

ANNUAL OREGON ALBACORE TUNA (*THUNNUS ALALUNGA*) REPORT, 2010

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INTRODUCTION

Albacore is a highly migratory species found worldwide in temperate seas. Albacore caught off Oregon belong to the North Pacific stock and are generally juvenile and sub-adult fish that have not spawned. During their trans-Pacific migrations, albacore are targeted at different times of the year by fisheries of several nations including the United States, Canada, Taiwan and Japan. The United States West Coast fishery harvests this stock during the summer and fall months.

Albacore has been fished commercially off Oregon since the mid-1930s when the fishery expanded north from the traditional grounds off southern California. For many years, both baitboats and jigboats fished for albacore off Oregon, but in recent years predominantly jig-caught, also termed troll-caught, albacore have been landed. The current fleet consists primarily of small to medium (20 ft. to 60 ft.) "combination" boats which may fish crab, salmon, or groundfish at other times of the year, and several large freezer boats (mostly longer than 60 ft.) that travel the north and south Pacific, fishing primarily albacore.

Commercial albacore landings in Oregon have been highly variable through the years, ranging from a low of 27,600 pounds in 1936 to a high of almost 38 million pounds in 1968. In the last decade, landings in Oregon have averaged nine million pounds per year.

Beginning in 2005, under the Highly Migratory Species Fisheries Management Plan (HMSFMP), the National Marine Fisheries Service (NMFS) required vessels to submit logbook data while fishing for albacore inside the 200 mile Economic Exclusive Zone (EEZ). Prior to this, the logbook program was voluntary and only vessels fishing outside the EEZ were required to submit logbooks under the High Seas Fishing Compliance Act.

Sampling of Oregon's commercial albacore fishery is a cooperative effort between the Oregon Department of Fish and Wildlife (ODFW), the NMFS's Southwest Fisheries Science Center (SWFSC), and the Pacific States Marine Fisheries Commission (PSMFC). This report documents the progress of the 2010 fishery off Oregon and associated sampling activities.

Recreational fishing for albacore off Oregon has been growing in popularity during the past decade. Catches have ranged from a low of 2,901 fish (approximately 57,000 pounds) in 2000 to a high of 58,928 fish (approximately 1,175,000 pounds) in 2007. Since 2000, catches have averaged 20,000 fish (approximately 400,000 pounds) per year.

2010 COMMERCIAL FISHERY

The 2010 Oregon albacore season began with a small landing on June 22nd in Garibaldi. The main fishery began in early July and continued through early October. The peak of landings occurred during the third week of August.

Rough ocean conditions throughout most of July and early September caused two brief declines in landings (Figure 1). Sea surface temperatures were much cooler in 2010 than previous years, caused by nearly a month of strong northwest winds in July. Fishermen reported seeing schools of albacore on their sonar anywhere from 15 to 60 fathoms below the surface, but often were unwilling to move to the surface to bite troll gear and even live bait. This created spotty fishing off much of Oregon throughout July, August and into September. Many vessels ended their albacore season early or moved south to waters off California because of fishing conditions.

Several areas did produce good catches in 2010, including an offshore region approximately 1,000 miles west-northwest of Newport from late July through early September, where catches were as high as 10 tons per day, in the 47° N to 49° N latitudes and 138° W to 145° W longitudes; an area off Canada through most of September in the 48° N to 50° N latitudes and 127° W to 129° W longitudes; and an area off Oregon from mid-September through early October in the 44° N to 46° N latitudes and 127° W to 129° W longitudes.

- **2010 Albacore Landings**

A total of 419 vessels made at least one landing of albacore into Oregon ports in 2010, the same number of vessels in 2009. These vessels made 1,303 landings in 2010, which is a slight decrease from 1,325 landings in 2009.

Albacore landings (pounds) can be significant into October and often continue into November. In 2010, over one million pounds of albacore were landed in October and early November (Figure 2).

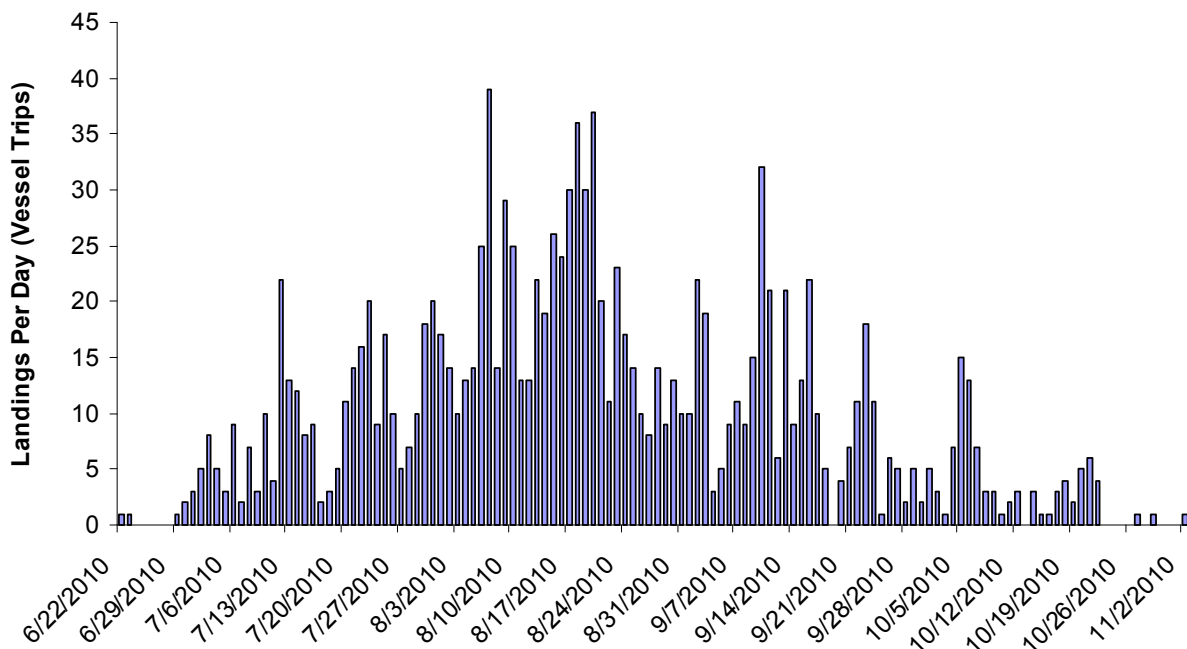


Figure 1. Distribution of daily Oregon commercial albacore landings (vessel trips), 2010.

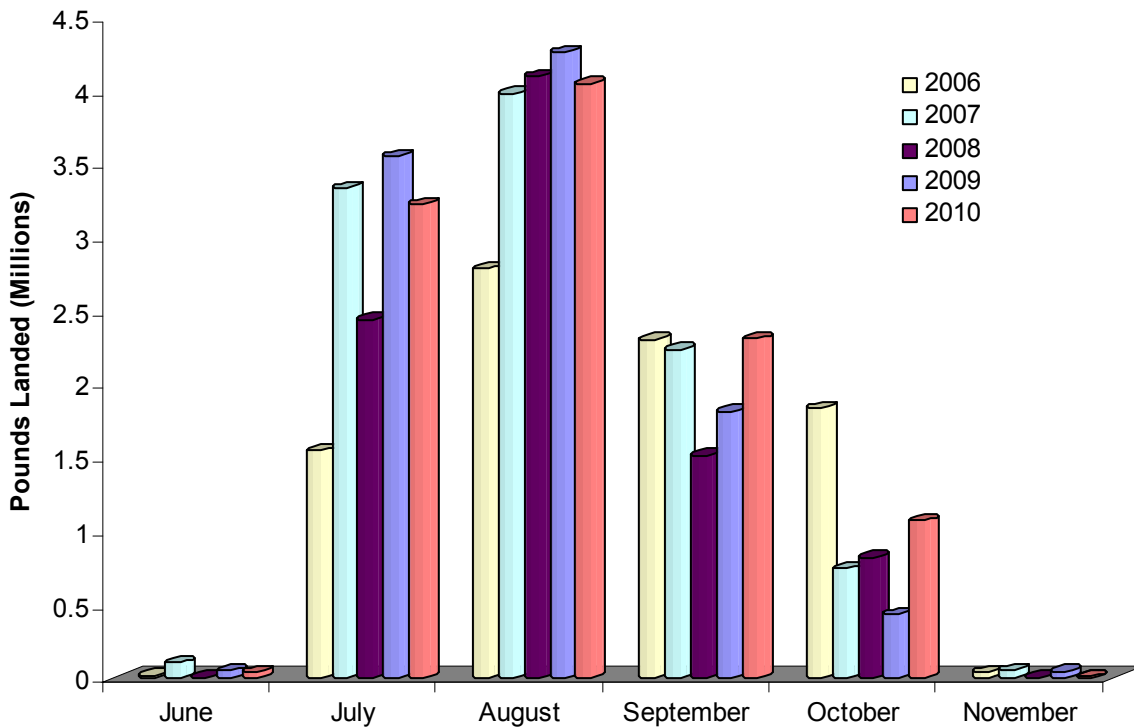


Figure 2. Five-year Oregon albacore landing (by weight) distribution by month.

* 2006-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

The preliminary total for 2010 commercial landings is 10,700,333 pounds. This is a 5% increase from the 10,152,226 pounds landed in 2009, and is 19% higher than the ten-year average (2001-2010) of 9,002,499 pounds (Table 1 and Figure 3).

Commercial landings (both vessel trips and total pounds landed) of albacore in 2010 were similar to those in 2009. Strong markets and good prices for brine and blast frozen fish kept many fishermen challenging bad weather and tough fishing conditions to continue making landings later into the 2010 season in comparison to previous seasons.

Astoria received the majority of Oregon's albacore landings (total pounds) in 2010 with 41% of the albacore poundage landed; followed by Newport with 39%, and Charleston with 17%. Nine other ports also received deliveries in 2010, accounting for about 3% of the total albacore landed in Oregon (Figure 4 and Table 2). Landings in Astoria, Garibaldi, Florence and Depoe Bay increased in 2010 from 2009 totals.

Table 1. Total Oregon commercial albacore landings 1985 – 2010.

*2005-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

Year	Pounds Landed	Year	Pounds Landed
1985	1,524,601	1998	10,603,155
1986	2,461,004	1999	4,552,878
1987	2,288,045	2000	8,756,755
1988	3,967,120	2001	8,958,529
1989	1,079,657	2002	4,361,742
1990	2,079,312	2003	9,165,362
1991	1,258,818	2004	10,754,016
1992	3,895,618	2005	8,087,413
1993	4,754,450	2006	8,521,642
1994	4,698,223	2007	10,447,567
1995	5,033,810	2008	8,876,158
1996	8,948,355	2009	10,152,226
1997	9,167,738	2010	10,700,333
10-Year Average (2001-2010): 9,002,499			

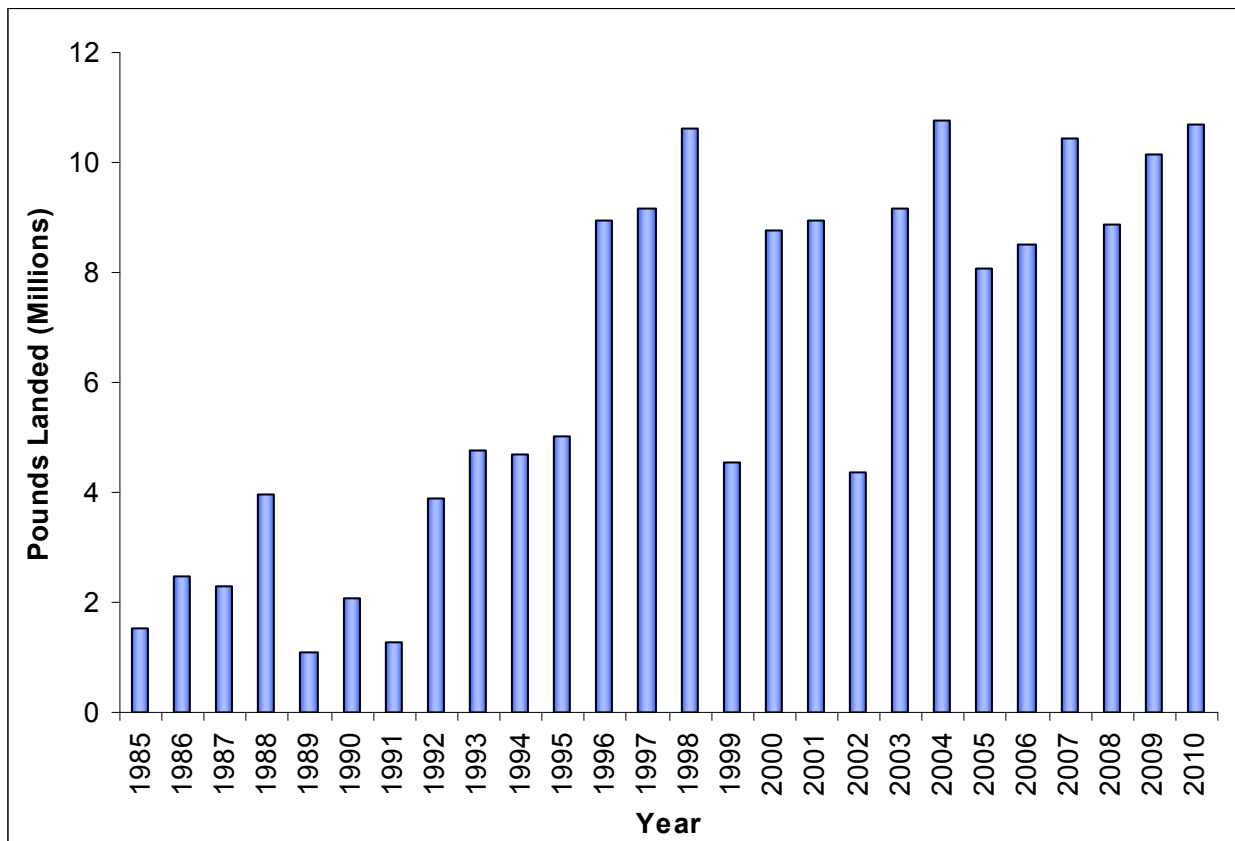


Figure 3. Oregon commercial albacore landings (total weight), 1985 – 2010.

*2005-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

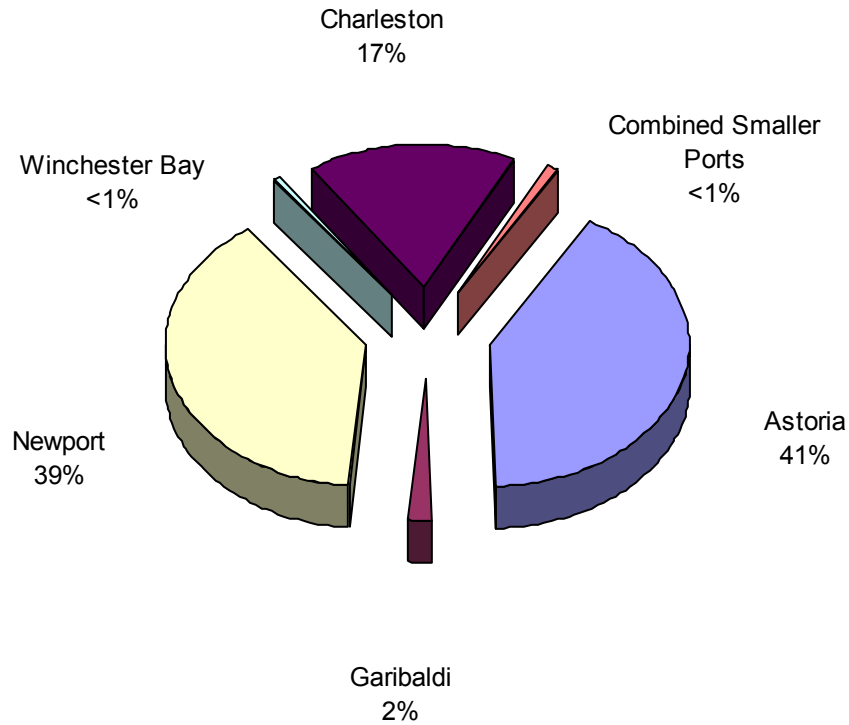


Figure 4. Percentage of 2010 Oregon commercial albacore landings (by weight) by port.

Table 2. Oregon commercial albacore landings (total pounds) by port, 2010 season and 10-year average.

*2005-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

Port	2010		10-Year Average	
	Pounds Landed	Percent of Pounds Landed	Pounds Landed	Percent of Pounds Landed
Newport	4,135,034	39%	3,957,154	44%
Astoria	4,397,578	41%	2,636,348	29%
Charleston	1,790,186	17%	1,919,548	21%
Garibaldi	217,992	2%	222,966	2%
Winchester Bay	60,635	<1%	126,313	1%
Brookings	32,444	<1%	50,650	<1%
Florence	24,772	<1%	49,728	<1%
Port Orford	14,382	<1%	18,274	<1%
Pacific City	5,662	<1%	5,016	<1%
Depoe Bay	14,502	<1%	7,104	<1%
Gold Beach	4,449	<1%	4,185	<1%
Smaller Ports*	2,697	<1%	5,213	<1%

*For confidentiality, smaller Ports include Portland, Seaside, Cannon Beach and Bandon.

The average landing in 2010 was 8,218 pounds, up 7% from 7,705 pounds in 2009. Table 3 describes the quartile partition of landing size in the 2010 Oregon albacore fishery, which more thoroughly explains the landing characteristics of the fishery. For example, although the average weight of a landing was 8,218 pounds, for 50% of the vessel trips, landings consisted of 2,385 or fewer pounds (Table 3).

Vessel participation in the Oregon albacore fishery has been sporadic over the last two decades, following availability and proximity of albacore, as well as ex-vessel prices and fuel costs. It appears to have peaked in the late 1990's or early 2000's, after the Eastern Pacific albacore population had recovered from overfishing, most likely due to a substantial decrease in the high seas drift net fishery (Figure 5) (Kohin et al, 2005).

Table 3. Quartile partition of 2010 Oregon albacore landings.

Quartile		Pounds
100%	Maximum	140,468
75%	Quartile	7,566
50%	Median	2,385
25%	Quartile	881
0%	Minimum	13

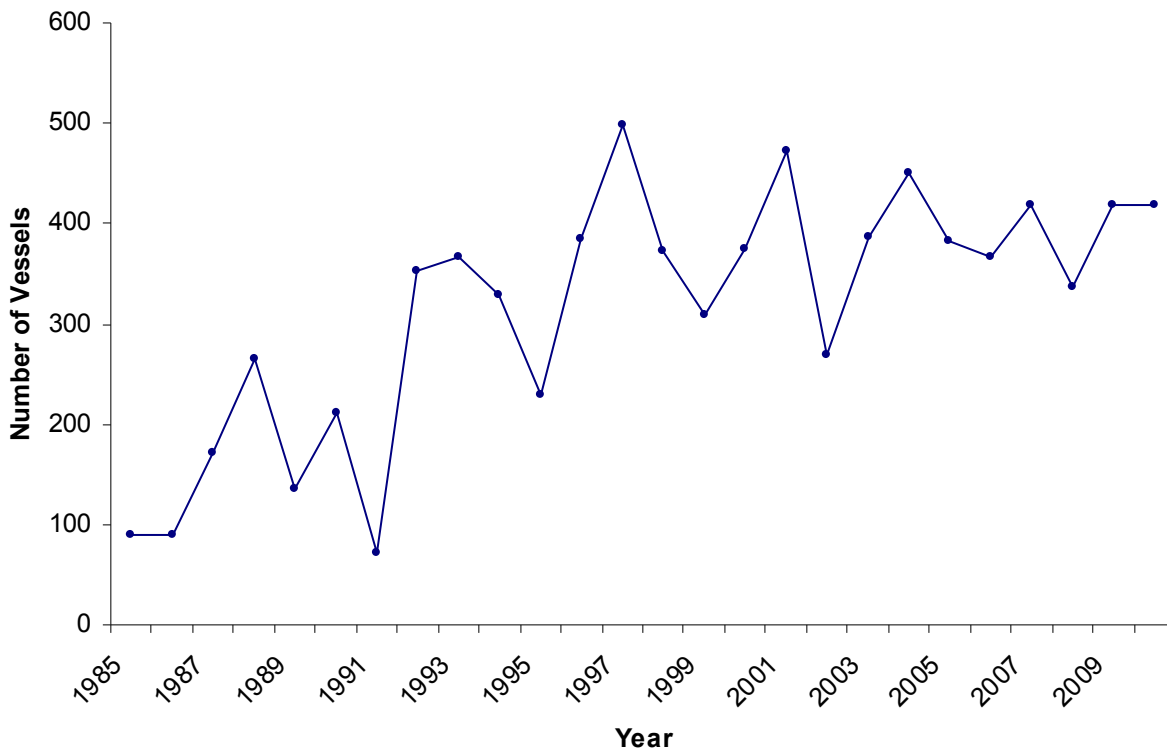


Figure 5. Number of vessels participating in the Oregon albacore fishery, 1985 - 2010.

*2005-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

- **2010 Albacore Revenue**

Most markets for the West Coast's albacore were much stronger in 2010 than in 2009. Foreign demand, specifically from Japan, France and Spain, as well as some increases in domestic markets drove the 2010 Oregon albacore season to an all-time record ex-vessel revenue of nearly \$12.5 million (Figure 6). Markets for blast frozen albacore started off extremely strong, with buyers paying up to \$1.55 per pound for top quality, super-cold fish. Prices dipped slightly in late July and early August, but recovered by September and finished the season with many dealers paying a record \$1.60 per pound. Brine markets started off strong with prices in July ranging from \$.90 to \$1.00 per pound. Continued foreign demand pushed prices up several times from August through October to finish the season between \$1.15 and \$1.25 per pound. Fresh, iced prices at the beginning of the season ranged from \$.85 to \$1.00 per pound, increasing throughout the season to \$1.25 per pound. Demand and prices for fresh fish at alternative, smaller markets were strong throughout the 2010 season in all Oregon ports, with prices ranging from \$1.00 to \$1.75 per pound. A recent strategy developed by local commercial fishers to improve the value of their albacore is to sell their catches directly off their vessel to the public, using Oregon's Limited Fish Seller's License. Limited Fish Sellers received between \$1.50 and \$2.50 per pound. This alternative method of sale is gaining popularity both with the albacore fleet, longtime customers and tourists to the Oregon coast.

Ex-vessel revenue generated from albacore in 2010 totaled \$12,422,383, a 21% increase from 2009's ex-vessel value of \$10,292,072 (Figure 6). The average, weighted, price per pound for albacore in Oregon for 2010 was \$1.16 per pound, the second highest per pound value on record. This is up \$.15 per pound from 2009 and \$.36 per pound higher than the 26-year average of \$0.80 per pound (1985-2010).

Albacore accounted for 12% of Oregon's marine fish revenue in 2010 (Figure 7). The 2010 albacore landings revenue ranked 3rd among fishery landings behind Dungeness crab at 32% and sablefish at 15%.

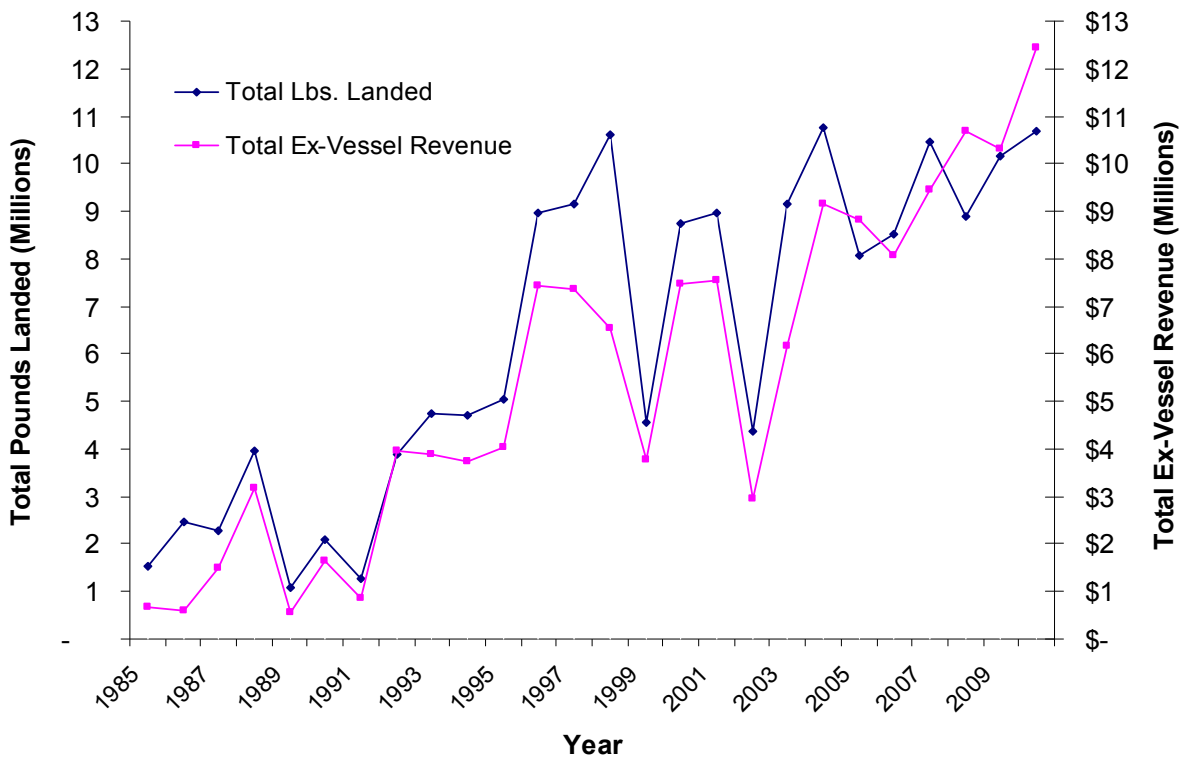


Figure 6. Total albacore ex-vessel revenue in relation to total albacore landings, 1985 – 2010.

*2005-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

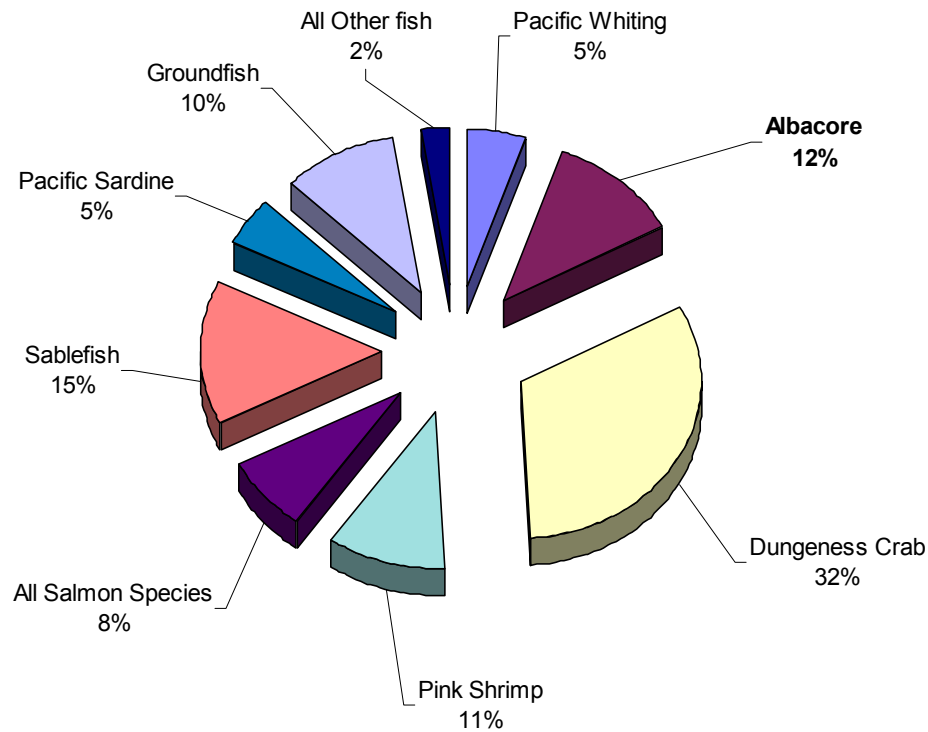


Figure 7. Oregon Marine Fish Revenue (ex-vessel), 2010.

2010 COMMERCIAL SAMPLING RESULTS

Albacore sampling was conducted by albacore tuna sampling staff on a full-time basis starting July 1st in Newport for four months, in Astoria for three months and in Charleston for 2 months. Additional sampling was conducted by ODFW commercial groundfish port samplers prior to and after the start of the dedicated albacore sampling period. Sampling activities included distribution of logbooks to vessels with valid Highly Migratory Species Permits, logbook envelopes for completed logbooks, and measuring fish for length-frequencies. The 2010 Oregon Albacore Season Summary (Appendix A) presents data requested in Oregon's contractual agreement with NMFS and PSMFC for albacore sampling funding. Organized by port and Oregon totals overall, these are:

- a. Number of logbooks issued to commercial albacore vessels
- b. Estimated landings (pounds) sampled for length-frequency
- c. Total number of fish measured for length-frequency
- d. Number of landings (vessel trips) sampled for length-frequency
- e. Estimated number of commercial trips
- f. Estimated number of total commercial vessels with at least one trip into an Oregon port
- g. Estimated number of total pounds landed by jig/troll vessels
- h. Estimated number of total pounds landed by bait vessels
- i. Estimated number of total pounds landed by jig & bait vessels
- j. Estimated sport landings (pounds)

In 2010, 17 logbooks were distributed to albacore fishermen holding valid HMS permits. Logbooks were distributed at local ODFW offices and by staff in the field to vessels with valid Highly Migratory Species Permits.

2010 Length-Frequency Analysis

During 2010, albacore from 210 vessels were sampled from a total of 402 separate vessel trips for length-frequency measurements. A total of 37,289 fish were measured for an average of 93 fish per length-frequency sample (Table 4). Sampled albacore delivered to Oregon buyers ranged in fork length from 51 cm to 99 cm. This length range of albacore converts to weights of 6.0 and 43.7 pounds. Figures 8 and 9 show length-frequency histograms of non-sorted, randomly sampled albacore during the 2010 and 2009 seasons. The 2009 histogram shows a bimodal population distribution, consisting of age classes representing approximately 3.5 and 4.5 year-old fish. Additionally, the 2009 histogram shows a higher percentage of the younger age-class of albacore, possibly indicating stronger older age-classes and weaker younger age-classes entered the 2010 fishery. The 2010 histogram also shows a similar bimodal population distribution, consisting of age classes representing approximately 3.5 and 4.5 year-old fish, but with a higher percentage of older age-class albacore than 2009. This shows the prediction of fewer younger age-class albacore into the 2010 fishery based on the 2009 histogram, to be fairly accurate. Based on this age-class prediction and the 2010 histogram showing fewer 60 to 70 cm, or 3.1 to 4.0 year-old albacore present in the 2010 fishery than the 2009 fishery, older age-classes entering the 2011 fishery may be much weaker than in 2010. This fact in addition to lower abundances of younger age-classes present in the 2010 fishery may indicate the 2011 fishery be weaker than the last several years. The average length for the entire 2010 commercially exploited population delivered to Oregon was 72.6 cm. Fish of this size are approximately four years old and weigh 17.3 pounds (Suda 1966; Clemons 1961).

Table 4. Length-Frequencies, number of fish measured, and number of fish per length-frequency by port, 2010.

Port	Length-Frequencies Taken	Number of Fish Measured	Average Fish Per L-F Sample
Astoria	99	6,247	63
Newport	242	25,897	107
Charleston	61	5,145	84
Oregon	402	37,289	93

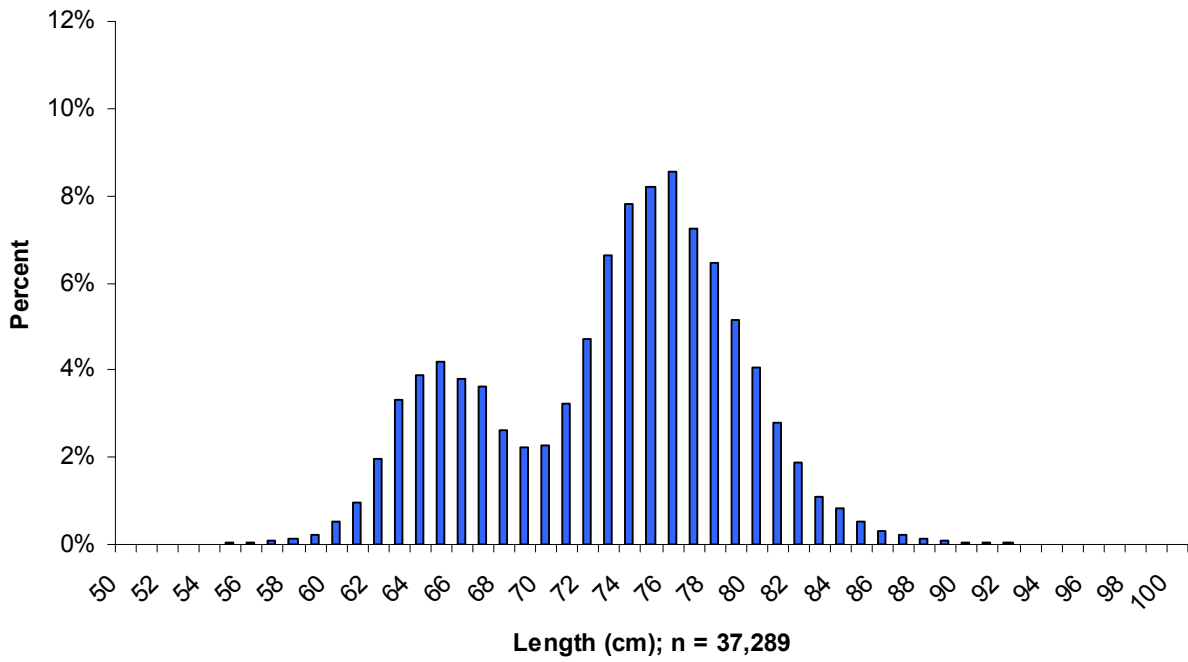


Figure 8. Length-frequencies of commercially landed albacore sampled in Oregon, 2010.

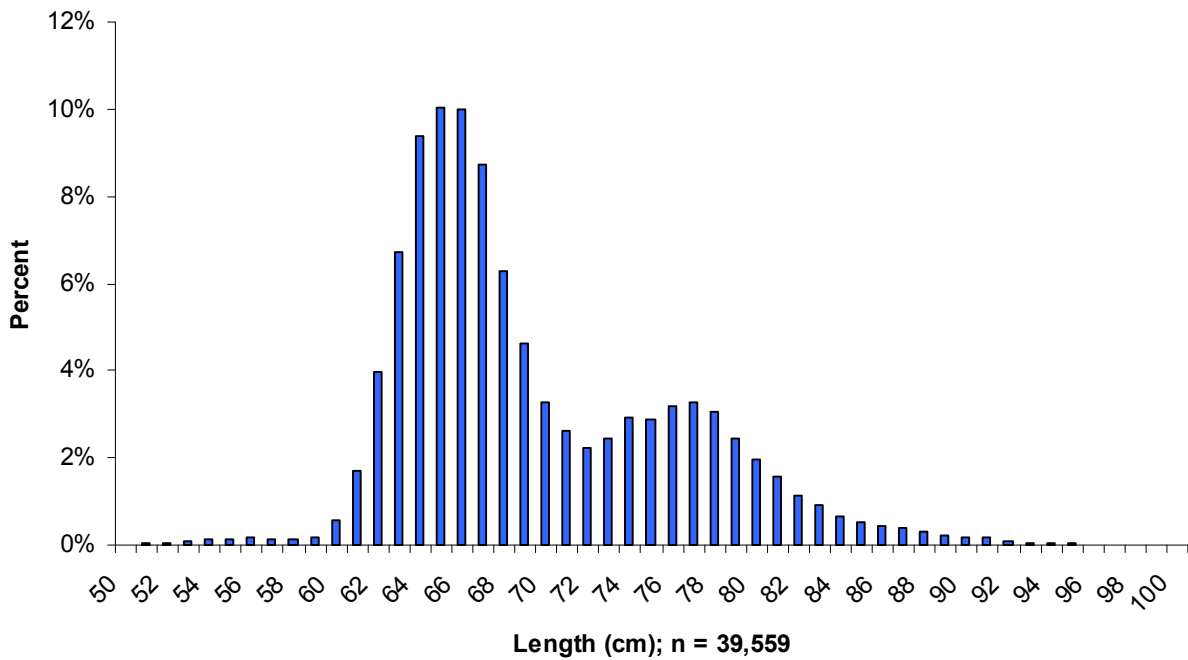


Figure 9. Length-frequencies of commercially landed albacore sampled in Oregon, 2009.

- **2010 Length-Frequency Analysis by Port**

In addition to the significant differences in length-frequency analysis between 2009 and 2010, length-frequency data for 2010 appears somewhat variable on a port-by-port basis. While all ports show a bimodal population distribution, Astoria shows a fairly even distribution, slightly heavier towards younger age-class albacore; Newport also shows a fairly even bimodal distribution, but has an opposite distribution than Astoria, towards slightly older age-class albacore; Charleston also has a bimodal distribution, but has a much higher percentage of older age-class albacore than both Astoria and Newport. An apparent trend in this data shows a larger proportion of older age-class albacore landed from north to south along the Oregon coast. A large mass of albacore from the offshore region, encompassing the 47° N to 49° N latitudes and 138° W to 145° W longitudes, moved onshore towards Washington and Canada in late August and September, and according to many fishermen were mostly smaller sized (9-14 pounds) fish, which could possibly explain Astoria's higher component of younger age-class albacore than any other Oregon port (Figures 10, 11 and 12) (Suda 1966). Average length and weight statistics based on Clemons (1961) also vary between the three areas:

- Astoria average length: 70.2 cm; average weight: 15.6 pounds
- Newport average length: 72.4 cm; average weight: 17.2 pounds
- Charleston average length: 74.0 cm; average weight: 18.3 pounds

The number of sampled fish does dramatically vary between the three ports where length-frequencies were taken on commercially landed albacore, and may partially account for the differences in length-frequency histograms and analysis.

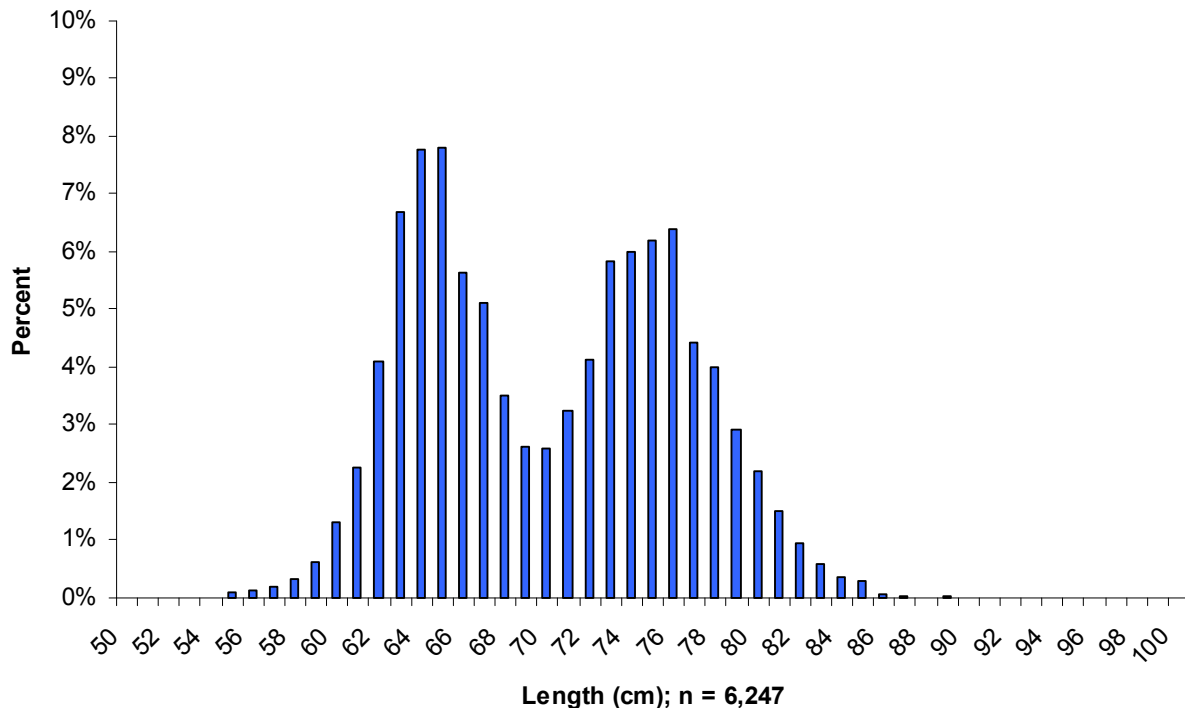


Figure 10. Length-frequencies of commercially landed albacore sampled in Astoria, 2010.

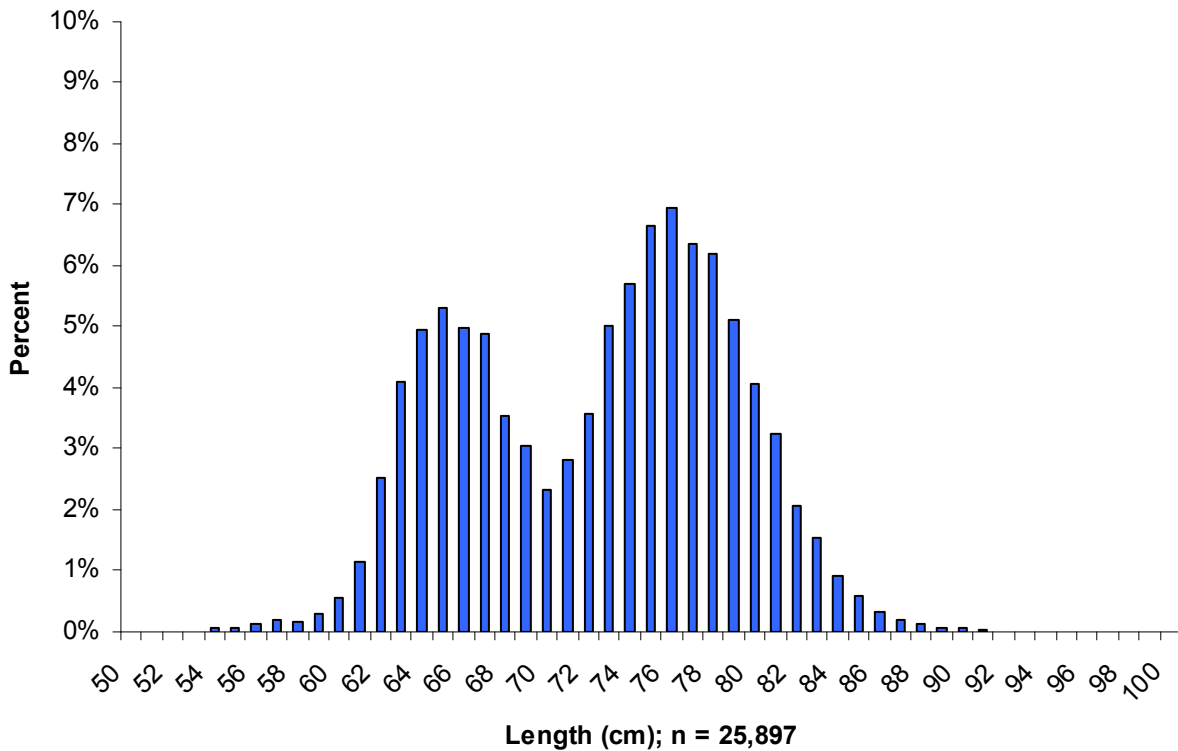


Figure 11. Length-frequencies of commercially landed albacore sampled in Newport, 2010.

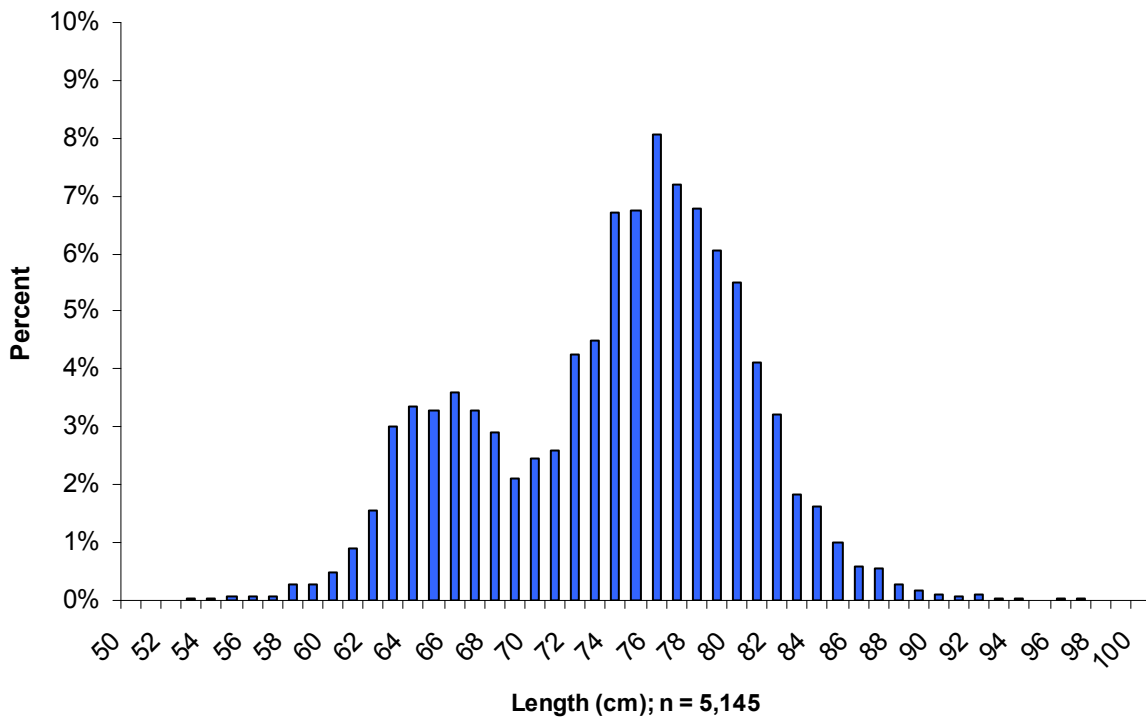


Figure 12. Length-frequencies of commercially landed albacore sampled in Charleston, 2010.

- **2010 Sampling Rate Analysis**

Sampling rates in 2010 were above the 50% minimum for the state as a whole, with variation between ports with dedicated albacore samplers (Table 5). An additional dedicated albacore sampler located in Charleston for the second year in 2010 provided expanded coverage in Oregon's second busiest port (in terms of albacore vessel trips). Sampling rates by port and year are presented in Table 5. Only Astoria, Newport and Charleston have had dedicated albacore port samplers since 2005. Charleston had limited sampling coverage in 2005 and 2006, and did not have a dedicated albacore port sampler in 2007 or 2008. In smaller ports, samples are taken by ODFW Port Biologists and groundfish sampling staff. The sample rates in smaller ports are typically much lower than 50% because few or no length-frequency samples are able to be taken in these ports. Additionally, the total pounds of albacore landed in these ports is considerably small compared to higher volume ports, and length-frequencies taken associated with those smaller landings usually do not influence Oregon's overall sample rate significantly.

In addition to the current analysis of sampling rates (percentage of total weight landed by commercial vessels represented with length-frequencies) for minimum sampling percentages, analyzing the difference between the percentage of total weight sampled and the percentage of total vessels sample is important to determine if any sampling bias has occurred on a port and/or state-wide level. In Table 6, these differences are calculated as the percent of Weight Sampled minus (-) the percent of Landings sampled.

With six years of data available for these calculations, sample rate patterns are emerging in ports where dedicated albacore samplers have been located and for Oregon overall. Although Astoria has only had a dedicated albacore sampler since 2006 and Charleston since 2009, general sampling rate statistics can be derived from all ports where albacore sampling has occurred. Among these patterns and statistics, identifying any sampling biases is important in maintaining a randomly sampled, well-represented commercial albacore fishery.

Two possible types of bias can exist in sampling the commercial albacore fleet, and for the purposes of this report will be called Type A and Type B. Type A bias (denoted by the † symbol in Table 6) may indicate samplers focused efforts on vessels with larger amounts of albacore, either because sampling larger offloads were needed to maintain a 50% minimum sampling rate, or simply because the offloads they were present for were larger. Type B bias (denoted by the ◊ symbol in Table 6) may indicate samplers focused efforts on obtaining as many length-frequency samples as possible, regardless of the size of offload or specifically targeting smaller offloads, either because larger offloads were missed and more samples were needed to maintain a 50% minimum sample rate, or simply because the offloads they were present for were smaller.

Approximate average (2005-2010) differences in percent weight sampled minus percent landings sampled are as follows:

Astoria:	22%
Newport:	31%
Charleston:	23%
Oregon:	28%

Using a guideline of a 5% or greater difference from the averages above as potential sampling bias, it appears Type A sampling bias possibly occurred in Astoria in 2010, Newport in 2007, Charleston in 2010 and Oregon overall in 2010. Additionally, Type B sampling bias possibly occurred in Astoria in 2005, Charleston in 2006 and 2007, and Oregon overall in 2005 and 2006.

Without analyzing average weight per landing data and comparing it to the difference between the two sampling percentage types for every port and year, it is difficult to determine if these potential biases are real or anomalies. Additionally, other variables, such as the lack of a dedicated albacore sampler in Charleston in 2006 and 2007 may be factors in this analysis.

With the current strategy of sampling vessels with larger amounts of albacore, it may not be possible to reduce these biases. Many commercial fishers sell their catch off their vessels directly to the public, or to

smaller dealers in which offloads are small, may only take several minutes and are often out of view of albacore samplers. These types of deliveries often take place simultaneously to other, larger deliveries at major fish plants and buyers, forcing albacore samplers to choose which sample to take, possibly lowering their overall sampling percentage should they choose to sample smaller deliveries. However, whenever possible, albacore samplers attempt to take advantage of opportunities to sample smaller vessels, deliveries or vessels selling their catch directly to the public.

Although it appears no significant biases in sampling are occurring in Oregon, monitoring this analysis in the future will be important to ensure no biases begin to occur.

Table 5. Albacore sampling rates by port and year, 2005-2010.

*2005-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

Port	2005 % Weight Sampled	2006 % Weight Sampled	2007 % Weight Sampled	2008 % Weight Sampled	2009 % Weight Sampled	2010 % Weight Sampled
Astoria	26%	40%	57%	53%	73%	71%
Garibaldi	6%	3%	3%	18%	0%	0%
Pacific City	0%	0%	12%	0%	0%	0%
Newport	61%	71%	77%	75%	75%	71%
Winchester Bay	0%	4%	0%	5%	0%	32%
Charleston	32%	33%	4%	26%	45%	56%
Port Orford	0%	16%	0%	0%	0%	0%
Gold Beach	0%	90%	0%	0%	0%	0%
Brookings	12%	9%	0%	0%	0%	0%
Oregon	39%	48%	52%	51%	65%	66%

* Sampling rates are defined as the percentage of total weight landed in a port of which a length-frequency was taken from offloading vessels.

Table 6. Comparison of albacore length-frequency sampling rates, in both percent of landings sampled and percent of total weight landed, 2005-2010

*2005-2007; 2009 data updated since published in the 2009 Annual Albacore Report.

Year	Port	% Weight Sampled	% Landings Sampled	Difference between % Landings Sampled - % Weight Sampled
2005	Astoria ◇	25.7%	9.5%	16.1%
2006	Astoria	40.4%	19.5%	20.9%
2007	Astoria	56.8%	36.6%	20.2%
2008	Astoria	53.2%	32.1%	21.2%
2009	Astoria	72.9%	48.1%	24.8%
2010	Astoria †	70.7%	44.0%	26.7%
2005	Newport	61.2%	27.4%	33.8%
2006	Newport	71.4%	42.3%	29.1%
2007	Newport †	76.6%	40.3%	36.3%
2008	Newport	74.7%	42.6%	32.1%
2009	Newport	74.7%	46.7%	28.0%
2010	Newport	70.8%	42.1%	28.7%
2005	Charleston	31.8%	10.9%	20.9%
2006	Charleston ◇	32.9%	16.9%	16.0%
2007	Charleston ◇	4.4%	0.7%	3.6%
2008	Charleston	26.3%	7.8%	18.4%
2009	Charleston	44.6%	23.9%	20.7%
2010	Charleston †	55.5%	22.8%	32.7%
2005	Oregon ◇	39.2%	16.3%	22.9%
2006	Oregon ◇	47.7%	24.9%	22.9%
2007	Oregon	51.6%	22.8%	28.8%
2008	Oregon	51.3%	26.4%	24.9%
2009	Oregon	65.1%	32.7%	32.4%
2010	Oregon †	65.9%	30.9%	35.0%

† Denotes possible Type A sampling bias

◇ Denotes possible Type B sampling bias

- **2010 Recreational Fishery**

The 2010 recreational Oregon albacore fishery was fairly similar in terms of number of fish caught and pounds landed, but was more sporadic than the 2009 recreational fishery. Overall, 2010 saw the third highest number of albacore landed in history. The first sampled recreational albacore were landed in late June in Garibaldi and Newport. Recreational albacore fishing continued into the first week of October, with small catches landed in Newport and Brookings. An estimated 37,711 albacore weighing approximately 755,936 pounds were landed for the year. These values are down 6% from 2009, but are above the five-year average (2006-2010) of 35,000 albacore weighing approximately 685,000 pounds. Access to albacore for recreational vessels off Oregon is highly variable due to distances to the fish and weather conditions. The 2010 season experienced typical NE Pacific weather conditions consisting of strong northerly winds, which kept a large mass of cool water off Oregon for much of the season and limited access to recreational albacore to areas mostly outside of 30-50 miles offshore. Weather through most of July was extremely rough and limited sport fishing opportunities to only several days before calmer weather in August and September. Although the 2010 recreational albacore season was similar to the 2009 season in terms of overall catch and effort, the north coast ports of Astoria, Garibaldi and Pacific City saw a surge in private and charter catch and effort for albacore, with several records being recorded in those ports. Most southern ports saw decreases in both catch and effort (Tables 7 & 8).

Directed charter fishing effort for albacore totaled 2,500 angler trips in 2010, an 8% decrease from 2,700 angler trips in 2009. Astoria and Garibaldi set records for the number of charter angler trips for albacore in 2010. Directed private albacore trips totaled 8,900 angler trips, a 16% increase from 7,700 angler trips in 2009. Garibaldi, Pacific City and Newport set records for the number of private angler trips for albacore in 2010 (Tables 7 & 8, Figure 13).

Directed charter catch for albacore totaled 6,800 fish in 2010, a 20% decrease from 8,500 fish landed in 2009. The Astoria and Garibaldi charter fleets set records for the number of albacore landed in 2010 with 1,294 and 651 fish, respectively. Directed private albacore catch totaled 27,900 fish in 2010, an 8% decrease from 31,000 fish landed in 2009. The Garibaldi sport fleet set a record for the number of albacore landed in 2010 with 10,309 fish (Tables 9 & 10, Figure 14).

Most of the recreational effort and catch (charter and private vessels combined) of albacore came from the ports of Newport, Garibaldi, Charleston and Depoe Bay (Figure 15).

Table 7. Oregon private vessel albacore fishing effort (angler trips) by port, 2000 - 2010.

Port	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 [◇]	5-Year Average [¥]
Astoria	0	0	19	77	95	186	187	338	422	59	242	250
Garibaldi	33	63	49	94	88	120	641	1,263	960	1,059	2,535	1,292
P. City	22	197	12	134	132	58	80	209	35	92	246	132
D. Bay	34	33	100	227	419	406	385	1,644	743	694	1,067	907
Newport	164	240	132	224	697	586	644	2,415	1,475	1,991	2,959	1,897
Florence	0	0	0	NS	0	0	NS	30	67	15	16	32
W. Bay	0	14	0	44	98	20	12	367	231	370	177	231
Charleston	21	582	103	528	561	19	144	1,712	960	2,962	1,526	1,461
Bandon	0	30	0	4	53	0	76	132	0	239	19	93
P. Orford	0	0	NS	10	NS	NS	NS	NS	NS	NS	NS	-
G. Beach	4	0	NS	55	NS	0	6	12	0	28	0	9
Brookings	0	101	51	610	505	39	179	932	85	166	115	295
Total	278	1,260	466	2,007	2,648	1,434	2,354	9,054	4,978	7,675	8,902	6,593

[◇] 2010 Preliminary Totals

[¥] 5-year average includes 2006-2010

NS Indicates no port samplers present that year

Table 8. Oregon charter vessel albacore fishing effort (angler trips) by port, 2000 - 2010.

Port	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 ◊	5-Year Average ¥
Astoria	0	0	0	28	46	72	108	311	390	330	399	308
Garibaldi	0	64	50	31	64	80	38	111	164	117	212	128
P. City	0	3	0	0	12	5	0	9	5	1	8	5
D. Bay	366	325	221	110	256	151	94	683	245	432	595	410
Newport	313	426	587	583	722	611	646	1,463	1,089	1,260	970	1,086
W. Bay	0	31	25	109	160	77	0	12	0	12	0	5
Charleston	0	101	0	55	68	0	10	69	109	240	142	114
Bandon	0	22	0	36	48	14	83	231	107	222	149	158
G. Beach	0	0	NS	14	NS	0	0	30	0	48	0	16
Brookings	0	18	0	51	46	12	0	57	14	20	0	18
Total	679	990	883	1,017	1,422	1,022	979	2,976	2,123	2,682	2,475	2,247

◊ 2010 Preliminary Totals

¥ 5-year average includes 2006-2010

NS Indicates no port samplers present that year

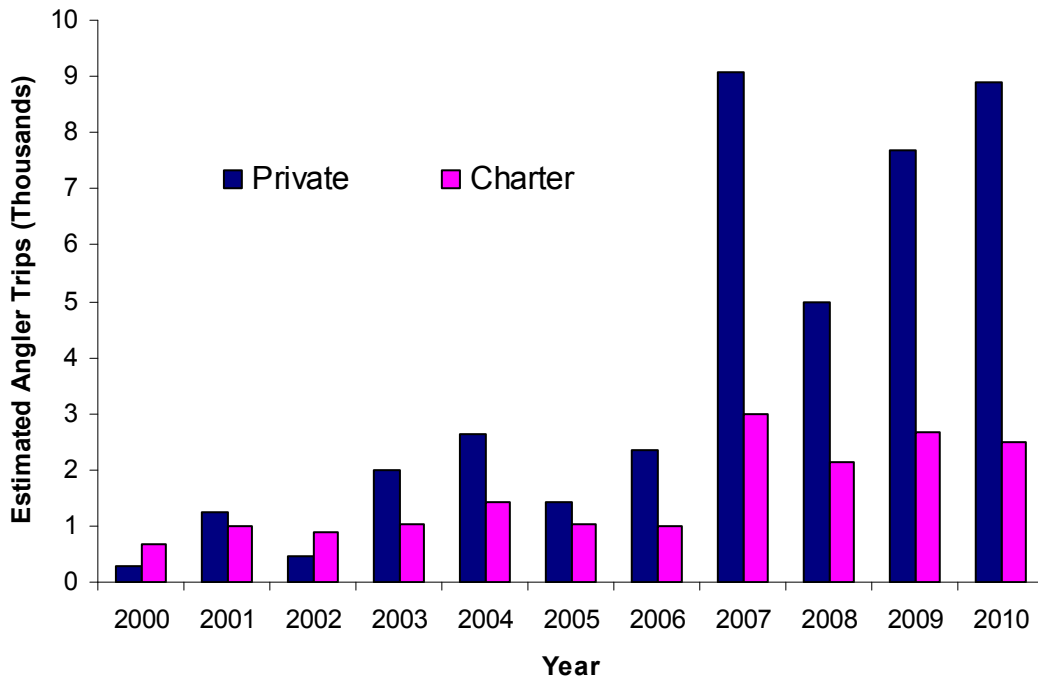


Figure 13. Oregon recreational albacore fishing effort (angler trips), 2000-2010.

Table 9. Oregon private vessel albacore catch (number of fish) by port, 2001 - 2010.

Port	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 ◊	5-Year Average ¥
Astoria	0	16	496	499	317	804	1,832	1,809	247	344	1,007
Garibaldi	279	60	498	819	155	3,160	4,943	3,993	4,119	10,309	5,305
P. City	991	7	369	1,932	53	92	1,910	314	767	1,468	910
D. Bay	177	490	1,230	2,259	943	1,413	9,100	2,666	3,458	3,477	4,023
Newport	852	562	762	2,894	1,472	1,875	14,825	6,267	10,887	9,911	8,753
Florence	0	0	NS	0	0	NS	65	287	41	32	106
W. Bay	7	0	191	624	8	0	1,571	460	969	547	709
Charleston	1,777	72	811	2,258	12	816	8,370	2,153	12,036	4,617	5,598
Bandon	102	0	2	167	0	517	624	0	813	28	396
P. Orford	12	NS	46	NS	NS	NS	NS	NS	NS	NS	-
G. Beach	0	NS	109	NS	0	0	210	0	21	0	46
Brookings	338	208	1,962	812	2	303	4,289	136	184	187	1,020
Total	4,535	1,415	6,476	12,264	2,962	8,980	47,739	18,085	33,542	30,920	27,853

◊ 2010 Preliminary Totals

¥ 5-year average includes 2006-2010

NS Indicates no port samplers present that year

Table 10. Oregon charter vessel albacore catch (number of fish) by port, 2001 - 2010.

Port	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 ◊	5-Year Average ¥
Astoria	0	0	106	172	275	231	907	1,167	1,016	1,294	923
Garibaldi	298	144	119	186	170	204	628	440	322	651	449
P. City	3	0	0	62	3	0	70	98	4	20	38
D. Bay	885	390	254	572	186	113	2,139	670	942	1,552	1,083
Newport	2,135	1,612	1,978	2,934	1,043	1,653	4,920	3,126	3,419	2,364	3,096
W. Bay	144	15	555	782	327	0	36	0	31	0	13
Charleston	400	0	281	192	0	50	301	269	850	410	376
Bandon	116	0	243	216	46	398	1,607	333	1,727	510	915
G. Beach	0	NS	147	NS	0	0	256	0	161	0	83
Brookings	52	0	91	327	3	0	319	81	41	0	88
Total	4,033	2,161	3,774	5,443	2,053	2,649	11,183	6,184	8,513	6,801	7,066

◊ 2010 Preliminary Totals

¥ 5-year average includes 2006-2010

NS Indicates no port samplers present that year

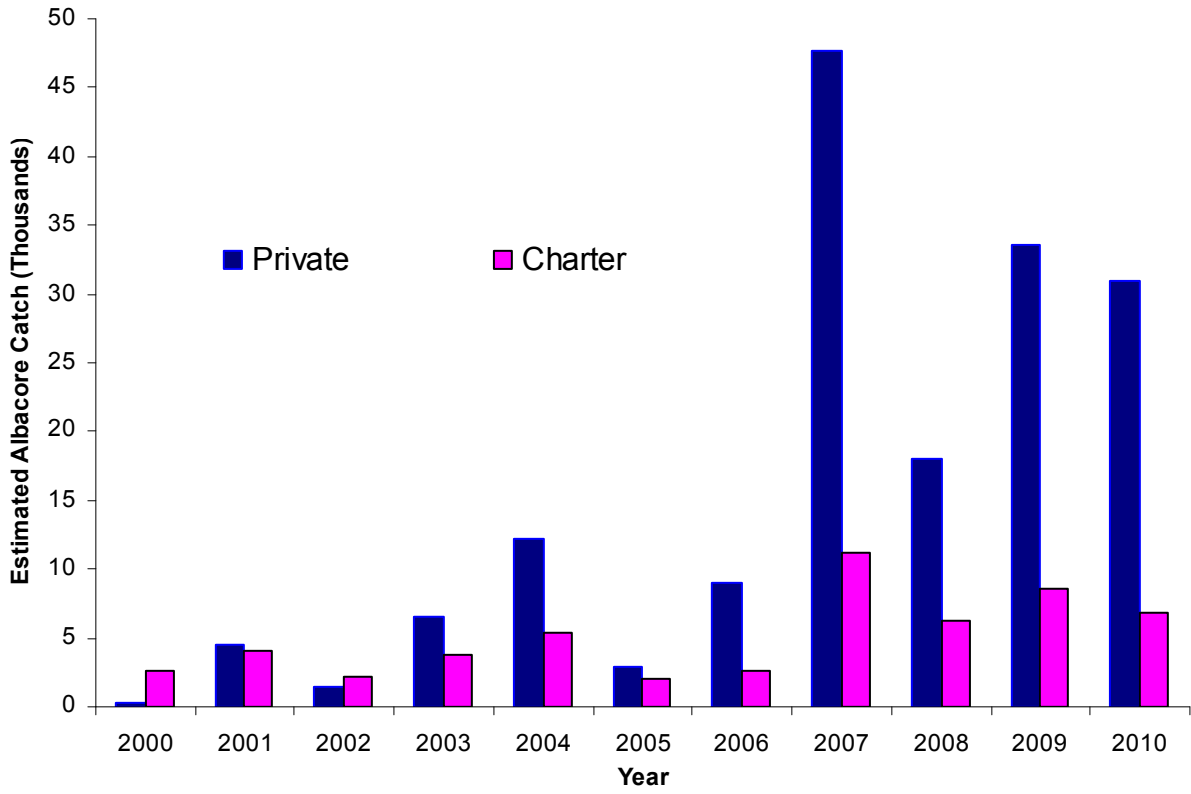


Figure 14. Oregon recreational albacore catch (number of fish) by vessel type 2000-2010.

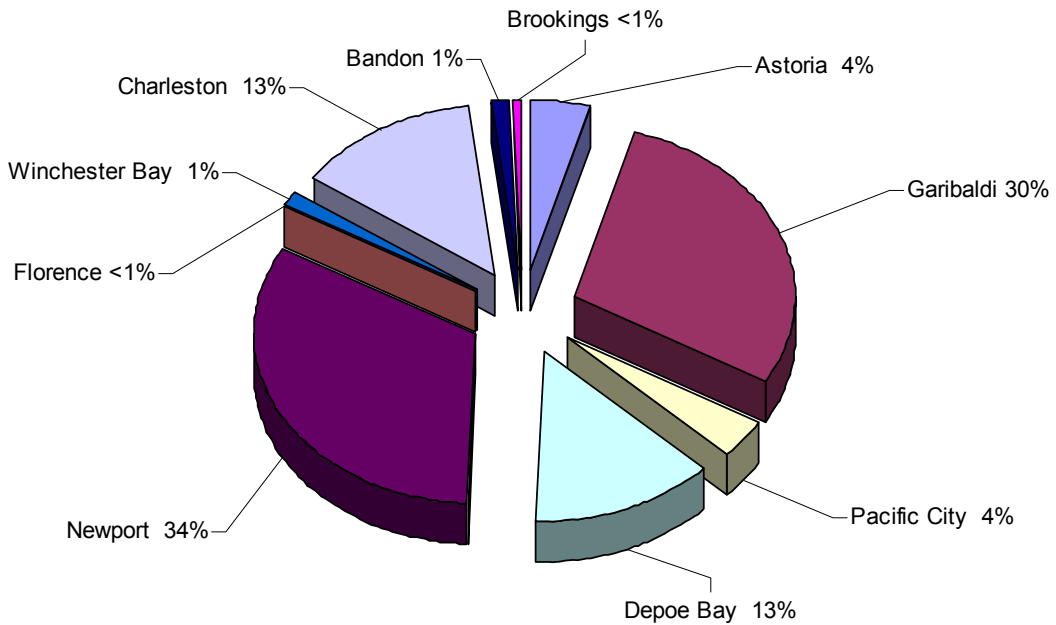


Figure 15. Percentage of Oregon's recreational albacore catch by port, 2010.

Private vessel catch-per-unit of effort (CPUE) in 2010 (3.5 albacore per angler) was down more than 20% from 2009 (4.4 albacore per angler). Charter vessel CPUE in 2010 was identical to 2009 (3.2 albacore per angler) (Table 11). The recreational (private and charter) CPUE values range significantly among Oregon's ports, and are indicative of variable weather and ocean conditions along with a wide range in the distance to productive fishing areas from each port. Additionally, catch rates for both private and charter vessels were highest in July, and dropped off later in the summer as albacore "jumpers" increased. This jumping behavior is usually accompanied by a sharp drop in catch rates as albacore become more boat shy and are less likely to be caught on typical troll gear.

Table 11. Oregon private, charter, and total Oregon albacore recreational catch, effort, and Catch-Per-Unit of Effort (CPUE defined as the estimated number of albacore caught divided by the estimated number of albacore angler trips), 2010.

<u>Port</u>	<u>Catch (No. of Albacore)</u>			<u>Effort (Angler Trips)</u>			<u>Catch per Unit of Effort</u>		
	<u>Private</u>	<u>Charter</u>	<u>Total</u>	<u>Private</u>	<u>Charter</u>	<u>Total</u>	<u>Private</u>	<u>Charter</u>	<u>Total</u>
Astoria	344	1,294	1,638	242	399	641	1.4	3.2	2.6
Garibaldi	10,309	651	10,960	2,535	212	2,747	4.1	3.1	4.0
Pacific City	1,468	20	1,488	246	8	254	6.0	2.5	5.9
Depoe Bay	3,477	1,552	5,029	1,067	595	1,662	3.3	2.6	3.0
Newport	9,911	2,364	12,275	2,959	970	3,929	3.3	2.4	3.1
Florence	32	0	32	16	0	16	2.0	-	2.0
W. Bay	547	0	547	177	0	177	3.1	-	3.1
Charleston	4,617	410	5,027	1,526	142	1,668	3.0	2.9	3.0
Bandon	28	510	538	19	149	168	1.5	3.4	3.2
G. Beach	0	0	0	0	0	0	-	-	-
Brookings	187	0	187	115	0	115	1.6	-	1.6
Total	30,920	6,801	37,721	8,902	2,475	11,377	3.5	3.2	3.3

SUMMARY

Oregon's commercial albacore landings in 2010 totaled 10,700,333 pounds, a 5% increase from 2009 and a 19% increase from the 10 year average (2001-2010). Additionally, albacore ex-vessel revenue was the highest on record in 2010, with a total ex-vessel value of \$12,422,383. Recreational fishers landed approximately 37,721 albacore weighing approximately 756,000 pounds, ranking 2010 as the third highest year for recreational landings on record. Sampling activities were successful throughout the season, with 2010 marking the first year all ports with dedicated albacore port samplers had sampling rates above 50% for the year.

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Appendix A

2010 Summary Statistics for Oregon's Albacore Port Sampling Program

PORT NAME	Astoria	Garibaldi	Newport	Winchester Bay	Charleston	Brookings	All Other Oregon Ports	TOTAL
NO. OF LOGBOOKS ISSUED	2	0	15	0	0	0	0	17
LBS LANDED BY COMMERCIAL SAMPLED VESSELS	3,110,408	0	2,925,337¥	19,641£	993,784¥	0	0	7,049,170
NO. FISH MEASURED	6,247	0	25,897	£	5,145	0	0	37,289
NO. COMMERCIAL TRIPS SAMPLED FOR LENGTH-FREQUENCY	99	0	242	£	61	0	0	402
TOTAL NO. OF COMMERCIAL TRIPS/LANDINGS	225	150	576	10	268	9	65	1,303
TOTAL NO. OF COMMERCIAL VESSELS Ω	93	46	195	5	128	4	29	419
LBS LANDED BY COMMERCIAL JIG/TROLL VESSELS	3,919,273	201,039	4,072,961	60,635	1,424,593	32,444	66,464	9,777,409
LBS LANDED BY COMMERCIAL BAIT VESSELS	273,027	16,953	7,359	0	365,593	0	0	662,932
LBS LANDED BY COMMERCIAL JIG&BAIT VESSELS	205,278	0	54,714	0	0	0	0	259,992
LBS LANDED BY COMMERCIAL GILLNET VESSELS	0	0	0	0	0	0	0	0
LBS LANDED BY SPORT VESSELS**	32,567	205,469	244,750	10,365	101,177	3,497	158,138	755,963
LBS LANDED BY OTHER VESSELS	0	0	0	0	0	0	0	0
PERCENT COMMERCIAL COVERAGE (weight)	71%	0%	71%	32%	56%	0%	0%	66%
PERCENT COMMERCIAL COVERAGE (trips)	44%	0	42%	10%	23%	0%	0%	31%

¥ One vessel landed in Charleston was part of a vessel trip that was sampled in Newport.

£ Three vessels were sampled in Charleston but albacore purchased or sold by a dealer in Winchester Bay.

Ω Several vessels made trips into multiple ports, so total numbers of vessels at each port will add up to more than Oregon's total.

** Sport-caught albacore weight estimated using Clemons, 1961.