Summary of avaible West Coast groundfish data to support 2023 assessments

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January 2022

Correct citation for this publication:

Wetzel, C.R., J. Hastie. 2022. Summary of avaible West Coast groundfish data to support 2023 assessments. Pacific Fishery Management Council, Portland, Oregon. 240 p.

Contents

1 Introduction

A brief summary of the NWFSC West Coast Groundfish Bottom Trawl (WCGBT) and NWFSC Hook & Line Surveys is presented here for data available from 2003 - `endyr`. These analyses are meant to provide additional information and guidance for the 2022 assessment prioritization process. The selection of the species from the WCGBTS was based on having an average of 20 or more positive tows by the survey per year.

The indices were calculated using VAST and the biomass estimates were aggregated by a generalized approach using state boundaries based on the areas where observations were present. Future species specific assessments may select a more tailored approach for summarizing the NWFSC WCGBTS data by area.

The length data also were expanded using a generalized stratification. The composition data were expanded using a design-based approach with stratas based on state latitudes with two depth stratas: 55 - 183 m and 183 - 549 m, for all species except for three. The three exceptions were species with considerable biomass at depths greater than 549 m: Dover sole, longspine thornyhead, and shortspine thornyhead. These three species had an additional depth strata that included deeper waters, 549 - 1280 m, for each state area. The expanded length composition data were summarized using either a 2 or 4 cm bin structure depending upon the range between maximum and minimum lengths observed within the survey data. Species where the range between the maximum and minimum lengths observed by the survey were less than 60 cm, 2 cm data bins were used, and for species where the range was 60 cm or greater the data bins were set at 4 cm. The generalized stratification and bin structure selected here provides a simple summary of the data that can be useful for decision making, but will likely differ from a species specific approach that would be selected in a future assessment.

2 Arrowtooth flounder

Arrowtooth flounder have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 54741 length observations, a total of 913 age readings, and 23472 available to be aged. The recreational fisheries across all states have collected a total of 162 length observations, a total of 0 age readings, and 12 available to be aged. The NWFSC WCGBT across all states have collected a total of 52254 length observations, a total of 4324 age readings, and 10799 available to be aged.

Table 1: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	129	24	153	0	0
C	2005	160	1	161	0	0
C	2006	549	0	549	0	0
C	2007	362	6	368	0	0
C	2008	320	1	321	0	0
C	2009	288	16	304	0	0
C	2010	326	11	337	0	0
C	2011	647	104	750	0	215
C	2012	862	120	982	0	141
C	2013	833	29	862	0	44
C	2014	539	42	581	0	47
C	2015	573	63	636	0	135
C	2016	563	139	702	0	105
C	2017	368	21	389	0	2
C	2018	126	0	126	0	0
C	2019	127	35	162	0	0
C	2020	102	22	124	0	0
O	1987	150	0	150	0	0
O	1990	374	0	374	0	374
O	1991	550	0	550	0	550
O	1992	650	0	650	0	650
O	2006	534	0	534	0	490
O	2007	1561	0	1561	0	1231
O	2008	1488	1	1489	0	1189
O	2009	1419	2	1420	0	1269
O	2010	2225	7	2232	0	1412
O	2011	1893	0	1893	0	1863

Table 1: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2012	1219	0	1219	0	1149
O	2013	1025	4	1029	0	999
O	2014	1259	1	1260	0	1230
O	2015	1257	0	1257	0	1062
O	2016	1384	0	1384	0	1258
O	2017	1307	0	1307	0	1162
O	2018	1228	3	1231	0	1061
O	2019	1065	1	1066	0	838
O	2020	438	0	438	0	348
W	1986	950	0	950	0	847
W	1987	1050	0	1050	0	995
W	1988	800	0	800	0	729
W	1989	850	0	850	0	778
W	1990	600	0	600	0	599
W	1991	1100	0	1100	0	550
W	1992	849	1	850	0	0
W	1993	900	0	900	0	0
W	1994	1000	0	1000	0	0
W	1995	1098	0	1098	0	0
W	1996	900	0	900	0	0
W	1997	895	5	900	0	0
W	1998	999	2	1001	150	150
W	1999	1098	1	1099	0	0
W	2000	1050	0	1050	0	0
W	2001	800	0	800	0	0
W	2002	499	1	500	0	0
W	2003	300	0	300	299	0
W	2004	300	0	300	266	0
W	2005	199	1	200	198	0
W	2006	604	1	605	0	0
W	2007	1050	0	1050	0	0
W	2008	900	0	900	0	0
W	2009	1365	0	1365	0	0
W	2010	833	0	833	0	0
W	2011	899	0	899	0	0
W	2012	1098	2	1100	0	0
W	2013	500	0	500	0	0
W	2014	600	0	600	0	0
W	2015	599	1	600	0	0
W	2016	177	25	202	0	0
W	2017	250	0	250	0	0

Table 1: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2018	703	0	703	0	0
W	2019	259	0	259	0	0
W	2020	76	0	76	0	0

Table 2: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2011	0	1	1	0	0
C	2012	0	1	1	0	0
C	2013	0	2	2	0	0
C	2014	0	4	4	0	0
C	2016	0	4	4	0	0
C	2017	0	1	1	0	0
C	2018	0	4	4	0	0
O	2001	0	3	3	0	0
O	2002	0	7	7	0	0
O	2003	0	14	14	0	0
O	2004	0	14	14	0	0
O	2005	0	3	3	0	0
O	2006	0	13	13	0	0
O	2007	0	10	10	0	0
O	2008	0	8	8	0	0
O	2009	0	5	5	0	0
O	2010	0	1	1	0	0
O	2011	0	2	2	0	0
O	2012	0	1	1	0	0
O	2013	0	5	5	0	0
O	2014	0	4	4	0	0
O	2015	0	2	2	0	0
O	2016	0	8	8	0	0
O	2017	0	8	8	0	0
O	2018	0	6	6	0	0
O	2019	0	8	8	0	0
W	2006	0	2	2	0	0
W	2008	0	4	4	0	0
W	2012	0	1	1	0	0

Table 2: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2015	0	2	2	0	0
W	2017	0	1	1	0	0
W	2018	2	1	3	0	2
W	2020	6	0	6	0	6
W	2021	4	0	4	0	4

Table 3: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	4502	0	4502	512	857
NA	2004	2713	0	2713	485	202
NA	2005	3932	3	3935	853	4
NA	2006	3030	6	3036	475	260
NA	2007	3520	32	3552	0	894
NA	2008	3221	6	3227	0	874
NA	2009	3448	21	3469	0	956
NA	2010	3697	6	3703	0	1134
NA	2011	3057	3	3060	0	1043
NA	2012	3027	18	3045	399	627
NA	2013	2519	15	2534	400	285
NA	2014	3537	124	3650	400	523
NA	2015	3863	5	3851	400	567
NA	2016	3257	0	3257	400	574
NA	2017	2200	5	2205	0	862
NA	2018	1761	0	1761	0	761
NA	2019	754	0	754	0	376

3 Aurora rockfish

The commercial fisheries across all states have collected a total of 42495 length observations,

a total of 1361 age readings, and 18891 available to be aged. The NWFSC WCGBT across all states have collected a total of 26586 length observations, a total of 3089 age readings, and 8334 available to be aged.

Table 4: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	34	1	35	0	33
C	1981	83	0	83	0	39
C	1982	94	0	94	0	43
C	1983	542	0	542	0	524
C	1984	415	0	415	0	414
C	1985	791	7	798	0	847
C	1986	574	1	575	0	66
C	1987	178	1	179	0	0
C	1988	215	3	218	0	0
C	1989	231	34	265	0	0
C	1990	282	204	486	0	0
C	1991	115	1	116	0	0
C	1992	105	264	369	0	0
C	1993	158	86	244	0	0
C	1994	343	78	421	0	0
C	1995	441	48	489	0	0
C	1996	421	350	771	0	0
C	1997	330	224	554	0	0
C	1998	235	61	296	0	0
C	1999	233	77	310	0	0
C	2000	245	40	285	0	22
C	2001	246	254	489	0	0
C	2002	1030	353	1352	0	620
C	2003	1453	635	2075	497	413
C	2004	337	169	482	0	235
C	2005	682	279	960	0	382
C	2006	725	608	1330	0	381
C	2007	745	186	930	0	240
C	2008	1493	152	1645	229	0
C	2009	1087	268	1355	155	196
C	2010	780	188	942	0	69
C	2011	1428	1270	2145	0	795
C	2012	939	1234	1459	0	744
C	2013	431	890	734	0	364
C	2014	178	954	533	0	115

Table 4: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2015	550	1267	879	0	458
C	2016	524	1205	1276	0	161
C	2017	1276	526	1495	0	63
C	2018	509	94	603	0	22
C	2019	380	141	437	0	0
C	2020	162	38	200	0	0
O	2001	154	0	154	0	114
O	2003	90	0	90	85	3
O	2004	260	0	260	0	258
O	2005	176	0	176	0	176
O	2006	316	0	316	0	301
O	2007	765	0	765	0	713
O	2008	621	0	621	196	423
O	2009	754	0	754	199	551
O	2010	591	2	593	0	536
O	2011	1282	0	1282	0	1272
O	2012	1265	1	1266	0	1238
O	2013	1154	0	1154	0	1113
O	2014	1251	0	1251	0	1251
O	2015	834	0	834	0	834
O	2016	783	0	783	0	783
O	2017	853	0	853	0	853
O	2018	755	1	756	0	741
O	2019	390	0	390	0	388
O	2020	96	1	97	0	97
W	1996	0	10	10	0	0
W	1997	2	16	18	0	0
W	1998	13	3	16	0	0
W	1999	7	3	10	0	0
W	2000	3	10	13	0	0
W	2001	11	1	12	0	0
W	2002	11	0	11	0	0
W	2003	76	7	83	0	0
W	2004	118	0	118	0	0
W	2005	51	0	51	0	0
W	2006	30	0	30	0	0
W	2007	15	0	15	0	0
W	2008	18	0	18	0	0
W	2009	36	4	40	0	0
W	2010	16	0	16	0	0
W	2011	134	0	134	0	0

Table 4: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2012	180	6	186	0	0
W	2013	24	0	24	0	0
W	2014	73	5	78	0	0
W	2015	101	5	106	0	0
W	2016	31	1	32	0	0
W	2017	53	0	53	0	0
W	2018	101	1	102	0	0
W	2019	57	0	57	0	0
W	2020	1	0	1	0	0

Table 5: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	1105	15	1120	404	155
NA	2004	1087	0	1087	0	354
NA	2005	1669	16	1685	428	139
NA	2006	1713	3	1716	0	599
NA	2007	1679	15	1694	395	191
NA	2008	1702	6	1708	0	706
NA	2009	1889	8	1897	403	184
NA	2010	1605	29	1634	487	318
NA	2011	1481	41	1522	502	282
NA	2012	1659	25	1684	470	408
NA	2013	849	2	851	0	515
NA	2014	1500	8	1497	0	665
NA	2015	2050	9	2059	0	793
NA	2016	1947	26	1973	0	944
NA	2017	2062	8	2070	0	843
NA	2018	1756	3	1759	0	906
NA	2019	629	1	630	0	332

4 Bank rockfish

Bank rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 48625 length observations, a total of 5064 age readings, and 24837 available to be aged. The recreational fisheries across all states have collected a total of 601 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 2024 length observations, a total of 0 age readings, and 1295 available to be aged. The NWFSC HKL across all states have collected a total of 2532 length observations, a total of 0 age readings, and 2520 available to be aged.

Table 6: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	20	8	28	23	1
C	1981	334	36	370	235	0
C	1982	556	17	573	513	292
C	1983	913	373	1283	0	226
C	1984	1979	1337	3315	249	1592
C	1985	3819	1989	5808	93	4231
C	1986	5962	332	6294	457	2385
C	1987	3237	391	3628	219	1017
C	1988	1904	120	2024	486	1633
C	1989	1486	62	1548	379	461
C	1990	1610	64	1674	399	1260
C	1991	1713	91	1804	405	1897
C	1992	981	386	1367	6	1081
C	1993	501	406	907	382	770
C	1994	508	408	916	292	435
C	1995	272	532	804	271	281
C	1996	638	615	1253	238	606
C	1997	1175	495	1670	415	1063
C	1998	822	520	1342	2	671
C	1999	342	77	419	0	260
C	2000	392	243	635	0	140
C	2001	469	788	1201	0	372
C	2002	651	654	1300	0	510
C	2003	748	146	821	0	573
C	2004	455	279	731	0	368
C	2005	112	114	226	0	79

Table 6: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2006	103	131	234	0	127
C	2007	132	98	230	0	100
C	2008	347	452	799	0	250
C	2009	122	237	359	0	58
C	2010	210	64	274	0	81
C	2011	82	144	225	0	74
C	2012	66	301	367	0	63
C	2013	177	240	412	0	176
C	2014	49	120	169	0	46
C	2015	148	272	420	0	134
C	2016	84	484	567	0	81
C	2017	141	186	327	0	126
C	2018	36	282	318	0	36
C	2019	140	68	208	0	0
C	2020	55	174	229	0	0
O	2001	2	0	2	0	2
O	2004	21	0	21	0	21
O	2005	26	0	26	0	26
O	2006	8	0	8	0	8
O	2007	61	0	61	0	59
O	2008	132	0	131	0	105
O	2009	43	0	43	0	43
O	2010	44	0	44	0	43
O	2011	65	0	65	0	65
O	2012	42	0	42	0	42
O	2013	97	0	97	0	97
O	2014	91	0	91	0	90
O	2015	61	0	61	0	61
O	2016	102	0	102	0	102
O	2017	92	0	92	0	86
O	2018	159	0	159	0	158
O	2019	145	0	145	0	145
O	2020	128	0	128	0	128
W	2004	2	0	2	0	0
W	2011	2	0	2	0	0
W	2014	2	0	2	0	0
W	2015	4	0	4	0	0
W	2016	2	0	2	0	0
W	2017	1	0	1	0	0
W	2019	193	0	193	0	0
W	2020	22	0	22	0	0

Table 6: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths

Table 7: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	1	1	0	0
C	2004	0	50	50	0	0
C	2005	0	38	38	0	0
C	2006	0	3	3	0	0
C	2007	0	19	19	0	0
C	2008	0	13	13	0	0
C	2009	0	11	11	0	0
C	2010	0	10	10	0	0
C	2011	0	51	51	0	0
C	2012	0	19	19	0	0
C	2013	0	27	27	0	0
C	2014	0	30	30	0	0
C	2015	0	193	193	0	0
C	2016	0	95	95	0	0
C	2017	0	19	19	0	0
C	2018	0	6	6	0	0
C	2019	0	16	16	0	0

Table 8: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	6	0	6	0	4
NA	2004	106	0	106	0	60
NA	2005	70	26	96	0	50
NA	2006	255	0	255	0	62
NA	2007	59	16	75	0	55
NA	2008	31	0	31	0	31

Table 8: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2009	82	2	84	0	74
NA	2010	169	1	170	0	71
NA	2011	134	4	138	0	52
NA	2012	31	0	31	0	30
NA	2013	32	0	32	0	32
NA	2014	142	3	145	0	111
NA	2015	60	0	60	0	60
NA	2016	68	132	200	0	155
NA	2017	39	0	39	0	39
NA	2018	295	16	311	0	187
NA	2019	243	2	245	0	222

Table 9: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	12	0	12	0	12
C	2005	24	0	24	0	23
C	2006	49	0	49	0	49
C	2007	15	0	15	0	15
C	2008	40	0	39	0	40
C	2009	30	0	30	0	30
C	2010	75	0	75	0	75
C	2011	32	0	32	0	31
C	2012	25	0	25	0	25
C	2013	38	0	38	0	38
C	2014	132	1	133	0	131
C	2015	385	3	387	0	387
C	2016	312	1	312	0	312
C	2017	382	8	383	0	378
C	2018	560	5	560	0	560
C	2019	418	3	418	0	414

5 Big skate

Big skate have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 8575 length observations, a total of 654 age readings, and 1086 available to be aged. The recreational fisheries across all states have collected a total of 41 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 5410 length observations, a total of 1034 age readings, and 112 available to be aged.

Table 10: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2007	1	0	1	0	0
C	2009	32	10	32	0	0
C	2010	8	0	8	0	0
C	2011	2	0	2	0	0
C	2012	43	0	43	0	0
C	2013	201	6	207	0	0
C	2014	217	1	218	0	0
C	2015	237	0	237	0	0
C	2016	181	0	181	0	0
C	2017	239	0	239	0	0
C	2018	157	0	157	0	0
C	2019	98	0	98	0	0
C	2020	33	3	36	0	0
O	1995	55	0	55	0	0
O	1996	8	0	8	0	0
O	1997	14	0	14	0	0
O	1998	2	0	2	0	0
O	1999	8	0	8	0	0
O	2001	43	0	43	0	0
O	2002	199	0	199	0	0
O	2003	202	0	202	0	0
O	2004	27	0	27	0	0
O	2005	123	0	123	0	0
O	2006	310	0	310	0	0
O	2007	127	0	127	23	29
O	2008	95	0	94	80	0
O	2009	235	0	235	87	0

Table 10: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2010	187	0	186	103	3
O	2011	419	0	419	202	0
O	2012	477	0	477	120	7
O	2013	254	0	252	0	0
O	2014	237	0	237	0	0
O	2015	412	0	411	0	0
O	2016	444	0	444	0	0
O	2017	668	0	668	0	57
O	2018	554	0	553	39	423
O	2019	550	0	550	0	394
O	2020	96	0	96	0	47
W	2004	15	0	15	0	14
W	2005	87	0	87	0	0
W	2006	191	1	192	0	0
W	2007	173	0	173	0	0
W	2008	94	0	94	0	0
W	2009	18	0	18	0	0
W	2010	15	0	15	0	0
W	2011	14	0	9	0	0
W	2012	38	0	38	0	0
W	2013	168	0	168	0	0
W	2014	249	0	249	0	0
W	2015	8	2	10	0	0
W	2016	107	0	107	0	0
W	2017	56	0	56	0	0
W	2018	121	0	121	0	112
W	2019	20	0	20	0	0
W	2020	4	0	4	0	0

Table 11: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	2	2	0	0
C	2005	0	5	5	0	0
C	2006	0	1	1	0	0
C	2007	1	1	2	0	0

Table 11: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2008	1	1	2	0	0
C	2009	0	2	2	0	0
C	2010	2	0	2	0	0
C	2011	1	1	2	0	0
C	2012	0	2	2	0	0
C	2013	2	3	5	0	0
C	2017	1	2	3	0	0
O	2004	0	3	3	0	0
O	2005	0	2	2	0	0
O	2009	0	2	2	0	0
O	2011	0	1	1	0	0
O	2013	0	1	1	0	0
O	2014	0	2	2	0	0
O	2017	0	1	1	0	0
O	2019	0	1	1	0	0

Table 12: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	195	2	197	0	0
NA	2004	259	3	262	0	0
NA	2005	328	0	328	0	0
NA	2006	152	3	0	0	0
NA	2007	191	1	95	0	0
NA	2008	159	0	159	0	0
NA	2009	302	3	305	230	0
NA	2010	466	0	466	333	3
NA	2011	360	0	360	0	0
NA	2012	395	0	395	0	0
NA	2013	316	0	316	0	0
NA	2014	552	0	552	0	0
NA	2015	549	0	546	0	0
NA	2016	422	0	422	138	2
NA	2017	496	0	496	164	23
NA	2018	331	0	331	169	2
NA	2019	180	NA	180	0	82

6 Gopher/Black and yellow rockfish

Gopher/Black and yellow rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 39905 length observations, a total of 45 age readings, and 76 available to be aged. The recreational fisheries across all states have collected a total of 90825 length observations, a total of 0 age readings, and 41 available to be aged. The NWFSC WCGBT across all states have collected a total of 17 length observations, a total of 0 age readings, and 15 available to be aged. The NWFSC HKL across all states have collected a total of 8 length observations, a total of 0 age readings, and 6 available to be aged.

Table 13: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1985	0	8	8	0	1
C	1987	0	82	82	0	0
C	1992	0	67	67	0	0
C	1993	0	167	165	0	0
C	1994	0	241	241	0	0
C	1995	0	736	736	0	0
C	1996	0	732	732	0	0
C	1997	0	715	715	0	0
C	1998	0	1399	1399	0	0
C	1999	0	1611	1587	0	0
C	2000	0	1791	1768	0	0
C	2001	0	598	552	0	0
C	2002	0	368	356	0	0
C	2003	0	342	326	0	0
C	2004	0	389	371	0	0
C	2005	0	500	404	0	0
C	2006	0	527	156	0	0
C	2007	0	640	488	0	0
C	2008	0	319	167	0	0
C	2009	0	325	250	0	0
C	2010	1	336	300	0	0

Table 13: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2011	1	275	274	0	0
C	2012	0	342	289	0	0
C	2013	0	278	238	0	0
C	2014	0	152	67	0	0
C	2015	0	224	222	0	0
C	2016	0	405	405	0	0
C	2017	0	575	574	0	0
C	2018	2	595	596	0	0
C	2019	5	535	540	0	0
C	2020	3	620	620	0	0
O	2001	4	0	4	0	0
O	2002	3	0	2	0	0
O	2003	1	0	1	0	0
O	2004	6	0	6	0	0
O	2006	4	0	4	0	0
O	2007	6	0	6	0	0
O	2008	3	0	3	0	0
O	2009	1	0	1	0	0
O	2012	2	0	2	0	0
O	2014	3	0	3	0	0
O	2015	4	0	4	0	0
O	2016	1	0	1	0	0
O	2018	1	0	1	0	0
C	1988	1	0	1	0	0
C	1992	0	700	700	0	0
C	1993	0	1488	1484	0	0
C	1994	0	1151	1151	0	0
C	1995	0	811	811	0	0
C	1996	0	2551	2551	0	0
C	1997	0	611	610	0	0
C	1998	0	1166	1166	0	0
C	1999	0	1725	1704	0	0
C	2000	18	3280	3155	0	0
C	2001	1	1733	1724	0	0
C	2002	0	695	665	0	0
C	2003	0	302	299	0	0
C	2004	0	466	399	0	0
C	2005	0	468	296	0	0
C	2006	1	644	322	0	0
C	2007	0	1028	677	0	0
C	2008	54	619	393	0	0

Table 13: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2009	20	753	604	8	8
C	2010	61	880	625	7	15
C	2011	3	644	584	2	3
C	2012	1	488	420	0	0
C	2013	0	391	343	0	0
C	2014	0	216	117	0	0
C	2015	0	381	356	0	0
C	2016	2	526	524	2	2
C	2017	0	1015	1009	0	0
C	2018	30	587	615	26	27
C	2019	121	844	964	0	5
C	2020	29	765	790	0	0
O	2000	3	0	3	0	0
O	2001	5	0	5	0	0
O	2002	11	0	11	0	0
O	2003	10	0	10	0	0
O	2004	4	0	4	0	2
O	2005	2	0	2	0	0
O	2006	7	0	7	0	0
O	2007	7	0	7	0	1
O	2008	10	0	10	0	0
O	2009	4	0	4	0	1
O	2010	8	0	8	0	1
O	2011	5	0	5	0	1
O	2012	7	0	7	0	0
O	2013	2	0	2	0	2
O	2014	3	0	3	0	3
O	2015	3	0	3	0	1
O	2016	6	0	6	0	1
O	2017	4	0	4	0	1
O	2018	5	0	5	0	0
O	2019	3	0	3	0	1
O	2020	4	0	4	0	0

Table 14: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	228	227	0	0
C	2004	0	3364	3364	0	0
C	2005	0	3912	3912	0	0
C	2006	2	4661	4663	0	0
C	2007	0	4376	4376	0	0
C	2008	3	5478	5481	0	0
C	2009	2	5996	5998	0	0
C	2010	1	7517	7518	0	0
C	2011	1	6663	6664	0	0
C	2012	1	5502	5503	0	0
C	2013	0	4783	4782	0	0
C	2014	0	4754	4754	0	0
C	2015	0	5549	5547	0	0
C	2016	3	6008	6010	0	0
C	2017	2	4373	4373	0	0
C	2018	0	3442	3441	0	5
C	2019	3	4044	4041	0	21
C	2020	0	19	19	0	0
C	2003	0	7	7	0	0
C	2004	1	275	276	0	0
C	2005	0	480	480	0	0
C	2006	0	468	468	0	0
C	2007	0	319	319	0	0
C	2008	0	625	625	0	0
C	2009	0	1034	1034	0	0
C	2010	0	896	896	0	0
C	2011	1	1040	1041	0	0
C	2012	1	597	598	0	0
C	2013	1	565	566	0	0
C	2014	1	651	652	0	0
C	2015	0	710	710	0	0
C	2016	0	716	716	0	0
C	2017	1	819	818	0	0
C	2018	0	462	462	0	0
C	2019	2	352	353	0	0
C	2020	0	4	4	0	0
O	2002	0	1	1	0	0
O	2003	0	13	13	0	0
O	2004	0	3	3	0	0
O	2005	0	6	6	0	0

Table 14: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2006	0	4	4	0	0
O	2007	0	3	3	0	0
O	2008	2	1	3	0	2
O	2009	0	6	6	0	0
O	2010	1	4	5	0	1
O	2011	1	6	7	0	1
O	2012	0	4	4	0	0
O	2013	1	16	17	0	1
O	2014	2	4	6	0	2
O	2016	0	1	1	0	0
O	2017	0	1	1	0	0
O	2018	2	6	8	0	2
O	2019	0	8	8	0	0
O	2020	0	2	2	0	0
O	2004	0	2	2	0	0
O	2005	0	1	1	0	0
O	2010	3	9	12	0	3
O	2012	0	1	1	0	0
O	2013	1	3	4	0	1
O	2014	2	2	4	0	2
O	2017	0	1	1	0	0
O	2018	0	1	1	0	0
O	2019	0	3	3	0	0

Table 15: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2005	1	0	1	0	1
NA	2006	2	0	2	0	2
NA	2009	1	0	1	0	1
NA	2010	3	0	3	0	3
NA	2011	0	1	1	0	1
NA	2012	3	2	5	0	3
NA	2013	1	1	2	0	2
NA	2017	0	1	1	0	1
NA	2018	1	0	1	0	1

Table 16: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2005	1	0	1	0	1
C	2007	2	0	2	0	2
C	2011	1	0	1	0	1
C	2014	2	0	2	0	0
C	2017	1	0	1	0	1
C	2018	1	0	1	0	1

7 Black rockfish

Black rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 116789 length observations, a total of 20281 age readings, and 20602 available to be aged. The recreational fisheries across all states have collected a total of 404735 length observations, a total of 55734 age readings, and 14600 available to be aged. The NWFSC WCGBT across all states have collected a total of 10 length observations, a total of 0 age readings, and 10 available to be aged.

Table 17: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	121	11	132	28	71
C	1981	130	0	130	129	130
C	1982	368	1	368	16	261
C	1983	283	0	283	0	288
C	1984	233	0	233	226	226
C	1985	188	0	188	144	172
C	1986	27	0	27	0	0
C	1987	184	0	184	0	0

Table 17: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1988	125	0	125	0	0
C	1989	80	0	80	0	0
C	1990	5	0	5	0	0
C	1991	36	0	36	0	0
C	1992	138	875	1013	0	0
C	1993	3	2410	2413	0	0
C	1994	0	2836	2836	0	0
C	1995	0	2145	2145	0	0
C	1996	25	1953	1978	0	0
C	1997	52	997	1049	0	0
C	1998	6	300	306	0	0
C	1999	25	2360	2385	0	0
C	2000	25	599	596	0	0
C	2001	47	952	999	32	32
C	2002	27	574	601	13	13
C	2003	19	123	142	19	19
C	2004	9	264	266	9	9
C	2005	1	219	220	1	1
C	2006	0	641	641	0	0
C	2007	37	531	559	28	28
C	2008	0	290	283	0	0
C	2009	136	554	683	96	97
C	2010	0	174	174	0	0
C	2011	44	308	349	44	44
C	2012	44	652	695	44	44
C	2013	1	620	590	1	1
C	2014	0	1212	1172	0	0
C	2015	12	1706	1712	0	12
C	2016	9	915	924	0	9
C	2017	0	478	478	0	0
C	2018	39	547	568	0	39
C	2019	55	137	89	0	320
C	2020	498	1	499	0	0
O	1985	355	0	355	0	0
O	1992	203	0	203	143	0
O	1994	41	0	41	41	0
O	1995	434	5	439	0	0
O	1996	228	0	228	0	0
O	1997	441	0	441	0	28
O	1998	381	0	381	194	50
O	1999	152	0	152	0	0

Table 17: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2000	603	0	603	287	5
O	2001	1049	0	1049	205	0
O	2002	1239	93	1332	316	14
O	2003	1368	46	1414	489	8
O	2004	3566	0	3566	453	162
O	2005	2261	0	2261	310	1
O	2006	4531	49	4580	772	30
O	2007	3824	24	3843	635	13
O	2008	2916	5	2921	619	53
O	2009	2868	76	2944	839	47
O	2010	4034	224	4257	864	151
O	2011	4592	0	4590	880	500
O	2012	3536	53	3583	789	738
O	2013	4243	61	4304	440	1484
O	2014	6819	57	6876	935	2298
O	2015	6406	18	6424	951	1920
O	2016	6293	11	6303	951	1894
O	2017	5290	4	5294	0	2909
O	2018	5072	22	5094	0	2976
O	2019	4626	31	4657	0	2541
O	2020	1665	13	1678	0	964
W	1980	100	96	196	99	0
W	1981	400	0	400	394	0
W	1982	400	29	429	295	0
W	1983	900	24	924	894	0
W	1984	400	0	400	397	0
W	1986	849	0	849	846	0
W	1987	1122	2	1123	1121	0
W	1988	524	0	524	515	0
W	1989	524	0	524	521	0
W	1990	349	0	349	349	0
W	1991	777	25	802	801	0
W	1992	573	2	575	575	0
W	1993	665	1	666	664	0
W	1994	444	0	444	443	0
W	1995	406	1	406	405	0
W	1997	0	31	31	0	0
W	1998	85	0	85	0	0
W	2000	3	0	3	0	0
W	2001	0	1	1	0	0
W	2002	50	0	50	0	0

Table 17: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2003	3	0	3	0	0
W	2004	14	1	15	0	0
W	2005	1	0	1	0	0
W	2006	20	0	20	19	0

Table 18: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	37	37	0	0
C	2004	0	3402	3402	0	0
C	2005	0	5449	5449	0	0
C	2006	0	5366	5366	0	0
C	2007	0	6950	6950	0	0
C	2008	0	8416	8416	0	0
C	2009	2	11549	11551	0	0
C	2010	0	5859	5859	0	0
C	2011	0	8124	8124	0	0
C	2012	1	9914	9915	0	0
C	2013	20	17724	17743	0	0
C	2014	0	12088	12088	0	0
C	2015	1	11818	11818	0	0
C	2016	0	9077	9077	0	0
C	2017	0	5883	5883	0	0
C	2018	1	5422	5423	0	212
C	2019	1	3668	3669	0	250
C	2020	0	12	12	0	0
O	1999	3608	158	3766	0	0
O	2000	4833	23	4856	0	0
O	2001	3101	5671	8772	3086	71
O	2002	3757	3712	7469	3463	294
O	2003	3461	3637	7098	2230	1214
O	2004	3261	2754	6015	2287	1020
O	2005	3125	3954	7079	1787	1331
O	2006	2173	7295	9468	2247	0
O	2007	2052	10741	12793	1988	40
O	2008	1	11764	11765	0	0

Table 18: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2009	1093	11344	12437	969	113
O	2010	1161	11901	13062	1177	0
O	2011	1107	11750	12857	861	263
O	2012	1067	12394	13461	543	544
O	2013	1038	12652	13690	526	520
O	2014	1083	11708	12791	549	543
O	2015	1078	12784	13862	1074	0
O	2016	1098	10596	11694	530	554
O	2017	991	10233	11224	494	485
O	2018	1203	11825	13028	0	1203
O	2019	1154	11727	12881	0	1159
O	2020	1110	989	2099	0	1118
W	2002	1850	779	2629	1894	5
W	2003	1853	470	2323	1841	12
W	2004	1657	343	2000	1645	12
W	2005	1664	563	2227	1653	11
W	2006	1608	1244	2852	1484	16
W	2007	2311	612	2923	2300	13
W	2008	1987	505	2492	1920	69
W	2009	1696	1034	2730	1671	16
W	2010	1598	982	2580	1586	12
W	2011	1181	1302	2483	1171	10
W	2012	1263	1122	2385	1038	52
W	2013	1767	1090	2857	1762	5
W	2014	1608	678	2286	1564	25
W	2015	2666	484	3150	2152	7
W	2016	1732	439	2171	1713	20
W	2017	2299	1047	3346	2254	9
W	2018	1827	966	2793	1761	59
W	2019	2552	1321	3873	2514	15
W	2020	1374	75	1449	0	1374
W	2021	1992	245	2237	0	1924

Table 19: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2004	1	0	1	0	1
NA	2009	2	0	2	0	2
NA	2010	1	0	1	0	1
NA	2015	1	0	1	0	1
NA	2016	1	0	1	0	1
NA	2017	3	0	3	0	3
NA	2019	1	0	1	0	1

8 Blackgill rockfish

Blackgill rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 58511 length observations, a total of 1858 age readings, and 13035 available to be aged. The recreational fisheries across all states have collected a total of 1 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 8490 length observations, a total of 1948 age readings, and 4053 available to be aged. The NWFSC HKL across all states have collected a total of 5 length observations, a total of 0 age readings, and 5 available to be aged.

Table 20: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	36	4	40	0	30
C	1981	33	149	182	0	33
C	1982	157	0	156	17	39
C	1983	270	367	637	185	227
C	1984	343	794	1137	127	325
C	1985	1751	1239	2987	86	1613
C	1986	4216	937	5153	134	309

Table 20: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1987	2961	548	3509	0	9
C	1988	2327	312	2639	0	42
C	1989	628	531	1159	0	0
C	1990	953	65	1018	0	0
C	1991	929	13	942	0	0
C	1992	734	1631	2365	0	108
C	1993	509	82	591	0	0
C	1994	245	642	887	0	0
C	1995	653	750	1403	0	23
C	1996	778	1494	2272	0	0
C	1997	749	1046	1795	0	0
C	1998	695	482	1177	0	10
C	1999	507	98	605	0	11
C	2000	463	245	704	0	0
C	2001	324	502	819	64	92
C	2002	638	757	1342	169	225
C	2003	335	788	1020	157	390
C	2004	162	170	328	21	84
C	2005	275	349	623	176	324
C	2006	230	573	802	221	357
C	2007	150	367	515	101	193
C	2008	445	1140	1560	230	242
C	2009	238	1165	1402	131	306
C	2010	280	1007	1284	39	175
C	2011	365	1017	1365	0	242
C	2012	365	1022	1360	0	323
C	2013	262	433	682	0	203
C	2014	192	509	675	0	154
C	2015	213	1143	1305	0	178
C	2016	158	1445	1543	0	93
C	2017	220	579	797	0	100
C	2018	118	424	542	0	0
C	2019	259	462	721	0	83
C	2020	306	363	669	0	0
O	1997	32	27	59	0	0
O	2002	6	0	6	0	5
O	2003	82	0	82	0	76
O	2004	22	0	22	0	22
O	2005	19	0	19	0	19
O	2006	124	0	124	0	123
O	2007	204	0	204	0	190

Table 20: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2008	341	0	341	0	328
O	2009	472	0	472	0	468
O	2010	594	0	594	0	582
O	2011	435	0	435	0	428
O	2012	823	0	823	0	791
O	2013	665	0	665	0	627
O	2014	818	0	818	0	817
O	2015	531	0	531	0	531
O	2016	253	0	253	0	253
O	2017	490	0	490	0	490
O	2018	402	0	402	0	401
O	2019	288	0	288	0	288
O	2020	53	0	53	0	53
W	1996	0	31	31	0	0
W	1997	0	182	182	0	0
W	1998	125	12	137	0	0
W	1999	55	21	76	0	0
W	2000	93	60	153	0	0
W	2001	21	14	35	0	0
W	2002	18	9	27	0	0
W	2003	65	9	74	0	0
W	2004	29	3	32	0	0
W	2005	39	1	40	0	0
W	2006	22	0	22	0	0
W	2007	28	0	28	0	0
W	2008	27	1	28	0	0
W	2009	30	0	30	0	0
W	2010	22	0	22	0	0
W	2011	47	1	48	0	0
W	2012	48	0	48	0	0
W	2013	26	0	26	0	0
W	2014	29	2	31	0	0
W	2015	5	0	5	0	0
W	2016	16	0	16	0	0
W	2017	11	0	11	0	0
W	2018	3	0	3	0	0
W	2019	13	0	13	0	0

Table 21: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	1	1	0	0

Table 22: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	129	0	129	0	89
NA	2004	449	0	449	0	175
NA	2005	397	1	398	0	191
NA	2006	750	2	752	0	200
NA	2007	298	0	298	0	194
NA	2008	339	0	339	0	243
NA	2009	535	18	553	0	430
NA	2010	514	8	522	0	461
NA	2011	362	3	365	311	0
NA	2012	503	5	508	419	0
NA	2013	415	4	419	0	348
NA	2014	847	7	854	638	0
NA	2015	717	2	719	580	0
NA	2016	379	0	379	0	361
NA	2017	594	2	596	0	442
NA	2018	968	2	970	0	693
NA	2019	239	1	240	0	226

Table 23: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2010	1	0	1	0	1
C	2013	1	0	1	0	1
C	2018	3	0	3	0	3

9 Blue/Deacon rockfish

Blue/Deacon rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 22413 length observations, a total of 2297 age readings, and 2453 available to be aged. The recreational fisheries across all states have collected a total of 239895 length observations, a total of 3959 age readings, and 16757 available to be aged. The NWFSC WCGBT across all states have collected a total of 49 length observations, a total of 0 age readings, and 27 available to be aged. The NWFSC HKL across all states have collected a total of 675 length observations, a total of 0 age readings, and 656 available to be aged.

Table 24: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	3	0	3	0	0
C	1981	1	7	8	0	0
C	1982	16	0	16	0	0
C	1983	9	2	11	0	0
C	1984	3	0	3	0	150
C	1985	44	32	76	0	0
C	1986	17	6	23	0	19
C	1987	0	2	2	0	0
C	1988	3	0	3	0	0
C	1989	16	8	24	0	0
C	1990	4	9	13	0	0
C	1991	35	54	89	0	0
C	1992	103	1205	1308	0	0
C	1993	55	3640	3695	0	0
C	1994	0	1833	1833	0	0
C	1995	0	638	638	0	0
C	1996	0	1103	1103	0	0
C	1997	71	948	1019	0	0
C	1998	32	511	543	0	0
C	1999	0	1052	1052	0	0
C	2000	0	128	126	0	0
C	2001	0	135	135	0	0
C	2002	3	260	258	0	3
C	2003	0	41	41	0	0
C	2004	0	202	110	0	0

Table 24: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2005	32	141	173	0	32
C	2006	0	146	140	0	0
C	2007	4	304	308	0	27
C	2008	0	157	154	0	0
C	2009	2	185	185	0	2
C	2010	0	95	95	0	0
C	2011	70	289	359	67	59
C	2012	48	778	816	50	25
C	2013	0	485	482	0	0
C	2014	0	338	310	0	0
C	2015	2	816	807	2	1
C	2016	1	233	233	0	1
C	2017	0	193	193	0	0
C	2018	0	121	121	0	0
C	2019	116	292	291	0	523
C	2020	198	58	256	0	0
O	1992	64	0	64	0	13
O	1999	13	0	13	0	0
O	2000	243	0	243	32	0
O	2001	97	0	97	0	0
O	2002	78	0	78	0	15
O	2003	172	0	172	56	8
O	2004	227	0	227	0	81
O	2005	166	3	169	32	0
O	2006	183	3	186	0	54
O	2007	375	0	375	159	1
O	2008	128	0	128	0	75
O	2009	163	2	165	145	5
O	2010	425	2	427	0	349
O	2011	531	41	572	265	200
O	2012	478	18	496	0	440
O	2013	672	3	673	637	12
O	2014	624	1	625	592	14
O	2015	265	2	267	260	4
O	2016	68	0	68	0	68
O	2017	45	0	45	0	45
O	2018	65	0	65	0	65
O	2019	147	0	147	0	138
O	2020	35	0	35	0	24
W	1980	0	21	21	0	0

Table 25: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	284	284	0	0
C	2004	0	9735	9734	0	0
C	2005	1	10919	10920	0	0
C	2006	0	14801	14801	0	0
C	2007	0	10528	10528	0	0
C	2008	0	8015	8015	0	0
C	2009	1	4254	4254	0	0
C	2010	0	4351	4351	0	0
C	2011	0	4773	4773	0	0
C	2012	0	5090	5087	0	0
C	2013	3	9700	9702	0	0
C	2014	1	10795	10796	0	0
C	2015	0	12867	12857	0	0
C	2016	4	9680	9683	0	0
C	2017	3	10150	10150	0	0
C	2018	3	9803	9803	0	255
C	2019	4	10211	10214	0	190
C	2020	0	55	55	0	0
O	2008	66	0	66	65	0
O	2009	78	0	78	77	0
O	2010	64	1	65	65	0
O	2011	58	4	62	62	0
O	2012	116	5	121	119	0
O	2013	88	3	91	91	0
O	2014	132	0	132	132	0
O	2015	124	2	126	125	0
O	2016	98	1136	1234	0	98
O	2017	53	816	869	0	53
O	2018	77	607	684	0	77
O	2019	146	969	1115	0	149
O	2020	67	86	153	0	70
O	1999	711	15	726	0	0
O	2000	566	0	566	0	0
O	2001	1359	2849	4208	0	1393
O	2002	737	1944	2681	0	739
O	2003	784	2547	3331	0	785
O	2004	501	1769	2270	146	352
O	2005	478	3061	3539	0	477
O	2006	898	3475	4373	0	899

Table 25: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2007	863	4170	5033	0	863
O	2008	34	4804	4838	0	34
O	2009	30	4351	4381	0	29
O	2010	43	5302	5345	0	47
O	2011	6	4498	4504	0	7
O	2012	9	4980	4989	0	10
O	2013	3	3973	3976	0	3
O	2014	2	3266	3268	0	2
O	2015	0	4057	4057	0	0
O	2016	0	168	168	0	0
O	2008	826	0	826	461	361
O	2009	940	4	944	384	555
O	2010	832	10	842	344	495
O	2011	767	17	784	374	398
O	2012	838	27	865	400	457
O	2013	616	5	621	367	246
O	2014	617	4	621	361	250
O	2015	669	2	671	386	281
O	2016	645	2555	3200	0	649
O	2017	544	2526	3070	0	544
O	2018	557	2097	2654	0	558
O	2019	740	3140	3880	0	743
O	2020	572	267	839	0	574
W	2019	17	0	17	0	17
W	2020	24	0	24	0	24
W	2021	8	0	8	0	8
W	2002	10	32	42	0	0
W	2003	4	25	29	0	0
W	2004	155	16	171	0	144
W	2005	297	186	483	0	202
W	2006	81	147	228	0	33
W	2007	138	27	165	0	89
W	2008	89	39	128	0	59
W	2009	88	35	123	0	39
W	2010	132	38	170	0	60
W	2011	42	99	141	0	36
W	2012	19	38	57	0	17
W	2013	13	60	73	0	23
W	2014	169	1	170	0	169
W	2015	236	8	244	0	236
W	2016	0	4	4	0	0

Table 25: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2017	51	110	161	0	51
W	2018	6	79	85	0	6
W	2019	74	134	208	0	74
W	2020	0	3	3	0	0
W	2021	0	7	7	0	0
W	2016	612	1	613	0	612
W	2017	334	-1	333	0	333
W	2018	105	0	105	0	105
W	2019	204	-2	202	0	203
W	2020	183	0	183	0	183
W	2021	153	0	153	0	153
W	2002	10	32	42	0	0
W	2003	4	25	29	0	0
W	2004	155	16	171	0	144
W	2005	297	186	483	0	202
W	2006	81	147	228	0	33
W	2007	138	27	165	0	89
W	2008	89	39	128	0	59
W	2009	88	35	123	0	39
W	2010	132	38	170	0	60
W	2011	42	99	141	0	36
W	2012	19	38	57	0	17
W	2013	13	60	73	0	23
W	2014	169	1	170	0	169
W	2015	236	8	244	0	236
W	2016	0	4	4	0	0
W	2017	51	110	161	0	51
W	2018	6	79	85	0	6
W	2019	74	134	208	0	74
W	2020	0	3	3	0	0
W	2021	0	7	7	0	0

Table 26: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	19	0	19	0	0

Table 26: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2008	2	0	2	0	2
NA	2013	3	0	3	0	3
NA	2016	13	0	13	0	13
NA	2019	12	NA	12	0	9

Table 27: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	47	0	47	0	47
C	2005	64	1	64	0	65
C	2006	40	1	40	0	40
C	2007	21	0	21	0	21
C	2008	39	0	39	0	39
C	2009	17	0	17	0	15
C	2010	27	0	27	0	27
C	2011	36	0	36	0	36
C	2012	4	0	4	0	3
C	2013	10	1	10	0	10
C	2014	38	2	38	0	36
C	2015	61	1	61	0	60
C	2016	64	0	64	0	61
C	2017	92	0	92	0	89
C	2018	65	2	65	0	62
C	2019	48	2	50	0	45

10 Bocaccio

Bocaccio have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states

have collected a total of 76324 length observations, a total of 6421 age readings, and 46113 available to be aged. The recreational fisheries across all states have collected a total of 44876 length observations, a total of 0 age readings, and 343 available to be aged. The NWFSC WCGBT across all states have collected a total of 8878 length observations, a total of 2855 age readings, and 2725 available to be aged. The NWFSC HKL across all states have collected a total of 16429 length observations, a total of 0 age readings, and 11983 available to be aged.

Table 28: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1836	274	2107	252	1490
C	1981	1427	266	1693	0	1341
C	1982	2687	245	2930	0	1851
C	1983	2862	536	3396	0	2478
C	1984	2792	1209	4000	0	2577
C	1985	2774	1317	4089	434	3210
C	1986	4037	640	4677	506	3576
C	1987	4231	370	4601	577	3396
C	1988	2961	338	3299	416	3044
C	1989	2737	453	3190	499	3309
C	1990	3072	229	3301	254	2734
C	1991	3066	348	3414	636	2879
C	1992	3187	629	3812	554	3104
C	1993	2123	1385	3508	639	1856
C	1994	1110	1565	2675	630	1024
C	1995	688	1030	1718	0	651
C	1996	847	968	1815	0	831
C	1997	787	946	1733	0	761
C	1998	705	472	1177	0	631
C	1999	715	56	771	598	448
C	2000	212	70	282	0	135
C	2001	619	282	901	0	331
C	2002	306	169	475	0	219
C	2003	2	0	2	0	2
C	2004	195	5	200	181	122
C	2005	14	5	19	0	17
C	2006	35	45	80	0	16
C	2007	33	43	76	0	29
C	2008	50	21	71	0	17
C	2009	17	57	74	0	14
C	2010	16	52	68	0	16

Table 28: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2011	2	68	70	0	15
C	2012	123	233	356	0	75
C	2013	51	382	433	0	18
C	2014	46	445	459	0	28
C	2015	232	709	940	0	225
C	2016	353	623	955	0	156
C	2017	454	663	1090	0	124
C	2018	405	1222	1627	0	0
C	2019	557	809	1366	0	0
C	2020	612	819	1431	0	0
O	1983	100	0	100	0	100
O	1992	1	0	1	0	1
O	1993	1	0	1	0	1
O	1997	15	0	15	0	15
O	1998	47	0	47	0	0
O	1999	12	0	12	0	0
O	2000	15	0	15	0	15
O	2002	5	0	5	0	5
O	2004	1	0	1	0	1
O	2005	16	0	16	0	15
O	2006	5	0	5	0	5
O	2007	7	0	7	0	6
O	2008	36	0	36	0	36
O	2009	24	0	24	0	24
O	2010	22	0	22	0	22
O	2011	25	0	25	0	25
O	2012	34	0	34	0	34
O	2013	30	0	30	0	30
O	2014	39	0	39	0	39
O	2015	22	0	22	0	22
O	2016	73	0	73	0	73
O	2017	673	1	674	0	670
O	2018	820	1	821	0	821
O	2019	1095	0	1095	0	999
O	2020	412	0	412	0	404
W	1980	6	0	6	0	0
W	1995	245	0	245	245	0
W	1996	275	166	441	0	0
W	1997	380	246	626	0	0
W	1998	482	36	518	0	0
W	1999	222	0	222	0	0

Table 28: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2000	198	2	200	0	0
W	2001	117	7	124	0	0
W	2002	298	0	298	0	0
W	2003	272	0	272	0	0
W	2004	75	1	74	0	0
W	2005	88	0	88	0	0
W	2006	15	0	15	0	0
W	2008	1	0	1	0	0
W	2009	1	0	1	0	0
W	2011	4	0	4	0	0
W	2012	13	0	13	0	0
W	2013	2	0	2	0	0
W	2014	12	0	12	0	0
W	2016	5	0	5	0	0
W	2017	144	0	144	0	0
W	2018	171	0	171	0	0
W	2019	272	0	272	0	0
W	2020	157	0	157	0	0

Table 29: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	2	36	38	0	0
C	2004	1	1029	1030	0	0
C	2005	0	1783	1783	0	0
C	2006	0	2271	2271	0	0
C	2007	0	2450	2450	0	0
C	2008	0	1987	1987	0	0
C	2009	0	2336	2336	0	0
C	2010	1	2116	2117	0	0
C	2011	1	3479	3480	0	0
C	2012	0	4336	4336	0	0
C	2013	0	4676	4676	0	0
C	2014	0	3330	3330	0	0
C	2015	0	2772	2772	0	0
C	2016	2	1771	1773	0	0

Table 29: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2017	1	2567	2567	0	0
C	2018	0	3083	3083	0	71
C	2019	2	3730	3732	0	32
C	2020	0	139	139	0	0
O	2001	0	47	47	0	0
O	2002	0	157	157	0	0
O	2003	0	64	64	0	0
O	2004	0	20	20	0	0
O	2005	0	14	14	0	0
O	2006	0	11	11	0	0
O	2007	0	16	16	0	0
O	2008	0	7	7	0	0
O	2009	0	11	11	0	0
O	2011	0	8	8	0	0
O	2012	0	14	14	0	0
O	2013	0	7	7	0	0
O	2014	0	8	8	0	0
O	2015	0	1	1	0	0
O	2016	0	2	2	0	0
O	2017	0	5	5	0	0
O	2018	0	130	130	0	0
O	2019	0	75	75	0	0
O	2020	0	2	2	0	0
W	2003	0	1	1	0	0
W	2004	0	14	14	0	0
W	2005	1	0	1	0	0
W	2009	0	7	7	0	0
W	2011	0	24	24	0	0
W	2012	0	18	18	0	0
W	2014	12	0	12	0	12
W	2015	2	1	3	0	2
W	2016	7	2	9	0	7
W	2017	11	3	14	0	11
W	2018	25	11	36	0	25
W	2019	95	50	145	0	95
W	2020	2	1	3	0	2
W	2021	86	4	90	0	86

Table 30: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	102	5	107	105	2
NA	2004	480	0	480	209	0
NA	2005	270	0	270	146	1
NA	2006	262	0	262	127	8
NA	2007	157	0	157	94	4
NA	2008	109	1	110	85	0
NA	2009	100	0	100	95	5
NA	2010	162	110	272	188	1
NA	2011	105	0	105	105	0
NA	2012	816	1	817	513	3
NA	2013	539	199	738	493	2
NA	2014	995	25	1020	695	16
NA	2015	687	9	696	0	383
NA	2016	1338	109	1447	0	695
NA	2017	952	0	952	0	621
NA	2018	806	0	806	0	601
NA	2019	539	0	539	0	383

Table 31: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	780	1	780	0	725
C	2005	659	8	664	0	665
C	2006	732	5	730	0	733
C	2007	641	5	643	0	640
C	2008	653	0	652	0	649
C	2009	586	0	586	0	583
C	2010	268	4	271	0	268
C	2011	767	11	771	0	765
C	2012	1072	5	1072	0	1067
C	2013	1126	3	1127	0	1123
C	2014	1790	6	1789	0	1790
C	2015	1950	5	1947	0	806
C	2016	1255	22	1256	0	536
C	2017	1351	4	1349	0	554
C	2018	1420	4	1416	0	581

Table 31: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2019	1369	14	1376	0	498

11 Brown rockfish

Brown rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 11374 length observations, a total of 0 age readings, and 543 available to be aged. The recreational fisheries across all states have collected a total of 72668 length observations, a total of 13 age readings, and 89 available to be aged. The NWFSC WCGBT across all states have collected a total of 524 length observations, a total of 0 age readings, and 386 available to be aged. The NWFSC HKL across all states have collected a total of 22 length observations, a total of 0 age readings, and 20 available to be aged.

Table 32: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	20	0	20	0	25
C	1981	10	0	10	0	1
C	1982	17	0	17	0	0
C	1983	6	0	6	0	7
C	1984	0	15	15	0	2
C	1985	2	9	11	0	34
C	1986	2	0	2	0	0
C	1988	1	0	1	0	0
C	1990	1	0	1	0	0
C	1991	0	51	51	0	0
C	1992	0	1852	1852	0	0
C	1993	0	515	515	0	0
C	1994	0	623	623	0	0
C	1995	1	405	406	0	0

Table 32: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1996	1	848	849	0	0
C	1997	1	1115	1115	0	0
C	1998	0	133	133	0	0
C	1999	0	1036	1036	0	0
C	2000	7	622	601	0	0
C	2001	24	971	891	0	23
C	2002	48	443	358	0	47
C	2003	0	81	81	0	0
C	2004	4	101	75	0	4
C	2005	0	321	60	0	0
C	2006	0	564	7	0	0
C	2007	20	478	49	0	19
C	2008	2	511	27	0	1
C	2009	23	191	155	0	16
C	2010	0	491	465	0	0
C	2011	0	248	244	0	0
C	2012	0	206	203	0	0
C	2013	0	101	101	0	0
C	2014	7	78	85	0	7
C	2015	0	199	197	0	0
C	2016	0	192	192	0	0
C	2017	0	236	234	0	0
C	2018	2	204	204	0	0
C	2019	0	233	228	0	355
C	2020	5	249	251	0	0
O	2012	1	0	1	0	1
O	2014	1	0	1	0	1
O	2017	1	0	1	0	0

Table 33: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	2	65	67	0	0
C	2004	0	1794	1794	0	0
C	2005	0	3841	3841	0	0
C	2006	0	4910	4910	0	0

Table 33: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2007	2	4158	4160	0	0
C	2008	0	4113	4113	0	0
C	2009	0	4572	4572	0	0
C	2010	7	4805	4812	0	0
C	2011	0	4390	4390	0	0
C	2012	0	3913	3913	0	0
C	2013	1	5534	5535	0	0
C	2014	0	7824	7824	0	0
C	2015	0	6151	6150	0	0
C	2016	1	4840	4841	0	0
C	2017	1	3691	3691	0	0
C	2018	1	4031	4031	0	24
C	2019	2	3622	3622	0	1
C	2020	0	18	18	0	0
O	2001	0	11	11	0	0
O	2002	0	7	7	0	0
O	2003	0	10	10	0	0
O	2004	0	2	2	0	0
O	2005	2	11	13	2	0
O	2006	0	21	21	0	0
O	2007	0	9	9	0	0
O	2008	4	18	22	4	0
O	2009	1	20	21	1	0
O	2010	1	44	45	1	0
O	2011	1	34	35	1	0
O	2012	1	5	6	1	0
O	2013	3	9	12	3	0
O	2014	0	7	7	0	0
O	2015	0	10	10	0	0
O	2016	0	7	7	0	0
O	2017	1	13	14	0	1
O	2018	0	11	11	0	0
O	2019	3	35	38	0	3
O	2020	21	6	27	0	21
W	2011	0	1	1	0	0
W	2012	0	1	1	0	0
W	2013	0	1	1	0	0
W	2016	0	3	3	0	0
W	2017	8	2	10	0	8
W	2018	0	3	3	0	0
W	2019	12	3	15	0	12

Table 33: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2020	10	0	10	0	10
W	2021	9	3	12	0	9

Table 34: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	46	2	48	0	0
NA	2004	28	0	28	0	28
NA	2005	42	1	43	0	20
NA	2006	13	0	13	0	13
NA	2007	1	0	1	0	1
NA	2008	3	1	4	0	4
NA	2009	9	0	9	0	9
NA	2010	15	0	15	0	14
NA	2011	13	2	15	0	15
NA	2012	39	0	39	0	29
NA	2013	39	0	39	0	30
NA	2014	83	0	83	0	37
NA	2015	51	0	51	0	50
NA	2016	7	0	7	0	7
NA	2017	35	0	35	0	35
NA	2018	62	0	62	0	62
NA	2019	32	0	32	0	32

Table 35: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	1	0	1	0	1
C	2005	3	0	3	0	3
C	2007	2	0	2	0	2
C	2008	1	0	1	0	0

Table 35: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2009	2	0	2	0	2
C	2010	1	0	1	0	1
C	2011	3	0	3	0	3
C	2012	3	0	3	0	3
C	2013	1	0	1	0	1
C	2016	2	0	2	0	1
C	2017	1	0	1	0	1
C	2018	2	0	2	0	2

12 Cabezon

Cabezon have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 28821 length observations, a total of 366 age readings, and 205 available to be aged. The recreational fisheries across all states have collected a total of 45151 length observations, a total of 2328 age readings, and 2795 available to be aged. The NWFSC WCGBT across all states have collected a total of 4 length observations, a total of 0 age readings, and 3 available to be aged.

Table 36: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1993	0	30	30	0	0
C	1994	0	9	9	0	0
C	1995	0	206	206	0	0
C	1996	0	1696	1696	0	0
C	1997	0	911	904	0	0
C	1998	0	1345	1345	0	0
C	1999	0	1479	1479	0	0
C	2000	35	2511	2500	0	0

Table 36: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2001	11	1082	1080	0	0
C	2002	0	297	297	0	0
C	2003	0	83	83	0	0
C	2004	0	288	228	0	0
C	2005	0	184	129	0	0
C	2006	1	426	220	0	1
C	2007	0	469	283	0	0
C	2008	0	340	256	0	0
C	2009	0	232	185	0	0
C	2010	0	288	280	0	0
C	2011	0	160	148	0	0
C	2012	0	301	247	0	0
C	2013	0	205	102	0	0
C	2014	0	194	55	0	0
C	2015	18	321	318	0	0
C	2016	140	207	347	0	0
C	2017	4	185	188	0	0
C	2018	0	105	105	0	0
C	2019	164	90	247	0	24
C	2020	234	3	236	0	0
O	1998	0	57	57	0	0
O	1999	31	9	40	0	0
O	2000	184	618	802	0	0
O	2001	14	1214	1228	0	0
O	2002	50	1245	1295	0	0
O	2003	11	770	777	8	0
O	2004	0	775	775	0	0
O	2005	1	598	599	0	0
O	2006	0	595	595	0	0
O	2007	1	813	813	1	0
O	2008	9	391	400	1	0
O	2009	342	73	415	20	1
O	2010	626	153	778	9	0
O	2011	820	21	841	32	8
O	2012	492	180	665	43	12
O	2013	426	175	601	24	10
O	2014	641	40	678	29	11
O	2015	521	85	606	16	3
O	2016	535	218	751	56	8
O	2017	787	157	944	68	10
O	2018	659	85	742	59	4

Table 36: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2019	917	2	919	0	95
O	2020	288	9	297	0	18

Table 37: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	49	49	0	0
C	2004	1	715	716	0	0
C	2005	1	1085	1086	0	0
C	2006	0	944	944	0	0
C	2007	10	743	753	0	0
C	2008	11	672	683	0	0
C	2009	12	882	894	0	0
C	2010	0	740	740	0	0
C	2011	13	943	956	0	0
C	2012	57	889	945	0	0
C	2013	244	710	949	0	0
C	2014	639	402	1041	0	0
C	2015	1238	227	1465	0	0
C	2016	881	239	1120	0	0
C	2017	844	100	944	0	0
C	2018	788	99	887	0	3
C	2019	619	76	695	0	5
C	2020	3	3	6	0	0
O	2001	0	520	520	0	0
O	2002	0	1260	1260	0	0
O	2003	0	1199	1199	0	0
O	2004	0	1019	1019	0	0
O	2005	73	1480	1553	68	0
O	2006	337	1598	1935	313	1
O	2007	229	1512	1741	177	0
O	2008	383	1902	2285	327	0
O	2009	431	1967	2398	423	0
O	2010	349	1672	2021	6	345
O	2011	332	1403	1735	329	0
O	2012	278	1280	1558	5	273

Table 37: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2013	152	916	1068	148	0
O	2014	73	640	713	71	0
O	2015	92	691	783	92	0
O	2016	119	880	999	118	0
O	2017	137	1165	1302	136	0
O	2018	117	894	1011	115	0
O	2019	115	866	981	0	115
O	2020	78	4	82	0	78
W	2002	48	36	84	0	24
W	2003	21	72	93	0	0
W	2004	30	73	103	0	0
W	2005	38	174	212	0	0
W	2006	44	86	130	0	0
W	2007	33	74	107	0	0
W	2008	8	41	49	0	0
W	2009	39	65	104	0	0
W	2010	37	85	122	0	2
W	2011	11	146	157	0	0
W	2012	13	75	88	0	0
W	2013	20	42	62	0	0
W	2014	139	68	207	0	153
W	2015	78	36	114	0	78
W	2016	259	23	282	0	259
W	2017	253	191	444	0	248
W	2018	310	197	507	0	300
W	2019	509	303	812	0	505
W	2020	180	9	189	0	180
W	2021	228	21	249	0	226

Table 38: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2008	1	0	1	0	1
NA	2016	0	1	1	0	0
NA	2017	1	0	1	0	1
NA	2018	1	0	1	0	1

13 California scorpionfish

California scorpionfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 847 length observations, a total of 0 age readings, and 0 available to be aged. The recreational fisheries across all states have collected a total of 56642 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 2892 length observations, a total of 883 age readings, and 362 available to be aged. The NWFSC HKL across all states have collected a total of 20 length observations, a total of 0 age readings, and 4 available to be aged.

Table 39: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1999	0	79	79	0	0
C	2006	0	33	33	0	0
C	2012	0	1	1	0	0
C	2013	0	244	244	0	0
C	2014	0	51	51	0	0
C	2015	0	164	164	0	0
C	2016	0	252	252	0	0
C	2018	0	23	23	0	0

Table 40: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	136	136	0	0
C	2004	0	1926	1926	0	0
C	2005	2	2209	2210	0	0
C	2006	0	4073	4073	0	0
C	2007	0	4910	4910	0	0

Table 40: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2008	1	6193	6193	0	0
C	2009	0	5652	5653	0	0
C	2010	5	6342	6346	0	0
C	2011	0	3196	3196	0	0
C	2012	0	3683	3683	0	0
C	2013	0	3675	3675	0	0
C	2014	0	2835	2835	0	0
C	2015	0	1871	1871	0	0
C	2016	0	2032	2032	0	0
C	2017	0	2398	2398	0	0
C	2018	0	2125	2125	0	0
C	2019	1	2576	2577	0	0
C	2020	0	803	803	0	0

Table 41: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	69	5	74	0	0
NA	2004	115	41	156	0	0
NA	2005	169	0	169	75	0
NA	2006	46	1	47	45	1
NA	2007	191	0	191	68	0
NA	2008	50	0	50	49	1
NA	2009	346	1	347	130	0
NA	2010	58	0	58	42	0
NA	2011	239	0	239	116	1
NA	2012	94	0	94	66	0
NA	2013	259	0	259	67	0
NA	2014	91	2	93	73	0
NA	2015	160	3	163	57	1
NA	2016	127	12	139	95	2
NA	2017	275	34	309	0	140
NA	2018	287	2	289	0	128
NA	2019	215	0	215	0	88

Table 42: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2005	0	1	1	0	0
C	2006	0	2	1	0	1
C	2007	0	1	1	0	0
C	2010	0	1	1	0	0
C	2014	0	2	2	0	0
C	2015	0	7	7	0	0
C	2017	0	3	3	0	0
C	2018	3	1	4	0	3

14 Canary rockfish

Canary rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 112492 length observations, a total of 69363 age readings, and 18620 available to be aged. The recreational fisheries across all states have collected a total of 48446 length observations, a total of 1569 age readings, and 6394 available to be aged. The NWFSC WCGBT across all states have collected a total of 12080 length observations, a total of 5421 age readings, and 2131 available to be aged. The NWFSC HKL across all states have collected a total of 303 length observations, a total of 192 age readings, and 110 available to be aged.

Table 43: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	324	40	363	263	332
C	1981	198	74	271	166	202
C	1982	478	29	507	222	420
C	1983	427	30	457	402	498
C	1984	377	32	406	364	376
C	1985	484	52	536	430	567

Table 43: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1986	410	86	496	0	28
C	1987	420	6	426	1	0
C	1988	333	33	366	0	0
C	1989	489	88	577	0	0
C	1990	321	112	433	0	7
C	1991	175	223	398	0	0
C	1992	189	1881	2070	0	0
C	1993	45	1622	1667	0	0
C	1994	87	2121	2208	0	0
C	1995	213	1383	1596	0	0
C	1996	218	1614	1832	0	0
C	1997	165	1297	1462	0	0
C	1998	129	468	597	0	0
C	1999	339	754	1093	0	0
C	2000	105	130	235	0	0
C	2001	110	336	446	28	31
C	2002	256	60	316	98	105
C	2003	47	0	47	44	44
C	2004	37	1	38	17	12
C	2005	162	13	175	64	54
C	2006	96	20	116	41	55
C	2007	63	46	109	27	40
C	2008	7	16	23	0	2
C	2009	27	79	106	27	41
C	2010	8	49	57	0	10
C	2011	0	12	12	0	0
C	2012	1	166	167	0	0
C	2013	165	145	310	0	156
C	2014	90	189	202	0	78
C	2015	169	303	426	0	176
C	2016	109	252	361	0	41
C	2017	322	663	985	0	144
C	2018	413	375	788	0	46
C	2019	379	291	670	0	149
C	2020	383	589	972	0	0
O	1981	603	0	603	428	175
O	1982	1142	0	1142	457	685
O	1983	2153	0	2153	2041	112
O	1984	1364	0	1364	1257	5
O	1985	1588	0	1588	1053	100
O	1986	1152	0	1152	607	545

Table 43: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	1987	1751	0	1751	1448	303
O	1988	1435	0	1435	459	976
O	1989	1130	0	1130	1055	75
O	1990	1199	0	1199	998	101
O	1991	869	0	869	850	19
O	1992	1364	0	1364	1280	84
O	1993	1113	0	1113	1110	3
O	1994	750	0	750	200	45
O	1995	847	0	847	794	2
O	1996	1199	0	1199	1093	69
O	1997	2083	46	2129	1554	8
O	1998	1895	0	1895	1641	59
O	1999	1685	0	1685	1516	1
O	2000	671	1	672	491	5
O	2001	1070	0	1070	772	16
O	2002	1173	0	1173	1008	4
O	2003	272	1	273	241	0
O	2004	354	2	354	333	3
O	2005	350	0	350	342	1
O	2006	358	2	360	240	79
O	2007	121	1	122	108	8
O	2008	203	0	202	195	8
O	2009	483	4	487	485	1
O	2010	365	0	365	340	0
O	2011	418	0	418	390	7
O	2012	494	0	494	493	1
O	2013	1174	2	1175	1150	7
O	2014	1323	0	1322	1319	4
O	2015	1909	3	1912	1571	69
O	2016	1289	1	1290	0	1237
O	2017	3037	0	3037	0	2849
O	2018	2335	7	2342	0	2117
O	2019	2350	1	2351	0	2179
O	2020	1138	3	1141	0	1106
W	1980	2107	0	2106	921	1140
W	1981	2232	0	2232	1633	594
W	1982	1461	0	1461	1337	104
W	1983	1833	0	1833	1775	0
W	1984	2719	0	2719	2660	0
W	1985	1892	0	1892	1689	100
W	1986	2644	2	2646	2644	0

Table 43: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	1987	1684	0	1684	1631	0
W	1988	1418	0	1418	1416	0
W	1989	1016	0	1016	1003	0
W	1990	902	0	902	902	0
W	1991	2618	0	2618	2502	0
W	1992	1508	1	1509	1509	0
W	1993	1854	0	1854	1848	0
W	1994	750	0	750	749	0
W	1995	1100	0	1100	1100	0
W	1996	788	1	789	787	0
W	1997	847	23	870	846	0
W	1998	921	1	922	905	0
W	1999	749	10	759	743	0
W	2000	239	3	242	237	0
W	2001	320	136	456	453	0
W	2002	671	40	711	708	0
W	2003	297	0	297	297	0
W	2004	393	1	394	378	0
W	2005	426	0	426	424	0
W	2006	490	0	490	488	0
W	2007	504	0	504	502	0
W	2008	437	6	441	441	0
W	2009	401	0	401	396	0
W	2010	315	0	315	310	0
W	2011	372	0	372	343	0
W	2012	441	16	455	436	0
W	2013	396	0	396	344	0
W	2014	127	0	127	81	0
W	2015	551	3	554	547	0
W	2016	444	0	444	444	0
W	2017	1615	2	1617	1581	0
W	2018	1029	1	1030	840	0
W	2019	769	1	770	0	0
W	2020	370	0	370	0	0

Table 44: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	35	35	0	0
C	2004	0	243	243	0	0
C	2005	0	406	406	0	0
C	2006	0	606	606	0	0
C	2007	0	357	357	0	0
C	2008	0	176	176	0	0
C	2009	0	407	407	0	0
C	2010	0	389	389	0	0
C	2011	1	894	895	0	0
C	2012	0	548	548	0	0
C	2013	0	575	575	0	0
C	2014	0	488	488	0	0
C	2015	0	829	829	0	0
C	2016	0	577	577	0	0
C	2017	0	3395	3393	0	0
C	2018	0	2902	2902	0	122
C	2019	1	3038	3038	0	41
O	1999	393	0	393	0	0
O	2000	367	0	367	0	0
O	2001	18	1005	1023	0	18
O	2002	0	1540	1540	0	0
O	2003	0	1885	1885	0	0
O	2004	0	139	139	0	0
O	2005	0	207	207	0	0
O	2006	1	216	217	0	0
O	2007	1	138	139	0	0
O	2008	0	206	206	0	0
O	2009	1	218	219	0	0
O	2010	0	194	194	0	0
O	2011	0	137	137	0	0
O	2012	1	213	214	0	0
O	2013	0	202	202	0	0
O	2014	0	244	244	0	0
O	2015	615	2291	2906	0	618
O	2016	500	1875	2375	0	506
O	2017	699	3423	4122	0	703
O	2018	559	4114	4673	0	559
O	2019	584	3958	4542	0	592
O	2020	575	359	934	0	587
W	2002	142	56	198	0	0

Table 44: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2003	201	28	229	0	0
W	2004	40	4	44	40	0
W	2005	44	7	51	44	0
W	2006	4	11	15	4	0
W	2007	7	3	10	7	0
W	2008	10	3	13	9	1
W	2009	8	5	13	8	0
W	2010	11	1	12	11	0
W	2011	1	10	11	1	0
W	2012	7	2	9	7	0
W	2013	0	6	6	0	0
W	2014	8	0	8	8	0
W	2015	5	32	37	5	0
W	2016	4	27	31	4	0
W	2017	1194	109	1303	1193	1
W	2018	436	267	703	228	204
W	2019	935	520	1455	0	934
W	2020	450	12	462	0	449
W	2021	1066	28	1094	0	1059

Table 45: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	423	0	423	262	16
NA	2004	482	0	482	254	1
NA	2005	529	1	530	231	0
NA	2006	622	1	623	247	0
NA	2007	672	1	673	497	0
NA	2008	701	91	792	452	0
NA	2009	301	5	306	239	1
NA	2010	432	63	495	397	0
NA	2011	569	4	573	364	1
NA	2012	799	53	852	596	1
NA	2013	480	NA	512	376	1
NA	2014	1457	10	1467	901	9
NA	2015	1061	3	1064	0	738

Table 45: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2016	1046	9	1055	605	0
NA	2017	955	15	970	0	528
NA	2018	716	3	719	0	475
NA	2019	544	0	544	0	360

Table 46: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	21	0	21	21	0
C	2005	20	0	20	20	0
C	2006	11	0	11	11	0
C	2007	21	1	21	21	0
C	2008	4	0	4	4	0
C	2009	20	0	20	20	0
C	2010	16	1	16	16	0
C	2011	11	0	11	10	1
C	2012	12	0	12	12	0
C	2013	12	0	12	12	0
C	2014	26	0	26	26	0
C	2015	21	0	21	19	1
C	2016	11	0	11	0	11
C	2017	15	0	15	0	15
C	2018	41	0	41	0	41
C	2019	41	0	41	0	41

15 Chilipepper rockfish

Chilipepper rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all

states have collected a total of 151592 length observations, a total of 53454 age readings, and 2689 available to be aged. The recreational fisheries across all states have collected a total of 6786 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 31590 length observations, a total of 8654 age readings, and 2804 available to be aged. The NWFSC HKL across all states have collected a total of 2110 length observations, a total of 0 age readings, and 1898 available to be aged.

Table 47: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1649	100	1749	1079	0
C	1981	981	115	1093	701	0
C	1982	2206	227	2433	1220	0
C	1983	2709	287	2991	2384	0
C	1984	5164	810	5940	3618	0
C	1985	8151	471	8599	3640	0
C	1986	5018	99	5113	2598	0
C	1987	5080	190	5268	2932	0
C	1988	5144	198	5342	2653	0
C	1989	5237	279	5516	2906	0
C	1990	5898	161	6059	2152	0
C	1991	9242	674	9916	2120	0
C	1992	6032	1692	7724	3232	0
C	1993	4777	4403	9179	2650	0
C	1994	2969	5475	8444	1248	0
C	1995	2541	2789	5330	1712	0
C	1996	2801	2006	4807	1029	0
C	1997	3322	3021	6343	1990	0
C	1998	3440	824	4264	2550	0
C	1999	3115	350	3465	2256	0
C	2000	1620	450	2070	1159	0
C	2001	1686	778	2397	896	0
C	2002	1734	163	1897	1068	0
C	2003	406	180	539	312	0
C	2004	1439	410	1839	1045	0
C	2005	405	72	477	349	0
C	2006	555	166	720	0	0
C	2007	1839	347	2186	725	0
C	2008	1412	434	1841	567	0
C	2009	2370	780	3131	892	0
C	2010	1405	686	2091	491	0

Table 47: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2011	9	565	574	8	0
C	2012	499	860	1359	427	0
C	2013	709	508	1215	487	0
C	2014	786	700	1264	358	0
C	2015	367	1188	1524	0	0
C	2016	330	1133	1385	0	0
C	2017	687	621	1308	0	0
C	2018	1823	1198	2992	0	0
C	2019	2903	1743	4631	0	0
C	2020	2480	1300	3660	0	0
O	1998	82	0	82	0	0
O	2001	18	0	18	0	18
O	2003	15	0	15	0	15
O	2005	30	0	30	0	30
O	2007	3	0	3	0	1
O	2009	224	0	224	0	224
O	2010	77	0	77	0	77
O	2011	36	0	36	0	5
O	2012	46	0	46	0	46
O	2013	42	0	42	0	42
O	2014	41	0	41	0	41
O	2015	162	0	162	0	162
O	2016	140	0	140	0	140
O	2017	678	0	678	0	678
O	2018	452	0	452	0	438
O	2019	645	0	645	0	596
O	2020	176	0	176	0	176
W	1997	0	1	1	0	0
W	1999	0	3	3	0	0
W	2017	33	0	33	0	0
W	2018	5	0	5	0	0
W	2019	4	0	4	0	0
W	2020	4	0	4	0	0

Table 48: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	298	298	0	0
C	2005	0	293	293	0	0
C	2006	0	333	333	0	0
C	2007	0	487	487	0	0
C	2008	1	300	301	0	0
C	2009	0	231	231	0	0
C	2010	0	358	358	0	0
C	2011	0	635	635	0	0
C	2012	0	707	707	0	0
C	2013	0	738	738	0	0
C	2014	0	669	669	0	0
C	2015	0	442	442	0	0
C	2016	0	435	435	0	0
C	2017	0	204	204	0	0
C	2018	0	239	239	0	0
C	2019	0	331	331	0	0
C	2020	0	54	54	0	0
O	2001	0	8	8	0	0
O	2002	0	3	3	0	0
O	2003	0	2	2	0	0
O	2004	0	1	1	0	0
O	2007	0	2	2	0	0
O	2008	0	2	2	0	0
O	2009	0	2	2	0	0
O	2012	0	1	1	0	0
O	2013	0	3	3	0	0
O	2018	0	6	6	0	0
W	2019	0	1	1	0	0

Table 49: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	2472	136	2608	677	17
NA	2004	3214	251	3465	758	5
NA	2005	3577	128	3704	833	1
NA	2006	2630	NA	2696	611	0

Table 49: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2007	2472	23	2495	590	1
NA	2008	2193	17	2209	698	2
NA	2009	1757	358	2115	619	0
NA	2010	1666	425	2091	806	15
NA	2011	980	78	1058	647	2
NA	2012	1145	132	1277	847	0
NA	2013	891	193	1084	684	0
NA	2014	1619	121	1740	884	2
NA	2015	912	140	1052	0	619
NA	2016	1176	269	1445	0	720
NA	2017	867	38	905	0	540
NA	2018	980	7	987	0	530
NA	2019	658	1	659	0	350

Table 50: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	67	0	67	0	67
C	2005	71	3	74	0	74
C	2006	44	0	44	0	44
C	2007	82	1	83	0	80
C	2008	89	1	89	0	83
C	2009	86	1	86	0	82
C	2010	50	0	50	0	0
C	2011	122	12	134	0	56
C	2012	75	4	77	0	77
C	2013	72	1	73	0	73
C	2014	167	5	172	0	172
C	2015	169	0	169	0	168
C	2016	143	1	143	0	142
C	2017	307	3	306	0	296
C	2018	263	1	263	0	261
C	2019	265	15	280	0	223

16 China rockfish

The commercial fisheries across all states have collected a total of 19055 length observations, a total of 1395 age readings, and 1005 available to be aged. The recreational fisheries across all states have collected a total of 33361 length observations, a total of 2254 age readings, and 2563 available to be aged.

Table 51: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1985	0	2	2	0	0
C	1991	0	2	2	0	0
C	1992	0	314	314	0	0
C	1993	0	185	185	0	0
C	1994	0	352	352	0	0
C	1995	0	142	142	0	0
C	1996	1	172	173	0	0
C	1997	0	181	181	0	0
C	1998	0	47	47	0	0
C	1999	0	324	324	0	0
C	2000	0	167	152	0	0
C	2001	0	164	164	0	0
C	2002	1	97	97	0	0
C	2003	0	26	26	0	0
C	2004	0	102	95	0	0
C	2005	0	103	103	0	0
C	2006	0	81	73	0	0
C	2007	0	257	247	0	0
C	2008	2	189	187	0	0
C	2009	1	233	209	0	1
C	2010	2	201	129	0	1
C	2011	0	21	18	0	0
C	2012	0	31	13	0	0
C	2013	0	39	8	0	0
C	2014	0	73	3	0	0
C	2015	0	40	23	0	0
C	2016	0	67	67	0	0
C	2017	1	14	15	0	1
C	2018	0	10	10	0	0
C	2019	0	2	2	0	0

Table 51: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2020	0	2	2	0	0
O	1995	10	92	102	0	0
O	1996	118	0	118	0	0
O	1998	138	0	138	0	0
O	1999	130	0	130	0	0
O	2000	1232	0	1232	0	1
O	2001	2053	0	2053	63	9
O	2002	1588	6	1592	123	2
O	2003	987	0	987	181	4
O	2004	701	0	701	55	3
O	2005	217	0	217	14	2
O	2006	430	8	438	29	1
O	2007	724	0	724	40	0
O	2008	376	0	376	26	8
O	2009	430	0	430	80	0
O	2010	528	1	529	65	2
O	2011	993	0	993	307	2
O	2012	602	1	603	152	1
O	2013	676	12	688	260	8
O	2014	520	0	520	0	166
O	2015	473	2	475	0	97
O	2016	473	0	473	0	84
O	2017	441	1	442	0	83
O	2018	520	0	520	0	125
O	2019	826	2	828	0	321
O	2020	374	6	378	0	83
W	1980	0	3	3	0	0

Table 52: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	6	6	0	0
C	2004	0	498	498	0	0
C	2005	0	747	747	0	0
C	2006	0	957	957	0	0
C	2007	0	1076	1076	0	0

Table 52: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2008	0	1445	1445	0	0
C	2009	0	1601	1601	0	0
C	2010	0	1308	1308	0	0
C	2011	0	1408	1408	0	0
C	2012	0	1137	1137	0	0
C	2013	2	773	775	0	0
C	2014	0	772	772	0	0
C	2015	0	1006	1006	0	0
C	2016	1	1084	1085	0	0
C	2017	0	855	855	0	0
C	2018	0	750	749	0	8
C	2019	0	680	680	0	11
O	2001	0	373	373	0	0
O	2002	0	644	644	0	0
O	2003	0	685	685	0	0
O	2004	0	398	398	0	0
O	2005	56	621	677	110	0
O	2006	190	719	909	248	0
O	2007	264	901	1165	60	204
O	2008	266	913	1179	60	209
O	2009	180	658	838	62	121
O	2010	173	744	917	60	115
O	2011	232	892	1124	236	1
O	2012	208	848	1056	60	148
O	2013	147	792	939	146	1
O	2014	73	322	395	0	73
O	2015	0	28	28	0	0
O	2016	0	13	13	0	0
O	2017	67	320	387	0	68
O	2018	107	476	583	0	108
O	2019	131	454	585	0	132
O	2020	46	39	85	0	46
W	2002	35	34	69	11	0
W	2003	18	42	60	0	0
W	2004	181	42	223	171	4
W	2005	211	152	363	206	3
W	2006	103	174	277	89	0
W	2007	151	69	220	119	0
W	2008	78	65	143	73	0
W	2009	38	80	118	22	0
W	2010	36	42	78	22	0

Table 52: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2011	53	129	182	50	0
W	2012	14	63	77	24	1
W	2013	22	150	172	11	0
W	2014	439	2	441	414	2
W	2015	260	10	270	0	260
W	2016	236	2	238	0	236
W	2017	114	163	277	0	112
W	2018	191	151	342	0	189
W	2019	304	201	505	0	302
W	2020	85	1	86	0	85
W	2021	124	11	135	0	124

17 Copper rockfish

Copper rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 8760 length observations, a total of 354 age readings, and 157 available to be aged. The recreational fisheries across all states have collected a total of 76409 length observations, a total of 3992 age readings, and 422 available to be aged. The NWFSC WCGBT across all states have collected a total of 1050 length observations, a total of 187 age readings, and 503 available to be aged. The NWFSC HKL across all states have collected a total of 1107 length observations, a total of 0 age readings, and 1079 available to be aged.

Table 53: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	7	27	34	0	14
C	1981	0	4	4	0	0
C	1982	6	0	6	0	7

Table 53: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1983	7	8	15	0	12
C	1984	25	18	43	0	28
C	1985	1	27	28	0	23
C	1986	5	31	36	0	2
C	1987	8	14	22	0	1
C	1988	2	25	27	0	0
C	1989	0	24	24	0	0
C	1990	1	1	2	0	0
C	1991	1	125	126	0	0
C	1992	0	664	664	0	0
C	1993	11	798	808	0	0
C	1994	0	354	354	0	0
C	1995	0	450	450	0	0
C	1996	0	479	479	0	0
C	1997	0	525	525	0	0
C	1998	1	578	579	0	0
C	1999	29	538	567	0	0
C	2000	0	92	91	0	0
C	2001	0	245	245	0	0
C	2002	0	80	76	0	0
C	2003	5	99	90	0	1
C	2004	14	31	36	0	6
C	2005	0	28	19	0	0
C	2006	0	34	19	0	0
C	2007	5	106	74	0	5
C	2008	0	94	72	0	0
C	2009	0	59	52	0	0
C	2010	0	84	83	0	0
C	2011	0	67	67	0	0
C	2012	1	72	73	0	1
C	2013	0	47	47	0	0
C	2014	1	80	80	0	1
C	2015	0	235	234	0	0
C	2016	0	265	265	0	0
C	2017	0	323	323	0	0
C	2018	5	267	170	0	0
C	2019	45	139	133	0	0
C	2020	40	49	89	0	0
O	1999	9	0	9	0	0
O	2000	85	0	85	0	0
O	2001	92	0	92	0	0

Table 53: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2002	28	0	28	1	0
O	2003	39	0	39	9	0
O	2004	52	0	52	26	0
O	2005	11	0	11	0	0
O	2006	41	0	41	1	0
O	2007	31	1	32	1	1
O	2008	19	0	19	1	0
O	2009	14	0	14	0	1
O	2010	42	0	42	6	0
O	2011	79	0	79	18	0
O	2012	59	0	59	11	0
O	2013	63	0	63	31	0
O	2014	74	1	75	25	0
O	2015	26	0	26	10	0
O	2016	78	0	78	25	0
O	2017	101	1	102	40	1
O	2018	113	0	112	45	1
O	2019	218	1	219	102	3
O	2020	126	0	126	0	49
W	1982	0	1	1	0	0
W	1989	0	118	118	0	0
W	1990	0	100	100	0	0
W	2004	1	0	1	0	0
W	2006	4	0	4	0	0
W	2017	2	0	2	2	0

Table 54: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	9	9	0	0
C	2004	0	977	977	0	0
C	2005	0	2050	2050	0	0
C	2006	1	3010	3011	0	0
C	2007	0	3760	3760	0	0
C	2008	0	3310	3310	0	0
C	2009	1	2781	2782	0	0

Table 54: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2010	0	2200	2200	0	0
C	2011	0	2864	2864	0	0
C	2012	0	3963	3962	0	0
C	2013	2	5630	5632	0	0
C	2014	1	4107	4108	0	0
C	2015	0	5114	5114	0	0
C	2016	0	4974	4973	0	0
C	2017	2	5706	5704	0	0
C	2018	3	4622	4624	0	27
C	2019	3	4242	4243	0	14
C	2020	0	95	95	0	0
O	2001	0	196	196	0	0
O	2002	0	641	641	0	0
O	2003	0	518	518	0	0
O	2004	0	325	325	0	0
O	2005	59	696	755	58	0
O	2006	149	764	913	150	0
O	2007	189	799	988	188	0
O	2008	217	836	1053	217	0
O	2009	156	569	725	156	0
O	2010	274	790	1064	273	0
O	2011	233	867	1100	235	0
O	2012	216	944	1160	216	0
O	2013	158	570	728	158	0
O	2014	121	338	459	121	0
O	2015	0	32	32	0	0
O	2016	0	28	28	0	0
O	2017	176	566	742	177	0
O	2018	175	983	1158	175	0
O	2019	173	792	965	174	0
O	2020	89	34	123	0	89
W	2002	61	22	83	19	0
W	2003	18	28	46	0	0
W	2004	203	41	244	188	0
W	2005	265	178	443	225	1
W	2006	96	73	169	65	0
W	2007	110	42	152	86	0
W	2008	71	20	91	65	0
W	2009	52	19	71	35	0
W	2010	38	19	57	24	0
W	2011	28	99	127	27	0

Table 54: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2012	38	43	81	35	0
W	2013	14	57	71	8	2
W	2014	132	4	136	123	9
W	2015	83	1	84	74	4
W	2016	158	21	179	169	5
W	2017	110	102	212	101	7
W	2018	190	125	315	176	3
W	2019	275	188	463	274	1
W	2020	76	1	77	0	76
W	2021	184	33	217	0	184

Table 55: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	25	0	25	0	0
NA	2004	71	0	71	20	51
NA	2005	19	3	22	1	21
NA	2006	10	0	10	2	8
NA	2007	13	0	13	8	5
NA	2008	44	0	44	14	30
NA	2009	27	0	27	20	7
NA	2010	17	1	18	1	17
NA	2011	12	0	12	9	3
NA	2012	234	7	241	42	61
NA	2013	98	0	98	2	32
NA	2014	40	0	40	4	29
NA	2015	111	2	113	16	23
NA	2016	53	43	96	28	49
NA	2017	125	1	126	20	82
NA	2018	62	0	62	0	53
NA	2019	32	0	32	0	32

Table 56: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	33	0	33	0	33
C	2005	70	0	70	0	69
C	2006	58	2	58	0	58
C	2007	77	3	77	0	76
C	2008	67	0	67	0	67
C	2009	104	2	104	0	101
C	2010	24	1	24	0	23
C	2011	56	0	56	0	53
C	2012	63	0	63	0	62
C	2013	46	0	46	0	46
C	2014	52	1	53	0	48
C	2015	99	0	99	0	98
C	2016	108	1	109	0	108
C	2017	75	0	75	0	69
C	2018	108	0	108	0	105
C	2019	64	3	65	0	63

18 Cowcod

Cowcod have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 4026 length observations, a total of 108 age readings, and 33 available to be aged. The recreational fisheries across all states have collected a total of 181 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 795 length observations, a total of 468 age readings, and 316 available to be aged. The NWFSC HKL across all states have collected a total of 662 length observations, a total of 440 age readings, and 199 available to be aged.

Table 57: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1	40	41	0	0
C	1981	4	15	19	0	0
C	1982	6	2	8	4	0
C	1983	13	222	235	3	0
C	1984	56	430	486	25	0
C	1985	49	483	532	45	0
C	1986	172	278	450	31	0
C	1987	99	91	190	0	0
C	1988	33	42	75	0	0
C	1989	12	54	66	0	0
C	1990	21	16	37	0	0
C	1991	80	25	105	0	0
C	1992	23	150	173	0	0
C	1993	8	65	73	0	0
C	1994	2	53	55	0	0
C	1995	1	125	126	0	0
C	1996	6	142	148	0	0
C	1997	28	131	159	0	0
C	1998	25	32	57	0	0
C	1999	21	52	73	0	0
C	2000	0	7	7	0	0
C	2001	12	2	14	0	0
C	2002	10	0	10	0	0
C	2003	4	0	4	0	0
C	2004	27	2	29	0	0
C	2005	2	0	2	0	0
C	2007	2	1	3	0	0
C	2011	0	1	1	0	0
C	2012	32	14	46	0	0
C	2013	19	5	24	0	0
C	2014	26	28	54	0	0
C	2015	58	105	161	0	0
C	2016	59	21	80	0	0
C	2017	16	39	55	0	0
C	2018	31	90	121	0	0
C	2019	12	102	113	0	0
C	2020	7	151	158	0	0
O	2000	2	0	2	0	0
O	2012	1	0	1	0	1
O	2018	7	0	7	0	7

Table 57: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2019	12	0	12	0	12
O	2020	13	0	13	0	13
W	2009	1	0	1	0	0

Table 58: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	8	8	0	0
C	2005	0	4	4	0	0
C	2006	0	10	10	0	0
C	2007	0	3	3	0	0
C	2008	0	6	6	0	0
C	2009	0	12	12	0	0
C	2010	0	8	8	0	0
C	2011	0	32	32	0	0
C	2012	0	11	11	0	0
C	2013	0	18	18	0	0
C	2014	0	4	4	0	0
C	2015	0	7	7	0	0
C	2016	0	12	12	0	0
C	2017	0	18	18	0	0
C	2018	0	14	14	0	0
C	2019	1	11	12	0	0
C	2020	0	2	2	0	0

Table 59: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	13	0	13	13	0
NA	2004	64	0	64	24	40
NA	2005	27	3	30	25	5

Table 59: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2006	25	0	25	25	0
NA	2007	25	0	25	21	4
NA	2008	13	3	16	16	0
NA	2009	20	3	23	22	1
NA	2010	45	15	60	58	2
NA	2011	26	3	29	29	0
NA	2012	72	1	73	73	0
NA	2013	15	11	26	23	1
NA	2014	74	3	77	75	2
NA	2015	30	0	30	30	0
NA	2016	62	3	65	0	65
NA	2017	31	3	34	34	0
NA	2018	113	3	116	0	107
NA	2019	89	0	89	0	89

Table 60: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	5	0	5	5	0
C	2005	17	0	17	17	0
C	2006	10	0	10	10	0
C	2007	23	0	23	23	0
C	2008	22	0	22	21	0
C	2009	30	0	30	30	0
C	2010	21	0	21	21	0
C	2011	24	0	24	22	2
C	2012	35	1	36	35	1
C	2013	31	0	31	31	0
C	2014	30	0	30	24	1
C	2015	110	0	110	95	0
C	2016	48	0	48	46	0
C	2017	62	0	62	60	1
C	2018	100	2	100	0	101
C	2019	93	0	93	0	93

19 Curlfin sole

The commercial fisheries across all states have collected a total of 1725 length observations, a total of 0 age readings, and 289 available to be aged. The recreational fisheries across all states have collected a total of 6 length observations, a total of 0 age readings, and 0 available to be aged.

Table 61: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1999	0	1	1	0	0
C	2003	4	0	4	0	0
C	2004	0	55	27	0	0
C	2005	1	1	2	0	0
C	2006	79	0	79	0	0
C	2007	15	0	15	0	0
C	2008	9	0	9	0	0
C	2009	23	0	23	0	0
C	2010	32	14	46	0	0
C	2011	2	2	4	0	0
C	2013	19	0	19	0	0
C	2014	140	119	153	0	0
C	2015	67	214	145	0	0
C	2016	155	63	218	0	0
C	2017	83	250	333	0	0
C	2018	228	0	228	0	0
C	2019	22	5	27	0	0
C	2020	1	17	18	0	0
O	2004	44	0	44	0	31
O	2009	73	0	73	0	43
O	2010	32	0	32	0	0
O	2011	5	0	5	0	2
O	2012	54	0	54	0	54
O	2013	44	0	44	0	44
O	2014	55	0	55	0	55
O	2015	3	0	3	0	3
O	2016	24	0	24	0	24
O	2017	7	0	7	0	0
O	2018	30	0	30	0	30
O	2019	3	0	3	0	3

Table 61: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths

Table 62: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	1	1	0	0
C	2008	0	1	1	0	0
C	2014	0	2	2	0	0
C	2017	0	1	1	0	0
O	2004	0	1	1	0	0

20 Darkblotched rockfish

Darkblotched rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 107759 length observations, a total of 48775 age readings, and 42573 available to be aged. The recreational fisheries across all states have collected a total of 3 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 31089 length observations, a total of 11727 age readings, and 1621 available to be aged.

Table 63: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	222	19	241	199	121
C	1981	232	3	234	198	197

Table 63: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1982	473	1	474	414	440
C	1983	792	0	792	527	765
C	1984	1925	0	1925	1	1798
C	1985	3555	7	3562	3450	4185
C	1986	2490	1	2491	223	2373
C	1987	2645	60	2705	1072	2225
C	1988	1339	4	1343	376	1673
C	1989	1098	9	1107	0	1082
C	1990	927	11	938	865	818
C	1991	809	8	817	407	287
C	1992	421	8	429	0	431
C	1993	550	57	607	510	473
C	1994	450	160	610	436	423
C	1995	787	48	835	396	559
C	1996	1052	41	1093	829	781
C	1997	979	38	1017	861	810
C	1998	1312	121	1433	934	927
C	1999	761	61	822	549	500
C	2000	869	37	906	575	570
C	2001	1932	215	2145	625	479
C	2002	990	133	1122	773	645
C	2003	494	155	593	379	293
C	2004	566	57	623	289	438
C	2005	772	4	776	699	494
C	2006	1582	180	1762	1309	834
C	2007	1629	362	1991	668	556
C	2008	1877	395	2272	394	310
C	2009	1304	250	1554	537	452
C	2010	793	353	1144	284	238
C	2011	633	323	956	443	330
C	2012	782	506	1127	511	426
C	2013	380	303	540	176	176
C	2014	405	455	667	0	110
C	2015	364	1208	989	0	149
C	2016	848	796	1255	0	289
C	2017	1537	469	1957	0	108
C	2018	945	169	1114	0	0
C	2019	464	176	640	0	0
C	2020	566	252	818	0	0
O	1982	150	0	150	0	150
O	1984	70	0	70	0	70

Table 63: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	1985	0	201	201	0	201
O	1990	100	0	100	0	100
O	1991	200	0	200	0	200
O	1994	200	0	200	0	0
O	1995	188	0	188	0	0
O	1996	833	0	833	0	0
O	1997	802	0	802	33	0
O	1998	541	0	541	0	0
O	1999	430	0	430	24	0
O	2000	224	0	224	183	3
O	2001	1005	0	1005	843	1
O	2002	611	0	611	610	1
O	2003	1398	49	1447	1211	5
O	2004	1305	0	1305	753	302
O	2005	1275	0	1275	912	1
O	2006	1457	0	1457	1219	87
O	2007	2155	0	2155	1773	34
O	2008	2689	0	2689	2349	6
O	2009	2828	1	2829	2622	9
O	2010	2855	1	2856	2302	50
O	2011	2570	0	2570	2434	34
O	2012	2309	0	2309	2263	11
O	2013	2319	0	2319	927	1327
O	2014	2470	3	2473	2369	4
O	2015	3189	0	3189	1406	1530
O	2016	2467	3	2470	112	2274
O	2017	2621	1	2621	0	2452
O	2018	2492	6	2498	0	2373
O	2019	2305	3	2308	0	2268
O	2020	1297	0	1297	0	1165
W	1996	0	370	370	0	0
W	1997	0	586	586	0	0
W	1998	317	139	456	0	0
W	1999	332	10	342	0	0
W	2000	652	1	653	0	0
W	2001	660	232	892	0	0
W	2002	1124	5	1129	389	0
W	2003	580	0	580	369	0
W	2004	605	11	616	365	50
W	2005	117	0	117	103	0
W	2006	397	108	505	294	0

Table 63: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2007	529	50	579	423	0
W	2008	350	0	350	243	0
W	2009	350	9	359	281	0
W	2010	206	3	209	120	0
W	2011	869	0	869	535	0
W	2012	739	29	768	466	0
W	2013	701	0	701	300	100
W	2014	409	1	410	237	0
W	2015	577	1	578	396	0
W	2016	487	0	487	0	0
W	2017	723	0	723	0	0
W	2018	543	0	543	0	0
W	2019	618	1	619	0	0
W	2020	263	7	270	0	0

Table 64: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2002	0	1	1	0	0
O	2017	0	1	1	0	0
W	2018	0	1	1	0	0

Table 65: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	2371	4	2375	748	24
NA	2004	1056	7	1062	595	0
NA	2005	1972	11	1983	804	0
NA	2006	1910	15	1925	940	4
NA	2007	2060	26	2086	987	0
NA	2008	1632	15	1647	762	0

Table 65: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2009	2268	30	2298	1159	0
NA	2010	2224	15	2239	912	0
NA	2011	1824	4	1828	796	2
NA	2012	2166	39	2205	791	2
NA	2013	1543	5	1548	687	3
NA	2014	1420	97	1517	767	0
NA	2015	2391	67	2458	1066	2
NA	2016	2094	3	2097	713	1
NA	2017	1696	34	1730	0	669
NA	2018	1268	2	1269	0	585
NA	2019	822	0	822	0	329

21 Dover sole

Dover sole have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 219111 length observations, a total of 87738 age readings, and 53248 available to be aged. The recreational fisheries across all states have collected a total of 32 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 165963 length observations, a total of 16922 age readings, and 7717 available to be aged.

Table 66: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1989	672	1	673	0	1525
C	1990	4070	0	4069	859	461
C	1991	5564	82	5646	1241	872
C	1992	5081	0	5081	1562	1174
C	1993	3316	10	3326	1105	946

Table 66: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1994	2887	42	2929	1083	1076
C	1995	3508	28	3535	1353	1460
C	1996	3591	29	3620	1649	871
C	1997	3537	16	3553	1742	1376
C	1998	3635	24	3659	1979	1244
C	1999	3366	23	3389	1779	1228
C	2000	2754	120	2874	2470	0
C	2001	2945	43	2988	2118	0
C	2002	4124	37	4159	2396	0
C	2003	3943	53	3987	2178	0
C	2004	3174	28	3202	388	0
C	2005	3258	32	3286	0	0
C	2006	2426	115	2541	423	0
C	2007	2347	149	2494	1010	1042
C	2008	2497	223	2719	270	975
C	2009	2509	426	2933	351	917
C	2010	986	209	1192	0	348
C	2011	1296	233	1529	0	349
C	2012	2180	248	2428	0	962
C	2013	2508	49	2557	0	772
C	2014	1863	133	1996	0	703
C	2015	1416	89	1505	0	732
C	2016	1007	172	1179	0	848
C	2017	532	41	573	0	339
C	2018	666	38	704	0	467
C	2019	562	130	692	0	0
C	2020	783	92	875	0	0
O	1987	3926	0	3926	3706	220
O	1988	3090	0	3090	2990	100
O	1989	3165	0	3165	3063	102
O	1990	3250	0	3250	3099	151
O	1991	4687	0	4687	4675	12
O	1992	4124	0	4124	4026	49
O	1993	1608	0	1608	1602	6
O	1994	1887	1	1888	1880	8
O	1995	1702	0	1702	1615	87
O	1996	1204	38	1242	1229	13
O	1997	1823	0	1795	1650	78
O	1998	2130	0	2129	1721	312
O	1999	2197	0	2197	1923	27
O	2000	2137	1	2138	1711	20

Table 66: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2001	1684	0	1684	310	1301
O	2002	2264	0	2264	350	1218
O	2003	2789	0	2789	2163	125
O	2004	2889	0	2889	1188	1213
O	2005	2928	0	2928	624	1274
O	2006	3792	0	3792	749	1573
O	2007	3060	1	3060	899	949
O	2008	4004	1	4005	782	1783
O	2009	3146	1	3146	743	1584
O	2010	3163	31	3192	0	2007
O	2011	3099	0	3099	0	1894
O	2012	3173	0	3173	0	2337
O	2013	2825	0	2825	0	2015
O	2014	2712	4	2716	0	1885
O	2015	2488	0	2488	219	1659
O	2016	3069	30	3099	0	2098
O	2017	3302	0	3302	202	2077
O	2018	2469	1	2470	49	1765
O	2019	2093	0	2093	205	1507
O	2020	1417	0	1417	0	1112
W	1985	1100	0	1100	589	0
W	1986	1100	0	1099	690	0
W	1987	949	1	950	693	0
W	1988	1100	0	1100	827	0
W	1989	999	0	999	554	0
W	1990	799	1	800	593	0
W	1991	900	0	900	434	0
W	1992	849	0	849	838	0
W	1993	850	0	850	745	0
W	1994	848	2	850	843	0
W	1995	1049	1	1050	1045	0
W	1996	999	1	1000	993	0
W	1997	994	6	1000	396	0
W	1998	951	1	952	302	0
W	1999	1198	2	1199	307	0
W	2000	1150	0	1150	300	0
W	2001	950	1	950	597	0
W	2002	899	3	901	440	0
W	2003	1131	0	1131	629	0
W	2004	949	1	950	919	0
W	2005	850	0	850	344	0

Table 66: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2006	800	350	1150	573	0
W	2007	2100	50	2150	637	0
W	2008	2130	4	2134	0	0
W	2009	1000	0	1000	0	0
W	2010	1193	7	1200	0	0
W	2011	1628	24	1652	889	0
W	2012	954	1	955	552	0
W	2013	1807	0	1807	898	0
W	2014	598	1	599	347	0
W	2015	1569	1	1570	417	0
W	2016	807	2	809	208	0
W	2017	2051	1	2052	278	0
W	2018	1223	0	1223	532	0
W	2019	803	5	808	0	0
W	2020	107	0	107	0	0

Table 67: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2007	0	3	3	0	0
C	2008	0	1	1	0	0
C	2011	0	4	4	0	0
C	2012	0	1	1	0	0
O	2003	0	3	3	0	0
O	2005	0	4	4	0	0
O	2007	0	1	1	0	0
O	2010	0	4	4	0	0
O	2011	0	6	6	0	0
O	2012	0	1	1	0	0
O	2013	0	1	1	0	0
O	2015	0	1	1	0	0
W	2004	2	0	2	0	0

Table 68: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	22866	32	22898	957	2024
NA	2004	17312	40	17349	952	1546
NA	2005	17659	5	17664	989	1513
NA	2006	13496	23	13519	970	1011
NA	2007	11255	10	11265	984	1157
NA	2008	6230	4	6234	948	124
NA	2009	3566	7	3573	1034	20
NA	2010	3206	33	3239	996	176
NA	2011	8396	27	8423	1075	10
NA	2012	8761	15	8776	1088	6
NA	2013	7316	12	7328	809	9
NA	2014	10204	25	10177	1123	7
NA	2015	10029	60	10070	1088	9
NA	2016	10126	34	10160	1120	6
NA	2017	6210	13	6223	1141	15
NA	2018	6015	16	6031	1161	5
NA	2019	3033	1	3034	487	79

22 English sole

English sole have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 129492 length observations, a total of 7970 age readings, and 26433 available to be aged. The recreational fisheries across all states have collected a total of 41 length observations, a total of 0 age readings, and 1 available to be aged. The NWFSC WCGBT across all states have collected a total of 79439 length observations, a total of 898 age readings, and 14902 available to be aged.

Table 69: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1	0	1	0	3365
C	1982	1	0	1	0	1521
C	1991	62	0	62	0	0
C	2001	157	77	234	0	0
C	2002	116	26	116	0	0
C	2003	622	66	630	0	74
C	2004	991	1	992	0	56
C	2005	1135	133	1197	0	280
C	2006	1723	200	1922	0	60
C	2007	1774	87	1861	0	0
C	2008	1656	273	1927	0	187
C	2009	1251	258	1507	0	71
C	2010	641	303	944	0	20
C	2011	252	50	302	0	72
C	2012	604	273	877	0	32
C	2013	1243	265	1508	0	149
C	2014	821	100	921	0	142
C	2015	1714	302	2016	0	293
C	2016	1494	137	1631	0	134
C	2017	1750	133	1883	0	60
C	2018	728	94	822	0	0
C	2019	553	136	689	0	0
C	2020	675	192	867	0	0
O	1987	1558	0	1558	1194	364
O	1988	954	0	954	668	286
O	1989	1301	0	1301	0	0
O	1990	1049	0	1049	0	0
O	1991	949	0	949	0	0
O	1992	803	0	803	0	0
O	1993	845	0	845	0	0
O	1994	838	0	838	0	0
O	1995	587	0	587	0	0
O	1996	863	0	863	0	0
O	1997	2170	0	2170	0	0
O	1998	1756	0	1756	0	0
O	1999	1775	0	1775	0	0
O	2000	1469	0	1469	0	0
O	2001	2412	0	2412	0	0
O	2002	2533	0	2533	0	0
O	2003	1589	0	1589	0	0

Table 69: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2004	1496	0	1496	0	0
O	2005	1954	0	1954	0	0
O	2006	2261	0	2261	0	60
O	2007	1079	0	1079	0	1019
O	2008	840	0	840	0	840
O	2009	1045	0	1045	0	955
O	2010	1378	2	1379	0	990
O	2011	990	0	990	0	960
O	2012	750	0	750	0	750
O	2013	1109	1	1110	0	1110
O	2014	1236	1	1235	0	1237
O	2015	1409	0	1409	0	1200
O	2016	1400	0	1400	0	1160
O	2017	1668	0	1668	0	1301
O	2018	1331	0	1330	0	1011
O	2019	1039	0	1039	0	759
O	2020	504	0	504	0	390
W	1980	4749	0	4749	0	0
W	1981	2188	107	2295	0	0
W	1982	2939	100	3037	0	0
W	1983	1834	100	1934	0	0
W	1984	1645	0	1645	0	0
W	1985	2210	0	2210	0	0
W	1986	783	0	783	0	0
W	1987	1226	0	1226	0	0
W	1988	1121	0	1121	0	0
W	1989	1435	1	1436	0	0
W	1990	2078	93	2171	0	0
W	1991	2898	0	2898	0	0
W	1992	2144	100	2244	2	0
W	1993	2092	0	2092	454	0
W	1994	1149	1	1149	138	0
W	1995	1228	2	1228	18	0
W	1996	729	108	836	39	0
W	1997	1237	98	1335	43	0
W	1998	1303	2	1305	10	0
W	1999	998	2	998	0	0
W	2000	999	1	1000	0	0
W	2001	1008	1	1009	10	0
W	2002	400	0	400	0	0
W	2003	850	0	850	0	0

Table 69: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2004	762	0	762	21	0
W	2005	975	0	975	0	0
W	2006	1510	89	1599	10	0
W	2007	2791	0	2791	1141	1144
W	2008	2144	0	2144	746	747
W	2009	2041	150	2191	741	693
W	2010	1195	0	1195	395	395
W	2011	2022	0	2022	672	700
W	2012	1014	16	1030	349	350
W	2013	1878	1	1879	522	699
W	2014	1489	1	1490	497	497
W	2015	1100	0	1100	300	300
W	2016	450	0	450	0	0
W	2017	1330	0	1330	0	0
W	2018	375	50	425	0	0
W	2019	308	0	308	0	0

Table 70: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	3	3	0	0
C	2005	0	3	3	0	0
C	2006	0	1	1	0	0
C	2007	0	1	1	0	0
C	2010	0	1	1	0	0
C	2011	0	7	7	0	0
C	2012	0	1	1	0	0
O	2002	0	1	1	0	0
O	2003	0	3	3	0	0
O	2005	0	2	2	0	0
O	2006	0	4	4	0	0
O	2011	0	3	3	0	0
O	2012	0	2	2	0	0
O	2014	0	3	3	0	0
O	2018	0	2	2	0	0
O	2019	0	2	2	0	0

Table 70: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2010	1	0	1	0	0
W	2018	1	0	1	0	1

Table 71: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	8124	0	8124	182	1584
NA	2004	8209	4	8210	360	563
NA	2005	8366	0	8366	356	873
NA	2006	5383	6	5389	0	980
NA	2007	3935	10	3945	0	926
NA	2008	3477	1	3478	0	834
NA	2009	3346	21	3367	0	893
NA	2010	2476	1	2477	0	1046
NA	2011	4448	6	4454	0	1062
NA	2012	4637	0	4637	0	1078
NA	2013	3542	3	3545	0	748
NA	2014	5263	1	5242	0	1138
NA	2015	5135	0	5105	0	1091
NA	2016	5223	0	5223	0	622
NA	2017	3542	7	3549	0	623
NA	2018	2914	1	2915	0	559
NA	2019	1413	0	1413	0	282

23 Flag rockfish

Flag rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 1259 length observations, a total of 0 age readings, and 44 available to

be aged. The recreational fisheries across all states have collected a total of 11029 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 455 length observations, a total of 3 age readings, and 327 available to be aged. The NWFSC HKL across all states have collected a total of 182 length observations, a total of 0 age readings, and 160 available to be aged.

Table 72: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1	2	3	0	1
C	1981	2	3	5	0	1
C	1982	2	1	3	0	0
C	1983	6	35	41	0	9
C	1984	3	90	93	0	8
C	1985	6	48	54	0	9
C	1986	20	28	48	0	3
C	1987	12	37	49	0	0
C	1988	16	7	23	0	0
C	1989	8	16	24	0	0
C	1990	4	0	4	0	0
C	1991	2	0	2	0	0
C	1992	0	49	49	0	0
C	1993	1	68	69	0	0
C	1994	1	58	59	0	0
C	1995	0	61	61	0	0
C	1996	0	117	117	0	0
C	1997	0	78	78	0	0
C	1998	1	134	135	0	0
C	1999	2	51	53	0	0
C	2000	0	16	16	0	0
C	2001	1	7	7	0	0
C	2002	0	14	14	0	0
C	2003	1	0	1	0	1
C	2004	6	1	7	0	3
C	2006	0	13	13	0	0
C	2008	15	22	37	0	7
C	2009	0	18	18	0	0
C	2010	0	17	17	0	0
C	2011	0	27	27	0	0
C	2012	0	14	14	0	0
C	2013	0	7	7	0	0
C	2014	0	9	9	0	0

Table 72: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2015	0	25	25	0	0
C	2016	1	49	50	0	2
C	2017	1	2	3	0	0
C	2018	0	12	8	0	0
C	2019	0	2	2	0	0
C	2020	0	14	14	0	0

Table 73: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	324	324	0	0
C	2005	1	564	565	0	0
C	2006	0	641	641	0	0
C	2007	2	849	851	0	0
C	2008	0	885	885	0	0
C	2009	1	781	782	0	0
C	2010	2	594	596	0	0
C	2011	1	792	793	0	0
C	2012	0	885	885	0	0
C	2013	1	1187	1188	0	0
C	2014	0	607	607	0	0
C	2015	0	634	634	0	0
C	2016	1	521	522	0	0
C	2017	0	581	581	0	0
C	2018	0	510	510	0	0
C	2019	3	628	631	0	0
C	2020	0	26	26	0	0
O	2005	0	1	1	0	0
O	2010	0	3	3	0	0
O	2013	0	1	1	0	0
O	2019	0	3	3	0	0

Table 74: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	77	0	77	0	0
NA	2004	14	0	14	0	14
NA	2005	6	1	7	0	7
NA	2006	25	0	25	0	25
NA	2007	54	1	55	0	49
NA	2008	8	0	8	0	8
NA	2009	29	1	30	3	27
NA	2010	16	0	16	0	16
NA	2011	5	0	5	0	5
NA	2012	69	0	69	0	35
NA	2013	11	0	11	0	11
NA	2014	19	0	19	0	19
NA	2015	18	0	18	0	17
NA	2016	11	1	12	0	12
NA	2017	36	0	36	0	29
NA	2018	34	0	34	0	34
NA	2019	19	0	19	0	19

Table 75: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	10	0	10	0	10
C	2005	6	0	6	0	6
C	2006	11	0	11	0	11
C	2007	12	0	12	0	11
C	2008	14	0	14	0	13
C	2009	14	0	14	0	12
C	2010	15	2	17	0	13
C	2011	14	0	14	0	13
C	2012	8	0	8	0	6
C	2013	4	0	4	0	4
C	2014	17	0	17	0	13
C	2015	21	0	21	0	18
C	2016	6	0	6	0	6
C	2017	8	0	8	0	8
C	2018	11	0	11	0	10

Table 75: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2019	9	0	9	0	6

24 Flathead sole

Flathead sole have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 1008 length observations, a total of 0 age readings, and 859 available to be aged. The recreational fisheries across all states have collected a total of 1 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 10276 length observations, a total of 0 age readings, and 2764 available to be aged.

Table 76: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2017	1	0	1	0	0
O	2007	47	0	47	0	47
O	2010	10	0	10	0	10
O	2012	30	0	30	0	30
O	2013	129	0	129	0	129
O	2014	32	0	32	0	32
O	2015	120	0	120	0	90
O	2016	90	0	90	0	90
O	2017	130	0	130	0	130
O	2018	151	0	151	0	121
O	2019	116	0	116	0	86
O	2020	124	0	124	0	94
W	1980	0	28	28	0	0

Table 77: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2011	0	1	1	0	0

Table 78: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	1521	0	1521	0	0
NA	2004	507	0	507	0	0
NA	2005	593	0	593	0	0
NA	2006	421	0	421	0	0
NA	2007	137	0	137	0	0
NA	2008	156	1	157	0	0
NA	2009	191	0	191	0	0
NA	2010	393	13	406	0	0
NA	2011	549	5	554	0	203
NA	2012	253	3	256	0	136
NA	2013	289	2	291	0	160
NA	2014	945	35	980	0	519
NA	2015	1649	5	1654	0	659
NA	2016	1236	1	1237	0	517
NA	2017	653	0	653	0	256
NA	2018	515	1	516	0	229
NA	2019	202	0	202	0	85

25 Grass rockfish

The commercial fisheries across all states have collected a total of 7776 length observations, a total of 0 age readings, and 15 available to be aged. The recreational fisheries across all states have collected a total of 5218 length observations, a total of 0 age readings, and 16 available to be aged.

Table 79: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1982	3	0	3	0	0
C	1985	0	5	5	0	0
C	1987	0	2	2	0	0
C	1992	0	16	16	0	0
C	1993	0	8	8	0	0
C	1994	0	17	17	0	0
C	1995	0	98	98	0	0
C	1996	0	523	523	0	0
C	1997	0	501	494	0	0
C	1998	0	515	515	0	0
C	1999	0	709	709	0	0
C	2000	0	834	818	0	0
C	2001	0	477	439	0	0
C	2002	0	164	158	0	0
C	2003	0	121	121	0	0
C	2004	0	88	74	0	0
C	2005	0	65	35	0	0
C	2006	0	370	116	0	0
C	2007	0	276	172	0	0
C	2008	0	344	242	0	0
C	2009	0	169	151	0	0
C	2010	1	361	358	0	1
C	2011	0	243	242	0	0
C	2012	0	312	305	0	0
C	2013	0	153	143	0	0
C	2014	0	118	104	0	0
C	2015	0	286	284	0	0
C	2016	0	245	243	0	0
C	2017	0	188	188	0	0
C	2018	0	79	78	0	0
C	2019	0	206	127	0	7
C	2020	0	164	162	0	0
O	2000	165	6	171	0	0
O	2001	71	0	71	0	0
O	2002	188	0	188	0	0
O	2003	27	0	27	0	6
O	2004	44	0	44	0	1
O	2005	80	0	80	0	0
O	2006	85	6	91	0	0

Table 79: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2007	29	0	29	0	0
O	2008	28	0	28	0	0
O	2009	19	0	19	0	0
O	2010	15	0	15	0	0
O	2011	2	0	2	0	0
O	2012	9	0	9	0	0
O	2013	13	0	13	0	0
O	2014	9	0	9	0	0
O	2015	20	0	20	0	0
O	2016	1	0	1	0	0
O	2017	4	0	4	0	0
O	2018	1	0	1	0	0
O	2020	4	0	4	0	0

Table 80: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	5	5	0	0
C	2004	0	180	180	0	0
C	2005	0	302	302	0	0
C	2006	0	467	467	0	0
C	2007	0	322	322	0	0
C	2008	0	446	446	0	0
C	2009	0	439	439	0	0
C	2010	0	342	342	0	0
C	2011	0	413	413	0	0
C	2012	0	313	313	0	0
C	2013	1	451	452	0	0
C	2014	0	352	352	0	0
C	2015	1	229	230	0	0
C	2016	0	248	248	0	0
C	2017	1	243	244	0	0
C	2018	0	191	190	0	0
C	2019	0	124	124	0	0
C	2020	0	11	11	0	0
O	2001	0	6	6	0	0

Table 80: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2002	0	2	2	0	0
O	2003	0	5	5	0	0
O	2004	0	3	3	0	0
O	2005	1	10	11	0	1
O	2006	0	3	3	0	0
O	2007	0	2	2	0	0
O	2008	1	3	4	0	1
O	2009	0	9	9	0	0
O	2010	0	13	13	0	0
O	2011	0	7	7	0	0
O	2012	0	4	4	0	0
O	2013	2	3	5	0	2
O	2014	3	6	9	0	3
O	2015	0	1	1	0	0
O	2016	0	5	5	0	0
O	2017	0	7	7	0	0
O	2018	0	6	6	0	0
O	2019	0	22	22	0	0
O	2020	0	2	2	0	0
W	2002	1	0	1	0	0
W	2004	1	0	1	0	0
W	2015	1	0	1	0	1
W	2018	6	1	7	0	6
W	2021	2	0	2	0	2

26 Greenspotted rockfish

Greenspotted rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 14477 length observations, a total of 0 age readings, and 1749 available to be aged. The recreational fisheries across all states have collected a total of 17660 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 7568 length observations, a total of 701 age

readings, and 3559 available to be aged. The NWFSC HKL across all states have collected a total of 4409 length observations, a total of 843 age readings, and 3483 available to be aged.

Table 81: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	88	56	144	0	95
C	1981	84	123	207	0	83
C	1982	83	41	124	0	103
C	1983	115	179	293	0	112
C	1984	133	174	307	0	138
C	1985	274	234	508	0	370
C	1986	145	407	552	0	43
C	1987	223	140	363	0	1
C	1988	164	111	275	0	0
C	1989	123	161	284	0	0
C	1990	95	97	192	0	0
C	1991	74	422	496	0	1
C	1992	67	966	1033	0	0
C	1993	29	925	954	0	0
C	1994	39	780	819	0	0
C	1995	24	680	704	0	0
C	1996	35	849	884	0	1
C	1997	36	827	863	0	0
C	1998	40	1361	1401	0	0
C	1999	45	125	170	0	0
C	2000	90	47	137	0	0
C	2001	163	221	327	0	55
C	2002	72	31	103	0	71
C	2003	73	0	72	0	47
C	2004	64	3	66	0	52
C	2005	1	0	1	0	1
C	2006	1	27	28	0	1
C	2007	3	19	22	0	4
C	2008	4	141	145	0	0
C	2009	3	202	205	0	1
C	2010	1	293	294	0	1
C	2011	0	208	208	0	0
C	2012	15	87	102	0	13
C	2013	5	8	13	0	4
C	2014	4	100	104	0	4
C	2015	20	208	223	0	25

Table 81: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2016	11	455	465	0	22
C	2017	21	105	126	0	22
C	2018	16	316	325	0	0
C	2019	19	207	224	0	0
C	2020	102	115	217	0	0
O	2000	3	0	3	0	0
O	2001	34	0	34	0	34
O	2002	11	0	11	0	11
O	2003	4	0	4	0	4
O	2004	1	0	1	0	1
O	2005	9	0	9	0	9
O	2006	4	0	4	0	0
O	2007	10	0	10	0	10
O	2008	1	0	1	0	1
O	2009	64	0	64	0	64
O	2010	39	0	39	0	39
O	2011	31	0	31	0	31
O	2012	11	0	11	0	11
O	2013	18	0	18	0	18
O	2014	3	0	3	0	3
O	2015	4	0	4	0	4
O	2016	6	0	6	0	6
O	2017	100	0	100	0	99
O	2018	58	0	58	0	58
O	2019	65	0	65	0	65
O	2020	11	0	11	0	11
W	2001	0	1	1	0	0
W	2002	1	1	2	0	0
W	2003	2	0	2	0	0
W	2018	2	0	2	0	0
W	2019	3	0	3	0	0

Table 82: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	3	3	0	0

Table 82: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	1	808	809	0	0
C	2005	1	948	949	0	0
C	2006	1	1426	1427	0	0
C	2007	0	1317	1317	0	0
C	2008	4	1427	1431	0	0
C	2009	2	1603	1605	0	0
C	2010	5	1343	1348	0	0
C	2011	1	1750	1751	0	0
C	2012	1	1258	1259	0	0
C	2013	0	1011	1011	0	0
C	2014	0	731	731	0	0
C	2015	0	639	639	0	0
C	2016	0	536	536	0	0
C	2017	0	813	813	0	0
C	2018	4	826	830	0	0
C	2019	7	1097	1102	0	0
C	2020	0	79	79	0	0
O	2004	0	10	10	0	0
O	2019	0	10	10	0	0

Table 83: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	420	0	420	0	0
NA	2004	553	9	562	0	278
NA	2005	216	9	225	85	42
NA	2006	459	4	463	0	261
NA	2007	622	31	653	265	42
NA	2008	512	45	557	0	244
NA	2009	650	28	678	351	26
NA	2010	670	41	711	0	395
NA	2011	259	9	268	0	225
NA	2012	393	8	401	0	235
NA	2013	245	1	246	0	218
NA	2014	290	6	296	0	221
NA	2015	243	6	249	0	209

Table 83: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2016	883	16	899	0	464
NA	2017	333	1	334	0	213
NA	2018	377	21	398	0	322
NA	2019	207	1	208	0	164

Table 84: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	223	0	223	200	0
C	2005	125	4	128	0	129
C	2006	209	3	210	206	6
C	2007	190	0	189	0	187
C	2008	232	3	234	230	2
C	2009	272	3	273	0	273
C	2010	208	0	208	207	0
C	2011	244	2	244	0	242
C	2012	222	2	223	0	222
C	2013	271	2	271	0	268
C	2014	446	4	449	0	446
C	2015	378	1	378	0	375
C	2016	272	2	274	0	268
C	2017	377	4	377	0	362
C	2018	382	1	381	0	372
C	2019	345	5	347	0	331

27 Greenstriped rockfish

Greenstriped rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all

states have collected a total of 21228 length observations, a total of 0 age readings, and 7024 available to be aged. The recreational fisheries across all states have collected a total of 2777 length observations, a total of 0 age readings, and 67 available to be aged. The NWFSC WCGBT across all states have collected a total of 39364 length observations, a total of 3413 age readings, and 7513 available to be aged. The NWFSC HKL across all states have collected a total of 686 length observations, a total of 0 age readings, and 674 available to be aged.

Table 85: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	52	7	58	0	42
C	1981	24	5	29	0	26
C	1982	122	0	122	0	58
C	1983	195	7	202	0	194
C	1984	163	31	194	0	161
C	1985	418	35	453	0	428
C	1986	147	10	157	0	58
C	1987	159	23	182	0	6
C	1988	115	17	132	0	0
C	1989	144	120	264	0	2
C	1990	139	8	147	0	1
C	1991	135	8	143	0	2
C	1992	45	77	122	0	0
C	1993	62	63	125	0	0
C	1994	82	187	269	0	0
C	1995	149	96	245	0	0
C	1996	89	238	327	0	0
C	1997	263	143	406	0	0
C	1998	246	231	477	0	0
C	1999	198	62	260	0	1
C	2000	401	3	404	0	0
C	2001	297	23	320	0	110
C	2002	122	7	129	0	44
C	2003	10	70	80	0	9
C	2004	37	240	218	0	36
C	2005	37	1	38	0	36
C	2006	44	5	49	0	22
C	2007	41	1	42	0	4
C	2008	1	18	19	0	0
C	2009	5	67	72	0	5
C	2010	0	21	21	0	0

Table 85: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2011	1	25	26	0	1
C	2012	0	141	8	0	0
C	2013	29	120	40	0	24
C	2014	24	409	77	0	7
C	2015	16	577	96	0	7
C	2016	263	100	363	0	25
C	2017	108	206	274	0	5
C	2018	225	62	257	0	0
C	2019	107	60	113	0	0
C	2020	20	132	152	0	0
O	1995	2	0	2	0	2
O	1996	264	0	264	0	0
O	1997	368	0	368	0	0
O	1998	121	0	121	0	0
O	1999	359	0	359	0	0
O	2000	95	0	95	0	78
O	2001	275	0	275	0	98
O	2002	35	0	35	0	30
O	2003	114	0	114	0	114
O	2004	56	0	56	0	50
O	2005	30	0	30	0	30
O	2006	192	0	192	0	155
O	2007	86	0	86	0	85
O	2008	109	0	109	0	109
O	2009	347	0	347	0	324
O	2010	162	0	162	0	102
O	2011	310	3	313	0	309
O	2012	491	7	498	0	485
O	2013	451	7	458	0	450
O	2014	576	0	576	0	543
O	2015	476	2	477	0	448
O	2016	572	0	572	0	506
O	2017	608	0	608	0	546
O	2018	514	1	514	0	438
O	2019	612	1	613	0	609
O	2020	198	1	199	0	199
W	1996	0	539	539	0	0
W	1997	0	386	386	0	0
W	1998	514	3	517	0	0
W	1999	137	2	139	0	0
W	2000	175	3	178	0	0

Table 85: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2001	216	166	382	0	0
W	2002	2187	65	2252	0	0
W	2003	435	21	456	0	0
W	2004	300	2	302	0	0
W	2005	86	0	86	0	0
W	2006	90	0	90	0	0
W	2007	3	0	3	0	0
W	2009	62	0	62	0	0
W	2010	21	0	21	0	0
W	2011	12	0	12	0	0
W	2012	184	1	185	0	0
W	2013	161	1	162	0	0
W	2014	151	9	160	0	0
W	2015	28	0	28	0	0
W	2016	2	1	3	0	0
W	2017	105	0	105	0	0
W	2018	187	0	187	0	0
W	2019	267	1	268	0	0
W	2020	143	7	150	0	0

Table 86: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	42	42	0	0
C	2005	0	53	53	0	0
C	2006	0	100	100	0	0
C	2007	0	129	129	0	0
C	2008	0	142	142	0	0
C	2009	0	263	263	0	0
C	2010	1	165	166	0	0
C	2011	1	254	255	0	0
C	2012	0	129	129	0	0
C	2013	0	164	164	0	0
C	2014	0	120	120	0	0
C	2015	0	88	88	0	0
C	2016	0	145	145	0	0

Table 86: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2017	0	98	98	0	0
C	2018	0	82	82	0	0
C	2019	0	165	165	0	0
C	2020	0	7	7	0	0
O	2001	0	79	79	0	0
O	2002	0	109	109	0	0
O	2003	0	141	141	0	0
O	2004	0	45	45	0	0
O	2005	0	24	24	0	0
O	2006	0	22	22	0	0
O	2007	0	2	2	0	0
O	2008	0	3	3	0	0
O	2009	0	3	3	0	0
O	2011	0	8	8	0	0
O	2012	0	3	3	0	0
O	2013	0	10	10	0	0
O	2015	0	1	1	0	0
O	2016	0	3	3	0	0
O	2017	0	12	12	0	0
O	2018	0	14	14	0	0
O	2019	0	40	40	0	0
O	2020	0	3	3	0	0
W	2003	4	0	4	0	0
W	2004	2	3	5	0	0
W	2005	0	1	1	0	0
W	2011	1	1	2	0	1
W	2012	0	1	1	0	0
W	2014	2	0	2	0	2
W	2016	4	0	4	0	4
W	2017	29	1	30	0	29
W	2018	5	4	9	0	5
W	2019	16	23	39	0	16
W	2020	1	0	1	0	1
W	2021	9	0	9	0	9

Table 87: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	3489	37	3526	577	33
NA	2004	2654	13	2667	522	7
NA	2005	3871	27	3898	568	131
NA	2006	3116	16	3132	524	155
NA	2007	2325	34	2359	657	5
NA	2008	1805	60	1865	565	3
NA	2009	1718	82	1800	0	614
NA	2010	2156	166	2322	0	747
NA	2011	1810	123	1933	0	646
NA	2012	2099	117	2216	0	753
NA	2013	1449	23	1472	0	494
NA	2014	2259	15	2274	0	682
NA	2015	1988	30	2018	0	693
NA	2016	2302	17	2319	0	736
NA	2017	1890	29	1919	0	646
NA	2018	2395	83	2477	0	786
NA	2019	1163	4	1167	0	382

Table 88: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	8	0	8	0	7
C	2005	8	0	8	0	8
C	2006	15	0	15	0	15
C	2007	19	0	19	0	19
C	2008	22	0	22	0	22
C	2009	26	0	26	0	24
C	2010	31	0	31	0	31
C	2011	19	0	19	0	17
C	2012	24	0	24	0	24
C	2013	27	1	27	0	27
C	2014	46	1	46	0	46
C	2015	66	0	66	0	65
C	2016	41	1	41	0	41
C	2017	111	0	111	0	111
C	2018	124	0	124	0	124

Table 88: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2019	99	0	99	0	93

28 Honeycomb rockfish

Honeycomb rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 97 length observations, a total of 0 age readings, and 0 available to be aged. The recreational fisheries across all states have collected a total of 14042 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 289 length observations, a total of 0 age readings, and 176 available to be aged. The NWFSC HKL across all states have collected a total of 203 length observations, a total of 0 age readings, and 176 available to be aged.

Table 89: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1986	7	0	7	0	0
C	1987	1	0	1	0	0
C	1994	0	3	3	0	0
C	2000	0	22	22	0	0
C	2002	0	2	2	0	0
C	2008	0	5	5	0	0
C	2009	0	1	1	0	0
C	2011	0	35	35	0	0
C	2012	0	2	2	0	0
C	2016	0	11	11	0	0
C	2018	0	4	2	0	0
C	2020	0	6	6	0	0

Table 90: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	54	54	0	0
C	2004	0	492	492	0	0
C	2005	6	907	913	0	0
C	2006	1	812	813	0	0
C	2007	4	957	961	0	0
C	2008	1	1100	1101	0	0
C	2009	15	1221	1236	0	0
C	2010	16	1613	1629	0	0
C	2011	11	1490	1501	0	0
C	2012	0	849	849	0	0
C	2013	0	1340	1340	0	0
C	2014	1	652	653	0	0
C	2015	0	559	558	0	0
C	2016	0	496	496	0	0
C	2017	0	606	606	0	0
C	2018	0	366	366	0	0
C	2019	4	443	447	0	0
C	2020	0	27	27	0	0

Table 91: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	1	0	1	0	0
NA	2005	14	0	14	0	14
NA	2006	14	0	14	0	14
NA	2007	68	0	68	0	31
NA	2008	1	0	1	0	1
NA	2009	90	0	90	0	15
NA	2010	22	0	22	0	22
NA	2012	6	0	6	0	6
NA	2013	36	0	36	0	36
NA	2014	1	0	1	0	1
NA	2016	2	2	4	0	4
NA	2017	4	0	4	0	4
NA	2018	14	0	14	0	14
NA	2019	14	0	14	0	14

Table 92: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	3	0	3	0	3
C	2005	7	0	7	0	7
C	2006	5	1	6	0	6
C	2007	9	0	9	0	9
C	2008	28	0	28	0	23
C	2009	20	0	20	0	18
C	2010	19	1	20	0	13
C	2011	12	1	13	0	12
C	2012	3	0	3	0	2
C	2013	25	1	26	0	25
C	2014	7	0	7	0	7
C	2015	17	1	18	0	14
C	2016	16	0	16	0	13
C	2017	11	0	11	0	8
C	2018	9	0	9	0	9
C	2019	7	0	7	0	7

29 Kelp greenling

Kelp greenling have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 42794 length observations, a total of 282 age readings, and 560 available to be aged. The recreational fisheries across all states have collected a total of 48473 length observations, a total of 4094 age readings, and 3920 available to be aged. The NWFSC WCGBT across all states have collected a total of 800 length observations, a total of 0 age readings, and 618 available to be aged.

Table 93: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1992	0	9	9	0	0
C	1993	0	24	24	0	0
C	1994	0	18	18	0	0
C	1995	0	90	90	0	0
C	1996	0	266	266	0	0
C	1997	83	271	346	0	0
C	1998	0	148	148	0	0
C	1999	14	1004	1018	0	0
C	2000	754	490	1234	0	0
C	2001	328	242	566	0	0
C	2002	154	18	172	0	0
C	2003	1	40	41	0	0
C	2004	69	1	65	0	0
C	2005	55	43	84	0	0
C	2006	63	1	35	0	0
C	2007	120	12	94	0	0
C	2008	65	0	47	0	0
C	2009	70	6	60	0	0
C	2010	74	24	71	0	0
C	2011	51	4	52	0	0
C	2012	50	16	47	0	0
C	2013	54	37	38	0	0
C	2014	38	5	17	0	0
C	2015	69	15	69	0	0
C	2016	119	11	119	0	0
C	2017	67	5	72	0	0
C	2018	20	10	30	0	0
C	2019	39	1	39	0	0
C	2020	34	0	34	0	0
O	1998	165	0	165	0	0
O	1999	192	0	192	0	0
O	2000	1442	0	1442	0	0
O	2001	2898	0	2898	0	0
O	2002	3868	0	3868	0	0
O	2003	1695	0	1695	20	11
O	2004	2561	0	2561	2	0
O	2005	1638	0	1638	0	0
O	2006	1992	1	1993	0	0
O	2007	2068	0	2068	10	7
O	2008	1539	0	1539	4	0

Table 93: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2009	1146	0	1146	20	3
O	2010	1823	5	1828	29	13
O	2011	2546	0	2546	56	35
O	2012	1598	0	1597	84	16
O	2013	2365	17	2382	57	42
O	2014	1904	0	1904	0	115
O	2015	1463	0	1463	0	56
O	2016	1242	0	1242	0	57
O	2017	977	0	977	0	99
O	2018	1239	0	1239	0	28
O	2019	899	0	899	0	67
O	2020	606	0	606	0	11
W	2018	1	0	1	0	0

Table 94: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	13	18	31	0	0
C	2004	120	400	520	0	0
C	2005	153	298	451	0	0
C	2006	352	255	607	0	0
C	2007	224	190	414	0	0
C	2008	309	353	663	0	0
C	2009	455	492	948	0	0
C	2010	413	341	754	0	0
C	2011	616	272	888	0	0
C	2012	490	250	740	0	0
C	2013	655	105	760	0	0
C	2014	574	66	640	0	0
C	2015	908	59	967	0	0
C	2016	634	44	678	0	0
C	2017	512	28	540	0	0
C	2018	442	29	471	0	6
C	2019	259	12	270	0	1
C	2020	15	0	15	0	0
O	2001	0	515	515	0	0

Table 94: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2002	0	1280	1280	0	0
O	2003	2	1369	1371	0	0
O	2004	2	1092	1094	0	0
O	2005	153	1560	1713	294	0
O	2006	381	1355	1736	467	0
O	2007	338	1314	1652	334	0
O	2008	480	1835	2315	470	0
O	2009	520	1825	2345	257	259
O	2010	559	2583	3142	271	273
O	2011	703	2499	3202	289	405
O	2012	663	2431	3094	220	441
O	2013	560	2308	2868	184	367
O	2014	270	1050	1320	0	269
O	2015	171	961	1132	0	170
O	2016	164	783	947	0	164
O	2017	125	708	833	0	123
O	2018	131	865	996	0	122
O	2019	187	848	1035	0	183
O	2020	153	66	219	0	153
W	2002	9	93	102	0	0
W	2003	7	147	154	0	0
W	2004	279	164	443	55	14
W	2005	270	282	552	232	20
W	2006	123	226	349	105	5
W	2007	102	67	169	96	5
W	2008	96	109	205	92	4
W	2009	83	131	214	51	0
W	2010	78	117	195	44	18
W	2011	50	172	222	39	1
W	2012	30	162	192	22	0
W	2013	31	114	145	10	0
W	2014	165	120	285	165	0
W	2015	117	40	157	106	11
W	2016	319	40	359	291	28
W	2017	212	192	404	0	210
W	2018	229	190	419	0	227
W	2019	205	264	469	0	204
W	2020	115	8	123	0	114
W	2021	123	26	149	0	123

Table 95: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	61	0	61	0	0
NA	2004	97	0	97	0	0
NA	2005	42	0	42	0	41
NA	2006	23	0	23	0	23
NA	2007	39	0	39	0	39
NA	2008	19	0	19	0	19
NA	2009	27	0	27	0	27
NA	2010	46	0	46	0	46
NA	2011	105	0	105	0	103
NA	2012	28	0	28	0	27
NA	2013	25	1	26	0	26
NA	2014	42	0	42	0	39
NA	2015	38	0	38	0	37
NA	2016	80	0	80	0	72
NA	2017	49	0	49	0	45
NA	2018	72	0	72	0	68
NA	2019	6	0	6	0	6

30 Kelp rockfish

Kelp rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 1537 length observations, a total of 0 age readings, and 1 available to be aged. The recreational fisheries across all states have collected a total of 13134 length observations, a total of 0 age readings, and 1 available to be aged. The NWFSC WCGBT across all states have collected a total of 5 length observations, a total of 0 age readings, and 5 available to be aged.

Table 96: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1987	0	19	19	0	0
C	1992	0	28	28	0	0
C	1993	0	148	148	0	0
C	1994	0	92	92	0	0
C	1995	0	114	114	0	0
C	1996	0	95	95	0	0
C	1997	0	66	66	0	0
C	1998	0	140	140	0	0
C	1999	0	150	150	0	0
C	2000	1	73	74	0	0
C	2001	0	17	17	0	0
C	2002	0	13	13	0	0
C	2003	0	48	47	0	0
C	2004	0	10	5	0	0
C	2005	0	7	3	0	0
C	2006	0	8	4	0	0
C	2007	0	26	22	0	0
C	2008	0	3	1	0	0
C	2009	0	31	30	0	0
C	2010	0	44	44	0	0
C	2011	0	26	26	0	0
C	2012	0	2	2	0	0
C	2013	0	23	23	0	0
C	2014	0	3	3	0	0
C	2015	0	47	47	0	0
C	2016	0	85	85	0	0
C	2017	1	84	85	0	1
C	2018	0	82	82	0	0
C	2019	2	17	19	0	0
C	2020	0	53	53	0	0

Table 97: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	14	14	0	0
C	2004	0	393	393	0	0

Table 97: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2005	0	521	521	0	0
C	2006	1	740	741	0	0
C	2007	2	499	501	0	0
C	2008	0	650	650	0	0
C	2009	0	601	601	0	0
C	2010	0	666	666	0	0
C	2011	3	1154	1157	0	0
C	2012	1	1332	1333	0	0
C	2013	1	1383	1384	0	0
C	2014	1	1284	1285	0	0
C	2015	0	931	931	0	0
C	2016	1	779	780	0	0
C	2017	0	1131	1130	0	0
C	2018	3	624	626	0	0
C	2019	0	421	416	0	1
C	2020	0	5	5	0	0

Table 98: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2016	4	1	5	0	5

31 Lingcod

Lingcod have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 94009 length observations, a total of 14008 age readings, and 3838 available to be aged. The recreational fisheries across all states have collected a total of 249990 length observations, a total of 24540 age readings, and 14150 available to be aged.

The NWFSC WCGBT across all states have collected a total of 25277 length observations, a total of 9056 age readings, and 4499 available to be aged. The NWFSC HKL across all states have collected a total of 825 length observations, a total of 0 age readings, and 50 available to be aged.

Table 99: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1617	9	1616	0	0
C	1981	1835	0	1835	0	0
C	1982	412	0	412	0	0
C	1983	369	14	383	0	0
C	1984	238	0	238	0	0
C	1985	70	0	70	0	0
C	1986	84	1	85	0	0
C	1987	146	0	146	0	0
C	1988	261	0	261	0	0
C	1989	106	12	118	0	0
C	1990	0	3	3	0	0
C	1992	117	2	119	0	0
C	1993	1339	242	1579	1070	0
C	1994	881	62	943	791	0
C	1995	559	51	610	345	0
C	1996	481	265	746	417	0
C	1997	984	180	1164	873	0
C	1998	348	78	426	319	0
C	1999	295	322	617	0	0
C	2000	181	100	274	0	0
C	2001	214	175	386	183	0
C	2002	290	66	346	247	0
C	2003	155	34	178	98	0
C	2004	320	33	341	153	0
C	2005	168	16	175	0	0
C	2006	304	75	355	0	0
C	2007	567	14	568	0	0
C	2008	512	11	494	0	0
C	2009	266	29	289	0	0
C	2010	349	28	375	0	0
C	2011	137	88	225	0	0
C	2012	167	72	230	0	0
C	2013	421	109	459	0	0
C	2014	418	194	510	0	0

Table 99: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2015	867	129	923	0	0
C	2016	1272	14	1281	0	0
C	2017	949	47	996	0	0
C	2018	730	70	783	0	0
C	2019	760	17	774	0	113
C	2020	445	7	452	0	0
O	1992	1278	0	1278	1259	19
O	1993	1358	51	1409	1306	10
O	1994	1751	0	1751	494	2
O	1995	506	0	506	330	75
O	1996	339	0	339	306	0
O	1997	722	52	774	0	744
O	1998	501	15	516	0	443
O	1999	679	4	683	0	663
O	2000	540	2	542	118	265
O	2001	757	0	757	389	28
O	2002	712	9	721	335	125
O	2003	607	1	608	341	1
O	2004	900	14	914	328	24
O	2005	488	0	488	260	5
O	2006	674	9	683	343	15
O	2007	1401	16	1417	401	53
O	2008	1099	15	1114	309	76
O	2009	1014	35	1048	207	34
O	2010	1152	11	1163	179	37
O	2011	1102	10	1112	216	25
O	2012	1446	51	1494	208	7
O	2013	1706	3	1709	265	62
O	2014	1855	3	1858	282	42
O	2015	2821	1	2822	99	152
O	2016	2352	13	2364	54	116
O	2017	3101	2	3101	295	149
O	2018	2381	12	2393	370	106
O	2019	2802	17	2819	303	148
O	2020	1405	2	1407	0	299
W	1980	2180	119	2299	0	0
W	1981	1497	14	1477	0	0
W	1982	1284	81	1365	0	0
W	1983	890	0	890	0	0
W	1984	756	0	756	0	0
W	1985	912	0	912	0	0

Table 99: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	1986	1292	2	1294	0	0
W	1987	1138	46	1184	0	0
W	1988	1163	1	1163	0	0
W	1989	1251	73	1323	0	0
W	1990	1291	1	1292	0	0
W	1991	1210	18	1228	0	0
W	1992	1156	62	1217	0	0
W	1993	1336	11	1346	0	0
W	1994	1362	14	1374	12	0
W	1995	1381	1	1381	0	0
W	1996	1150	1	1150	0	0
W	1997	945	65	1010	50	0
W	1998	858	0	858	0	0
W	1999	825	25	850	0	0
W	2000	469	0	469	75	0
W	2001	446	0	446	74	0
W	2002	431	0	431	0	0
W	2003	514	0	514	0	0
W	2004	276	0	276	10	0
W	2005	410	0	410	77	0
W	2006	460	0	460	80	0
W	2007	634	0	634	137	0
W	2008	496	0	496	0	0
W	2009	386	0	386	0	0
W	2010	199	2	201	0	0
W	2011	462	3	465	0	0
W	2012	479	0	479	0	0
W	2013	726	105	831	0	0
W	2014	276	6	282	0	0
W	2015	269	13	282	0	0
W	2016	412	16	427	0	0
W	2017	1004	20	1024	0	0
W	2018	777	27	804	0	0
W	2019	519	10	529	0	0
W	2020	187	32	219	0	0

Table 100: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	421	421	0	0
C	2004	51	1375	1426	0	0
C	2005	223	4432	4655	0	0
C	2006	508	3975	4483	0	0
C	2007	652	2697	3349	0	0
C	2008	850	1848	2698	0	0
C	2009	990	1769	2759	0	0
C	2010	864	1045	1909	0	0
C	2011	1579	3016	4595	0	0
C	2012	1680	4090	5770	0	0
C	2013	4907	3037	7943	0	0
C	2014	8088	940	9027	0	0
C	2015	12155	679	12834	0	0
C	2016	9887	450	10337	0	0
C	2017	8281	286	8564	0	51
C	2018	6175	221	6392	0	225
C	2019	4170	233	4402	0	52
C	2020	8	4	12	0	0
O	1999	1649	73	1722	0	0
O	2000	2246	15	2261	0	0
O	2001	1948	1465	3413	791	1163
O	2002	860	2933	3793	858	3
O	2003	891	3886	4777	807	12
O	2004	942	2238	3180	653	45
O	2005	775	3285	4060	541	22
O	2006	1392	4812	6204	799	371
O	2007	1149	5477	6626	788	250
O	2008	1180	5641	6821	740	294
O	2009	1138	4970	6108	258	771
O	2010	1153	5879	7032	260	759
O	2011	1217	6641	7858	258	799
O	2012	1216	8139	9355	260	786
O	2013	1157	8136	9293	258	774
O	2014	1090	6456	7546	259	754
O	2015	1129	7064	8193	259	769
O	2016	1087	5430	6517	260	730
O	2017	1010	5632	6642	260	691
O	2018	1162	7530	8692	258	814
O	2019	1081	6645	7726	258	737
O	2020	858	726	1584	0	856

Table 100: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2002	1224	164	1388	922	2
W	2003	1641	397	2038	1167	10
W	2004	1369	215	1584	849	0
W	2005	1701	332	2033	911	70
W	2006	1215	254	1469	701	8
W	2007	1290	144	1434	811	25
W	2008	841	127	968	812	10
W	2009	1070	184	1254	698	59
W	2010	535	287	822	401	12
W	2011	418	652	1070	302	8
W	2012	431	621	1052	269	3
W	2013	362	291	653	352	0
W	2014	711	332	1043	701	10
W	2015	515	247	762	501	15
W	2016	870	214	1084	805	65
W	2017	1568	770	2338	1627	76
W	2018	919	802	1721	1002	47
W	2019	1702	1200	2902	1623	175
W	2020	1340	257	1597	1261	214
W	2021	1322	477	1799	0	1613

Table 101: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	1244	86	1330	875	17
NA	2004	1343	24	1367	827	25
NA	2005	1067	30	1097	840	24
NA	2006	1011	1	1012	697	14
NA	2007	631	14	645	483	69
NA	2008	883	277	1160	838	19
NA	2009	933	174	1107	484	483
NA	2010	1623	307	1930	518	516
NA	2011	1768	85	1853	519	526
NA	2012	1940	247	2187	410	418
NA	2013	1295	48	1343	365	262
NA	2014	2914	69	2924	478	438

Table 101: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2015	1797	51	1838	437	323
NA	2016	1716	37	1753	366	359
NA	2017	1565	NA	1625	286	478
NA	2018	1537	17	1554	399	319
NA	2019	551	1	552	234	209

Table 102: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	30	4	32	0	0
C	2005	27	14	39	0	0
C	2006	13	5	14	0	0
C	2007	24	6	26	0	0
C	2008	12	0	12	0	0
C	2009	19	1	19	0	0
C	2010	14	1	15	0	0
C	2011	28	7	31	0	0
C	2012	27	43	66	0	0
C	2013	71	25	94	0	2
C	2014	50	41	88	0	0
C	2015	51	42	83	0	0
C	2016	103	12	105	0	15
C	2017	78	4	78	0	31
C	2018	79	6	79	0	0
C	2019	44	0	44	0	2

32 Longnose skate

Longnose skate have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a

total of 33762 length observations, a total of 0 age readings, and 5149 available to be aged. The recreational fisheries across all states have collected a total of 26 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 49205 length observations, a total of 649 age readings, and 1647 available to be aged.

Table 103: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2009	727	2	727	0	0
C	2010	638	0	638	0	0
C	2011	1272	0	1272	0	0
C	2012	1158	39	1196	0	0
C	2013	948	0	948	0	0
C	2014	606	56	662	0	0
C	2015	806	47	831	0	0
C	2016	952	58	969	0	0
C	2017	1037	2	1039	0	0
C	2018	546	8	554	0	0
C	2019	496	16	512	0	0
C	2020	250	0	250	0	0
O	1995	174	0	174	0	0
O	1996	99	0	99	0	0
O	1997	492	0	492	0	0
O	1998	84	0	84	0	0
O	1999	295	0	295	0	0
O	2000	356	0	356	0	0
O	2001	332	0	332	0	0
O	2002	235	0	235	0	0
O	2003	521	0	521	0	0
O	2004	92	0	92	0	0
O	2005	233	0	233	0	0
O	2006	870	0	870	0	254
O	2007	1079	0	1079	0	702
O	2008	693	0	693	0	573
O	2009	685	0	685	0	477
O	2010	1110	0	1110	0	539
O	2011	889	0	889	0	527
O	2012	1118	0	1118	0	623
O	2013	942	1	943	0	30
O	2014	993	0	991	0	0
O	2015	918	0	917	0	0

Table 103: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2016	892	0	892	0	0
O	2017	1240	0	1240	0	80
O	2018	865	0	865	0	504
O	2019	1285	0	1285	0	611
O	2020	480	0	480	0	229
W	2004	49	0	49	0	0
W	2005	15	1	15	0	0
W	2006	255	0	255	0	0
W	2007	381	0	381	0	0
W	2008	972	0	972	0	0
W	2009	456	0	456	0	0
W	2010	147	3	150	0	0
W	2011	735	0	735	0	0
W	2012	549	51	600	0	0
W	2013	1013	0	1012	0	0
W	2014	401	0	401	0	0
W	2015	448	0	448	0	0
W	2016	722	24	746	0	0
W	2017	543	0	543	0	0
W	2018	260	0	260	0	0
W	2019	147	1	148	0	0
W	2020	23	0	23	0	0

Table 104: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	4	4	0	0
C	2006	0	1	1	0	0
C	2013	0	1	1	0	0
O	2004	0	3	3	0	0
O	2005	0	1	1	0	0
O	2007	0	2	2	0	0
O	2009	0	1	1	0	0
O	2010	0	1	1	0	0
O	2011	0	2	2	0	0
O	2012	0	1	1	0	0

Table 104: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2013	0	1	1	0	0
O	2016	0	2	2	0	0
O	2019	0	6	6	0	0

Table 105: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	2657	2	2655	0	0
NA	2004	2598	1	2599	0	0
NA	2005	3259	2	3259	0	0
NA	2006	3304	3	0	0	0
NA	2007	3834	9	861	0	0
NA	2008	3383	0	3383	0	0
NA	2009	3113	3	3116	0	0
NA	2010	3462	0	3462	0	0
NA	2011	2987	4	2991	321	104
NA	2012	3647	3	3650	328	40
NA	2013	2491	1	2492	0	0
NA	2014	3722	0	3722	0	0
NA	2015	4053	14	4067	0	0
NA	2016	4003	1	4004	0	420
NA	2017	3679	0	3679	0	442
NA	2018	3610	0	3610	0	421
NA	2019	1669	NA	1655	0	220

33 Longspine thornyhead

The commercial fisheries across all states have collected a total of 180299 length observations, a total of 30 age readings, and 37194 available to be aged. The NWFSC WCGBT across all

states have collected a total of 104769 length observations, a total of 0 age readings, and 13832 available to be aged.

Table 106: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	716	13	729	0	101
C	1981	587	1	588	0	20
C	1982	341	1	341	0	284
C	1983	300	0	300	0	294
C	1984	806	4	810	0	795
C	1985	1442	2	1443	0	1430
C	1986	599	14	613	0	122
C	1987	591	1	592	0	0
C	1988	56	0	56	0	0
C	1989	1159	75	1234	0	0
C	1990	1512	66	1578	0	67
C	1991	2350	135	2469	0	0
C	1992	2539	153	2692	0	0
C	1993	1038	1753	2791	0	0
C	1994	1171	2704	3875	0	0
C	1995	3636	4296	7931	0	0
C	1996	2766	4032	6798	0	0
C	1997	1429	4549	5978	0	0
C	1998	1591	2662	4252	0	0
C	1999	1156	2261	3417	0	0
C	2000	1602	1736	3338	0	0
C	2001	1306	2028	3245	0	0
C	2002	2870	3119	5440	0	0
C	2003	1529	2512	3381	0	0
C	2004	528	1902	2423	0	0
C	2005	1247	1571	2498	0	0
C	2006	2392	2245	4596	0	0
C	2007	1370	1773	2953	0	0
C	2008	2035	2741	4774	0	0
C	2009	2903	1368	4269	0	11
C	2010	2269	2236	4502	0	0
C	2011	2552	2305	4857	0	3
C	2012	2157	2720	4876	0	40
C	2013	1794	2825	4617	0	0
C	2014	607	4250	4857	0	0
C	2015	0	4159	4156	0	0

Table 106: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2016	0	4653	4646	0	0
C	2017	0	3172	3172	0	0
C	2018	266	1215	1481	0	0
C	2019	1023	595	1618	0	0
C	2020	414	302	716	0	0
O	1990	3812	0	3812	0	3812
O	1991	2162	1	2163	0	2149
O	1992	4158	1	4159	0	3427
O	1993	1272	0	1272	0	1099
O	1994	150	0	150	0	0
O	1996	1925	47	1972	0	0
O	1997	0	6189	6189	0	0
O	1998	879	21	900	0	900
O	1999	1134	7	1141	0	1111
O	2000	805	5	810	30	630
O	2001	1193	6	1199	0	870
O	2002	1256	5	1261	0	961
O	2003	1341	9	1350	0	990
O	2004	1174	25	1199	0	899
O	2005	868	42	910	0	820
O	2006	1194	36	1230	0	990
O	2007	1671	190	1861	0	1501
O	2008	1789	251	2040	0	1650
O	2009	1700	160	1860	0	1590
O	2010	2208	102	2309	0	1620
O	2011	1512	78	1590	0	1380
O	2012	1683	57	1740	0	1500
O	2013	1828	134	1962	0	1452
O	2014	1232	67	1299	0	879
O	2015	914	78	992	0	752
O	2016	978	53	1030	0	791
O	2017	1055	67	1122	0	851
O	2018	853	35	888	0	620
O	2019	673	46	719	0	510
O	2020	409	44	453	0	273
W	2001	132	255	387	0	0
W	2002	78	55	133	0	0
W	2003	390	147	537	0	0
W	2004	84	59	143	0	0
W	2005	54	15	69	0	0
W	2006	50	3	53	0	0

Table 106: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2007	211	105	316	0	0
W	2008	266	104	370	0	0
W	2009	344	110	454	0	0
W	2010	506	110	616	0	0
W	2011	448	348	796	0	0
W	2012	285	67	352	0	0
W	2013	509	96	605	0	0
W	2014	315	36	351	0	0
W	2015	47	3	50	0	0
W	2016	0	17	17	0	0
W	2017	93	51	144	0	0
W	2018	167	44	211	0	0
W	2019	187	24	211	0	0

Table 107: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	0	15475	15475	0	955
NA	2004	2790	NA	11173	0	742
NA	2005	9044	4486	13530	0	1103
NA	2006	6407	2674	9081	0	930
NA	2007	4567	1631	6198	0	958
NA	2008	2775	NA	3635	0	989
NA	2009	2333	777	3110	0	956
NA	2010	2297	785	3082	0	1032
NA	2011	4074	NA	5188	0	1002
NA	2012	3572	1388	4960	0	980
NA	2013	2643	642	3285	0	621
NA	2014	3938	947	4885	0	922
NA	2015	4051	771	4822	0	919
NA	2016	3837	1026	4863	0	529
NA	2017	3912	728	4640	0	478
NA	2018	3841	1039	4880	0	495
NA	2019	1664	298	1962	0	221

34 Olive rockfish

Olive rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 1976 length observations, a total of 0 age readings, and 138 available to be aged. The recreational fisheries across all states have collected a total of 37205 length observations, a total of 0 age readings, and 137 available to be aged. The NWFSC WCGBT across all states have collected a total of 2 length observations, a total of 0 age readings, and 2 available to be aged. The NWFSC HKL across all states have collected a total of 537 length observations, a total of 0 age readings, and 508 available to be aged.

Table 108: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1	1	2	0	0
C	1981	0	1	1	0	0
C	1982	2	26	28	0	2
C	1983	6	1	7	0	4
C	1984	0	5	5	0	6
C	1985	18	30	48	0	35
C	1986	68	44	112	0	23
C	1987	25	1	26	0	3
C	1988	9	0	9	0	0
C	1989	0	33	33	0	0
C	1990	0	1	1	0	0
C	1991	12	2	14	0	0
C	1992	23	128	151	0	0
C	1993	15	385	400	0	0
C	1994	0	270	270	0	0
C	1995	4	178	182	0	0
C	1996	1	172	173	0	0
C	1997	3	65	68	0	0
C	1998	9	19	28	0	0
C	1999	3	77	80	0	0
C	2000	0	26	26	0	0
C	2001	0	18	3	0	0
C	2002	1	10	9	0	0
C	2004	0	2	1	0	0
C	2005	26	10	36	0	26
C	2006	14	8	21	0	13

Table 108: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2007	0	69	67	0	16
C	2009	0	25	24	0	0
C	2010	0	9	9	0	0
C	2011	0	9	9	0	0
C	2012	6	27	31	0	6
C	2013	0	24	24	0	0
C	2014	0	5	5	0	0
C	2015	0	3	3	0	0
C	2016	0	12	12	0	0
C	2017	0	11	11	0	0
C	2018	0	23	23	0	0
C	2019	10	4	14	0	0
C	2020	3	1	4	0	0
O	2010	1	0	1	0	0
O	2011	1	0	1	0	0
O	2014	1	0	1	0	1
O	2017	3	0	3	0	3

Table 109: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	51	51	0	0
C	2004	0	2786	2786	0	0
C	2005	0	3451	3451	0	0
C	2006	0	3331	3331	0	0
C	2007	0	2953	2953	0	0
C	2008	0	2644	2644	0	0
C	2009	0	1401	1401	0	0
C	2010	0	737	737	0	0
C	2011	0	1321	1321	0	0
C	2012	0	2147	2147	0	0
C	2013	0	1517	1517	0	0
C	2014	0	2101	2101	0	0
C	2015	0	3013	3013	0	0
C	2016	0	2675	2675	0	0
C	2017	0	1935	1935	0	0

Table 109: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2018	0	2281	2280	0	100
C	2019	1	2791	2791	0	37
C	2020	0	34	34	0	0
O	2008	0	1	1	0	0
O	2009	0	2	2	0	0
O	2010	0	3	3	0	0
O	2011	0	2	2	0	0
O	2012	0	2	2	0	0
O	2013	0	9	9	0	0
O	2014	0	2	2	0	0
O	2015	0	6	6	0	0
O	2016	0	9	9	0	0
O	2017	0	1	1	0	0

Table 110: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2004	1	0	1	0	1
NA	2016	1	0	1	0	1

Table 111: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	15	0	15	0	15
C	2005	3	0	3	0	3
C	2006	21	0	21	0	21
C	2007	20	0	20	0	19
C	2008	52	0	52	0	52
C	2009	8	0	8	0	8
C	2010	5	0	5	0	5
C	2011	7	0	7	0	6

Table 111: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2012	13	1	13	0	13
C	2013	12	0	12	0	9
C	2014	60	0	60	0	60
C	2015	64	0	64	0	61
C	2016	46	0	46	0	44
C	2017	80	0	80	0	78
C	2018	59	1	59	0	57
C	2019	72	0	72	0	57

35 Pacific cod

Pacific cod have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 65416 length observations, a total of 943 age readings, and 3642 available to be aged. The recreational fisheries across all states have collected a total of 386 length observations, a total of 0 age readings, and 82 available to be aged. The NWFSC WCGBT across all states have collected a total of 3850 length observations, a total of 0 age readings, and 1266 available to be aged.

Table 112: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2008	9	0	9	0	0
C	2014	1	0	1	0	0
C	2015	17	1	18	0	0
O	2003	26	0	26	0	26
O	2008	17	0	16	0	16
O	2009	36	0	36	0	34
O	2010	370	4	374	0	342
O	2011	349	0	349	0	349

Table 112: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2012	420	0	420	0	420
O	2013	493	0	493	0	433
O	2014	315	0	315	0	315
O	2015	407	0	407	0	375
O	2016	432	0	432	0	372
O	2017	410	0	410	0	394
O	2018	222	0	222	0	216
O	2019	212	1	213	0	213
O	2020	137	0	137	0	137
W	1980	4983	41	5024	0	0
W	1981	3979	343	4322	0	0
W	1982	1599	1362	2961	0	0
W	1983	1203	1102	2305	0	0
W	1984	1200	600	1800	0	0
W	1985	1757	0	1757	0	0
W	1986	2300	0	2300	0	0
W	1987	4100	0	4100	0	0
W	1988	3963	0	3963	0	0
W	1989	2499	127	2626	0	0
W	1990	1251	294	1545	0	0
W	1991	2214	50	2264	0	0
W	1992	2025	5	2030	0	0
W	1993	1470	180	1650	0	0
W	1994	735	65	800	0	0
W	1995	1097	301	1398	0	0
W	1996	790	0	790	0	0
W	1997	1097	3	1100	0	0
W	1998	1400	0	1400	0	0
W	1999	1054	0	1054	0	0
W	2000	900	0	900	0	0
W	2001	1097	0	1097	0	0
W	2002	1079	0	1079	100	0
W	2003	1497	2	1499	200	0
W	2004	1020	1	1021	123	0
W	2005	1181	0	1181	50	0
W	2006	920	0	920	0	0
W	2007	699	1	700	0	0
W	2008	300	0	300	0	0
W	2009	898	2	900	0	0
W	2010	1300	0	1300	0	0
W	2011	800	0	800	0	0

Table 112: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2012	478	0	478	0	0
W	2013	400	0	400	0	0
W	2014	453	4	457	0	0
W	2015	227	9	236	0	0
W	2016	143	168	311	0	0
W	2017	986	105	1091	470	0
W	2018	818	3	821	0	0
W	2019	704	69	773	0	0
W	2020	70	15	85	0	0

Table 113: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2002	0	7	7	0	0
O	2003	0	20	20	0	0
O	2004	0	1	1	0	0
O	2009	0	2	2	0	0
O	2011	0	1	1	0	0
O	2012	0	20	20	0	0
O	2017	0	3	3	0	0
O	2019	0	2	2	0	0
W	2002	0	3	3	0	0
W	2003	1	18	19	0	0
W	2004	159	5	164	0	0
W	2005	17	14	31	0	0
W	2006	11	7	18	0	0
W	2011	0	2	2	0	0
W	2013	0	1	1	0	0
W	2018	33	8	41	0	32
W	2019	6	1	7	0	6
W	2020	10	0	10	0	10
W	2021	34	0	34	0	34

Table 114: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	783	0	783	0	0
NA	2004	290	0	290	0	0
NA	2005	199	0	199	0	0
NA	2006	166	0	166	0	0
NA	2007	177	0	177	0	0
NA	2008	72	0	72	0	0
NA	2009	123	0	123	0	0
NA	2010	404	0	404	0	221
NA	2011	294	7	301	0	150
NA	2012	154	0	154	0	89
NA	2013	173	2	175	0	33
NA	2014	240	0	240	0	185
NA	2015	328	0	328	0	270
NA	2016	231	0	231	0	148
NA	2017	93	0	93	0	92
NA	2018	45	0	45	0	45
NA	2019	69	0	69	0	33

36 Pacific ocean perch

Pacific ocean perch have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 93923 length observations, a total of 35040 age readings, and 31641 available to be aged. The recreational fisheries across all states have collected a total of 13 length observations, a total of 2 age readings, and 1 available to be aged. The NWFSC WCGBT across all states have collected a total of 13824 length observations, a total of 5881 age readings, and 2739 available to be aged.

Table 115: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1981	2	0	2	0	2
C	1982	1	0	1	0	133
C	1985	1	0	1	0	277
C	2007	36	0	22	0	14
C	2008	53	4	57	0	35
C	2009	62	2	64	0	60
C	2010	45	2	47	0	26
C	2011	63	18	81	0	60
C	2012	33	24	56	0	26
C	2013	36	4	37	0	32
C	2014	34	16	46	0	20
C	2015	52	6	55	0	48
C	2016	85	15	96	0	84
C	2017	85	11	94	0	30
C	2018	18	1	19	0	0
C	2019	47	0	47	0	0
C	2020	61	7	68	0	0
O	1981	1306	0	1306	149	1157
O	1982	2219	0	2219	1343	876
O	1983	1637	0	1637	1430	207
O	1984	401	0	401	289	10
O	1985	1710	0	1710	0	1710
O	1986	1703	0	1703	0	1703
O	1987	1855	0	1855	0	1855
O	1988	402	0	402	0	402
O	1989	798	0	798	0	798
O	1990	599	0	599	0	599
O	1991	216	0	216	0	216
O	1994	898	0	898	238	0
O	1995	856	0	856	0	0
O	1996	1193	0	1193	0	23
O	1997	1543	24	1567	0	0
O	1998	1069	0	1069	0	0
O	1999	1496	0	1496	39	0
O	2000	1301	0	1301	414	4
O	2001	1052	0	1052	724	114
O	2002	811	0	811	683	2
O	2003	839	0	839	534	0
O	2004	864	0	864	554	0
O	2005	957	0	957	720	1

Table 115: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2006	1092	0	1092	1041	0
O	2007	1339	21	1339	1221	37
O	2008	2186	0	2186	667	1511
O	2009	2127	0	2127	963	989
O	2010	2442	0	2442	1068	903
O	2011	1483	2	1484	929	547
O	2012	1300	0	1300	1008	247
O	2013	1645	1	1645	589	1026
O	2014	2234	0	2234	295	1837
O	2015	2069	0	2068	309	1610
O	2016	1879	0	1879	230	1604
O	2017	1739	0	1739	0	1636
O	2018	1891	2	1892	0	1742
O	2019	1881	0	1881	0	1710
O	2020	1282	0	1282	0	1120
W	1980	3301	0	3301	0	3109
W	1981	1984	0	1984	1753	100
W	1982	2194	3	2196	1291	897
W	1983	1898	0	1898	1482	300
W	1984	1900	0	1900	1859	0
W	1985	2099	0	2099	2097	0
W	1986	1799	0	1799	1795	0
W	1987	1200	1	1201	1196	0
W	1988	200	0	200	200	0
W	1994	1677	33	1710	0	0
W	1995	2304	1	2305	0	0
W	1996	1800	92	1892	0	0
W	1997	1898	105	2003	0	0
W	1998	2359	22	2381	0	0
W	1999	1357	12	1369	902	0
W	2000	723	2	725	285	0
W	2001	722	1	723	704	0
W	2002	887	56	943	819	0
W	2003	792	54	846	799	0
W	2004	331	7	338	300	0
W	2005	323	0	323	300	0
W	2006	345	50	395	218	0
W	2007	809	101	910	605	0
W	2008	870	2	872	462	0
W	2009	1178	0	1178	634	96
W	2010	522	0	522	240	96

Table 115: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2011	459	1	460	303	0
W	2012	573	0	573	331	0
W	2013	507	16	523	266	0
W	2014	609	7	616	295	0
W	2015	425	11	436	213	0
W	2016	311	0	311	254	0
W	2017	570	0	570	0	0
W	2018	351	0	351	0	0
W	2019	600	1	601	0	0
W	2020	336	1	337	0	0

Table 116: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2002	0	2	2	0	0
O	2013	0	1	1	0	0
W	2015	2	0	2	2	0
W	2017	0	3	3	0	0
W	2020	1	0	1	0	1
W	2021	0	4	4	0	0

Table 117: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	1425	1	1426	432	2
NA	2004	565	0	565	219	0
NA	2005	525	1	526	257	0
NA	2006	659	0	659	254	1
NA	2007	627	1	628	439	0
NA	2008	505	34	539	328	0
NA	2009	435	36	471	331	2

Table 117: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2010	903	4	907	579	0
NA	2011	849	72	921	674	3
NA	2012	1166	9	1175	0	699
NA	2013	730	2	732	199	354
NA	2014	902	89	991	626	0
NA	2015	1143	22	1165	840	5
NA	2016	1150	0	1150	703	67
NA	2017	968	8	976	0	778
NA	2018	642	6	648	0	537
NA	2019	345	0	345	0	291

37 Pacific sanddab

Pacific sanddab have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 38299 length observations, a total of 159 age readings, and 16382 available to be aged. The recreational fisheries across all states have collected a total of 46530 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 82948 length observations, a total of 7986 age readings, and 5262 available to be aged.

Table 118: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2002	0	46	46	0	0
C	2003	1304	0	1304	0	409
C	2004	757	125	882	0	72
C	2005	994	134	1024	0	112
C	2006	1979	125	2104	0	184
C	2007	1516	116	1632	0	770

Table 118: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2008	1319	203	1522	0	860
C	2009	759	190	949	0	0
C	2010	688	390	1078	0	60
C	2011	246	163	409	0	0
C	2012	355	230	585	0	5
C	2013	1077	302	1379	0	0
C	2014	961	278	1239	0	0
C	2015	1672	216	1823	0	0
C	2016	2203	100	2303	0	80
C	2017	1607	16	1623	0	0
C	2018	1454	10	1464	0	0
C	2019	829	548	1376	0	0
C	2020	231	155	386	0	0
O	1994	147	0	147	145	2
O	1995	215	0	215	9	206
O	1996	160	0	160	0	61
O	1997	585	0	585	5	515
O	1998	588	0	588	0	588
O	1999	251	0	251	0	251
O	2000	414	0	414	0	414
O	2001	399	104	503	0	400
O	2002	539	0	538	0	379
O	2003	340	0	340	0	340
O	2004	481	0	481	0	481
O	2005	566	0	566	0	566
O	2006	804	0	804	0	804
O	2007	630	0	630	0	540
O	2008	470	0	470	0	410
O	2009	930	0	930	0	830
O	2010	834	0	834	0	804
O	2011	830	0	830	0	730
O	2012	709	0	709	0	709
O	2013	852	0	851	0	852
O	2014	835	0	835	0	835
O	2015	759	1	760	0	670
O	2016	649	1	650	0	530
O	2017	699	2	701	0	685
O	2018	664	2	666	0	578
O	2019	550	0	550	0	490
O	2020	160	0	160	0	160
W	1980	0	3	3	0	0

Table 118: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths

Table 119: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	21	21	0	0
C	2004	0	1742	1742	0	0
C	2005	1	1833	1834	0	0
C	2006	0	2864	2864	0	0
C	2007	0	2105	2105	0	0
C	2008	0	4007	4007	0	0
C	2009	11	2971	2982	0	0
C	2010	0	3739	3739	0	0
C	2011	70	3372	3442	0	0
C	2012	211	4480	4691	0	0
C	2013	1038	3891	4929	0	0
C	2014	1393	2461	3854	0	0
C	2015	779	1007	1786	0	0
C	2016	980	971	1951	0	0
C	2017	867	790	1657	0	0
C	2018	782	833	1615	0	0
C	2019	651	533	1184	0	0
C	2020	270	322	591	0	0
O	2001	0	18	18	0	0
O	2002	0	18	18	0	0
O	2003	0	56	56	0	0
O	2004	0	339	339	0	0
O	2005	0	82	82	0	0
O	2006	0	29	29	0	0
O	2007	0	7	7	0	0
O	2008	0	46	46	0	0
O	2009	0	13	13	0	0
O	2010	0	85	85	0	0
O	2011	0	49	49	0	0
O	2012	0	151	151	0	0
O	2013	0	69	69	0	0
O	2014	0	82	82	0	0

Table 119: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2015	0	32	32	0	0
O	2016	0	39	39	0	0
O	2017	0	277	277	0	0
O	2018	0	59	59	0	0
O	2019	0	65	65	0	0
O	2020	0	12	12	0	0
W	2008	0	1	1	0	0
W	2019	0	1	1	0	0
W	2021	0	6	6	0	0

Table 120: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	8853	74	8927	787	8
NA	2004	10755	0	10755	1419	8
NA	2005	10126	0	10126	993	14
NA	2006	5902	2	5904	704	15
NA	2007	4293	26	4319	725	10
NA	2008	4527	9	4536	768	6
NA	2009	2815	6	2821	0	813
NA	2010	1501	11	1512	1018	133
NA	2011	4486	90	4576	752	96
NA	2012	4536	78	4614	820	106
NA	2013	3275	52	3327	0	618
NA	2014	4992	47	5039	0	929
NA	2015	4997	34	5026	0	926
NA	2016	4565	6	4571	0	463
NA	2017	3057	6	3063	0	466
NA	2018	2590	7	2597	0	436
NA	2019	1230	5	1235	0	215

38 Petrale sole

Petrale sole have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 136238 length observations, a total of 18591 age readings, and 49662 available to be aged. The recreational fisheries across all states have collected a total of 3572 length observations, a total of 14 age readings, and 8 available to be aged. The NWFSC WCGBT across all states have collected a total of 68578 length observations, a total of 12551 age readings, and 7313 available to be aged. The NWFSC HKL across all states have collected a total of 2 length observations, a total of 0 age readings, and 0 available to be aged.

Table 121: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1990	484	0	484	321	200
C	1991	467	0	467	294	200
C	1992	88	0	88	0	0
C	1994	0	1	1	0	0
C	2001	478	116	594	0	0
C	2002	305	156	461	0	0
C	2003	719	30	749	116	196
C	2004	894	105	965	182	273
C	2005	1330	125	1407	300	274
C	2006	1988	297	2284	231	206
C	2007	4708	269	4977	210	177
C	2008	4285	578	4862	440	403
C	2009	2034	468	2502	78	78
C	2010	1620	391	2011	0	6
C	2011	1543	236	1778	253	239
C	2012	2024	350	2374	183	154
C	2013	3589	234	3823	170	148
C	2014	2859	157	2964	0	97
C	2015	2166	978	3088	0	0
C	2016	2599	1018	3617	0	176
C	2017	3108	670	3778	0	166
C	2018	3105	381	3486	0	0
C	2019	3556	940	4496	0	0
C	2020	3655	619	4273	0	0
O	1987	1105	0	1105	348	757

Table 121: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	1988	900	0	900	91	809
O	1989	803	0	803	651	152
O	1990	803	0	803	410	393
O	1991	633	0	633	8	625
O	1992	741	0	741	55	686
O	1993	532	0	532	0	532
O	1994	629	0	629	46	583
O	1995	296	0	296	0	296
O	1996	235	0	235	0	235
O	1997	748	0	748	6	742
O	1998	555	0	555	344	211
O	1999	466	0	466	265	130
O	2000	777	0	777	0	750
O	2001	504	0	504	0	426
O	2002	919	0	919	0	781
O	2003	1092	0	1092	0	987
O	2004	939	0	939	0	873
O	2005	945	0	945	0	810
O	2006	2045	0	2045	0	1634
O	2007	1940	0	1940	455	1114
O	2008	2409	0	2409	483	1506
O	2009	2952	0	2952	537	1134
O	2010	2692	61	2753	506	1503
O	2011	1748	1	1749	529	1068
O	2012	1872	0	1872	621	1161
O	2013	2537	0	2537	715	1597
O	2014	3380	0	3379	745	2455
O	2015	2984	0	2984	718	1861
O	2016	1916	0	1916	523	1273
O	2017	2985	1	2986	761	1894
O	2018	2336	0	2336	752	1224
O	2019	2348	37	2385	0	2032
O	2020	1336	0	1336	0	1186
W	1980	2858	2	2860	0	1747
W	1981	400	0	400	0	195
W	1998	639	11	650	0	648
W	1999	708	1	709	0	700
W	2000	878	3	878	0	829
W	2001	743	7	750	0	736
W	2002	887	4	891	0	697
W	2003	1186	1	1187	0	1139

Table 121: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2004	1179	0	1179	0	1174
W	2005	1333	0	1333	0	1325
W	2006	1847	2	1849	0	1043
W	2007	2138	4	2142	0	1099
W	2008	1872	1	1873	0	1031
W	2009	1671	0	1671	543	547
W	2010	995	0	995	389	339
W	2011	1123	0	1123	643	0
W	2012	1141	0	1141	599	0
W	2013	1906	2	1908	840	0
W	2014	1200	0	1200	549	0
W	2015	1430	1	1431	725	0
W	2016	220	0	220	115	0
W	2017	2095	0	2095	755	0
W	2018	1722	50	1772	813	0
W	2019	1112	28	1140	273	0
W	2020	111	0	111	0	0

Table 122: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	20	20	0	0
C	2005	0	17	17	0	0
C	2006	0	29	29	0	0
C	2007	0	52	52	0	0
C	2008	0	53	53	0	0
C	2009	0	41	41	0	0
C	2010	0	12	12	0	0
C	2011	0	24	24	0	0
C	2012	0	62	62	0	0
C	2013	0	141	141	0	0
C	2014	0	72	72	0	0
C	2015	0	53	53	0	0
C	2016	0	107	107	0	0
C	2017	0	216	216	0	0
C	2018	1	225	226	0	0

Table 122: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2019	0	371	371	0	0
C	2020	0	1	1	0	0
O	2001	0	3	3	0	0
O	2002	0	6	6	0	0
O	2003	0	41	41	0	0
O	2004	0	27	27	0	0
O	2005	0	10	10	0	0
O	2006	0	10	10	0	0
O	2007	0	9	9	0	0
O	2008	0	25	25	0	0
O	2009	0	10	10	0	0
O	2010	0	12	12	0	0
O	2011	0	37	37	0	0
O	2012	0	61	61	0	0
O	2013	0	159	159	0	0
O	2014	0	111	111	0	0
O	2015	0	98	98	0	0
O	2016	0	268	268	0	0
O	2017	0	385	385	0	0
O	2018	0	345	345	0	0
O	2019	0	409	409	0	0
O	2020	0	4	4	0	0
W	2015	0	1	1	0	0
W	2017	0	1	1	0	0
W	2018	17	12	29	14	0
W	2019	3	6	9	0	3
W	2020	2	0	2	0	2
W	2021	3	0	3	0	3

Table 123: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	2833	4	2837	765	835
NA	2004	3345	1	3346	723	1133
NA	2005	4539	16	4555	752	1093
NA	2006	3664	4	3668	774	201

Table 123: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2007	3403	6	3409	690	289
NA	2008	3042	5	3047	746	279
NA	2009	3385	2	3387	777	283
NA	2010	6049	3	6052	801	593
NA	2011	6172	4	6176	799	561
NA	2012	5366	6	5372	777	510
NA	2013	3440	5	3445	843	1
NA	2014	4805	17	4822	766	472
NA	2015	4253	4	4236	751	406
NA	2016	4383	2	4385	893	23
NA	2017	4260	1	4261	884	4
NA	2018	3782	1	3783	810	6
NA	2019	1795	2	1797	0	624

Table 124: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2014	1	0	1	0	0
C	2019	1	0	1	0	0

39 Quillback rockfish

Quillback rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 6579 length observations, a total of 185 age readings, and 1106 available to be aged. The recreational fisheries across all states have collected a total of 29344 length observations, a total of 2895 age readings, and 3715 available to be aged. The NWFSC WCGBT across all states have collected a total of 219 length observations, a total of 175 age readings, and 1 available to be aged.

Table 125: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1984	1	0	1	0	0
C	1987	1	0	1	0	0
C	1991	3	155	158	0	0
C	1992	0	260	260	0	0
C	1993	0	97	97	0	0
C	1994	0	295	295	0	0
C	1995	2	124	126	0	0
C	1996	0	132	132	0	0
C	1997	0	150	150	0	0
C	1998	0	16	16	0	0
C	1999	1	579	580	0	0
C	2000	0	41	41	0	0
C	2001	1	321	322	0	0
C	2002	0	17	17	0	0
C	2004	4	10	14	0	4
C	2005	0	16	16	0	0
C	2006	0	19	19	0	0
C	2007	27	111	138	0	27
C	2008	0	108	108	0	0
C	2009	0	39	39	0	0
C	2010	0	16	16	0	0
C	2011	2	5	7	0	1
C	2012	5	13	15	0	4
C	2013	0	13	13	0	0
C	2014	0	5	5	0	0
C	2015	0	20	20	0	0
C	2016	0	16	16	0	0
C	2017	0	49	49	0	0
C	2018	0	117	31	0	0
C	2019	75	68	86	0	0
C	2020	74	0	74	0	0
O	1998	4	0	4	0	0
O	1999	25	0	25	0	0
O	2000	200	0	200	0	0
O	2001	214	0	214	0	0
O	2002	59	0	59	2	1
O	2003	48	0	48	9	0
O	2004	134	0	134	63	0
O	2005	20	0	20	1	0

Table 125: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2006	140	0	140	63	0
O	2007	127	0	127	0	2
O	2008	55	2	57	0	12
O	2009	64	0	64	0	17
O	2010	69	0	69	0	14
O	2011	191	0	191	0	97
O	2012	151	0	151	0	102
O	2013	214	0	214	0	117
O	2014	184	6	190	0	120
O	2015	102	0	102	0	59
O	2016	75	2	77	0	35
O	2017	181	33	214	0	112
O	2018	198	1	199	0	85
O	2019	354	2	355	0	194
O	2020	216	0	216	0	103
W	1980	0	3	3	0	0
W	1982	275	38	313	0	0
W	1983	22	0	22	0	0
W	1989	0	20	20	0	0
W	1990	0	100	100	0	0
W	1996	0	1	1	0	0
W	2000	0	4	4	0	0
W	2002	10	6	16	0	0
W	2003	4	0	4	0	0
W	2004	2	0	2	0	0
W	2005	1	0	1	0	0
W	2006	105	0	105	0	0
W	2014	19	0	19	15	0
W	2017	9	0	9	9	0
W	2018	9	0	9	4	0
W	2019	19	0	19	19	0

Table 126: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	120	120	0	0

Table 126: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2005	0	215	215	0	0
C	2006	0	418	418	0	0
C	2007	0	552	552	0	0
C	2008	1	330	331	0	0
C	2009	0	321	321	0	0
C	2010	0	144	144	0	0
C	2011	0	207	207	0	0
C	2012	0	271	271	0	0
C	2013	3	186	189	0	0
C	2014	0	129	129	0	0
C	2015	0	376	376	0	0
C	2016	0	440	440	0	0
C	2017	0	457	457	0	0
C	2018	0	423	423	0	11
C	2019	0	464	464	0	18
O	2001	0	321	321	0	0
O	2002	0	757	757	0	0
O	2003	0	876	876	0	0
O	2004	0	500	500	0	0
O	2005	91	931	1022	91	0
O	2006	343	1033	1376	336	3
O	2007	309	1075	1384	0	311
O	2008	363	1120	1483	356	0
O	2009	245	825	1070	0	245
O	2010	372	919	1291	0	374
O	2011	333	1048	1381	0	337
O	2012	475	1241	1716	0	475
O	2013	283	753	1036	0	284
O	2014	193	484	677	0	193
O	2015	0	43	43	0	0
O	2016	0	27	27	0	0
O	2017	227	737	964	0	228
O	2018	349	1352	1701	0	349
O	2019	392	1235	1627	0	392
O	2020	153	39	192	0	153
W	2002	235	29	264	9	0
W	2003	260	30	290	0	0
W	2004	287	35	322	157	1
W	2005	337	74	411	181	0
W	2006	235	91	326	52	0
W	2007	218	48	266	89	4

Table 126: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2008	131	45	176	59	0
W	2009	135	25	160	27	1
W	2010	70	3	73	6	7
W	2011	63	45	108	32	0
W	2012	55	29	84	14	0
W	2013	72	65	137	8	0
W	2014	240	76	316	288	2
W	2015	208	35	243	236	0
W	2016	325	14	339	273	52
W	2017	223	108	331	222	0
W	2018	200	88	288	199	0
W	2019	260	168	428	260	0
W	2020	161	1	162	0	161
W	2021	114	5	119	0	114

Table 127: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	3	0	3	0	0
NA	2005	2	0	2	2	0
NA	2006	3	0	3	3	0
NA	2007	20	0	20	16	0
NA	2008	37	0	37	22	0
NA	2009	3	0	3	3	0
NA	2010	2	0	2	2	0
NA	2011	6	0	6	6	0
NA	2012	46	0	46	26	0
NA	2013	1	1	2	1	0
NA	2014	25	0	25	24	1
NA	2015	7	1	8	8	0
NA	2016	9	0	9	9	0
NA	2017	15	1	16	16	0
NA	2018	21	0	21	21	0
NA	2019	16	0	16	16	0

40 Redbanded rockfish

Redbanded rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 32088 length observations, a total of 279 age readings, and 12855 available to be aged. The recreational fisheries across all states have collected a total of 110 length observations, a total of 0 age readings, and 19 available to be aged. The NWFSC WCGBT across all states have collected a total of 3120 length observations, a total of 0 age readings, and 2932 available to be aged.

Table 128: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	34	8	42	0	34
C	1981	48	2	50	0	48
C	1982	38	1	39	0	27
C	1983	117	1	118	0	115
C	1984	253	0	253	0	0
C	1985	327	9	336	0	342
C	1986	102	0	102	0	5
C	1987	48	0	48	0	0
C	1988	38	0	38	0	0
C	1989	56	10	66	0	0
C	1990	29	2	31	0	0
C	1991	37	7	44	0	0
C	1992	48	32	80	0	0
C	1993	12	44	56	0	0
C	1994	46	8	54	0	0
C	1995	32	37	69	0	0
C	1996	109	128	237	0	0
C	1997	32	18	50	0	0
C	1998	37	24	61	0	0
C	1999	34	18	52	0	0
C	2000	71	3	74	0	0
C	2001	24	26	50	0	9
C	2002	48	45	93	0	53
C	2003	46	13	58	0	44
C	2004	17	6	23	1	11
C	2005	77	15	92	0	52
C	2006	258	11	269	0	141

Table 128: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2007	240	3	243	0	110
C	2008	343	46	389	0	118
C	2009	128	64	192	0	51
C	2010	249	71	319	0	115
C	2011	320	62	374	0	280
C	2012	152	73	198	0	92
C	2013	131	79	171	0	100
C	2014	115	160	246	0	54
C	2015	216	335	496	0	141
C	2016	258	216	432	0	148
C	2017	270	160	411	0	45
C	2018	115	162	277	0	0
C	2019	115	43	158	0	0
C	2020	154	105	259	0	0
O	1995	1	0	1	0	1
O	2000	14	0	14	0	14
O	2001	24	0	24	0	24
O	2002	44	0	44	0	0
O	2003	120	0	120	6	103
O	2004	142	0	142	0	128
O	2005	95	0	95	24	71
O	2006	158	0	158	0	150
O	2007	442	0	442	38	379
O	2008	453	14	467	51	359
O	2009	349	0	349	6	343
O	2010	647	1	648	7	610
O	2011	1007	3	1010	22	980
O	2012	1205	1	1206	58	1148
O	2013	733	0	733	21	712
O	2014	686	0	686	45	639
O	2015	957	0	957	0	957
O	2016	1000	0	1000	0	943
O	2017	1023	0	1023	0	946
O	2018	940	1	941	0	915
O	2019	857	2	859	0	852
O	2020	446	0	446	0	446
W	1996	0	240	240	0	0
W	1997	0	314	314	0	0
W	1998	165	13	178	0	0
W	1999	290	28	318	0	0
W	2000	227	298	525	0	0

Table 128: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2001	278	115	393	0	0
W	2002	448	53	501	0	0
W	2003	574	30	604	0	0
W	2004	306	38	344	0	0
W	2005	102	0	102	0	0
W	2006	264	0	264	0	0
W	2007	400	19	419	0	0
W	2008	374	25	399	0	0
W	2009	342	4	346	0	0
W	2010	300	6	306	0	0
W	2011	500	14	514	0	0
W	2012	431	12	443	0	0
W	2013	598	5	603	0	0
W	2014	688	18	706	0	0
W	2015	724	63	787	0	0
W	2016	1169	44	1213	0	0
W	2017	995	2	997	0	0
W	2018	1369	2	1371	0	0
W	2019	1552	1	1553	0	0
W	2020	632	1	633	0	0

Table 129: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2009	0	1	1	0	0
C	2015	0	4	4	0	0
O	2001	0	4	4	0	0
O	2002	0	4	4	0	0
O	2003	0	1	1	0	0
O	2004	0	7	7	0	0
O	2005	0	4	4	0	0
O	2006	0	8	8	0	0
O	2007	0	5	5	0	0
O	2010	0	7	7	0	0
O	2013	0	2	2	0	0
O	2016	0	2	2	0	0

Table 129: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2018	0	1	1	0	0
W	2002	20	0	20	0	0
W	2004	1	3	4	0	0
W	2009	1	0	1	0	0
W	2012	0	1	1	0	0
W	2016	1	0	1	0	1
W	2018	0	1	1	0	0
W	2019	15	12	27	0	15
W	2021	4	1	5	0	3

Table 130: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	272	0	272	0	179
NA	2004	156	2	158	0	144
NA	2005	168	3	171	0	171
NA	2006	145	7	152	0	145
NA	2007	166	12	178	0	178
NA	2008	142	4	146	0	146
NA	2009	135	7	142	0	142
NA	2010	166	1	167	0	167
NA	2011	208	3	211	0	203
NA	2012	143	6	149	0	149
NA	2013	180	9	189	0	189
NA	2014	219	4	223	0	203
NA	2015	187	2	189	0	189
NA	2016	111	3	114	0	114
NA	2017	262	8	270	0	268
NA	2018	266	7	273	0	236
NA	2019	114	2	116	0	109

41 Rex sole

Rex sole have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 49884 length observations, a total of 0 age readings, and 19130 available to be aged. The recreational fisheries across all states have collected a total of 1 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 134477 length observations, a total of 0 age readings, and 10122 available to be aged.

Table 131: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2007	2639	50	2688	0	80
C	2008	2945	162	3106	0	302
C	2009	1410	158	1564	0	118
C	2010	1460	82	1542	0	2
C	2011	2348	13	2361	0	235
C	2012	1948	98	2046	0	172
C	2013	2231	58	2289	0	37
C	2014	1441	5	1446	0	12
C	2015	1470	1	1471	0	11
C	2016	2042	3	2045	0	153
C	2017	2187	42	2229	0	40
C	2018	906	99	1005	0	0
C	2019	1341	2	1343	0	0
C	2020	1455	84	1539	0	0
O	2006	218	0	218	0	218
O	2007	1613	7	1620	0	1260
O	2008	1438	1	1439	0	1140
O	2009	1809	1	1810	0	1570
O	2010	2281	1	2281	0	1710
O	2011	2037	0	2037	0	1350
O	2012	1575	0	1575	0	1455
O	2013	1449	7	1456	0	1456
O	2014	1490	0	1490	0	1490
O	2015	1371	0	1371	0	1221
O	2016	1390	0	1390	0	1240
O	2017	1535	0	1535	0	1175
O	2018	1503	0	1503	0	979

Table 131: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2019	1442	3	1445	0	1115
O	2020	709	0	709	0	589
W	1980	0	1	1	0	0
W	2017	430	0	430	0	0
W	2018	450	100	550	0	0
W	2019	300	0	300	0	0
W	2020	50	0	50	0	0

Table 132: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2006	0	1	1	0	0

Table 133: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	10843	0	10843	0	0
NA	2004	13884	48	13932	0	0
NA	2005	15980	27	16007	0	0
NA	2006	11580	0	11580	0	0
NA	2007	9608	13	9621	0	801
NA	2008	7166	61	7227	0	763
NA	2009	4088	26	4114	0	780
NA	2010	2611	47	2658	0	885
NA	2011	6921	67	6988	0	838
NA	2012	7399	27	7426	0	850
NA	2013	5720	9	5729	0	600
NA	2014	8688	15	8682	0	852
NA	2015	8535	17	8517	0	818
NA	2016	8643	24	8667	0	841
NA	2017	5203	28	5231	0	829

Table 133: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2018	4822	9	4831	0	850
NA	2019	2423	1	2424	0	415

42 Rock sole

The commercial fisheries across all states have collected a total of 2236 length observations, a total of 0 age readings, and 812 available to be aged. The recreational fisheries across all states have collected a total of 926 length observations, a total of 0 age readings, and 15 available to be aged.

Table 134: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	55	29	84	0	2
C	2004	1	3	4	0	0
C	2006	0	8	0	0	0
C	2007	57	0	57	0	0
C	2008	73	1	74	0	93
C	2009	89	43	132	0	0
C	2010	31	71	102	0	0
C	2011	0	27	27	0	0
C	2012	42	99	141	0	0
C	2013	26	67	93	0	12
C	2014	0	2	2	0	0
C	2015	0	24	24	0	0
C	2016	7	59	66	0	0
C	2017	94	23	117	0	0
C	2018	39	53	92	0	0
C	2019	2	24	26	0	0
C	2020	1	12	13	0	0

Table 134: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2004	51	0	51	0	51
O	2005	26	0	26	0	26
O	2008	16	0	16	0	16
O	2009	72	0	72	0	72
O	2011	12	0	12	0	12
O	2012	60	0	60	0	60
O	2013	43	0	43	0	43
O	2014	16	0	16	0	16
O	2015	91	0	91	0	91
O	2016	71	0	71	0	71
O	2017	97	0	97	0	91
O	2018	79	0	79	0	79
O	2019	55	0	55	0	53
O	2020	24	0	24	0	24
W	1982	50	0	50	0	0
W	1983	177	0	177	0	0
W	1984	242	0	242	0	0

Table 135: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	38	38	0	0
C	2005	0	33	33	0	0
C	2006	0	32	32	0	0
C	2007	0	43	43	0	0
C	2008	0	33	33	0	0
C	2009	0	43	43	0	0
C	2010	0	40	40	0	0
C	2011	1	54	55	0	0
C	2012	0	59	59	0	0
C	2013	2	65	67	0	0
C	2014	2	51	53	0	0
C	2015	2	55	57	0	0
C	2016	0	55	55	0	0
C	2017	1	70	71	0	0
C	2018	0	76	76	0	0

Table 135: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2019	0	79	79	0	0
C	2020	0	2	2	0	0
O	2001	0	1	1	0	0
O	2004	0	4	4	0	0
O	2005	0	15	15	0	0
O	2006	0	5	5	0	0
O	2007	0	2	2	0	0
O	2008	0	1	1	0	0
O	2009	0	2	2	0	0
O	2010	0	5	5	0	0
O	2011	0	2	2	0	0
O	2012	0	3	3	0	0
O	2013	0	2	2	0	0
O	2014	0	3	3	0	0
O	2015	0	5	5	0	0
O	2016	0	1	1	0	0
O	2017	0	7	7	0	0
O	2018	0	3	3	0	0
O	2019	0	5	5	0	0
W	2005	0	2	2	0	0
W	2006	0	1	1	0	0
W	2012	0	1	1	0	0
W	2018	1	4	5	0	0
W	2019	6	0	6	0	6
W	2020	6	0	6	0	6
W	2021	3	0	3	0	3

43 Rosethorn rockfish

The commercial fisheries across all states have collected a total of 4614 length observations, a total of 0 age readings, and 2093 available to be aged. The recreational fisheries across all states have collected a total of 548 length observations, a total of 0 age readings, and 5 available to be aged. The NWFSC HKL across all states have collected a total of 36 length observations, a total of 0 age readings, and 27 available to be aged.

Table 136: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	0	1	1	0	0
C	1982	15	0	15	0	7
C	1983	10	0	10	0	56
C	1984	15	0	15	0	34
C	1985	56	4	60	0	46
C	1986	37	1	38	0	3
C	1987	18	0	18	0	0
C	1988	19	1	20	0	0
C	1989	13	76	89	0	0
C	1990	18	7	25	0	0
C	1991	12	102	114	0	0
C	1992	7	18	25	0	0
C	1993	12	17	29	0	0
C	1994	9	45	54	0	0
C	1995	16	79	95	0	0
C	1996	50	151	201	0	0
C	1997	9	71	80	0	0
C	1998	14	3	17	0	0
C	1999	62	3	65	0	0
C	2000	3	0	3	0	0
C	2001	2	0	2	0	0
C	2002	5	1	6	0	0
C	2003	2	0	2	0	0
C	2004	1	0	1	0	1
C	2005	2	0	2	0	9
C	2006	1	0	1	0	1
C	2007	1	0	1	0	0
C	2008	0	4	4	0	0
C	2009	0	1	1	0	0
C	2010	3	0	3	0	2
C	2011	0	5	5	0	0
C	2012	29	84	113	0	30
C	2013	4	4	8	0	3
C	2014	2	2	4	0	1
C	2015	15	15	28	0	15
C	2016	1	4	5	0	0
C	2017	4	4	8	0	4
C	2018	0	1	1	0	0
C	2020	3	60	3	0	0

Table 136: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	1997	90	0	90	0	0
O	2000	51	0	51	0	0
O	2003	7	0	7	0	7
O	2004	7	0	7	0	4
O	2006	2	0	2	0	2
O	2007	38	0	38	0	34
O	2008	70	0	70	0	68
O	2009	64	0	64	0	64
O	2010	52	0	52	0	50
O	2011	101	0	101	0	98
O	2012	96	2	97	0	98
O	2013	242	1	243	0	243
O	2014	148	0	148	0	146
O	2015	92	0	92	0	92
O	2016	96	1	97	0	96
O	2017	316	1	317	0	317
O	2018	180	1	181	0	169
O	2019	277	2	279	0	279
O	2020	116	0	116	0	114
W	1996	0	51	51	0	0
W	1997	0	23	23	0	0
W	1998	25	0	25	0	0
W	1999	7	0	7	0	0
W	2000	3	17	20	0	0
W	2001	0	3	3	0	0
W	2002	233	4	237	0	0
W	2003	132	3	135	0	0
W	2004	7	0	7	0	0
W	2005	9	0	9	0	0
W	2006	8	0	8	0	0
W	2008	3	0	3	0	0
W	2009	3	1	4	0	0
W	2010	2	0	2	0	0
W	2011	50	1	51	0	0
W	2012	50	1	51	0	0
W	2013	56	0	56	0	0
W	2014	65	5	70	0	0
W	2015	59	0	59	0	0
W	2016	60	2	62	0	0
W	2017	178	1	179	0	0
W	2018	160	0	160	0	0

Table 136: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2019	142	0	142	0	0
W	2020	25	1	26	0	0

Table 137: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	4	4	0	0
C	2005	0	2	2	0	0
C	2008	0	1	1	0	0
C	2010	0	11	11	0	0
C	2013	0	1	1	0	0
C	2019	0	1	1	0	0
O	2001	0	63	63	0	0
O	2002	0	121	121	0	0
O	2003	0	58	58	0	0
O	2004	0	16	16	0	0
O	2005	0	24	24	0	0
O	2006	0	12	12	0	0
O	2007	0	20	20	0	0
O	2008	0	6	6	0	0
O	2009	0	17	17	0	0
O	2011	0	6	6	0	0
O	2012	0	15	15	0	0
O	2013	0	38	38	0	0
O	2014	0	15	15	0	0
O	2015	0	16	16	0	0
O	2016	0	24	24	0	0
O	2017	0	12	12	0	0
O	2018	0	11	11	0	0
O	2019	0	45	45	0	0
O	2020	0	2	2	0	0
W	2005	1	0	1	0	0
W	2017	3	0	3	0	3
W	2018	1	0	1	0	1
W	2019	0	1	1	0	0
W	2021	1	0	1	0	1

Table 138: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	33	0	33	0	25
C	2012	1	0	1	0	1
C	2019	2	0	2	0	1

44 Rosy rockfish

The commercial fisheries across all states have collected a total of 2414 length observations, a total of 0 age readings, and 213 available to be aged. The recreational fisheries across all states have collected a total of 19061 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC HKL across all states have collected a total of 763 length observations, a total of 0 age readings, and 699 available to be aged.

Table 139: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	0	7	7	0	104
C	1981	0	4	4	0	19
C	1982	0	1	1	0	0
C	1983	0	1	1	0	0
C	1984	0	6	6	0	14
C	1985	0	12	12	0	25
C	1986	4	1	5	0	3
C	1987	5	0	5	0	0
C	1988	6	31	37	0	0
C	1989	9	6	15	0	0
C	1990	3	13	16	0	0
C	1991	1	174	175	0	0
C	1992	2	652	654	0	0

Table 139: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1993	1	138	139	0	0
C	1994	0	459	459	0	0
C	1995	1	72	73	0	0
C	1996	5	231	236	0	0
C	1997	6	115	121	0	0
C	1998	1	20	21	0	0
C	1999	1	31	31	0	0
C	2000	0	1	1	0	0
C	2002	0	1	1	0	0
C	2008	0	25	25	0	0
C	2009	0	36	36	0	0
C	2010	0	24	24	0	0
C	2011	0	3	3	0	0
C	2012	0	14	14	0	0
C	2013	0	17	17	0	0
C	2014	0	41	41	0	0
C	2015	0	4	4	0	0
C	2016	1	12	13	0	2
C	2017	0	12	12	0	0
C	2018	0	27	27	0	0
C	2019	2	12	14	0	0
C	2020	0	58	58	0	0
O	1992	36	0	36	0	36
O	1993	31	0	31	0	0
O	2001	29	0	29	0	0
O	2003	2	0	2	0	2
O	2011	1	0	1	0	1
O	2014	1	0	1	0	1
O	2017	1	0	1	0	1
O	2018	2	0	2	0	2
O	2019	3	0	3	0	3

Table 140: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	1	16	17	0	0

Table 140: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	1	604	605	0	0
C	2005	1	663	664	0	0
C	2006	0	1039	1039	0	0
C	2007	0	1295	1295	0	0
C	2008	0	1166	1166	0	0
C	2009	0	1658	1657	0	0
C	2010	0	1469	1469	0	0
C	2011	0	1295	1294	0	0
C	2012	0	1041	1041	0	0
C	2013	1	1185	1186	0	0
C	2014	0	655	655	0	0
C	2015	0	1009	1009	0	0
C	2016	1	1044	1045	0	0
C	2017	0	1329	1329	0	0
C	2018	0	1696	1696	0	0
C	2019	0	1633	1633	0	0
C	2020	0	43	43	0	0
O	2001	0	96	96	0	0
O	2002	0	41	41	0	0
O	2003	0	23	23	0	0
O	2004	0	3	3	0	0
O	2005	0	7	7	0	0
O	2006	0	6	6	0	0
O	2007	0	3	3	0	0
O	2009	0	2	2	0	0
O	2011	0	4	4	0	0
O	2012	0	9	9	0	0
O	2013	0	4	4	0	0
O	2015	0	2	2	0	0
O	2017	0	6	6	0	0
O	2018	0	4	4	0	0
O	2019	0	8	8	0	0

Table 141: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	21	0	21	0	21
C	2005	11	0	11	0	11
C	2006	13	0	13	0	13
C	2007	48	5	53	0	45
C	2008	50	1	51	0	50
C	2009	62	0	62	0	44
C	2010	31	0	31	0	31
C	2011	28	0	28	0	26
C	2012	15	0	15	0	10
C	2013	21	0	21	0	18
C	2014	53	8	61	0	58
C	2015	68	0	68	0	66
C	2016	44	0	44	0	43
C	2017	77	1	77	0	72
C	2018	104	0	104	0	94
C	2019	103	0	103	0	97

45 Rougheye/Blackspotted rockfish

Rougheye/Blackspotted rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 49275 length observations, a total of 2487 age readings, and 15062 available to be aged. The recreational fisheries across all states have collected a total of 2 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 1958 length observations, a total of 962 age readings, and 675 available to be aged.

Table 142: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1981	0	1	1	0	0
C	1985	1	0	1	0	1
C	1986	1	0	1	0	0
C	1987	6	0	6	0	1
C	1990	1	0	1	0	0
C	1991	4	0	4	0	0
C	1992	2	15	17	0	0
C	1994	15	0	15	0	0
C	1995	4	5	9	0	0
C	1996	15	7	22	0	0
C	1997	1	2	3	0	0
C	1998	0	11	11	0	0
C	1999	3	0	3	0	0
C	2000	20	0	20	0	0
C	2001	1	6	7	0	1
C	2002	16	4	20	0	16
C	2003	13	2	15	0	11
C	2004	1	0	1	0	1
C	2005	58	0	58	0	56
C	2006	118	0	118	0	5
C	2007	26	0	26	0	9
C	2008	79	0	79	0	26
C	2009	108	3	111	0	68
C	2010	105	17	121	0	28
C	2011	58	6	64	0	42
C	2012	33	6	35	0	24
C	2013	34	4	36	0	29
C	2014	10	14	24	0	7
C	2015	16	37	49	0	16
C	2016	30	84	114	0	27
C	2017	34	7	38	0	20
C	2018	12	6	18	0	0
C	2019	57	4	61	0	0
C	2020	4	1	5	0	0
O	1995	43	0	43	0	21
O	1996	167	0	167	0	0
O	1997	24	31	55	0	0
O	1998	44	0	44	0	0
O	1999	102	0	102	0	0
O	2000	63	0	63	0	63

Table 142: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2001	135	0	135	0	80
O	2002	5	0	5	0	5
O	2003	48	0	48	0	46
O	2004	318	0	318	0	299
O	2005	280	0	280	0	238
O	2006	431	0	431	0	408
O	2007	903	0	903	0	764
O	2008	793	1	794	329	399
O	2009	1148	0	1148	0	1086
O	2010	1322	1	1323	0	1209
O	2011	951	0	951	395	550
O	2012	1188	0	1188	0	1187
O	2013	1040	1	1041	0	1040
O	2014	705	0	705	0	703
O	2015	1444	0	1444	0	1323
O	2016	1227	0	1227	0	1188
O	2017	1167	0	1167	0	1102
O	2018	1171	3	1174	0	1134
O	2019	1133	1	1133	0	1087
O	2020	747	0	747	0	742
W	1996	0	163	163	0	0
W	1997	0	828	828	0	0
W	1998	1187	82	1269	0	0
W	1999	796	315	1111	0	0
W	2000	573	815	1388	0	0
W	2001	398	463	861	0	0
W	2002	646	155	801	0	0
W	2003	1761	91	1852	0	0
W	2004	1042	73	1115	0	0
W	2005	1351	6	1357	0	0
W	2006	1620	15	1635	0	0
W	2007	1463	5	1468	0	0
W	2008	1626	37	1663	0	0
W	2009	1563	18	1581	0	0
W	2010	1096	1	1097	0	0
W	2011	1423	169	1592	430	0
W	2012	1517	250	1767	791	0
W	2013	1393	36	1428	542	0
W	2014	995	10	1005	0	0
W	2015	1296	41	1337	0	0
W	2016	1380	68	1448	0	0

Table 142: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2017	1149	1	1150	0	0
W	2018	1463	1	1464	0	0
W	2019	1548	6	1554	0	0
W	2020	590	1	591	0	0

Table 143: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2008	0	1	1	0	0
W	2019	0	1	1	0	0

Table 144: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	112	0	112	56	0
NA	2004	113	2	115	78	0
NA	2005	259	0	259	139	1
NA	2006	101	1	102	94	6
NA	2007	107	1	108	107	0
NA	2008	120	2	122	121	1
NA	2009	126	0	126	91	5
NA	2010	89	0	89	88	1
NA	2011	115	0	115	109	6
NA	2012	85	2	87	79	6
NA	2013	67	1	68	0	68
NA	2014	40	2	42	0	23
NA	2015	182	3	185	0	174
NA	2016	103	2	105	0	105
NA	2017	165	3	168	0	124
NA	2018	97	0	97	0	97
NA	2019	57	1	58	0	58

46 Sablefish

Sablefish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 345620 length observations, a total of 42665 age readings, and 85845 available to be aged. The recreational fisheries across all states have collected a total of 2543 length observations, a total of 0 age readings, and 219 available to be aged. The NWFSC WCGBT across all states have collected a total of 75104 length observations, a total of 20775 age readings, and 11220 available to be aged.

Table 145: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	0	2724	2724	0	0
C	1981	0	1739	1739	0	0
C	1985	2	0	2	0	0
C	1986	2453	344	2794	747	0
C	1987	8101	450	8551	5530	0
C	1988	4047	209	4256	2294	0
C	1989	4214	616	4830	1793	0
C	1990	4094	451	4544	1589	0
C	1991	2745	219	2964	417	0
C	1993	2761	2591	5352	349	0
C	1994	1307	3112	4419	306	0
C	1995	1257	1642	2899	372	0
C	1996	1068	1175	2243	738	0
C	1997	1077	777	1854	982	0
C	1998	964	199	1163	230	0
C	1999	1557	946	2503	0	0
C	2000	1161	1144	2305	741	0
C	2001	1200	1313	2513	598	0
C	2002	1555	1206	2760	503	0
C	2003	1694	1615	3309	249	0
C	2004	1217	739	1955	580	0
C	2005	2181	1078	3226	616	0
C	2006	2609	1018	3627	501	0

Table 145: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2007	1669	1433	3083	1482	0
C	2008	1563	3039	4601	0	0
C	2009	1176	3344	4520	520	0
C	2010	847	4086	4933	521	0
C	2011	1166	3709	4875	484	0
C	2012	1171	5722	6893	462	0
C	2013	1004	4883	5887	113	0
C	2014	669	5861	6530	0	0
C	2015	613	8194	8772	0	0
C	2016	1297	7139	8398	187	0
C	2017	1113	4137	5250	144	0
C	2018	484	2820	3304	132	0
C	2019	591	1544	2135	0	0
C	2020	230	1057	1287	0	0
O	1980	383	184	567	0	567
O	1981	100	449	549	0	549
O	1982	159	0	159	0	159
O	1983	50	0	50	0	50
O	1985	0	966	966	0	966
O	1986	1087	0	1087	12	1075
O	1987	2247	1	2248	19	2229
O	1988	1380	0	1380	168	1212
O	1989	2138	93	2231	10	2128
O	1990	2119	297	2416	10	2406
O	1991	2083	700	2783	0	2743
O	1992	0	179	179	0	0
O	1993	1504	1974	3478	371	1075
O	1994	1948	994	2942	425	1275
O	1995	1809	779	2588	0	1728
O	1996	1475	134	1609	0	1405
O	1997	2731	157	2838	109	2552
O	1998	2108	73	2177	0	2041
O	1999	2152	31	2183	75	1971
O	2000	2472	22	2494	96	2325
O	2001	2025	83	2108	78	2030
O	2002	1614	6	1620	0	1620
O	2003	1827	20	1847	34	1752
O	2004	1834	0	1834	0	1814
O	2005	1581	1	1582	707	833
O	2006	2059	1	2059	92	1945
O	2007	3048	1	3049	1097	1692

Table 145: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2008	4320	0	4318	120	4165
O	2009	3737	174	3911	1205	2446
O	2010	4235	19	4253	1062	2682
O	2011	4798	32	4829	791	3671
O	2012	4511	6	4517	398	3963
O	2013	3977	6	3982	803	2995
O	2014	3832	6	3838	787	3021
O	2015	5022	6	5028	1222	3666
O	2016	4818	21	4839	537	4137
O	2017	4878	17	4895	1141	3664
O	2018	4971	3	4973	1354	3459
O	2019	4937	4	4941	561	4167
O	2020	2494	0	2494	613	1881
W	1980	700	500	1200	0	0
W	1981	700	100	800	0	0
W	1983	80	2168	2248	0	0
W	1984	100	0	100	0	0
W	1986	1148	269	1417	0	275
W	1987	680	347	1025	0	159
W	1988	186	347	533	23	67
W	1989	286	687	973	0	0
W	1990	129	500	629	0	36
W	1991	702	1201	1903	593	45
W	1992	669	1363	2032	694	0
W	1993	409	2305	2712	192	57
W	1994	134	2300	2434	77	0
W	1995	34	3736	3770	0	0
W	1996	0	3005	3005	33	0
W	1997	348	3359	3706	264	70
W	1998	268	3182	3450	20	75
W	1999	399	3807	4206	211	56
W	2000	190	3989	4179	126	0
W	2001	282	2677	2959	88	60
W	2002	193	2688	2881	41	140
W	2003	203	2920	3123	175	21
W	2004	129	2843	2959	92	0
W	2005	469	2068	2537	311	131
W	2006	840	1763	2603	463	334
W	2007	629	1255	1884	597	25
W	2008	629	1110	1739	122	0
W	2009	623	1337	1960	132	113

Table 145: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2010	272	1817	2089	104	103
W	2011	731	2173	2904	344	19
W	2012	590	1565	2155	182	0
W	2013	677	1469	2146	656	0
W	2014	691	1980	2671	0	0
W	2015	409	2230	2639	0	0
W	2016	449	2919	3367	0	0
W	2017	839	3347	4186	48	0
W	2018	872	3437	4309	0	0
W	2019	619	4868	5487	0	0
W	2020	150	1709	1859	0	0

Table 146: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	1	1	0	0
C	2005	0	2	2	0	0
C	2006	0	1	1	0	0
C	2007	0	1	1	0	0
C	2009	0	5	5	0	0
C	2011	0	7	7	0	0
C	2012	0	9	9	0	0
C	2013	0	7	7	0	0
C	2014	0	12	12	0	0
C	2017	0	1	1	0	0
C	2018	0	2	2	0	0
C	2019	0	4	4	0	0
O	2001	0	49	49	0	0
O	2002	0	154	154	0	0
O	2003	0	238	238	0	0
O	2004	0	75	75	0	0
O	2005	0	107	107	0	0
O	2006	0	141	141	0	0
O	2007	0	239	239	0	0
O	2008	0	157	157	0	0
O	2009	0	37	37	0	0

Table 146: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2010	0	19	19	0	0
O	2011	0	65	65	0	0
O	2012	0	34	34	0	0
O	2013	0	105	105	0	0
O	2014	0	75	75	0	0
O	2015	0	91	91	0	0
O	2016	0	65	65	0	0
O	2017	0	96	96	0	0
O	2018	0	165	165	0	0
O	2019	0	143	143	0	0
W	2003	27	0	27	0	0
W	2004	25	11	36	0	0
W	2005	8	0	8	0	0
W	2006	0	5	5	0	0
W	2007	0	9	9	0	0
W	2008	0	3	3	0	0
W	2009	3	0	3	0	0
W	2010	0	6	6	0	0
W	2011	0	4	4	0	0
W	2012	0	5	5	0	0
W	2013	0	1	1	0	0
W	2014	0	3	3	0	0
W	2016	0	1	1	0	0
W	2017	0	3	3	0	0
W	2018	54	44	98	0	54
W	2019	137	36	173	0	137
W	2020	20	23	43	0	20
W	2021	8	0	8	0	8

Table 147: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	5779	20	5799	1389	992
NA	2004	4536	4	4540	1086	1053
NA	2005	5543	24	5567	1575	1295
NA	2006	4831	2	4833	1363	1306

Table 147: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2007	4461	10	4470	1259	857
NA	2008	3430	543	3973	1190	995
NA	2009	3659	29	3688	1181	669
NA	2010	3828	404	4232	1271	876
NA	2011	4624	50	4674	1193	600
NA	2012	4367	15	4381	1091	606
NA	2013	3146	134	3280	992	212
NA	2014	4337	7	4319	1200	600
NA	2015	4923	21	4910	1197	528
NA	2016	4425	119	4544	1213	256
NA	2017	4866	17	4883	1219	354
NA	2018	4780	5	4785	1482	11
NA	2019	2223	3	2226	874	10

47 Sand sole

Sand sole have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 8031 length observations, a total of 0 age readings, and 3340 available to be aged. The recreational fisheries across all states have collected a total of 1459 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 909 length observations, a total of 0 age readings, and 484 available to be aged.

Table 148: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2001	36	0	36	0	0
C	2002	16	0	16	0	0
C	2003	86	16	102	0	0

Table 148: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	16	1	0	0
C	2005	31	57	65	0	5
C	2006	31	9	40	0	0
C	2007	58	0	58	0	1
C	2008	89	2	91	0	44
C	2009	111	85	196	0	0
C	2010	41	71	112	0	0
C	2011	58	223	281	0	0
C	2012	23	387	410	0	0
C	2013	125	373	498	0	0
C	2014	36	213	249	0	0
C	2015	175	63	238	0	0
C	2016	356	118	363	0	0
C	2017	276	257	533	0	0
C	2018	375	0	375	0	0
C	2019	167	274	439	0	0
C	2020	272	21	293	0	0
O	2001	0	42	42	0	0
O	2003	30	0	30	0	30
O	2004	21	0	21	0	21
O	2005	29	0	29	0	29
O	2006	0	2	2	0	0
O	2007	360	1	361	0	360
O	2008	360	0	360	0	360
O	2009	440	0	440	0	440
O	2010	661	0	661	0	601
O	2011	273	0	273	0	273
O	2012	150	0	150	0	150
O	2013	135	0	135	0	135
O	2014	176	0	176	0	146
O	2015	345	0	345	0	315
O	2016	210	0	210	0	180
O	2017	152	0	152	0	152
O	2018	117	0	117	0	82
O	2019	16	0	16	0	16
W	1984	115	0	115	0	0

Table 149: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	22	22	0	0
C	2005	0	19	19	0	0
C	2006	0	11	11	0	0
C	2007	0	12	12	0	0
C	2008	0	8	8	0	0
C	2009	0	32	32	0	0
C	2010	0	48	48	0	0
C	2011	0	105	105	0	0
C	2012	0	93	93	0	0
C	2013	6	84	90	0	0
C	2014	1	64	65	0	0
C	2015	0	24	24	0	0
C	2016	0	13	13	0	0
C	2017	0	12	12	0	0
C	2018	0	23	23	0	0
C	2019	0	18	18	0	0
C	2020	0	1	1	0	0
O	2001	0	7	7	0	0
O	2002	0	31	31	0	0
O	2003	0	20	20	0	0
O	2004	0	42	42	0	0
O	2005	0	38	38	0	0
O	2006	0	15	15	0	0
O	2007	0	11	11	0	0
O	2008	0	20	20	0	0
O	2009	0	61	61	0	0
O	2010	0	109	109	0	0
O	2011	0	67	67	0	0
O	2012	0	37	37	0	0
O	2013	0	50	50	0	0
O	2014	0	51	51	0	0
O	2015	0	61	61	0	0
O	2016	0	81	81	0	0
O	2017	0	89	89	0	0
O	2018	0	41	41	0	0
O	2019	0	30	30	0	0
W	2009	0	1	1	0	0
W	2019	0	1	1	0	0

Table 150: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	79	0	79	0	0
NA	2004	29	0	29	0	0
NA	2005	31	0	31	0	0
NA	2006	11	1	12	0	0
NA	2007	37	0	37	0	0
NA	2008	62	0	62	0	62
NA	2009	48	0	48	0	38
NA	2010	93	0	93	0	93
NA	2011	123	0	123	0	122
NA	2012	37	0	37	0	34
NA	2013	47	0	47	0	43
NA	2014	50	0	50	0	50
NA	2015	74	0	74	0	0
NA	2016	26	0	26	0	0
NA	2017	83	0	83	0	0
NA	2018	36	0	36	0	0
NA	2019	42	0	42	0	42

48 Sharpchin rockfish

Sharpchin rockfish have been observed and sampled by commercial fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 11098 length observations, a total of 0 age readings, and 2285 available to be aged. The NWFSC WCGBT across all states have collected a total of 17653 length observations, a total of 0 age readings, and 7309 available to be aged. The NWFSC HKL across all states have collected a total of 9 length observations, a total of 0 age readings, and 9 available to be aged.

Table 151: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1982	13	0	13	0	13
C	1983	144	0	144	0	135
C	1984	90	0	90	0	90
C	1985	213	0	213	0	224
C	1986	134	0	134	0	26
C	1987	291	0	291	0	0
C	1988	356	0	356	0	0
C	1989	101	0	101	0	0
C	1990	280	0	280	0	0
C	1991	188	4	192	0	1
C	1992	130	17	147	0	0
C	1993	111	14	125	0	0
C	1994	520	42	562	0	0
C	1995	368	13	381	0	0
C	1996	425	33	458	0	0
C	1997	357	20	377	0	0
C	1998	212	3	215	0	0
C	1999	159	3	162	0	0
C	2000	35	0	35	0	0
C	2001	41	0	41	0	1
C	2002	45	0	45	0	2
C	2005	26	1	27	0	27
C	2007	4	0	4	0	2
C	2013	4	0	4	0	4
C	2014	11	1	11	0	10
C	2015	2	2	3	0	2
C	2016	1	6	7	0	0
C	2017	0	2	2	0	0
C	2018	1	0	1	0	0
C	2020	0	19	0	0	0
O	1995	26	0	26	0	4
O	1996	283	0	283	0	0
O	1997	526	0	526	0	0
O	1999	127	0	127	0	0
O	2001	19	0	19	0	0
O	2003	15	0	15	0	15
O	2004	146	0	146	0	146
O	2005	46	0	46	0	46
O	2007	22	0	22	0	22
O	2008	30	0	30	0	30

Table 151: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2009	30	0	30	0	30
O	2010	46	0	46	0	46
O	2011	32	0	32	0	32
O	2012	4	0	4	0	4
O	2013	113	0	113	0	113
O	2014	193	1	194	0	194
O	2015	196	0	196	0	166
O	2016	37	0	37	0	37
O	2017	203	1	202	0	203
O	2018	163	1	163	0	163
O	2019	349	0	349	0	349
O	2020	148	0	148	0	148
W	1996	0	612	612	0	0
W	1997	0	685	685	0	0
W	1998	453	22	475	0	0
W	1999	117	12	129	0	0
W	2000	77	20	97	0	0
W	2001	165	4	169	0	0
W	2002	646	5	651	0	0
W	2003	334	1	335	0	0
W	2004	6	0	6	0	0
W	2005	2	0	2	0	0
W	2006	9	0	9	0	0
W	2007	11	0	11	0	0
W	2008	2	0	2	0	0
W	2009	2	0	2	0	0
W	2010	4	0	4	0	0
W	2011	4	29	33	0	0
W	2012	344	32	376	0	0
W	2013	94	1	95	0	0
W	2014	34	2	36	0	0
W	2015	8	1	9	0	0
W	2016	22	0	22	0	0
W	2017	50	0	50	0	0
W	2018	25	0	25	0	0
W	2019	85	0	85	0	0
W	2020	3	0	3	0	0

Table 152: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	2351	5	2355	0	553
NA	2004	1173	3	1176	0	199
NA	2005	864	7	871	0	153
NA	2006	1283	0	1283	0	239
NA	2007	975	0	975	0	204
NA	2008	919	4	923	0	365
NA	2009	934	4	938	0	593
NA	2010	568	6	574	0	381
NA	2011	1304	3	1307	0	781
NA	2012	954	43	997	0	478
NA	2013	874	0	874	0	375
NA	2014	1359	64	1421	0	606
NA	2015	1052	41	1093	0	620
NA	2016	844	10	854	0	501
NA	2017	830	16	846	0	535
NA	2018	720	3	723	0	437
NA	2019	443	0	443	0	289

Table 153: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2010	1	0	1	0	1
C	2013	1	0	1	0	1
C	2014	1	0	1	0	1
C	2018	2	0	2	0	2
C	2019	4	0	4	0	4

49 Shortraker rockfish

The commercial fisheries across all states have collected a total of 6269 length observations,

a total of 20 age readings, and 2895 available to be aged. The NWFSC WCGBT across all states have collected a total of 46 length observations, a total of 0 age readings, and 42 available to be aged.

Table 154: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1983	1	0	1	0	1
C	1996	4	0	4	0	0
C	1997	1	0	1	0	0
C	1999	2	0	2	0	0
C	2002	1	0	1	0	0
C	2003	2	0	2	0	2
C	2007	1	0	1	0	0
C	2008	2	0	2	0	2
C	2009	1	7	8	0	1
C	2010	6	2	8	0	0
C	2011	2	0	2	0	0
C	2012	3	0	3	0	1
C	2013	1	0	1	0	0
C	2014	3	0	3	0	0
C	2015	4	0	4	0	3
C	2016	4	1	5	0	4
C	2017	5	0	5	0	4
C	2018	2	1	3	0	0
C	2019	3	0	3	0	0
C	2020	5	0	5	0	0
O	1983	16	0	16	0	16
O	1987	30	0	30	0	30
O	1990	30	0	30	0	30
O	1996	5	0	5	0	0
O	1999	3	0	3	0	3
O	2000	2	0	2	0	2
O	2001	10	0	10	1	9
O	2002	1	0	1	0	1
O	2003	7	0	7	4	3
O	2004	10	0	10	0	10
O	2005	64	0	64	15	49
O	2006	40	0	40	0	38
O	2007	95	0	95	0	95
O	2008	140	0	140	0	138
O	2009	194	0	194	0	194

Table 154: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2010	140	0	140	0	140
O	2011	156	4	160	0	160
O	2012	113	1	113	0	114
O	2013	258	1	259	0	259
O	2014	307	0	306	0	307
O	2015	309	0	309	0	309
O	2016	138	0	138	0	136
O	2017	225	0	225	0	205
O	2018	290	0	289	0	288
O	2019	190	0	190	0	190
O	2020	151	0	151	0	151
W	1996	0	91	91	0	0
W	1997	0	88	88	0	0
W	1998	157	3	160	0	0
W	1999	191	9	200	0	0
W	2000	127	90	217	0	0
W	2001	74	29	103	0	0
W	2002	61	37	98	0	0
W	2003	202	35	237	0	0
W	2004	49	4	53	0	0
W	2005	60	0	60	0	0
W	2006	50	2	51	0	0
W	2007	99	0	99	0	0
W	2008	151	0	151	0	0
W	2009	129	2	131	0	0
W	2010	124	0	124	0	0
W	2011	207	1	208	0	0
W	2012	128	0	128	0	0
W	2013	60	0	60	0	0
W	2014	87	3	90	0	0
W	2015	163	4	167	0	0
W	2016	125	0	125	0	0
W	2017	141	0	141	0	0
W	2018	271	3	274	0	0
W	2019	187	0	187	0	0
W	2020	34	1	35	0	0

Table 155: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	3	0	3	0	0
NA	2004	8	0	8	0	8
NA	2005	8	0	8	0	8
NA	2013	1	0	1	0	1
NA	2014	3	0	3	0	3
NA	2015	18	0	18	0	17
NA	2017	3	0	3	0	3
NA	2018	2	0	2	0	2

50 Shortspine thornyhead

Shortspine thornyhead have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 145968 length observations, a total of 0 age readings, and 29699 available to be aged. The recreational fisheries across all states have collected a total of 3 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 85165 length observations, a total of 0 age readings, and 19568 available to be aged.

Table 156: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1059	76	1135	0	0
C	1981	736	4	740	0	0
C	1982	717	8	723	0	0
C	1983	1227	3	1230	0	0
C	1984	2743	15	2755	0	0
C	1985	3135	45	3179	0	0
C	1986	947	40	987	0	0
C	1987	390	7	397	0	0

Table 156: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1988	68	80	148	0	0
C	1989	693	66	759	0	0
C	1990	468	73	541	0	0
C	1991	480	52	532	0	0
C	1992	428	95	523	0	0
C	1993	400	596	996	0	0
C	1994	356	1057	1413	0	0
C	1995	788	1496	2284	0	0
C	1996	416	1688	2104	0	0
C	1997	530	1226	1756	0	0
C	1998	168	1092	1260	0	0
C	1999	195	2478	2673	0	0
C	2000	505	966	1471	0	0
C	2001	724	800	1515	0	0
C	2002	1582	2026	3346	0	0
C	2003	1137	2275	2743	0	0
C	2004	352	1368	1205	0	0
C	2005	931	1792	2013	0	0
C	2006	2651	1135	3703	0	0
C	2007	1317	977	2171	0	0
C	2008	1496	2502	3998	0	0
C	2009	838	2467	3305	0	0
C	2010	360	2497	2856	0	0
C	2011	906	4816	5712	0	0
C	2012	423	3881	4304	0	0
C	2013	890	3198	4082	0	0
C	2014	217	3870	4087	0	0
C	2015	83	3996	4075	0	0
C	2016	549	3740	4286	0	0
C	2017	370	2696	3066	0	0
C	2018	416	1266	1682	0	0
C	2019	557	420	977	0	0
C	2020	196	860	1056	0	0
O	1981	30	0	30	0	30
O	1982	150	0	150	0	150
O	1990	510	0	510	0	510
O	1991	1059	0	1059	0	1059
O	1992	1227	0	1227	0	898
O	1993	281	0	281	0	233
O	1994	40	0	40	0	0
O	1995	7	17	24	0	0

Table 156: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	1996	375	115	490	0	0
O	1997	0	2321	2321	0	0
O	1998	738	15	753	0	690
O	1999	819	0	819	0	819
O	2000	659	0	659	0	507
O	2001	1063	0	1063	0	883
O	2002	1000	0	1000	0	760
O	2003	1451	1	1452	0	973
O	2004	1256	0	1256	0	835
O	2005	1229	41	1270	0	940
O	2006	1466	9	1475	0	1146
O	2007	1876	14	1890	0	1410
O	2008	2409	28	2437	0	1867
O	2009	2031	13	2044	0	1624
O	2010	2416	32	2448	0	1848
O	2011	1758	8	1766	0	1555
O	2012	1797	6	1803	0	1547
O	2013	1899	63	1962	0	1537
O	2014	1604	79	1683	0	1285
O	2015	1569	46	1615	0	1328
O	2016	1508	23	1531	0	1095
O	2017	1598	53	1651	0	1377
O	2018	1496	26	1522	0	1167
O	2019	1346	19	1364	0	1010
O	2020	933	14	947	0	616
W	1996	0	7	7	0	0
W	1997	0	1	1	0	0
W	1998	2	2	4	0	0
W	2000	1	3	4	0	0
W	2001	409	190	599	0	0
W	2002	1266	57	1323	0	0
W	2003	955	24	979	0	0
W	2004	193	61	254	0	0
W	2005	377	2	379	0	0
W	2006	100	0	100	0	0
W	2007	696	11	707	0	0
W	2008	328	149	475	0	0
W	2009	915	25	940	0	0
W	2010	875	17	892	0	0
W	2011	947	183	1130	0	0
W	2012	765	232	997	0	0

Table 156: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2013	618	372	990	0	0
W	2014	325	714	1039	0	0
W	2015	482	329	811	0	0
W	2016	67	1060	1127	0	0
W	2017	918	598	1516	0	0
W	2018	522	661	1183	0	0
W	2019	416	1224	1640	0	0
W	2020	29	512	541	0	0

Table 157: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	1	1	0	0
C	2004	0	1	1	0	0
C	2006	0	1	1	0	0

Table 158: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	59	7634	7693	0	1255
NA	2004	2187	4507	6694	0	1671
NA	2005	6736	1311	8047	0	1374
NA	2006	5280	918	6198	0	1244
NA	2007	4779	720	5499	0	1294
NA	2008	4040	657	4697	0	1301
NA	2009	3554	641	4195	0	1229
NA	2010	3200	659	3859	0	1272
NA	2011	3896	801	4697	0	1236
NA	2012	3670	1008	4678	0	1243
NA	2013	2465	654	3089	0	891
NA	2014	3847	770	4592	0	1256

Table 158: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2015	3713	798	4496	0	1220
NA	2016	3991	613	4604	0	1000
NA	2017	4328	402	4730	0	1009
NA	2018	4489	507	4996	0	733
NA	2019	2263	138	2401	0	340

51 Silvergray rockfish

The commercial fisheries across all states have collected a total of 6876 length observations, a total of 0 age readings, and 2284 available to be aged. The recreational fisheries across all states have collected a total of 465 length observations, a total of 0 age readings, and 76 available to be aged. The NWFSC HKL across all states have collected a total of 4 length observations, a total of 0 age readings, and 3 available to be aged.

Table 159: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1984	3	2	5	0	3
C	1985	7	1	8	0	7
C	1986	4	0	4	0	1
C	1987	1	0	1	0	0
C	1988	2	0	2	0	0
C	1989	2	0	2	0	0
C	1990	2	0	2	0	0
C	1992	1	7	8	0	0
C	1993	5	4	9	0	0
C	1994	4	1	5	0	0
C	1995	0	1	1	0	0
C	1996	0	1	1	0	0
C	1997	1	0	1	0	0

Table 159: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1999	4	0	4	0	0
C	2000	3	1	4	0	0
C	2007	1	1	2	0	1
C	2009	1	0	1	0	1
C	2011	1	0	1	0	0
C	2013	1	0	1	0	0
C	2016	1	3	4	0	4
C	2017	0	1	1	0	0
C	2018	1	0	1	0	0
C	2020	2	0	2	0	0
O	1990	100	0	100	0	100
O	1998	44	0	44	0	0
O	1999	27	0	27	0	0
O	2000	14	0	14	0	14
O	2001	1	0	1	0	0
O	2002	40	0	40	0	0
O	2003	6	0	6	0	6
O	2004	1	0	1	0	0
O	2005	34	0	34	0	34
O	2007	9	0	9	0	9
O	2008	108	0	108	0	108
O	2009	70	0	70	0	70
O	2010	31	0	31	0	31
O	2011	81	0	81	0	81
O	2012	106	0	106	0	106
O	2013	119	0	119	0	118
O	2014	107	0	107	0	104
O	2015	37	0	37	0	37
O	2016	172	0	172	0	172
O	2017	222	0	222	0	222
O	2018	357	0	357	0	357
O	2019	339	0	339	0	333
O	2020	280	0	280	0	270
W	1980	552	1	553	0	95
W	1981	700	0	700	0	0
W	1982	100	0	100	0	0
W	1996	0	508	508	0	0
W	1997	0	691	691	0	0
W	1998	478	72	550	0	0
W	1999	273	21	294	0	0
W	2000	6	3	9	0	0

Table 159: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2001	16	12	28	0	0
W	2002	76	0	76	0	0
W	2003	95	0	95	0	0
W	2004	9	0	9	0	0
W	2005	2	0	2	0	0
W	2006	42	0	42	0	0
W	2007	3	0	3	0	0
W	2008	10	0	10	0	0
W	2009	8	0	8	0	0
W	2011	23	0	23	0	0
W	2012	12	0	12	0	0
W	2013	106	1	107	0	0
W	2014	44	1	45	0	0
W	2015	3	0	3	0	0
W	2016	24	0	24	0	0
W	2017	158	0	158	0	0
W	2018	123	0	123	0	0
W	2019	291	0	291	0	0
W	2020	37	0	37	0	0

Table 160: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2019	0	1	1	0	0
O	2001	0	9	9	0	0
O	2002	0	24	24	0	0
O	2003	0	20	20	0	0
O	2004	0	3	3	0	0
O	2005	0	14	14	0	0
O	2006	0	2	2	0	0
O	2007	0	4	4	0	0
O	2008	0	4	4	0	0
O	2009	0	25	25	0	0
O	2011	0	90	90	0	0
O	2012	0	42	42	0	0
O	2013	0	22	22	0	0

Table 160: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2014	0	42	42	0	0
O	2015	0	7	7	0	0
O	2016	0	1	1	0	0
O	2017	0	9	9	0	0
O	2018	0	29	29	0	0
O	2019	0	14	14	0	0
W	2006	1	0	1	0	0
W	2009	0	1	1	0	0
W	2011	0	7	7	0	0
W	2012	0	13	13	0	0
W	2014	4	0	4	0	4
W	2015	11	-1	10	0	11
W	2016	9	1	10	0	9
W	2017	17	1	18	0	17
W	2018	7	2	9	0	7
W	2019	16	1	17	0	16
W	2020	2	0	2	0	2
W	2021	10	1	11	0	10

Table 161: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2005	1	0	1	0	1
C	2017	1	0	1	0	1
C	2018	1	0	1	0	1
C	2019	1	0	1	0	0

52 Speckled rockfish

Speckled rockfish have been observed and sampled by both commercial and recreational

fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 3003 length observations, a total of 0 age readings, and 235 available to be aged. The recreational fisheries across all states have collected a total of 9704 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 255 length observations, a total of 0 age readings, and 127 available to be aged. The NWFSC HKL across all states have collected a total of 3455 length observations, a total of 0 age readings, and 3343 available to be aged.

Table 162: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	0	5	5	0	0
C	1981	5	21	26	0	12
C	1982	18	15	33	0	7
C	1983	33	54	87	0	33
C	1984	15	28	43	0	16
C	1985	74	153	227	0	98
C	1986	128	8	136	0	46
C	1987	88	13	101	0	2
C	1988	22	17	39	0	0
C	1989	127	76	203	0	0
C	1990	21	6	27	0	0
C	1991	51	10	61	0	12
C	1992	10	205	215	0	4
C	1993	19	96	115	0	2
C	1994	30	211	241	0	0
C	1995	41	57	98	0	0
C	1996	48	184	232	0	0
C	1997	109	198	307	0	0
C	1998	9	423	432	0	0
C	1999	1	17	18	0	0
C	2000	7	0	7	0	0
C	2001	1	0	1	0	0
C	2004	1	0	1	0	1
C	2006	1	2	3	0	1
C	2007	1	1	2	0	0
C	2008	0	25	25	0	0
C	2009	0	32	32	0	0
C	2010	0	170	170	0	0
C	2012	0	1	1	0	0
C	2014	0	6	6	0	0
C	2015	1	14	15	0	1

Table 162: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2016	0	32	32	0	0
C	2017	0	15	15	0	0
C	2018	0	30	30	0	0
C	2019	0	15	15	0	0
C	2020	0	2	2	0	0

Table 163: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	261	261	0	0
C	2005	0	403	403	0	0
C	2006	1	596	597	0	0
C	2007	0	542	542	0	0
C	2008	0	709	709	0	0
C	2009	0	977	977	0	0
C	2010	2	674	676	0	0
C	2011	0	655	655	0	0
C	2012	0	460	460	0	0
C	2013	0	1022	1022	0	0
C	2014	0	487	487	0	0
C	2015	0	1097	1097	0	0
C	2016	0	612	612	0	0
C	2017	0	413	413	0	0
C	2018	0	385	385	0	0
C	2019	0	378	378	0	0
C	2020	0	29	29	0	0
O	2019	0	1	1	0	0

Table 164: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2006	17	0	17	0	17
NA	2007	106	0	106	0	25
NA	2009	19	0	19	0	19
NA	2010	4	3	7	0	7
NA	2012	1	0	1	0	1
NA	2013	70	0	70	0	23
NA	2014	11	0	11	0	11
NA	2016	11	0	11	0	11
NA	2017	8	0	8	0	8
NA	2018	1	0	1	0	1
NA	2019	4	0	4	0	4

Table 165: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	42	0	42	0	41
C	2005	28	0	28	0	27
C	2006	113	0	112	0	113
C	2007	42	0	42	0	39
C	2008	138	0	138	0	137
C	2009	86	1	86	0	85
C	2010	87	3	90	0	85
C	2011	70	0	70	0	68
C	2012	58	0	58	0	54
C	2013	59	0	59	0	59
C	2014	302	0	302	0	298
C	2015	541	4	541	0	534
C	2016	559	3	559	0	553
C	2017	362	5	362	0	351
C	2018	624	2	621	0	573
C	2019	345	4	345	0	326

53 Pacific spiny dogfish

Pacific spiny dogfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 16282 length observations, a total of 2956 age readings, and 459 available to be aged. The recreational fisheries across all states have collected a total of 1130 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 30890 length observations, a total of 591 age readings, and 8911 available to be aged. The NWFSC HKL across all states have collected a total of 5 length observations, a total of 0 age readings, and 0 available to be aged.

Table 166: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2009	176	0	176	0	0
C	2011	1	0	1	0	0
C	2012	3	0	3	0	0
C	2014	97	0	97	0	0
C	2015	2	30	32	0	0
C	2017	3	0	3	0	0
C	2018	17	0	17	0	0
C	2020	1	0	1	0	0
O	2008	4	0	4	0	4
O	2009	6	0	6	0	6
O	2010	113	0	113	0	50
O	2011	113	0	113	0	30
O	2012	143	0	143	0	30
O	2013	96	0	96	0	0
O	2014	194	0	194	0	0
O	2015	377	0	377	0	0
O	2016	501	0	501	0	0
O	2017	283	0	283	0	1
O	2018	285	0	285	0	21
O	2019	266	0	266	0	10
O	2020	465	0	465	0	307
W	1980	200	0	200	0	0
W	1981	532	0	532	0	0
W	1991	181	0	181	0	0
W	2003	125	0	125	0	0

Table 166: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2004	93	1	94	0	0
W	2005	388	0	388	188	0
W	2006	1701	91	1792	220	0
W	2007	3210	35	3243	1154	0
W	2008	1809	3	1809	824	0
W	2009	800	0	800	399	0
W	2010	649	0	649	171	0
W	2011	748	1	749	0	0
W	2012	280	0	280	0	0
W	2013	419	0	419	0	0
W	2014	399	26	425	0	0
W	2015	674	0	674	0	0
W	2016	208	0	208	0	0
W	2017	200	0	200	0	0
W	2018	237	1	238	0	0
W	2019	75	0	75	0	0
W	2020	25	0	25	0	0

Table 167: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	1	1	2	0	0
C	2004	0	23	23	0	0
C	2005	4	50	54	0	0
C	2006	18	83	101	0	0
C	2007	17	36	53	0	0
C	2008	20	23	43	0	0
C	2009	22	16	38	0	0
C	2010	15	9	24	0	0
C	2011	3	36	39	0	0
C	2012	4	17	21	0	0
C	2013	8	17	25	0	0
C	2014	11	9	20	0	0
C	2015	10	9	19	0	0
C	2016	5	2	7	0	0
C	2017	26	2	28	0	0

Table 167: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2018	13	4	17	0	0
C	2019	22	2	24	0	0
C	2003	1	1	2	0	0
C	2004	0	23	23	0	0
C	2005	4	50	54	0	0
C	2006	18	83	101	0	0
C	2007	17	36	53	0	0
C	2008	20	23	43	0	0
C	2009	22	16	38	0	0
C	2010	15	9	24	0	0
C	2011	3	36	39	0	0
C	2012	4	17	21	0	0
C	2013	8	17	25	0	0
C	2014	11	9	20	0	0
C	2015	10	9	19	0	0
C	2016	5	2	7	0	0
C	2017	26	2	28	0	0
C	2018	13	4	17	0	0
C	2019	22	2	24	0	0
O	2002	0	1	1	0	0
O	2003	0	3	3	0	0
O	2004	0	2	2	0	0
O	2005	0	1	1	0	0
O	2006	0	2	2	0	0
O	2007	0	2	2	0	0
O	2009	0	5	5	0	0
O	2010	0	2	2	0	0
O	2012	0	4	4	0	0
O	2014	0	2	2	0	0
O	2015	0	1	1	0	0
O	2017	0	1	1	0	0
O	2018	0	1	1	0	0
O	2002	0	1	1	0	0
O	2003	0	3	3	0	0
O	2004	0	2	2	0	0
O	2005	0	1	1	0	0
O	2006	0	2	2	0	0
O	2007	0	2	2	0	0
O	2009	0	5	5	0	0
O	2010	0	2	2	0	0
O	2012	0	4	4	0	0

Table 167: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2014	0	2	2	0	0
O	2015	0	1	1	0	0
O	2017	0	1	1	0	0
O	2018	0	1	1	0	0

Table 168: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	3789	2	3789	0	673
NA	2004	2482	1	2481	0	540
NA	2005	3565	1	3566	0	864
NA	2006	3882	18	3900	0	786
NA	2007	2419	2	2421	0	749
NA	2008	2847	27	2874	0	887
NA	2009	1658	3	1661	0	632
NA	2010	1723	4	1727	591	440
NA	2011	1635	2	1637	0	639
NA	2012	1507	2	1509	0	563
NA	2013	616	0	613	0	287
NA	2014	1496	2	1476	0	470
NA	2015	669	1	670	0	350
NA	2016	771	0	771	0	291
NA	2017	532	0	532	0	223
NA	2018	774	0	774	0	330
NA	2019	489	0	489	0	187

Table 169: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2005	2	0	2	0	0
C	2006	1	0	1	0	0

Table 169: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2012	1	0	1	0	0
C	2017	1	0	1	0	0

54 Splitnose rockfish

The commercial fisheries across all states have collected a total of 64855 length observations, a total of 1647 age readings, and 24144 available to be aged. The NWFSC WCGBT across all states have collected a total of 47053 length observations, a total of 2906 age readings, and 8501 available to be aged.

Table 170: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	338	6	344	114	184
C	1981	457	2	459	92	364
C	1982	530	6	534	0	368
C	1983	2114	25	2137	460	2061
C	1984	3631	42	3672	502	3574
C	1985	4017	366	4383	475	3204
C	1986	2375	38	2413	0	335
C	1987	1605	95	1700	0	3
C	1988	602	21	623	0	4
C	1989	536	92	628	1	0
C	1990	651	210	861	0	0
C	1991	477	151	628	0	0
C	1992	373	782	1155	0	0
C	1993	1575	551	2126	0	0
C	1994	1051	495	1546	0	0
C	1995	850	676	1526	0	0
C	1996	929	687	1616	0	0

Table 170: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1997	1365	469	1834	0	0
C	1998	2257	864	3121	0	145
C	1999	1148	260	1408	0	0
C	2000	563	326	889	0	38
C	2001	802	656	1299	0	37
C	2002	1156	561	1679	0	191
C	2003	1085	393	1462	0	407
C	2004	831	638	1142	0	331
C	2005	470	420	885	0	339
C	2006	590	409	999	0	404
C	2007	702	447	1147	0	262
C	2008	850	641	1440	0	318
C	2009	477	702	1178	0	106
C	2010	292	708	999	0	33
C	2011	60	393	436	0	48
C	2012	121	589	655	0	93
C	2013	208	684	373	0	203
C	2014	73	825	340	0	21
C	2015	183	676	475	0	153
C	2016	221	497	463	0	70
C	2017	383	154	396	0	93
C	2018	119	319	389	0	0
C	2019	90	27	117	0	0
C	2020	262	123	310	0	0
O	1995	63	0	63	0	0
O	1996	380	0	380	0	0
O	1997	65	0	65	0	0
O	1998	100	0	100	0	0
O	2001	84	0	84	0	84
O	2002	7	0	7	0	0
O	2003	141	0	141	0	134
O	2004	286	0	286	0	275
O	2005	265	0	265	0	258
O	2006	190	0	190	0	190
O	2007	703	0	703	0	665
O	2008	335	0	335	0	333
O	2009	431	0	431	0	431
O	2010	516	0	515	0	485
O	2011	530	0	530	0	528
O	2012	668	0	668	0	626
O	2013	1045	0	1045	0	1040

Table 170: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2014	1147	1	1148	0	1148
O	2015	1188	0	1188	0	1128
O	2016	662	0	662	0	662
O	2017	863	0	863	0	863
O	2018	759	1	760	0	760
O	2019	785	1	786	0	756
O	2020	389	0	389	0	389
W	1996	0	80	80	0	0
W	1997	0	355	355	0	0
W	1998	150	4	154	0	0
W	1999	19	5	24	0	0
W	2000	104	13	117	0	0
W	2001	64	5	69	0	0
W	2002	298	17	315	0	0
W	2003	147	10	157	0	0
W	2004	44	0	44	0	0
W	2005	4	0	4	0	0
W	2006	54	0	54	0	0
W	2007	83	2	85	0	0
W	2008	62	0	62	0	0
W	2009	163	0	163	0	0
W	2010	9	0	9	3	0
W	2011	94	2	96	0	0
W	2012	290	23	313	0	0
W	2013	364	13	377	0	0
W	2014	285	21	306	0	0
W	2015	223	6	229	0	0
W	2016	82	10	92	0	0
W	2017	15	0	15	0	0
W	2018	104	0	104	0	0
W	2019	142	0	142	0	0
W	2020	97	1	98	0	0

Table 171: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	6304	417	6633	513	555
NA	2004	4821	314	5135	418	9
NA	2005	4052	415	4467	498	45
NA	2006	3181	380	3561	494	120
NA	2007	2775	NA	3363	495	389
NA	2008	2539	NA	2918	488	342
NA	2009	2447	520	2967	0	895
NA	2010	1525	496	2021	0	710
NA	2011	1678	473	2151	0	725
NA	2012	1658	257	1915	0	745
NA	2013	1185	222	1407	0	555
NA	2014	1614	345	1959	0	701
NA	2015	1616	265	1881	0	697
NA	2016	1758	165	1923	0	729
NA	2017	1587	304	1891	0	520
NA	2018	1579	212	1791	0	470
NA	2019	969	101	1070	0	294

55 Squarespot rockfish

Squarespot rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 155 length observations, a total of 0 age readings, and 6 available to be aged. The recreational fisheries across all states have collected a total of 15716 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC WCGBT across all states have collected a total of 4133 length observations, a total of 408 age readings, and 809 available to be aged. The NWFSC HKL across all states have collected a total of 1478 length observations, a total of 344 age readings, and 1065 available to be aged.

Table 172: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1985	0	16	16	0	1
C	1986	2	0	2	0	5
C	1992	0	1	1	0	0
C	1993	0	3	3	0	0
C	1994	0	5	5	0	0
C	1995	0	2	2	0	0
C	1997	0	3	3	0	0
C	1998	4	2	6	0	0
C	1999	0	1	1	0	0
C	2008	1	2	3	0	0
C	2009	0	19	19	0	0
C	2010	0	22	22	0	0
C	2011	0	1	1	0	0
C	2014	0	5	5	0	0
C	2015	0	7	7	0	0
C	2016	0	43	43	0	0
C	2017	0	2	2	0	0
C	2020	0	14	14	0	0

Table 173: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	9	9	0	0
C	2004	3	321	324	0	0
C	2005	1	424	425	0	0
C	2006	0	401	401	0	0
C	2007	1	413	414	0	0
C	2008	1	976	977	0	0
C	2009	1	933	934	0	0
C	2010	4	588	592	0	0
C	2011	6	619	625	0	0
C	2012	0	571	571	0	0
C	2013	0	1738	1738	0	0
C	2014	1	1505	1504	0	0
C	2015	0	1721	1721	0	0
C	2016	0	1401	1401	0	0

Table 173: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2017	0	1256	1256	0	0
C	2018	0	1243	1243	0	0
C	2019	0	1540	1540	0	0
C	2020	0	41	41	0	0

Table 174: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	30	0	30	0	0
NA	2004	141	18	159	0	25
NA	2005	219	26	245	41	26
NA	2006	151	1	152	10	39
NA	2007	333	91	424	33	60
NA	2008	234	5	239	36	44
NA	2009	487	3	490	34	74
NA	2010	181	4	185	17	46
NA	2011	64	13	77	11	24
NA	2012	28	4	32	5	27
NA	2013	517	7	524	21	73
NA	2014	17	215	232	6	40
NA	2015	223	24	247	34	52
NA	2016	172	157	329	59	79
NA	2017	277	45	322	62	66
NA	2018	193	47	240	17	91
NA	2019	187	19	206	22	43

Table 175: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	6	0	6	1	5
C	2005	26	2	28	4	21

Table 175: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2006	35	1	35	7	27
C	2007	10	0	10	7	3
C	2008	63	1	64	7	52
C	2009	20	0	20	4	15
C	2010	28	0	28	3	23
C	2011	24	0	24	2	19
C	2012	4	0	4	0	4
C	2013	8	0	8	2	6
C	2014	81	5	86	20	60
C	2015	145	1	145	16	128
C	2016	220	2	221	25	191
C	2017	265	1	265	45	213
C	2018	343	2	343	174	144
C	2019	192	0	191	27	154

56 Starry flounder

Starry flounder have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT survey. The commercial fisheries across all states have collected a total of 8729 length observations, a total of 0 age readings, and 3027 available to be aged. The recreational fisheries across all states have collected a total of 1011 length observations, a total of 0 age readings, and 7 available to be aged. The NWFSC WCGBT across all states have collected a total of 459 length observations, a total of 0 age readings, and 407 available to be aged.

Table 176: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2001	0	7	7	0	0
C	2002	11	19	30	0	0

Table 176: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	24	24	0	0
C	2004	31	37	37	0	0
C	2005	115	30	132	0	10
C	2006	182	17	186	0	0
C	2007	89	26	115	0	0
C	2008	132	15	147	0	60
C	2009	172	192	364	0	0
C	2010	77	116	193	0	0
C	2011	27	203	230	0	0
C	2012	38	116	154	0	0
C	2013	107	114	221	0	0
C	2014	141	103	244	0	0
C	2015	55	125	180	0	0
C	2016	8	288	296	0	0
C	2017	3	275	278	0	0
C	2018	24	223	247	0	0
C	2019	0	475	475	0	0
C	2020	0	367	367	0	0
O	1987	150	0	150	0	150
O	1996	41	0	41	0	41
O	2001	3	0	3	0	0
O	2003	12	0	12	0	12
O	2004	31	7	38	0	30
O	2005	72	0	72	0	72
O	2007	385	0	385	0	385
O	2008	337	0	337	0	337
O	2009	253	0	253	0	253
O	2010	294	6	300	0	259
O	2011	332	0	332	0	332
O	2012	180	0	180	0	180
O	2013	156	0	156	0	156
O	2014	159	0	159	0	159
O	2015	295	0	295	0	234
O	2016	122	0	122	0	120
O	2017	78	0	78	0	78
O	2018	150	2	152	0	122
O	2019	36	0	36	0	36
O	2020	1	0	1	0	1
W	1980	100	0	100	0	0
W	1981	300	0	300	0	0
W	1982	150	0	150	0	0

Table 176: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	1983	450	0	450	0	0
W	1984	400	0	400	0	0
W	1985	250	0	250	0	0
W	1986	50	0	50	0	0

Table 177: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	50	50	0	0
C	2005	0	110	110	0	0
C	2006	0	51	51	0	0
C	2007	0	43	43	0	0
C	2008	0	42	42	0	0
C	2009	0	30	30	0	0
C	2010	0	22	22	0	0
C	2011	0	21	21	0	0
C	2012	0	48	48	0	0
C	2013	1	39	40	0	0
C	2014	0	76	76	0	0
C	2015	0	45	45	0	0
C	2016	0	14	14	0	0
C	2017	0	16	16	0	0
C	2018	0	11	11	0	0
C	2019	0	31	31	0	0
C	2020	0	5	5	0	0
O	2001	0	3	3	0	0
O	2002	0	17	17	0	0
O	2003	0	62	62	0	0
O	2004	0	34	34	0	0
O	2005	0	26	26	0	0
O	2006	0	15	15	0	0
O	2007	0	4	4	0	0
O	2008	0	16	16	0	0
O	2009	0	5	5	0	0
O	2010	0	2	2	0	0
O	2011	0	24	24	0	0

Table 177: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2012	0	7	7	0	0
O	2013	0	3	3	0	0
O	2014	0	5	5	0	0
O	2015	0	9	9	0	0
O	2016	0	9	9	0	0
O	2017	0	16	16	0	0
O	2018	0	4	4	0	0
O	2019	0	4	4	0	0
W	2002	9	0	9	0	3
W	2003	8	0	8	0	0
W	2004	13	8	21	0	0
W	2005	1	0	1	0	0
W	2006	0	1	1	0	0
W	2007	2	5	7	0	0
W	2008	0	1	1	0	0
W	2009	0	7	7	0	0
W	2010	2	3	5	0	1
W	2011	0	2	2	0	0
W	2012	0	2	2	0	0
W	2013	0	2	2	0	0
W	2014	0	5	5	0	0
W	2015	1	3	4	0	0
W	2017	0	9	9	0	0
W	2018	2	1	3	0	2
W	2019	1	3	4	0	1

Table 178: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2004	36	0	36	0	30
NA	2005	41	1	42	0	31
NA	2006	7	0	7	0	7
NA	2007	15	0	15	0	15
NA	2008	22	0	22	0	22
NA	2009	21	0	21	0	21
NA	2010	27	0	27	0	27

Table 178: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2011	62	0	62	0	62
NA	2012	15	0	15	0	15
NA	2013	26	0	26	0	0
NA	2014	36	0	36	0	36
NA	2015	42	0	42	0	33
NA	2016	43	0	43	0	43
NA	2017	29	0	29	0	29
NA	2018	23	0	23	0	23
NA	2019	13	0	13	0	13

57 Starry rockfish

Starry rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 4939 length observations, a total of 0 age readings, and 83 available to be aged. The recreational fisheries across all states have collected a total of 30862 length observations, a total of 0 age readings, and 36 available to be aged. The NWFSC WCGBT across all states have collected a total of 79 length observations, a total of 0 age readings, and 73 available to be aged. The NWFSC HKL across all states have collected a total of 1805 length observations, a total of 0 age readings, and 1726 available to be aged.

Table 179: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	1	1	2	0	8
C	1981	0	9	9	0	3
C	1982	0	2	2	0	0
C	1983	0	41	41	0	0
C	1984	1	57	58	0	10
C	1985	4	89	93	0	46

Table 179: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1986	19	198	217	0	11
C	1987	45	83	128	0	0
C	1988	4	33	37	0	0
C	1989	29	202	231	0	0
C	1990	5	13	18	0	0
C	1991	1	25	26	0	0
C	1992	0	399	399	0	0
C	1993	4	378	382	0	0
C	1994	0	463	463	0	0
C	1995	0	368	351	0	0
C	1996	0	667	667	0	0
C	1997	1	382	383	0	0
C	1998	2	678	680	0	0
C	1999	0	137	137	0	0
C	2000	0	12	12	0	0
C	2001	0	41	36	0	0
C	2002	0	5	5	0	0
C	2006	0	17	17	0	0
C	2007	0	13	12	0	0
C	2008	0	29	27	0	0
C	2009	1	30	31	0	0
C	2010	0	21	21	0	0
C	2011	0	15	15	0	0
C	2012	0	10	10	0	0
C	2013	0	23	23	0	0
C	2014	0	35	35	0	0
C	2015	0	30	30	0	0
C	2016	3	69	72	0	3
C	2017	0	18	18	0	0
C	2018	0	76	76	0	0
C	2019	0	71	71	0	2
C	2020	0	104	104	0	0

Table 180: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	12	12	0	0
C	2004	0	833	833	0	0
C	2005	0	1549	1549	0	0
C	2006	3	1810	1813	0	0
C	2007	7	2976	2983	0	0
C	2008	1	2665	2666	0	0
C	2009	4	2449	2453	0	0
C	2010	15	1968	1983	0	0
C	2011	2	2016	2018	0	0
C	2012	0	1691	1690	0	0
C	2013	2	1889	1891	0	0
C	2014	0	942	941	0	0
C	2015	1	1326	1327	0	0
C	2016	0	1396	1396	0	0
C	2017	6	2471	2477	0	0
C	2018	10	2118	2128	0	7
C	2019	11	2619	2628	0	29
C	2020	0	74	74	0	0

Table 181: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	1	0	1	0	0
NA	2004	3	0	3	0	3
NA	2005	3	0	3	0	3
NA	2006	1	0	1	0	1
NA	2007	6	0	6	0	6
NA	2008	2	0	2	0	2
NA	2009	17	1	18	0	18
NA	2010	2	0	2	0	2
NA	2011	1	0	1	0	1
NA	2012	3	0	3	0	3
NA	2013	2	0	2	0	0
NA	2016	2	0	2	0	2
NA	2017	9	0	9	0	6
NA	2018	9	1	10	0	10

Table 181: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2019	16	0	16	0	16

Table 182: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	24	0	24	0	24
C	2005	32	0	32	0	32
C	2006	60	2	61	0	62
C	2007	63	0	63	0	61
C	2008	117	0	117	0	115
C	2009	85	0	85	0	80
C	2010	93	0	93	0	89
C	2011	39	1	39	0	35
C	2012	69	0	69	0	63
C	2013	55	0	55	0	54
C	2014	124	0	124	0	122
C	2015	189	0	189	0	188
C	2016	120	0	120	0	112
C	2017	152	1	153	0	144
C	2018	253	1	253	0	237
C	2019	323	6	328	0	308

58 Treefish

The commercial fisheries across all states have collected a total of 1075 length observations, a total of 0 age readings, and 0 available to be aged. The recreational fisheries across all states have collected a total of 10368 length observations, a total of 0 age readings, and 0 available to be aged. The NWFSC HKL across all states have collected a total of 6 length observations, a total of 0 age readings, and 3 available to be aged.

Table 183: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1985	0	1	1	0	0
C	1986	1	0	1	0	0
C	1987	0	5	5	0	0
C	1989	0	14	14	0	0
C	1993	0	5	5	0	0
C	1994	0	10	10	0	0
C	1995	0	17	17	0	0
C	1996	0	46	46	0	0
C	1997	0	52	52	0	0
C	1998	0	30	30	0	0
C	1999	0	39	39	0	0
C	2000	1	117	118	0	0
C	2001	0	116	108	0	0
C	2002	0	24	15	0	0
C	2003	0	14	14	0	0
C	2004	0	3	3	0	0
C	2005	0	11	0	0	0
C	2006	0	35	0	0	0
C	2007	0	63	2	0	0
C	2008	0	46	3	0	0
C	2009	0	31	18	0	0
C	2010	0	80	69	0	0
C	2011	0	56	56	0	0
C	2012	0	37	37	0	0
C	2013	0	23	23	0	0
C	2014	0	14	14	0	0
C	2015	0	76	76	0	0
C	2016	1	87	88	0	0
C	2017	0	76	76	0	0
C	2018	1	36	37	0	0
C	2019	0	69	68	0	0
C	2020	0	31	30	0	0

Table 184: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	30	30	0	0
C	2004	0	278	278	0	0
C	2005	0	400	400	0	0
C	2006	1	497	498	0	0
C	2007	0	664	664	0	0
C	2008	1	669	670	0	0
C	2009	0	869	869	0	0
C	2010	1	550	552	0	0
C	2011	1	813	814	0	0
C	2012	0	834	834	0	0
C	2013	0	974	973	0	0
C	2014	0	621	621	0	0
C	2015	0	688	688	0	0
C	2016	0	764	764	0	0
C	2017	0	559	559	0	0
C	2018	0	497	497	0	0
C	2019	4	599	603	0	0
C	2020	0	54	54	0	0

Table 185: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2008	1	0	1	0	0
C	2015	1	0	1	0	1
C	2016	2	0	2	0	1
C	2019	2	0	2	0	1

59 Vermilion/Sunset rockfish

Vermilion/Sunset rockfish have been observed and sampled by both commercial and recre-

ational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 22483 length observations, a total of 1233 age readings, and 1804 available to be aged. The recreational fisheries across all states have collected a total of 144311 length observations, a total of 2208 age readings, and 1198 available to be aged. The NWFSC WCGBT across all states have collected a total of 2549 length observations, a total of 776 age readings, and 980 available to be aged. The NWFSC HKL across all states have collected a total of 22986 length observations, a total of 2564 age readings, and 15670 available to be aged.

Table 186: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	44	768	812	5	15
C	1981	11	898	909	0	13
C	1982	16	408	424	3	53
C	1983	40	216	256	17	119
C	1984	121	168	289	56	129
C	1985	54	427	481	30	66
C	1986	63	514	577	0	19
C	1987	106	142	248	0	0
C	1988	21	151	172	0	0
C	1989	19	405	424	0	0
C	1990	13	179	192	0	0
C	1991	1	127	128	0	0
C	1992	27	634	661	0	0
C	1993	33	1475	1508	0	0
C	1994	0	789	789	0	0
C	1995	2	1079	1081	0	0
C	1996	1	1141	1142	0	0
C	1997	3	1223	1226	0	0
C	1998	50	1202	1252	0	0
C	1999	64	699	763	0	0
C	2000	3	196	198	0	0
C	2001	0	174	167	0	21
C	2002	18	173	188	0	1
C	2003	9	41	50	0	9
C	2004	9	72	77	0	2
C	2005	1	121	72	0	1
C	2006	8	247	157	0	8
C	2007	11	308	256	0	0
C	2008	11	206	181	0	2
C	2009	7	279	251	0	5

Table 186: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2010	5	145	147	0	4
C	2011	0	239	238	0	0
C	2012	7	167	170	0	6
C	2013	2	247	238	0	2
C	2014	37	704	696	0	3
C	2015	52	644	682	0	54
C	2016	43	754	796	0	41
C	2017	14	532	546	0	14
C	2018	50	476	511	0	0
C	2019	45	541	570	0	336
C	2020	87	517	604	0	0
O	1999	19	0	19	0	0
O	2000	68	0	68	0	0
O	2001	107	0	107	14	0
O	2002	38	0	38	12	5
O	2003	63	0	63	50	3
O	2004	83	0	83	65	0
O	2005	57	0	57	47	0
O	2006	54	2	56	39	0
O	2007	59	1	60	20	23
O	2008	38	0	38	13	12
O	2009	118	0	118	56	58
O	2010	88	0	87	38	42
O	2011	202	0	202	106	96
O	2012	118	0	118	58	55
O	2013	177	1	178	87	86
O	2014	138	0	138	69	69
O	2015	72	0	72	35	37
O	2016	125	0	125	63	61
O	2017	192	0	192	97	95
O	2018	123	0	123	64	59
O	2019	318	0	318	149	141
O	2020	94	0	94	40	39

Table 187: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	34	34	0	0
C	2004	3	6471	6474	0	0
C	2005	2	9163	9165	0	0
C	2006	0	10023	10023	0	0
C	2007	2	9555	9557	0	0
C	2008	3	6230	6233	0	0
C	2009	1	5491	5492	0	0
C	2010	6	6680	6686	0	0
C	2011	6	8347	8353	0	0
C	2012	4	8641	8644	0	0
C	2013	5	9948	9953	0	0
C	2014	2	7239	7241	0	0
C	2015	1	9220	9220	0	0
C	2016	5	8466	8471	0	0
C	2017	9	6966	6974	0	0
C	2018	7	7204	7211	0	76
C	2019	20	9352	9371	0	41
C	2020	0	387	387	0	0
O	2001	0	224	224	0	0
O	2002	0	450	450	0	0
O	2003	0	743	743	0	0
O	2004	0	413	413	0	0
O	2005	107	960	1067	115	16
O	2006	186	609	795	284	0
O	2007	206	823	1029	109	99
O	2008	327	739	1066	179	156
O	2009	188	501	689	97	92
O	2010	157	633	790	85	74
O	2011	191	724	915	101	90
O	2012	174	928	1102	89	85
O	2013	170	647	817	87	82
O	2014	84	373	457	43	43
O	2015	60	296	356	32	30
O	2016	49	271	320	29	21
O	2017	52	543	595	29	23
O	2018	47	575	622	29	18
O	2019	142	611	753	75	66
O	2020	115	64	179	67	48
W	2002	3	5	8	3	0
W	2003	1	3	4	0	0

Table 187: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2004	15	0	15	11	4
W	2005	27	28	55	23	3
W	2006	27	30	57	25	2
W	2007	36	33	69	35	1
W	2008	28	15	43	28	0
W	2009	9	7	16	9	0
W	2010	3	6	9	3	0
W	2011	11	24	35	11	0
W	2012	17	35	52	16	1
W	2013	5	49	54	5	0
W	2014	60	2	62	58	2
W	2015	130	11	141	127	3
W	2016	91	3	94	87	4
W	2017	82	65	147	81	0
W	2018	103	100	203	86	10
W	2019	160	105	265	150	10
W	2020	18	2	20	0	18
W	2021	81	10	91	0	80

Table 188: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2010	78	28	106	93	13
NA	2011	28	0	28	4	24
NA	2012	467	4	471	106	204
NA	2013	396	9	405	70	165
NA	2014	35	2	37	26	11
NA	2015	226	0	226	9	138
NA	2016	75	25	100	56	44
NA	2017	199	44	243	75	132
NA	2018	196	1	197	47	93
NA	2019	172	0	172	44	89
NA	2003	61	1	62	0	0
NA	2004	8	1	9	8	0
NA	2005	48	1	49	11	17
NA	2006	27	0	27	18	9

Table 188: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2007	120	0	120	56	0
NA	2008	73	1	74	39	26
NA	2009	223	0	223	114	15

Table 189: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	736	1	737	73	552
C	2005	838	27	864	142	673
C	2006	577	5	579	555	24
C	2007	904	24	907	129	776
C	2008	857	2	857	90	766
C	2009	1062	6	1067	202	864
C	2010	1151	3	1151	250	897
C	2011	1325	3	1328	152	1166
C	2012	1184	6	1184	169	1013
C	2013	1224	12	1230	267	961
C	2014	1698	9	1706	0	1696
C	2015	1905	14	1911	0	1904
C	2016	1905	14	1904	0	1863
C	2017	2653	27	2649	0	1027
C	2018	2645	17	2648	535	538
C	2019	2233	35	2264	0	950

60 Widow rockfish

Widow rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 202098 length observations, a total of 89194 age readings, and 124286

available to be aged. The recreational fisheries across all states have collected a total of 15760 length observations, a total of 2328 age readings, and 704 available to be aged. The NWFSC WCGBT across all states have collected a total of 4233 length observations, a total of 2508 age readings, and 184 available to be aged. The NWFSC HKL across all states have collected a total of 777 length observations, a total of 0 age readings, and 764 available to be aged.

Table 190: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	680	61	740	404	751
C	1981	1783	24	1801	803	1622
C	1982	4119	67	4185	3247	2931
C	1983	2784	113	2886	2706	3047
C	1984	3090	47	3137	3050	3302
C	1985	4449	92	4541	4364	2409
C	1986	3147	160	3307	2904	3032
C	1987	3012	17	3028	2910	2253
C	1988	2318	18	2336	2123	2232
C	1989	2758	47	2782	2649	2579
C	1990	3334	113	3447	2987	3186
C	1991	2521	179	2700	2256	2218
C	1992	1947	665	2612	936	1513
C	1993	1895	636	2531	564	1548
C	1994	1081	1488	2569	629	1146
C	1995	1734	602	2336	235	1534
C	1996	1619	566	2185	1131	1203
C	1997	2230	590	2820	1157	2242
C	1998	1740	407	2147	1327	500
C	1999	1581	184	1765	1159	1372
C	2000	925	119	1044	562	571
C	2001	485	43	528	211	182
C	2002	369	80	449	333	333
C	2003	233	21	254	87	80
C	2004	115	0	115	96	19
C	2005	30	1	31	0	30
C	2006	102	13	115	79	145
C	2007	103	3	106	63	83
C	2008	179	17	196	169	356
C	2009	255	89	344	194	409
C	2010	204	108	311	90	190
C	2011	5	44	49	0	5

Table 190: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2012	103	42	145	0	96
C	2013	119	136	255	0	93
C	2014	80	297	377	0	78
C	2015	130	178	252	0	132
C	2016	57	125	182	0	35
C	2017	451	104	555	0	326
C	2018	1069	118	1187	0	115
C	2019	622	119	741	0	0
C	2020	436	404	837	0	0
O	1981	2026	0	2026	51	1975
O	1982	4749	3	4752	0	4752
O	1983	799	0	799	0	799
O	1984	3919	0	3919	0	3919
O	1985	6204	0	6204	0	6204
O	1986	4213	0	4213	0	4213
O	1987	3063	0	3063	0	3063
O	1988	2155	0	2155	0	2155
O	1989	2942	0	2942	28	2914
O	1990	2774	0	2774	2757	17
O	1991	3011	0	3011	2979	32
O	1992	3744	0	3744	2463	1141
O	1993	3631	0	3631	2516	1092
O	1994	2099	0	2099	2097	2
O	1995	1927	5	1932	1873	1
O	1996	1700	1	1701	1657	2
O	1997	2729	1	2729	2516	154
O	1998	2200	0	2200	1278	899
O	1999	2911	1	2912	1935	841
O	2000	2063	14	2077	642	1434
O	2001	1618	0	1618	1469	48
O	2002	558	0	558	531	27
O	2004	198	0	198	0	198
O	2005	48	0	48	0	48
O	2006	590	13	603	48	555
O	2007	681	23	704	221	432
O	2008	1030	0	1029	724	218
O	2009	937	0	937	744	192
O	2010	1376	0	1376	1220	74
O	2011	1510	2	1512	707	728
O	2012	1515	1	1515	408	1049
O	2013	1546	0	1546	520	1025

Table 190: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2014	1672	0	1672	509	1163
O	2015	1590	0	1590	349	1116
O	2016	1385	1	1386	377	1008
O	2017	2455	2	2457	581	1786
O	2018	2753	0	2753	798	1143
O	2019	2613	1	2614	0	1875
O	2020	1540	1	1541	0	1325
W	1980	1900	2	1902	0	1775
W	1981	3100	0	3100	0	3050
W	1982	4000	100	4100	0	3944
W	1983	2500	0	2500	0	2480
W	1984	2198	1	2199	0	2194
W	1985	1600	0	1600	0	1591
W	1986	2648	2	2650	0	2594
W	1987	1941	1	1942	0	1940
W	1988	1050	0	1050	0	993
W	1989	1500	0	1499	0	1494
W	1990	2050	0	2050	0	2047
W	1991	1747	0	1747	0	1739
W	1992	1550	0	1550	0	1547
W	1993	1799	1	1800	0	1798
W	1994	1491	1	1492	1399	0
W	1995	1650	0	1650	1650	0
W	1996	1349	5	1354	1348	0
W	1997	1499	8	1507	1498	0
W	1998	1259	6	1265	1099	0
W	1999	1499	3	1502	1450	0
W	2000	1050	1	1051	1048	0
W	2001	551	1	552	485	0
W	2002	635	1	636	587	0
W	2003	256	4	260	208	0
W	2004	521	1	522	520	0
W	2005	448	1	449	449	0
W	2006	418	100	518	156	261
W	2007	669	143	812	221	395
W	2008	826	386	1212	290	435
W	2009	1048	321	1369	745	244
W	2010	844	349	1193	531	248
W	2011	443	250	693	384	0
W	2012	821	340	1161	310	0
W	2013	571	154	725	311	0

Table 190: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2014	1123	100	1223	618	0
W	2015	809	250	1058	652	0
W	2016	621	50	671	547	0
W	2017	880	0	880	854	0
W	2018	562	0	562	411	0
W	2019	1090	0	1090	0	0
W	2020	534	0	534	0	0

Table 191: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	557	557	0	0
C	2005	0	171	171	0	0
C	2006	0	325	325	0	0
C	2007	0	461	461	0	0
C	2008	0	338	338	0	0
C	2009	0	99	99	0	0
C	2010	0	53	53	0	0
C	2011	0	95	95	0	0
C	2012	0	343	343	0	0
C	2013	0	916	916	0	0
C	2014	0	918	918	0	0
C	2015	0	342	342	0	0
C	2016	0	136	136	0	0
C	2017	0	359	359	0	0
C	2018	0	715	715	0	24
C	2019	0	871	871	0	3
C	2020	0	6	6	0	0
O	2001	0	237	237	0	0
O	2002	0	260	260	0	0
O	2003	0	351	351	0	0
O	2004	0	124	124	0	0
O	2005	0	393	393	0	0
O	2006	0	179	179	0	0
O	2007	0	193	193	0	0
O	2008	0	230	230	0	0

Table 191: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2009	0	182	182	0	0
O	2010	0	119	119	0	0
O	2011	0	149	149	0	0
O	2012	0	276	276	0	0
O	2013	0	268	268	0	0
O	2014	0	159	159	0	0
O	2015	0	216	216	0	0
O	2016	0	64	64	0	0
O	2017	0	257	257	0	0
O	2018	0	966	966	0	0
O	2019	0	726	726	0	0
O	2020	0	21	21	0	0
W	2003	20	0	20	0	0
W	2004	4	1	5	0	0
W	2005	13	3	16	0	0
W	2006	0	1	1	0	0
W	2007	4	0	4	0	0
W	2008	7	0	7	0	0
W	2009	70	4	74	0	0
W	2010	30	3	33	0	0
W	2011	8	116	124	0	0
W	2012	0	29	29	0	0
W	2013	127	19	146	0	0
W	2014	405	86	491	405	0
W	2015	334	1	335	334	0
W	2016	556	5	561	551	5
W	2017	777	23	800	776	1
W	2018	266	66	332	262	0
W	2019	103	32	135	0	103
W	2020	459	3	462	0	458
W	2021	110	0	110	0	110

Table 192: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	212	4	216	0	10

Table 192: Data collected annually from the NWFSC WCGBT. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2004	84	0	84	43	0
NA	2005	78	0	78	65	2
NA	2006	172	0	172	89	0
NA	2007	91	1	92	83	0
NA	2008	26	0	26	20	6
NA	2009	142	0	142	124	0
NA	2010	240	0	240	116	2
NA	2011	313	0	313	152	0
NA	2012	181	0	181	91	2
NA	2013	361	3	364	246	0
NA	2014	349	0	349	264	0
NA	2015	149	0	149	93	0
NA	2016	888	0	888	556	0
NA	2017	310	0	310	213	1
NA	2018	410	0	410	353	0
NA	2019	219	0	219	0	161

Table 193: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	56	0	56	0	55
C	2005	73	2	75	0	74
C	2006	68	1	68	0	68
C	2007	43	0	43	0	43
C	2008	173	3	174	0	173
C	2009	39	0	39	0	39
C	2010	15	0	15	0	15
C	2011	13	0	13	0	13
C	2012	3	0	3	0	3
C	2013	16	0	16	0	16
C	2014	70	0	69	0	70
C	2015	19	0	19	0	19
C	2016	39	1	39	0	37
C	2017	56	0	56	0	50
C	2018	69	0	69	0	66
C	2019	21	2	23	0	23

61 Yelloweye rockfish

Yelloweye rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 9182 length observations, a total of 2116 age readings, and 330 available to be aged. The recreational fisheries across all states have collected a total of 3399 length observations, a total of 52 age readings, and 323 available to be aged. The NWFSC WCGBT across all states have collected a total of 824 length observations, a total of 684 age readings, and 139 available to be aged. The NWFSC HKL across all states have collected a total of 86 length observations, a total of 0 age readings, and 80 available to be aged.

Table 194: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	17	18	35	0	17
C	1981	5	58	62	0	11
C	1982	11	11	22	0	10
C	1983	22	21	43	0	12
C	1984	18	12	30	0	20
C	1985	11	16	27	0	34
C	1986	16	7	23	0	4
C	1987	26	0	26	0	0
C	1988	15	6	21	0	0
C	1989	9	42	51	0	0
C	1990	9	19	28	0	0
C	1991	12	212	224	0	0
C	1992	9	484	493	0	0
C	1993	6	704	710	0	0
C	1994	8	728	736	0	0
C	1995	10	368	378	0	0
C	1996	50	476	526	0	0
C	1997	3	287	290	0	0
C	1998	5	57	62	0	0
C	1999	23	485	508	0	1
C	2000	3	23	26	0	0
C	2001	7	125	132	0	2

Table 194: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2002	3	1	4	0	2
C	2003	1	0	1	0	1
C	2004	7	0	7	0	7
C	2012	1	0	1	0	0
C	2013	3	0	3	0	3
C	2014	0	1	1	0	0
C	2015	1	1	1	0	1
C	2017	1	2	3	0	1
C	2019	11	0	11	0	0
C	2020	24	4	28	0	0
O	1992	13	0	13	0	13
O	1993	20	0	20	19	1
O	1995	73	25	98	0	0
O	1996	161	0	161	0	0
O	1997	256	0	256	0	0
O	1998	118	0	118	0	0
O	1999	166	0	166	0	0
O	2000	141	0	141	0	0
O	2001	233	0	233	23	0
O	2002	4	0	4	4	0
O	2003	29	0	29	29	0
O	2004	8	0	8	4	3
O	2005	4	0	4	4	0
O	2006	19	1	20	19	0
O	2007	1	0	1	0	1
O	2008	16	0	16	16	0
O	2009	22	0	22	22	0
O	2010	2	0	2	2	0
O	2011	12	0	12	10	0
O	2012	14	0	14	14	0
O	2013	13	0	13	13	0
O	2014	9	0	9	9	0
O	2015	17	0	17	16	1
O	2016	16	0	16	16	0
O	2017	84	0	84	69	15
O	2018	47	0	47	46	1
O	2019	215	1	216	133	83
O	2020	86	0	86	0	86
W	1980	0	4	4	0	0
W	1982	14	0	14	0	0
W	1996	0	266	266	0	0

Table 194: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	1997	0	118	118	0	0
W	1998	25	15	40	0	0
W	1999	17	28	45	0	0
W	2000	18	343	361	0	0
W	2001	325	490	813	493	0
W	2002	266	4	270	270	0
W	2003	29	0	29	20	0
W	2004	78	0	78	76	0
W	2006	152	3	152	155	0
W	2007	32	0	32	32	0
W	2008	2	0	2	2	0
W	2009	23	0	23	22	0
W	2010	54	0	54	54	0
W	2011	16	1	17	14	0
W	2012	30	36	66	66	0
W	2013	42	0	42	42	0
W	2014	18	0	18	18	0
W	2015	61	0	61	61	0
W	2016	11	0	11	11	0
W	2017	29	1	30	28	0
W	2018	123	1	124	122	0
W	2019	170	1	171	162	0
W	2020	2	0	2	0	0

Table 195: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	17	17	0	0
C	2005	0	60	60	0	0
C	2006	0	95	95	0	0
C	2007	0	57	57	0	0
C	2008	0	31	31	0	0
C	2009	1	57	58	0	0
C	2010	1	21	22	0	0
C	2011	0	23	23	0	0
C	2012	0	26	26	0	0

Table 195: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2013	0	17	17	0	0
C	2014	0	24	24	0	0
C	2015	0	42	42	0	0
C	2016	0	36	36	0	1
C	2017	0	112	112	0	67
C	2018	0	115	115	0	70
C	2019	0	127	127	0	73
C	2020	0	1	1	0	0
O	2001	0	368	368	0	0
O	2002	0	448	448	0	0
O	2003	0	492	492	0	0
O	2004	0	23	23	0	0
O	2005	1	25	26	0	0
O	2006	0	49	49	0	0
O	2007	0	62	62	0	0
O	2008	0	74	74	0	0
O	2009	0	39	39	0	0
O	2010	0	28	28	0	0
O	2011	0	49	49	0	0
O	2012	0	112	112	0	0
O	2013	0	57	57	0	0
O	2014	0	89	89	0	0
O	2015	0	42	42	0	0
O	2016	0	34	34	0	0
O	2017	0	102	102	0	0
O	2018	0	120	120	0	0
O	2019	0	120	120	0	0
O	2020	0	12	12	0	0
W	2003	0	2	2	0	0
W	2004	12	0	12	10	2
W	2005	4	0	4	4	0
W	2006	1	0	1	1	0
W	2008	6	3	9	6	0
W	2010	1	0	1	1	0
W	2011	2	0	2	2	0
W	2012	3	2	5	3	0
W	2014	0	1	1	0	0
W	2015	2	0	2	2	0
W	2017	5	3	8	5	0
W	2018	7	1	8	6	0
W	2019	13	13	26	12	1

Table 195: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2020	7	0	7	0	7
W	2021	102	0	102	0	102

Table 196: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	68	0	68	67	1
NA	2004	21	0	21	21	0
NA	2005	40	0	40	40	0
NA	2006	42	1	43	43	0
NA	2007	24	2	26	19	7
NA	2008	43	0	43	43	0
NA	2009	39	0	39	39	0
NA	2010	52	0	52	52	0
NA	2011	47	0	47	47	0
NA	2012	44	0	44	44	0
NA	2013	38	0	38	35	2
NA	2014	92	0	92	92	0
NA	2015	51	0	51	51	0
NA	2016	91	0	91	91	0
NA	2017	45	0	45	0	45
NA	2018	50	0	50	0	50
NA	2019	34	0	34	0	34

Table 197: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	1	0	1	0	1
C	2006	1	0	1	0	1
C	2007	3	0	3	0	3
C	2009	5	0	5	0	5

Table 197: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2010	2	0	2	0	2
C	2012	1	0	1	0	1
C	2015	13	0	13	0	13
C	2016	15	0	15	0	10
C	2017	15	0	15	0	15
C	2018	13	0	13	0	13
C	2019	17	0	17	0	16

62 Yellowmouth rockfish

The commercial fisheries across all states have collected a total of 4091 length observations, a total of 1 age readings, and 2360 available to be aged. The recreational fisheries across all states have collected a total of 21 length observations, a total of 0 age readings, and 0 available to be aged.

Table 198: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1983	5	0	5	0	6
C	1984	6	0	6	0	6
C	1985	13	3	16	0	12
C	1986	18	0	18	0	0
C	1987	3	0	3	0	0
C	1989	1	0	1	0	0
C	1990	2	0	2	0	0
C	1992	1	34	35	0	0
C	1993	2	10	12	0	0
C	1994	1	0	1	0	0
C	1996	5	0	5	0	0
C	1997	0	20	20	0	0

Table 198: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1998	1	0	1	0	0
C	2006	1	0	1	0	0
C	2007	1	0	1	0	0
C	2009	0	1	1	0	0
C	2012	0	1	1	0	0
C	2016	0	1	1	0	0
C	2019	0	2	2	0	0
C	2020	16	20	16	0	0
O	1981	107	0	107	0	107
O	1982	60	0	60	0	60
O	1995	56	0	56	0	0
O	1996	226	0	226	0	0
O	1997	100	0	100	0	0
O	1998	41	0	41	0	0
O	2001	16	0	16	0	16
O	2004	93	0	93	0	93
O	2005	61	0	61	0	61
O	2006	45	0	45	0	45
O	2007	213	0	213	0	213
O	2008	95	0	95	0	95
O	2009	271	0	271	0	269
O	2010	104	0	104	0	104
O	2011	44	0	44	0	44
O	2012	114	0	114	0	114
O	2013	162	0	162	0	162
O	2014	85	0	85	0	85
O	2015	129	0	129	0	129
O	2016	75	0	75	0	75
O	2017	109	0	109	0	109
O	2018	163	0	163	0	163
O	2019	225	0	225	0	225
O	2020	179	0	179	0	167
W	1996	0	312	312	0	0
W	1997	0	307	307	0	0
W	1998	23	7	30	0	0
W	1999	93	3	96	0	0
W	2000	11	0	11	0	0
W	2001	3	1	4	0	0
W	2002	1	0	1	0	0
W	2003	3	2	5	0	0
W	2004	4	0	4	0	0

Table 198: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2005	1	0	1	0	0
W	2007	7	0	7	0	0
W	2008	57	0	57	0	0
W	2011	1	0	1	1	0
W	2012	6	0	6	0	0
W	2013	21	0	21	0	0
W	2014	7	0	7	0	0
W	2015	26	0	26	0	0
W	2016	18	0	18	0	0
W	2017	9	0	9	0	0
W	2018	29	0	29	0	0
W	2019	218	0	218	0	0

Table 199: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2001	0	1	1	0	0
O	2002	0	12	12	0	0
O	2003	0	1	1	0	0
O	2009	0	3	3	0	0
O	2012	0	1	1	0	0
O	2013	0	1	1	0	0
W	2004	2	0	2	0	0

63 Yellowtail rockfish

Yellowtail rockfish have been observed and sampled by both commercial and recreational fisheries and the NWFSC WCGBT and HKL surveys. The commercial fisheries across all states have collected a total of 199193 length observations, a total of 139121 age readings, and

30622 available to be aged. The recreational fisheries across all states have collected a total of 110549 length observations, a total of 5775 age readings, and 1236 available to be aged. The NWFSC WCGBT across all states have collected a total of 16040 length observations, a total of 5193 age readings, and 2973 available to be aged. The NWFSC HKL across all states have collected a total of 1531 length observations, a total of 124 age readings, and 1192 available to be aged.

Table 200: Data collected annually from the commercial fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	1980	138	22	160	127	103
C	1981	175	148	323	174	194
C	1982	355	27	382	276	262
C	1983	536	47	576	474	1033
C	1984	895	55	950	846	1517
C	1985	780	366	1146	642	883
C	1986	708	81	788	664	624
C	1987	250	79	329	162	781
C	1988	316	6	321	177	302
C	1989	700	201	901	687	698
C	1990	425	167	592	400	346
C	1991	555	415	970	528	515
C	1992	679	2660	3339	529	537
C	1993	257	1806	2063	141	233
C	1994	364	2793	3157	355	441
C	1995	382	837	1219	167	146
C	1996	659	830	1489	576	575
C	1997	385	758	1143	245	247
C	1998	474	870	1344	169	341
C	1999	407	251	658	251	253
C	2000	152	151	303	35	33
C	2001	192	161	353	179	180
C	2002	100	9	109	71	91
C	2003	55	20	75	0	59
C	2004	64	31	95	32	96
C	2005	74	34	108	78	160
C	2006	97	86	183	93	186
C	2007	121	75	196	0	0
C	2008	82	37	119	72	150
C	2009	22	105	127	6	6
C	2010	4	3	7	4	4
C	2011	58	16	74	26	29

Table 200: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2012	41	123	162	28	28
C	2013	12	207	218	12	12
C	2014	111	154	243	110	111
C	2015	117	156	242	56	56
C	2016	146	105	251	0	38
C	2017	267	153	420	0	27
C	2018	276	119	395	0	0
C	2019	277	88	363	0	138
C	2020	181	17	198	0	0
O	1981	607	0	607	0	607
O	1982	1499	0	1499	0	1397
O	1983	199	0	199	0	199
O	1984	1099	0	1098	0	1099
O	1985	2104	0	2104	0	2004
O	1986	1156	0	1156	0	1004
O	1987	1891	0	1891	0	1891
O	1988	1670	0	1670	0	1670
O	1989	2055	0	2055	0	2055
O	1990	1802	0	1802	1792	10
O	1991	1296	0	1296	1289	7
O	1992	2490	0	2490	2424	66
O	1993	2022	0	2022	1981	3
O	1994	2641	0	2641	2637	4
O	1995	2242	0	2242	2203	9
O	1996	2259	0	2259	2161	47
O	1997	4093	0	4092	3735	32
O	1998	3250	0	3235	2263	915
O	1999	3577	1	3578	3383	9
O	2000	3005	3	3006	2863	20
O	2001	2832	0	2832	2749	26
O	2002	1536	2	1538	1470	66
O	2003	701	0	701	44	655
O	2004	1341	0	1341	0	1331
O	2005	916	64	980	522	453
O	2006	1236	15	1251	350	880
O	2007	1189	7	1196	376	99
O	2008	584	1	585	575	2
O	2009	855	0	855	638	9
O	2010	1618	0	1618	1080	4
O	2011	1816	0	1816	1005	6
O	2012	1914	1	1915	1307	74

Table 200: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2013	1263	6	1269	1103	53
O	2014	1893	5	1898	1828	10
O	2015	2391	2	2393	2158	20
O	2016	3141	4	3145	2202	13
O	2017	3037	3	3040	2465	135
O	2018	2948	2	2950	2081	146
O	2019	2782	0	2782	1228	593
O	2020	1926	6	1932	0	1465
W	1980	3800	105	3905	3727	0
W	1981	3900	0	3900	3741	0
W	1982	3496	0	3496	3331	99
W	1983	2366	0	2366	2350	0
W	1984	3200	0	3200	3192	0
W	1985	3500	0	3500	3498	0
W	1986	2992	0	2992	2985	0
W	1987	2096	0	2046	2092	0
W	1988	1650	0	1650	1645	0
W	1989	1650	0	1650	1643	0
W	1990	1874	51	1925	1872	0
W	1991	2296	1	2297	2191	0
W	1992	2197	0	2197	2193	0
W	1993	2743	0	2743	2741	0
W	1994	4406	0	4406	2591	0
W	1995	4567	1	4567	2962	0
W	1996	3938	6	3944	2436	0
W	1997	3316	11	3327	2600	0
W	1998	2571	1	2572	2559	0
W	1999	2411	2	2413	2398	0
W	2000	2737	1	2738	2704	0
W	2001	2173	55	2228	2226	0
W	2002	1660	3	1663	1654	0
W	2003	1942	5	1947	1941	0
W	2004	2084	5	2087	2059	0
W	2005	1173	0	1173	1169	0
W	2006	899	69	968	749	0
W	2007	1610	905	2515	1397	0
W	2008	1499	342	1841	1077	0
W	2009	1174	508	1682	1172	0
W	2010	1059	651	1710	977	0
W	2011	1093	435	1528	924	0
W	2012	1741	700	2441	1489	0

Table 200: Data collected annually from the commercial fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
W	2013	1023	300	1323	797	0
W	2014	1158	152	1309	713	0
W	2015	1058	703	1760	900	0
W	2016	1321	266	1587	1184	0
W	2017	2667	0	2667	1771	0
W	2018	1898	0	1898	1391	0
W	2019	1411	0	1411	1279	0
W	2020	550	2	551	497	0

Table 201: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	0	41	41	0	0
C	2004	1	919	920	0	0
C	2005	0	881	881	0	0
C	2006	0	2001	2001	0	0
C	2007	0	4780	4780	0	0
C	2008	0	2032	2032	0	0
C	2009	0	3534	3534	0	0
C	2010	0	2192	2192	0	0
C	2011	0	4718	4718	0	0
C	2012	2	5641	5643	0	0
C	2013	0	6754	6753	0	0
C	2014	0	6354	6354	0	0
C	2015	0	6980	6980	0	0
C	2016	0	2738	2738	0	0
C	2017	0	3209	3209	0	0
C	2018	0	3375	3374	0	96
C	2019	0	4126	4125	0	121
C	2020	0	3	3	0	0
O	1999	326	0	326	0	0
O	2000	192	0	192	0	0
O	2001	12	692	704	0	12
O	2002	0	1457	1457	0	0
O	2003	0	1740	1740	0	0
O	2004	1	1394	1395	0	0

Table 201: Data collected annually from the recreational fisheries. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
O	2005	0	1916	1916	0	0
O	2006	0	1585	1585	0	0
O	2007	0	1721	1721	0	0
O	2008	0	2043	2043	0	0
O	2009	0	2678	2678	0	0
O	2010	0	2462	2462	0	0
O	2011	0	2318	2318	0	0
O	2012	1	2753	2754	0	0
O	2013	0	2182	2182	0	0
O	2014	0	1936	1936	0	0
O	2015	0	2018	2018	0	0
O	2016	0	870	870	0	0
O	2017	0	1347	1347	0	0
O	2018	0	2607	2607	0	0
O	2019	0	2866	2866	0	0
O	2020	0	129	129	0	0
W	2002	172	22	194	0	0
W	2003	745	55	800	0	0
W	2004	606	69	675	0	0
W	2005	719	150	869	0	0
W	2006	274	88	362	18	0
W	2007	235	78	313	0	0
W	2008	118	71	189	0	0
W	2009	329	135	464	6	1
W	2010	148	70	218	17	0
W	2011	55	336	391	15	0
W	2012	92	136	228	0	0
W	2013	234	122	356	0	4
W	2014	533	147	680	533	0
W	2015	624	59	683	624	0
W	2016	836	92	928	836	0
W	2017	1152	176	1328	1150	2
W	2018	652	256	908	641	4
W	2019	1311	489	1800	1306	5
W	2020	883	8	891	629	253
W	2021	738	10	748	0	738

Table 202: Data collected annually from the NWFSC WCGBT.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
NA	2003	815	34	849	275	0
NA	2004	626	0	626	187	1
NA	2005	1047	0	1047	348	2
NA	2006	386	0	386	169	0
NA	2007	946	12	958	277	2
NA	2008	682	8	690	355	0
NA	2009	457	0	457	333	0
NA	2010	1130	1	1131	486	432
NA	2011	788	0	788	469	0
NA	2012	906	1	907	354	0
NA	2013	407	0	407	177	0
NA	2014	1527	1	1528	651	1
NA	2015	820	0	820	541	1
NA	2016	2261	0	2261	571	837
NA	2017	1702	0	1701	0	724
NA	2018	916	0	916	0	628
NA	2019	568	0	568	0	345

Table 203: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	126	3	126	124	0
C	2005	107	25	122	0	122
C	2006	88	3	88	0	88
C	2007	119	12	119	0	119
C	2008	139	2	139	0	139
C	2009	79	6	80	0	80
C	2010	60	3	60	0	0
C	2011	78	52	126	0	1
C	2012	107	5	106	0	106
C	2013	93	6	96	0	95
C	2014	105	9	110	0	110
C	2015	78	2	78	0	78
C	2016	87	3	89	0	87
C	2017	46	0	46	0	40
C	2018	76	4	77	0	66

Table 203: Data collected annually from the NWFSC HKL. *(continued)*

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2019	67	4	69	0	61

64 Leopard shark

Leopard shark have been observed by recreational fisheries only. The recreational fisheries across all states have collected a total of 2094 length observations, a total of 0 age readings, and 0 available to be aged.

Table 204: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2003	2	1	3	0	0
C	2004	4	178	182	0	0
C	2005	4	155	159	0	0
C	2006	7	308	315	0	0
C	2007	19	173	192	0	0
C	2008	13	83	96	0	0
C	2009	159	100	259	0	0
C	2010	66	62	128	0	0
C	2011	8	68	76	0	0
C	2012	1	74	75	0	0
C	2013	7	82	88	0	0
C	2014	41	43	84	0	0
C	2015	60	18	78	0	0
C	2016	73	30	103	0	0
C	2017	101	14	114	0	0
C	2018	64	24	88	0	0
C	2019	50	5	53	0	0
C	2020	1	0	1	0	0

65 Redstripe rockfish

Redstripe rockfish have been observed by recreational fisheries only. The recreational fisheries across all states have collected a total of 264 length observations, a total of 0 age readings, and 5 available to be aged.

Table 205: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2012	0	3	3	0	0
C	2019	0	1	1	0	0
O	2001	0	57	57	0	0
O	2002	0	32	32	0	0
O	2003	0	51	51	0	0
O	2004	0	14	14	0	0
O	2005	0	32	32	0	0
O	2008	0	1	1	0	0
O	2011	0	6	6	0	0
O	2012	0	4	4	0	0
O	2013	0	2	2	0	0
O	2014	0	6	6	0	0
O	2015	0	14	14	0	0
O	2016	0	2	2	0	0
O	2017	0	13	13	0	0
O	2018	0	9	9	0	0
O	2019	0	12	12	0	0
W	2015	2	0	2	0	2
W	2016	2	0	2	0	2
W	2019	1	0	1	0	1

66 Stripetail rockfish

Stripetail rockfish have been observed by recreational fisheries only. The recreational fisheries

across all states have collected a total of 74 length observations, a total of 0 age readings, and 0 available to be aged.

Table 206: Data collected annually from the recreational fisheries.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2004	0	21	21	0	0
C	2005	0	4	4	0	0
C	2006	0	5	5	0	0
C	2007	0	8	8	0	0
C	2009	0	1	1	0	0
C	2010	0	7	7	0	0
C	2011	0	5	5	0	0
C	2012	0	10	10	0	0
C	2013	0	6	6	0	0
C	2014	0	1	1	0	0
C	2016	0	6	6	0	0

67 Southern rock sole

Southern rock sole have been observed by NWFSC HKL only. The NWFSC HKL across all states have collected a total of 4 length observations, a total of 0 age readings, and 0 available to be aged.

Table 207: Data collected annually from the NWFSC HKL.

State	Year	Sexed Fish	Unsexed Fish	Lengths	Ages	Otoliths
C	2010	1	0	1	0	0
C	2014	1	0	1	0	0
C	2018	1	1	2	0	0