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2005 Shoreside Hake Observation Program

Shoreside Hake Observation Program: 2005 Annual Report

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INTRODUCTION

Shoreside Hake Observation Program

The Shoreside Hake Observation Program (SHOP) was established in 1992 to provide information for tracking catch in the shoreside component of the directed Pacific hake (*Merluccius productus)* fishery and for evaluating conservation measures adopted to limit and monitor the catch of salmon, other groundfish, and prohibited species. Though instituted as an experimental monitoring program, it has been continued annually to account for all catch landed at shoreside processors by targeted hake trips, track potential discards, and accommodate the landing and disposal of non-sorted catch from these trips until permanent federal regulations can be developed.

The SHOP is a cooperative effort between the fishing industry, state, and federal management agencies, with both industry and agency observers collecting and reporting data. Participants in the SHOP include mid-water trawlers carrying EFPs, designated shoreside processing plants in California, Oregon, and Washington, the Pacific Fishery Management Council (PFMC), the National Oceanic and Atmospheric Administration (NOAA Fisheries), the Pacific States Marine Fisheries Commission (PSMFC), the Oregon Department of Fish and Wildlife (ODFW), the California Department of Fish and Game (CDFG), and the Washington Department of Fish and Wildlife (WDFW).

Shoreside Hake Fishery Overview

The shoreside hake fishery consists of mid-water trawl vessels delivering unsorted catch to shoreside processors, and is one of four sectors in the Pacific hake fishery; the remaining sectors are catcher-processor vessels, vessels delivering to motherships, and tribal vessels. Vessels participating in the shoreside fishery apply for and carry Exempted Fishing Permits (EFPs) issued by NOAA Fisheries, Northwest Region, Sustainable Fisheries Division. Permit terms require vessels to land unsorted catch at designated shoreside processing plants. Permitted vessels are not penalized for landing prohibited species (*e.g.*, Pacific salmon, Pacific halibut, Dungeness crab), nor are they held liable for overages of groundfish trip limits.

Overall limits to bycatch of Chinook salmon (*Oncorhynchus tshawytscha*) in the shoreside hake fishery were set in 1991 under the National Marine Fisheries Service's Biological Opinion for groundfish management (NMFS 1991). High salmon bycatch in 1995 resulted in the revision of the 1996 Biological Opinion under Section 7 of the Endangered Species Act (ESA). The bycatch rate is now limited to 0.05 Chinook salmon per metric ton of Pacific hake with an associated total catch of 11,000 Chinook for the coastwide Pacific hake fishery (NMFS 1996). The fishery is required to re-initiate consultation under ESA if either of these Chinook bycatch thresholds are exceeded.

In 1995, the SHOP's emphasis changed from a high observation rate (50 percent of landings), to a lower rate (10 percent of landings) and increased collection of biological information (*e.g.*, otoliths, length, weight, sex, and maturity) from Pacific hake and bycatch species such as yellowtail rockfish (*Sebastes flavidus*), widow rockfish (*S. entomelas*), yelloweye rockfish (*S. ruberrimus*), darkblotched rockfish (*S. crameri*), bocaccio (*S. paucispinis*), canary rockfish (*S. pinniger*), sablefish (*Anoplopoma fimbria*), Pacific chub mackerel (*Scomber japonicus*), and jack mackerel (*Trachurus symmetricus*). The required observation rate was decreased as studies indicated that fish tickets were a good representation of what was actually landed (ODFW 1995). Focus shifted again in 1997 due to an increasing rate of yellowtail rockfish bycatch and changes in the allocation of that species. Since 1998, yellowtail and widow rockfish bycatch in the shoreside hake fishery have been reduced as a result of proactive measures being taken by industry and agencies.

Beginning in 1999, written agreements were made with designated processors to provide a better understanding of the roles and responsibilities of the processors and agencies involved and to provide a mechanism to enforce bycatch reduction measures, specifically for yellowtail rockfish. The agreement set a vessel-specific maximum rate for yellowtail rockfish bycatch at 12 kg of yellowtail rockfish per metric ton of hake. In 2003 an analysis of single tow trips between 1995 and 2002 was done.[1] Because there was no relationship between the weight of hake and the weight of yellowtail caught in a tow, the bycatch rate cap was changed to a trip average of 800 kg (1,764 lbs.) of yellowtail. This cap reflected the 12 kg/mt of hake rate cap used in previous years. Non-cumulative rate checkpoints were set for when 30 and 55 percent of the shoreside Pacific hake quota had been landed. If a vessel exceeded the average of 800 kg per trip at any of these points it was not permitted to participate in the shoreside Pacific hake fishery for one day for each 66 kg increment over the bycatch cap (*i.e.* no hake could be landed by this vessel for a set period of time).

Electronic Monitoring Program

Since the SHOP's inception in 1992, vessels have been subject to State and Federal observer coverage to document and estimate bycatch while fishing under the EFP. At-sea observers have not been present since 1994. In 2004, NOAA Fisheries contracted Archipelago Marine Research Ltd. (Archipelago) to verify compliance with the EFP's full retention requirements and to help characterize daily process of the fishery. To achieve this, electronic monitoring systems were installed on all vessels operating under the EFP, consisting of video cameras, global positioning system, winch rotation and hydraulic pressure sensors, and a data storage unit.

[1] Wiedoff, B.L. and Parker, S.J. 2004. Spatial distribution of widow rockfish bycatch in the shoreside Pacific hake fishery in relation to the rockfish conservation area. Poster presented at the 2004 Western Groundfish Conference. Victoria, BC. February 9 – 13.

Archipelago described results of the 2004 shoreside hake fishery in a report provided NOAA Fisheries, NWFSC observer program (Archipelago 2004). Results of the monitoring indicated that there was no selective discard of certain species. However, it did document that non-retention of unsorted catch occurred and occurred most frequently on the final tow of trips. These discard events were dominated by only five of 26 vessels, making up over 50 percent of discarding events, while half of the fleet contributed to less than 20 percent of the total discarding activity (Archipelago 2004).

Archipelago was again contracted to implement electronic monitoring during the 2005 shoreside hake fishery. The monitoring system was similar to that used in 2004, and results from the 2005 fishery will be provided in a report to NOAA Fisheries late in 2005.

2005 SHORESIDE HAKE FISHERY

The PFMC's optimum yield (OY) for Pacific hake increased from 250,000 mt in 2004 to 269,069 mt in 2005 (Table 1). The 2005 shoreside hake allocation was the sector's largest since SHOP inception in 1992. Allocations of the OY among the four Pacific hake sectors were as follows:

- Shoreside sector—97,469 mt (42 percent of OY; up from 90,510 mt in 2004)
- Catcher/processor sector—78,903 mt (34 percent of OY)
- Mothership sector—55,696 mt (24 percent of OY)
- Tribal sector—35,000 mt (13 percent of OY)

All skippers in the shoreside hake fishery are required to attend a pre-season educational meeting prior to the issuance of Exempted Fishing Permits (EFPs). In 2005, one meeting was held in Eureka, California on 03 March 2005. Three meetings were conducted at Oregon ports, including Charleson (09 May), Astoria (12 May), and Newport (13 May). An additional meeting was conducted in Newport on 14 June to accommodate those unable to attend previously scheduled meetings.

Six EFPs were approved in 2005 for the southern component of the fishery (south of 42^{o} North), of which five vessels made landings. Thirty-one EFPs were approved for the primary component (Washington, Oregon, and California waters), with 28 vessels making landings under the permit (including four vessels previously from the southern component). One vessel only fished in the southern component of the fishery.

The southern component of the shoreside sector opened on 01 April 2005, and the primary component opened on 15 June 2005. Total landings for the southern component are limited to five percent of the shoreside allocation until opening of the primary component. In 2005, the southern component did not attain five percent of the shoreside

allocation before 15 June and therefore remained open for the duration of the fishery. However no landings were made in California after 15 June.

After 65 calendar days of fishing, the shoreside fishery closed on 18 August at 9:00 p.m., harvesting 97,378 mt (0.09 percent under the allocation) (Table 2). A total of 1,182 landings were made under EFP provisions within Oregon, Washington and California (Table 3). No non-EFP landings were reported during the primary season. Unsorted EFP Pacific hake landings were observed at 10 processing plants, including Moss Landing (1), Eureka (1), Crescent City (1), Charleston (1), Newport (3), Astoria (1), Westport (1), and Ilwaco (1). The average weight of a landing was 82 mt (Figure 1). The majority of shoreside Pacific hake allocation, by weight, was landed in Oregon (63 percent), while the remaining was landed in Washington and California (Table 4). Forty-two percent of total shoreside hake allocation was landed in Newport.

Throughout the duration of the southern component of the fishery, landings were sporadic. Vessels participating in the southern component mentioned poor weather conditions, unfavorable fish size, and scattered schools of hake as contributing to the observed variability. The rate of landing averaged 10,391 mt per week during the first full six weeks of the primary season, but decreased substantially in Week 19 (Table 3). Skippers again reported to SHOP that scattered schools of hake and occasionally unfavorable ocean conditions were contributing factors.

The proportion of hake landings observed by samplers varied among processors. All landings were observed at individual processors in Charleston, Newport, and Moss Landing (Table 5). Landings were observed in Astoria, however the sampler failed to deliver adequate data to SHOP, and the data were not used in calculating observation rates. Overall, 29 percent of hake (by weight) and 36 percent of the number of landings were observed by SHOP observers in 2005, thereby exceeding the SHOP observation goal of 10 percent (Tables 3 and 4).

'Weighbacks,' hake with no marketable value due to inappropriate size or quality, were reported to SHOP for 1,133 shoreside hake landings in 2005 as hake with zero value. Data were not available for an additional 49 landings. Landings with the greatest percentage of weighback occurred in Oregon (6.1 percent of hake landed), followed by Washington (4.2 percent of hake landed) and California (1.7 percent of hake landed) (Figure 2). Weighback for the entire 2005 shoreside fishery was 5.4 percent.

2005 BYCATCH

Rockfish

Bycatch of yellowtail rockfish increased from a low of 41 mt in 2002 to 170 mt in 2005 (Figure 3). This weight remains substantially lower than in 1996, when 522 mt of yellowtail was landed and the allocation of hake was 10,000 mt less than in 2005. As in 2004, during the 2005 fishery, yellowtail bycatch was higher in ports to the north than in

those to the south (Table 6). Vessel bycatch checks were conducted at 30 percent and 55 percent of allocation attainment, and no vessel exceeded the penalty threshold (average of 800 kg yellowtail per trip). Westport had the highest average yellowtail rockfish bycatch rate (362 kg per trip), followed by Ilwaco (285 kg per trip) and Astoria (240 kg per trip). The increased bycatch of yellowtail (and other species) in recent years is likely caused by higher hake allocations, but may also be influenced by pressure for vessels to actively avoid bycatch of other rockfish species and Chinook salmon.

In January 2001, the stock of widow rockfish was declared 'overfished' (NMFS 2001), and bycatch of the species within the 2005 Pacific hake fishery was limited to 200 mt (NMFS 2005c). In 2005, the shoreside sector landed 77 mt of widow rockfish, an increase of 48 mt from 2004 (Figure 3). The ports of Charleston and Newport exhibited the highest average widow rockfish bycatch rates, 132 and 82 kg per trip respectively (Table 6). Following closure of the shoreside hake fishery, in October 2005 an additional 12 mt of was added to the allocation for widow rockfish bycatch in the Pacific hake fishery (NMFS 2005b). Current trends in widow rockfish population statistics could reduce constraints on the Pacific hake fishery in upcoming seasons.

Canary rockfish was designated an 'overfished' stock in January 2000 (NMFS 2000), and as with widow rockfish, the status presented a significant constraint to the Pacific hake fishery in 2005 by limiting bycatch of canary rockfish to 4.7 mt in 2005 for all sectors combined (NMFS 2005c). In 2005, the shoreside sector landed 2.2 mt of canary rockfish, of which the ports of Astoria and Charleston exhibited the highest average bycatch rate (Table 6). Historically, the majority of shoreside hake tows with high canary rockfish bycatch rates were between Newport and Charleston (Wiedoff and Parker 2004).

Bycatch of other overfished rockfish species were also monitored by SHOP, including the following (Table 3):

- Yelloweye—0.009 mt landed
- Boccacio—0.176 mt landed
- Pacific ocean perch—0.517 mt landed
- Darkblotched—5.34 mt landed

The catch of darkblotched rockfish increased substantially when compared with the 2004 fishing season, when 740 kg was landed (Wiedoff and Parker 2004). The increase in 2005 may be a result of fishing in deeper water to avoid Chinook salmon bycatch as directed by managers. While the catch of darkblotched rockfish was monitored closely by fisheries managers, 201.4 mt of the acceptable biological catch (ABC) remained following preseason allocations to commercial fisheries and therefore was not viewed as a hard constraint (NMFS 2005c).

Sablefish

The bycatch of sablefish in 2005 totaled 22 mt, a decrease of 91 mt from the year prior, and the lowest since 2000 (when 2 mt were landed)(Figure 3). As in prior years, Newport contributed the largest amount of sablefish toward this total. Sablefish byatch rates varied greatly within individual weeks of the 2005 shoreside fishery, and such variable bycatch rates have been observed by SHOP in all years since 2000 when sablefish became more prevalent as bycatch. The 2000 sablefish assessment predicted a strong year class to enter the fishery in 2001 (Schirripa and Methot 2001). Length-frequency histograms of sablefish specimens from the Oregon SHOP exhibit a progression of this year class through the fishery between 2001 and 2005 (Figure 4). The low sablefish bycatch rate observed in 2005 was predicted by SHOP in 2004 (Wiedoff and Parker 2004). Based on 2005 fishery data and the 2005 assessment, it is predicted that few young sablefish will recruit to the hake fishery in 2006, and the rate of sablefish bycatch could increase (Schirripa and Colbert 2005).

Jack and Pacific (chub) Mackerel

Since 2003, jack mackerel has been one of the largest bycatch components in the shoreside hake fishery. Jack mackerel bycatch totaled 80 mt in 2005, a decrease of 27 mt from the previous year (Table 3). Pacific (chub) mackerel bycatch has remained less than that of jack mackerel since 2002 (Figure 3). Total Pacific mackerel bycatch in the 2005 fishery was just under 2 mt, an increase of 1.3 mt from 2004 (Table 3). Little work has been done examining patterns in mackerel bycatch in the fishery.

Salmon

A total of 4,110 salmon were landed as bycatch in the 2005 shoreside hake fishery, including 4,018 Chinook, 37 coho, 49, pink, six chum, and no sockeye salmon (Table 7). Forty-two percent of the Chinook measured were less than 60 cm, generally representing fish two or less years in age (Figure 5). While observing offloads of vessels at shoreside processors, samplers at shoreside plants observed 887 salmon, equal to 23 percent of all salmon landed (Table 4). Of the 4,110 salmon, 2,970 were landed in Oregon, 938 in Washington, and 202 in California. All landed salmon were turned over to state agencies and donated to charity when in suitable condition, with the exception of two known instances (each where one fish was not accounted for).

The bycatch of salmon in 2005 represented the second largest number since inception of SHOP, being 147 less than that reported in 2004 (Wiedoff and Parker 2004). The rate of salmon bycatch exhibited peaks in Weeks 6 and 9 during the southern component of the fishery, and during the opening two weeks (Week 12 and 13) of the primary season (Figure 6). Following the peak rate of 0.192 salmon per mt of hake in Week 12, the rate of bycatch decreased substantially throughout to fishery closure in Week 21, and resulted

in an overall rate of 0.042 salmon per mt of hake. The overall rate of Chinook bycatch was 0.041 Chinook per mt of hake (Table 7), which is less than the threshold rate of 0.05 prescribed in the 1996 Biological Opinion (NMFS 1996). However, the total Pacific hake fishery did exceed 11,000 Chinook.

The observed decrease in salmon bycatch rates following Weeks 12 and 13 of the shoreside fishery was likely a result of cooperation between industry and management actions throughout the season, as well as seasonal abundance trends. It was recognized in mid-July that the Chinook bycatch rate was high within multiple sectors of the Pacific hake fishery and that guidelines presented in the 1996 Biological Opinion may be exceeded.[2] As a result, multiple discussions occurred with agency and industry representatives to develop options for reducing Chinook bycatch. As part of these discussions and with data provided by shoreside processors and by NOAA Fisheries (Northwest Region), SHOP developed a map that identified the locations of tows with high salmon bycatch in the 2005 season (Figure 7). Fishers were then encouraged to take voluntary actions to reduce Chinook bycatch by avoiding such areas. Following closure of the shoreside hake fishery, in August 2005 an emergency rule was implemented by NMFS to further reduce the potential for salmon bycatch by establishing a salmon conservation zone (NMFS 2005a). The conservation zone prohibited fishing for hake shoreward of a defined boundary line at 100 fathoms in depth.

Agency samplers collected biological data and checked for clipped adipose fins on all but 783 salmon landed. The 783 fish not checked for clipped fins were excluded during the process of sub-sampling after high salmon offloads in Weeks 12 and 13, but were donated to charity when in suitable condition. Of the 3,235 Chinook checked for clipped fins, 265 fish (8 percent) were identified as hatchery fish by an adipose clip (Table 8). Had the 783 also been checked for clipped fins, it is estimated that approximately 63 additional fish (8 percent) would have had an adipose clip. Snouts from adipose clipped fish were collected and sent for analysis of implanted coded wire tags (CWTs). CWT data from the shoreside hake fishery have been submitted to the Regional Mark Information System (RMIS) since 1993 (PSMFC 2005). Historically, the majority of Chinook recovered by SHOP have been from hatcheries located in the Columbia River basin (Table 9), however to this date SHOP has not performed a formal analysis of patterns in fish origin or catch by the fishery.

Pacific Halibut and Dungeness Crab

The 2005 shoreside hake fishery landed 46 Pacific halibut (*Hippoglossus stenolepis*) (Table 3), six less than the peak in 2004 (Wiedoff and Parker 2004). All but three of these fish were landed in Oregon. Sixty-five Dungeness crab (*Cancer magister*) were landed in the fishery (Table 3), with all but four being landed in Oregon. No crab were

[2] NMFS. 2005b. Unpublished NMFS, NWR, Sustainable Fisheries Division letter—Directed to Pacific hake fishers on July 18, 2005, from Steve Freese to address Chinook bycatch in the fishery.

landed in the previous year (Wiedoff and Parker 2004), however since 2000 there was a peak of 207 crab caught in 2002 (Wiedoff and Parker 2002).

Other Fish and Invertebrate Species

The SHOP continues to accumulate landings data for other fish species of interest for management, including lingcod (*Ophiodon elongatus*), walleye pollock (*Theragra chalcogramma*), Pacific herring (*Clupea harengus pallasi*), American shad (*Alosa sapidissima*), and spiny dogfish (*Squalus ancanthias*) (Table 3). All of these species, with the exception of Pacific herring, were landed in greater quantities during the 2005 fishery when compared with 2004, consistent with a higher hake allocation (Wiedoff and Parker 2004). Miscellaneous species such as Pacific cod (*Gadus macrocephalus*), sardine (*Sardinops sagax*), squids, sharks, skates, octopus, jellyfish and flatfish other than halibut constitute the "other" category (Table 3). These "other" species totaled 25 mt in 2005, an increase of approximately 20 mt from the previous season (Wiedoff and Parker 2004). Squid (9.6 mt), sardine (8.7 mt), and sharks (2.8 mt) comprised the majority of this "other" category, including numerous blue, salmon, and thresher sharks. With the sharp increase in bycatch of these species, SHOP will continue to ensure that data for these species are tracked and reported effectively.

Marine Mammals

Reporting of incidental mortalities and injuries of marine mammals in commercial fisheries is mandated under the Marine Mammal Protection Act of 1972, and all fishers in the shoreside sector have been provided with forms for reporting such incidents. No incidents of injuries or mortalities of marine mammals were reported to NMFS's Marine Mammal Authorization Program by 2005 shoreside hake vessels.[3]

2005 BIOLOGICAL SAMPLING

In addition to documenting bycatch and species composition of hake landings, SHOP industry and agency samplers collected biological information from several species that will be used in stock assessment analyses (Tables 10 and 11). Prior to opening of the shoreside hake fishery and following consultation with each state, sampling goals are established by SHOP for the collection of hake otoliths and length-frequency data from samplers at each processor. Hake sampling goals were met or exceeded at processors in the ports of Westport, Newport, and Charleston. Hake sampling goals were not met at processors from the remaining ports. In addition to hake sampling goals, goals are

3 Personal communication, Patricia Lawson, NOAA Fisheries, Office of Protected Resources, October 5, 2005.

established for the collection of otoliths from bycatch species at Oregon processors. Although multiple samples from various species were collected by the sampler in Astoria, due to incomplete reporting to SHOP few data were deemed usable.

Samplers measured 5,003 hake for length-frequency data alone, and collected 1,160 hake otolith samples, accompanied with length and weight data. Excluding data from Astoria (where few hake length-frequency data were acquired), sampled hake exhibited a larger length when progressing toward northward ports (Figure 8). The overall average length of 45 cm for hake landed in 2005 is similar to that landed in 2004, and the range of average length between 40 to 46 cm reflects the market size for hake (Figure 9). Length-frequency data in 2005 suggests that there was recruitment to the fishery, as a mode of fish in the range of 21 to 25 cm were sampled.

Biological samples acquired by SHOP during the fishing season were sent to the following locations:

- Pacific hake—Omar Rodriguez, NOAA Fisheries, Fishery Resource Analysis and Monitoring Division (Newport, Oregon)

- Yellowtail rockfish—Sandra Rosenfeld, Department of Fisheries, Marine Fish & Shellfish Division (Olympia, Washington)

- Widow rockfish—Don Pearson, NOAA Fisheries, NMFS (Santa Cruz, California)

- Other species—Sablefish, jack and Pacific chub mackerel, darkblotched, bocaccio, canary rockfish, and other bycatch species data have been retained by respective state agencies where specimens were landed for analysis (WDFW, ODFW, CDFG).

Oregon shoreside processing plants hired five samplers to make observations at five processors. The WDFW and the CDFG provided minimal shoreside landing observations with state staff. In addition, two processors in California provided samplers for some observations, but overall sampling was low. Additional effort by both agency and processor observers is needed to obtain adequate observation rates and biological samples from each port.

PROGRAM COSTS

In 2005, the cost of the Oregon, Washington and California portion of the SHOP was approximately $141,560 (Table 12). Since 1995, most program funding has been provided by industry through the PSMFC. Government costs, including agency sampling personnel, infrastructure, summary and analysis during winter months, and council support on bycatch issues, are not included in the previously indicated cost. These costs

have become more substantial over time due to the increasing attention paid to bycatch issues, and have amounted to months of staff time at a cost approaching $70,000.

Participating processors and those contributing to the cost of the program in 2005, were Ocean Gold Seafood, Jessie's Ilwaco Fish, Pacific Coast Seafood, Ocean Beauty, Pacific Shrimp, Trident Seafood, Bandon Pacific, Del Mar Seafoods, Pacific Choice Seafood, and Redwood Cast Seafoods.

AREAS FOR IMPROVEMENT IN 2006

To increase the efficiency and accuracy of data acquisition and reporting for the shoreside hake fishery, SHOP recognizes there are some components of the program that may be improved in future fishing seasons:

- Consider revising mechanisms used to track attainment of sampling goals, so that goals are met or exceeded at all participating processors.

- Continue to work with industry in refining mechanisms for identifying and reporting of fishing areas associated with high bycatch rates, so that these areas may be avoided and thereby reduce fishery bycatch. Consider developing incentives for fishermen to do this.

- Continue the assessment and improvement of SHOP sampling strategies and procedures, so that increased accuracy and efficiency of data reporting is achieved.

- Continue to investigate whether it is feasible convert the Pacific hake EFP fishery to a Federally-regulated fishery. Several technical, legal, sampling and observation issues need to be addressed for this to happen.

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Note: Visit the SHOP website for further information about the program, as well as access to annual reports and data; available at:

www.dfw.state.or.us/mrp/hake

Table 1. Summary of allocations and total catch for Pacific hake fishery, 1998 - 2005.

		Shoreside		Catcher-Processor		Mothership		Tribal	
Year	US Optimum Yield (mt)	Allocation	Catch	Allocation	Catch	Allocation	Catch	Allocation	Catch
1998	232,000	86,900	87,627	70,400	70,365	49,700	50,087	25,000	24,509
1999	232,000	83,800	83,388	67,800	67,679	47,900	47,580	32,500	25,844
2000	232,000	83,790	85,653	67,830	67,815	47,880	46,840	32,500	6,251
2001 [1]	190,400	72,618	73,326	58,786	58,628	41,496	41,903	17,500	6,080
2002 [2]	129,600	44,906	45,276	36,353	36,341	25,661	26,593	22,680	22,793
2003	148,200	50,904	51,061	41,208	41,214	29,088	26,021	25,000	23,454
2004	250,000	90,510	89,251	73,270	73,175	51,720	24,102	32,500	28,648
2005 [3]	269,069	97,469	97,378	78,903	78,147	55,696	39,599	35,000	34,357

Note: Shoreside data provided by SHOP, at-sea data based on preliminary NMFS observer program. Allocation shows original (preseason) allocation.

[1] In 2001, the fishery closed on 8/21/01. The Makah tribe then returned 10,000 mt of its allocation to NMFS, which reallocated it to the other fishery sectors. The shoreside component then reopened from 9/17 - 9/26/01.

[2] The Pacific hake stock was officially declared overfished in 2002.

[3] 2005 at-sea catch is as of October 17th.

Table 2. Summary of the shoreside sector of the Pacific hake fishery, 1992 - 2005.

Year	Shoreside Allocation (mt)	Hake Landed (mt)	Percent Under/Over	Participating Vessels	Start Date*	End Date	Number of Participating Processors
1992	80,000	49,092	-38.64	23	4/15	10/30	7
1993	42,000	41,926	-0.18	24	4/15	8/24	13
1994	97,000	72,367	-25.39	33	4/15	11/23	8
1995	75,776	73,397	-2.43	35	4/15	7/25	15
1996	87,001	84,680	-2.67	37	5/15	9/10	11
1997	86,900	87,499	+0.69	38	6/15	8/22	12
1998	86,900	87,627	+0.84	35	6/15	10/13	13
1999	83,800	83,388	-0.49	36	6/15	9/13	14
2000	83,790	85,653	+2.22	36	6/15	9/15	14
2001 [1]	72,618	73,326	+0.97	29	6/15	9/26	13
2002	44,906	45,276	+0.82	29	6/15	7/17	8
2003 [2]	50,904	51,061	+0.31	35	6/15	7/14	9
2004 [3]	90,510	89,251	-1.39	26	6/15	8/14	9
2005 [4]	97,469	97,378	-0.09	29	6/15	8/18	10

[*] Between 1997 - 2005, the shoreside fishery south of 42° N latitude opened April 1st.

[1] In 2001, the fishery closed on 8/21/01. The Makah tribe then returned 10,000 mt of its allocation to NMFS, which reallocated it to the other fishery sectors. The shoreside component then reopened from 9/17 - 9/26/01.

[2] In 2003, the shoreside fishery closed on 7/14/03 at 12:00 p.m.

[3] In 2004, the California fishery closed on 5/22 12:00 p.m. then reopened on 6/15. The shoreside fishery closed on 8/14/2005 at 4:00 p.m.

[4] The shoreside fishery closed on 8/18/2005 at 9:00 p.m.

Table 3A. Weekly landings and bycatch for California during the southern component of the shoreside hake fishery (south of 42°N). Best available data as of 10/5/05.

Week Number	1	2	3	4	5	6	7	8	9	10	11
Week Ending Date*	4/2	4/9	4/16	4/23	4/30	5/7	5/14	5/21	5/28	6/4	6/11
Num. of EFP Hake Landings	0	1	5	12	12	17	14	6	5	5	5
Hake Landed (mt)	0.00	52.50	174.35	561.40	524.28	812.14	657.98	322.70	229.79	268.31	222.86
Cumulative Hake Landed (mt)	0.00	52.50	226.85	788.25	1,312.53	2,124.67	2,782.66	3,105.36	3,335.15	3,603.46	3,826.33
% of Hake Quota Landed	0	0.05	0.23	0.81	1.35	2.18	2.85	3.19	3.42	3.70	3.93
Num. of Landings Observed	0	0	0	0	0	1	1	0	0	2	1
Num. of Salmon	0	3	4	10	39	80	33	9	19	2	3
Num. of Chinook Salmon	0	3	4	10	39	80	33	9	19	2	3
Num. of Pacific Halibut	0	0	0	0	0	0	0	0	0	0	0
Num. of Dungeness Crab	0	0	0	0	0	0	0	0	0	0	0
Yellowtail Rockfish (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**t**	0.00	0.00	0.00
Widow Rockfish (mt)	0.00	0.03	0.21	0.06	0.10	0.67	0.31	0.07	3.40	0.28	0.06
Yelloweye Rockfish (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canary Rockfish (mt)	0.00	0.00	0.00	**t**	0.01	0.00	0.00	0.00	0.00	0.00	**t**
Darkblotched Rockfish (mt)	0.00	0.00	0.18	0.35	0.39	0.21	0.84	0.26	0.01	0.02	0.35
Boccacio (mt)	0.00	0.00	0.00	0.01	0.00	0.01	0.01	**t**	0.00	0.00	0.00
Pacific Ocean Perch (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sablefish (mt)	0.00	0.00	0.00	0.00	**t**	0.01	0.01	**t**	0.02	**t**	0.02
Pacific Mackerel (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jack Mackerel (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lingcod (mt)	0.00	**t**	**t**	0.01	0.00	0.02	0.04	0.01	0.00	0.00	0.00
Walleye Pollock (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pacific Herring (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
American Shad (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spiny Dogfish (mt)	0.00	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00
Misc. Rockfish (mt)	0.00	0.17	6.01	1.36	4.38	5.00	3.22	1.08	3.47	0.45	1.29
Other (mt)	0.00	0.00	0.00	0.00	0.03	**t**	**t**	0.00	0.00	0.00	0.00

* Primary component of fishery opened 6/15/05 (week 12) and is included in Table 2B.
t = trace; less than 0.005 mt

Table 3B. Weekly landings and bycatch for the primary shoreside hake fishing season (coastwide).
Best available data as of 10/5/05.

Week Number	12	13	14	15	16	17	18	19	20	21	FISHERY
Week Ending Date	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	TOTAL
Num. of EFP Hake Landings	54	124	126	119	121	126	113	110	108	99	1,182
Hake Landed (mt)	4,214.27	10,418.09	10,469.32	10,002.85	10,655.50	10,405.70	10,397.40	9,120.78	9,451.90	8,416.11	97,378.23
Cumulative Hake Landed (mt)	8,040.60	18,458.69	28,928.01	38,930.86	49,586.35	59,992.05	70,389.46	79,510.24	88,962.13	97,378.24	
% of Hake Quota Landed	8.25	18.94	29.68	39.94	50.87	61.55	72.22	81.57	91.27	99.91	99.91
Num. of Landings Observed	14	42	44	46	47	51	44	42	44	42	421
Num. of Salmon	811	1,117	477	173	371	221	241	116	242	139	4,110
Num. of Chinook Salmon	811	1,088	472	173	369	220	228	92	228	135	4,018
Num. of Pacific Halibut	1	5	11	5	3	1	10	0	3	7	46
Num. of Dungeness Crab	0	1	0	13	0	0	6	41	0	4	65
Yellowtail Rockfish (mt)	17.42	3.61	15.65	18.81	23.83	22.51	31.61	12.76	18.09	6.14	170.43
Widow Rockfish (mt)	10.18	2.80	4.56	2.18	3.96	0.98	5.72	25.19	13.18	3.22	77.15
Yelloweye Rockfish (mt)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Canary Rockfish (mt)	0.11	0.12	0.10	0.43	0.20	0.13	0.20	0.13	0.65	0.17	2.22
Darkblotched Rockfish (mt)	0.01	0.07	0.27	0.62	0.36	0.81	0.18	0.39	**t**	0.01	5.34
Boccacio (mt)	0.00	0.01	0.00	0.00	0.02	0.01	0.02	0.02	0.04	0.02	0.18
Pacific Ocean Perch (mt)	0.06	**t**	0.01	0.03	0.08	0.05	0.05	0.07	0.11	0.04	0.52
Sablefish (mt)	4.73	0.50	0.18	0.97	14.87	0.26	0.12	0.16	0.31	0.26	22.42
Pacific Mackerel (mt)	0.00	0.03	0.00	0.04	0.23	0.22	0.08	0.01	0.74	0.59	1.94
Jack Mackerel (mt)	0.04	2.68	2.47	2.99	3.30	8.71	6.08	6.43	12.27	35.52	80.49
Lingcod (mt)	0.19	0.38	0.64	0.40	0.43	0.72	0.77	0.21	0.93	1.12	5.87
Walleye Pollock (mt)	89.64	90.94	0.00	0.00	4.66	0.00	0.00	2.06	0.53	0.08	187.90
Pacific Herring (mt)	0.66	1.08	4.72	0.00	0.14	0.00	0.00	0.00	0.00	0.74	7.34
American Shad (mt)	4.42	10.81	30.92	40.74	30.09	13.61	16.18	3.43	6.81	2.04	159.05
Spiny Dogfish (mt)	2.25	43.30	20.07	2.37	8.24	2.55	2.23	5.43	7.47	0.61	94.55
Misc. Rockfish (mt)[1]	0.16	0.64	0.76	0.42	0.19	0.49	0.12	1.06	0.41	0.38	31.06
Other (mt)[2]	4.51	1.01	2.54	0.99	2.90	1.26	6.17	0.79	3.49	1.15	24.84

[1] Misc. rockfish includes chilipepper, shortspine thornyhead, longspine thornyhead, and other slope and shelf rockfish.

[2] Other includes squid (9.6mt), sardine (8.7mt), shark (2.8mt), Pacific cod, flatfish (other than halibut), skates, octopus, sunfish, and jellyfish.

t = trace; less than 0.005 mt

Table 4. Cumulative shoreside hake fishery report for Oregon, 2005. No Non-EFP trips were reported. Washington and California data are combined for processor confidentiality. Best available data as of 10/5/05.

	Oregon Fishery Total	CA/OR/WA Fishery Total	Oregon Observed	CA/OR/WA Observed	Percent Landing Observed
Hake Harvest (mt)	61,460	97,378	23,776	28,185	28.9
Number of Landings	826	1,182	384	421	35.6
No. of Salmon	2,970	4,110	887	963	23.4
No. of Chinook Salmon	2,964	4,018	885	957	23.8
No. of Pacific Halibut	43	46	23	25	54.3
No. of Dungeness Crab	48	65	21	25	38.5
Yellowtail Rockfish (kg)	77,526	170,434	14,651	31,655	18.6
Widow Rockfish (kg)	59,037	77,153	28,452	28,839	37.4
Yelloweye Rockfish (kg)	9	9	1	1	10.6
Canary Rockfish (kg)	2,011	2,223	1,048	1,212	54.6
Darkblotched Rockfish (kg)	2,593	5,337	1,337	1,510	28.3
Bocaccio (kg)	61	176	61	141	80.1
Pacific Ocean Perch (kg)	152	517	122	134	25.9
Sablefish (kg)	22,103	22,419	14,515	14,529	64.8
Pacific Mackerel (kg)	1,212	1,940	460	460	23.7
Jack Mackerel (kg)	66,147	80,490	32,749	34,224	42.5
Lingcod (kg)	4,428	5,868	1,864	2,267	38.6
Walleye Pollock (kg)	0	187,897	0	6,680	3.6
Pacific Herring (kg)	7,343	7,340	98	98	1.3
American Shad (kg)	136,994	159,050	63,612	94,717	59.6
Spiny Dogfish (kg)	942	94,553	684	14,871	15.7
Misc. Rockfish (kg)[1]	4,423	31,063	2,098	2,834	9.1
Other Species (kg)[2]	25,310	24,840	2,517	2,998	12.1

[1] Misc. rockfish includes chilipepper, shortspine thornyhead, longspine thornyhead, and other slope and shelf rockfish.

[2] Other includes squid, sardine, shark, Pacific cod, flatfish (other than halibut), skates, octopus, sunfish, and jellyfish.

Table 5. Pecentage of trips observed by SHOP at each processor for the 2005 fishery.

Processor	Port	Number of Trips	Number of Trips Observed	Percentage of Trips Observed
Ocean Gold Seafoods	Westport	192	24	12.5
Jessie's Ilwaco Fish Co.	Ilwaco	82	8	9.8
Pacific Coast Seafoods	Warrenton	202	0*	0.0
Ocean Beauty	Newport	61	21	34.4
Trident Seafoods	Newport	251	51	20.3
Pacific Shrimp Seafoods	Newport	225	225	100.0
Bandon Pacific	Charleston	87	87	100.0
Redwood Coast Seafoods	Crescent City	15	2	13.3
Pacific Choice Seafoods	Eureka	66	2	3.0
Del Mar Seafoods	Moss Landing	1	1	100.0

* Sampler observed 23 landings, however data reported to SHOP was incomplete and deemed unusable

Table 6. Average bycatch rate by port and vessel for overfished species in 2005. Vessel rates are calculated as the average weight of bycatch (kg) per trip.

Port	Vessel	% Landings Observed	Yellowtail Rockfish	Widow Rockfish	Yelloweye Rockfish	Canary Rockfish	Darkblotched Rockfish	Bocaccio Rockfish	Pacific Ocean Perch	Sablefish
Westport										
	CHELLISSA	15.6	350.94	0.71	0.00	0.94	0.34	0.61	0.04	0.00
	JAMIE MARIE	15.6	291.09	0.84	0.00	0.20	0.00	0.21	0.37	0.04
	MARATHON	5.6	508.68	251.87	0.00	0.38	0.01	0.47	0.00	0.31
	PACIFIC CHALLENGER	19.4	437.85	1.02	0.00	3.42	0.00	0.38	2.34	3.44
	PREDATOR	10.0	386.35	1.45	0.00	0.12	3.96	0.54	0.08	0.00
	SEA CLIPPER	9.7	179.13	4.81	0.00	0.94	0.00	0.47	0.00	1.48
Westport Avg.		**12.5**	**362.37**	**48.65**	**0.00**	**0.98**	**0.68**	**0.45**	**0.46**	**0.86**
Ilwaco										
	COLLIER BROTHERS	9.8	75.68	0.71	0.00	0.23	0.00	0.00	3.36	0.70
	FISHWISH	0.0	54.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MUIR MILACH	10.8	540.83	96.39	0.00	0.18	0.00	0.00	3.85	1.75
Ilwaco Avg.		**9.8**	**284.55**	**43.85**	**0.00**	**0.20**	**0.00**	**0.00**	**3.42**	**1.14**
Astoria										
	GEORGE ALLEN	0.0	102.41	17.63	0.00	0.50	0.05	0.00	0.00	4.94
	NICOLE	0.0	153.21	11.40	0.00	0.81	0.00	0.00	0.00	1.62
	PERSEVERANCE	0.0	173.93	13.55	0.00	9.24	1.20	0.00	0.21	14.53
	RAVEN	0.0	461.52	33.21	0.00	0.98	0.02	0.01	0.00	7.01
	SEEKER	0.0	330.94	19.16	0.00	1.03	0.00	0.00	0.00	8.63
Astoria Avg.		**0.0**	**240.47**	**18.75**	**0.00**	**2.58**	**0.26**	**0.00**	**0.04**	**7.14**
Newport										
	BAY ISLANDER	35.5	2.20	27.48	0.00	1.33	0.10	0.00	0.00	8.64
	BLUE FOX	14.0	16.12	52.59	0.00	1.73	4.45	0.00	0.38	29.43
	EXCALIBUR	28.2	27.61	131.09	0.00	1.56	0.77	0.08	0.00	51.66
	GRUMPY J	100.0	5.57	12.55	0.00	2.60	0.86	0.00	0.15	19.03
	LISA MELINDA	18.6	70.72	86.76	0.00	1.57	8.73	0.15	0.03	37.22
	MISS BERDIE	100.0	51.91	37.97	0.00	4.51	6.97	0.13	0.39	7.50
	MISS SARAH	19.0	35.43	147.58	0.00	1.93	3.86	0.27	0.00	3.94
	MISS SUE	100.0	52.81	15.67	0.00	2.01	1.13	0.10	1.18	4.58
	PACIFIC	100.0	6.27	7.13	0.00	1.72	6.25	0.09	0.11	10.67
	PACIFIC FUTURE	100.0	28.60	125.18	0.00	2.88	4.92	0.17	0.60	265.75
	PACIFIC RAM	21.4	91.01	149.43	0.00	1.89	3.78	0.00	0.01	5.11
	PEGASUS	21.4	165.17	237.05	0.21	4.69	14.32	0.00	0.10	73.68
Newport Avg.		**55.3**	**46.32**	**81.54**	**0.02**	**2.37**	**4.71**	**0.08**	**0.27**	**38.33**
Charleston										
	JEANETTE MARRIE	100.0	35.23	53.51	0.00	3.78	0.07	0.18	0.00	0.86
	LAST STRAW	100.0	59.94	219.54	0.00	1.02	0.19	0.18	0.00	0.89
Charleston Avg.		**100.0**	**46.88**	**131.76**	**0.00**	**2.48**	**0.13**	**0.18**	**0.00**	**0.87**
Crescent City										
	MISS SARAH	13.3	0.00	4.78	0.00	0.12	13.76	0.00	0.00	0.30
Crescent City Avg.		**13.3**	**0.00**	**4.78**	**0.00**	**0.12**	**13.76**	**0.00**	**0.00**	**0.30**
Eureka										
	FISHWISH	5.0	0.00	116.78	0.00	0.29	42.18	0.16	0.00	2.49
	PACIFIC	3.3	0.03	78.65	0.00	0.00	27.46	0.35	0.00	0.33
	WARRIOR II	0.0	0.00	25.63	0.00	0.34	46.41	0.65	0.00	0.31
Eureka Avg.		**3.0**	**0.01**	**77.35**	**0.00**	**0.17**	**36.51**	**0.36**	**0.00**	**0.98**
Moss Landing										
	SEA CLIPPER	100.0	0.00	1.81	0.00	0.00	0.00	6.35	0.00	0.00
Moss Landing Avg.		**100.0**	**0.00**	**1.81**	**0.00**	**0.00**	**0.00**	**6.35**	**0.00**	**0.00**

Note: Best available data as of 10/5/2005. Port rates are calculated as the average weight of landings for each port.

Table 7. Annual salmon bycatch in the shoreside hake fishery, 1992-2005.

Year	Hake Landed (mt)	Number of Chinook	Rate of Chinook	Number of Coho	Number of Pink	Number of Chum	Number of Sockeye
1992	49,092	491	0.010	0	0	0	0
1993	41,926	419	0.010	0	0	0	0
1994	72,367	581	0.008	4	0	0	0
1995	73,397	2,954	0.040	2	15	1	0
1996	84,680	651	0.008	0	0	0	0
1997	87,499	1,482	0.017	2	0	0	0
1998	87,627	1,699	0.019	8	0	5	1
1999	83,388	1,696	0.020	5	11	0	0
2000	85,653	3,306	0.039	23	0	1	0
2001	73,326	2,627	0.036	35	303	32	0
2002	45,276	1,062	0.023	14	0	72	0
2003	51,061	425	0.008	0	0	0	0
2004	89,670	4,206	0.047	8	0	43	0
2005	97,378	4,018	0.041	37	49	6	0

Note: For 1992 - 1996, refer to Weeks and Kaiser (1997). For years following 1997, refer to annual Shoreside Hake Observation Program reports
Rate is calculated as number of fish per mt hake.

Table 8. Number of Chinook salmon with coded wire tags recovered by the Shoreside Hake Observation Program, 1992-2005.

Year	Number of Chinook Landed	Number of Snouts Collected	Number of Chinook with CWT	Percent of Landed Chinook with CWT
2001	2,627	188	118	4.5
2002	1,062	77	53	5.0
2003	425	55	0	N/A
2004	4,206	425	N/A	N/A
2005	4,018 *	265	N/A	N/A

Note: For 1992 - 1996, refer to Weeks and Kaiser (1997). For years 1997 - 2004, best available data as of 10/31/05 (RMIS 2005).
N/A = Not available; data incomplete following 2003

* 783 fish were not scanned for clipped adipose fins due to being excluded during sub-sampling. An additional two fish were determined missing from landings. With eight percent of scanned salmon in 2005 having clipped adipose fins, had these 785 fish also been scanned it is estimated that 63 would have had an adipose clip.

Table 9. Recoveries of coded wire tags from Chinook recovered by Oregon and Washington Shoreside Hake Observation Program samplers, grouped by release basin 2001 - 2003.

Release Basin	2001	2002	2003	2004	Total
Georgia Strait, BC	1	-	-	N/A	1
Fraser / Thompson Rivers, BC	4	6	-	N/A	10
Puget Sound	3	-	-	N/A	3
Stillaguamish / Snohomish Rivers, WA	-	1	-	N/A	1
Columbia River	61	25	-	N/A	86
Snake River	15	7	-	N/A	22
Northern Oregon Coast	-	1	-	N/A	1
Klamath River	2	1	-	N/A	3
Southern Oregon Coast	10	7	-	N/A	17
Sacramento / San Joaquin Rivers	20	4	-	N/A	24
Central California Coast	2	1	-	N/A	3
Total	118	53	0	0	171

Note:

Data provided by PSMFC (2005)
N/A = Data incomplete for 2004
No CWTs were recovered in 2003
California data not available

Table 10. Biological sampling (otoliths, length, weight, and sex) of bycatch species in Oregon and Washington ports conducted by the Shoreside Hake Observation Program during the 2005 fishery.

	Westport			Ilwaco			Astoria[1]			Newport[2]			Charleston		
	No. Fish	No. Samples	Total Fish	No. Fish	No. Samples	Total Fish	No. Fish	No. Samples	Total Fish	No. Fish	No. Samples	Total Fish	No. Fish	No. Samples	Total Fish
Pacific Hake (bio. sample)	20	9	180	20	6	120	20	8	160	20	33	660	20	2	40
Pacific Hake (lgth/wt only)	100 - 102	9	906	99 - 100	6	598	-	-	-	99 - 100	16	1,599	99 - 101	19	1,900
Jack Mackerel	-	-	-	-	-	-	30	2	60	30	8	240	50	1	50
Yellowtail Rockfish	50	7	350	50	2	100	50	2	100	50	7	350	50	1	50
Widow Rockfish	15	1	15	21 - 50	3	121	-	-	-	50	8	400	50	2	100
Canary Rockfish	3 - 49	4	62	1	1	1	-	-	-	1 - 5	4	9	1 - 56	28	109
Darkblotched Rockfish	50	1	50	-	-	-	-	-	-	2 - 30	2	32	1 - 39	6	59
Redstripe Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	50	1	50
Splitnose Rockfish	-	-	-	-	-	-	-	-	-	-	-	-	30	1	30
Bocaccio	-	-	-	-	-	-	-	-	-	1	1	1	1	2	2
Sablefish	-	-	-	-	-	-	-	-	-	30	2	60	-	-	-
Spiny Dogfish	50 - 100	3	200	-	-	-	-	-	-	-	-	-	-	-	-
Walleye Pollock	50	2	100	-	-	-	-	-	-	-	-	-	-	-	-
Total		36	1,863		18	940		12	320		81	3,351		63	2,390

[1] Additional samples were taken from Astoria, however data was incomplete and/or otoliths were deemed unusable; including 170 yellowtail otoliths, 80 hake otoliths, and 200 otoliths of unidentified speices. These were all discarded.

[2] One sample of widow rockfish from Newport was length frequency only, no otoliths taken

Table 11. Biological sampling (otoliths, length, weight, and sex) of bycatch species in California ports conducted by the Shoreside Hake Observation Program during the 2005 fishery.

	Eureka			Crescent City			Moss Landing		
	No. Fish	No. Samples	Total Fish	No. Fish	No. Samples	Total Fish	No. Fish	No. Samples	Total Fish
Pacific Hake (bio. sample)	-	-	-	-	-	-	-	-	-
Pacific Hake (lgth/wt only)	-	-	-	-	-	-	-	-	-
Widow Rockfish	-	-	-	-	-	-	2	1	2
Darkblotched Rockfish	30	1	30	-	-	-	-	-	-
Splitnose Rockfish	-	-	-	-	-	-	2	1	2
Chilipepper Rockfish	-	-	-	-	-	-	34	1	34
Bocaccio	-	-	-	-	-	-	3	1	3
Total		1	30		0	0		4	41

Table 12. In-season budget history for the Shoreside Hake Observation Program, 1995 - 2005.

Year	Length of Primary Season (days)	Shoreside Hake Allocation (mt)	Oregon Cost ($)	Industry funds to Oregon	Washington and California Cost ($)	Estimated Industry Samplers[1] ($)	Total Cost ($)	Cost per mt Hake ($/mt)	Cost per Day of Fishery ($/d)
1995	102	75,776	~20,000	~30,000	18,000	25,000	93,000	1.23	912
1996	119	87,001	~20,000	~30,000	18,000	29,000	97,000	1.11	815
1997	69	86,900	17,706	30,294	27,000	30,000	105,000	1.21	1,522
1998	121	86,900	19,000	30,000	27,000	30,000	106,000	1.22	876
1999	91	83,800	18,000	33,339	27,000	32,544	110,883	1.32	1,218
2000	93	83,790	18,000	38,152	27,000	32,544	115,696	1.38	1,244
2001	76	72,618	18,000	46,738	27,000	35,770	127,508	1.76	1,678
2002	31	44,906	17,926	38,371	27,000	29,808	113,105	2.52	3,649
2003	30	50,904	18,000	40,519	18,000	29,808	106,327	2.09	3,544
2004	60	90,510	22,000	53,467	18,000	27,000	120,467	1.33	2,008
2005	65	97,469	28,693[2]	67,867	18,000	27,000	141,560	1.45	2,178

Note:

[1] Estimated observer costs are for 15% observer coverage for all ports.

[2] ODFW currently contributes approximately $70,000 for off-season management, not included above.

Cost of vessel electronic monitoring not included.

Total fixed costs include costs for supplies, travel, vehicle use, and salaries.

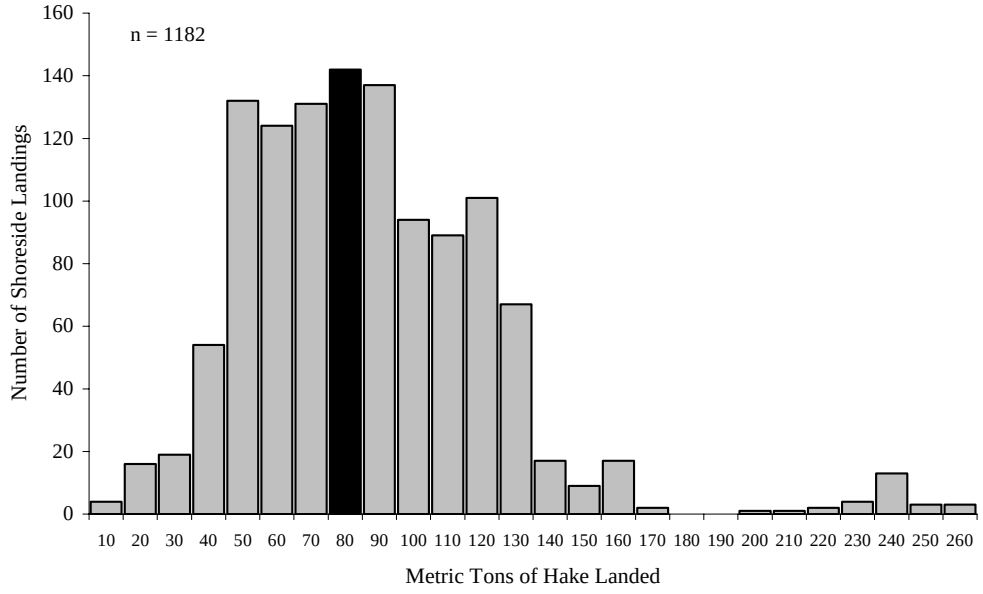

Figure 1. Frequency distribution of hake landing weights in the 2005 shoreside hake fishery.

Note: Black bar indicates mean landing weight.

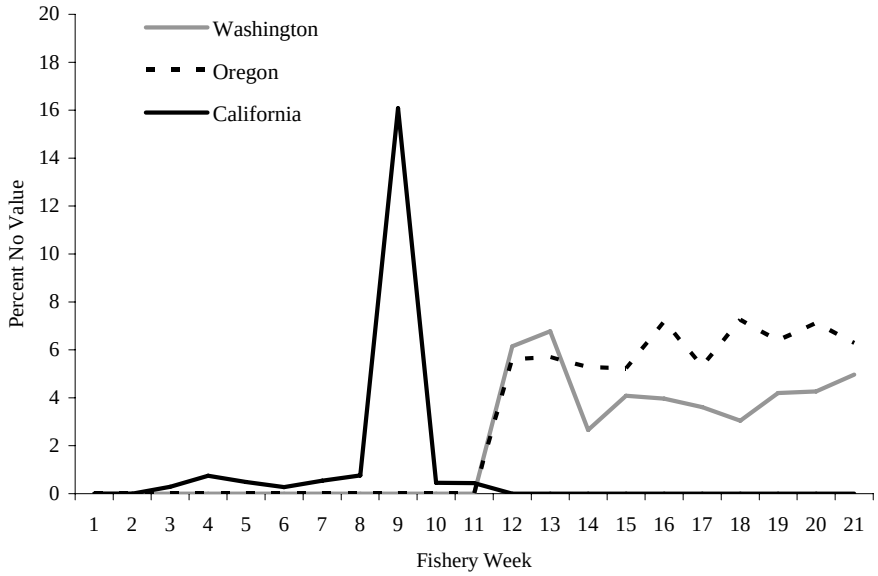

Figure 2. Percentage of hake identified as no value on fishtickets by fishery week in the 2005 shoreside hake fishery.

Note: Calculated using 1,133 of 1,182 shoreside hake landings where weighback was reported.

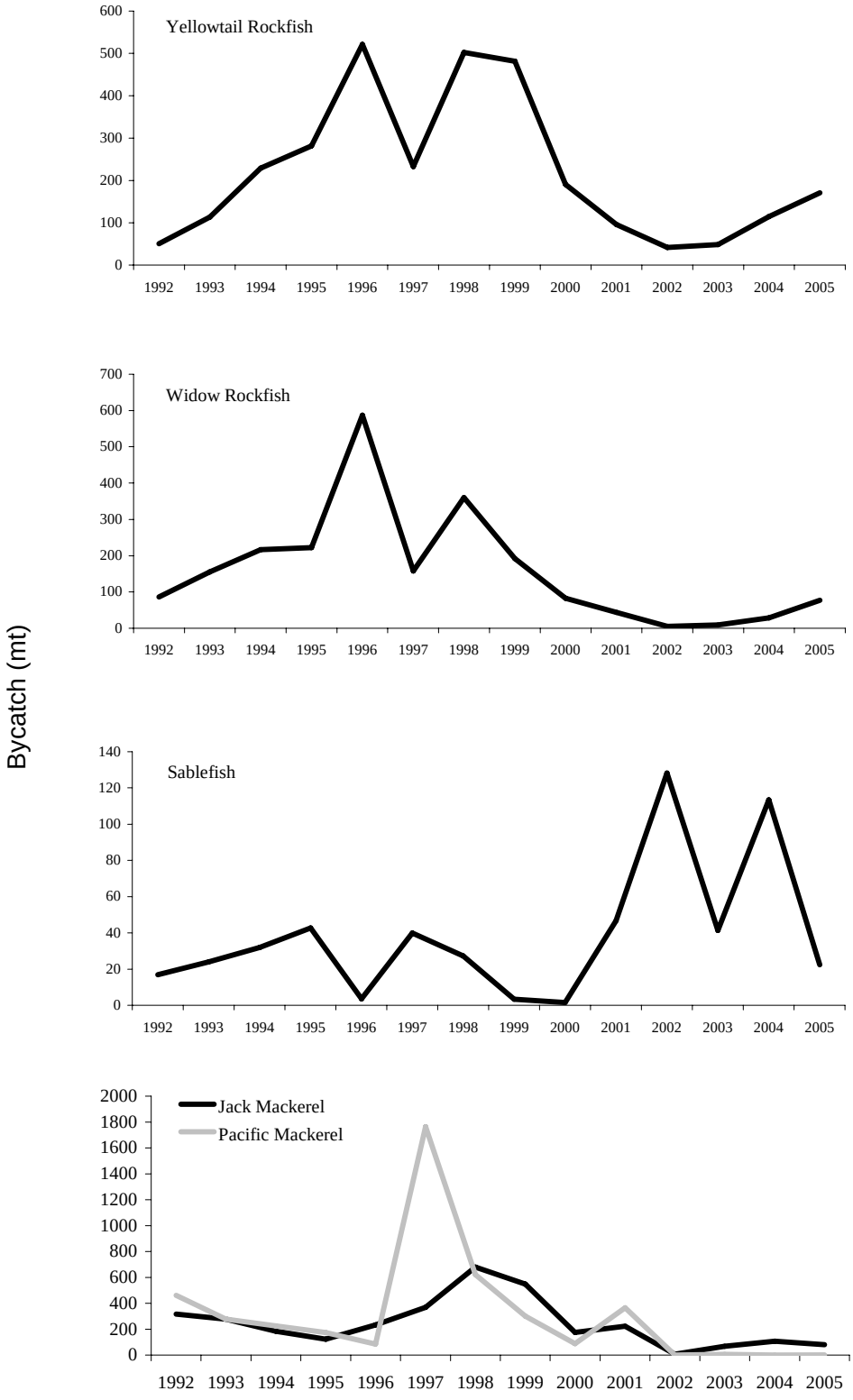

Figure 3. Trends in major bycatch components of the shoreside hake fishery, 1992 - 2005.
Note: 1992 allowed sorting of bycatch

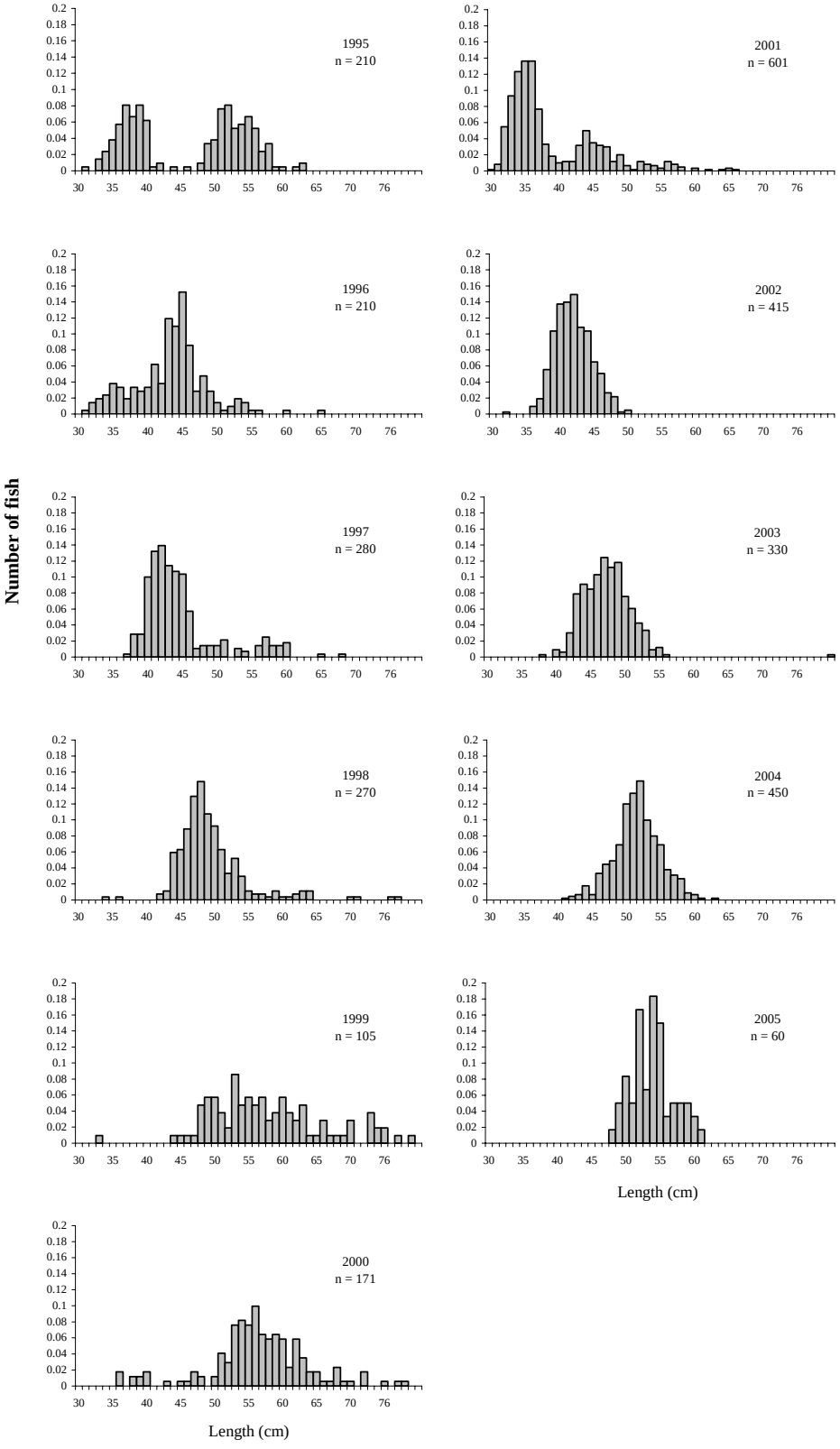

Figure 4. History of length-frequency distributions for sablefish observed by the Shoreside Hake Observation Program in Oregon, 1995 - 2005.

Note: Biological samples of sablefish not taken in Washington or California.

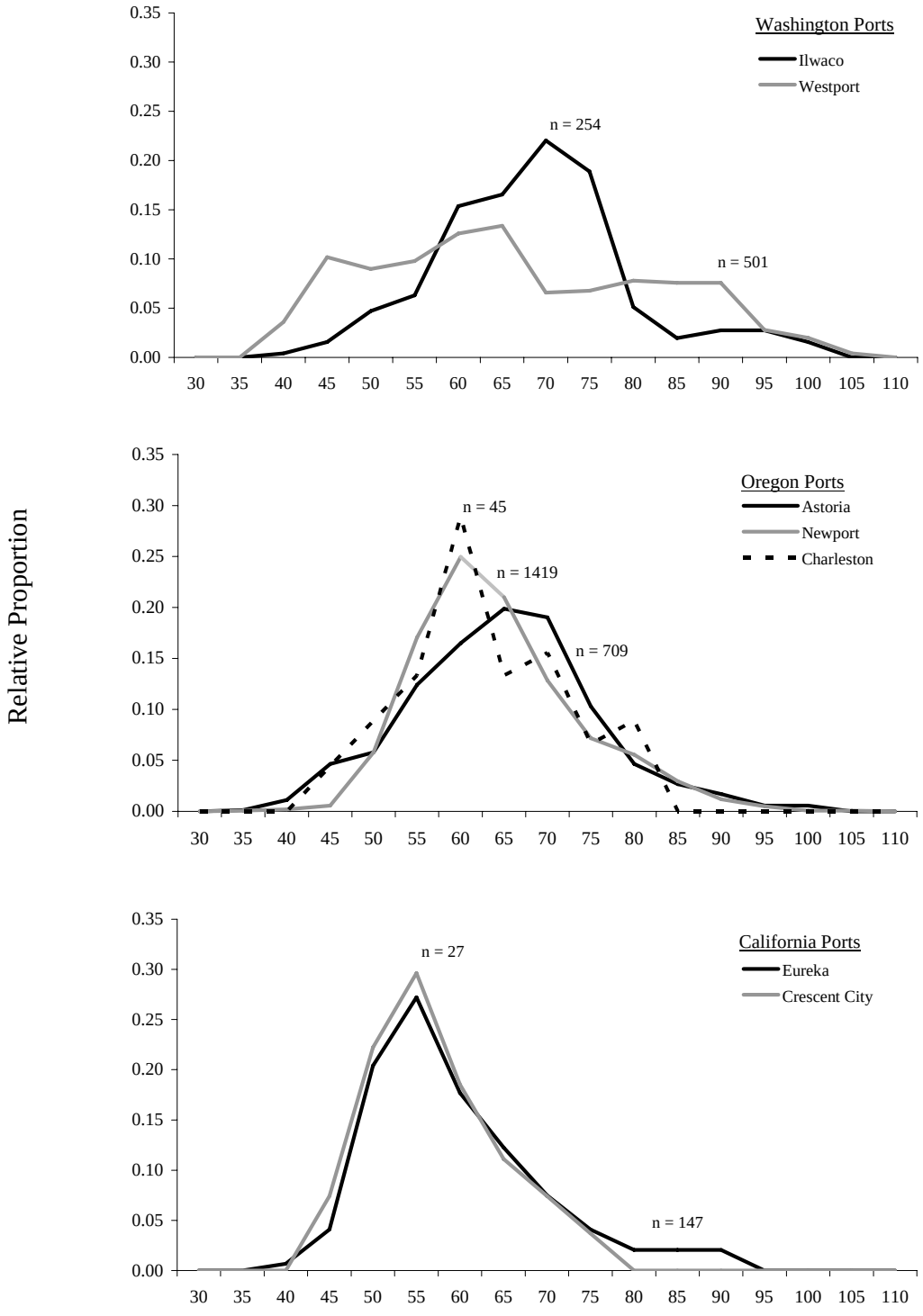

Figure 5. Length frequency histogram (in cm) for Chinook salmon bycatch in the shoreside hake fishery, 2005.

Note: Chinook salmon less than 24 inches (60cm) in length are generally 2 years of age or less

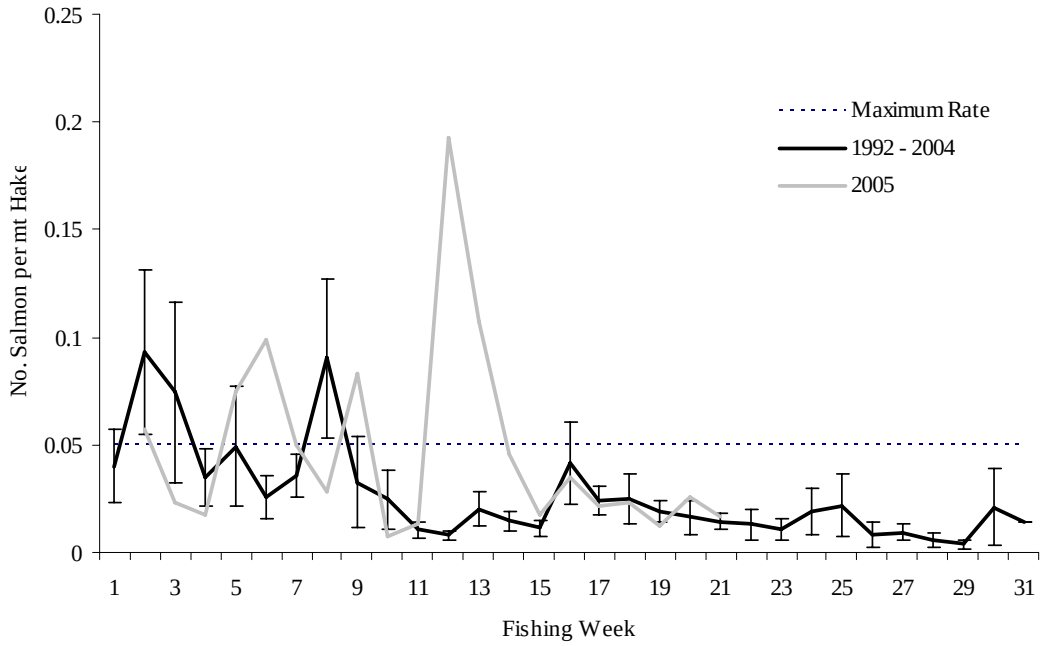

Figure 6. Weekly bycatch rate of salmon in the 2005 shoreside hake fishery compared to average rates (±SEM) for 1992-2004.

Note: Maximum rate is stipulated by the 1996 NMFS Biological Opinion (NMFS 1996)
The primary season opened on 15 June 2005, in Week 12

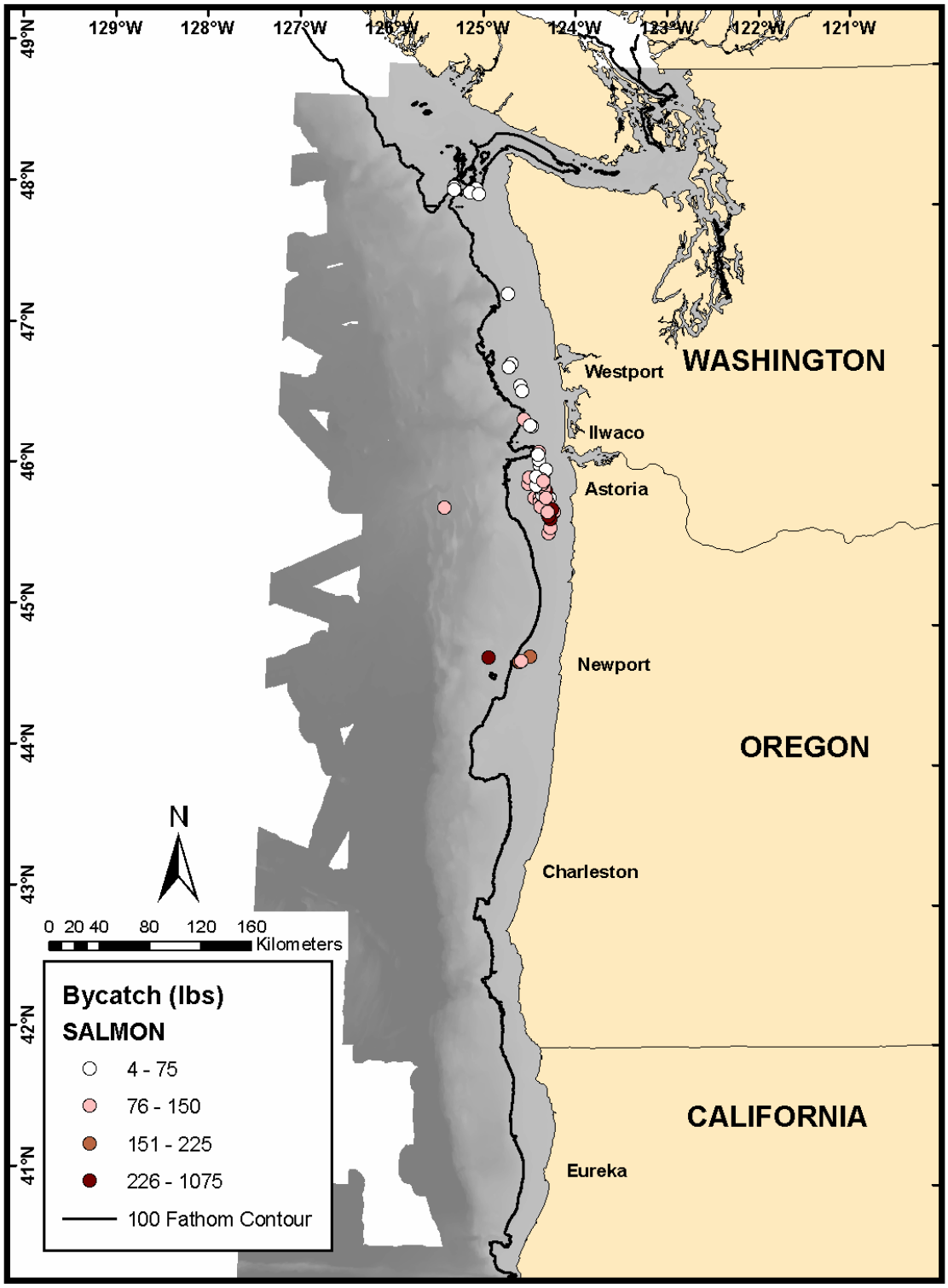

Figure 7. Locations of tows with salmon bycatch in the 2005 shoreside hake fishery as reported by shoreside processors. Data as of 7/17/2005.

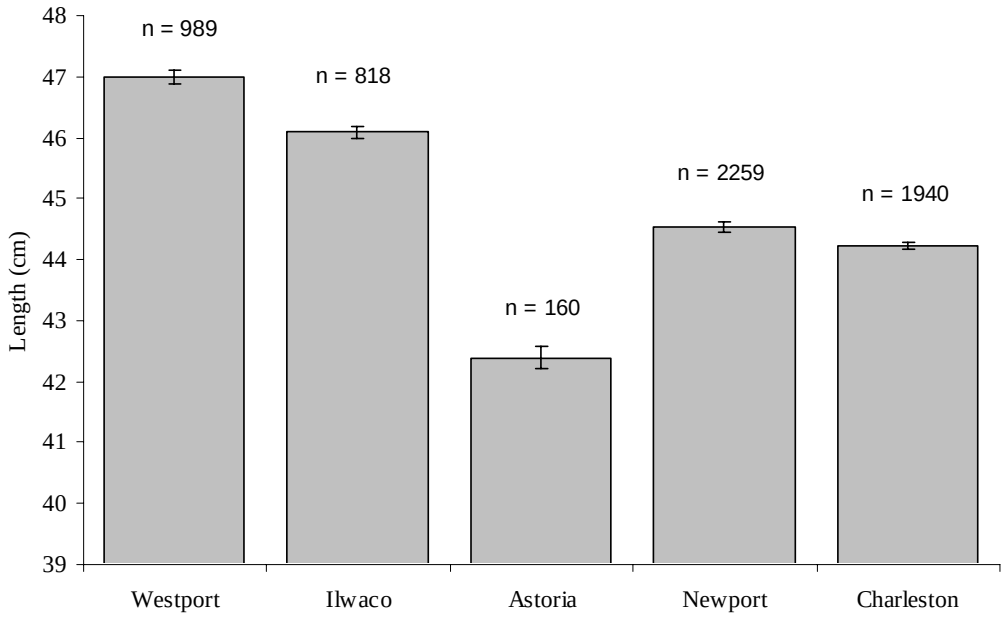

Figure 8. Mean length (±SEM) of Pacific hake by port in the shoreside hake fishery, 2005.

Note: Data from Astoria was limited to eight samples (20 fish each) taken within the first four weeks of the primary season, with each sample exhibiting a range of mean fish lengths between 41 to 44 cm.

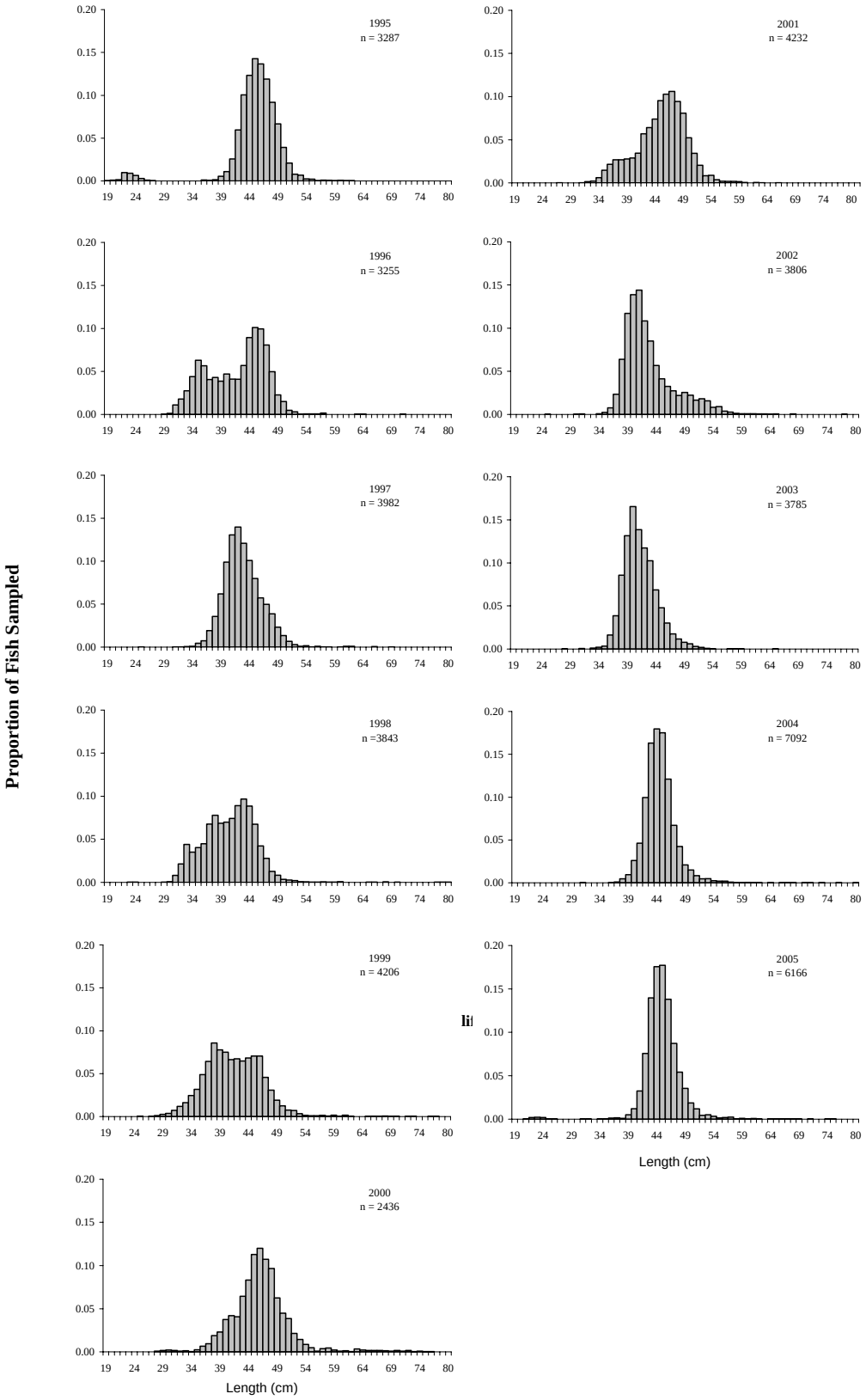

Figure 9. History of length-frequency distributions of Pacific hake in the shoreside hake fishery, 1995 - 2005.

Note: 1995 - 2001 includes data from Oregon only. Washington, Oregon, and California included in 2002 - 2005.

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