77	37	16	1				
2002	no											2			1			1					
2002	yes									1	23	81	133	79	49	17	6	6	1				
2003	no										1	9	19	12	8	3	1						
2003	yes									11	89	163	180	155	97	57	37	7	1				
2004	no									2	7	12	23	24	11	9	2			1			
2004	yes									3	20	75	159	149	94	52	27	19	3	2			
2005	no										5	10	12	10	10	3	1	1					
2005	yes							1	3	3	51	169	190	161	77	71	32	9	3	1			
2006	no										3	2	7	2	6	2	1						
2006	yes									3	43	139	264	193	100	44	24	4					
2007	no											5						1					
2007	yes							1	2	17	88	217	344	270	132	58	11	4					
2008	no														1								
2008	yes								1	4	73	165	203	154	81	45	13	3	4				1
2009	no										1	2	2	1	2								
2009	yes								2	16	73	151	183	177	83	37	12	5	3				
2010	no											1	1										
2010	yes								1	9	44	128	120	55	23	13	5						
2011	no											1											
2011	yes									2	33	152	240	149	83	33	7		1				

Year	Aged?	<14	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
2012	yes										8	31	87	97	67	38	14	7	1				

Raw length frequency distributions by fishery, year, and 2-cm length bin
Commercial

Year	<14	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1961					1	1			2	49	150	168	130	89	58	49	34	14	15	9	2	1
1962			1	15	37	59	96	95	84	51	31	36	12	9	13	4	2	2				
1963			2	5	9	31	47	179	615	962	903	639	474	279	198	107	58	38	26	8	8	4
1964			2	14	33	74	156	320	649	968	997	757	493	337	225	120	76	34	14	6	7	
1965								6	133	507	710	690	515	336	144	74	22	11	2	3		
1966							1		30	181	332	366	431	346	221	108	70	61	15	18	2	1
1967									6	82	214	244	242	246	163	115	40	21	17	8	7	
1968					5	48	150	260	446	734	1051	1148	966	712	432	207	74	36	6	1		
1969	3	6	13	34	46	76	154	415	937	1992	2659	2327	1873	1348	948	476	228	77	27	8	2	1
1970	1	1	1	8	64	161	214	301	462	861	1086	989	752	590	330	214	105	50	10	3	2	
1971				1	1	9	24	62	129	195	246	228	187	135	104	69	30	13				
1972							5	28	180	424	409	346	292	200	119	59	33	10		1	1	
1974	1	4	12	23	59	129	199	194	152	92	77	78	46	29	11	4	1					
1975							2	2	94	457	556	492	426	328	198	126	38	6	2			
1976					1	3	34	122	233	310	326	348	309	279	146	56	18	13	2	1		
1977									4	28	48	52	31	33	22	8	3	1				
1978	2	1	9	4	23	42	62	72	132	171	135	113	74	57	40	20	7	4	2			
1979		1	3	18	32	67	105	177	297	380	365	272	160	110	57	37	10	10	3	1	1	
1980		1	2	12	22	33	64	100	204	580	856	980	795	492	316	183	78	31	4	1	1	1
1981			1	5	12	18	34	90	250	468	591	544	455	241	166	71	25	20	3	1		
1982	3		2	8	22	43	90	145	301	657	752	629	640	457	264	129	62	21	5	2		1
1983			3	13	28	39	73	144	298	671	614	563	379	240	155	80	25	10	2			
1984				1	4	6	26	85	209	457	551	449	325	193	113	47	20	5		1		

Year	<14	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1985								14	114	539	673	573	362	203	113	46	25	14	4	2		
1986								3	31	117	142	124	108	120	83	39	13	3				
1987								1	42	241	354	267	141	97	51	25	6	1				
1988							1		26	135	259	248	205	131	73	23	17	2		1		
1989			5	11	18	24	28	38	73	256	399	412	308	138	93	49	19	10	4			1
1990							1	2	38	331	576	533	337	188	102	28	28	21				
1991				2	1	2	7	10	75	561	781	650	434	219	127	59	16	4			1	1
1992								7	94	524	619	498	289	129	51	19	7	4	1			
1993							2	7	70	341	500	323	184	114	65	22	8	1	1			
1994	1						1		37	143	299	249	141	91	33	10	4	3				
1995	2							6	46	199	271	270	163	125	75	37	15	2	1			
1996	1						1	4	26	89	194	187	143	80	48	17	5	3				
1997								3	23	67	178	254	259	253	152	70	26	6				1
1998								16	58	99	196	205	212	187	182	105	32	2	1			
1999	2							1	11	133	266	236	132	96	65	44	9	4			1	
2000								5	46	101	196	204	135	120	109	62	15	4	3			
2001									6	66	213	245	203	134	77	37	17	1				
2002									1	23	83	133	79	50	17	6	7	1				
2003									11	90	172	199	167	105	60	38	7	1				
2004									8	43	106	186	178	108	61	29	19	3	3			
2005							1	3	3	56	179	202	171	87	74	33	10	3	1			
2006									4	78	259	439	339	190	83	38	6	1				
2007							1	5	25	123	328	477	382	197	89	17	6					
2008								2	18	156	314	384	286	134	76	19	4	4				1
2009								4	31	148	313	364	349	187	74	21	6	3				
2010								1	12	98	257	240	113	48	23	7	1					
2011			1					1	5	62	316	448	286	153	60	13	2	3				
2012										14	70	164	200	127	59	29	15	2	1			

Recreational

Year	38
2010	1

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

2003-2012 Total Numbers divided by 10 of:					2005-2012 Total numbers of:		
Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
257	5,267	1,066	1,078	90			

NWFSC Slope Survey, 1998-2002.

NWFSC Slope Survey (1998-2002)				
Average 1998-2002 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
35	2			

AFSC Slope Survey, 1996-2001.

Average 1996-2001 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
22	606			

AFSC Triennial Survey, 1980-2004.

Average 1980-2004 numbers: (Total divided by 9 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
306	10,090	52		

Rex Sole

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1975	50		1994		
1976			1995		
1977			1996		
1978			1997		
1979	25		1998		
1980			1999		
1981			2000		
1982			2001		
1983	25		2002	26	
1984			2003	162	
1985			2004	52	
1986			2005	63	
1987			2006	94	
1988			2007	76	
1989			2008	151	
1990			2009	59	
1991			2010	1	
1992			2011	77	
1993			TOTAL	861	0

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46
1978									1	1							
1982												1					
2001							2	4	6	13	24	17	3				
2002				1	3	4	25	36	43	64	47	17	9	1			
2003		2		20	28	19	64	125	277	325	218	100	18	4			
2004						1	19	84	111	155	91	35	11	2			
2005			1	5	13	19	73	199	309	319	212	83	14	5			
2006			2	5	23	69	220	513	919	1095	689	347	107	30	5	1	
2007	1			2	9	41	159	368	743	688	435	179	48	14	1		
2008			1	1	5	53	212	498	799	781	485	193	52	17	7	2	
2009				3	4	11	35	165	348	474	282	134	58	38	10	1	1
2010				1	2	45	90	181	292	380	317	146	49	25	11	3	
2011				2	13	30	89	322	635	714	379	116	35	21	5		
2012		1		5	13	24	83	156	434	589	461	185	68	17	8	2	

Recreational – None.

Oregon Data

Commercial otoliths by year and 2-cm length bins (none aged)

Year	No Length	<26	26	28	30	32	34	36	38	40+
2006		2	23	39	63	55	18	11	6	1
2007		17	77	226	346	433	323	145	41	12
2008		13	58	206	322	354	280	142	50	14
2009		15	58	229	459	524	344	132	39	10
2010	1	14	52	221	614	698	419	194	50	19
2011		29	67	193	470	637	420	159	46	16

Washington Data

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	<14	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
1969	1	8	15	6	1	2	1	2	1	1		1				
1970		8	40	35	12	8	4	2								
1975									14	63	62	42	15	1	2	1
1980							1									

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

2003-2012 Total Numbers divided by 10 of:					2005-2012 Total numbers of:		
Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
402	9,059	493	493		172		

NWFSC Slope Survey, 1998-2002.

NWFSC Slope Survey (1998-2002)				
Average 1998-2002 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
175	328			

AFSC Slope Survey, 1996-2001.

Average 1996-2001 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
82	5,776			

AFSC Triennial Survey, 1980-2004.

Average 1980-2004 numbers: (Total divided by 9 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
447	21,635	55		

Sharpchin Rockfish

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1977	14		1993		
1978		1	1994		
1979	3	1	1995		
1980			1996		
1981			1997		
1982	13		1998		
1983	135		1999		
1984	90		2000		
1985	224		2001	1	
1986	26		2002	2	
1987			2003		
1988			2004		
1989			2005	27	
1990			2006		
1991	1		2007	2	
1992			TOTAL	538	2

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	56	82
1979							1		1		1								
1982					1	3		2	7										
1983					2	23	10	24	64	16	3	2							
1984					4	16	11	19	29	10	1								
1985				1	9	34	14	31	54	58	5	2	1	4					
1986					4	25	25	22	36	17	4	1							
1987				3	13	44	46	41	83	49	6		1	2	2	1			
1988				1	13	19	35	45	146	88	9								
1989				2	2	6	10	21	22	33	3	2							
1990				1	18	49	46	66	59	28	7	2	4						
1991			1		2	13	26	46	56	41	4			2			1		
1992				1	4	11	33	50	29	12	1	1		2	2				1
1993			1	2	6	16	19	42	30	9									
1994			1	9	79	156	103	93	74	34	8	3	2						
1995				6	23	71	116	63	57	31	9	2	3						
1996	1		2	15	22	53	141	104	67	25	5	11	5	4	3				
1997		1		2	9	38	130	120	64	12		1							
1998				1	17	23	77	61	25	6	1	1	2	1					
1999		1		2	38	52	34	21	10	3	1								
2000					2	8	6	14	5										
2001				3	13	16	3	3	1	1	1								
2002					9	14	13	5	2				1					1	
2005							7	17	2	1									
2007						1	2	1											

Recreational

Year	26	30
1978		1
1979	3	

Oregon Data**Commercial otoliths by year and 2-cm length bins (none aged)**

Year	<24	24	26	28	30	32	34	36+
1995				2	8	6	6	4
1996	16	31	55	41	51	40	25	24
1997	21	94	144	105	69	48	32	13
1999	11	8	28	28	20	17	12	3
2001		2	4	20	3			
2003			4	5	3	1	2	
2004	1	4	14	11	11	44	45	16
2005				5	5	17	15	4
2007					4	7	10	1
2008				6	14	7	3	
2009			1		3	8	16	2
2010				1	13	18	12	2
2011	2	1	5	5	3	7	8	1

Washington Data**Commercial otoliths by year and 2-cm length bins (none aged).**

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46
2003	2	4	4	2	2	5	1	1								
2010						1						1	1			
2011					1	1	5	5	13	7						
2012			1	1				1	1		1					

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	<14	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	>54
1996				3	4	11	42	65	170	160	109	39	8			1			
1997				1	8	3	15	73	215	196	126	42	6						
1998		1		1	3	6	17	49	92	165	94	27	14	2	3			1	
1999					3	8	13	16	30	32	20	6		1					
2000			1		1	4	8	24	22	26	9	2							
2001				1	2	3	11	37	48	42	19	5			1				
2002	1		2	8	16	56	85	105	141	141	73	21		1		1			
2003		2	4	5	9	50	39	32	101	77	16								
2004						1	4	1											
2005							1				1								
2006							2	1		4	2								
2007									3	1	5	1	1						
2008					1						1								
2009							1					1							
2010							1					1			1		1		
2011						1	1	5	5	13	7			1					
2012		1	8	10	8	13	29	86	80	52	64	21	3	1					

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

2003-2012 Total Numbers divided by 10 of:					2005-2012 Total numbers of:		
Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
40	1,140	384	395		136		

NWFSC Slope Survey, 1998-2002.

NWFSC Slope Survey (1998-2002)				
Average 1998-2002 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
17	2			

AFSC Slope Survey, 1996-2001.

Average 1996-2001 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
22	510	6	6	

AFSC Triennial Survey, 1980-2004.

Average 1980-2004 numbers: (Total divided by 9 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
76	1,756	142	120	

Stripetail Rockfish

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1976		40	1995		
1977	130	40	1996		
1978	137	24	1997		
1979	48	6	1998		
1980	41	4	1999		
1981	12	2	2000		
1982	142	6	2001	29	
1983	247	3	2002	3	
1984	294		2003		
1985	339		2004	10	
1986	9		2005	9	
1987	1		2006	7	
1988			2007		
1989			2008		
1990			2009	13	
1991			2010		
1992			2011	1	
1993			TOTAL	1472	125
1994					

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
1978			3	4	2		2	9	13	46	39	11			2	
1979		1	4	7	12	5	2	7	34	41	24	2				
1980			1	2	3	2	1	7	19	14	2	1	1			
1981							1	1	5	2	2					
1982	1			1	2	3	5	13	30	52	43	1				
1983					1		1	9	47	116	71	9		1		
1984			2	4	6	5	4	8	45	127	85	7		1		
1985				4	5	6	22	39	74	120	93	9	1			
1986				1	3	4	15	24	58	89	52	1				
1987				5	1	9	13	29	37	66	45	1	1			1
1988						4	5	6	23	19	10	4				
1989					1	3	17	18	26	30	11	1				
1990		1	1	2	1	7	4	21	31	19	8	3				
1991			3	2	1	2	8	22	27	10	7			1		
1992			2		1			7	15	8	3					
1993		1		1	3	7	19	34	32	13	2					
1994			3	3	5	26	61	88	60	27	8	3	1			
1995				1	5	9	26	40	43	23	5					
1996		1		1	1	2	16	30	31	22	7					
1997		1	5	2	1	3	31	35	28	11	1					
1998		1	1	2	11	31	30	68	59	29	8	1				
1999			1	5	3	23	46	55	26	12	1					
2000					1	2	6	5		2						
2001		1		2		8	41	24	11	1						
2002				1		3	8	5	5	1						
2003								1								
2004		3	3	2	1	1										
2005				1		7	5	3	4	1						
2006								3	2	2						
2007						1		3	4	4	1					
2008							2		1							
2009					1	2	7	7								
2010									2							
2011							1									
2012		1	2	2	3	1	7	8	1		1					

Recreational

Year	20	22	24	26	28	30	36
1978	1	3	3	2	6	1	1
1979				4	4	4	
1980			1				
1981					1		
1982			1				

Oregon Data**Commercial otoliths by year and 2-cm length bins (none aged)**

Year	20	22	24	26	28	30	32
2001				4	11	2	
2005				5	13	4	
2006		1	1	8	9	2	
2007				1			
2008	3		2	11	12	3	
2009				24	9	1	
2011		38	19	24	12	15	3

Nearshore research otoliths by year and 2-cm length bins (none aged), 2011 and 2012 data are preliminary.

Year	Aged?	20	22	24	26	28	30	32	34	36	38
1998	no	1						1	1		1

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

2003-2012 Total Numbers divided by 10 of:					2005-2012 Total numbers of:		
Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
139	3,117	559	560		124		

NWFSC Slope Survey, 1998-2002.

NWFSC Slope Survey (1998-2002)				
Average 1998-2002 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
38	20			

AFSC Slope Survey, 1996-2001.

Average 1996-2001 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
18	1,246			

AFSC Triennial Survey, 1980-2004.

Average 1980-2004 numbers: (Total divided by 9 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
111	4,483	28	7	

Vermilion Rockfish Complex

NOTE: The data for vermilion rockfish represent a complex of at least two species in southern California, vermilion rockfish (*Sebastes miniatus*) and sunset rockfish (*S. crocotulus*).

California Data

Otoliths (none aged)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1975	428		1994		
1976	553		1995		
1977	230	53	1996		
1978	17	39	1997		
1979	20	34	1998		
1980	15	58	1999		
1981	13	14	2000		
1982	53	56	2001	21	
1983	119	20	2002	1	
1984	129	25	2003	9	
1985	66	18	2004	2	
1986	19	4	2005	1	
1987			2006	8	
1988			2007	12	
1989			2008	2	
1990			2009	4	
1991			2010	4	
1992			TOTAL	1726	321
1993					

a/ Data not in RecFIN.

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	80		
1978											1		1	2	5	7	5	6	2	1	1					1							
1979										1	1	5	27	32	39	49	58	94	82	48	29	31	11	5	1	2	2	1					
1980											3	18	44	82	112	105	111	106	86	59	39	33	8	6									
1981									4	7	29	72	109	127	122	97	118	92	49	43	32	5	2	1									
1982									2	1	3	9	33	71	65	56	47	50	28	30	17	7	3	1			1						
1983							1	3	2	2	4	4	11	11	23	27	27	22	30	15	13	9	5	8	7	13	10	4	5				
1984			1			7	4	12	10	6	3	10	26	22	30	26	22	27	27	27	8	7	7	4	1	2							
1985					2	3	2	3	2	4	5	14	13	39	44	66	63	52	52	45	37	19	7	7	2								
1986						4		5	7	11	10	18	30	56	68	80	65	66	54	43	24	14	7	2	3	4	1	2	1	1	1		
1987							5	4	2	5	6	6	17	31	24	31	37	20	24	17	10	7	1	1									
1988					1			2	7	12	15	15	20	19	15	18	16	14	6	4	2	3	2	1									
1989					3	5	9	25	23	29	32	23	40	23	50	45	47	35	12	13	6	2	1	1									
1990					1	1	3	7	5	14	23	50	33	14	11	4	8	3	2	7	2	1	1	2									
1991					2	1	3	5	4	15	12	15	27	14	9	4	4	2	1	2	2		2	2	1	1							
1992			1	3	16	44	39	23	30	42	76	80	83	45	38	35	25	26	18	15	13	5	3		1								
1993			7	6	11	31	49	51	81	117	211	260	213	166	95	70	57	41	16	7	12	4	3										
1994	1	2	6	6	14	24	19	33	25	47	78	96	98	97	65	56	38	22	22	14	13	6	5	2									
1995			3	4	7	10	23	38	50	72	120	172	176	139	89	50	57	34	14	3	12	3	3	2									
1996			6	7	9	12	25	33	42	64	76	117	155	173	143	97	85	43	31	9	7	3	3	2									
1997		1	1	12	13	27	33	46	62	80	121	130	128	151	150	103	65	45	26	12	9	4	5	2									
1998				8	9	19	40	60	76	87	144	146	154	122	108	109	76	50	22	12	2	4	4										
1999		1	1	2	7	14	34	59	71	85	81	78	67	62	71	46	39	25	16	3	1												
2000	1				1		1	14	14	30	33	27	27	11	15	5	7	8	4														
2001			1			1	2	9	9	18	17	27	20	16	13	16	7	7		3		1											
2002					10	30	22	20	16	17	22	19	9	8	5	4		2	2	1			1										
2003								2	1	1	7	10	1	5	4	6	4	4	3	1				1									

Year	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	80	
2004							1		1	1	3	11	9	11	10	13	5	5	5	2												
2005					1	1			1	1	5	3	5	10	14	9	8	7	1	4		1		1								
2006								2	6	18	24	28	14	18	18	9	11	5	1	2					1							
2007						2	5	2	7	14	22	33	33	41	43	22	19	7	3	2	1											
2008				2	1	6	4	7	7	11	19	18	22	28	13	17	13	6	4	1	1			1								
2009				1	6	14	13	8	4	14	15	16	27	36	41	26	20	8	5	2	1											
2010				3	4	11	5	15	22	13	11	7	8	18	12	8	5	2	1		2											
2011	1	3	10	16	14	35	43	28	24	13	4	10	6	11	4	8	4	3	1													
2012	1		2	6	12	8	20	23	26	20	15	12	3	3	4	4	4	4	1	2												

Recreational

Year	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	96
1978				1		2		1		2	4	1	8	2	3	4			2	1	
1979			1					7	4	2	8	8	4	10	12	12	11	3	1		1
1980			1			1	3	5	6	2	4	8	3	3	2	3					
1981							4	1	2	2	2	3	5	3	1	1					
1982	1	2		4				2	4		4	4	3	7	4	1			2		
1983		1	1	2	1		2	1	2		5	1	3	1	1						
1984		1	3	1	1	2	1	3	1	1	3	1	2	1	3						

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, northern and central California (Fort Bragg to Morro Bay) data.

Year	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	Total
1987						5	1	1	4	3		2	3	11	4	8	6	4	7	2	2	1								64
1988			1	19	59	81	116	99	53	47	41	24	32	13	14	17	14	12	4	13	6	6	1		1	1				674
1989			1	4	25	90	216	246	191	131	82	57	37	28	22	26	27	23	19	23	11	2	5		5	2			1	1274
1990				3	2	7	40	71	124	114	57	49	35	25	15	9	5	9	11	4	3									583
1991			2	4	5	5	8	12	14	31	42	68	65	33	24	19	17	11	4	7	6	5	6							388
1992			1	2	8	14	16	21	21	42	110	195	256	183	92	60	34	35	33	20	14	7	4	4		1				1173
1993			3	9	16	31	38	40	62	57	88	94	173	152	97	69	35	41	26	25	5	10	4	3	1					1079
1994	1		1	3	7	18	29	57	41	68	52	74	63	96	77	65	45	25	10	12	3	5			1					753
1995	1	1	6	6	15	14	38	48	76	89	106	99	82	98	96	60	49	24	31	16	9	2		1	1					968
1996		2	2	9	16	29	31	42	43	44	53	55	53	61	42	39	25	21	23	19	12	6	2	1						630
1997		3	4	21	75	90	106	95	103	89	107	131	119	98	79	58	30	26	18	10	10	4	1				1			1278
1998			4	5	13	27	64	97	75	66	52	53	52	40	31	27	19	14	8	9	2	2	2							662
Total	2	6	25	85	241	411	703	829	807	781	790	901	970	838	593	457	306	245	194	160	83	50	25	9	9	4	1	0	1	9526

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, southern California data.

Year	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	Total
1975		9	41	96	110	88	103	161	151	165	78	49	48	37	53	40	36	34	10	9	15	4	1	1	1	1			1341
1976	1	4	16	46	80	123	141	145	175	156	140	89	85	58	54	48	44	37	25	10	10	12	8	6	5	1	1		1520
1977		1	14	34	45	91	140	217	196	170	145	97	62	68	58	58	66	80	92	110	84	75	44	36	40	18	17	5	2063
1978	1		1	8	22	40	78	106	163	187	192	182	143	126	117	122	105	95	63	68	64	83	64	37	20	8	4		2099
1986	3	8	37	78	164	192	130	95	85	39	45	34	31	32	24	27	29	29	13	15	15	9	5	4	2	1			1146
1987		2	16	39	74	201	355	334	308	256	159	95	43	42	32	42	30	26	10	11	6	5	4	3	3	2			2098
1988	1		9	23	33	79	147	285	434	459	313	263	159	70	49	58	38	33	17	12	6	7	5	5	2	2			2509
1989	4	4	15	44	28	23	51	107	161	254	327	303	214	137	90	47	39	33	27	20	9	5	5	2		1			1950
Total	10	28	149	368	556	837	1145	1450	1673	1686	1399	1112	785	570	477	442	387	367	257	255	209	200	136	94	73	34	22	5	14726

Oregon Data

Commercial otoliths by year and 2-cm length bins (some aged)

Year	Aged?	No Length	<38	38	40	42	44	46	48	50	52	54	56+
1999	no		6	2	4			1	2	1		2	1
2000	no		10	9	16	9	4	3	5	5	3	2	2
2001	no		3	11	19	18	20	3	6	4		2	7
2001	yes		1	1	2	5	3	1	1				
2002	no		1	5	2	2	6	6	1	1		1	1
2002	yes		3	3		2		2		1	1		
2003	no				4	3	1	2	2				1
2003	yes		1	3	3	9	8	8	9	3	2	2	2
2004	no		1	6	2	2	3	2	1	2			
2004	yes		5	6	7	10	12	12	7	2	3		
2005	no		1	1	1	3	1	1	1		1		
2005	yes		1	1	5	6	6	5	8	6	3	3	3
2006	no				1	7	4	2		2	1		
2006	yes		1		1	3	5	5	9	10	1	1	3
2007	no			1	2	4	13	9	9	9	9	2	2
2008	no		2		1	2	2	9	3	8	5	1	5
2009	no		2	2	4	8	11	21	23	23	10	7	7
2010	no	1	1	1	3	3	6	8	10	25	12	10	8
2011	no		12	15	12	7	13	9	29	30	33	20	22

Recreational otoliths by year and 2-cm length bins, 2011 and 2012 data are preliminary.

Year	Aged?	No Length	40	42	44	46	48	50	52	54	56	58	60	62	64	66
2005	yes		92	120	158	261	277	242	142	91	37	9				
2008	yes	1											10	1	3	5
2009	yes											12	5			

Recreational length frequencies by 2-cm length bins.

Year	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66
2005				3	2	4	9	12	12	15	20	18	4	3	1	2	2	1		1
2006	1	1	2		3	13	19	23	15	29	30	22	10	7	5	4	1		1	
2007	2			1	4	6	18	30	25	51	35	15	7	7	3	1	2			2
2008			2	4	7	7	10	28	43	68	53	49	23	16	11	2	9		2	2
2009					4	5	3	13	24	33	32	33	24	11	3	4				
2010		4	4		4	2	5	5	13	27	24	35	25	8	1	2				
2011	1		1	3	5	10	5	4	12	21	38	34	24	21	7	4	1			
2012	1		1	1	2	10	23	5	14	17	45	36	25	18	6	2				

Nearshore research otoliths by year and 2-cm length bins (none aged), 2011 and 2012 data are preliminary.

Year	Aged?	No Length	34	36	38	40	42	44	46	48	50	52
1998	no	1										
1999	no		1	2	2	3	3		2			
2000	no	1										
2001	no		1					1				1

Washington Data

Recreational otoliths by year and 2-cm length bins (some aged).

Year	Aged?	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1998	yes			1	1		3			1		2		3	2
1999	yes					1	2	3	3	5	2	5	2	10	6
2000	yes					1		3	1		1	1	3	2	
2001	no														2
2001	yes		1	1						2					2
2002	yes					1						1		1	
2004	no					1	1	2	1	1	1		1	2	5
2005	no		2		2		3	1	3	2	1		4	4	4
2006	no			1	1	1	1	4	5	2	4		3	2	3
2007	no	1	1		3	1	2	2	4	2	5	2	6	3	4
2008	no		1	2	3	2	2	1	3	2	1	2	4	2	3
2009	no				1	1		1	2	3					1
2010	no							2					1		
2011	no				1	1	1	2	2	2		1		1	
2012	no				1			1	3	4	2	2	2		2

Raw length frequency distributions by fishery, year, and 2-cm length bin

Recreational

Year	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1993						2			1					
1998			1	1		3			1		2		3	2
1999					1	2	3	3	5	2	5	2	10	6
2000					1		3	1		1	1	3	2	
2001		1	1						2					4
2002				1	2				1	1	1		2	
2003				1		1							1	1
2004					1	1	2	1	1	1		1	2	5
2005		4		5	3	4	1	7	4	3	1	7	6	10
2006			1	3	2	3	4	10	6	6	2	5	6	8
2007	3	1		5	4	8	4	4	6	5	5	11	5	8
2008		1	2	4	5	3	1	3	3	2	4	6	3	6
2009				1	2	2	2	4	3					1
2010			1				5	1				2		
2011				1	2	1	2	7	10	2	3	2	4	1
2012			1	1		1	3	6	9	10	4	4	1	12

NWFSC Hook-&-Line Survey Data

Lengths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
16-17								1		1
18-19	1						3	1	4	9
20-21	1					4	2	15	5	27
22-23	2			2	1	3	6	24	11	49
24-25	2	1	5	7	3	5	13	19	13	68
26-27	4	8	6	10	10	6	14	28	28	114
28-29	13	17	11	13	15	10	28	62	44	213
30-31	19	23	16	20	13	31	19	49	46	236
32-33	38	29	36	30	32	29	16	53	57	320
34-35	36	48	38	56	37	54	28	63	59	419
36-37	54	69	70	58	65	49	32	61	49	507
38-39	88	61	59	103	106	55	63	65	65	665
40-41	103	104	77	116	127	116	90	88	79	900
42-43	65	102	90	128	120	147	141	170	106	1069
44-45	91	78	64	98	106	155	176	194	172	1134
46-47	99	65	31	96	94	165	219	153	121	1043
48-49	70	62	23	68	68	111	149	121	130	802
50-51	30	73	24	33	26	56	87	77	88	494
52-53	26	53	19	23	27	37	32	31	66	314
54-55	5	40	14	25	10	25	17	23	30	189
56-57	4	29	2	17	4	9	17	11	8	101
58-59	3	4	2	9	1	3	9	8	10	49
60-61		4		1			3	2	1	11
62-63	1	1			1		1	2		6
64-65					1					1
Totals	755	871	587	913	867	1070	1165	1321	1192	8741

All Otoliths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
16-17								1		1
18-19	1						3	1	4	9
20-21						4	2	13	5	24
22-23	2			2	1	3	6	23	11	48
24-25	2	1	5	7	3	5	13	17	13	66
26-27	3	8	6	10	10	6	14	26	28	111
28-29	11	17	11	13	15	10	26	62	42	207
30-31	14	23	16	20	13	31	19	48	46	230
32-33	33	29	36	30	32	29	16	53	57	315
34-35	31	48	37	56	37	54	28	63	59	413
36-37	44	69	70	56	64	49	32	61	49	494
38-39	79	61	59	103	106	55	63	65	65	656
40-41	84	99	77	116	127	116	90	88	79	876
42-43	54	99	89	128	120	147	140	170	106	1053
44-45	73	71	62	98	106	155	176	192	172	1105
46-47	84	60	31	96	94	164	218	153	119	1019
48-49	62	58	23	68	68	111	149	121	130	790
50-51	29	63	24	33	26	56	87	77	88	483
52-53	24	48	19	23	27	37	32	31	66	307
54-55	4	39	14	25	10	25	17	23	30	187
56-57	4	21	2	17	4	9	17	11	8	93
58-59	3	3	2	9	1	3	9	8	10	48
60-61		4		1			3	2	1	11
62-63	1	1			1		1	2		6
64-65					1					1
Totals	642	822	583	911	866	1069	1161	1311	1188	8553

Aged Otoliths

Age (years)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
1	1									1
2	5	1			2	6	7	2		23
3	1	8	14	13	6	11	28	10		91
4	6	5	10	8	14	19	4	29		95
5	9	8	5	13	7	22	6	25		95
6	7	11	3	10	3	6	12	6		58
7		8	4	6	3	8	9	4		42
8		5	6	5	6	7	9	3		41
9	3	3	6	6	4	21	9	4		56
10	1	6	2	5	4	21	28	4		71
11	5	12	2	5	3	15	17	3		62
12	3	8	2	2	1	10	21	4		51
13	5	7		9	2	6	13	4		46
14	5	5	7	5	6	12	8	1		49
15	6	10	3	10	5	11	8	6		59
16	7	22	3	5	7	10	12			66
17	3	11	4	8	3	4	11	2		46
18	2		3	10	6	7	4	2		34
19	2	3		4		5	3	1		18
20		2	2	3	1	6	3	1		18
21		6		3	1	4	4			18
22			3	4	2	1	3			13
23	2	1	2	1	3	2	4			15
24						2	1			3
25	1			2		4	3			10
26		1			2		3			6
27		2			1	1	4			8
28				1						1
29					1		1			2
30				2		3				5
31				1	1		1			3
32							1			1
33	1	1					1			3
35		1			1					2
39							1			1
42	1		1							2
44		1								1
45		1								1
46							1			1

Age (years)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
49	1									1
51		1								1
52							1			1
54		2								2
58							1			1
61							1			1
63	1									1
Totals	78	152	82	141	95	224	243	111	0	1126

Maturity

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
18-19							3		1	4
20-21							1		2	3
22-23							3	2	4	9
24-25							5	2	3	10
26-27						1	7	6	4	18
28-29							12	19	8	39
30-31						2	7	16	18	43
32-33						2	2	13	13	30
34-35						9	10	11	13	43
36-37						5	14	11	11	41
38-39						3	17	10	19	49
40-41						9	21	7	7	44
42-43						4	32	8	13	57
44-45						8	26	8	5	47
46-47						15	22		10	47
48-49						12	24		5	41
50-51						6	15		4	25
52-53						3	3		4	10
54-55						7	7		1	15
56-57						3	8			11
58-59						1	4			5
60-61							1			1
Totals	0	0	0	0	0	90	244	113	145	592

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

2003-2012 Total Numbers divided by 10 of:					2005-2012 Total numbers of:		
Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
9	117	76	76			7	

AFSC Triennial Survey, 1980-2004.

Average 1980-2004 numbers: (Total divided by 9 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
3	52			

Yellowtail Rockfish

California Data

Otoliths (some aged – see table on next page)

Year	Comm.	Rec. a/	Year	Comm.	Rec. a/
1973	89		1993	233	
1974			1994	441	
1975			1995	2	
1976			1996		
1977	80	1943	1997		
1978	135	877	1998		
1979	25	164	1999		
1980	105	436	2000	33	
1981	199	240	2001	180	
1982	265	560	2002	91	
1983	1033	370	2003	59	
1984	1517		2004	64	
1985	883	358	2005	79	
1986	624	7	2006	93	
1987	781		2007	81	
1988	302		2008	74	
1989	698		2009	6	
1990	346		2010	4	
1991	515		2011	29	
1992	537		TOTAL	9603	4955

a/ Data not in RecFIN.

Yellowtail rockfish, number of aged otoliths from commercial fishery, by year and age.

Year	Age (years)																						
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1980			3	3	4	9	8	11	14	21	6	16	10	8	7	5	1			1			
1981			2	3	8	11	8	8	23	15	16	22	18	12	10	11	1	2	2	1			1
1982		1	1	21	10	21	26	7	14	28	23	18	15	16	18	8	12	13	10	5	1	3	2
1983			10	14	50	40	41	31	21	29	25	15	24	12	20	18	14	17	11	17	14	10	7
1984	1	4	19	37	63	141	123	98	38	31	34	17	22	36	19	14	22	10	19	14	11	19	15
1985		1	22	23	44	39	50	49	34	25	26	26	30	32	48	22	33	23	18	18	23	14	13
1986		1	12	32	17	22	42	47	42	43	28	26	17	30	39	29	16	27	31	21	21	14	17
1987		1	7	21	27	22	6	12	11	7	4	4	2	4	3	2	2	3	6	2	3		3
1988	1	3	3	10	22	27	14	14	10	14	6	7	5	7	3	4	4	2	2	4	1	2	3
1989	2	31	71	38	48	89	68	55	39	32	30	26	26	9	9	15	10	10	8	13	10	11	6
1990			29	47	31	24	53	47	29	26	20	20	15	11	7	6	2	2	3		5	3	4
1991		4	26	64	125	34	19	56	39	18	16	22	13	15	8	9	3	1	9	5	7	6	5
1992	2	3	12	20	61	127	13	30	55	30	16	17	15	3	15	14	7	8	5	10	2	6	7
1993		1	4	9	9	18	24	3	10	10	7	5	8	6	5	4		1	1	2	2	1	1
1994			3	25	30	21	59	66	2	13	38	22	8	11	16	2	1	7	2	1	1	6	1
1995			4	11	13	15	13	20	29	8	10	11	8	5	4	1	1	1			2	3	3
1996	1	3	52	79	63	56	51	52	44	49	23	22	15	10	11	7	4	5	2	6	2	2	1
1997			2	9	14	22	25	30	21	28	18	13	12	10	9	3	4	7	2	5	4	1	1
1998				1	8	12	13	16	19	15	25	13	12	4	7	3	1	2	3	2	2	1	2
1999			3	26	12	34	28	21	17	17	7	22	20	5	7	3	9	4	2		3		1
2000			1		9	6	7		4	4		2		1				1					
2001		1	3	5	14	27	12	4	40	18	13	7	3	1	7	9	2	3	2		1	1	
2002	12	24	8	2	5	4	9	3		1		1		1		1							

Yellowtail rockfish, number of aged otoliths from commercial fishery, by year and age, continued.

Year	Age (years)																				TOTAL		
	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	45	46		48	49
1980																							127
1981																							174
1982	2						1																276
1983	4	7	5	3	2	2	3	3	1	2		1		1									474
1984	4	1	2	3	4	1	3	1	2	1	2	1	4	1	2		2	1	1	2	1		846
1985	5	3	2	2	3	2	4	2			1		1			1	1	1	1				642
1986	21	11	4	4	4	7	7	5	7	5	6	2	2	2	1	1	1						664
1987	1	2	1	2	1		2					1											162
1988	2	1	2					2	1								1						177
1989	7	8	2	5	1	3		1	1		1	1						1					687
1990	4	2		2	2	2	1			1	1				1								400
1991	3	2	4	6	3	1		2	1						1							1	528
1992	9	4	5	4	6	4	7		4	2	2	1			1		1					1	529
1993		1	2		1		2	2	1			1											141
1994	1	1	3	1	7		3	3	1														355
1995	1	1		1		1	1																167
1996	1	6	1	2	1	2					1			1								1	576
1997	2		1	1				1															245
1998			2	3		1	1			1													169
1999		1			1	3		1				1	1		1	1							251
2000																							35
2001	2			1	1						1				1								179
2002																							71

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	64
1978					1		1		6	22	26	42	49	38	23	31	16	13	9	7		
1979						1	4	3	6	8	18	31	28	24	17	17	4	4	1	1		
1980								3	4	2	7	25	25	24	16	17	11	6	3			
1981						2		7	6	18	34	55	61	45	55	22	9	5	2			
1982					1	2	1	4	12	21	31	57	65	54	37	26	13	6				
1983						6	11	15	16	43	75	113	113	87	49	27	13	2	5	1		
1984					2	10	21	31	40	76	128	190	181	118	78	48	19	6	2			
1985					1	3	16	35	37	79	110	195	244	177	131	64	42	9	2			1
1986		1			3	12	10	22	41	51	99	136	157	114	70	51	17	3	1			
1987				1	2	3	5	16	35	57	52	45	45	36	20	8	3	1				
1988				1	2	4	6	20	57	44	36	53	39	20	21	14	3	1				
1989				1	4	34	32	51	111	132	126	133	100	89	48	24	13	3				
1990					3	18	35	47	80	76	87	74	71	50	26	18	6	1				
1991		1		1	8	25	67	99	131	158	150	110	79	76	38	18	7	1				1
1992		8	42	71	99	128	245	319	375	475	470	411	284	192	141	57	14	6	1	1		
1993		9	37	82	136	191	193	220	272	277	199	201	103	81	40	11	9	1		1		
1994	3	23	17	31	60	171	288	339	418	435	460	365	275	156	65	37	14					
1995			4	12	22	67	103	135	167	187	166	150	95	45	38	20	5	1	2			
1996			4	25	58	95	129	144	199	201	207	159	129	70	50	9	8	2				
1997	1	1	8	9	29	41	85	112	137	172	164	127	126	72	38	14	6	1				
1998					6	43	76	129	170	225	203	184	158	80	35	25	7	2		1		
1999		3	4	15	15	29	64	85	83	94	108	75	46	24	11	2						
2000					1	9	18	18	44	68	64	38	27	13	3							
2001						8	7	7	27	53	87	62	48	30	17	6	1					
2002			12	1	14	11	9	6	16	14	7	14	2	3								
2003						2	3	1	4	6	13	16	9	11	6	2	1	1				
2004						2	5	6	3	4	15	13	24	9	10	4						

Year	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	64
2005					1	2	2	5	8	16	13	19	15	14	5	5	2		1			
2006		1		3	5	5	11	14	14	13	27	30	19	15	21	3	2					
2007							5	17	25	23	22	19	39	25	12	5	4					
2008				5	3	5	2	5	11	10	12	18	13	15	10	8	1		1			
2009				2	1	2	1	2	1	14	21	34	17	18	5	7	1	1				
2010								1		1	3		1	1								
2011					2	6	13	15	20	7	7	1	1	2								
2012		1		1	19	31	29	24	14	15	16	6	2	2	1	1						

Recreational

Year	10	16	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	98
1978			3	8	17	42	52	54	42	47	87	156	292	354	311	179	74	29	2	5	1	1	1	13
1979	1			7	27	37	79	93	103	91	86	153	251	304	248	216	100	46	13					4
1980				3	22	40	63	115	85	106	80	100	130	177	152	87	57	14	7	4				
1981			3	5	13	15	24	45	52	85	63	55	108	117	117	62	63	17	4	2				
1982				3	7	34	71	104	90	91	103	117	148	173	185	126	83	30	10	6				
1983		1	2	3	6	29	42	72	61	72	83	118	206	209	137	83	48	19	6		1			
1984				10	24	27	26	33	30	27	33	52	60	109	103	67	36	14	5	2				

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, northern and central California (Fort Bragg to Morro Bay) data.

Year	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	Total
1987	4			2	9	72	120	88	52	79	204	226	183	61	34	22	27	20	19	6	1	1			1230
1988			1	19	67	198	312	552	681	640	367	315	306	218	130	105	86	57	34	22	16	3			4129
1989				9	35	206	533	851	934	1315	1186	661	511	494	372	232	168	160	104	56	31	10	1		7869
1990			2	2	14	41	167	340	438	355	312	209	164	152	98	62	41	33	6	12	3				2451
1991				1	32	113	187	270	374	442	362	305	278	286	280	196	151	94	75	40	14	5	1		3506
1992		1		7	25	144	490	760	892	940	740	648	619	578	439	377	256	140	90	39	18	5	1	1	7210
1993			5	23	49	177	397	732	893	869	653	468	382	372	351	261	175	110	63	26	14	2			6022
1994				11	69	251	453	662	787	716	612	392	330	268	210	195	116	74	25	5	1				5177
1995			1	27	135	364	824	1422	1337	1105	875	750	584	531	452	310	198	100	45	14	3				9077
1996		1		5	58	210	419	617	805	913	861	567	433	443	353	303	214	118	60	11	2	1		1	6395
1997		1	3	13	48	161	433	747	893	869	1103	1229	1299	1210	977	657	440	236	75	33	6				10433
1998				2	18	43	134	319	447	487	409	566	761	781	569	308	160	88	25	8	1	1			5127
Total	4	3	12	121	559	1980	4469	7360	8533	8730	7684	6336	5850	5394	4265	3028	2032	1230	621	272	110	28	3	2	68626

Length frequencies by 2-cm length bins from the CDFW recreational on-board observer program, southern California data.

Year	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	Total
1975	1	6	4	12	15	38	18	5	1		2		3			2			107
1976		3	20	36	22	9	5	4	1	1	1								102
1977		3	10	19	21	16	23	4	3	5	14	15	15	22	23	6	5	5	209
1978	2	3	9	14	16	8	10	1	1	1									65
1986		1	8	24	8		2	6	8	2	5	10	19	14	15	2	1	1	126
1987			2	2	1	4	2	1	8	7	11	10	9	2	3	4	3		69
1988			1	1	1				1	2	1								7
1989			3	4	9	4	8	7	4	1	1	1	1	2	1		1		47
Total	3	16	57	112	93	79	68	28	27	19	35	36	47	40	42	14	10	6	732

Oregon Data

Commercial otoliths by year and 2-cm length bins (some aged)

Year	Aged?	No length	< 36	36	38	40	42	44	46	48	50	52	54+
1972	no				1	5	8	21	15	4	7	6	
1972	yes		3	7	26	85	185	226	182	118	83	55	20
1973	no						1	7	10	22	10	4	3
1973	yes			1	4	18	44	65	71	60	34	20	1
1974	no			1			1	1			1		1
1974	yes		6	4	5	21	55	75	55	17	7	13	
1976	no		4	21	52	44	58	60	49	54	36	14	9
1976	yes		2	6	18	27	11	14	9	7	3	2	
1977	no					1	5	3	3	2	1	2	2
1977	yes		2	4	9	48	118	193	242	174	122	82	36
1978	no		4	2	13	9	12	18	17	16	12	7	1
1978	yes		8	5	10	27	46	59	84	64	42	15	13
1979	no		6	13	21	24	40	80	60	36	16	9	8
1979	yes		10	20	46	53	98	163	162	112	65	29	29
1980	no								1	1	3		
1980	yes		14	21	23	29	60	125	168	174	93	55	31
1981	no			1	1	1	4	4	1	1	4	2	
1981	yes		42	52	79	113	120	179	158	118	74	33	13
1982	no		78	73	47	42	47	55	67	52	31	18	11
1982	yes		91	105	143	191	210	223	260	171	94	66	26
1983	no				1	2			1			1	
1983	yes		10	12	31	45	46	43	42	35	12	11	7
1984	no		3	6	21	23	22	14	11	5		1	1
1984	yes	1	100	103	136	226	216	177	122	55	30	22	4
1985	no		4	2	21	68	93	106	80	51	25	12	3
1985	yes		6	48	117	314	402	499	393	231	88	45	44
1986	no		2	2	5	30	72	66	95	60	21	11	3
1986	yes	1	18	14	54	155	248	264	263	180	106	50	28
1987	yes		92	85	118	224	352	413	383	213	96	45	20
1988	yes		88	55	119	179	323	298	245	196	103	45	19
1989	no						1	1					
1989	yes		93	85	101	183	313	386	324	300	207	87	24
1990	no		1		3		1	1	1	1	1		1
1990	yes		90	107	152	181	305	340	243	189	123	45	17
1991	no				1		2	2	1				1
1991	yes		22	83	111	144	191	242	184	130	113	54	15
1992	no			2	4	5	13	17	4	2	15	4	
1992	yes		54	99	225	383	480	447	298	220	145	57	16

Year	Aged?	No length	< 36	36	38	40	42	44	46	48	50	52	54+
1993	no				4	11	7	9	5	3	2		
1993	yes		63	93	189	360	401	355	232	152	84	39	13
1994	no					2		1		1			
1994	yes		63	123	302	436	534	452	331	230	95	57	14
1995	no		1	3		5	5	7	5	8	2		3
1995	yes		98	159	285	401	426	380	249	146	85	23	11
1996	no		14	11	13	16	9	4	1				
1996	yes		217	197	251	383	420	357	221	105	60	28	12
1997	no		84	48	50	51	27	25	29	19	16	7	3
1997	yes	2	332	317	401	532	631	552	415	283	194	73	32
1998	no	15	26	24	50	38	48	41	33	12	11		1
1998	yes		198	282	422	511	534	445	271	153	71	23	7
1999	no		35	26	28	32	35	25	10	3	1		
1999	yes		158	314	600	658	662	474	304	145	63	27	8
2000	no		18	21	25	26	24	14	10	7		2	
2000	yes	2	147	207	373	621	614	429	250	141	63	10	6
2001	no		4	16	17	13	16	13	3		1		
2001	yes		38	136	319	491	590	519	393	205	95	41	16
2002	no		1	2	2		4	1	7	10	6		
2002	yes		68	101	214	290	278	219	156	107	41	21	10
2003	no		6	6	20	28	19	13	10	9	4	2	
2003	yes		7	5	22	55	105	119	99	99	50	20	3
2004	no		1	1		5	9	9	14	10	8	6	
2004	yes		104	94	108	134	158	187	169	147	106	43	28
2005	no		1	2	2	17	14	14	11	13	9	4	1
2005	yes		18	40	65	113	147	151	134	92	75	37	20
2006	no		5	9	2	4	2	4		1	2		
2006	yes		59	83	100	134	215	157	175	139	101	47	12
2007	no		17	27	52	71	76	118	96	104	91	52	17
2007	yes		32	16	21	28	50	87	66	60	62	37	16
2008	no		5	3				1				1	
2008	yes		19	17	29	41	53	112	100	86	56	37	14
2009	no		6	3	7	24	23	48	52	21	19	12	2
2009	yes		9	7	17	52	68	111	127	92	77	51	27
2010	no		4	4	10	12	45	114	119	83	81	56	30
2010	yes		14	9	27	68	153	209	187	163	130	81	39
2011	no		8	9	14	21	67	112	142	129	155	105	49
2011	yes		50	8	21	56	102	178	165	165	142	92	26

Recreational otoliths by year and 2-cm length bins (none aged), 2011 and 2012 data are preliminary.

Year	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
1999		2	15	25	24	29	37	54	49	36	28	11	7	5	2	2
2000	1	4	12	22	17	26	25	21	13	18	12	10	6	5		
2001								1	4	3	2	1	1			

Recreational length frequencies by 2-cm length bins.

Year	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52
1999		2	15	25	24	29	37	54	49	36	28	11	7	5	2	2
2000	1	4	12	22	17	26	25	21	13	18	12	10	6	5		
2001								1	4	3	2	1	1			

Nearshore research otoliths by year and 2-cm length bins (none aged).

Year	Aged?	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44
1998	no	1			4	5	25	31	32	78	44	13	5	2	2		1	1
1999	no	1				5		3		7	5	1	2				1	
2000	no			1	2		11	2	3	3	5	2	2	3	1			
2001	no			11	23	4	13	60	36	6	2		1	1				

Washington Data

Commercial otoliths by year and 2-cm length bins (some aged).

Year	Aged?	<14	18	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54	
1974	no							2	5	15	24	18	18	8	14	37	31	16	1		
1975	no							5	16	43	35	18	36	18	24	17	13	16	19	8	
1976	no					3	2	7	23	28	43	76	237	314	469	663	466	219	176	50	
1977	no								1		2	8	30	83	157	243	146	57	48	3	
1978	no					1	1	14	32	47	66	73	110	159	229	263	107	74	44	9	
1979	no				2	1		1	4	8	36	94	166	265	304	371	248	115	70	14	
1980	no							2	8	12	51	115	174	337	499	772	866	595	321	173	30
1981	no							1	7	17	63	121	263	426	539	737	758	484	236	126	22
1982	no							2	18	26	66	179	374	460	523	572	563	380	178	129	26
1983	no							1	11	33	106	204	331	415	396	331	262	137	84	47	8
1984	no							2	4	29	69	165	277	476	597	538	465	311	187	57	23
1985	no					1	2	23	65	137	335	501	605	615	556	369	182	69	36	4	
1986	no							3	1	11	23	53	166	362	544	638	565	376	172	67	11
1987	no							2	6	8	22	52	108	232	325	398	372	272	169	68	12
1988	no									9	18	42	79	137	252	351	319	240	120	74	9
1989	no							35	76	115	148	243	426	502	604	530	410	291	298	9	
1990	no			1	1	6	8	5	7	19	59	94	178	311	419	318	238	141	58	12	
1991	no								3	19	46	113	220	324	391	315	188	150	73	8	
1992	no							1		6	30	66	152	223	300	321	256	181	119	85	10
1993	no							4	5	12	36	89	163	222	230	254	164	114	53	28	6
1993	yes							3	5	10	24	47	56	91	70	54	31	20	9		
1994	no							2	11	39	84	189	220	247	230	142	109	39	18		
1994	yes								3	17	29	49	77	99	68	37	27	14	2		
1995	no	1			1	1		7	21	60	130	187	218	251	251	177	106	76	30	8	
1995	yes							1	4	6	16	30	53	72	86	79	65	35	21	11	2
1996	no	1						3	11	32	49	118	220	262	234	157	76	42	10	3	

Year	Aged?	<14	18	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1996	yes							2	7	10	31	53	75	81	82	46	27	15	2	1
1997	no							2	10	29	58	115	153	236	256	196	114	52	27	16
1997	yes								1	9	27	30	53	73	77	55	24	11	16	2
1998	no							1	4	39	98	210	300	358	322	251	131	82	26	3
1998	yes								2	11	16	40	48	44	41	40	19	9	5	
1999	no	1					5		11	46	125	281	417	435	339	272	165	75	41	19
2000	no	1							1		4	5	25	35	30	17	9	7	5	1
2000	yes							5	17	35	95	194	442	485	426	232	148	72	36	6
2001	no											1	5	5	8	12	6	3	6	1
2001	yes					1	1		2	9	32	90	235	427	462	344	247	97	45	6
2002	no													4	1	2	1	2		
2002	yes								1	5	23	74	142	337	347	325	221	135	73	13
2003	no												1	3		2	4	1	1	1
2003	yes						2	7	11	19	36	72	154	245	307	263	249	149	83	19
2004	no													1	1	2				
2004	yes	1					1	3	9	14	34	47	93	210	387	313	309	188	127	18
2005	no											1			1	1		1		
2005	yes							1	1	8	24	44	91	157	194	209	181	134	98	27
2006	no												1	3	6	1	4	1	2	
2006	yes							6	16	26	31	37	52	78	142	101	113	90	47	10
2007	no										1				2	1		1		
2007	yes						1	3	16	21	57	68	115	206	217	232	186	158	101	16
2008	no										1	2	5	4	5	9	11	10	8	2
2008	yes						3	13	6	17	48	74	77	135	213	186	116	101	47	4
2009	no													1	1					
2009	yes		1							1	8	26	84	158	208	194	131	89	36	5
2010	no													3	9	10	14	9	6	
2010	yes									2	3	9	55	127	216	154	152	108	45	9
2011	no														2		1	1		

Year	Aged?	<14	18	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
2011	yes								2		3	8	31	87	195	181	121	108	66	8
2012	no													1						
2012	yes								1	3	2	17	50	124	325	343	203	136	68	7

Recreational otoliths by year and 2-cm length bins (some aged).

Year	Aged?	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1997	no						1	2	3	28	20	20	12	10	3	1
2006	no		1	3	6	4	2	1	1							
2009	no		1													
2009	yes					1		1	2	1		1				
2010	yes	1	3	3	3	1	1	3		1		1				
2011	yes			1	1	4	3	2	3			1				

Raw length frequency distributions by fishery, year, and 2-cm length bin

Commercial

Year	< 14	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1968					3	23	86	112	147	182	154	131	157	189	82	36	27	18
1969						1	1	15	56	73	110	151	352	511	376	133	67	6
1970					1		5	4	17	22	40	70	182	277	222	92	45	4
1971				1	1	16	28	68	82	54	48	76	272	406	299	153	78	20
1972					2		3	4	3	20	46	93	196	315	228	66	25	4
1973								1	2	3	17	36	161	237	142	55	35	8
1974						2	5	15	24	20	23	26	52	81	65	25	12	
1975						5	16	43	35	18	36	18	24	17	13	16	19	8
1976				3	2	7	23	28	43	76	237	314	469	663	466	219	176	50
1977							1		2	8	30	83	157	243	146	57	48	3
1978				1	1	15	35	57	80	90	155	239	350	357	155	91	51	10

Year	<14	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
1979			2	1		1	4	8	36	94	166	265	304	371	248	115	70	14
1980					3	8	14	53	129	183	362	526	803	909	617	337	183	33
1981					1	7	17	63	122	279	457	553	756	767	486	241	129	22
1982					2	18	26	66	179	374	460	523	573	565	380	178	130	26
1983					1	11	33	106	204	331	415	397	331	262	137	84	47	8
1984					2	4	29	69	165	277	476	597	538	465	311	187	57	23
1985				1	2	23	65	137	335	501	605	615	556	369	182	69	36	4
1986					3	1	11	23	53	166	362	544	638	565	376	172	67	11
1987					2	6	8	22	52	108	232	325	398	372	272	169	68	12
1988							9	18	42	79	137	252	351	319	240	120	74	9
1989						35	76	115	148	243	426	502	604	530	410	291	298	9
1990		1	1	6	8	5	7	19	59	94	180	315	421	328	247	152	67	15
1991							3	19	49	114	245	373	451	347	202	158	79	10
1992					1		6	30	66	152	223	300	321	256	181	119	85	10
1993					4	8	17	46	113	210	278	321	324	218	145	73	37	6
1994						4	18	76	174	328	496	660	666	518	348	159	101	14
1995	1		1	2	2	22	59	148	267	407	544	603	565	448	259	168	94	16
1996	1					12	42	100	149	289	515	643	563	422	232	133	44	10
1997						3	22	74	140	215	311	421	439	338	200	110	60	18
1998						1	6	50	114	252	349	402	364	291	150	91	31	4
1999	1				5		11	47	125	281	417	435	339	272	166	75	41	19
2000	1					5	18	36	99	199	467	520	456	249	157	79	41	7
2001				1	1		2	9	32	91	240	432	470	356	253	100	51	7
2002							1	5	23	74	142	341	348	327	222	137	73	13
2003					2	7	11	19	36	72	155	248	307	265	253	150	84	20
2004	1				1	3	9	14	36	49	99	213	392	317	310	188	132	20
2005						1	1	8	24	45	91	157	195	210	181	135	98	27
2006						6	16	28	35	43	64	99	188	141	148	116	73	11
2007				2	3	9	26	48	110	134	226	358	378	395	333	282	182	29

Year	<14	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	>54
2008					3	14	6	28	89	153	142	221	357	321	212	183	102	10
2009						1		1	14	40	130	254	362	285	181	125	50	7
2010								4	10	16	96	230	403	317	261	181	83	12
2011							2	1	6	18	60	179	339	302	212	178	109	9
2012							1	4	6	31	87	243	549	561	371	232	134	12

Recreational

Year	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	> 54
1993							1	1	1									
1997					1				2	6	10	30	25	26	13	17	5	1
2002					4	4	13	27	37	30	28	25	12	5	5	2	2	
2003		1		1	3	25	63	85	127	134	105	81	65	41	28	24	14	3
2004		1	4	13	27	54	72	93	84	89	70	66	35	26	12	9	14	6
2005	2	1		3	4	54	107	188	136	126	86	60	34	21	14	16	7	10
2006				1	12	34	94	68	44	22	19	15	14	14	9	6	7	3
2007		1	1	6	9	10	11	27	45	45	28	38	42	21	17	7	3	2
2008	2		2	10	15	24	24	17	29	26	13	10	7	4	1	4		1
2009				1	12	31	82	50	38	33	39	41	32	29	27	20	22	6
2010				3	6	13	29	29	29	19	7	19	12	15	14	10	12	1
2011				1		13	22	18	32	31	38	65	52	50	25	18	17	9
2012				1	3	11	16	20	27	32	24	24	27	24	12	4	3	

NWFSC Hook-&-Line Survey Data

Lengths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
18-19									1	1
20-21	3								1	4
22-23	5							1		6
24-25	2	7	1	1	1		1	12	1	26
26-27	2	7	8	1	2			33		53
28-29	1	4	9	2	4		1	13	7	41
30-31	8	2	8	5	9	3		2	19	56
32-33	17	11	2		9	3	3	1	33	79
34-35	21	9	6	4	10	6	10	1	1	68
36-37	9	23	5	8	12	8	5	2	1	73
38-39	5	20	11	9	14	8	11	9	1	88
40-41	5	4	17	11	18	14	12	18	5	104
42-43	10	6	7	27	30	10	5	10	14	119
44-45	16	7	6	29	11	10	6	12	13	110
46-47	18	8	3	12	11	6	6	7	4	75
48-49	3	9	3	6	5	7	1	3	2	39
50-51	1	4	2	4	3	5		1	3	23
52-53		1						1		2
Totals	126	122	88	119	139	80	61	126	106	967

All Otoliths

Fork Length (cm)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
18-19									1	1
20-21	2								1	3
22-23	4									4
24-25	3	7	1	1	1				1	14
26-27	3	7	8	1	2					21
28-29		4	9	2	4				7	26
30-31	6	2	8	5	9	3			19	52
32-33	17	11	2		9	3			32	74
34-35	21	9	6	4	10	6			1	57
36-37	7	23	5	8	12	8			1	64
38-39	7	20	11	9	14	8			1	70
40-41	5	4	17	11	18	14			5	74
42-43	9	6	7	27	30	10			14	103
44-45	15	7	6	29	11	10			13	91
46-47	17	8	3	12	11	6			4	61
48-49	7	9	3	6	5	7		1	2	40
50-51	1	4	2	4	3	5			3	22
52-53		1								1
Totals	124	122	88	119	139	80	0	1	105	778

Aged Otoliths

Age (years)	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals
2	4									4
3	7									7
4	4									4
5	37									37
6	16									16
7	2									2
8	1									1
9	1									1
10	1									1
11	12									12
12	6									6
13	5									5
14	10									10
15	6									6
16	5									5
17	1									1
18	2									2
20	2									2
21	1									1
28	1									1
Totals	124	0	0	0	0	0	0	0	0	124

NWFSC Shelf/Slope Bottom Trawl Survey, 2003-2012.

2003-2012 Total Numbers divided by 10 of:					2005-2012 Total numbers of:		
Tows > 0	Lengths	Weights	Age structures	Age reads	Stomachs	Ovaries	Maturities
41	784	357	369	46	116		

NWFSC Slope Survey, 1998-2002.

NWFSC Slope Survey (1998-2002)				
Average 1998-2002 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
1				

AFSC Slope Survey, 1996-2001.

Average 1996-2001 numbers of: (Total divided by 5 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
2	38			

AFSC Triennial Survey, 1980-2004.

Average 1980-2004 numbers: (Total divided by 9 years)				
Tows > 0	Lengths	Weights	Age Structures	Age reads
101	2,232	565	782	779