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COMMERCIAL AND RECREATIONAL HARVEST OF ALBACORE TUNA (*Thunnus alalunga*) IN OREGON

2021 Annual Report

Oregon Albacore Port Sampling Program

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ANNUAL REPORT, ALBACORE PORT SAMPLING PROGRAM

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INTRODUCTION

Albacore tuna (*Thunnus alalunga*) is a highly migratory species found worldwide in temperate seas. Albacore caught off Oregon belong to the North Pacific stock and are generally juvenile or sub-adult fish that have not spawned. During their trans-Pacific migrations, vessels of several nations target albacore including the United States, Canada, Taiwan, and Japan. The United States West Coast fishery harvests this stock during the summer and early fall months.

Commercial harvest of hook-and-line caught, or "troll-caught" albacore tuna has occurred off Oregon since 1929 when the fishery expanded north from the traditional Southern California grounds. Originally, both bait-boats and jig-boats fished for albacore off Oregon, but in recent years jig boats have predominated. Bait fishing with live anchovies is once again beginning to gain some popularity, especially late in the season, but is still less common in Oregon due to live anchovies being unavailable in Oregon ports. The west coast fleet consists primarily of vessels ranging from 20 to 60 feet in length, with multiple permits to harvest crab, salmon, or groundfish at other times of the year. Crews range in size from single-handed small boats up to large freezer boats with a crew of 10 or more, but on most boats, there are two to four aboard. Albacore boats employ several methods of preservation including ice for one to three-day fishing trips, and blast- or brine-freezing equipment for indefinite excursions at sea. Some of the larger freezer boats (>60 ft.) travel the North Pacific year-round while primarily fishing for albacore.

An agreement under the 1981 US/Canada Albacore treaty allows up to 45 Canadian vessels to fish and land tuna in the US Exclusive Economic Zone (EEZ), between June 15 and September 15. Authorized ports for Canadian vessels landing albacore in Oregon are Astoria, Newport, and Charleston.

Commercial albacore landings in Oregon have been highly variable long-term (Figure 1). Low years include zero landings in the early 1930s and less than half a million pounds in 1954, to over 22 million pounds in 1944, and almost 38 million pounds in 1968. Over the last 30 years (1990-2019), landings in Oregon have averaged 7.5 million pounds per year. Beginning in 2005 under the Highly Migratory Species Fisheries Management Plan, the National Marine Fisheries Service (NMFS) required vessels to submit logbook data while fishing for albacore inside the 200-mile 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 Southwest Fisheries Science

Center (SWFSC) and the Pacific States Marine Fisheries Commission (PSMFC). This report summarizes information about Oregon's sampling effort, sampling data for the 2021 albacore season, and information from the recreational albacore fishery. ODFW's Ocean Recreational Boat Survey (ORBS) conducts recreational albacore fishery sampling. Sport fishing for albacore off Oregon has grown in popularity since 2000, especially in the past decade.

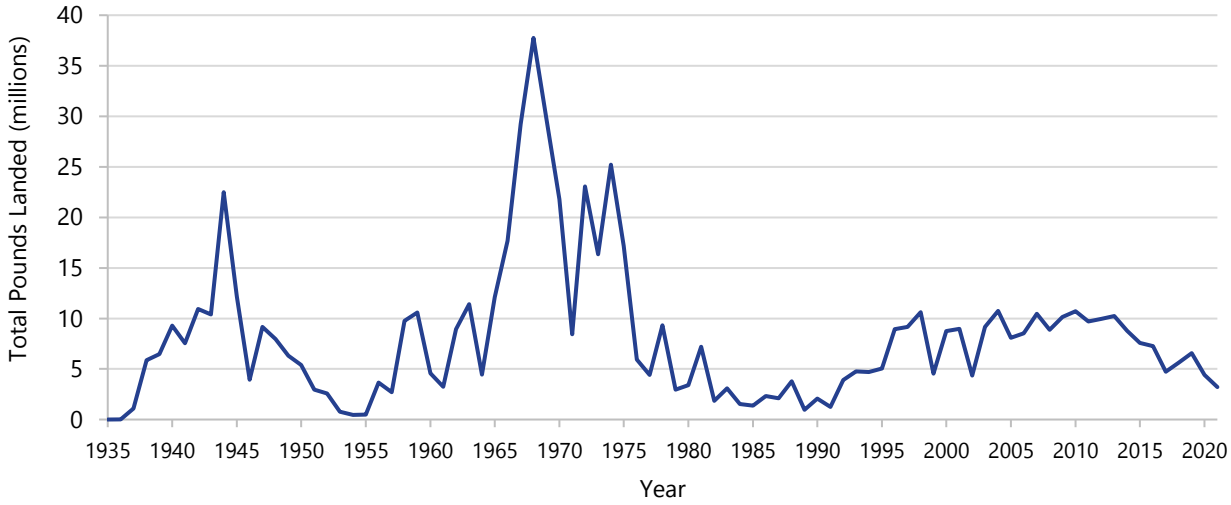

Figure 1. Historical landings of albacore tuna into Oregon from 1935-2021.

2021 COMMERCIAL ALBACORE FISHERY

Ocean Conditions and Fleet Activity

Warm water temperatures began approaching the Oregon coast from the southwest in mid-June, bringing with it hopes for an early albacore season. The warm waters dissipated before settling in for the season in the latter half of July, and the season was off to a slow start due to the distance to the albacore grounds. Sea surface temperatures steadily increased through August with fluctuations in temperature as wind events caused upwelling to occur on occasion (Figure 2). Weather remained favorable until mid-August when gale winds from the north and swell nearing 20 feet forced the fleet into port. Due to this weather event, September was off to a slow start, and those that did make it out reported a slow bite. Effort improved as the month progressed and weather allowed. Reports of an improved bite in late September resulted in renewed effort. However, as October arrived, fall weather patterns caused warm sea surface temperatures to disperse and effort dwindled.

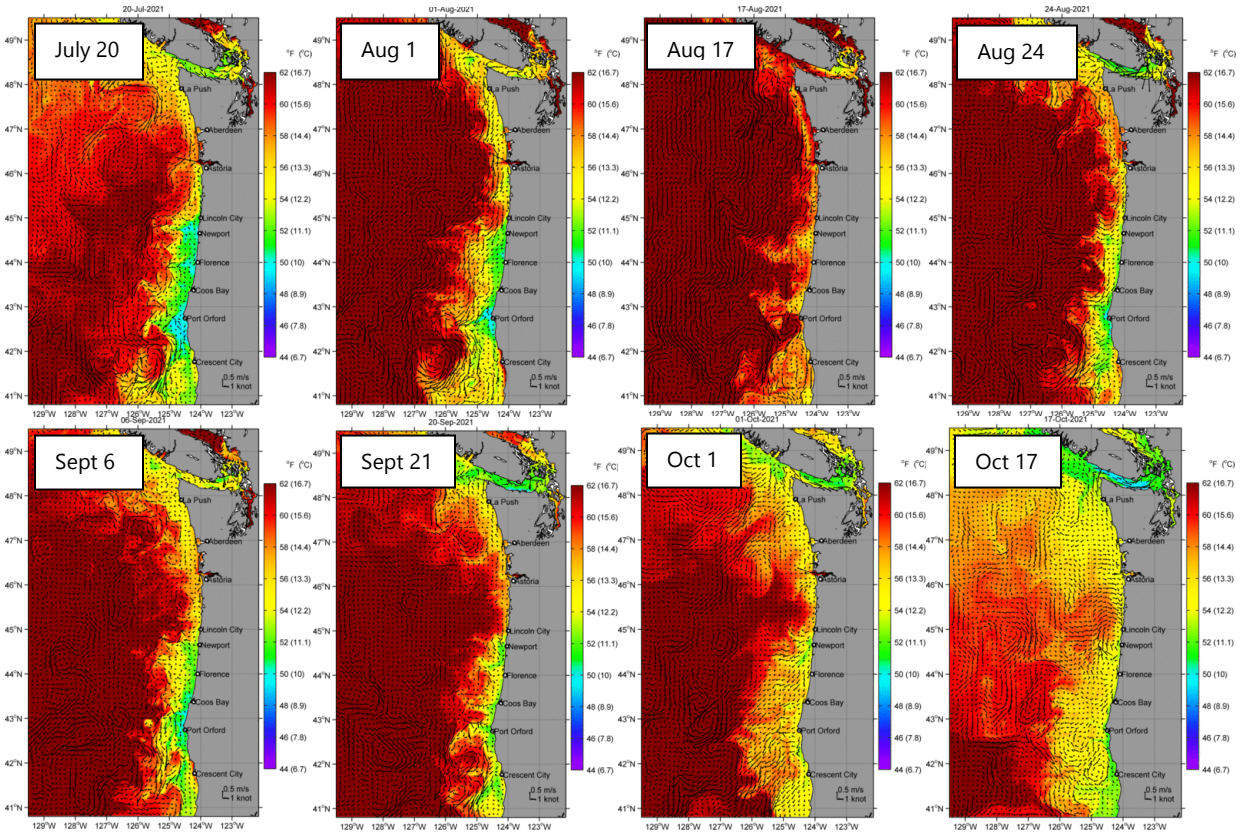

Figure 2. Sea surface temperature plots off Oregon and Washington July 20 – October 17. Images courtesy of Craig Risien, Oregon State University, Northwest Association of Networked Ocean Observing Systems (NANOOS).

Albacore Landings

The preliminary estimate of total volume of albacore landed in Oregon during the 2021 season is 3,214,060 pounds. This reflects 41% of the ten-year average of 7.7 million pounds from 2011-2020. The 2021 season has produced the lowest seasonal volume total in Oregon since 1991 when 1.25 million pounds were landed (Figure 3). The landings occurred over 499 total trips, reflecting just 42% of the ten-year average of 1,180 trips from 2011-2020.

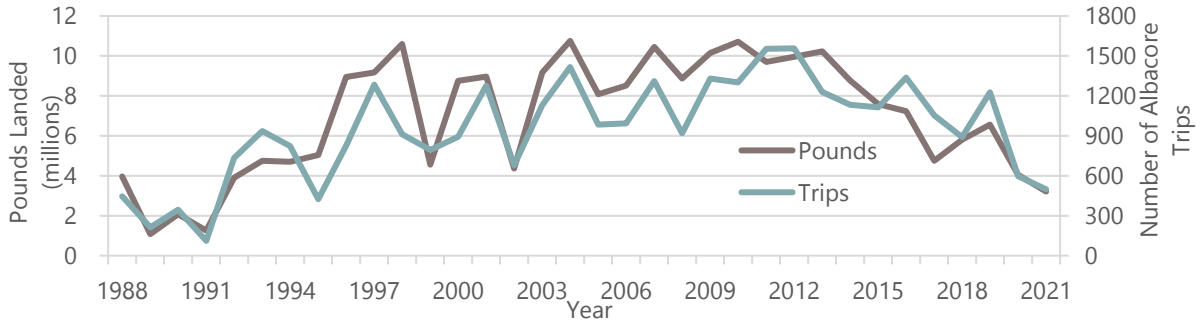

Figure 3. Total pounds of albacore landed (left axis) and number of albacore vessel trip landings (right axis) in Oregon by year, 1988-2021.

There were 192 unique vessels that targeted albacore over the 2021 season. As with total volume, the number of vessels participating in the fishery this year was the lowest since 1991: 53% of the ten-year average of 360 vessels. This year's participating fleet was down 8% from 2020, a difference of 15 vessels (Figure 4).

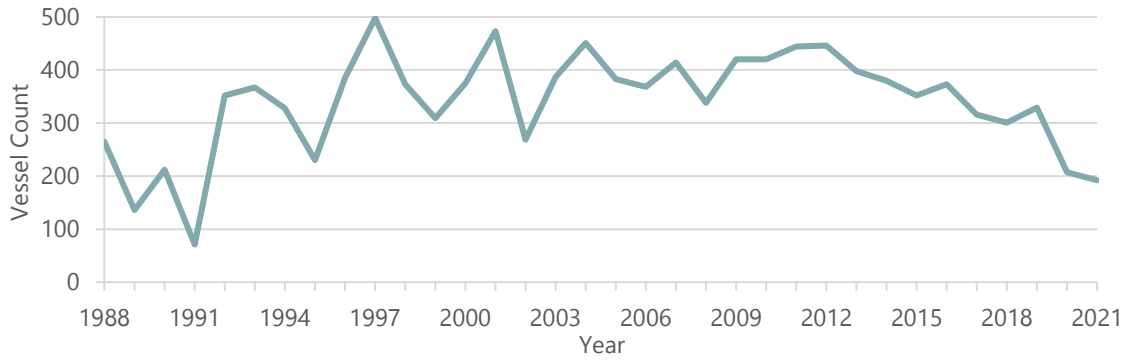

Figure 4. Total number of unique vessels landing albacore in Oregon, 1988-2021.

The first landings of the season occurred on July 9 in Charleston and Garibaldi, with the next landings on July 12 in Newport. Offloads consistently occurred every week along the coast thereafter. Landing rate quickly accelerated in August where the season's crux of volume and value resides. Peak season volume occurred during the week of August 16, with 667 thousand pounds landed (Figure 5). Landings sharply declined in mid-August as the first fall weather system moved in, rounding out the month with a total of 1.7 million pounds landed. After a spike in effort at the end of August, landing volumes declined in September and even further in October with the onset of fall and its weather patterns. The season ended on October 19 with two final offloads in Astoria and Newport.

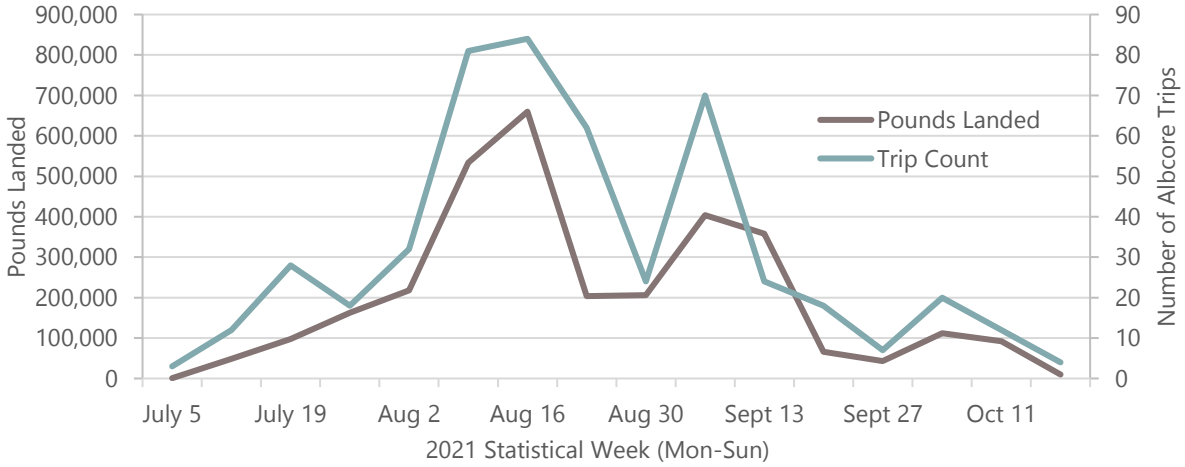

Figure 5. Total pounds of albacore landed (left axis) and number of albacore vessel trip landings (right axis) per week in 2021.

The temporal distribution of landings is indicative of a typical albacore season, with August historically the highest producing month. The historic trend holds true for the 2021 season with 53% (1.7 million pounds) of the total volume landed in August (Figure 6). This follows a slow start in July with just over 304 thousand pounds landed, representing 9% of the seasonal catch. September started with renewed effort among the fleet but reports of a slow bite and bad weather on the horizon ultimately hampered fishing activity and landing volumes. This resulted in 984 thousand pounds offloaded in September, representing 31% of the seasonal volume. October, like September, started with increased effort and hope among the fleet for a late season, but fall weather systems settled in and quickly dissipated effort by mid-month. There were no outlier landings that occurred unusually early or late in the season.

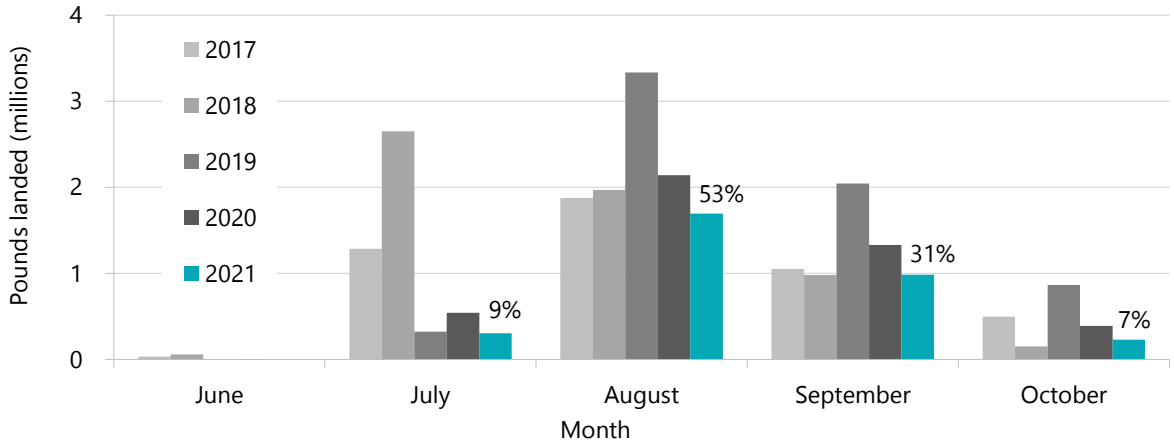

Figure 6. Monthly distribution of pounds landed over the albacore season, 2017-2021.

Albacore landings are spatially distributed along the coast with the bulk of the volume typically offloaded in Newport, Astoria, and Charleston (Figure 7). The highest producing port has historically vacillated between Astoria and Newport, but recent trends have Newport consistently the highest producing port. This trend is aided by the stark decline of albacore landing volume that Astoria has seen over recent years.

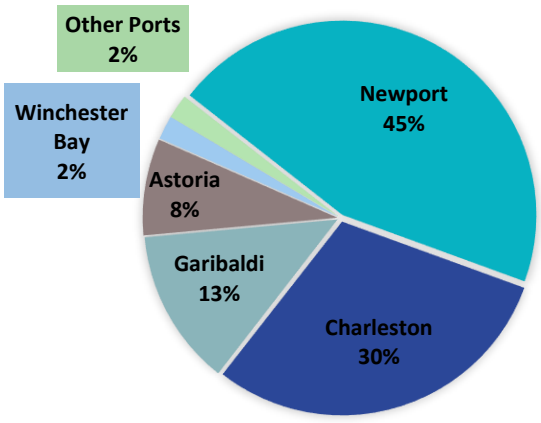

Figure 7. Percentage of landing volume by port, 2021.

Table 1. Albacore landings by port for 2021 (pounds and percentage) and average landings (pounds and percentage), 2011-2020.

Port	2021 Landings (lbs.)	2021 Landing %	10-Year Average Landings (lbs.)	10-Year Average Landing %
Newport	1,448,538	45.07%	3,263,327	41.86%
Charleston	985,009	30.65%	1,901,594	24.39%
Garibaldi	407,789	12.69%	239,534	3.07%
Astoria	247,893	7.71%	2,070,133	26.55%
Winchester Bay	70,583	2.20%	147,977	1.90%
Brookings	28,801	0.90%	108,712	1.39%
Port Orford	18,086	0.56%	27,564	0.35%
Florence	3,656	0.11%	18,916	0.24%
Gearhart-Seaside	2,250	0.07%	3,291	0.04%
Bandon	1,128	0.04%	4,808	0.06%
Pacific City	327	0.01%	6,652	0.09%

Since 2016, Astoria landing volumes have failed to reach one million pounds, a trend not seen in the port since 1994 when 602 thousand pounds were landed over the season. The ten-year volume average in Astoria from 2007-2016 is 2.8 million pounds. However, the five-year average from 2017-2021 is only 541 thousand pounds, a substantial decrease from the ten years prior. The 2021 season has set a record low for landings into Astoria at 247,893 pounds (Figure 8).

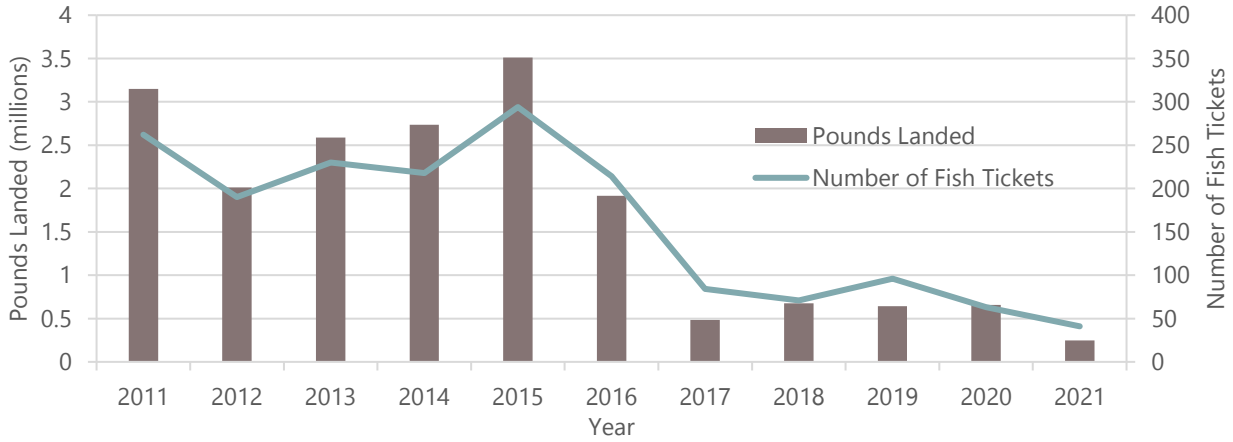

Figure 8. Pounds landed (left axis) and number of fish tickets (right axis) in **Astoria**, 2011-2021.

A portion of the Astoria poundage decrease may be accounted for by increased landings into Garibaldi, whose volume totals exceeded Astoria landing volumes for the first time in the fishery's history. Garibaldi had one of its highest years on record at 407 thousand pounds, a 70% increase from the ten-year average of 239 thousand pounds. 2007 is the

only year to top 2021 seasonal volume totals in Garibaldi with 410 thousand pounds landed. This could indicate an ongoing shift in albacore effort out of the port of Astoria and into other ports such as Garibaldi and, potentially, Ilwaco and Westport, WA. Support for this notion can be seen in Figure 9, which illustrates that while fish tickets for landings show a decline in sync with overall yearly trends of the fishery, the total pounds per ticket has increased substantially. The ten-year average of pounds per fish ticket in Garibaldi is 2,148 pounds. The 2021 seasonal average was 7,154 pounds per ticket, over three times the ten-year average. This indicates that larger vessels holding more fish found markets in Garibaldi and are potentially opting to offload there rather than Astoria. Also notable, the largest coastwide offload of the season (56,003 pounds) was made in Garibaldi at the end of July.

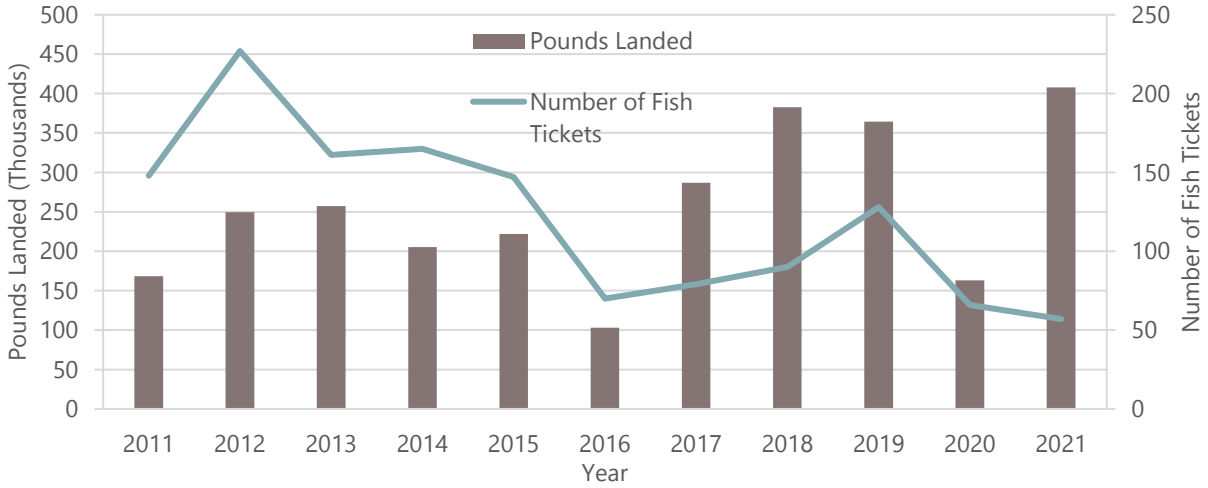

Figure 9. Pounds landed (left axis) and number of fish tickets (right axis) in **Garibaldi**, 2011-2021.

The average size of all albacore landings in 2021 was 6,441 pounds, similar to the average landing size from 2013-2020 of 6,201 pounds. This indicates that vessels of all sizes were able to make trips this season and there were no substantial limiting factors, such as weather or distance to the fishing grounds, that kept the smaller vessels in port.

Dividing all landings into quartiles by total pounds reveals the wide range of landing size in this fishery. While the largest landings of the season were over 50,000 pounds, the median landing was only 2,725 pounds. 75% of all landings were 8,064 pounds or less (Table 2). This highlights the large number of medium and small vessels that are active in the fishery.

Table 2. Quartile ranges of all commercial albacore landings, 2021.

All Landings		
Quartile		**Pounds**
100%	**Max**	56,003
75%	**Quartile**	8,064
50%	**Median**	2,725
25%	**Quartile**	827
0%	**Min**	23
	Average	6,441

Albacore Prices and Value

The first landings of the season had the highest prices of the season at just over $3.00 per pound. Albacore landings continued the following week and the average price stabilized at just under $2.00 per pound with slight fluctuations through July and August (Figure 10). Mid-September prices reflect a dwindling season, and the average price began to rise until the last fish were landed, ending the season at $2.69 per pound. There were two small price increases, one in late August and another in early September, probably reflecting lulls in effort due to weather. The overall average price for the season was $2.05 per pound, an increase of 46 cents from 2020 and 128% of the ten-year average of $1.60 per pound.

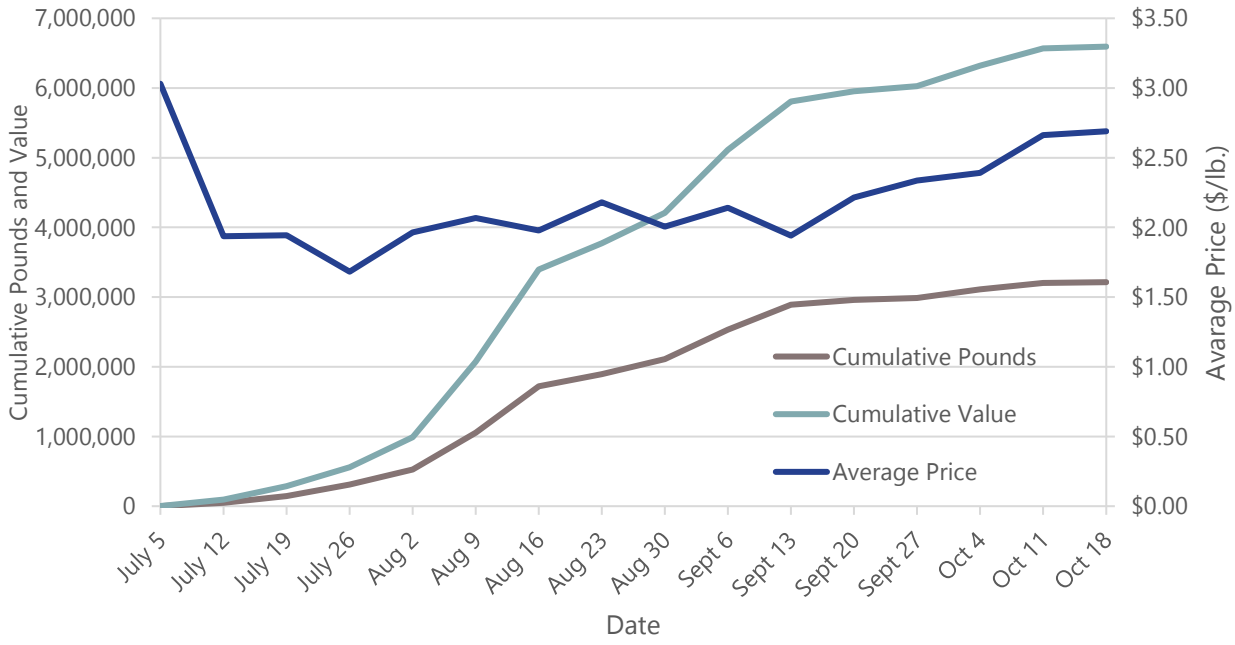

Figure 10. Cumulative landings, cumulative ex-vessel value, and average price by week in 2020.

Buyers will often sort albacore into three market size-grades upon unloading. These market size-grades are typically graded into small "peanuts" (under 9 pounds); medium (9-15 pounds); and large fish (over 15 pounds). Prices for the different grades can vary, and vessels with a significant percentage of peanuts in their load are often paid a lower price for these smaller fish. The 2021 Oregon albacore season generated $6,593,384 in total gross value paid to vessels (Figure 11), with the average ex-vessel trip value at just over $13,000.

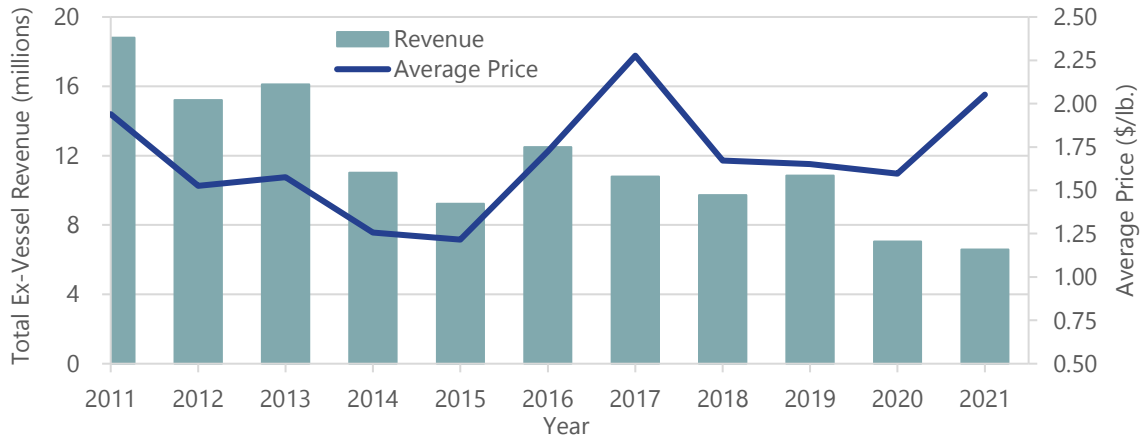

Figure 11. Total revenue (ex-vessel) and average price of Oregon albacore landings, 2011-2021.

Albacore typically ranks fourth or fifth for total annual revenues generated in Oregon marine fisheries. This year, albacore revenue ranks fifth relative to other Oregon fisheries, representing 3.6% of the total annual revenue (Table 3).

Table 3. Oregon annual marine fish revenue (ex-vessel) for calendar year 2021 through December 15

Fishery Species	Pounds Landed	Revenue	Revenue Percentage
Dungeness Crab[o]	20,695,381	$101,453,461	55.6%
Pink Shrimp	46,670,519	$23,360,580	12.8%
Pacific Whiting	184,088,507	$16,692,573	9.1%
Groundfish[x]	38,167,547	$14,919,544	8.2%
Albacore Tuna	3,214,060	$6,593,384	3.6%
Salmon	1,790,221	$6,525,592	3.6%
Sablefish	5,055,693	$6,426,992	3.5%
Market Squid	7,837,853	$4,544,426	2.5%
Other Marine Species[xx]	1,431,363	$2,029,026	1.1%
Total	**308,951,144**	**$182,545,578**	**100.0%**

[o]Includes Bay and Ocean Dungeness fisheries, Jan 1 – Dec. 15, 2021.
[x] Groundfish excluding Pacific Whiting and Sablefish.
[xx] Including Pacific Halibut.

Sampling Rate & Coverage Analysis

The sampling rate goals for the 2021 albacore season were renegotiated under the contract with NMFS and PSMFC, resulting in an increased goal for the port of Charleston of 20% of albacore trips sampled, up from 10%. Astoria and Newport remain unchanged at 20%. Sampling rate is the percentage of total albacore trips with landings sampled for length frequency in each required port (Astoria, Newport, and Charleston). Sampling coverage rates in the major ports have exceeded contract requirements, with an overall sampling rate of 38%. Appendix A presents additional summary information required by the contractual agreement with NMFS and PSMFC for albacore sampling.

Table 4. 2021 preliminary Oregon commercial albacore sampling season summary. Gearhart-Seaside, Pacific City, Florence, Bandon, Port Orford, and Brookings are combined as "Other Ports."

Port	Pounds Landed	Pounds Sampled	Albacore Trips	Trips Sampled	Total Fish Sampled	Average Sample Size	Coverage Rate
Astoria	247,893	197,949	31	17	441	26	**55%**
Garibaldi	407,789	0	50	0	0	--	**--**
Newport	1,448,538	1,200,738	211	132	4,392	33	**63%**
Winchester Bay	70,583	2,468	22	1	20	20	**5%**
Charleston	985,009	407,023	152	35	1,512	43	**23%**
Other Ports	54,248	20,527	33	3	159	53	**9%**
Total	**3,214,060**	**1,828,705**	**499**	**188**	**6,524**	**35**	**38%**

The funding for albacore samplers is allocated to cover July through October and allows for samplers in Astoria, Newport, and Charleston. Sampling activities include measuring 20-100 albacore per landing for fork length, collecting information on fishing patterns, distributing logbooks to vessels, and providing information to fishers. Safety protocols implemented during the onset of the Covid-19 pandemic were still in place and observed. Sampling rates were not impacted due to the ongoing pandemic.

Comparing quartile divisions of all landing weights to sampled landing weights highlights potential sampling bias regarding landing size (Table 5). Large landings are defined as those with weights greater than 75% of all individual albacore trip landing weights (8,064 lbs and up). This year, 42% of sampled landings came from the large weight class, or top 25%, of all landings. This indicates there is some bias toward sampling larger vessels that typically offload with established dealers, rather than smaller vessels that may opt to sell from their boat or to smaller mobile buyers. Landings from larger vessels are much easier to predict and access, hence the skewed percentages toward larger landings.

Table 5. Quartile points for all Oregon albacore landings and sampled landings, 2021.

All Landings			Sampled Landings		
Quartile		**Pounds**	**Quartile**		**Pounds**
100%	**Max**	56,003	100%	**Max**	51,421
75%	**Quartile**	8,064	75%	**Quartile**	11,854
50%	**Median**	2,725	50%	**Median**	6,048
25%	**Quartile**	827	25%	**Quartile**	2,444
0%	**Min**	23	0%	**Min**	171
	Average	6,441		**Average**	9,810

The purpose of our sampling is to collect fork lengths and determine frequencies that represent the bulk and extent of the albacore fishery in Oregon in accordance with contract requirements. Due to the above acknowledgement of the tendency to sample larger landings over small, an analysis of the length frequencies obtained per quartile was done to ensure accurate representation of the fishery sectors (small vs. large vessels). As seen in Figure 12, the length frequencies of all four quartiles follow similar distribution patterns. These comparisons support the assumption that vessel size does not have a substantial impact on length frequency distribution.

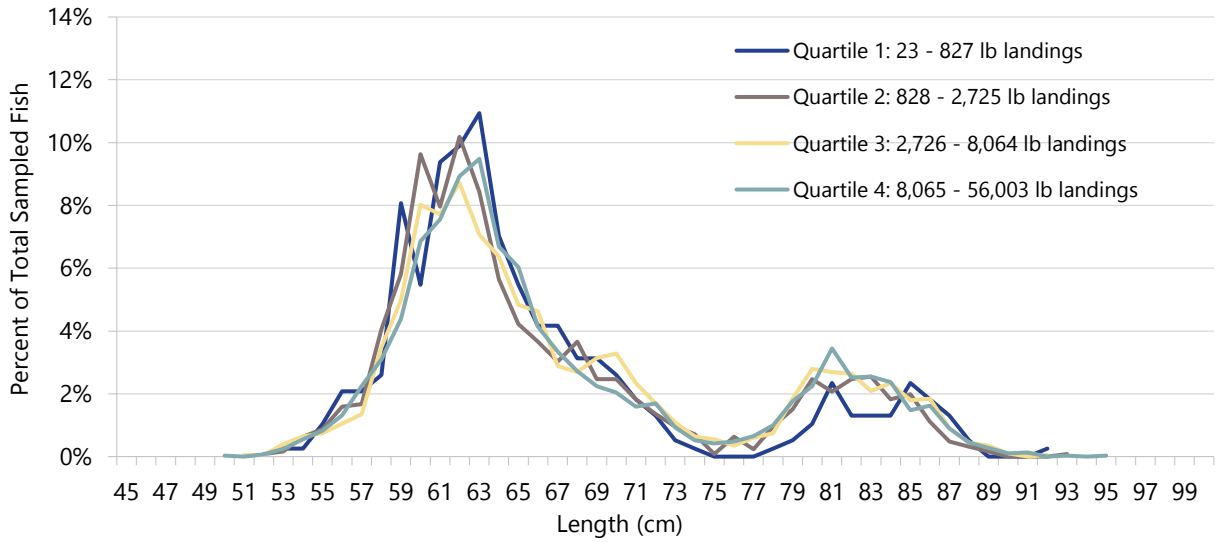

Figure 12. Length frequencies of the four quartiles of all sampled albacore landings in Oregon, 2021. Quartile 1: n=384; Quartile 2: n=1257; Quartile 3: n=2008; Quartile 4: n=2875.

Recommendation for 2022 sampling: All samplers should remain cognizant of the tendency to sample larger landings over smaller. Samplers should actively work to form and reinforce connections with fishers operating mid to smaller sized vessels that participate in the fishery. Samplers should also familiarize themselves with the small mobile buyers that operate from trucks and/or skiff early in the season. Good rapport with local restaurants that purchase albacore may also lead to an increase in smaller landings sampled. For vessels that sell their catch off the boat to the public, samplers should emphasize establishing rapport with these skippers early in the season. These samples often must occur in shifts as fish are unloaded from the boat for purchase in smaller numbers and often there are frames (carcasses) that can be measured post-sale if the fish were filleted, and the vertebrae were not damaged.

Length Frequency Analysis

Albacore samplers collected fork length measurements from unsorted commercially harvested albacore during offloading from July through October of 2021. Samplers measured 6,524 albacore over the course of the 2021 season. For reporting purposes, two samples from Gearhart-Seaside have been included in Astoria's totals and two samples, one from Winchester Bay and one from Brookings, are included in Charleston's totals. The frequency distribution of 2021 length data has its strongest mode at 62 cm, representing fish approximately 11.7 pounds and 2.0 years of age, making up 9.2% of the albacore catch this season (Figure 13). The overall average length is 67.2 cm. The length frequencies obtained from all major ports form similar distributions (Figure 14), indicating no variation in catch coastwide.

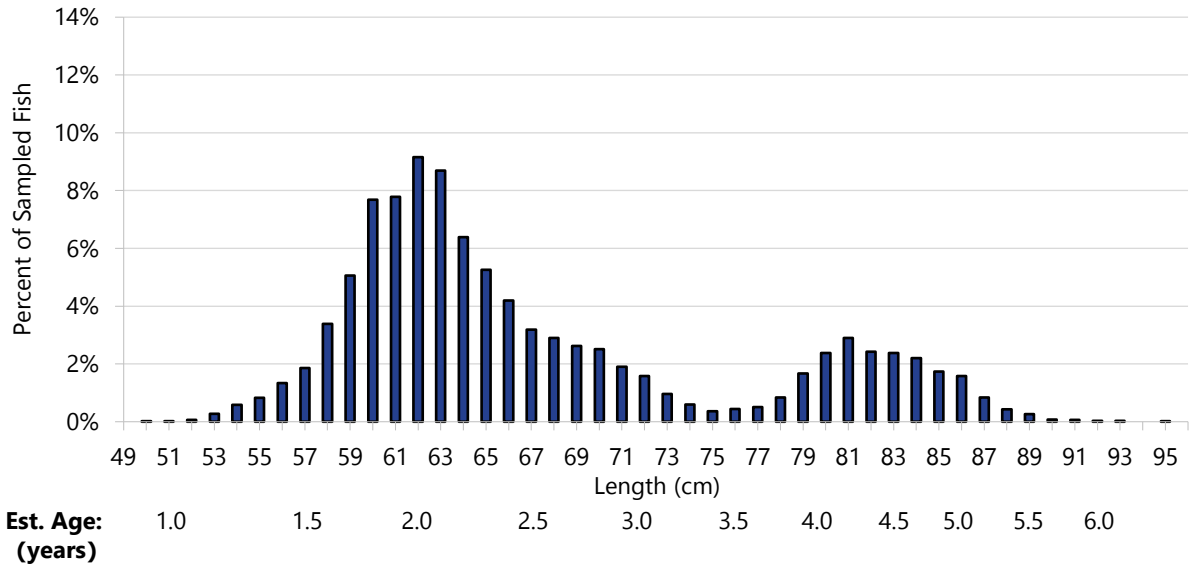

Figure 13. Length frequency data for all sampled ports and all months combined, 2021. Average length = 67.2 cm, n=6,524. Estimated age at length from Wells, 2013.

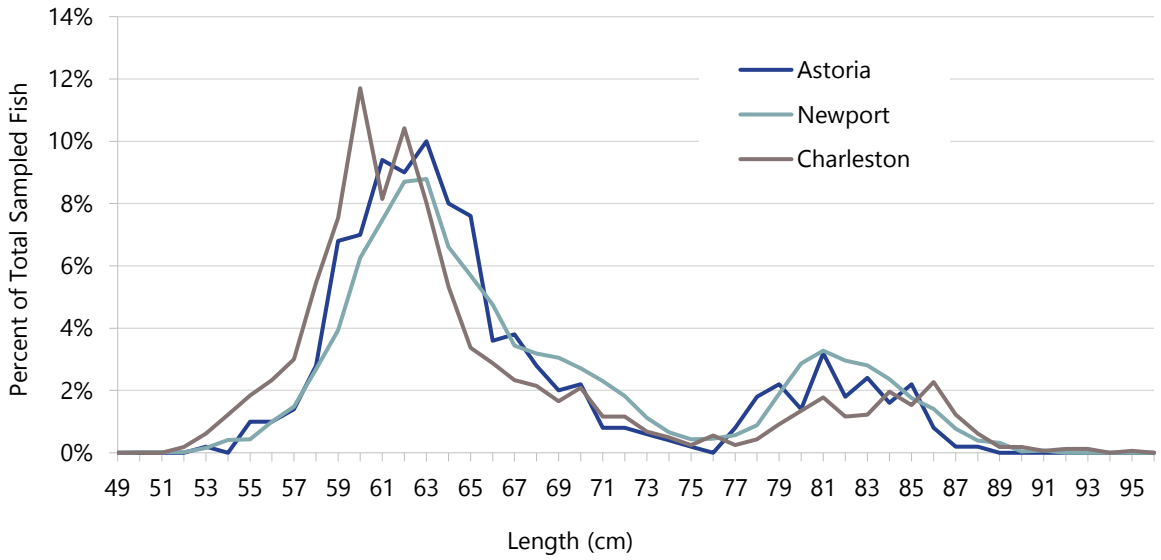

Figure 14. Length frequency data by port for all sampled months, 2021. Astoria: n=500; Newport: n=4,392; Charleston: n=1,632.

As described previously, many buyers sort albacore into three grades upon offloading: small are typically under 9 pounds (<57 cm), medium range from 9-15 pounds (57-68 cm) and large are typically over 15 pounds. The variation in gradation seen this season included increasing the small grade to 9.5 pounds and an increase of the medium grade to 9-17 pounds, consequently starting the large grade at 17 pounds. These variations were exceptions and usually based on buyer needs. The typical grade sizes stated above were used for analysis in Figure 15.

Changes in size grade throughout the season were minimal. As is typical for the fishery, the proportion of large grade fish peaked in August, though the larger sized fish were observed in September and October. Small and medium grade fish began to return in larger numbers in September and October as is usual (Figure 15).

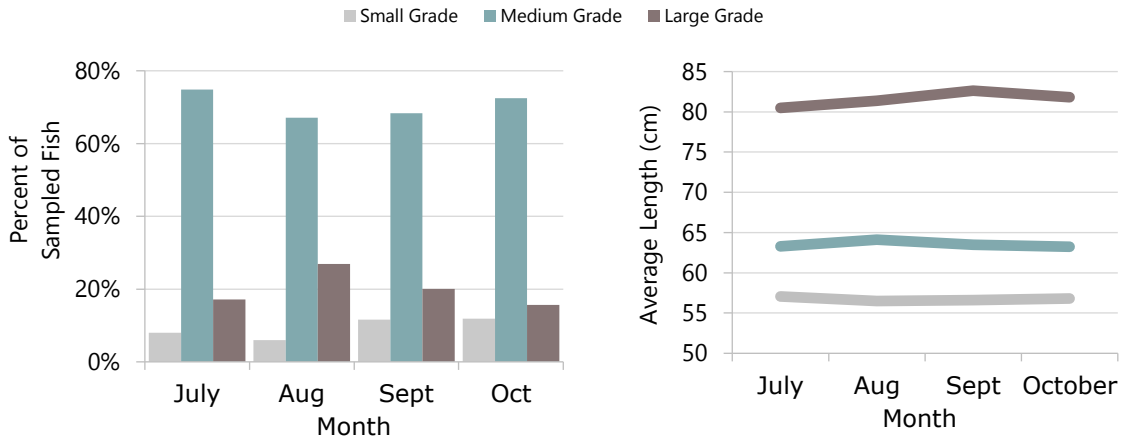

Figure 15. Proportion (left) and average length (right) of small, medium, and large grade fish sampled per month in 2021. Small: n=545; Medium: n=4,496; Large: n=1,483.

Plotting these length frequencies by month allows visualization of age class shifts that occur throughout the season and shows overall maturation of the catch as the season progresses. The larger fish arrive later in the season, coupled with an increase in younger, small grade fish in September and October. (Figure 16). A minimum average length of 65.3 cm was recorded in October and a maximum of 68.3 cm was recorded in August.

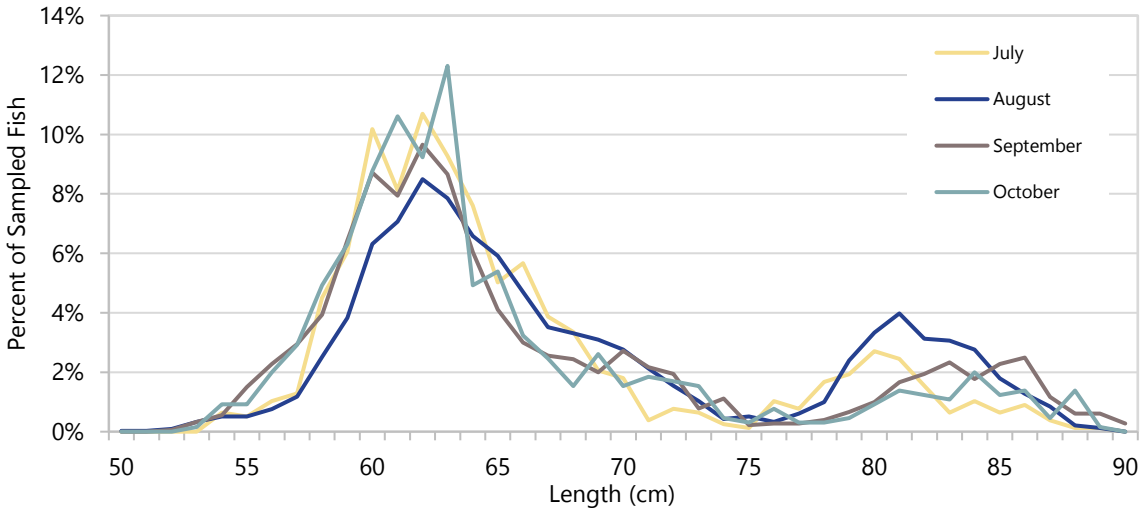

Figure 16. Comparison of length frequency distributions by month from July-October 2021 for all ports. July: n=776; August: n=3,296; September: n=1,802; October: n=650.

Observed and noted by many participating in the fishery this year was the lack of albacore in the 73-77 cm range, representing fish aged approximately 3.2 to 3.7 years. Evident in all distribution plots provided, there is a stark dip in this range, highlighting the presence of younger (smaller) and older (larger) fish that made up the catch this year. Provided below in Figure 17 is all length frequency data from 2007 to 2021 with the 70-80 cm length range in question highlighted in purple. This allows for easier visualization of fluctuation in abundance of the three-year-old age class over the years.

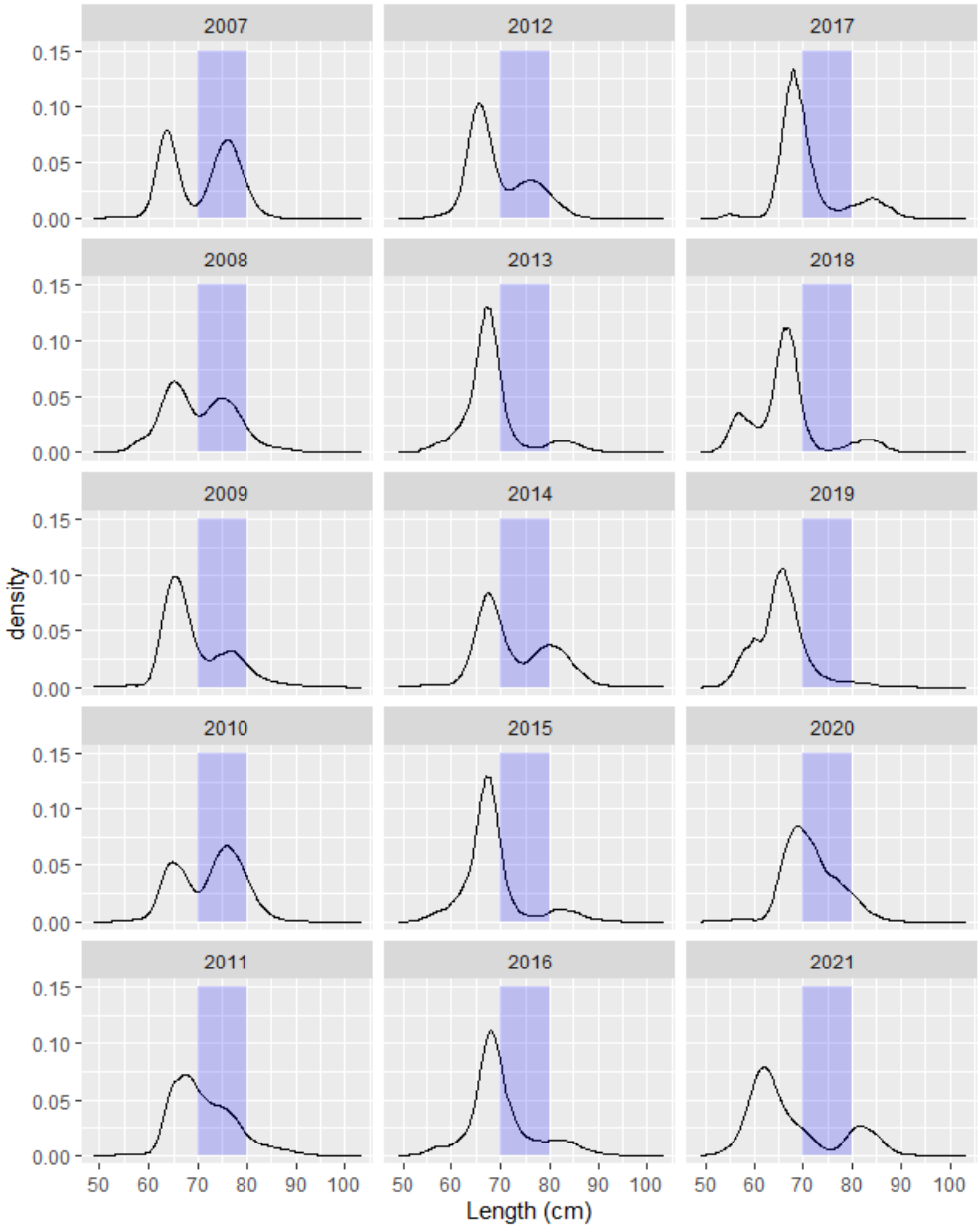

Figure 17. Length frequency data from all Oregon ports, 2007-2021. Year 2021 preliminary as of October 1, 2021. Purple shading of the 70-80 cm length class highlights the lengths low in density in the 2021 catch.

2021 RECREATIONAL ALBACORE FISHERY

Access to albacore for recreational vessels in Oregon can be highly variable, depending on weather conditions and distance offshore to the fishing grounds. The same weather patterns that dictated commercial fleet movement also limited recreational vessels in mid to late August and mid-September. Distance to the albacore grounds deterred recreational fishing effort in July and early August. However, as albacore moved closer to the coast in August, recreational trips and albacore catch peaked mid-month. The recreational season tapered after this, with no trips sampled in October. The overall recreational catch volume shows a rebound from a slow year in 2020 and is representative of recent years' catch trends (Figure 18).

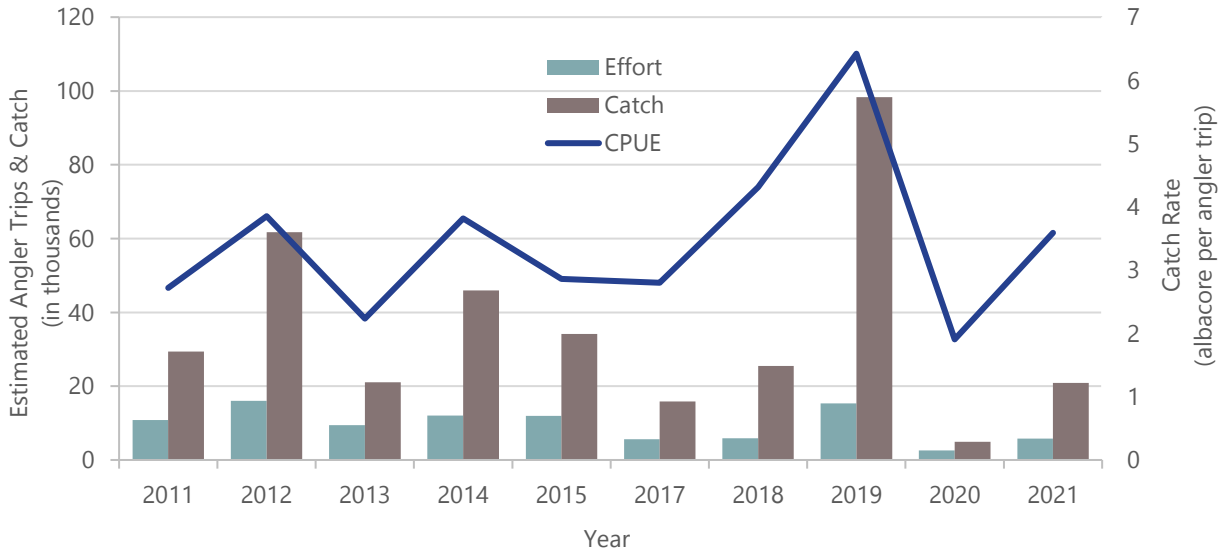

Figure 18. Recreational albacore fishing effort (number of angler trips), catch (number of albacore landed) and catch per unit effort (CPUE or albacore per angler trip) from trips targeting albacore, 2011-2021.

ODFW's Ocean Recreational Boat Survey (ORBS) deploys samplers to monitor Oregon's sport fisheries and provide estimates of overall effort and catch. In this report, we combine the charter and private effort and catch estimates for the recreational fishery. Charter angler trips totaled 182 for the season, which is just 25% of the five-year average of 716 angler trips estimated. Private recreational angler trips were at 78% of the five-year average with a total of 5,625 angler trips for the season. Catch was productive this season with an estimated total of 20,857 albacore caught when targeted, reflecting 59% of the five-year average. While trip and catch totals were down compared to previous years, the catch rate was slightly higher than the five-year average producing a CPUE (catch per unit effort) of 3.6 compared to the 3.5 average (Figure 18).

The highest volume port this year in terms of recreational albacore landed is Charleston with 33% of the volume. Although few trips were taken out of Florence, it boasts the highest catch rate with a CPUE of 5.5 albacore caught per angler trip. Winchester Bay is a close second with a CPUE of 4.4 (Table 6).

Table 6. Recreational albacore catch by port for all trip types in 2021. NS means no sampler stationed.

Port	Estimated # of fish	Landing %	CPUE
Astoria	53	0.2%	0.9
Garibaldi	1,496	6.9%	1.9
Pacific City	122	0.6%	2.8
Depoe Bay	1,081	5.0%	3.7
Newport	2,213	10.2%	4.1
Florence	186	0.9%	5.5
W. Bay	4,948	22.9%	4.4
Charleston	7,196	33.3%	4.1
Bandon	326	1.5%	2.5
Port Orford	NS	NS	--
G. Beach	0	0	--
Brookings	3,975	18.4%	3.9

Despite the ongoing Covid-19 pandemic, ORBS samplers collected length data on 643 recreationally harvested albacore in 2021. Figure 19 shows the length frequency distribution of non-sorted, randomly sampled albacore during the 2021 recreational season. The length data suggests a trimodal distribution around 61 cm, 68 cm, and 82 cm, similar to the commercial data obtained. The signal at the secondary and tertiary modes shows a higher percentage of the catch than the commercial data, indicating recreational fishers' preference to keep larger fish (Figure 19).

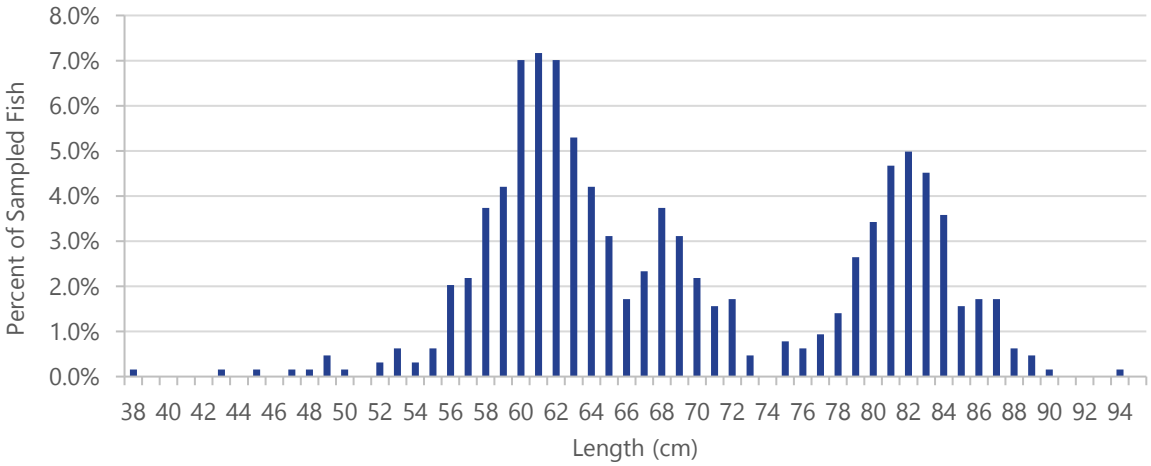

Figure 19. Length frequency data for all ports sampled for recreationally caught albacore by ORBS, 2021. Average length = 69.0 cm (approximate average weight = 15.6 lbs), n = 643.

ACKNOWLEDGEMENTS
Thank you to all the albacore fishing vessel operators and crew who cooperatively provided fishing information during the 2021 season, as well as fish plant staff and buyers who supported and assisted with efficient sampling on their property. Many thanks go to Dean Headlee in Charleston and Madeline Wood in Astoria as primary albacore samplers. Thanks also to ODFW Port Biologists and staff for collecting additional samples and distributing logbooks: Sheryl Flores, Natalie Rowell, CJ Adams, Jonathan LaTour, Scott Malvitch, Katlyn Haven, Valerie Miranda, and Camille Ayrea. I am grateful to Mark Freeman, Becca Bishop, and Nadine Hurtado for their support with fish ticket data and databases. Thanks to Ellen Veile-Smuts and Amanda Reich for their assistance in the office setting. Thank you to Eric Schindler, Justine Kenyon-Benson, and Jessica Moll for providing the ORBS recreational data component for monthly and annual reports. Many thanks to Craig Risien of OSU/NANOOS for the sea-surface temperature images in figure 2. In addition, many thanks to Yuhong Gu of the NMFS Southwest Fisheries Science Center for technical and data support and to Chris Wheaton and Kate Al-Sheikhly of Pacific States Marine Fisheries Commission for contract administration support. A special thanks to Justin Ainsworth, Cameron Sharpe, and Jessica Watson of ODFW for their steady professional assistance and support. Finally, a huge and warm thank you to Keith Matteson for his continued guidance and advice on the docks and his efforts to ensure a smooth transition of the coordinator position.

Cover photo: Kate Price, one half of the two-man team aboard the Billie, shows off a big one she just hauled in without a gaff in 2021.

REFERENCES
Wells et al., 2013. Age and Growth of North Pacific albacore (Thunnus alalunga): implications for stock assessment. Fisheries Research 147 (2013) 55-62.

APPENDIX A

2021 Summary Statistics for Oregon's Albacore Port Sampling Program

PORT NAME	Astoria	Garibaldi	Newport	W. Bay	Charleston	Other Ports	TOTAL
Logbooks issued	1	0	3	0	1	1	**6**
Lbs. landed by commercial sampled vessels	197,949	0	1,200,738	2,468	407,023	20,527	**1,828,705**
Total number of commercial fish measured	441	0	4,392	20	1,512	159	**6,524**
No. commercial trips sampled	17	0	132	1	35	3	**188**
Total no. of commercial trips/landings	31	50	211	22	152	33	**499**
Total no. of commercial vessels*	13	23	83	11	64	21	**192**
Lbs. landed by US vessels	247,893	407,789	1,448,538	70,583	985,009	54,248	**3,214,060**
Lbs. landed by Canadian vessels	0	0	0	0	0	0	**0**
Total lbs. landed by all commercial vessels	247,893	407,789	1,448,538	70,583	985,009	54,248	**3,214,060**
Lbs. landed by sport vessels**	826.8	23,337.6	34,522.8	77,188.8	112,257.6	88,764	**336,897.6**
Percent commercial sampling coverage (trips)	**55%**	--	**63%**	5%	**23%**	9%	**38%**

* Several vessels made trips into multiple ports, so total numbers of vessels at each port will add up to more than Oregon's total.
** Estimated number of albacore landed in each port multiplied by the 15.6 lb. overall average weight.