

SUMMARY OF THE 1999 LIMITED-ENTRY, FIXED-GEAR PRIMARY FISHERY FOR SABLEFISH,
AND RECOMMENDATIONS FOR THE 2000 SEASON

The 1999 3-tiered fishery had a 9-day opening with limits around 85,000 lb, 38,000 lb, and 22,000 lb for Tiers 1 through 3, respectively. The projected landings during this phase of the fishery were just over 4.5 million lb. The preliminary tally of poundage conducted shortly after the close of the fishery indicated that nearly 4.6 million lb had been taken. This estimate proved to be almost 300,000 lb too high, though 125,000 lb were landed during the fishery by vessels that could not be linked to limited-entry permits. In order to differentiate this fishery from an individual quota program, it is managed with the intent that not all permits with tier endorsements will be able to take their entire limits. The difference between what could have been caught and what was actually caught is referred to as "overhead", with the desired level of overhead being greater than 20%. Projected overhead with last year's season length and limits was 31%, however the 4.3 million lb taken by authorized participants resulted in an overhead of 37%.

Participation and landings in the 1999 fishery are summarized in Table 1, by tier, gear, and state. It had been anticipated that increased limits for the 1999 fishery would reduce the absenteeism observed among Tier-3 permits in 1998. However, 21 of 94 permits in this tier did not participate in 1999. Figure 1 illustrates the accuracy of projections used for the 1999 fishery. Although projections for some individual permits were highly inaccurate, the purpose of the projections is to estimate the fleet's landings, and not any individual's. Importantly, this scatter plot shows a good balance of projections that were too high and too low. Average landings within the tiers had been expected to be roughly 65,000 lb, 29,000 lb, and 17,000 lb. Actual averages, over all permits, within each of Tier 1 and Tier 2 were within 4% of the expected amounts. Despite the fact that Tier-3 participants averaged just over the projection of 17,000 lb, the high rate of absenteeism produced an average of only 13,200 lb for all permits in that tier.

Three sets of parameter options for the 2000 fishery are presented in Table 2. It should be noted that since last year's analysis, an additional permit has applied for and received a Tier 1 endorsement, making a total of 164. Additionally, another permit's assignment has been corrected from Tier 3 to Tier 2. The projected increase in landings attributable to these permits, as well as other permits where highest catch rates were observed in 1999, results in somewhat lower limit recommendations for 2000, despite modeling efforts to reduce the likelihood of realizing excessive overhead. As with the model which last year's fishery was based upon, worst-case scenarios for 2000 were constructed using one additional day of fishing for all permits, up to the specified limits. So for a 10-day fishery, the worst-case scenario is based on the fleet landing amounts that would be projected for an 11-day fishery. Limits are set so that the total poundage allocated to this fishery would be achieved under the worst case scenario. Basing the worst case scenario on only one additional day of fishing allows the minimum 15% overhead to be achieved with more liberal season length/limits than prior to 1999, when a 2-day buffer was used. After permits' catching abilities are constrained by the appropriate limits, their landings are reduced by 2%, reflecting the fact that not everyone will fish fully up to their limit.

The differences between the first two options reflect differing assumptions regarding the degree to which permits in a particular tier will tend to achieve their highest observed catch rate, and the degree to which expected landings are reduced for recent non-participants. The more conservative approach shown in Option 2 uses the same reductions in catching ability employed in last year's preferred model. Catching capacities are reduced by 5%, 15%, and 25% for Tiers 1-3, respectively, before they are constrained by the limits. The projected landings of a Tier 1 permit, for instance, would be unaffected by this adjustment as long as the original expected catch was more than 5% greater than the limit. Based on comparison of projected and actual landings in the 1999 fishery, the upper panel uses more aggressive reductions of 8%, 20%, and 40% for Tiers 1-3, respectively. This approach is riskier, in that it assumes a high degree of continuing non-participation among Tier 3 permits. Option 2 also uses a more conservative approach in discounting expected landings by recent non-participants. After a permit's modified catching capacity is constrained by the limit (with the 2% reduction mentioned), expected landings are reduced by up to 40%, for a permit that did not participate at all from 1997 to 1999. Twenty percent is deducted for missing 1999 and 10% for each of the preceding years. Option 1 uses more aggressive discounts of 30% and 20% for missing 1999 and 1998, respectively, yielding a maximum possible reduction of 60% from the original

projected landings.

Options 1 and 2 were designed to provide the longest possible season lengths where expected and worst-case overhead meet the desired objectives. Following discussions with the Groundfish Advisory Panel, Option 3 was developed, which identifies tier limits associated with assumptions underlying Option 1, but using a 9-day season, instead of a 10-day season. The Option 3 limits are very similar to those employed in the 1999 fishery. Expected overhead in Option 3 is considerably higher than the other two options.

The bottom panel presents a rudimentary decision table showing possible consequences of applying the limits from one of the options under the two alternative sets of assumptions used in modeling fleet participation. In particular, if the highest limits, from Option 3, were used, and participation reflects the modeling assumptions of Option 2, the expected landings would be 777,178, which is about 65,000 lb greater than the poundage allocated to the primary fishery (including mop-up). The highest limits where the expected catch under the Option 2 assumptions would not exceed this allocation would be 81,000 lb for Tier 1, 37,000 lb for Tier 2, and 21,000 lb for Tier 3.

Table 1.--Participation in the 1999 limited-entry fixed-gear primary sablefish season, by tier, gear, and state.

	Tier 1			Tier 2			Tier 3			All permits
	Longline	Pot	All	Longline	Pot	All	Longline	Pot	All	
Number of permits	10	17	27	37	6	43	85	9	94	164
Avg. lbs/permit	61,399	71,137	67,530	28,680	31,244	29,038	13,156	13,814	13,219	26,308
Permit avg. / cum. Limit	71%	83%	79%	75%	82%	76%	60%	63%	60%	
3-tiered fishery										
1999 participants	9	17	26	33	6	39	66	7	73	138
Total landings (lb)	613,987	1,209,335	1,823,322	1,061,151	187,462	1,248,613	1,118,222	124,324	1,242,546	4,314,481
Avg. lbs/participant	68,221	71,137	70,128	32,156	31,244	32,016	16,943	17,761	17,021	31,264
Cum. Limits (lb)	86,000	86,000	86,000	38,000	38,000	38,000	22,000	22,000	22,000	
Part. avg. / cum. Limit	79%	83%	82%	85%	82%	84%	77%	81%	77%	
Landings by state										
California	84,094		84,094	52,032	88,529	140,561	234,739	27,000	261,739	486,394
Oregon	307,471	1,146,071	1,453,542	404,166	98,933	503,098	500,051	76,571	576,622	2,533,262
Washington	222,422	63,264	285,686	604,954		604,954	383,432	20,753	404,185	1,294,825
Mop-up										
1999 participants	3	9	12	14	4	18	39	3	42	102
Total landings	3,207	9,256	12,463	14,834	4,341	19,175	38,767	2,848	41,615	104,891

	Poundage from vessels not linked to permits at the time of landing		
	HKL	POT	All
California	21,240	1,182	22,422
Oregon	94,322		94,322
Washington	7,691		7,691
Total	123,253	1,182	124,435

Comparison of preliminary and final numbers			
Preliminary		Final	
Pounds	Permits	Pounds	Permits
790,899	29	486,394	24
2,578,539	69	2,533,262	63
1,227,089	51	1,294,825	53
4,596,527	149	4,314,481	140 (138 unique)

Table 2.—Options for the duration and cumulative limits for the 2000 primary season of the Limited-entry, fixed-gear sablefish fishery.

Option 1: 10-day fishery, using tier-specific %'s (92-80-60) of maximum observed catch rates with a landings reduction of 2% and reductions for permits not fishing in 1999-1997 (.3:.2:.1)

	Tier 1	Tier 2	Tier 3	Total	Worst Case (1-day differential)
# of permits	27	43	94		
Cumulative Limit	79,460	35,910	20,629	5,628,686	5,557,815
Expected average	69,993	29,664	14,522	4,530,446	4,711,315
Overhead	114%	121%	142%	124%	119%
Expected Mop-up lbs.	1,103	1,103	1,103		
Cum. Limit + Mop-up	80,563	37,013	21,732		

More conservative approach

Option 2: 9-day fishery, using higher tier-specific %'s (95-85-75) of maximum observed catch rates with landings reduction of 2% and smaller reductions for permits not fishing in 1999-1997 (.2:.1:.1)

	Tier 1	Tier 2	Tier 3	Total	Worst Case (1-day differential)
# of permits	27	43	94		
Cumulative Limit	76,889	34,748	19,962	5,446,553	5,446,553
Expected average	66,534	29,089	15,601	4,513,747	4,711,315
Overhead	116%	119%	128%	121%	116%
Expected Mop-up lbs.	1,205	1,205	1,205		
Cum. Limit + Mop-up	78,094	35,953	21,166		

Higher limit option : Shorter season with less conservative assumptions

Option 3: 9-day fishery, using tier-specific %'s (92-80-60) of maximum observed catch rates with a landings reduction of 2% and reductions for permits not fishing in 1999-1997 (.3:.2:.1)

	Tier 1	Tier 2	Tier 3	Total	Worst Case (1-day differential)
# of permits	27	43	94		
Cumulative Limit	85,735	38,746	22,258	6,073,161	6,073,161
Expected average	67,713	29,441	14,223	4,431,145	4,711,315
Overhead	127%	132%	156%	137%	129%
Expected Mop-up lbs.	1,708	1,708	1,708		
Cum. Limit + Mop-up	87,443	40,454	23,966		

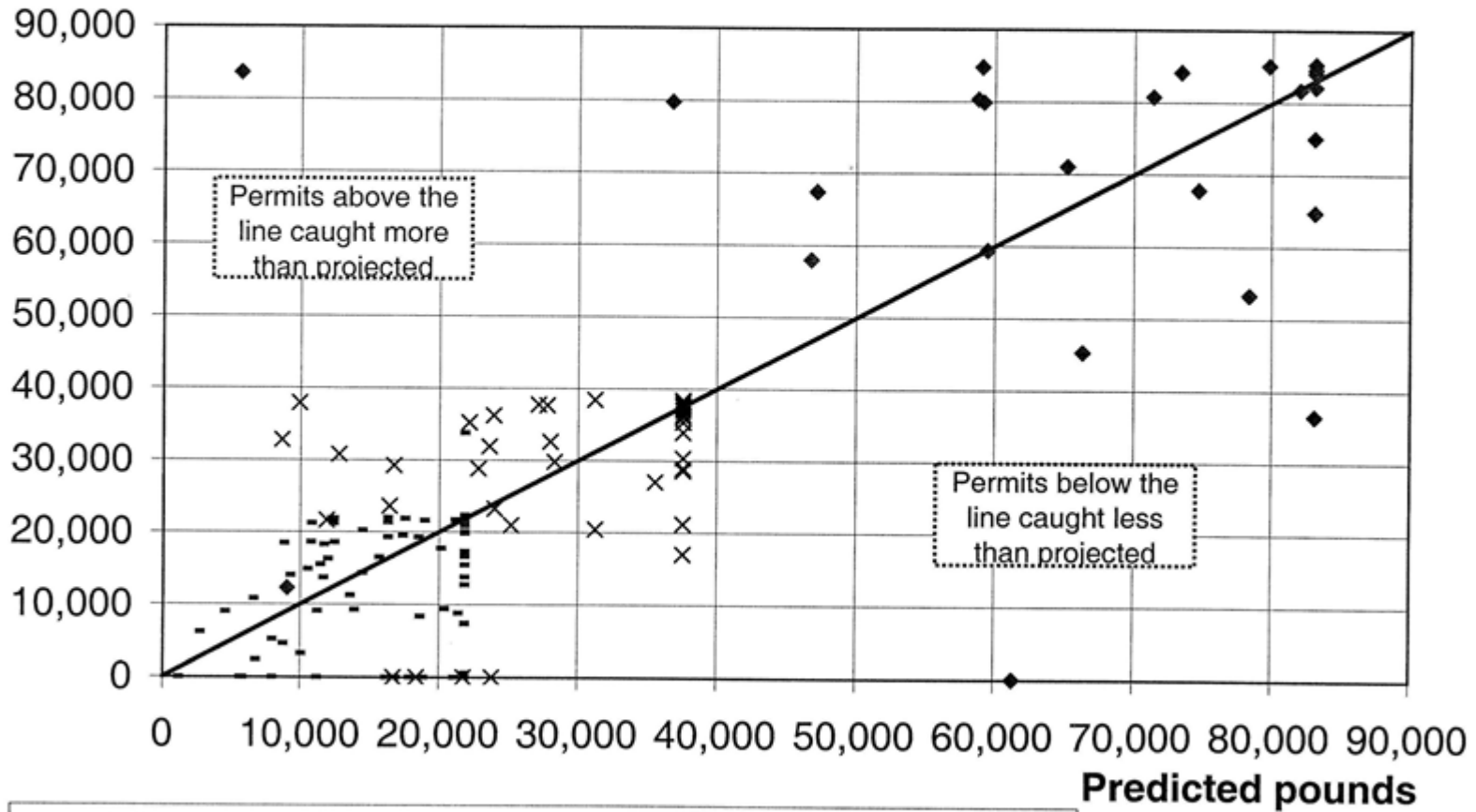
Decision table identifying the potential impacts of employing limits from one option with fleet assumptions from another

Assumptions based on	Using Tier limits from				
	Option 1	Option 2	Option 3		
Option 1: exp. lbs	4,530,446			4,711,315	= target poundage
expected overhead	124%				
Option 2: exp. lbs	4,549,964	4,513,747	4,777,178		
expected overhead	122%	121%	127%		
Option 3: exp. lbs		4,233,072	4,431,145		

expected overhead		129%	137%
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Figure 1.--Comparison of predicted and actual landings in the 1999 primary sablefish fishery

Actual Pounds



◆ Tier 1 × Tier 2 - Tier 3 — 45 degrees