Photo courtesy Oregon Albacore Commission

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

2019 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 20 to 60 foot boats with multiple permits to harvest crab, salmon, or groundfish at other times of the year. Multiple methods of preservation are employed on albacore boats including ice for 1 to 3-day fishing trips, and blast- or brine-freezing equipment for indefinite lengths of time at sea. There are also several large freezer boats (>60 ft.) that travel the North Pacific year-round while primarily fishing for albacore.

Commercial albacore landings in Oregon have been highly variable through the years (Figure 1). Albacore totals range from years of no recorded landings in the early 1930s, to over 22 million pounds in 1944, less than half a million pounds in 1954, and rising again to a high of almost 38 million pounds in 1968. In the last decade, landings in Oregon have averaged 8.1 million pounds per year.

An agreement under the US/Canada Albacore treaty allows up to 45 Canadian vessels to fish and land tuna in the US EEZ, between June 15 and September 15, due to be re-negotiated in 2020.

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 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 Southwest Fisheries Science Center (SWFSC) and the Pacific States Marine Fisheries Commission (PSMFC). This report includes information from the Oregon's commercial and recreational albacore fishery. Recreational albacore fishery sampling is conducted by the Oregon Department of Fish and Wildlife's Ocean Recreational Boat Survey (ORBS). The ORBS survey adjusted its sampling protocol beginning in 2000 to better estimate effort and catch in the growing recreational albacore fishery off Oregon. Sport fishing for albacore off Oregon has grown in popularity since 2000, especially in the past decade.

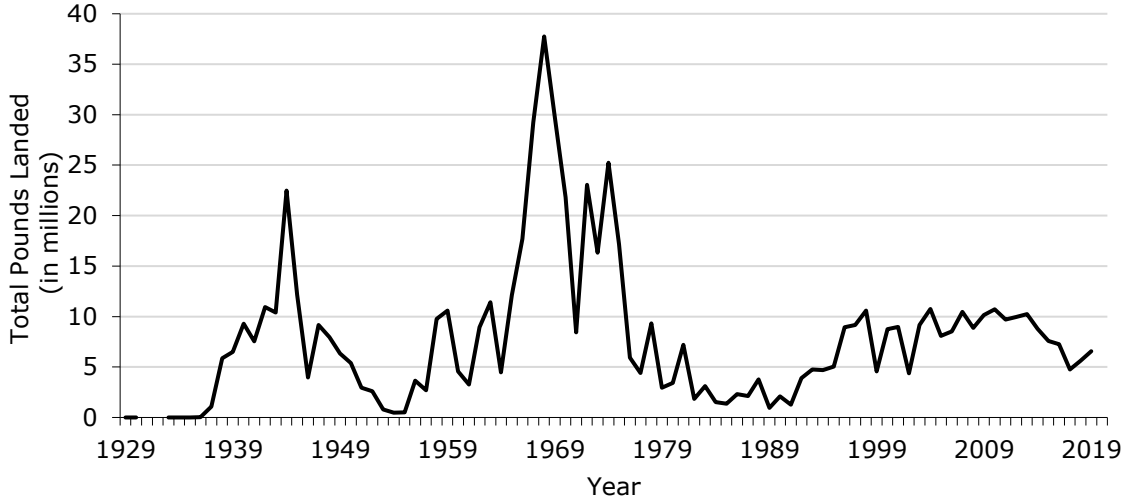

Figure 1. Historical landings of albacore tuna into Oregon from 1929-2019.

2019 COMMERCIAL ALBACORE FISHERY

Ocean conditions

Weather patterns were generally moderate throughout the season, with the occasional bursts of northwest winds causing vessels to come to port, and resultant surges in the offload poundages. Larger brine and blast-freezer vessels may be less affected by these weather events, but smaller ice boats are often forced into port for one or more days while conditions improve.

Temperatures in 2019 were notably different, with a large and dense bulk of warm water approaching the coast through June and July, and "coming ashore" in mid-July. The large mass of warm water was the subject of much dock-talk, and generated many comments from long-time fishers about never-before seen water temperatures at sea. Sea surface temperature (SST) data from the weather buoy at Stonewall Bank (46050) are unavailable this year, but at the Tillamook (46089) buoy, 85 nautical miles WNW of Tillamook Bay, the high temperatures for each month of the season were:

June, 17°C (62.6°F); July 20.7°C (69.3°F); August 20.9°C (69.6°F); Sept. 20.4°C (68.7°F); Oct. 17.3°C (63.1°F). The peak temperature in August is nearly two degrees C (3.6°F) higher than that seen in 2018, and boats were reporting sea surface temperatures in the low 70's F in some fishing areas. Sea surface temperature maps are presented in Appendix A.

Vessel Activity

With warm water moving in quickly, albacore crews began scouting for fish in late June. The albacore failed to materialize in anything but light scatterings this year until after the middle of July, and the volume only hit in the final three days of that month. With the season starting nearly a month later than is considered normal, many were worried a poor season was in store. Fishing came on strong in August, however, and continued without pause straight into October. The persistent, contiguous mass of very warm water allowed fishing quite close to shore, reportedly as close as 10 miles by sport boats, although most commercial boats were still travelling 35-50 miles out to obtain their fish. Jig boats were reporting no trouble catching fish just as well as bait boats, which normally use anchovies or herring. In Newport, several bait boats were not bothering to carry any bait at all. Later in the season the bait boats usually hold an advantage over jig boats, but that was not the case in 2019. Weather patterns began to deteriorate in October, driving smaller boats into port and causing many skippers to hang it up for the year. By October 20 most everyone had come in and unloaded, though a few die-hards kept at it and landed later in the month.

This Year's Catch

This year saw far fewer of the small "peanut" sized fish in the catch that surged in volume in the latter half of 2018. Fishers were worried that once again they might be swamped with these less-desirable fish, but their numbers stayed low this year. It is undoubtedly desirable to have these smaller fish make up some fraction of the catch, as they are 1-1.5 year-old tuna, and represent the following season's 10-15 pound market-grade tuna. Another notable feature of this season was the absence of the very largest grade of albacore, those especially big fish in the 30+ pound range that normally make up a small portion of the catch.

2019 Albacore Landings

The 2019 season was marked by the late arrival of the main school of albacore off Oregon. Though coastal waters warmed quickly through June and early July, the fish were notably absent even though boats were making regular forays in search of fish. While there were stories of scattered albacore off Oregon in June, the first commercial landings did not occur until July, with only sporadic landings during the first three weeks of the month. Only after July 20 did landings begin to build, and only 322,763 pounds were landed during the month. August, however, was a very productive month, producing over 3 million pounds. Fishing effort remained strong, with 2

million pounds landed in September, continuing well into October (Figure 2).

Total 2019 landings showed a second year of steady gain in volume, with 6.6 million pounds being landed in Oregon. (Figure 3). Tuna fishers collectively made 1,226 trips on 329 different commercial vessels (Figures 3 and 4). The number of trips is within 1% of the 10-year average, while the number of vessels participating is 13.3% lower than the 10-year average.

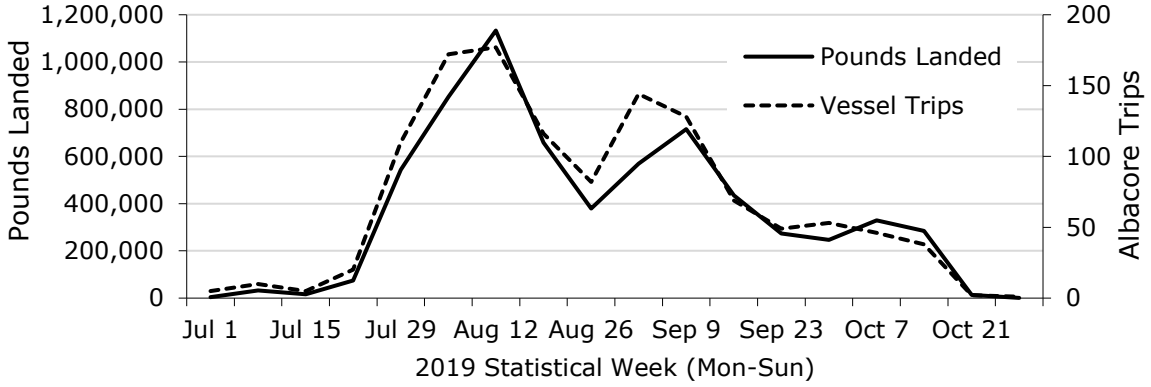

Figure 2. Total pounds of albacore landed (left axis) and number of albacore vessel trip landings (right axis) per week in 2019.

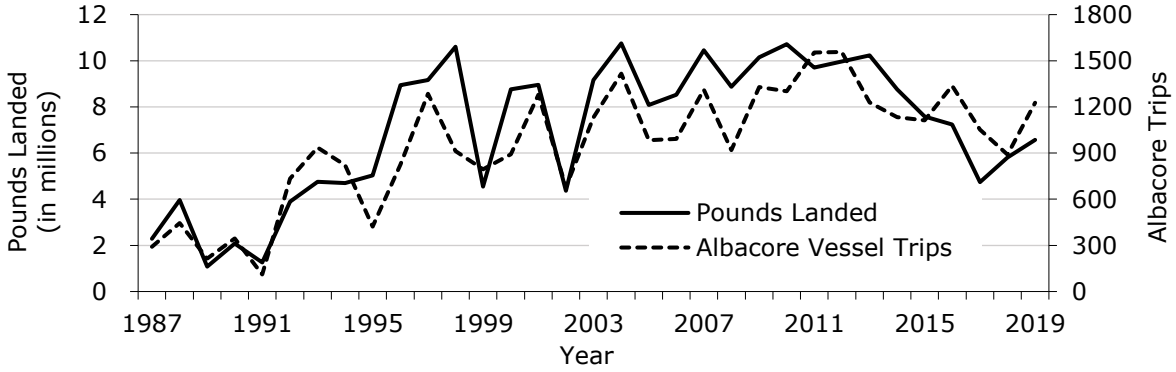

Figure 3. Total pounds of albacore landed (left axis) and number of albacore vessel trip landings (right axis) in Oregon by year, 1987-2019.

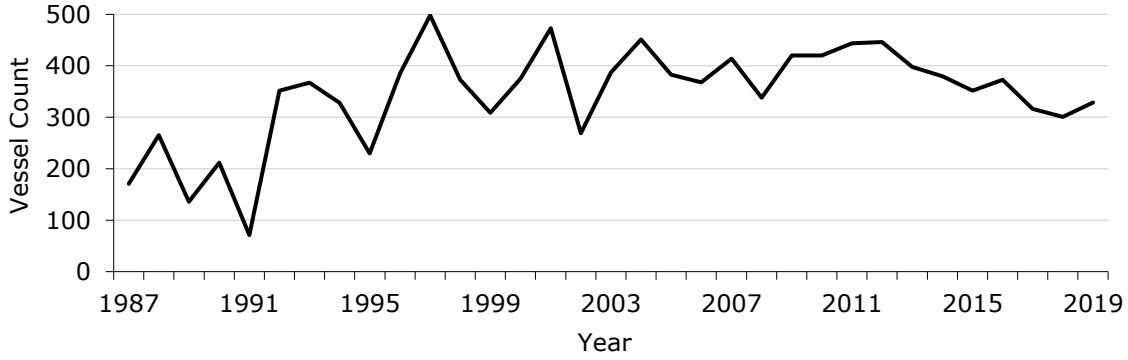

Figure 4. Total number of different vessels landing albacore in Oregon, 1987-2019.

August was the peak month for albacore landings in 2019, yielding 3,331,377 pounds, or 50.7% of the total landings for the year (Figure 5). Historically, August has yielded the highest quantity of tuna and profit for fishers. This was the first time in Oregon since 2015 that 3-million pounds of tuna were landed in a single month.

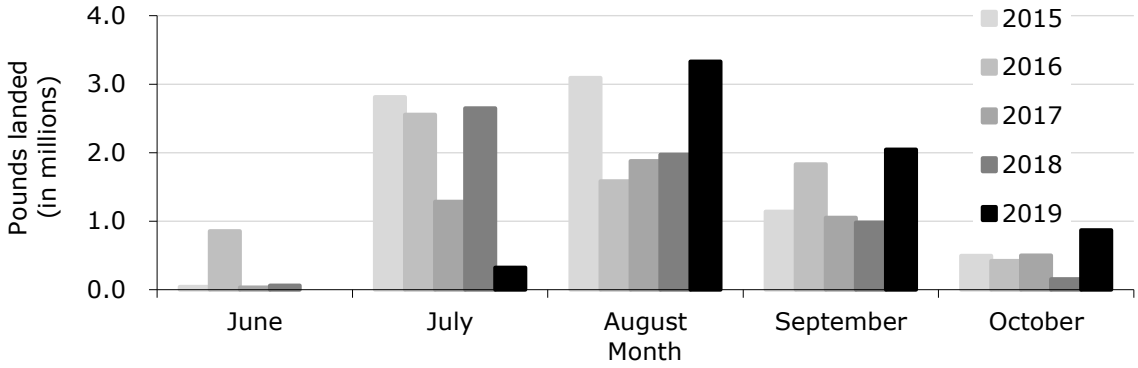

Figure 5. Total pounds of albacore landings by month, 2015-19. There were no tuna landed in June in 2019.

The preliminary total for 2019 commercial landings is 6,565,796 pounds. This is an improvement over 2018 by over 12.2%, yet is still only 80.7% of the ten-year average (2010-19) of 8.1 million pounds (Table 1).

Five Canadian vessels made 9 landings, totaling 224,729 total pounds of blast-frozen albacore in Oregon during their three-month eligibility in 2019, with an ex-vessel value of $371,589.

Newport had the highest albacore landings of any Oregon port in 2019, with 45.4% of the total weight (Table 2). Charleston landed 33.6% of the total weight, followed by Astoria. Other ports showing landings tallies of over 100,000 pounds were Garibaldi and Winchester Bay.

Table 1. Annual albacore landings (pounds) and percentage of the 10-year average (2010-2019).

Year	Total Landings (lbs.)	% of 10-yr Average
2019	6,565,796	80.7%
2018	5,812,180	71.5%
2017	4,744,814	58.3%
2016	7,249,854	89.1%
2015	7,584,044	93.2%
2014	8,770,100	107.8%
2013	10,228,014	125.8%
2012	9,964,238	122.5%
2011	9,699,216	119.3%
2010	10,713,209	131.7%
Average	**8,133,147**	

Table 2. Albacore landings by port for 2019 (pounds and percentage) and average landings (pounds and percentage) across 10 years (2010-19).

	2019		10-Year Average	
Port	**Landings (lbs.)**	**Landing %**	**Landings (lbs.)**	**Landing %**
Newport	2,980,322	45.4%	3,392,060	41.7%
Charleston	2,206,670	33.6%	1,949,022	24.0%
Astoria	642,026	9.8%	2,211,402	27.2%
Garibaldi	363,986	5.5%	245,697	3.0%
Winchester Bay	188,227	2.9%	152,706	1.9%
Brookings	75,152	1.1%	114,248	1.4%
Port Orford	80,918	1.2%	28,849	0.4%
Florence	7,879	0.1%	19,950	0.2%
Pacific City	4,421	0.1%	7,265	0.1%
Depoe Bay	0	0.0%	5,278	0.1%

The average landing in Oregon for 2019 was 5,368 pounds, roughly the same as the previous year (Table 3). The largest landing made into Oregon this year was over 62,000 pounds. Dividing the landings into quartiles reveals the wide range of vessel sizes participating in this fishery. There were 29 landings of 30,000 pounds or more, but it is important to note that 75% of the landings, or 889 landings, are of 5,809 pounds or less. Small and moderate sized vessels make up the bulk of the albacore fleet.

Table 3. Quartile partition and mean of 2019 Oregon albacore landings.

All Landings		
Quartile		**Pounds**
100%	**Max**	62,666
75%	**Quartile**	5,809
50%	**Median**	2,257
25%	**Quartile**	702
0%	**Min**	9
	Average	5,368

2019 Albacore Prices and Value

Albacore prices jumped into the $2.00 range and became somewhat volatile as vessels were hunting for the fish in early July, and buyers were trying to fill demands. When the volume finally began to flow in late July, prices came down somewhat and quickly stabilized for the rest of the season (Figure 6). Only late in the season did blast prices rise a modest amount as some buyers tried to attract more boats to their dock, but the effect on average prices paid out was minimal.

The "peanuts" that played a large role in the 2018 fishery failed to

materialize in such large numbers this year, but they were still present in the catch enough to require sorting during most large offloads. Albacore are sorted into three market size grades upon unloading from the boat, and a separate lower price given for the smaller fish. These market size grades are typically graded Small "peanuts" (under 9 pounds); Medium or "schoolers" (9-15 pounds); and Large fish (over 15 pounds). Prices for the differing grades can vary, and boats with a significant percentage of peanuts in their load are paid a lower price for those smaller fish.

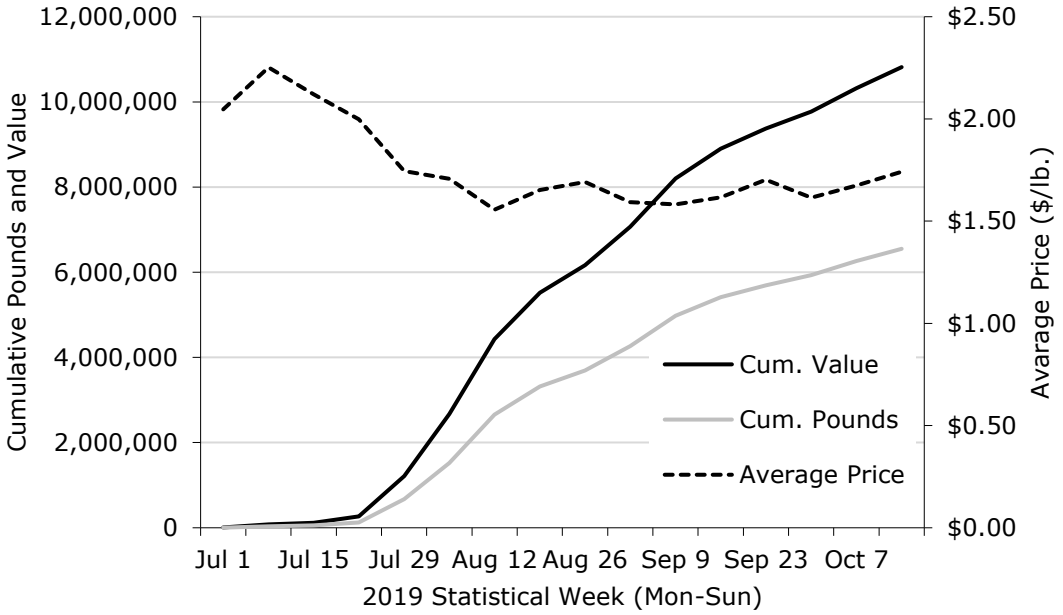

Figure 6. Cumulative landings, cumulative ex-vessel revenue, and average price by week in 2019.

Ex-vessel revenue generated from albacore in 2019 totaled $10,844,776 (Figure 7). The average price for 2019 was $1.65 per pound, almost unchanged from the 2018 average of $1.67, but well above the ten-year average of $1.56 per pound.

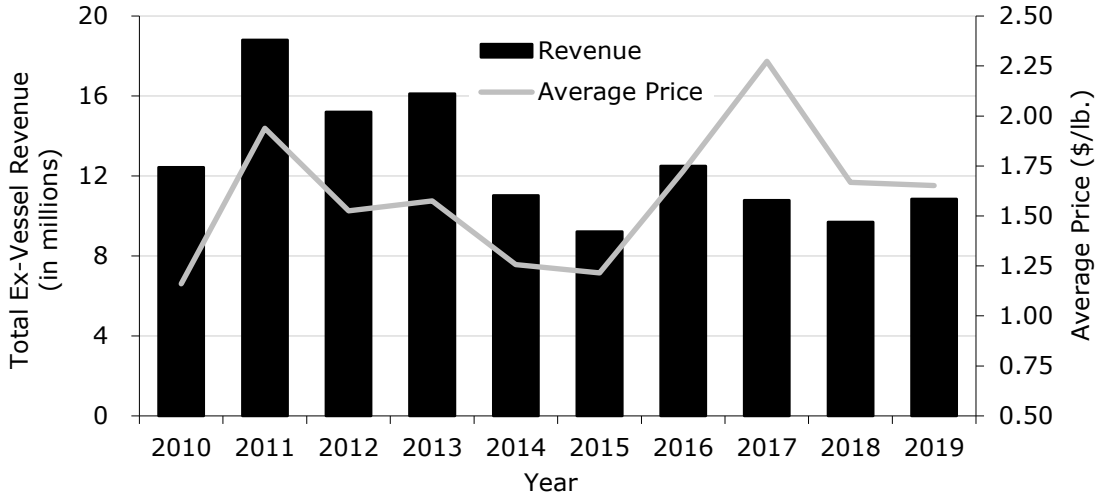

Figure 7. Total revenue (ex-vessel) and average price for 2019 Oregon commercial albacore.

Albacore has in the past typically ranked fourth or fifth for total annual revenues generated in Oregon marine fisheries. This year, albacore tuna revenue ranked fifth relative to other Oregon fisheries, representing 6.8% of the total annual revenue (Table 4).

Table 4. Oregon annual marine fish revenue (ex-vessel) for calendar year 2019 ranked by ex-vessel revenue percentage.

Fishery Species	Pounds Landed	Revenue	Revenue Percentage
Dungeness Crab[o]	18,719,848	$66,864,188	42.2%
Pacific Whiting	222,201,148	$21,684,753	13.7%
Pink Shrimp	26,851,713	$19,939,784	12.6%
Groundfish[x]	42,186,834	$19,539,767	12.3%
Albacore Tuna	6,565,796	$10,844,776	6.8%
Sablefish	5,778,902	$9,287,525	5.9%
Salmon	994,268	$4,150,571	2.6%
All Other Marine Species[xx]	10,083,843	$6,296,114	4.0%
Total	**333,382,352**	**$158,607,478**	**100.0%**

[o]Includes Bay and Ocean Dungeness fisheries, Jan 1 – Dec. 19, 2019.
[x] Groundfish excluding Pacific Whiting and Sablefish.
[xx] Including Pacific Halibut.

2019 Sampling & Coverage Rate Analysis

The sampling rate goals for the 2019 albacore port samplers in Oregon were again set at 20% for Astoria and Newport and 10% for Charleston, unchanged from 2015-18. Sampling coverage rate is the percentage of the total albacore trips with landings sampled for length frequency for each required port (Astoria, Newport, and Charleston). Port sampling coverage

rates were well above the specified goals (Table 5). The average number of fish per length-frequency sample was more than double the 20 fish minimum. In addition, port samplers acquired samples from Garibaldi, Port Orford, and Brookings.

The funding for tuna samplers is allocated to cover the months of July through October, so port biologists and ODFW staff arranged to collect albacore samples from the June landings, and the assigned tuna samplers began sampling in July. Samplers in Astoria (4 months), Newport (4 months), and Charleston (4 months at half time) were trained, prepared, and stationed on site, and achieved an overall statewide 2019 coverage rate of 29.3%. Sampling activities included measuring 20-100 albacore for fork length, collecting information on fishing patterns, distributing logbooks to vessels, and providing information to fishers. Table 5 presents a summary of commercial sampling rates and coverage rates for the 2019 season. Appendix B presents additional summary information required by the contractual agreement with NMFS and PSMFC for albacore sampling.

Table 5. 2019 preliminary Oregon commercial albacore sampling season summary. Gearhart, Seaside, Pacific City, Depoe Bay, Florence, Bandon, Port Orford, Gold Beach, and Brookings combined as "Other Ports."

Port	Total Pounds Landed	Trips	Trips Sampled	Fish Sampled	Average number of tuna sampled	Coverage Rate
Astoria	642,026	89	49	2,125	43.4	**55.1%**
Garibaldi	363,986	114	6	155	25.8	**5.3%**
Newport	2,980,322	458	166	9,264	55.8	**36.2%**
Winch. Bay	188,227	66	0	0	--	--
Charleston	2,206,670	391	135	6,212	46.0	**34.5%**
Other Ports	184,565	111	4	130	32.5	**3.6%**
Total	**6,565,796**	**1,229**	**360**	**17,886**	**49.7**	**29.3%**

Examination of the landing weights of sampled trips against all commercial landing weights helps our understanding of potential sampling bias with regard to landing size (Table 6). Large landings are defined as those with weights greater than 75% of all individual albacore trip landing weights (5,809 lbs.). In 2018, 58% of the samples came from "large" loads in the top quartile, representing the larger boats offloading at the plants, which are relatively easy to sample. This year, our sample rate in this category dropped to 45%, reflecting an effort to obtain samples from smaller boats all through the season, especially in Newport. Comparing the average weights also suggests that our sampling was biased towards larger landings, although again to a lesser degree than in 2018. An average sample size of 49.7 fish per sampled boat, plus an overall sample rate of 29% (360 of 1,229 landings) mitigates this to a large degree.

Table 6. Quartile partition for all Oregon albacore landings and sampled landings in 2019.

All Landings			Sampled Landings		
Quartile		**Pounds**	**Quartile**		**Pounds**
100%	**Max**	62,666	100%	**Max**	62,666
75%	**Quartile**	5,809	75%	**Quartile**	12,790
50%	**Median**	2,257	50%	**Median**	4,921
25%	**Quartile**	702	25%	**Quartile**	2,514
0%	**Min**	9	0%	**Min**	219
	Average	5,368		**Average**	9,178

Recommendation for 2020 sampling: Continue improvement on the large-boat sampling bias. Samplers, while not ignoring the usual opportunities at processors and buying stations, must also focus on the smaller buyers operating from trucks or skiffs, and supplying local retailers and restaurants. Make efforts to establish solid communications with these smaller buyers as early as possible in the season. Do not wait for the convenient landings at the plants to diminish in the latter half of the season before beginning to work more with the smaller boats and buyers. Treat all landings as equally important throughout the season.

2019 Length Frequency Analysis

Albacore samplers collected fork length measurements from unsorted commercially harvested albacore during offloading from July through October of 2019. Samplers measured 17,886 albacore tuna in the ports of Astoria, Newport, Charleston, Garibaldi, Port Orford, and Brookings. A frequency distribution of the length data displays a weak bi-modal distribution (Figure 8). The major mode centered around 66 cm represents an age-class of 2 to 2.5 year-old tuna, the minor mode around 60 cm represents younger 1.5+ year-old tuna (Wells, 2013). A comparison of the length distributions of the sampled catches in the three primary Oregon ports does not suggest any differences between ports. (Figure 9).

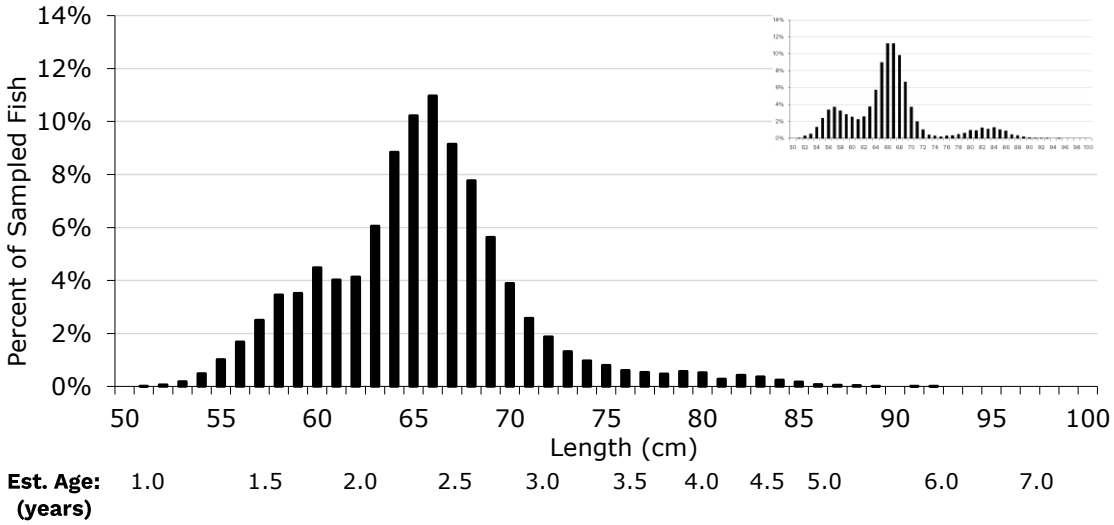

Figure 8. Length frequency data for all sampled ports, all months combined in 2019. Average length = 65.4 cm, N = 17,886. Estimated age at length from Wells, 2013. Inset shows 2018 length frequency data for comparison.

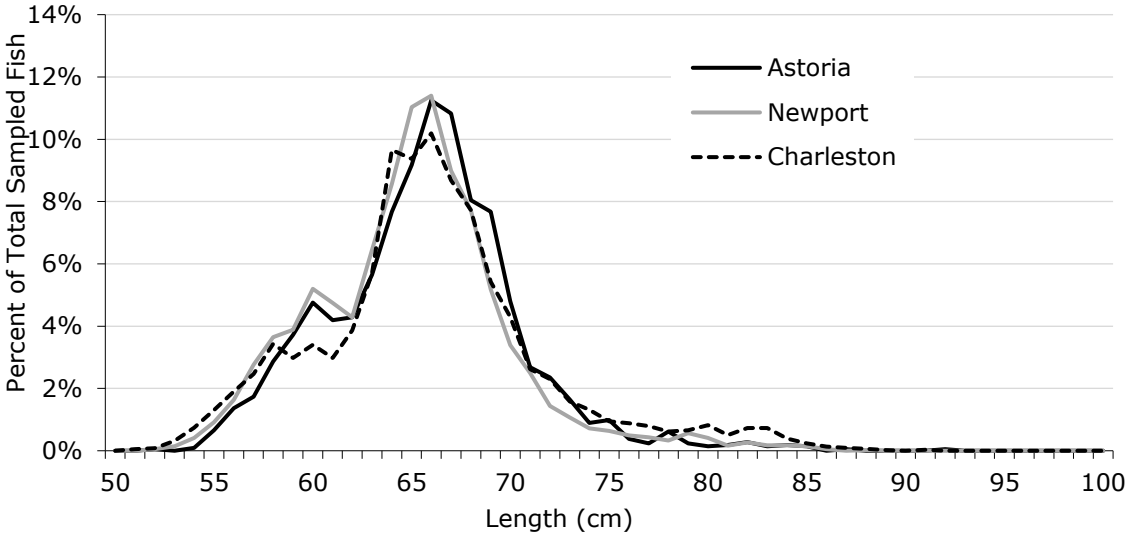

Figure 9. Length frequency data by port for all sampled months in 2019. Astoria n = 2,125. Newport n = 9,264. Charleston n = 6,212.

Most buyers sort albacore into three grades upon offloading: Small, under 9 lbs. (<59 cm), Medium, 9-15 lbs. (59-73 cm) and Large, over 15 lbs. (>73 cm). The needs of customers from day-to-day may cause the buyer to shift the large-grade breakpoint to 14 or 16 pounds, but this is uncommon. The proportion of each grade in the catch remained remarkably stable throughout the season. Average length within each grade was also stable with the exception of the largest grade, where the average size of the sampled fish dropped by 3.3 cm over the course of the season. (Figure 10). As mentioned earlier in the report, the volume of smaller grade fish in the 2018 season did not repeat in 2019. Although small fish were present throughout the 2019 season, they remained below 10% of the sampled catch.

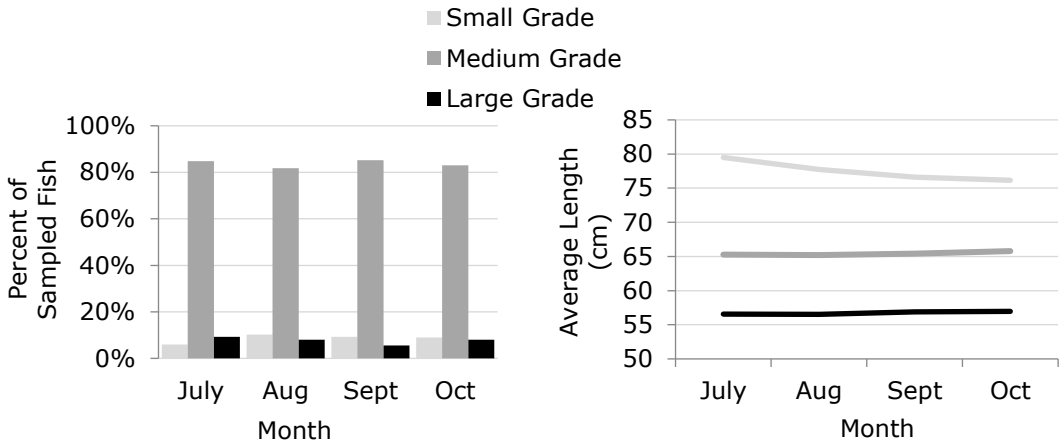

Figure 10. Proportion (left) & average length (right) of small, medium & large grade fish sampled each month in 2019. July n = 1,566; August n = 8,439; September n = 5,063; October n = 2,818.

Interestingly, when length distributions by month for the entire state are compared (Figure 11), the strong mode around the mid-60 cm peak appears to shift to the right by 2-3 cm. The observed size shift is from August through October - unsurprising, as most of our July sampling did not occur until late in that month. This observed shift suggests the rapid growth these fish are known for, or possibly the progressive movement along the coast of groups of smaller and larger fish in response to ocean conditions, food availability, and other factors.

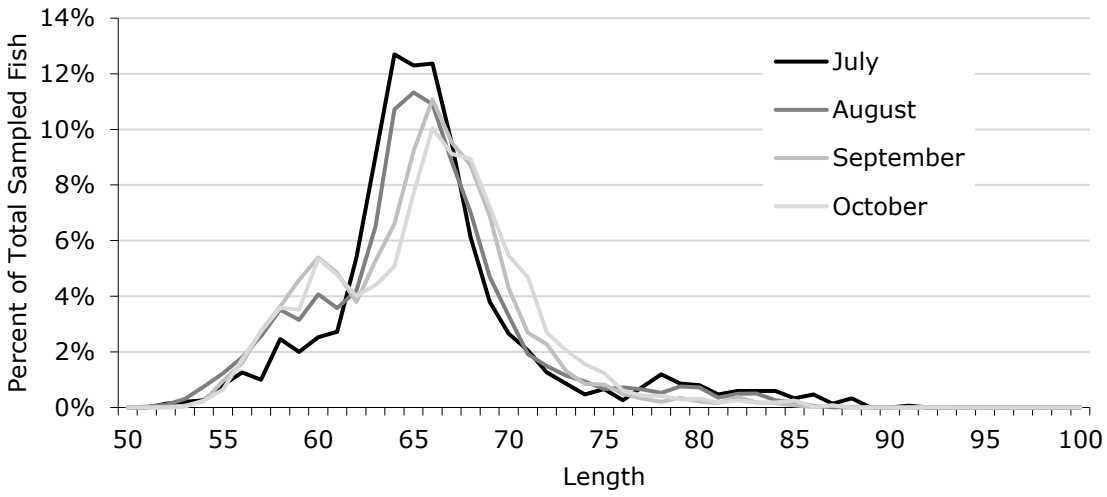

Figure 11. Comparison of length-frequency distributions by month July-October 2019 for all ports in Oregon.

2019 RECREATIONAL ALBACORE FISHERY

Access to albacore for recreational vessels off Oregon can be highly variable, depending on weather conditions and distance offshore to the fish. In 2019, small numbers of albacore arrived off the Oregon coast in late June and early July, and began to come close inshore mid-month, but numbers remained quite low until about July 20, when catches began to increase and word quickly spread that the tuna had arrived. By early August, anglers were out in force, taking advantage of tuna that were anywhere from 25-40 miles from shore all along the Oregon coast (Figure 12). The weather was generally good throughout August and September, and the fish stayed close to shore the entire season, usually no more than 30-40 miles out and often much closer, allowing for unusually high 2019 recreational harvest in Oregon.

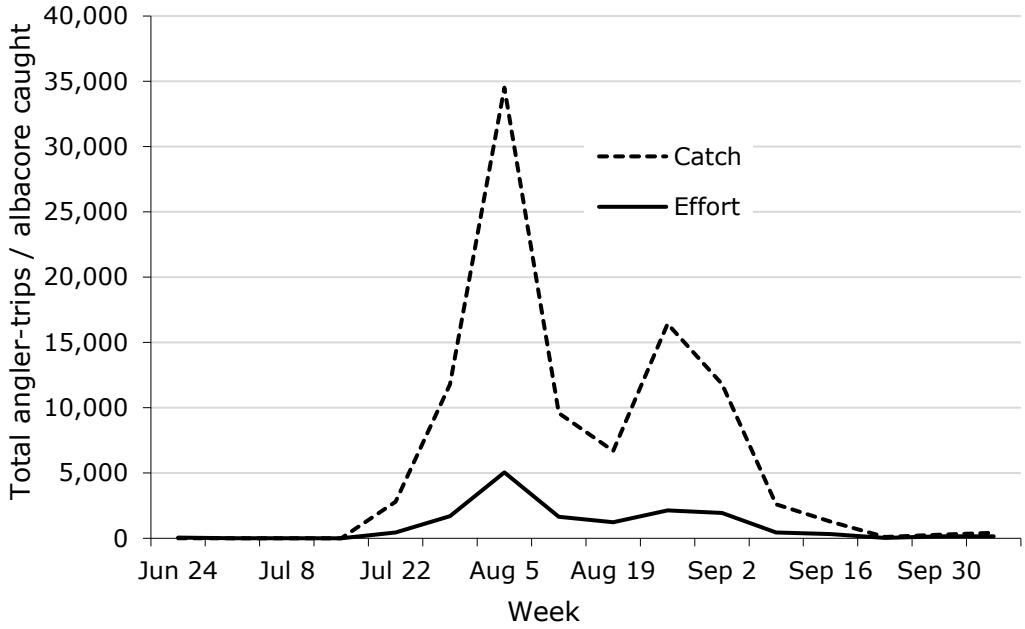

Figure 12. Oregon recreational albacore catch (number of tuna landed) and angler-trips by week from tuna-specific fishing trips in 2019.

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. The total estimated recreational fishing effort for albacore was 15,311 angler trips in 2019, a 41% increase over the ten-year average of 10,824 angler trips. The number of albacore tuna landed from tuna-specific trips was 98,336 fish. Anglers caught an additional 4,174 albacore on either a bottomfish trip, halibut trip, or "combo" trip (salmon & other fish) for an estimated total of 102,510 albacore tuna during five months of fishing in 2019, representing a 153% increase over the 10-year average of 40,528 fish.

Charleston received 42.1% of the total recreational catch, followed by Winchester Bay, Newport, and Garibaldi, which together accounted for another 37.8% of the statewide recreational landings (Table 7).

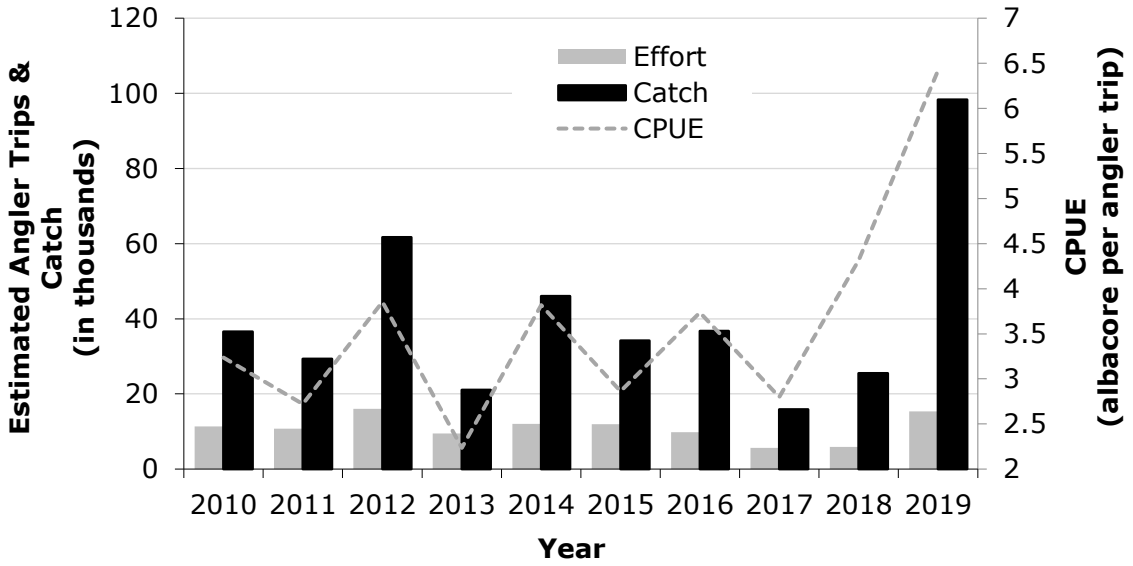

Figure 13. Oregon recreational albacore fishing effort (number of angler trips), catch (number of tuna landed) and catch per unit-effort (CPUE, or albacore per angler trip) from tuna-specific fishing trips 2010-19.

Overall catch and catch-per-unit-effort (CPUE) was higher than in any of the past ten years, and effort was only topped by that of 2012. (Figure 13). CPUE for albacore is defined as the number of albacore landed per angler trip. The combined CPUE for Oregon's recreational albacore season for was 6.4 albacore per angler trip, nearly 3 full fish above the ten-year average of 3.6.

Table 7. Distribution of Oregon's recreational albacore catch by port in 2019, for tuna-specific trips.

Port	Landing %	Estimated # of fish	CPUE
Charleston	42.1%	41,442	8.0
Winchester Bay	15.2%	14,984	7.5
Garibaldi	12.5%	12,316	5.6
Newport	10.1%	9,928	4.2
Depoe Bay	5.9%	5,843	4.3
Brookings	5.9%	5,778	6.6
Pacific City	2.9%	2,826	5.9
Bandon	2.7%	2,698	7.0
Astoria	2.0%	1,929	4.6
Gold Beach	0.6%	592	6.2

ORBS samplers collected length frequency information on 1,462 recreationally caught albacore in 2019. Figure 14 shows the length frequency distribution of non-sorted, randomly sampled albacore during the 2019 recreational season. The length data suggests a bimodal distribution, similar to the commercially caught samples, where the major mode represents the age-class of approximately 2.5 year-old tuna (Wells, 2013).

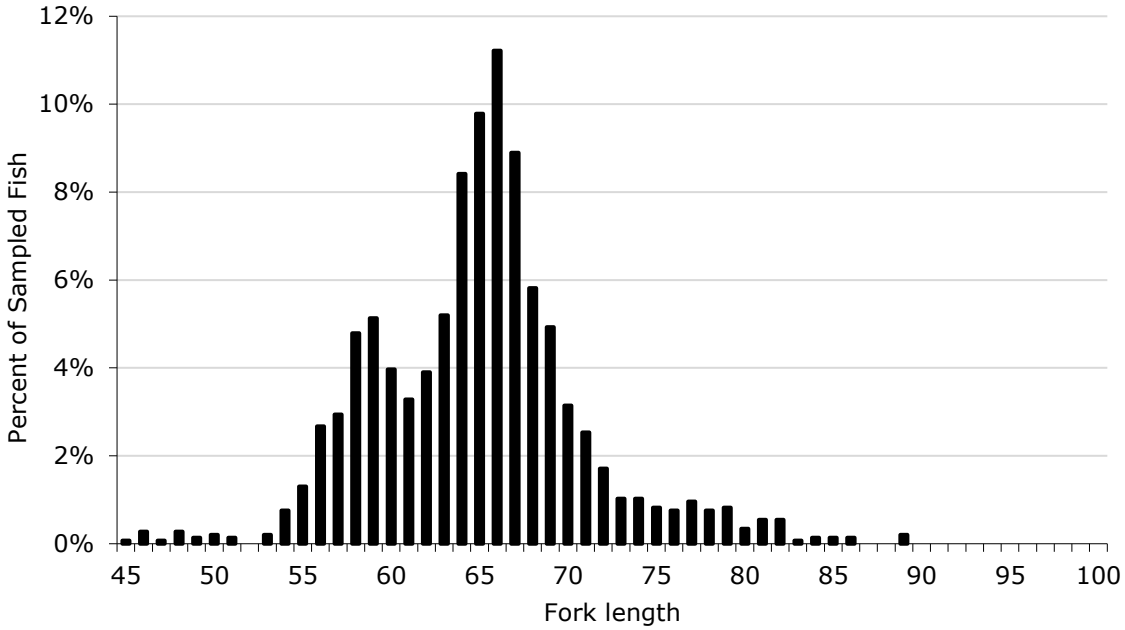

Figure 14: Length frequency data for all ports sampled for recreationally caught tuna by ORBS in 2019. Average Length = 64.9 cm, N = 1,462.

Comparing the length frequency distributions of the recreational and commercial albacore landings for Oregon in 2019 (Figure 15) does not suggest any differences.

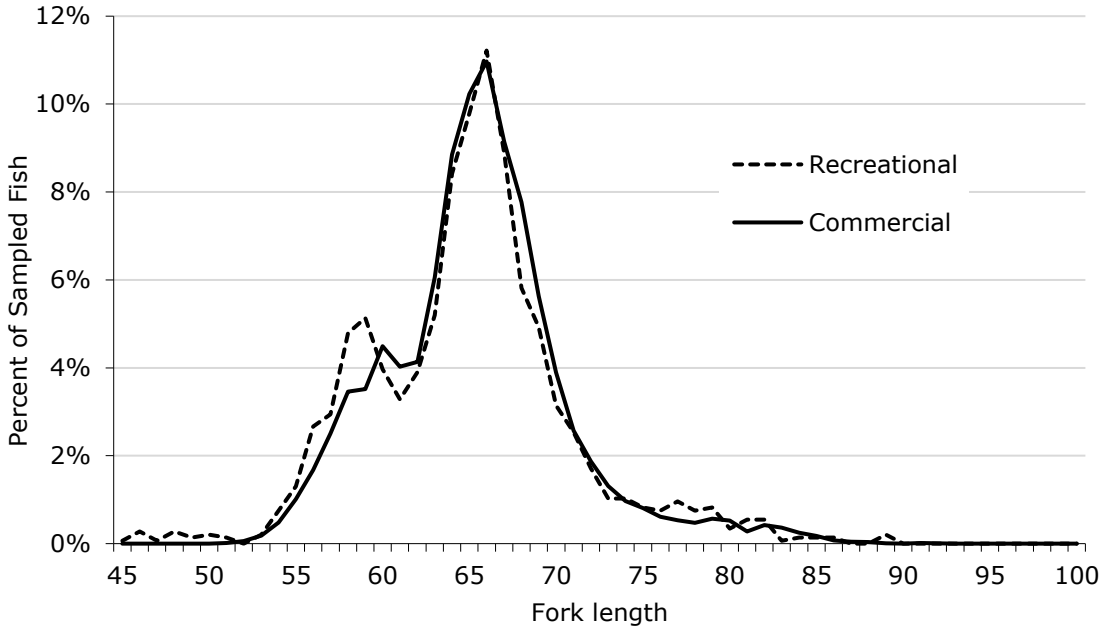

Figure 15. Comparison of length-frequencies of commercially caught and recreationally caught albacore landed in Oregon in 2019.

SUMMARY

The preliminary total for Oregon commercial landings in 2019 is 6,565,796 pounds, 80.7% of the ten-year average (2010-2019) of 8.1 million pounds. Ex-vessel revenue generated from albacore in 2019 totaled $10.8 million, or 85.6% of the 10-year average. Sampling coverage rates exceeded the goals set for the three primary ports, and was 29.3% for Oregon overall.

Five Canadian vessels made 9 landings, totaling 224,729 total pounds of albacore in Oregon in 2019, with a value of $371,589.

Recreational tuna fishers had a record fishing season, landing an estimated 102,510 albacore tuna, just over 2.5 times the ten-year average of 40,528 fish.

ACKNOWLEDGEMENTS

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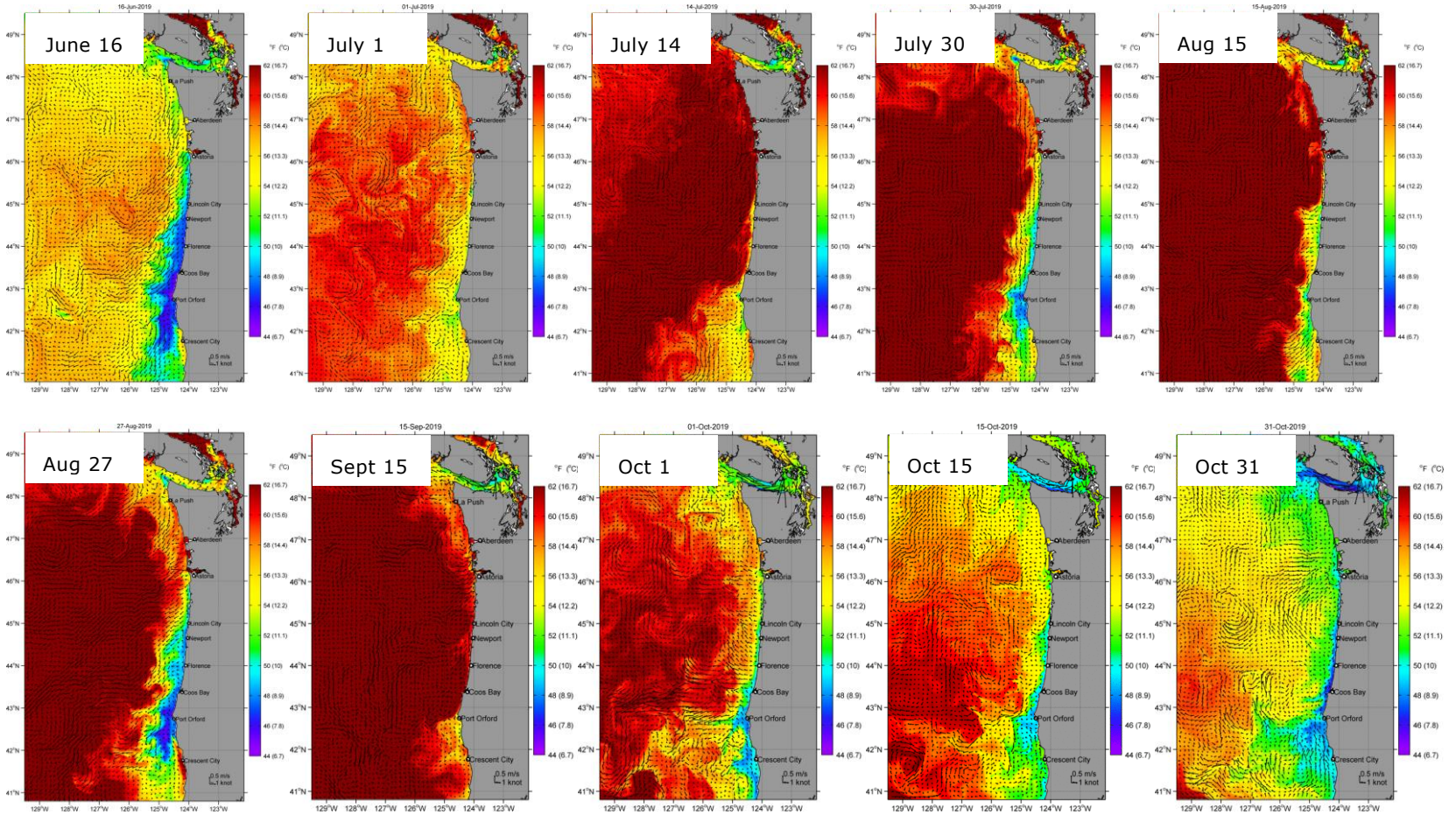
REFERENCES

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



Nowcast sea surface temperature plots off Oregon and Washington out to 129°W from June 16 through October 31, 2019. Dark red areas indicate the warmest surface waters at or above 17° C (62° F), and lighter green and blue areas the colder waters. Images courtesy Craig Risien, Oregon State University, Northwest Association of Networked Ocean Observing Systems (NANOOS).
http://agate.coas.oregonstate.edu/data/ocs_tuna_nowcast.html
http://nvs.nanoos.org/TunaFish

APPENDIX B

2019 Summary Statistics for Oregon's Albacore Port Sampling Program

PORT NAME	Astoria	Garibaldi	Newport	W. Bay	Charleston	Other Ports	TOTAL
Logbooks issued	1	0	17	0	11	3	**32**
Lbs. landed by commercial sampled vessels	396,201	68,269	1,542,499	0	1,259,863	28,954	**3,295,786**
Total number of commercial fish measured	2,125	155	9,264	0	6,212	130	**17,886**
No. commercial trips sampled	49	6	166	0	135	4	**360**
Total no. of commercial trips/landings	89	114	458	66	391	111	**1,229**
Total no. of commercial vessels*	45	33	138	22	126	49	**329**
Lbs. landed by US vessels	642,026	363,986	2,841,147	188,227	2,206,670	184,565	**6,341,067**
Lbs. landed by Canadian vessels	0	0	139,175	0	0	0	**224,729**
Total lbs. landed by all commercial vessels	642,026	363,986	2,980,322	188,227	2,206,670	184,565	**6,565,796**
Lbs. landed by sport vessels**	26,041	166,266	134,028	202,284	559,467	239,450	**1,327,536**
Percent commercial sampling coverage (trips)	**55.1%**	5.3%	**36.2%**	0.0%	**34.5%**	3.6%	**29.3%**

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

** Number of albacore landed in each port multiplied by the 13.5 lb. overall weighted average.