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

Oregon Albacore Port Sampling Program

2024 Annual Report

Published January 2025

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Marine Resources Program

Oregon Department of Fish and Wildlife

ANNUAL REPORT, ALBACORE PORT SAMPLING PROGRAM

Pacific States Marine Fisheries Commission Contract 24-006C, Amendment 1 Subcontract of NOAA Award Number 1305M322CNFFR0042

INTRODUCITON

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 remains desirable, especially late in the season, but is much 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 U.S./Canada Albacore treaty allows up to 45 Canadian vessels to fish and land tuna in the U.S. 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). This includes zero landings in the early 1930s to over 22 million pounds in 1944. Landing volume dropped to near 500 thousand pounds in the mid-1950s before reaching its peak of almost 38 million pounds in 1968. Over the last 30 years (1994-2024), landings in Oregon have averaged 7.6 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.

This report summarizes information about Oregon's commercial albacore fishery, sampling data for the 2024 albacore season, and information from the recreational albacore fishery. 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). 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. All results in this report are final as of December 12, 2024.

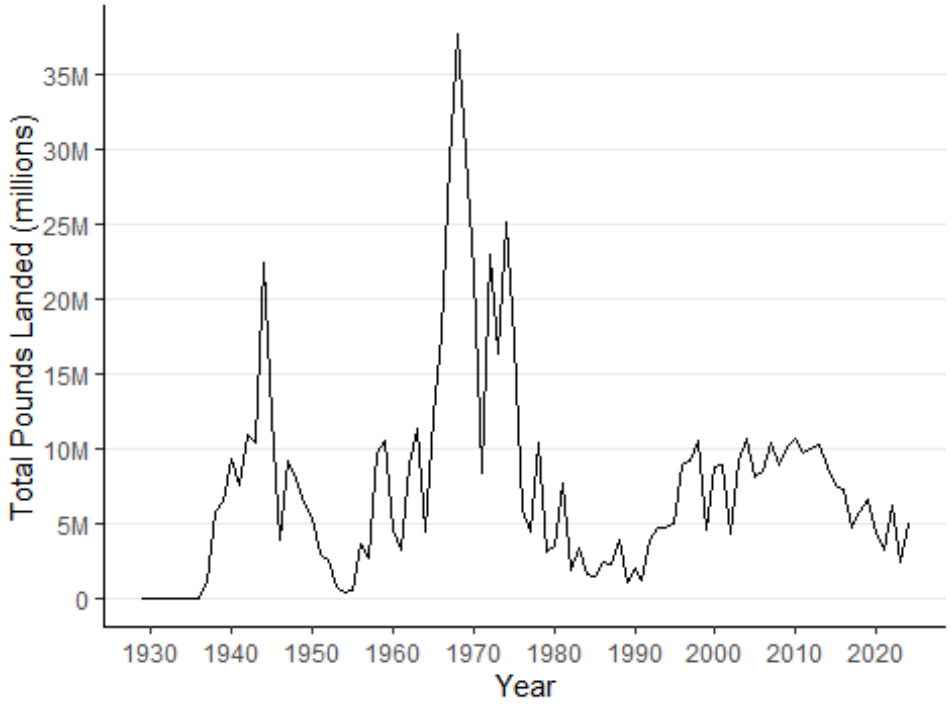

Figure 1: Historical landings of albacore tuna into Oregon from 1933-2024.

2024 COMMERCIAL ALBACORE FISHERY

Ocean Conditions and Fleet Activity

Warm sea surface temperatures approached and settled along the Oregon coast early July (Figure 2) attributing to a relatively early start of the season compared to the last couple of years. Landings remained steady until early to mid-August when many fishers took a break from albacore to participate in salmon and halibut openers. Weather patterns in early September signaled the end for many smaller boats in the fleet, causing a decrease in landings. Larger vessels that could stay out longer found fish well into late October before weather events persisted and warm temperatures began to move away from the coast.

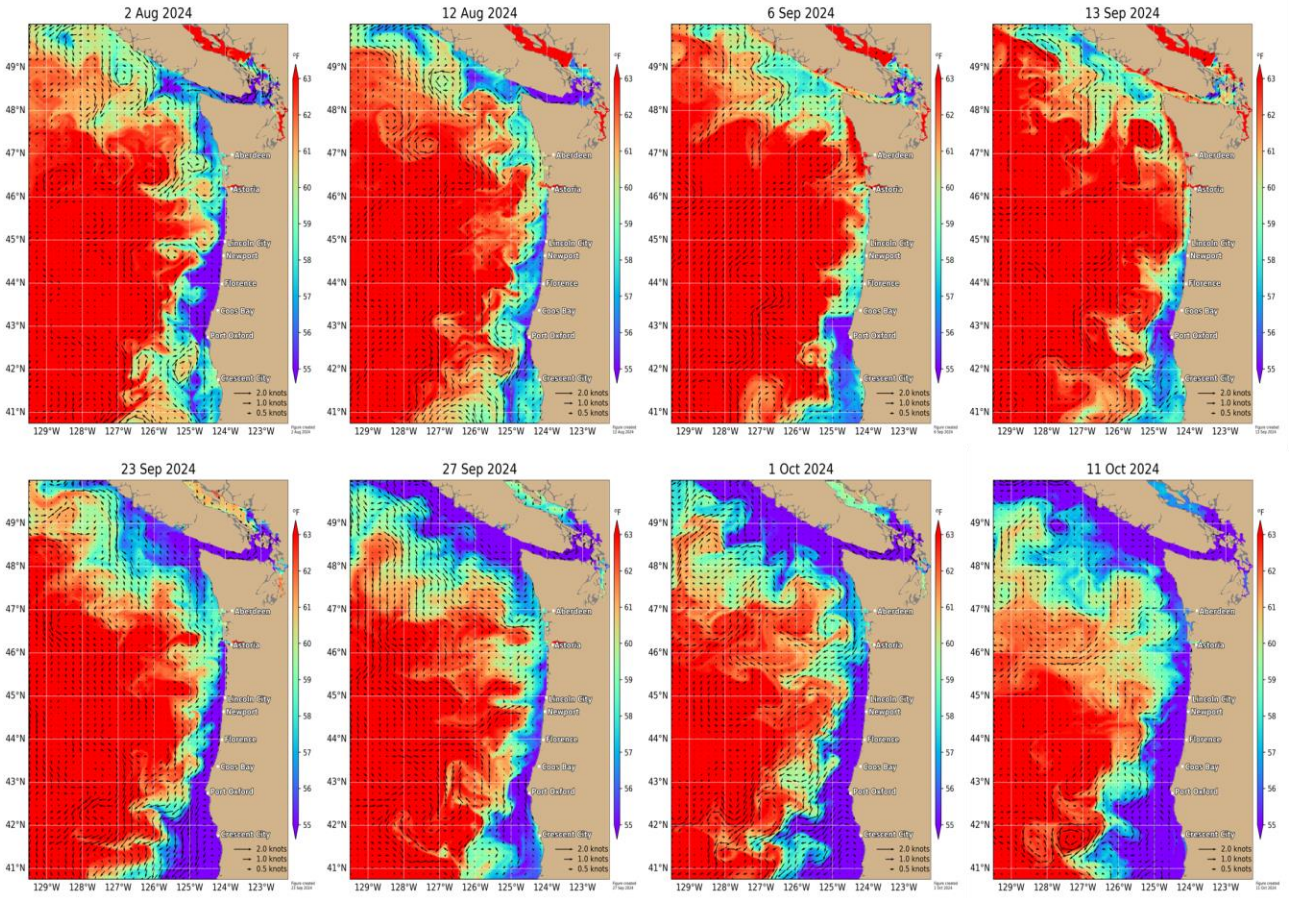

Figure 2: Sea surface temperature plots off Oregon and Washington August 2 - October 11, 2024. Images courtesy of Northwest Association of Networked Ocean Observing Systems (NANOOS).

Albacore Landings

The estimate of total albacore volume landed in Oregon during the 2024 season is 4,975,011 pounds. This reflects 87% of the prior ten-year average of 5.71 million pounds from 2014-2023. When comparing the 2024 season to the prior five-year average from 2019-2023, landed volume represents an increase of 9%. The landings occurred over 682 total trips, reflecting 76% of the ten-year average of 894 trips from 2014-2023 and 100% of the five-year average of 682 trips from 2019-2023 (Figure 3).

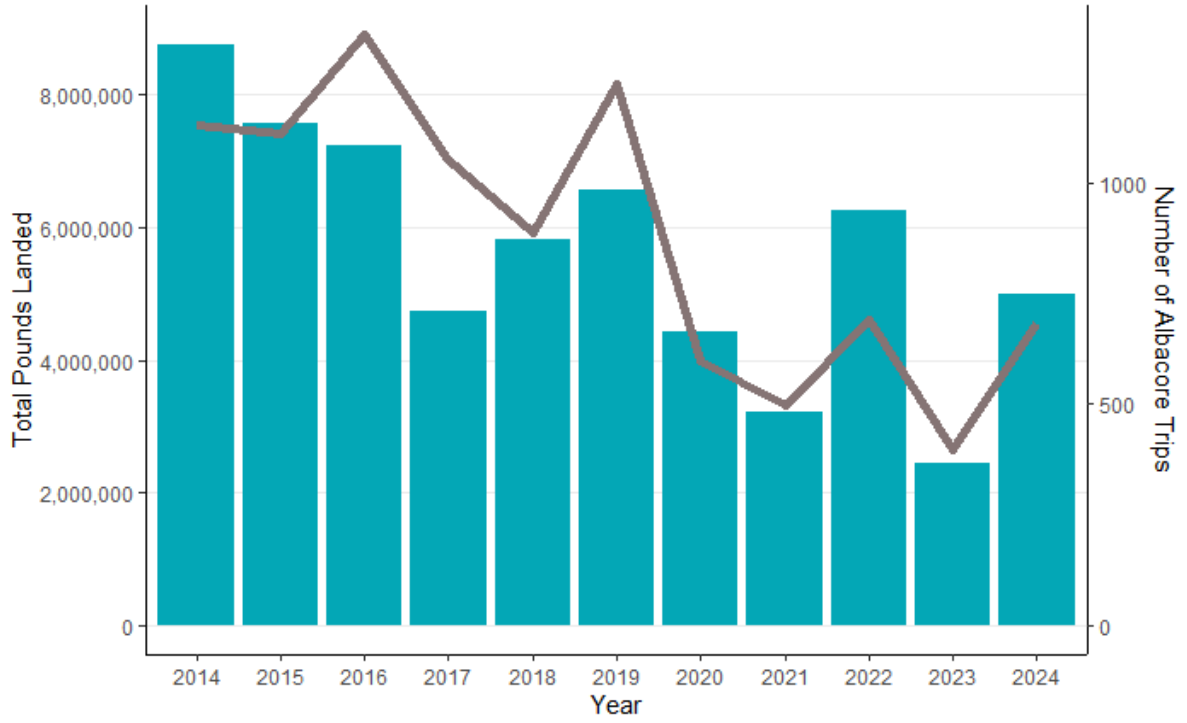

Figure 3. Total pounds of albacore landed (left axis) and number of albacore vessel trip landings (right axis) in Oregon by year, 2014-2024.

There were 223 unique vessels that targeted albacore during 682 trips, for an average of 3.1 trips per vessel over the 2024 season. The 223 participating vessels represents 78% of the ten-year average of 287 vessels and 97% of the five-year average of 230 vessels. This year's participating fleet was up 22% from 2023, an increase of 50 vessels (Figure 4). Four Canadian vessels made albacore landings in Oregon totaling 105,849 lbs.

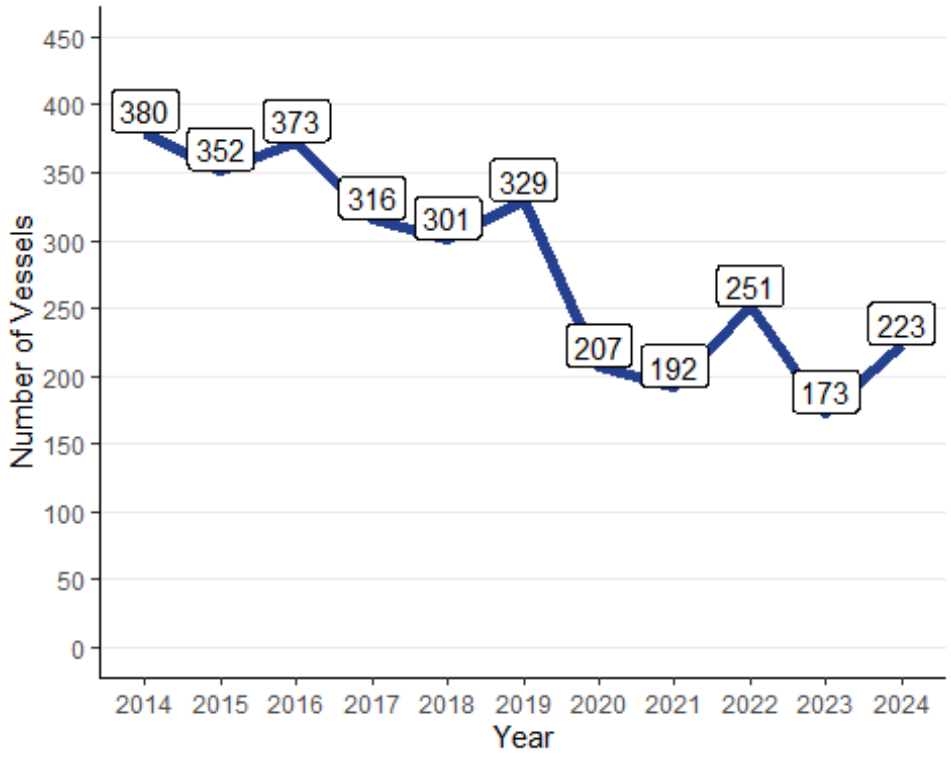

Figure 4. Total number of unique vessels landing albacore in Oregon, 2014-2024.

The season kicked off with landings in early July and remained consistent until early September. There was a slight decrease in activity in early to mid-August as fishers participated in salmon and halibut openers (Figure 5). Peak season volume occurred during the week of July 28, 2024, with 711,613 pounds landed (Figure 5). The last offload occurred on October 28 in Astoria to round out the season with 4.9 million pounds landed.

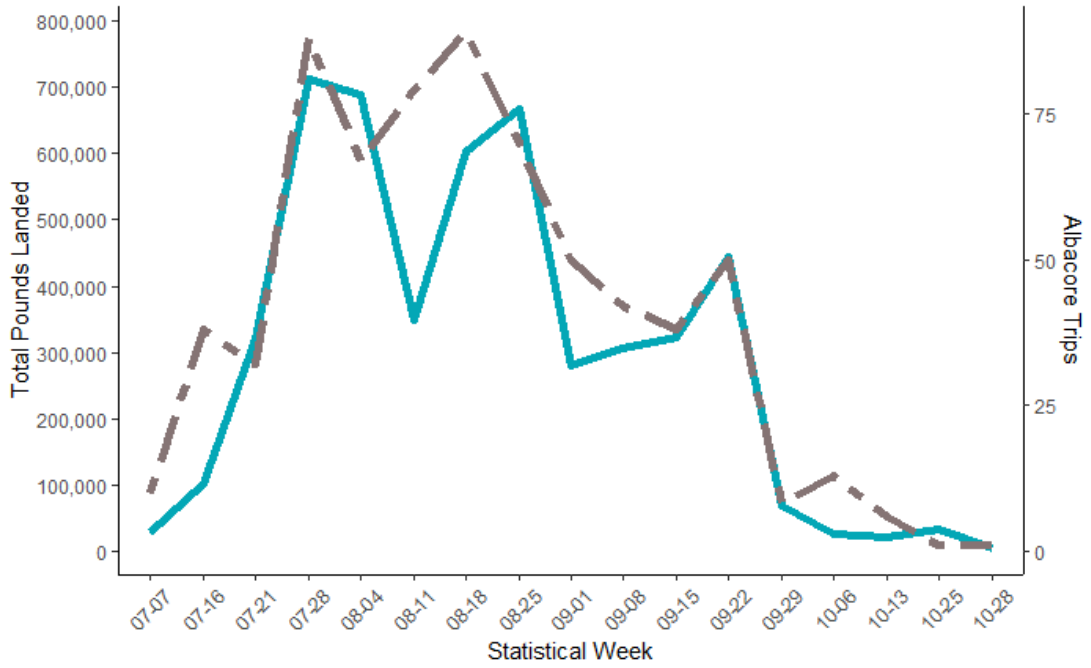

Figure 5. Total pounds of albacore landed (left axis, blue line) and number of albacore vessel trips (right axis, grey dashed line) per week in 2024.

The temporal distribution of landings follows the typical pattern, with August usually being the highest producing and grossing month of the season, though this can vary. It was an earlier than usual start in July with 670,034 pounds landed representing 13% of the season total (Figure 6). August was the largest contributor of volume at 56% of the seasonal volume for a total of 2,801,207 pounds landed. September contributed 28% of the yearly total and 1,370,594 pounds for the month. October contributed 2% of the season volume (133,176 pounds). With the small landing volumes in October, this season was predominantly a three-month season but still holding the recent pattern with most of the landings occurring across the months of August and September instead of a season where albacore catch is spread more evenly across all four months.

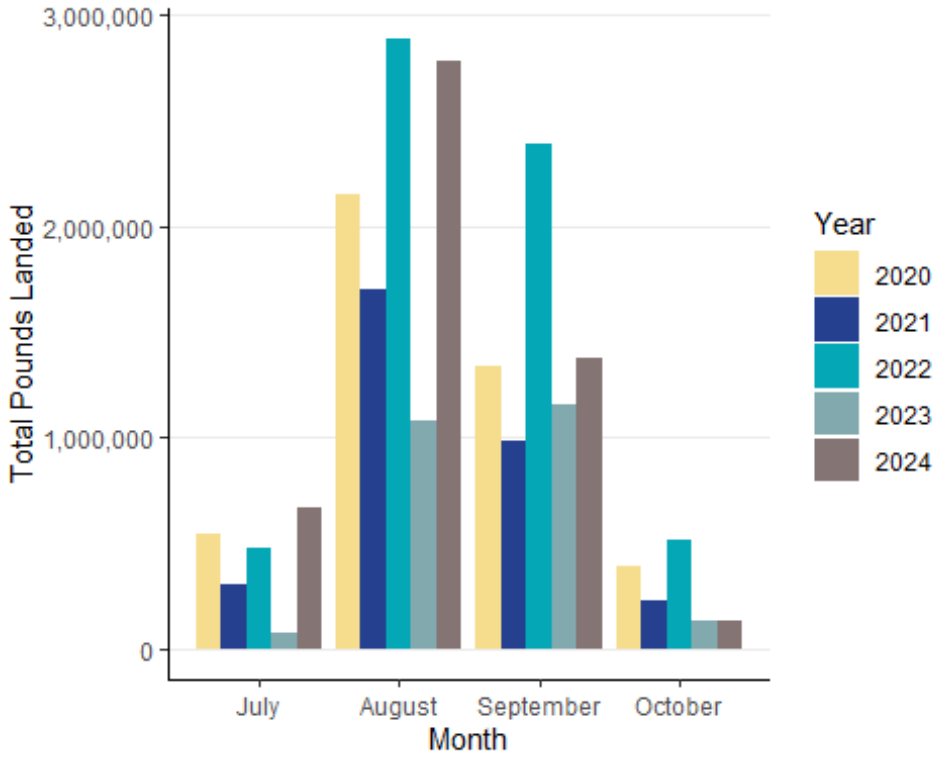

Figure 6. Monthly distribution of pounds landed July-October over the albacore season, 2019-2024.

Albacore landings were spatially distributed along the coast with 45% (2.24M lbs.) of the volume offloaded in Newport. Charleston comes in at a distant second with 28% of the season's volume total (1.4M lbs.). Astoria contributed 18% of the season's volume total (909k). Winchester Bay and Garibaldi each contributed 4% and 3% of landing volume, (192k and 136k lbs., respectively). 'Other Ports', which consists of Gearhart-Seaside, Cannon Beach, Pacific City, Depoe Bay, Florence, Bandon, Port Orford, Gold Beach, and Brookings also accounted for 2% of the total season volume. (Figure 7). Over the 2024 season, Astoria landing volume outpaced Garibaldi for the second time returning to the previous pattern (Table 1). The trend of landings in Astoria in relation to Garibaldi was examined in more detail in the 2021 annual report.

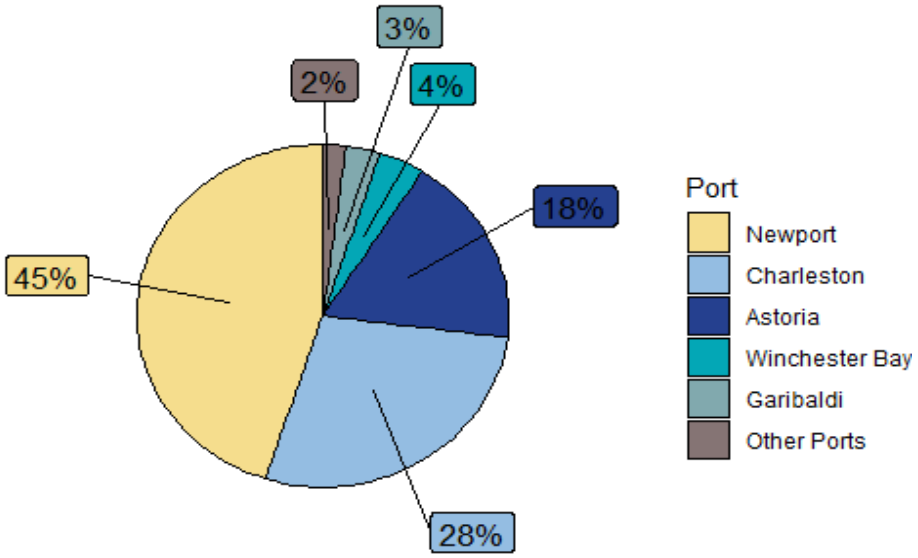

Figure 7. Landing volume percent by port, 2024.

Table 1. Albacore landings by port for 2024 (pounds and percentage) and average landings (pounds and percentage), 2014-2023.

Port	**Landings (lbs)**	**Landing %**
Newport	2,247,015	45.17%
Charleston	1,406,135	28.26%
Astoria	909,192	18.28%
Winchester Bay	191,654	3.85%
Garibaldi	136,263	2.74%
Port Orford	25,982	0.52%
Brookings	21,453	0.43%
Florence	13,971	0.28%
Bandon	10,761	0.22%
Gold Beach	6,155	0.12%
Pacific City	3,341	0.07%
Gearhart	1,326	0.03%
Cannon Beach	1,010	0.02%
Depoe Bay	753	0.02%

The average size of all albacore landings in 2024 was 7,295 pounds. Dividing all landings into quartiles by total pounds reveals the wide range of landing size in this fishery. While the largest landing of the season was 90,353 pounds, the median landing was only 2,720 pounds. 75% of all landings were 9,026 pounds or less (Table 2). This highlights that the fishery is largely dominated by medium and small vessels.

Table 2. Quartile ranges of all commercial albacore landings, 2024.

All Landings		
Quartile		**Pounds**
100%	**Max**	90,353
75%	**Quartile**	9,026
50%	**Median**	2,720
25%	**Quartile**	821
0%	**Min**	10
	Average	7,295

Albacore Prices and Value

The average price of the 2024 season is $1.67 per pound. In the typical pattern, July started with highest average price of the season of $1.81. In August, the price decreased to an average price of $1.64 followed by a slight increase in average price in September of $1.66, and again in October of average price per pound of $1.72 (Figure 8).

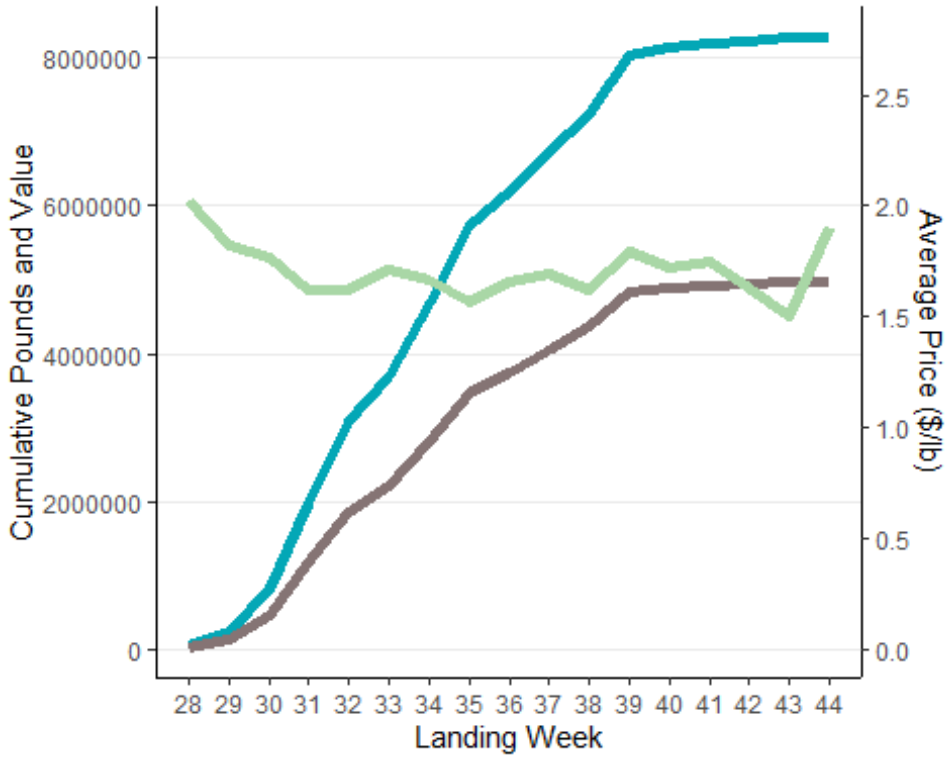

Figure 8. Cumulative landings on the left axis in grey, cumulative ex-vessel value on the left axis in blue, and average price by statistical week (Sunday-Saturday) in green in 2024.

The 2024 Oregon albacore season generated $8,284,586 in total gross value paid to vessels, which represents 87% of the prior ten-year average of $9,558,355 (Figure 9). The average ex-vessel trip values at just over $12,147, a 30% increase from the average trip valued at $8,600 in 2023.

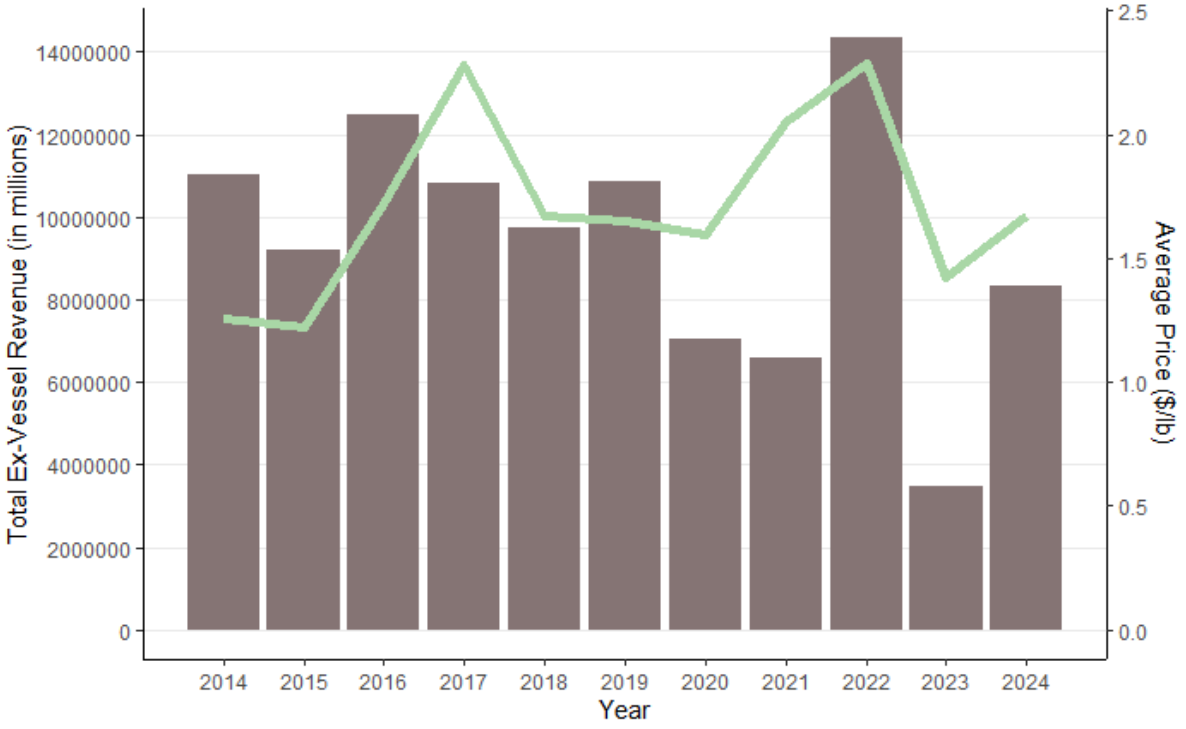

Figure 9. Total revenue (ex-vessel, grey bar) and average price (green line of Oregon albacore landings, 2014-2024.

Sampling Rate & Coverage Analysis

The sampling rate goals for the 2024 albacore season were negotiated under the contract with NMFS and PSMFC, resulting in a 20% sampling goal for the ports of Astoria, Newport, and Charleston. 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 39% including Other Ports and 50% without (Table 4). Appendix A presents additional summary information required by the contractual agreement with NMFS and PSMFC for albacore sampling.

Table 3. 2024 Oregon commercial albacore sampling season summary. Gearhart-Seaside, Cannon Beach, Pacific City, Depoe Bay, Florence, Bandon, Port Orford, Gold Beach, and Brookings are combined as "Other Ports."

Port	Pounds Landed	Pounds Sampled	Albacore Trips	Trips Sampled	Total Fish Sampled	Average Fish Sampled	Coverage Rate
Astoria	909,192	611,038	79	39	1,277	33	**49%**
Charleston	1,406,135	1,054,973	173	84	3,183	38	**49%**
Newport	2,247,015	1,631,278	257	132	5,421	41	**51%**
Other Ports	412,669	48,725	173	8	266	33	**5%**
Total	**4,975,011**	**3,346,014**	**682**	**263**	**10,147**	**145**	**39%**

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 and rates, distributing logbooks to vessels, and providing information to fishers.

Comparing quartile divisions of all landing weights to sampled landing weights highlights potential sampling bias regarding landing size. Large landings are defined as those with weights greater than 75% of all individual albacore trip landing weights. In 2024, large landings are classified as 9,026 pounds and up (Table 4). This year, 18% of sampled landings came from the large landing size, or top 25% of all landings. This shows that samplers continue to effectively capture smaller landings throughout the season. Landings from larger vessels are much easier to predict and access, hence the skewed percentages toward larger landings.

Table 4. Quartile points for all Oregon albacore landings and sampled landings, 2024.

All Landings			**Sampled Landings**		
Quartile		**Pounds**	**Quartile**		**Pounds**
100%	**Max**	90,353	100%	**Max**	90,353
75%	**Quartile**	9,026	75%	**Quartile**	18,077
50%	**Median**	2,720	50%	**Median**	7,777
25%	**Quartile**	821	25%	**Quartile**	3,490
0%	**Min**	10	0%	**Min**	360
	Average	7,295		**Average**	12,722

Recommendation for 2025 sampling: 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 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. 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 2024. Samplers measured 10,147 albacore over the course of the 2024 season. The frequency distribution of 2024 length data shows modal distribution with a peak at 66 cm (Figure 10). The length frequencies obtained in 2024 was not as distributed across multiple size classes as was the case in 2023 (Figure 11).

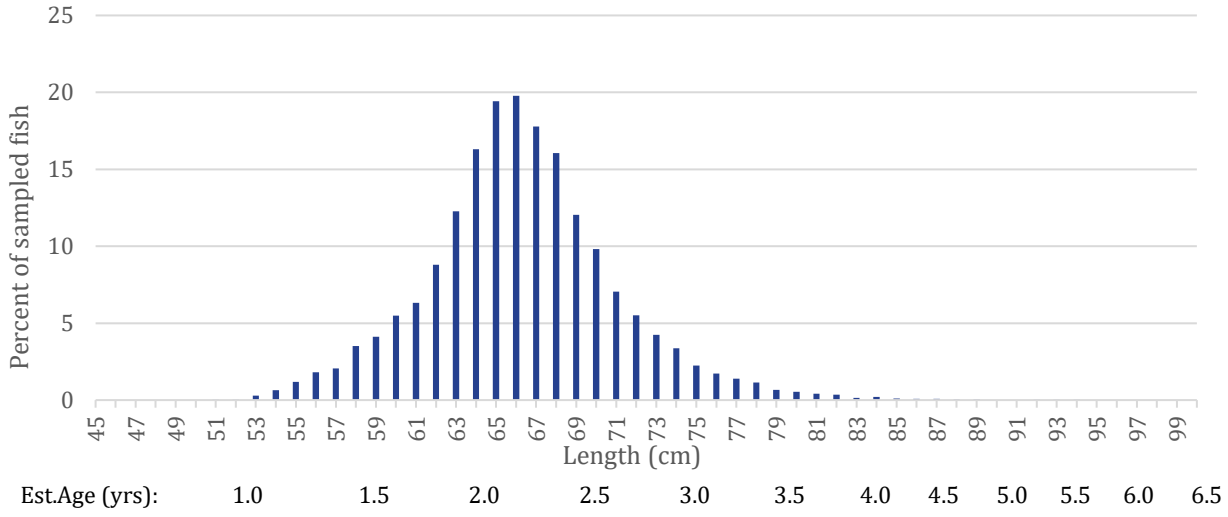

Figure 10. Length frequency data for all sampled ports and all months combined, 2024. Average length = 66 cm, n=10,147.

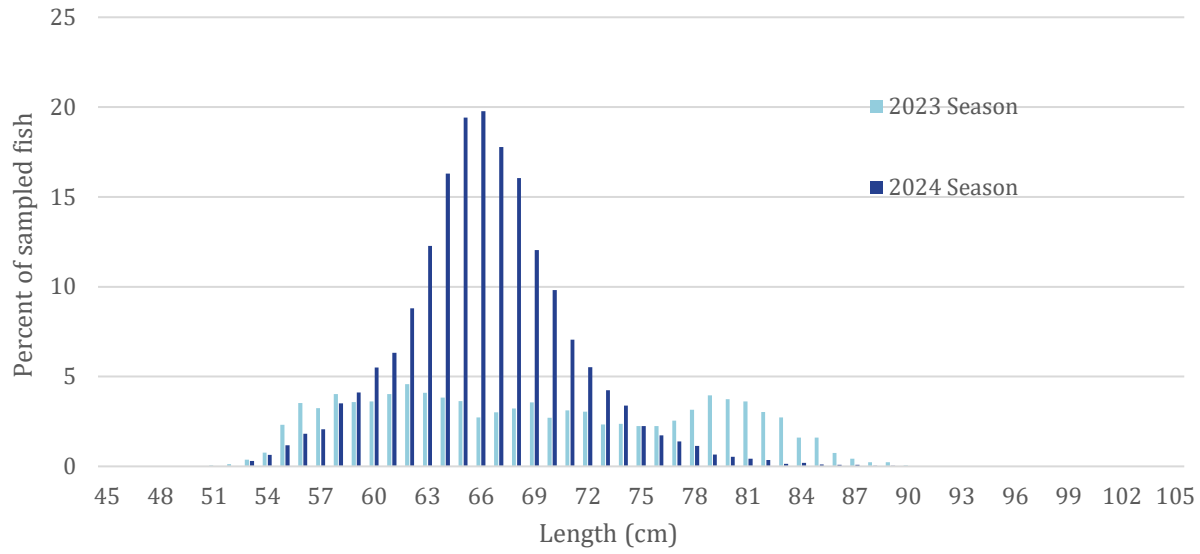

Figure 11. Length frequency data for all sampled ports and all months combined comparing the 2023 season to 2024.

Many buyers sort albacore into three grades upon offloading: small are typically 9 pounds and under (<59 cm), medium range from 9-17 pounds (59-72 cm) and large are typically over 17 pounds (>72 cm). These variations are based on buyer needs and are subject to fluctuation. The grade sizes stated above were used for analysis in Figure 12.

Changes in size grade throughout the season were marked by a high percentage of medium grade fish early in the season that declined in October before increasing again at the end of the season. This was coupled with increases in the proportion of small grade fish in July and then again in October, with large fish following a similar pattern (Figure 12).

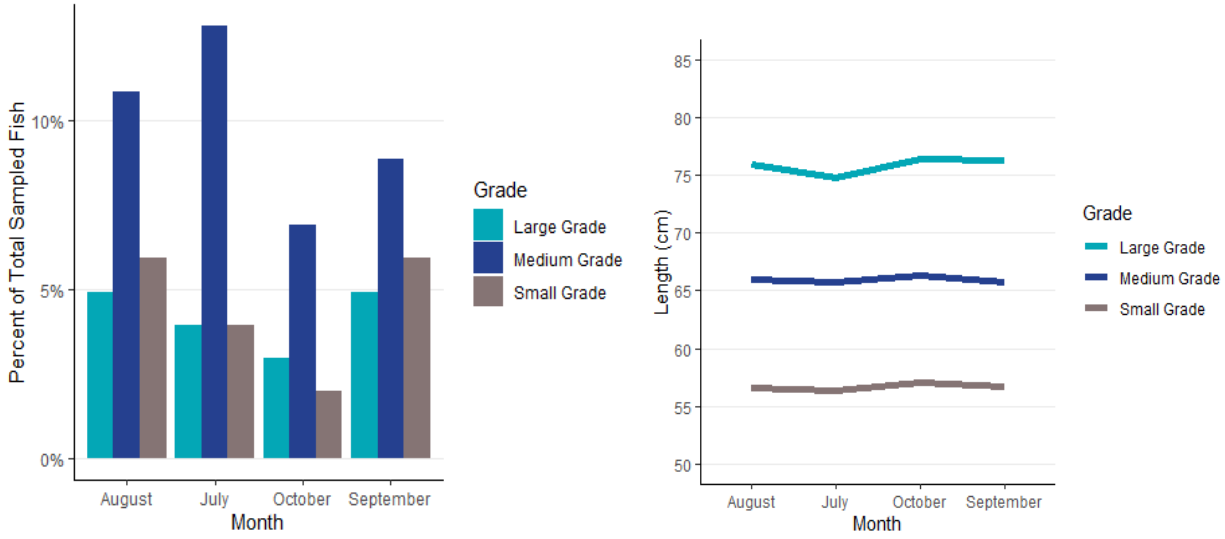

Figure 12. Proportion (left) and average length (right) of small, medium, and large grade fish sampled per month in 2023. Small: n = 517; Medium: n=8,715, Large: n= 915.

2024 RECREATIONAL ALBACORE FISHERY

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. There were an estimated 94 albacore charter trips and 2,820 private recreational trips over the 2024 season. An estimated total of 57,626 albacore were caught in the recreational fishery and 56,037 of those were from trips targeting albacore. There was a total of 1,313 fish measured for fork length.

Access to albacore for recreational vessels in Oregon can be highly variable, depending on weather conditions and distance offshore to the fishing grounds. Recreational vessels are limited by the same weather systems that limit the smaller vessels of the commercial fleet. Because of this, the recreational fishery tends to end earlier than the commercial fishery. Distance to the fishing grounds was not a substantial limiting factor during the season.

Recreational catch on trips targeting albacore occurred in June, July, August, September, and October. Unlike the commercial fishery, with August as its highest producing month, the highest catch volume took place in July in the recreational fishery (Table 6). There was little effort observed in June and October (45 and 39 anglers respectively).

Table 6. Estimated recreational catch, effort (number of anglers), and CPUE per month, 2024.

Month	Catch	Effort	CPUE
June	118	45	2.6
July	11,672	1,571	7.4
August	41,498	7,887	5.2
September	2,661	673	3.9
October	88	39	2.2

Recreational activity occurred in nearly every Oregon port, although data reported is limited to the ports that had recreational samplers during the albacore season. Charleston had the highest estimated volume at 14,763 albacore caught when targeted and Pacific City had the highest catch rate with a CPUE of 7.4 (Table 7).

Table 7. Estimated recreational catch, effort (number of anglers), and percent landed per port for albacore directed trips in 2024.

Port	Catch	Effort	CPUE	Percent Landed
Astoria	1925	324	5.9	3.4%
Garibaldi	7040	1509	4.7	12.6%
Pacific City	1694	229	7.4	3.0%
Depoe Bay	4001	717	5.6	7.1%
Newport	12369	2635	4.7	22.1%
Winchester Bay	10816	1672	6.5	19.3%
Charleston	14763	2524	5.8	26.3%
Gold Beach	903	151	6	1.6%
Brookings	2526	454	5.6	4.5%

The CPUE for all sampled ports combined over the 2024 season is 5.8, is 29% higher than 2023 and a 32% increase from the prior ten-year average CPUE of 3.7 (Figure 13).

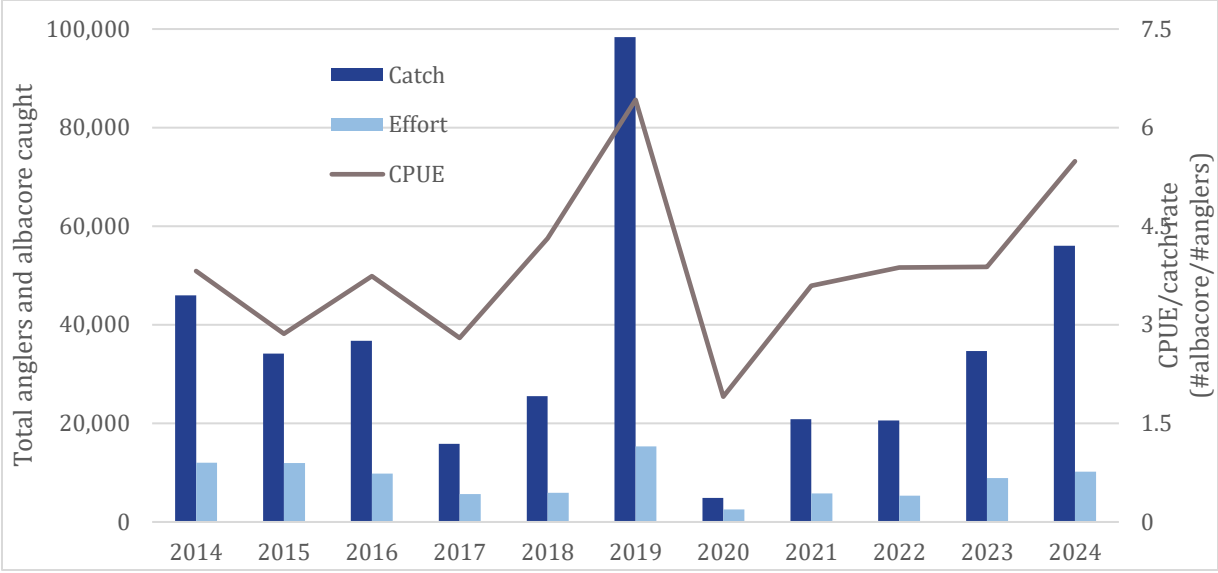

Figure 13**.** Recreational fishing effort (number of anglers), catch (number of albacore landed) and catch per unit effort (CPUE or albacore per angler) from trips targeting albacore, 2014-2024.

ORBS samplers collected length data on 1,313 recreationally harvested albacore in 2024. Figure 17 shows the length frequency distribution of non-sorted, randomly sampled albacore during the 2024 recreational season. The overall average length is 66.1 cm (Figure 14).

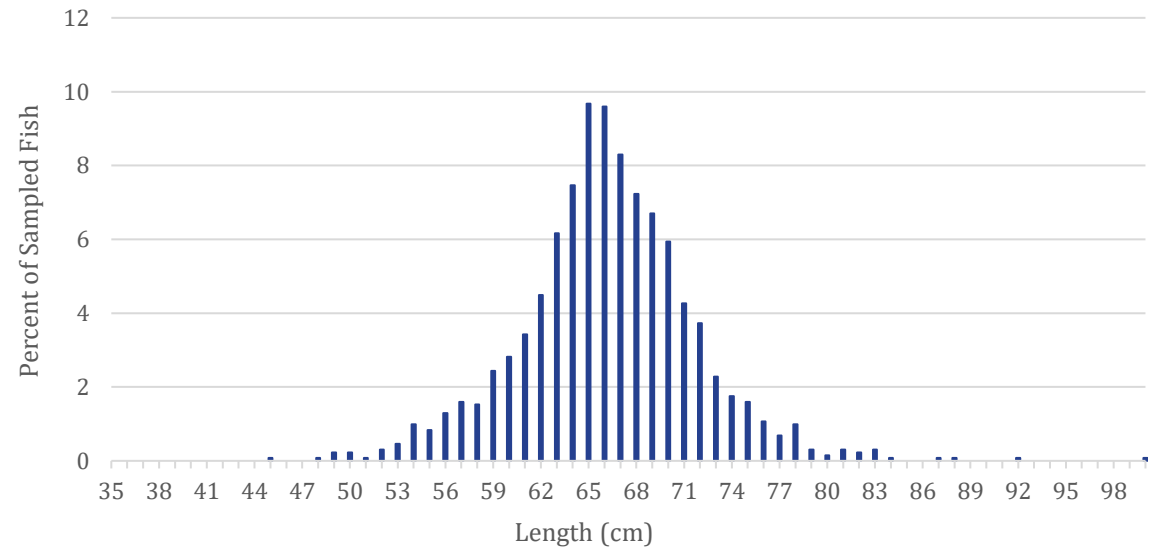

Figure 14**.** Length frequency data for all ports sampled for recreationally caught albacore by ORBS, 2024. Average length = 72.2 cm, n = 1,179.

ACKNOWLEDGEMENTS

Thank you to all albacore fishing vessel operators and crew who cooperatively provided fishing information during the 2024 season, as well as fish plant staff and buyers who supported and assisted with efficient sampling on their property. Many thanks to Shawn Ruzzi and Alondra Aeling in Charleston and Maria McCarthy, Jim Marketti, and Jonathan LaTour in Astoria as primary albacore samplers. Thanks also to ODFW Port Biologists and staff for collecting additional samples and distributing logbooks: Sheryl Flores, Scott Malvitch, Joel Prickett, Valerie Stephens, and Trinity Sylvester. I am grateful to Nadine Hurtado and Jeff Davis for their support with fish ticket data and reconciliation. Thanks to Ellen Veile-Smuts and Amanda Reich for their assistance in the office setting. Thank you to Jessica Moll and Justine Kenyon-Benson for providing the ORBS recreational data component for monthly and annual reports. Many thanks to 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 Nancy Leonard and Kate Al-Sheikhly of Pacific States Marine Fisheries Commission for contract administration support. A special thanks to Cameron Sharpe and Jessica Watson for their steady professional assistance and support.

Huge thanks to co-author Lindsey Noordman who has been the albacore coordinator for the past several years. We thank her for all her efforts and wish her well in her new role with the agency.

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

2024 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	2	1	**7**
Lbs. landed by commercial sampled vessels	611,038	7,111	1,631,278	28,938	1,054,973	12,678	**3,346,014**
Total number of commercial fish measured	1,277	32	5,512	36	3,183	35	**10,238**
No. commercial trips sampled	39	4	132	1	84	3	**263**
Total no. of commercial trips/landings	79	72	257	31	173	70	**682**
Total no. of commercial vessels*	34	20	95	13	68	27	**223**
Lbs. landed by US vessels	869,336	136,263	2,181,022	191,654	1,406,135	84,752	**4,869,162**
Lbs. landed by Canadian vessels	39,856	0	65,993	0	0	0	**105,849**
Total lbs. landed by all commercial vessels	909,192	136,263	2,247,015	191,654	1,406,135	84,752	**4,975,011**
Lbs. landed by sport vessels**	33,688	123,200	216,458	189,280	258,352	159,670	**989,648**
Percent commercial sampling coverage (trips)	**49%**	6%	**51%**	3%	**49%**	4%	**50%**

* 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 17.5 lb. overall recreational average weight.