

Table 1. Percentage of primary tier-limit sablefish catch landed by sablefish-endorsed fixed-gear vessels during 2001-2003 that was observed by the West Coast Groundfish Observer Program.

Year	Port Group (based on fishtickets)	Hook and line				Total metric tons	Pot				Total metric tons
		Not observed		Observed			Not observed		Observed		
		metric tons	% of gear total	metric tons	% of gear total		metric tons	% of gear total	metric tons	% of gear total	
2001	Puget Sound	209	86%	35	14%	244					
	Neah Bay	111	100%			111					
	Astoria	238	98%	5	2%	244	86	77%	26	23%	112
	Newport	91	64%	51	36%	142	206	97%	5	3%	212
	Coos Bay	63	100%			63	164	100%			164
	Crecent City	119	100%			119	51	100%			51
	Eureka	43	100%			43					
	Fort Bragg	78	100%			78					
	San Francisco	74	100%			74					
	Monterey	50	100%			50					
	All ports	1,075	92%	91	8%	1,166	508	94%	31	6%	539
2002	Puget Sound	150	64%	84	36%	233					
	Neah Bay	69	92%	6	8%	75					
	Astoria	125	82%	27	18%	152	66	78%	18	22%	84
	Newport	66	95%	3	5%	69	108	91%	10	9%	118
	Coos Bay	20	43%	26	57%	46	79	68%	37	32%	116
	Crecent City	36	56%	28	44%	64	29	58%	21	42%	49
	Eureka	45	86%	7	14%	52					
	Fort Bragg	19	71%	7	29%	26	8	100%			8
	San Francisco	26	100%			26					
	Monterey	25	100%			25	5	100%			5
	All ports	579	75%	188	25%	767	294	77%	86	23%	381
2003	Puget Sound	149	67%	74	33%	223	10	100%			10
	Neah Bay	88	100%			88			13	100%	13
	Astoria	106	79%	28	21%	133	105	65%	56	35%	162
	Newport	134	77%	40	23%	175	37	24%	120	76%	157
	Coos Bay	51	100%			51	129	93%	9	7%	139
	Crecent City	76	95%	4	5%	80	21	100%			21
	Eureka	15	100%			15					
	Fort Bragg	23	58%	17	42%	40	11	100%			11
	San Francisco	14	100%			14					
	Monterey	19	100%			19	7	100%			7
	All ports	675	81%	162	19%	837	321	62%	198	38%	519

Table 2. Percentage of the catch of all groundfish (excluding shark and skate) landed by sablefish-endorsed fixed-gear vessels on tier-limit trips during the primary sablefish seasons in 2001-2003 that was observed by the West Coast Groundfish Observer Program.

Year	Port Group (based on fishtickets)	Hook and line					Pot				
		Not observed		Observed		Total	Not observed		Observed		Total
		metric tons	% of gear total	metric tons	% of gear total	metric tons	metric tons	% of gear total	metric tons	% of gear total	metric tons
2001	Puget Sound	217	86%	37	14%	254					
	Neah Bay	119	100%			119					
	Astoria	249	98%	6	2%	254	89	78%	26	22%	114
	Newport	93	64%	52	36%	145	208	97%	5	3%	214
	Coos Bay	65	100%			65	164	100%			164
	Crecent City	123	100%			123	51	100%			51
	Eureka	45	100%			45					
	Fort Bragg	88	100%			88					
	San Francisco	82	100%			82					
	Monterey	58	100%			58					
	All ports	1,141	92%	94	8%	1,235	512	94%	31	6%	543
2002	Puget Sound	160	64%	89	36%	249					
	Neah Bay	77	92%	6	8%	83					
	Astoria	132	82%	28	18%	161	67	78%	19	22%	86
	Newport	71	95%	3	5%	74	108	91%	10	9%	119
	Coos Bay	20	43%	26	57%	46	80	68%	37	32%	116
	Crecent City	38	57%	29	43%	67	29	58%	21	42%	50
	Eureka	52	86%	8	14%	60					
	Fort Bragg	21	73%	8	27%	29	8	100%			8
	San Francisco	30	100%			30					
	Monterey	34	100%			34	6	100%			6
	All ports	635	76%	199	24%	833	297	77%	87	23%	384
2003	Puget Sound	158	66%	80	34%	238	10	100%			10
	Neah Bay	92	100%			92			13	100%	13
	Astoria	110	79%	29	21%	140	108	66%	57	34%	166
	Newport	137	77%	41	23%	178	38	24%	121	76%	158
	Coos Bay	51	100%			51	129	93%	9	7%	139
	Crecent City	78	95%	4	5%	83	21	100%			21
	Eureka	16	100%			16					
	Fort Bragg	24	56%	20	44%	44	11	100%			11
	San Francisco	16	100%			16					
	Monterey	33	100%			33	7	100%			7
	All ports	716	81%	173	19%	890	324	62%	201	38%	525

Table 3. Number of observed limited entry, fixed-gear primary sablefish fishery trips, by calendar year, port group, and gear.

Port Group	Hook and line		Pot		All gears	
	Number of trips	% of coastwide	Number of trips	% of coastwide	Number of trips	% of coastwide
2001						
Puget Sound	3	30%			3	17%
Astoria			8	100%	8	44%
Newport	7	70%			7	39%
All ports	10	100%	8	100%	18	100%
2002						
Puget Sound	6	10%			6	8%
Neah Bay	13	22%			13	16%
Astoria	3	5%	3	14%	6	8%
Newport	2	3%	3	14%	5	6%
Coos Bay	10	17%	2	9%	12	15%
Crecent City	16	28%	14	64%	30	38%
Eureka	6	10%			6	8%
Fort Bragg	2	3%			2	3%
All ports	58	100%	22	100%	80	100%
2003						
Puget Sound	4	10%			4	6%
Neah Bay	7	17%	2	8%	9	13%
Astoria	15	37%			15	22%
Newport	6	15%	21	81%	27	40%
Coos Bay			3	12%	3	4%
Crecent City	5	12%			5	7%
Fort Bragg	4	10%			4	6%
All ports	41	100%	26	100%	67	100%

Note: Port assignments based on the observed port where off-loading occurred.

Table 4. Number of observed limited entry, fixed-gear primary sablefish fishery sets, by calendar year, depth strata, and gear.

Depth *	Hook and line		Pot		All gears	
	Number of sets	% by depth strata	Number of sets	% by depth strata	Number of sets	% by depth strata
2001						
Deep	80	99	27	40	107	72
Shallow	1	1	41	60	42	28
All Depths	81	100	68	100	149	100
2002						
Deep	290	83	239	99	529	90
Shallow	58	17	2	1	60	10
All Depths	348	100	241	100	589	100
2003						
Deep	311	97	279	100	590	98
Shallow	11	3			11	2
All Depths	322	100	279	100	601	100

* The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

Table 5. Discard rates for species taken in the limited entry, fixed-gear primary sablefish fishery, by gear and calendar year.

	Hook and line						Pot					
	2001		2002		2003		2001		2002		2003	
	pounds	% of total	pounds	% of total	pounds	% of total	pounds	% of total	pounds	% of total	pounds	% of total
Bocaccio rockfish												
discarded	None		10	100%			None		None		None	
retained	Observed				76	100%	Observed		Observed		Observed	
total			10	100%	76	100%						
Canary rockfish												
discarded	None		978	95%	160	59%	2	100%	None		None	
retained	Observed		52	5%	110	41%			Observed		Observed	
total			1,030	100%	270	100%	2	100%				
Widow rockfish												
discarded	None		7	100%	10	100%	None		None		None	
total	observed		7	100%	10	100%	observed		observed		observed	
Yelloweye rockfish												
discarded			978	95%	646	89%					None	
retained	18	100%	56	5%	81	11%		2%	100		Observed	
total	18	100%	1,034	100%	727	100%		2%	100			
Darkblotched rockfish												
discarded			39	36%	44	16%	1	100%				
retained	7	100%	68	64%	230	84%			8	100%	41	100%
total	7	100%	107	100%	275	100%	1	100%	8	100%	41	100%
Pacific ocean perch												
discarded	None				4	13%	None				None	
retained	Observed		166	100%	24	87%	Observed		2	100%	Observed	
total			166	100%	27	100%			2	100%		
Lingcod												
discarded	60	52%	687	29%	1,075	29%	2,354	98%			133	79%
retained	56	48%	1,644	71%	2,594	71%	54	2%	608	100%	35	21%
total	116	100%	2,331	100%	3,669	100%	2,408	100%	608	100%	168	100%
Sablefish												
discarded	15,064	7%	81,152	17%	67,640	13%	2,403	5%	77,898	31%	37,186	11%
retained	185,976	93%	386,389	83%	452,465	87%	45,618	95%	171,053	69%	304,353	89%
total	201,041	100%	467,541	100%	520,105	100%	48,021	100%	248,950	100%	341,540	100%
Pacific hake												
discarded	106	100%	139	92%	81	100%	2	100%	None		None	
retained			12	8%					Observed		Observed	
total	106	100%	152	100%	81	100%	2	100%				
Roundfish other than lingcod, sablefish and hake												
discarded	575	100%	848	74%	658	33%	None		1	5%	2,239	77%
retained			295	26%	1,307	67%	Observed		17	95%	669	23%
total	575	100%	1,143	100%	1,965	100%			18	100%	2,908	100%

Table 5 (cont.). Discard rates for species taken in the limited entry, fixed-gear primary sablefish fishery, by gear and calendar year.

	Hook and line						Pot					
	2001		2002		2003		2001		2002		2003	
	pounds	% of total	pounds	% of total	pounds	% of total	pounds	% of total	pounds	% of total	pounds	% of total
Dover sole												
discarded	18	100%	2,549	98%	772	93%	57	88%	457	63%	202	27%
retained			64	2%	60	7%	8	12%	274	37%	538	73%
total	18	100%	2,613	100%	832	100%	65	100%	731	100%	741	100%
Arrowtooth flounder												
discarded	4,394	100%	9,767	64%	10,195	64%	49	100%	142	49%	809	90%
retained	10	0%	5,414	36%	5,612	36%	.	.	148	51%	94	10%
total	4,404	100%	15,181	100%	15,807	100%	49	100%	290	100%	903	100%
Petrale sole												
discarded	None		37	4%	28	13%	2	100%			None	
retained	Observed		896	96%	181	87%			1	100%	Observed	
total			933	100%	209	100%	2	100%	1	100%		
Other flatfish												
retained	None		402	100%	None		None		None		2	100%
total	observed		402	100%	observed		observed		observed		2	100%
Longspine thornyhead												
discarded	None		0	0%	None		None		0	32%	3	70%
retained	Observed		110	100%	Observed		Observed		1	68%	2	30%
total			111	100%					1	100%	5	100%
Shortspine thornyhead												
discarded	982	28%	72	5%	121	7%	7	100%	8	16%	24	5%
retained	2,507	72%	1,515	95%	1,593	93%			41	84%	499	95%
total	3,489	100%	1,587	100%	1,714	100%	7	100%	48	100%	523	100%
Mixed thornyheads												
discarded	190	29%	10	6%	2	3%	None		None		None	
retained	473	71%	153	94%	56	97%	Observed		Observed		Observed	
total	664	100%	163	100%	58	100%						
Yellowtail rockfish												
discarded	None		83	32%	47	13%	None		None		None	
retained	Observed		180	68%	320	87%	Observed		Observed		Observed	
total			263	100%	367	100%						
Shelf rockfish other than those listed individually												
discarded	17	48%	1,150	56%	727	32%	6	74%				
retained	19	52%	914	44%	1,562	68%	2	26%	33	100%	48	100%
total	36	100%	2,063	100%	2,289	100%	8	100%	33	100%	48	100%
Slope rockfish other than darkblotched and POP												
discarded	32	3%	1,143	15%	1,830	12%	50	74%	8	1%		
retained	1,188	97%	6,272	85%	13,756	88%	18	26%	583	99%	901	100%
total	1,220	100%	7,414	100%	15,586	100%	68	100%	591	100%	901	100%

Table 5 (cont.). Discard rates for species taken in the limited entry, fixed-gear primary sablefish fishery, by gear and calendar year.

	Hook and line						Pot					
	2001		2002		2003		2001		2002		2003	
	pounds	% of total										
Black rockfish retained total	None observed		177	100%	None observed		None observed		None observed		None observed	
Nearshore rockfish other than black retained total	None observed		1	100%	None observed		None observed		None observed		None observed	
Cabezon retained total	None observed		11	100%	None observed		None observed		None observed		None observed	
Pacific Halibut discarded	15,299	91%	68,922	81%	101,188	84%	2,028	100%	2,081	100%	163	100%
Pacific Halibut retained	1,543	9%	16,197	19%	19,247	16%						
Pacific Halibut total	16,842	100%	85,119	100%	120,435	100%	2,028	100%	2,081	100%	163	100%
Salmon discarded total	None observed		None observed		8	100%	None observed		None observed		None observed	

Table 6. Bycatch ratios of sablefish and 8 overfished species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata ¹	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Sablefish								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	108.4%	120.4%	115.2%	115.7%	102.6%	145.3%	112.2%	123.1%
std. err. of bycatch ratio	0.0969	0.0816	0.0780	0.0511	0.1762	0.1377	0.0709	0.0644
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	100.0%	125.4%	106.4%	119.3%	107.7%	208.4%	No sets	110.2%
std. err. of bycatch ratio		0.2808	0.1906	0.2275	0.2521	2.0824	No sets	0.2528
Bocaccio rockfish								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.000%	0.003%	0.017%	0.009%	0.000%	0.000%	0.000%	0.000%
std. err. of bycatch ratio	0.0969	0.0000	0.0001	0.0000	0.1762	0.1377	0.0709	0.0644
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	No sets	0.000%
std. err. of bycatch ratio		0.2808	0.1906	0.2275	0.2521	2.0824	No sets	0.2528
Canary rockfish								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.000%	0.092%	0.032%	0.047%	0.000%	0.000%	0.000%	0.000%
std. err. of bycatch ratio	0.0969	0.0003	0.0001	0.0001	0.1762	0.1377	0.0709	0.0644
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	0.000%	1.487%	0.908%	1.243%	0.007%	0.000%	No sets	0.007%
std. err. of bycatch ratio		0.0064	0.0075	0.0048	0.0001	2.0824	No sets	0.0001
Cowcod rockfish								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
std. err. of bycatch ratio	0.0969	0.0003	0.0001	0.0001	0.1762	0.1377	0.0709	0.0644
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	No sets	0.000%
std. err. of bycatch ratio		0.0064	0.0075	0.0048	0.0001	2.0824	No sets	0.0001
Widow rockfish								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.000%	0.000%	0.002%	0.001%	0.000%	0.000%	0.000%	0.000%
std. err. of bycatch ratio	0.0969	0.0003	0.00002	0.0000	0.1762	0.1377	0.0709	0.0644
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	0.000%	0.015%	0.000%	0.011%	0.000%	0.000%	No sets	0.000%
std. err. of bycatch ratio		0.0002	0.0075	0.0001	0.0001	2.0824	No sets	0.0001

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² Bycatch ratios are calculated as total pounds caught of each species divided by the retained sablefish poundage.

Table 6 (cont.). Bycatch ratios of sablefish and 8 overfished species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata ¹	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Yelloweye rockfish								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
std. err. of bycatch ratio	0.0001	0.0002	0.0003	0.0001	0.1762	0.0000	0.0709	0.0000
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	0.0%	1.7%	0.5%	1.3%	0.0%	0.0%	No sets	0.0%
std. err. of bycatch ratio		0.0057	0.0048	0.0042	0.0001	2.0824	No sets	0.0001
Darkblotched rockfish								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.004%	0.032%	0.063%	0.041%	0.007%	0.005%	0.013%	0.010%
std. err. of bycatch ratio	0.0000	0.0001	0.0002	0.0001	0.0000	0.0000	0.0001	0.0000
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	No sets	0.000%
std. err. of bycatch ratio		0.0057	0.0048	0.0042	0.0001	2.0824	No sets	0.0001
Pacific ocean perch								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.000%	0.047%	0.006%	0.020%	0.000%	0.001%	0.000%	0.000%
std. err. of bycatch ratio	0.0000	0.0002	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	0.000%	0.011%	0.000%	0.008%	0.000%	0.000%	No sets	0.000%
std. err. of bycatch ratio		0.0000	0.0048	0.0000	0.0001	2.0824	No sets	0.0001
Lingcod								
deep								
no. of observed sets	80	290	311	681	27	239	279	545
bycatch ratio ²	0.033%	0.389%	0.647%	0.440%	4.182%	0.357%	0.055%	0.343%
std. err. of bycatch ratio	0.0002	0.0008	0.0012	0.0006	0.0134	0.0009	0.0003	0.0007
shallow								
no. of observed sets	1	58	11	70	41	2	No sets	43
bycatch ratio ²	1.003%	2.097%	5.749%	2.780%	6.317%	0.000%	No sets	6.161%
std. err. of bycatch ratio		0.0078	0.0307	0.0090	0.0169	2.0824	No sets	0.0165

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² Bycatch ratios are calculated as total pounds caught of each species divided by the retained sablefish poundage.

Table 7. Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Bocaccio rockfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		100.0%	0.0%	11.4%				
std. err. of species discard %		1.0000		0.0510				
discarded lb per unit of effort ²	Not observed	0.002	0.000	0.001	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort		0.0019		0.0007				
discarded lb per retained sablefish lb		0.003%	0.000%	0.001%				
std. err. of discard lb/sablefish lb		0.0000		0.0000				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								
Canary rockfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		89.3%	100.0%	92.6%				
std. err. of species discard %		0.4224	0.3599	0.3249				
discarded lb per unit of effort 2	Not observed	0.054	0.023	0.030	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort		0.0211	0.0063	0.0081				
discarded lb per retained sablefish lb		0.082%	0.032%	0.043%				
std. err. of discard lb/sablefish lb		0.0003	0.0001	0.0001				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		97.4%	16.4%	84.9%	100.0%			100.0%
std. err. of species discard %		0.5513	0.1352	0.4238	1.0000			1.0000
discarded lb per unit of effort 2	Not observed	1.126	0.100	0.825	0.000	0.000	Not observed	0.000
std. err. of discard lb/effort		0.4931	0.0674	0.3627	0.0001			0.0001
discarded lb per retained sablefish lb		1.448%	0.149%	1.055%	0.007%	0.000%		0.007%
std. err. of discard lb/sablefish lb		0.0064	0.0008	0.0046	0.0001		0.0001	

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Cowcod rockfish								
Depth strata 1								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								
Widow rockfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage			100.0%	100.0%				
std. err. of species discard %			1.0000	1.0000				
discarded lb per unit of effort 2	Not observed	Not observed	0.002	0.001	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort			0.0017	0.0007				
discarded lb per retained sablefish lb			0.002%	0.001%				
std. err. of discard lb/sablefish lb			0.0000	0.0000				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		100.0%		100.0%				
std. err. of species discard %		1.0000		1.0000				
discarded lb per unit of effort 2	Not observed	0.012	Not observed	0.008	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort		0.0119		0.0084				
discarded lb per retained sablefish lb		0.015%		0.011%				
std. err. of discard lb/sablefish lb		0.0002		0.0001				

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Yelloweye rockfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	0.0%	85.6%	87.5%	85.2%				
std. err. of species discard %		0.2835	0.2161	0.1732				
discarded lb per unit of effort 2	0.000	0.035	0.097	0.053	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort		0.0096	0.0196	0.0087				
discarded lb per retained sablefish lb	0.000%	0.053%	0.130%	0.078%				
std. err. of discard lb/sablefish lb		0.0001	0.0003	0.0001				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		96.9%	100.0%	97.1%				
std. err. of species discard %		0.4239	0.9889	0.4042				
discarded lb per unit of effort 2	Not observed	1.283	0.351	0.998	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort		0.4340	0.3312	0.3382				
discarded lb per retained sablefish lb		1.650%	0.520%	1.276%				
std. err. of discard lb/sablefish lb		0.0057	0.0048	0.0042				
Darkblotched rockfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	0.0%	36.1%	16.1%	21.3%	100.0%	0.0%	0.0%	2.9%
std. err. of species discard %		0.1395	0.0638	0.0641	0.8580			0.0104
discarded lb per unit of effort 2	0.000	0.008	0.008	0.006	0.000	0.000	0.000	0.000
std. err. of discard lb/effort		0.0027	0.0047	0.0022	0.0002			0.0000
discarded lb per retained sablefish lb	0.000%	0.011%	0.010%	0.009%	0.007%	0.000%	0.000%	0.000%
std. err. of discard lb/sablefish lb		0.0000	0.0001	0.0000	0.0000			0.0000
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Pacific ocean perch								
Depth strata 1								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		0.0%	12.8%	1.9%		0.0%		0.0%
std. err. of species discard %			0.0698	0.0069				
discarded lb per unit of effort 2	Not observed	0.000	0.001	0.000	Not observed	0.000	Not observed	0.000
std. err. of discard lb/effort			0.0004	0.0002				
discarded lb per retained sablefish lb		0.000%	0.001%	0.000%		0.000%		0.000%
std. err. of discard lb/sablefish lb			0.0000	0.0000				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		0.0%		0.0%				
std. err. of species discard %				0.000				
discarded lb per unit of effort 2	Not observed	0.000	Not observed	0.000	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort				0.000%				
discarded lb per retained sablefish lb		0.000%		0.000%				
std. err. of discard lb/sablefish lb								
Lingcod								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	100.0%	37.6%	30.0%	33.4%	94.5%	0.0%	79.1%	59.3%
std. err. of species discard %	0.8623	0.0931	0.0557	0.0497	0.3904		0.4749	0.1668
discarded lb per unit of effort 2	0.020	0.097	0.144	0.100	0.169	0.000	0.002	0.011
std. err. of discard lb/effort	0.0138	0.0395	0.0366	0.0211	0.0574		0.0012	0.0036
discarded lb per retained sablefish lb	0.033%	0.146%	0.194%	0.147%	3.953%	0.000%	0.044%	0.203%
std. err. of discard lb/sablefish lb	0.0002	0.0006	0.0005	0.0003	0.0134		0.0002	0.0007
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage	0.0%	18.9%	27.0%	21.9%	99.8%			99.8%
std. err. of species discard %		0.0719	0.1527	0.0724	0.2892			0.2928
discarded lb per unit of effort 2	0.000	0.308	1.045	0.475	0.122	Not observed	Not observed	0.120
std. err. of discard lb/effort		0.2429	1.0094	0.3018	0.0295			0.0293
discarded lb per retained sablefish lb	0.000%	0.396%	1.550%	0.608%	6.303%			6.148%
std. err. of discard lb/sablefish lb		0.0031	0.0148	0.0038	0.0169			0.0165

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Sablefish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	7.7%	16.9%	13.2%	13.6%	2.6%	31.2%	10.9%	18.8%
std. err. of species discard %	0.0049	0.0083	0.0063	0.0043	0.0031	0.0209	0.0050	0.0071
discarded lb per unit of effort 2	4.932	13.461	11.322	10.712	0.113	3.646	0.576	1.265
std. err. of discard lb/effort	0.6919	1.4135	1.3639	0.7766	0.0483	0.4577	0.0605	0.1051
discarded lb per retained sablefish lb	8.351%	20.368%	15.233%	15.749%	2.644%	45.321%	12.218%	23.145%
std. err. of discard lb/sablefish lb	0.0122	0.0211	0.0163	0.0108	0.0113	0.0514	0.0125	0.0183
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage	0.0%	20.3%	6.0%	16.2%	7.2%	52.0%		9.3%
std. err. of species discard %		0.0475	0.0073	0.0299	0.0117	0.5151		0.0149
discarded lb per unit of effort 2	0.000	19.783	4.296	15.105	0.149	3.378	Not observed	0.199
std. err. of discard lb/effort		13.3890	2.4319	9.6198	0.0595	3.3784		0.0779
discarded lb per retained sablefish lb	0.000%	25.437%	6.374%	19.328%	7.748%	108.398%		10.231%
std. err. of discard lb/sablefish lb		0.1728	0.0187	0.1224	0.0320	1.0840		0.0414
Pacific hake								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	100.0%	89.3%	100.0%	95.9%	100.0%			100.0%
std. err. of species discard %	0.5129	0.4718	0.5390	0.3030	1.0000			1.0000
discarded lb per unit of effort 2	0.035	0.020	0.014	0.021	0.000	Not observed	Not observed	0.000
std. err. of discard lb/effort	0.0131	0.0087	0.0056	0.0049	0.0003			0.0000
discarded lb per retained sablefish lb	0.059%	0.031%	0.019%	0.030%	0.007%			0.000%
std. err. of discard lb/sablefish lb	0.0002	0.0001	0.0001	0.0001	0.0001			0.0000
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		100.0%		100.0%				
std. err. of species discard %		0.6824		0.6848				
discarded lb per unit of effort 2		0.058		0.041				
std. err. of discard lb/effort	Not observed	0.0305	Not observed	0.0221	Not observed	Not observed	Not observed	Not observed
discarded lb per retained sablefish lb		0.075%		0.053%				
std. err. of discard lb/sablefish lb		0.0004		0.0003				

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Roundfish other than lingcod, sablefish and hake								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	100.0%	81.7%	40.8%	64.9%	Not observed	5.5%	77.0%	76.5%
std. err. of species discard %	0.6158	0.5575	0.0680	0.1789		0.0426	0.1775	0.1797
discarded lb per unit of effort 2	0.188	0.165	0.109	0.146		0.000	0.035	0.025
std. err. of discard lb/effort	0.0871	0.1042	0.0252	0.0438		0.0000	0.0072	0.0052
discarded lb per retained sablefish lb	0.319%	0.250%	0.146%	0.215%		0.001%	0.736%	0.451%
std. err. of discard lb/sablefish lb	0.0015	0.0016	0.0003	0.0006	0.0000	0.0015	0.0009	
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage	Not observed	2.6%	4.7%	4.2%	Not observed	Not observed	Not observed	Not observed
std. err. of species discard %		0.0078	0.0188	0.0153				
discarded lb per unit of effort 2		0.005	0.087	0.025				
std. err. of discard lb/effort		0.0037	0.0571	0.0119				
discarded lb per retained sablefish lb		0.006%	0.129%	0.032%				
std. err. of discard lb/sablefish lb	0.0000	0.0006	0.0002					
Dover sole								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	100.0%	97.9%	92.7%	96.7%	75.2%	62.6%	27.3%	45.5%
std. err. of species discard %	0.8965	0.9529	0.2199	0.8002	0.3764	0.1172	0.0527	0.0603
discarded lb per unit of effort 2	0.006	0.497	0.131	0.237	0.005	0.022	0.003	0.008
std. err. of discard lb/effort	0.0044	0.4458	0.0257	0.1625	0.0021	0.0044	0.0010	0.0012
discarded lb per retained sablefish lb	0.010%	0.751%	0.176%	0.348%	0.109%	0.268%	0.066%	0.138%
std. err. of discard lb/sablefish lb	0.0001	0.0067	0.0003	0.0024	0.0005	0.0005	0.0002	0.0002
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage	Not observed	50.0%	Not observed	50.0%	Not observed	Not observed	Not observed	100.0%
std. err. of species discard %		0.2523		0.2535				0.4705
discarded lb per unit of effort 2		0.014		0.010				0.003
std. err. of discard lb/effort		0.0093		0.0067				0.0010
discarded lb per retained sablefish lb		0.019%		0.013%				0.139%
std. err. of discard lb/sablefish lb	0.0001	0.0001	0.0005					

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Arrowtooth flounder								
Depth strata 1								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	99.7%	64.2%	70.5%	71.3%	100.0%	48.9%	89.6%	80.2%
std. err. of species discard %	0.8730	0.1369	0.1056	0.1201	0.5628	0.1509	0.3570	0.2468
discarded lb per unit of effort 2	1.290	1.797	1.676	1.636	0.005	0.007	0.013	0.011
std. err. of discard lb/effort	0.9303	0.4152	0.2655	0.2755	0.0022	0.0015	0.0041	0.0029
discarded lb per retained sablefish lb	2.184%	2.719%	2.254%	2.405%	0.118%	0.083%	0.266%	0.197%
std. err. of discard lb/sablefish lb	0.0158	0.0063	0.0034	0.0040	0.0005	0.0002	0.0009	0.0005
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage	100.0%	67.1%	17.9%	43.5%	100.0%			100.0%
std. err. of species discard %		0.2298	0.0506	0.1320	0.7855			0.7860
discarded lb per unit of effort 2	11.707	0.927	1.492	1.543	0.002	Not observed	Not observed	0.002
std. err. of discard lb/effort		0.2804	1.2329	0.6375	0.0012			0.0012
discarded lb per retained sablefish lb	8.137%	1.193%	2.214%	1.975%	0.097%			0.095%
std. err. of discard lb/sablefish lb		0.0037	0.0168	0.0080	0.0006			0.0006
Petrole sole								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		5.1%	11.1%	6.6%		0.0%		0.0%
std. err. of species discard %		0.0108	0.0269	0.0114				
discarded lb per unit of effort 2	Not observed	0.006	0.004	0.004	Not observed	0.000	Not observed	0.000
std. err. of discard lb/effort		0.0019	0.0016	0.0010				
discarded lb per retained sablefish lb		0.008%	0.005%	0.005%		0.000%		0.000%
std. err. of discard lb/sablefish lb		0.0000	0.0000	0.0000				
shallow								
number of observed sets	1	58	11	70	41	2		43
species discard percentage		2.4%	35.3%	4.0%	100.0%			100.0%
std. err. of species discard %		0.0069	0.1924	0.0110	1.0000			1.0000
discarded lb per unit of effort 2	Not observed	0.014	0.031	0.018	0.000	Not observed	Not observed	0.000
std. err. of discard lb/effort		0.0083	0.0311	0.0098	0.0001			0.0001
discarded lb per retained sablefish lb		0.019%	0.046%	0.023%	0.007%			0.007%
std. err. of discard lb/sablefish lb		0.0001	0.0005	0.0001	0.0001			0.0001

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Other flatfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		0.0%		0.0%			0.0%	0.0%
std. err. of species discard %								
discarded lb per unit of effort 2		0.000		0.000			0.000	0.000
std. err. of discard lb/effort	Not observed		Not observed		Not observed	Not observed		
discarded lb per retained sablefish lb		0.000%		0.000%			0.000%	0.000%
std. err. of discard lb/sablefish lb								
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		0.0%		0.0%				
std. err. of species discard %								
discarded lb per unit of effort 2		0.000		0.000				
std. err. of discard lb/effort	Not observed		Not observed		Not observed	Not observed	Not observed	Not observed
discarded lb per retained sablefish lb		0.000%		0.000%				
std. err. of discard lb/sablefish lb								
Longspine thornyhead								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		0.4%		0.4%		32.1%	69.7%	61.5%
std. err. of species discard %		0.0025		0.0025		0.2076	0.3871	0.2839
discarded lb per unit of effort 2		0.000		0.000		0.000	0.000	0.000
std. err. of discard lb/effort	Not observed	0.0001	Not observed	0.0000	Not observed	0.0000	0.0000	0.0000
discarded lb per retained sablefish lb		0.000%		0.000%		0.000%	0.001%	0.001%
std. err. of discard lb/sablefish lb		0.0000		0.0000		0.0000	0.0000	0.0000
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2								
std. err. of discard lb/effort	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Shortspine thornyhead								
Depth strata 1								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	28.1%	4.5%	7.0%	17.3%	100.0%	15.6%	4.5%	6.6%
std. err. of species discard %	0.0829	0.0099	0.0118	0.0298	1.0000	0.0540	0.0136	0.0182
discarded lb per unit of effort 2	0.321	0.014	0.020	0.083	0.001	0.000	0.000	0.000
std. err. of discard lb/effort	0.1287	0.0035	0.0046	0.0288	0.0014	0.0003	0.0002	0.0002
discarded lb per retained sablefish lb	0.544%	0.021%	0.027%	0.123%	0.032%	0.004%	0.008%	0.008%
std. err. of discard lb/sablefish lb	0.0022	0.0001	0.0001	0.0004	0.0003	0.0000	0.0000	0.0000
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage			27.8%	27.8%				
std. err. of species discard %			0.2785	0.2785				
discarded lb per unit of effort 2	Not observed	Not observed	0.009	0.002	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort			0.0094	0.0023				
discarded lb per retained sablefish lb			0.014%	0.003%				
std. err. of discard lb/sablefish lb			0.0001	0.0000				
Mixed thornyheads								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	28.7%	6.2%	2.7%	22.8%				
std. err. of species discard %	0.1764	0.0530	0.0076	0.1136				
discarded lb per unit of effort 2	0.062	0.002	0.000	0.014	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort	0.0623	0.0012	0.0003	0.0135				
discarded lb per retained sablefish lb	0.105%	0.003%	0.000%	0.021%				
std. err. of discard lb/sablefish lb	0.0011	0.0000	0.0000	0.0002				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Yellowtail rockfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		33.4%	13.4%	21.5%				
std. err. of species discard %		0.1755	0.0298	0.0544				
discarded lb per unit of effort 2	Not observed	0.016	0.008	0.009	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort		0.0102	0.0042	0.0041				
discarded lb per retained sablefish lb		0.024%	0.011%	0.013%				
std. err. of discard lb/sablefish lb		0.0002	0.0001	0.0001				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		13.5%	0.0%	8.2%				
std. err. of species discard %		0.0663		0.0400				
discarded lb per unit of effort 2	Not observed	0.005	0.000	0.004	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort		0.0053		0.0038				
discarded lb per retained sablefish lb		0.007%	0.000%	0.005%				
std. err. of discard lb/sablefish lb		0.0001		0.0000				
Shelf rockfish other than those listed individually								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	48.0%	57.2%	32.9%	39.9%	64.4%	0.0%	0.0%	4.3%
std. err. of species discard %	0.2773	0.1141	0.0466	0.0466	0.3762			0.0101
discarded lb per unit of effort 2	0.006	0.092	0.118	0.084	0.001	0.000	0.000	0.000
std. err. of discard lb/effort	0.0024	0.0177	0.0247	0.0120	0.0004			0.0000
discarded lb per retained sablefish lb	0.010%	0.140%	0.159%	0.124%	0.017%	0.000%	0.000%	0.001%
std. err. of discard lb/sablefish lb	0.0000	0.0003	0.0003	0.0002	0.0001			0.0000
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		54.7%	17.9%	50.1%	100.0%			100.0%
std. err. of species discard %		0.1428	0.0307	0.1155	0.9576			0.9577
discarded lb per unit of effort 2	Not observed	1.089	0.149	0.810	0.000	Not observed	Not observed	0.000
std. err. of discard lb/effort		0.3223	0.0991	0.2490	0.0001			0.0001
discarded lb per retained sablefish lb		1.400%	0.221%	1.036%	0.009%			0.009%
std. err. of discard lb/sablefish lb		0.0043	0.0011	0.0031	0.0001			0.0001

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Slope rockfish other than darkblotched and POP								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	2.6%	14.6%	11.9%	12.3%	53.4%	1.3%	0.0%	1.8%
std. err. of species discard %	0.0089	0.0231	0.0162	0.0125	0.3005	0.0033		0.0028
discarded lb per unit of effort 2	0.010	0.209	0.309	0.208	0.004	0.000	0.000	0.000
std. err. of discard lb/effort	0.0091	0.0726	0.0852	0.0441	0.0020	0.0002		0.0001
discarded lb per retained sablefish lb	0.018%	0.317%	0.416%	0.306%	0.091%	0.004%	0.000%	0.006%
std. err. of discard lb/sablefish lb	0.0002	0.0011	0.0011	0.0006	0.0005	0.0000		0.0000
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage		100.0%	1.9%	20.5%	100.0%			100.0%
std. err. of species discard %		0.9950	0.0106	0.1093	0.7544			0.7550
discarded lb per unit of effort 2	Not observed	0.115	0.028	0.089	0.002	Not observed	Not observed	0.002
std. err. of discard lb/effort		0.1094	0.0276	0.0781	0.0015			0.0014
discarded lb per retained sablefish lb		0.148%	0.041%	0.113%	0.127%			0.124%
std. err. of discard lb/sablefish lb		0.0014	0.0004	0.0010	0.0008			0.0007
Black rockfish								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		0.0%		0.0%				
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	0.000	Not observed	0.000	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb		0.000%		0.000%				
std. err. of discard lb/sablefish lb								
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Nearshore rockfish other than black								
Depth strata 1								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage		0.0%		0.0%				
std. err. of species discard %								
discarded lb per unit of effort 2		0.000		0.000				
std. err. of discard lb/effort	Not observed		Not observed		Not observed	Not observed	Not observed	Not observed
discarded lb per retained sablefish lb		0.000%		0.000%				
std. err. of discard lb/sablefish lb								
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2								
std. err. of discard lb/effort	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								
California halibut								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2								
std. err. of discard lb/effort	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2								
std. err. of discard lb/effort	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 7 (cont.). Three measures of discard, and associated standard errors, for selected species in the limited entry, fixed-gear primary sablefish fishery, by gear, year, and depth strata.

Species Depth strata 1	Hook and line				Pot			
	2001	2002	2003	All years	2001	2002	2003	All years
Pacific halibut								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage	90.9%	82.5%	84.1%	84.1%	100.0%	100.0%	100.0%	100.0%
std. err. of species discard %	0.3174	0.1452	0.1139	0.0872	0.7069	0.6369	0.7040	0.4970
discarded lb per unit of effort 2	4.747	10.694	16.729	11.931	0.138	0.097	0.003	0.032
std. err. of discard lb/effort	1.3277	1.6375	2.2131	1.1060	0.0759	0.0469	0.0014	0.0118
discarded lb per retained sablefish lb	8.038%	16.180%	22.508%	17.542%	3.214%	1.201%	0.054%	0.588%
std. err. of discard lb/sablefish lb	0.0227	0.0246	0.0271	0.0157	0.0177	0.0058	0.0003	0.0021
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage	89.8%	75.5%	81.2%	76.8%	100.0%	100.0%		100.0%
std. err. of species discard %		0.2163	0.2849	0.1867	0.7017	1.0000		0.6874
discarded lb per unit of effort 2	20.612	22.872	12.130	20.136	0.108	0.176	Not observed	0.109
std. err. of discard lb/effort		6.0704	7.0953	5.0890	0.0592	0.1757		0.0584
discarded lb per retained sablefish lb	14.327%	29.410%	17.998%	25.765%	5.609%	5.639%		5.610%
std. err. of discard lb/sablefish lb		0.0812	0.0610	0.0611	0.0312	0.0564		0.0305
Salmon								
deep								
number of observed sets	80	290	311	681	27	239	279	545
species discard percentage			100.0%	100.0%				
std. err. of species discard %			1.0000	1.0000				
discarded lb per unit of effort 2	Not observed	Not observed	0.001	0.001	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort			0.0014	0.0006				
discarded lb per retained sablefish lb			0.002%	0.001%				
std. err. of discard lb/sablefish lb			0.0000	0.0000				
shallow								
number of observed sets	1	58	11	70	41	2	0	43
species discard percentage								
std. err. of species discard %								
discarded lb per unit of effort 2	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed
std. err. of discard lb/effort								
discarded lb per retained sablefish lb								
std. err. of discard lb/sablefish lb								

¹ The depths used to partition sets into deep and shallow strata were 100 fm north of 40°10' N. lat., and 150 fm south of 40°10' N. lat.

² The unit of effort is calculated as (set hours) times (number of hooks) divided by 1,000. Thus, the values shown are 1,000 times larger than would result from dividing discarded pounds by [(set hours) times (number of hooks)].

Table 8a. Comparison of sablefish discard and bycatch of overfished species among depth strata, using only sets that were designated as sablefish target sets from all years, for both gear types.

	Depth category of set						
	0-100 fm	100-125 fm	125-150 fm	>150 fm	>125 fm	>100 fm	All depths
Number of sets observed	155	221	142	811	953	1,174	1,329
Sablefish catch (lb)	159,465	279,651	199,378	1,187,915	1,387,293	1,666,944	1,826,410
retained (lb)	138,960	254,222	180,436	971,497	1,151,933	1,406,155	1,545,115
discard / catch	12.9%	9.1%	9.5%	18.2%	17.0%	15.6%	15.4%
Lingcod catch (lb)	4,331	2,415	1,240	1,273	2,514	4,929	9,260
bycatch ratio ¹	3.117%	0.950%	0.687%	0.131%	0.218%	0.351%	0.599%
Widow rockfish catch (lb)	7	10	0	0	0	10	18
bycatch ratio ¹	0.005%	0.004%	0.000%	0.000%	0.000%	0.001%	0.001%
Canary rockfish catch (lb)	855	231	173	22	195	426	1,280
bycatch ratio ¹	0.615%	0.091%	0.096%	0.002%	0.017%	0.030%	0.083%
Yelloweye rockfish catch (lb)	615	420	247	166	413	833	1,448
bycatch ratio ¹	0.443%	0.165%	0.137%	0.017%	0.036%	0.059%	0.094%
Bocaccio rockfish catch (lb)	0	0	0	0	0	0	0
bycatch ratio ¹	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Cowcod rockfish catch (lb)	0	0	0	0	0	0	0
bycatch ratio ¹	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Pacific ocean perch catch (lb)	6	12	36	141	178	189	195
bycatch ratio ¹	0.004%	0.005%	0.020%	0.015%	0.015%	0.013%	0.013%
Darkblotched rockfish catch (lb)	1	16	34	389	422	438	439
bycatch ratio ¹	0.000%	0.006%	0.019%	0.040%	0.037%	0.031%	0.028%

¹ The bycatch ratios are calculated by dividing the total catch of each species by the retained poundage of sablefish

Table 8b. Comparison of sablefish discard and bycatch of overfished species among depth strata, using only sets that were designated as sablefish target sets from all years, for **longline** gear.

	Depth category of set						
	0-100 fm	100-125 fm	125-150 fm	>150 fm	>125 fm	>100 fm	All depths
Number of sets observed	105	192	125	318	443	635	740
Sablefish catch (lb)	126,187	255,858	188,494	617,359	805,853	1,061,712	1,187,899
retained (lb)	108,240	235,191	171,574	509,086	680,660	915,851	1,024,091
discard / catch	14.2%	8.1%	9.0%	17.5%	15.5%	13.7%	13.8%
Lingcod catch (lb)	2,320	1,753	1,101	902	2,003	3,756	6,076
bycatch ratio ¹	2.144%	0.745%	0.642%	0.177%	0.294%	0.410%	0.593%
Widow rockfish catch (lb)	7	10	0	0	0	10	18
bycatch ratio ¹	0.007%	0.004%	0.000%	0.000%	0.000%	0.001%	0.002%
Canary rockfish catch (lb)	853	231	173	22	195	426	1,279
bycatch ratio ¹	0.788%	0.098%	0.101%	0.004%	0.029%	0.046%	0.125%
Yelloweye rockfish catch (lb)	615	418	247	166	413	831	1,446
bycatch ratio ¹	0.568%	0.178%	0.144%	0.033%	0.061%	0.091%	0.141%
Bocaccio rockfish catch (lb)	0	0	0	0	0	0	0
bycatch ratio ¹	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Cowcod rockfish catch (lb)	0	0	0	0	0	0	0
bycatch ratio ¹	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Pacific ocean perch catch (lb)	6	12	34	141	175	187	193
bycatch ratio ¹	0.005%	0.005%	0.020%	0.028%	0.026%	0.020%	0.019%
Darkblotched rockfish catch (lb)	0	15	34	340	374	389	389
bycatch ratio ¹	0.000%	0.006%	0.020%	0.067%	0.055%	0.042%	0.038%

¹ The bycatch ratios are calculated by dividing the total catch of each species by the retained poundage of sablefish

Table 8c. Comparison of sablefish discard and bycatch of overfished species among depth strata, using only sets that were designated as sablefish target sets from all years, for **pot** gear.

	Depth category of set						
	0-100 fm	100-125 fm	125-150 fm	>150 fm	>125 fm	>100 fm	All depths
Number of sets observed	50	29	17	493	510	539	589
Sablefish catch (lb)	33,278	23,793	10,884	570,556	581,440	605,233	638,511
retained (lb)	30,720	19,031	8,862	462,412	471,273	490,304	521,024
discard / catch	7.7%	20.0%	18.6%	19.0%	18.9%	19.0%	18.4%
Lingcod catch (lb)	2,011	662	139	372	511	1,173	3,184
bycatch ratio ¹	6.546%	3.481%	1.568%	0.080%	0.108%	0.239%	0.611%
Widow rockfish catch (lb)	0	0	0	0	0	0	0
bycatch ratio ¹	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Canary rockfish catch (lb)	2	0	0	0	0	0	2
bycatch ratio ¹	0.006%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Yelloweye rockfish catch (lb)	0	2	0	0	0	2	2
bycatch ratio ¹	0.000%	0.011%	0.000%	0.000%	0.000%	0.000%	0.000%
Bocaccio rockfish catch (lb)	0	0	0	0	0	0	0
bycatch ratio ¹	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Cowcod rockfish catch (lb)	0	0	0	0	0	0	0
bycatch ratio ¹	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Pacific ocean perch catch (lb)	0	0	2	0	2	2	2
bycatch ratio ¹	0.000%	0.000%	0.023%	0.000%	0.000%	0.000%	0.000%
Darkblotched rockfish catch (lb)	1	1	0	49	49	50	50
bycatch ratio ¹	0.002%	0.004%	0.000%	0.011%	0.010%	0.010%	0.010%

¹ The bycatch ratios are calculated by dividing the total catch of each species by the retained poundage of sablefish