

TABLE 1. Estimated kill rates for California gillnet fisheries during the 1987-1988 fishing year (April '87 through March '88), stratified by fishery, area, and species. Estimates are in units of kill per net pull (KPNP), with estimated standard errors included in parentheses. These rates are based on Konno (1990). Kill for harbor porpoise was assumed zero except for the set-net fishery in central California. No other species were considered by Konno. Both kill rates and standard errors are reported to three decimal places, as in Konno.

	Drift-Net Fishery	Set-Net Fishery		
		Southern CA	Channel Is.	Central CA
California Sea Lion	.018 (.013)	.070 (.068)	.177 (.074)	.248 (.147)
Harbor Seal	.009 (.009)	.006 (.006)	.061 (.023)	.229 (.080)
Harbor Porpoise	-	-	-	.024 (.006)

TABLE 2. Estimated kill rates for California gillnet fisheries from July 1990 through June 1991, stratified by fishery, area, and species. Estimates here are in units of kill per net pull (KPNP), with estimated standard errors included in parentheses. These rates are based on Perkins et al. (1992). They estimated kill rates both including and excluding observations of animals released alive from the nets and pinnipeds that were not identified. Kill for harbor porpoise was assumed zero except for the set-net fishery in central California. Kill for all other cetaceans was assumed zero in the set-net fisheries. Both kill rates and standard errors are reported to three significant digits, as in Perkins et al.

	Drift-Net Fishery	Set-Net Fishery		
		Southern CA	Channel Is.	Central CA
California Sea Lion¹²³	.0195 (.0135)	.0634 (.00917)	.583 (.221)	.328 (.0540)
Harbor Seal⁴	.00488 (.00468)	.0234 (.00496)	.125 (.0580)	.125 (.0325)
Northern Elephant Seal⁵	.0195 (.00949)	.00151 (.00103)	0 (0)	.0677 (.0269)
Harbor Porpoise	-	-	-	.0365 (.0162)
Common Dolphin	.0829 (.0327)	-	-	-
N. Right Whale Dolphin	.0146 (.0108)	-	-	-
Pac. Whited-Sided Dolphin	.0146 (.00821)	-	-	-
Risso's Dolphin	.00976 (.00662)	-	-	-
Dall's Porpoise	.00976 (.00638)	-	-	-
Mesoplodont Beaked Whale	.00488 (.00475)	-	-	-
Short-Finned Pilot Whale	.00488 (.00468)	-	-	-

1. also includes unidentified sea lions.

2. including the 1 animal released alive in the drift-net fishery increases the drift-net kill rate estimate to .0244 (.0140).

3. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the set-net estimates to .0657 (.00920), .625 (.231), and .333 (.0540).

4. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the set-net estimates to .0257 (.00508), .167 (.0640), and .130 (.0328).

5. including the 4 unidentified pinnipeds in the set-net fishery increases the set-net estimates to .00302 (.00145), .0417 (.0423), and .0729 (.0272).

TABLE 3. Significance levels of the z-test comparing kill rates estimated by Konno (1990) and Perkins et al. (1992). No tests were possible for northern elephant seal, because no kill rates were estimated by Konno.

	Drift-Net Fishery	Set-Net Fishery		
		Southern CA	Channel Is.	Central CA
California Sea Lion	.94	.92	.082	.61
Harbor Seal	.68	.025	.31	.23
Harbor Porpoise	-	-	-	.47

TABLE 4. Total estimated fishing effort for California gillnet fisheries, in days fished, stratified by fishery and area for April 1988 to December 1990. The three time periods were chosen to correspond most closely with the available California Dept. of Fish and Game data. Note that the second period covers only nine months, and that the first and last are twelve months long.

	Drift-Net Fishery	Set-Net Fishery			
		Southern CA	Channel Is.	Central CA	Total Set-Net
Apr 1988 - Mar 1989	6139	5600	1224	1025	7849
Apr 1989 - Dec 1989	5904	3518	483	1043	5044
Jan 1990 - Dec 1990	5189	5610	568	945	7123

TABLE 5. Estimated kill rates for California gillnet fisheries during July 1990 through June 1991, stratified by fishery, area, and species. Estimates here are in units of kill per day (KPD), with estimated standard errors included in parentheses. These rates are from Perkins et al. (1992). They estimated kill rates both including and excluding observations of animals released alive from the nets and pinnipeds that were not identified. Kill for harbor porpoise was assumed zero except for the set-net fishery in central California. Kill for all other cetaceans was assumed zero in the set-net fisheries.

	Drift-Net Fishery	Set-Net Fishery		
		Southern CA	Channel Is.	Central CA
California Sea Lion¹²³	.0195 (.0135)	.197 (.0288)	1.40 (.575)	.797 (.127)
Harbor Seal⁴	.00488 (.00468)	.0726 (.0155)	.300 (.151)	.304 (.0784)
Northern Elephant Seal⁵	.0195 (.00949)	.00468 (.00319)	0 (0)	.165 (.0667)
Harbor Porpoise	-	-	-	.0886 (.0387)
Common Dolphin	.0829 (.0327)	-	-	-
N. Right Whale Dolphin	.0146 (.0108)	-	-	-
Pac. White-Sided Dolphin	.0146 (.00821)	-	-	-
Risso's Dolphin	.00976 (.00662)	-	-	-
Dall's Porpoise	.00976 (.00638)	-	-	-
Mesoplodont Beaked Whale	.00488 (.00475)	-	-	-
Short-Finned Pilot Whale	.00488 (.00468)	-	-	-

1. also includes unidentified sea lions.

2. including the 1 animal released alive in the drift-net fishery increases the drift-net kill rate estimate to .0244 (.0140).

3. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the set-net estimates to .204 (.0289), 1.50 (.595), and .810 (.127).

4. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the set-net estimates to .0796 (.0159), .400 (.162), and .316 (.0788).

5. including the 4 unidentified pinnipeds in the set-net fishery increases the set-net estimates to .00937 (.00451), .100 (.0990), and .177 (.0674).

TABLE 6. Estimated total pinniped and cetacean kill for California gillnet fisheries from April 1988 through March 1989, stratified by fishery, area, and species. Worst-case totals are also included in footnotes, computed from kill rates based on observations that included animals released alive from the nets and pinnipeds that were not identified. These kill estimates are reported to the nearest animal. Estimated standard errors are included in parentheses. Kill for harbor porpoise was assumed zero except for the set-net fishery in central California. Kill for all other cetaceans was assumed zero in the set-net fisheries.

	Drift-Net Fishery	Set-Net Fishery				Total Both Fisheries
		Southern CA	Channel Is.	Central CA	Total Set-Net	
California Sea Lion¹²³	120 (82.6)	1102 (161)	1714 (704)	817 (131)	3633 (734)	3753 (739)
Harbor Seal⁴	30 (28.7)	407 (86.7)	367 (185)	311 (80.4)	1085 (220)	1115 (222)
Northern Elephant Seal⁵	120 (58.3)	26 (17.9)	0 (0)	169 (68.3)	195 (70.6)	315 (91.6)
Harbor Porpoise	-	-	-	91 (39.6)	91 (39.6)	91 (39.6)
Common Dolphin	509 (201)	-	-	-	-	509 (201)
N. Right Whale Dolphin	90 (66.2)	-	-	-	-	90 (66.2)
Pac. White-Sided Dolphin	90 (50.4)	-	-	-	-	90 (50.4)
Risso's Dolphin	60 (40.7)	-	-	-	-	60 (40.7)
Dall's Porpoise	60 (39.2)	-	-	-	-	60 (39.2)
Mesoplodont Beaked Whale	30 (29.1)	-	-	-	-	30 (29.1)
Short-Finned Pilot Whale	30 (28.7)	-	-	-	-	30 (28.7)

1. also includes unidentified sea lions.
2. including the 1 animal released alive in the drift-net fishery increases the drift-net kill estimate to 150 (86.1).
3. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 3807 (757).
4. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 1260 (231).
5. including the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 357 (142).

TABLE 7. Estimated total pinniped and cetacean kill for California gillnet fisheries from April through December 1989, stratified by fishery, area, and species. Worst-case totals are also included in footnotes, computed from kill rates based on observations that included animals released alive from the nets and pinnipeds that were not identified. These kill estimates are reported to the nearest animal. Estimated standard errors are included in parentheses. Kill for harbor porpoise was assumed zero except for the set-net fishery in central California. Kill for all other cetaceans was assumed zero in the set-net fisheries.

	Drift-Net Fishery	Set-Net Fishery			Total Both Fisheries	
		Southern CA	Channel Is.	Central CA		Total Set-Net
California Sea Lion ¹²³	115 (79.4)	692 (101)	676 (278)	832 (133)	2200 (324)	2315 (334)
Harbor Seal ⁴	29 (27.6)	255 (54.5)	145 (73.0)	317 (81.8)	717 (122)	746 (125)
Northern Elephant Seal ⁵	115 (56.0)	16 (11.2)	0 (0)	172 (69.6)	188 (70.5)	303 (90.0)
Harbor Porpoise	-	-	-	92 (40.3)	92 (40.3)	92 (40.3)
Common Dolphin	490 (193)	-	-	-	-	490 (193)
N. Right Whale Dolphin	86 (63.7)	-	-	-	-	86 (67.3)
Pac. Whited-Sided Dolphin	86 (48.5)	-	-	-	-	86 (48.5)
Risso's Dolphin	58 (39.1)	-	-	-	-	58 (39.1)
Dall's Porpoise	58 (37.7)	-	-	-	-	58 (37.7)
Mesoplodont Beaked Whale	29 (28.0)	-	-	-	-	29 (28.0)
Short-Finned Pilot Whale	29 (27.6)	-	-	-	-	29 (27.6)

1. also includes unidentified sea lions.
2. including the 1 animal released alive in the drift-net fishery increases the drift-net kill estimate to 144 (82.8).
3. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 2286 (332).
4. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 803 (126).
5. including the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 266 (86.5).

TABLE 8. Estimated total pinniped and cetacean kill for California gillnet fisheries from January through December 1990, stratified by fishery, area, and species. Worst-case totals are also included in footnotes, computed from kill rates based on observations that included animals released alive from the nets and pinnipeds that were not identified. These kill estimates are reported to the nearest animal. Estimated standard errors are included in parentheses. Kill for harbor porpoise was assumed zero except for the set-net fishery in central California. Kill for all other cetaceans was assumed zero in the set-net fisheries.

	Drift-Net Fishery	Set-Net Fishery				Total Both Fisheries
		Southern CA	Channel Is.	Central CA	Total Set-Net	
California Sea Lion¹²³	101 (69.8)	1104 (161)	795 (327)	754 (120)	2652 (384)	2753 (390)
Harbor Seal⁴	25 (24.3)	407 (86.8)	170 (85.9)	287 (74.1)	865 (143)	890 (145)
Northern Elephant Seal⁵	101 (49.3)	26 (17.9)	0 (0)	156 (63.0)	182 (65.5)	283 (82.0)
Harbor Porpoise	-	-	-	84 (36.5)	84 (36.5)	84 (36.5)
Common Dolphin	430 (170)	-	-	-	-	430 (170)
N. Right Whale Dolphin	76 (56.0)	-	-	-	-	76 (56.0)
Pac. White-Sided Dolphin	76 (42.6)	-	-	-	-	76 (42.6)
Risso's Dolphin	51 (34.4)	-	-	-	-	51 (34.4)
Dall's Porpoise	51 (33.1)	-	-	-	-	51 (33.1)
Mesoplodont Beaked Whale	25 (24.6)	-	-	-	-	25 (24.6)
Short-Finned Pilot Whale	25 (24.3)	-	-	-	-	25 (24.3)

1. also includes unidentified sea lions.
2. including the 1 animal released alive in the drift-net fishery increases the drift-net kill estimate to 127 (72.7).
3. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 2761 (394).
4. including the 1 animal released alive and the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 973 (148).
5. including the 4 unidentified pinnipeds in the set-net fishery increases the total set-net estimate to 277 (88.6).