PLENARY 04

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NATIONAL REPORT OF CANADA: CANADIAN TUNA AND TUNA-LIKE FISHERIES IN THE NORTH PACIFIC OCEAN IN 2024 [1]

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[1] Prepared for the 25th Meeting of the International Scientific committee on Tuna and Tuna-like Species in the North Pacific Ocean (ISC) held 17-20 June 2025, in Busan, South Korea. Document should not be cited without permission of the authors.

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SUMMARY

Canada has one commercial fishery for highly migratory species in the Pacific Ocean, a troll fishery targeting juvenile north Pacific albacore tuna (*Thunnus alalunga*). Category I, II, and III data submitted to the ISC for the 2024 fishing season are summarized in this report. The Canadian fleet consisted of 100 vessels and operated only within the eastern Pacific Ocean, in 2024. No vessels from the Canadian fleet operated in the central and western Pacific Ocean in 2024. The Canadian troll fishery continues to be largely coastal in operation, occurring predominantly within the Canadian and United States (US) exclusive economic zones (EEZ). Only a small proportion of the catch and effort in 2024 occurred outside the Canadian and US EEZs, in high seas waters. The provisional 2024 estimates of total catch and effort in the eastern Pacific Ocean are 2,888 metric tonnes (t) and 3,618 vessel-days (v-d), respectively. This represents a 151% increase in catch and a 71% increase in effort relative to 2023, which was the lowest in the timeseries. The catch and effort in the Canadian EEZ in 2024 increased by 109% and 41%, respectively, relative to 2023. The catch and effort in the US EEZ in 2024 were similar to levels last seen in 2021. The remaining catch and effort occurred in adjacent high seas waters, which decreased relative to 2023. The overall catch rate or catch per unit effort (CPUE) increased from 0.54 t/v-d in 2023 to 0.8 t/v-d in 2024 and was highest in the Canadian EEZ in July. Approximately 81% of the Albacore catch occurred in the favorable water temperature band of 16-19 °C in 2024. Forty-one (41) vessels measured 12,471 fork lengths in 2024 for a sampling rate of 2.5% of the overall reported catch. Fork lengths ranged from 51 to 96 cm, having a mode at 67 cm corresponding to 2-year old fish. Mean length was 67.2 cm, which is similar to previous years. Canada is continuing to monitor the activity of a small recreational fishery targeting albacore tuna that has been developing in Canadian waters over the last several years. The impact from this fishery, however does not appear to be significant and these data are not included in this report.

1. INTRODUCTION

The Canadian fishery for highly migratory species uses troll gear with jigs to target juvenile north Pacific albacore tuna (*Thunnus alalunga*) in the surface waters of the Pacific Ocean. The majority of catch and effort by the Canadian fleet occurs within the exclusive economic zones (EEZ) of Canada and the United States. The Canadian and US albacore fleets are permitted to access each other's EEZs to fish for albacore tuna and access designated ports through a bilateral Treaty. Some of the larger Canadian vessels may also follow albacore into offshore waters and occasionally fish in the high seas of the central and western Pacific Ocean. The most recent management regulations for Canadian vessels fishing albacore tuna, covering one year period from 01 April 2024 to 31 March 2025, are documented in the Albacore Tuna Integrated Fisheries Management Plan (IFMP; Pacific region tuna IFMP (publications.gc.ca)). Historically, most of the Canadian effort and catch for north Pacific albacore has occurred between early July and October**.**

This report summarizes Category I (annual catch and effort), Category II (monthly 1° x 1° catch and effort), and Category III (bycatch, catch size composition) data for vessels active in the Canadian north Pacific albacore tuna troll fishery in 2024.

2. DATA SOURCES

Data on albacore tuna catch and effort from 1995 through to the present are compiled from hail records, logbooks, and sales slips and stored in the Canadian Albacore Tuna Catch and Effort Relational Database (Stocker et al. 2007). This database contains the best available estimates of annual catch and effort by geographic zone (Canadian, US, and high seas waters) for the Canadian fishery. All Canadian fishing vessels are required to hail (call) a third party service provider when they intend to start fishing and stop fishing. Canadian vessels must also carry logbooks in which daily position, catch and effort (latitude, longitude, number of fish, estimated weight) are recorded for albacore tuna and non-target species. These data have the highest temporal and spatial resolution and are obtained when logbooks are returned in November after the fishing season is completed. The third data source, sales slips, record the weight of albacore tuna landed and bought by domestic buyers and provide the most accurate estimates of albacore tuna catch in weight since these data are the basis for payment to harvesters (Stocker et al. 2007). Logbooks and sales slips from domestic buyers (plus trans-shipment slips if applicable) are forwarded for entry into the albacore tuna catch database annually (Stocker et al. 2007).

Fork length data are collected through an on-board sampling program initiated in 2009, with a sampling goal of 1% of the reported catch. Harvesters record the lengths of the first 10 Albacore landed daily to randomize measurements. Size composition data were collected by port samplers from a portion of the Canadian catch landed in US ports between 1981 and 2008. Size data reported by Canada since 2009 are from the domestic on-board sampling program only.

The fishery data provided in this report were taken from Canadian tuna database version 25.02.16. Figures up to and including 2023 are considered definitive and are derived from a reconciliation of logbook data (best estimates of effort, catch in pieces, and geographic location) and sales slip (best estimate of catch weight) data (Stocker et al. 2007). The 2024 data are preliminary at this time.

3. AGGREGATED CATCH AND EFFORT DATA

3.1. Catch

The preliminary estimate of the Canadian albacore tuna catch in the eastern Pacific Ocean, in 2024 was 2,888 metric tons (t), which represents a 151% increase relative to 2023 (Table 1; Figure 1). The total catch by the Canadian troll fishery has ranged from 1,151 t in 2023 to 7,857 t in 2004 and averaged 4,315 t (sd ± 1,876 t) since 2003, the period when the annual logbook coverage consistently exceeded 90% of all vessels participating in this fishery. Over the past decade, 2014-2023, the average catch has decreased to 2,855 t (sd ± 991 t). In 2024, the Canadian catch primarily occurred in Canadian coastal waters (73%) and the total catch in the Canadian EEZ increased substantially, relative to low catch seen in 2023. No fishing occurred by the Canadian fleet in the US EEZ, in 2023. A one-year access regime under the bilateral treaty allowed the Canadian and US albacore fleets to access each other's EEZs to fish for albacore tuna and access designated ports in 2024. This allowed for the Canadian fleet fishing in the US EEZ at a proportion (26.4%), similar to what had occurred in previous years. The remaining small proportion (0.6%) of the Canadian catch occurred in adjacent high seas waters. No vessels from the Canadian albacore troll fleet were active in the western or central Pacific Ocean or the south Pacific Ocean in 2024.

The Canadian fleet started to record the number of released small (one year old) albacore in 2013. In 2024, the Canadian fleet caught 1,812 north Pacific albacore that were released as they were below marketable size (~3.18 kg) (Table 2). The weight of released fish is not accounted for in Table 1, which records retained catch only.

3.2. Effort

The Canadian albacore tuna troll fleet consisted of 100 unique vessels in 2024, which is below the average participation over the last decade (Table 1). The total fishing effort for the Canadian fleet was 3,618 vessel-days (v-d), a 71% increase relative to the fishing effort in 2023 and slightly below the average, 4,158 v-d, over the last decade, 2014-2023. (Table 1; Figure 1). Fishing effort in 2024 occurred largely in Canadian coastal waters (73%) and the effort in the Canadian EEZ increased by 41%, relative to 2023. Again, no fishing occurred by the Canadian fleet in the US EEZ, in 2023, however the one-year fishing regime in 2024 allowed for fishing in US waters and 25.3% of the Canadian effort occurred US coastal waters, similar to previous years. A small proportion (1.6%) of the Canadian fleet effort was reported in adjacent high seas waters in 2024. No Canadian vessels from the albacore tuna fleet operated in the western or central Pacific Ocean or the south Pacific Ocean in 2024.

3.3. Catch Rate

Catch rate or catch per unit effort (CPUE) is calculated by dividing the catch in metric tons by the number of vessel days. Total CPUE for the Canadian fleet was relatively stable from 2018 to 2021, around 0.66 t/v-d on average. The CPUE increased substantially in 2022 to 0.89 t/v-d, decreased in 2023 to 0.54 t/v-d but then increased in 2024 to 0.80 t/v-d (Figure 1). The CPUE in the Canadian EEZ also increased in 2024, relative to 2023, and the CPUE in the US EEZ was similar to that seen in previous years. The catch rates in the high seas decreased from 0.57 t/v-d in 2023 to 0.32 t/v-d in 2024. The peak of the catch rates varied by area and month in 2024 (Figure 2). The peak catch rates in 2024, in Canadian and US waters, occurred in July, at 1.15 t/v-d and 0.88 t/v-d, respectively. The peak catch rate in the high seas was observed in August in 2024.

4. SPATIAL DISTRIBUTION OF CATCH AND EFFORT DATA

In 2024, the Canadian troll fleet operated within the Inter-American Tropical Tuna Commission (IATTC) convention area east of 150°W and north of the equator, with approximately 99% of the fishing effort and catch occurring within the Canadian and US EEZs. The catch and effort in the adjacent North Pacific high seas decreased in 2024 relative to 2023.

A small amount of catch and effort occurred in June 2024 in the US EEZ and the bordering high seas. In July, the catch and effort were largely distributed in the Canadian and US EEZs, with only a small amount occurring in the adjacent high seas. In August, the majority of the catch and effort occurred throughout the Canadian EEZ and a small amount in the US EEZ. In September, the majority of catch and effort remained in the Canadian EEZ but there was a slight increase in the catch and effort in the US EEZ and adjacent high seas during this month. In October, only a small amount of catch and effort occurred by the Canadian fleet and all occurred in Canadian waters (Figures 3 and 4).

Albacore were caught in waters with sea surface temperatures ranging from 10.5 to 19.6 °C in 2024 (Figure 5). The proportion of fish caught in waters within the favourable 16-19 °C temperature band was 81% in 2024, similar to the proportion seen in previous years.

5. BIOLOGICAL DATA

5.1. By-Catch

In 2024, the reported by-catch consisted of 33 fish (Table 3). Twenty-three fish caught as by-catch were retained, including four Yellowtail Amberjacks (*Seriola lalandi*), 14 Pacific Bluefin Tuna (*Thunnus orientalis*), two Skipjack Tuna (*Katsuwonus* pelamis), and three Yellowfin Tuna (*Thunnus albacares*). Other by-catch species that were released included Coho Salmon (*Oncorhynchus kisutch*), Blue Shark (*Prionace glauca*), Salmon Shark (*Lamna ditropis*) and Bonito (*Sarda lineolate*).

5.2. Biological Sampling

Forty-one (41) Canadian troll vessels measured 12,470 fork lengths in 2024 for a sampling rate of 2.5% of the reported catch. Fork lengths ranged from 51 to 96 cm, similar to what has been seen in previous years. The dominant mode in these data corresponds to 2-year old fish at 65-67 cm and very little slightly larger 3/4-year old fish. The overall mean length of albacore caught in 2024 was 67.2 cm, which is slightly smaller than the mean in 2023 at 69.9 cm and 2022 at 68.1 cm.

Similar to previous years, the monthly mean length of fish in 2024 increased from June (66.1 cm) to September (67.5 cm) (Figure 7). Albacore caught from the Canadian EEZ had a larger mean length (67.5 cm) than those caught in the US EEZ (66.5 cm) and, as in previous years, the albacore caught in the high seas were slightly smaller, with a mean length 63.1 cm (Figure 8).

6. RESEARCH

The Canadian government has been working toward implementing a fleet-wide vessel monitoring system (VMS), which is anticipated to be in place in the next few years. VMS would allow authorities to effectively monitor, control and enforce safe, responsible and sustainable practices. VMS data will also be critical in supporting the analytical work done by the ISC albacore working group to advance the assessment and potentially incorporate climate-driven changes in fishing activity. Data pertaining to catch locations are currently only provided in the logbooks without

independent verification or sufficient detail to support localized spatial analysis of stock and fishing dynamics.

Additionally, Canada is continuing to monitor the activity of a small recreational fishery targeting albacore tuna that has been developing in Canadian waters over the last several years. This fishery consists of both charter-boats and private boats and is seasonal, between June and September, similar to the commercial fishery. For a few years now data from this fishery have been collected at a limited scale through a regional recreational catch reporting survey and expansion methods are currently being developed and validated to expand the catch and effort. The preliminary data collected and estimates to date do not appear to be significant and research in this area will continue to improve estimates.

7. DISCUSSION

In 2024, the Canadian albacore fishery recorded a significant increase in catch and effort relative to the time series low seen in 2023. The catch (2,888 t) and the effort (3,618 v-d) in 2024 were very similar to the 2018-2022 average (2,711 t and 3,828 v-d, respectively). The CPUE in 2024 (0.80 t/v-d) also increased relative to 2023 (0.55 t/v-d) to levels above the 2018-2022 average catch rate (0.70 t/v-d). The Canadian albacore catches 2014-2024 appear to be largely composed of Age 2 fish compared to the earlier years of 2009-2013, during which catches were mainly composed of Age 3-4 albacore. A small recreational fishery for albacore does occur in Canadian waters. The preliminary data do not appear to be significant and have not been included in the tables and figures in this report as they are still considered to be highly uncertain.

8. LITERATURE CITED

Stocker, M., H. Stiff, W. Shaw, and A.W. Argue. 2007. The Canadian albacore tuna catch and effort relational database. Canadian Technical Report of Fisheries and Aquatic Sciences 2701: vi+76 p.

Table 1. Fishery statistics from the Canadian troll fishery for north Pacific Albacore Tuna, 1995-2024. Catch and effort data are expanded or raised to account for vessels that do not report logbook data. The level of expansion can be determined by the logbook coverage figures.

Year	Total Catch (t)	Effort (vessel-days)	Total Vessels	Logbook Coverage (%)
1995	1,761	5,923	287	18%
1996	3,321	8,164	295	24%
1997	2,166	4,320	200	30%
1998	4,177	6,018	214	50%
1999	2,734	6,970	238	71%
2000	4,531	8,769	243	68%
2001	5,249	10,021	248	81%
2002	5,379	8,323	232	74%
2003	6,847	8,428	193	96%
2004	7,857	9,942	221	92%
2005	4,829	8,564	213	94%
2006	5,833	6,243	174	95%
2007	6,040	6,902	207	92%
2008	5,464	5,774	137	93%
2009	5,693	6,540	138	97%
2010	6,527	7,294	161	96%
2011	5,385	8,556	176	99%
2012	2,484	5,974	174	100%
2013	5,088	6,465	183	99%
2014	4,780	4,745	160	100%
2015	4,391	5,244	164	99%
2016	2,842	5,359	152	100%
2017	1,830	4,978	121	100%
2018	2,717	4,196	121	100%
2019	2,402	3,882	122	100%
2020	2,376	3,302	104	100%
2021	2,419	3,687	113	100%
2022	3,639	4,073	118	100%
2023	1,151	2,117	80	100%
2024[2]	2,888	3,618	100	99%

[2] 2024 data are preliminary based on Ver. 25.02.16 of the *Canadian Albacore Tuna Catch and Effort Relational Database*. See Stocker et al. (2007) for a description of the database.

Table 2. Releases of Albacore below marketable size (3.18 kg) reported by the Canadian Albacore fishery in 2013-2024.

Year	Number of Fish	Total Weight (kg)
2013	289	918
2014	2,214	7,153
2015	4,295	14,271
2016	562	2,134
2017	545	1,660
2018	5,508	18,291
2019	4,093	12,929
2020	668	2,082
2021	6,624	21,709
2022	159	514
2023	2,686	9,279
2024	1,797	6,410

Table 3. Reported catch of non-target species (by-catch) by the Canadian albacore tuna troll fishery in 2024.

			Catch (in Numbers)	
Month	**Common name**	**Scientific Name**	**Retained**	**Released**
July	Yellowtail Amberjack	*Seriola lalandi*	2	
August	Yellowtail Amberjack	*Seriola lalandi*	1	
	Pacific Bluefin Tuna	*Thunnus thynnus*	9	
	Skipjack Tuna	*Katsuwonus pelamis*	1	
	Yellowfin Tuna	*Thunnus albacares*	1	
	Blue Shark	*Prionace glauca*		1
	Coho Salmon	*Oncorhynchus kisutch*		2
September	Yellowtail Amberjack	*Seriola lalandi*	2	2
	Pacific Bluefin Tuna	*Thunnus thynnus*	5	
	Skipjack Tuna	*Katsuwonus pelamis*	1	
	Yellowfin Tuna	*Thunnus albacares*	1	1
	Salmon Shark	*Lamna ditropis*		3
	Bonito	*Sarda lineolata*		1
		TOTALS	23	10

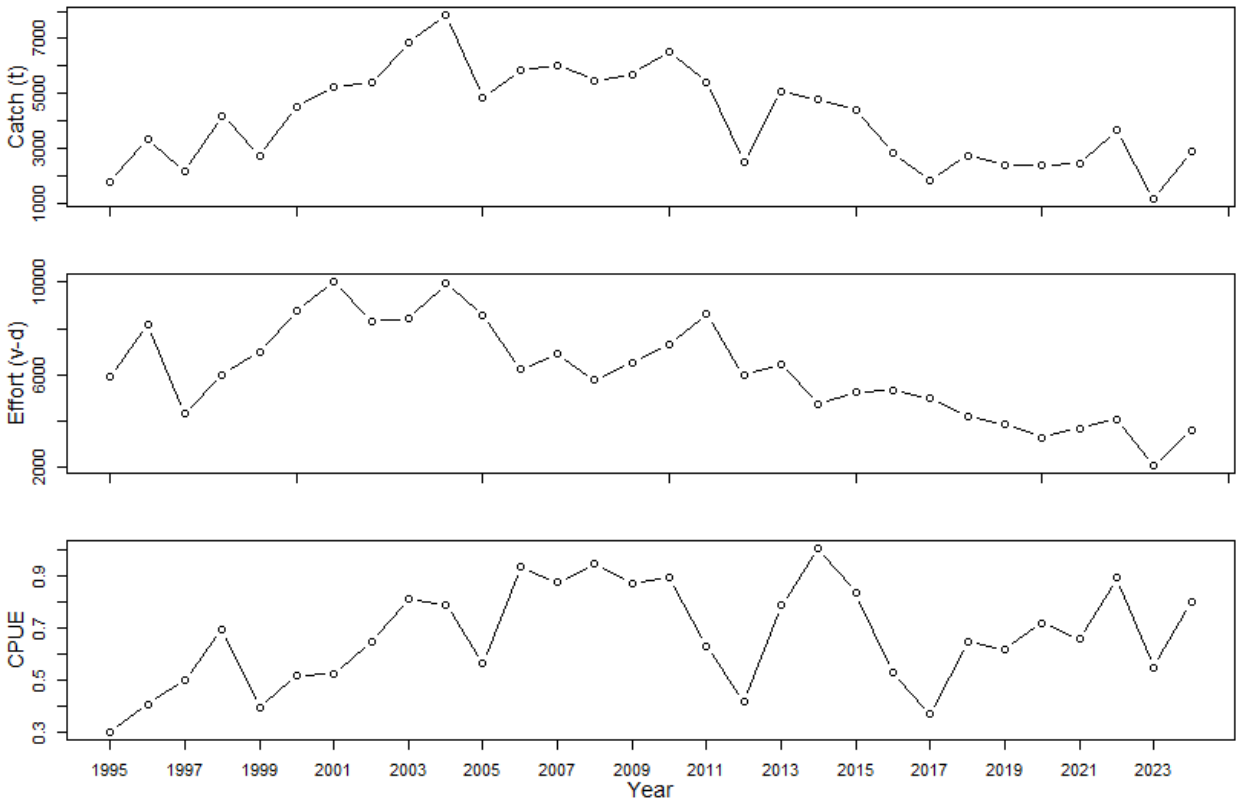

Figure 1. Historical trends in expanded catch (metric tonnes, t), effort (vessel-days, v-d) and catch per unit effort (CPUE, t/vessel-day) in the Canadian troll fishery for north Pacific Albacore Tuna from 1995 to 2024.

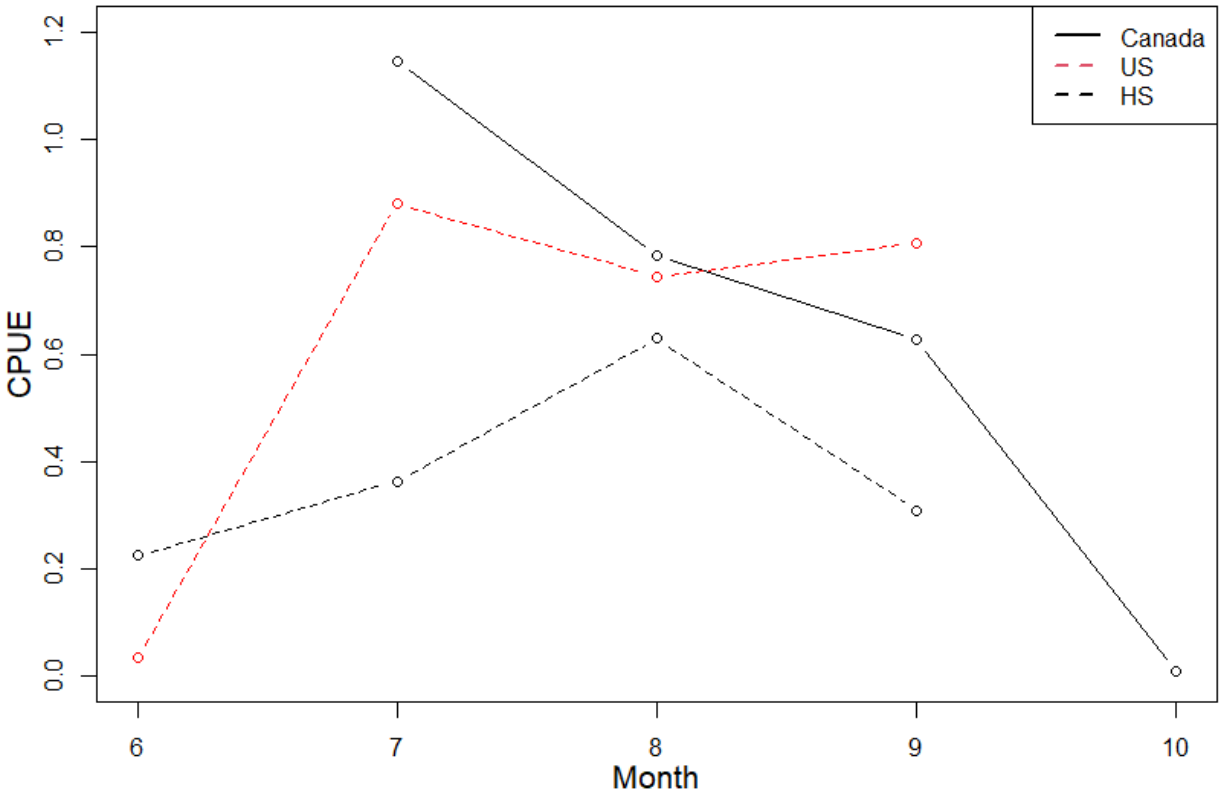

Figure 2. Monthly catch per unit effort (CPUE, t/vessel-day) in the Canadian and U.S. EEZs for Canadian Albacore Tuna troll fishery in 2024.

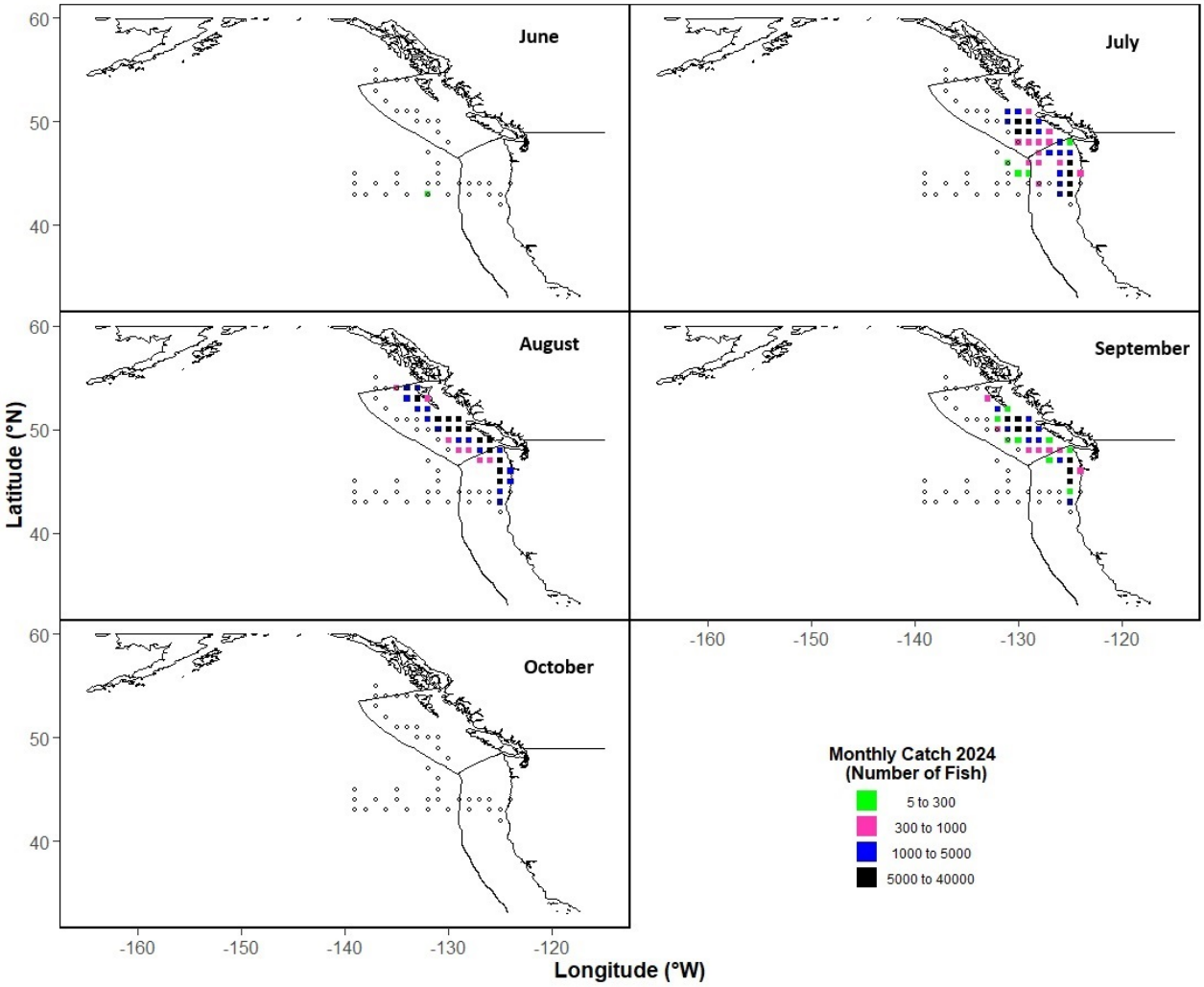

Figure 3. Monthly spatial distribution of reported catch in Canadian Albacore Tuna troll fishery in 2024. Data are plotted on a 1° x 1° strata with symbols located on the bottom-right corner. Data in locations with less than 3 unique vessels operating are excluded due to domestic privacy rules. Strata in which fewer than three vessels reported are not shown. Empty dots approximate the border of the annual operational area of the Canadian fishery in 2024.

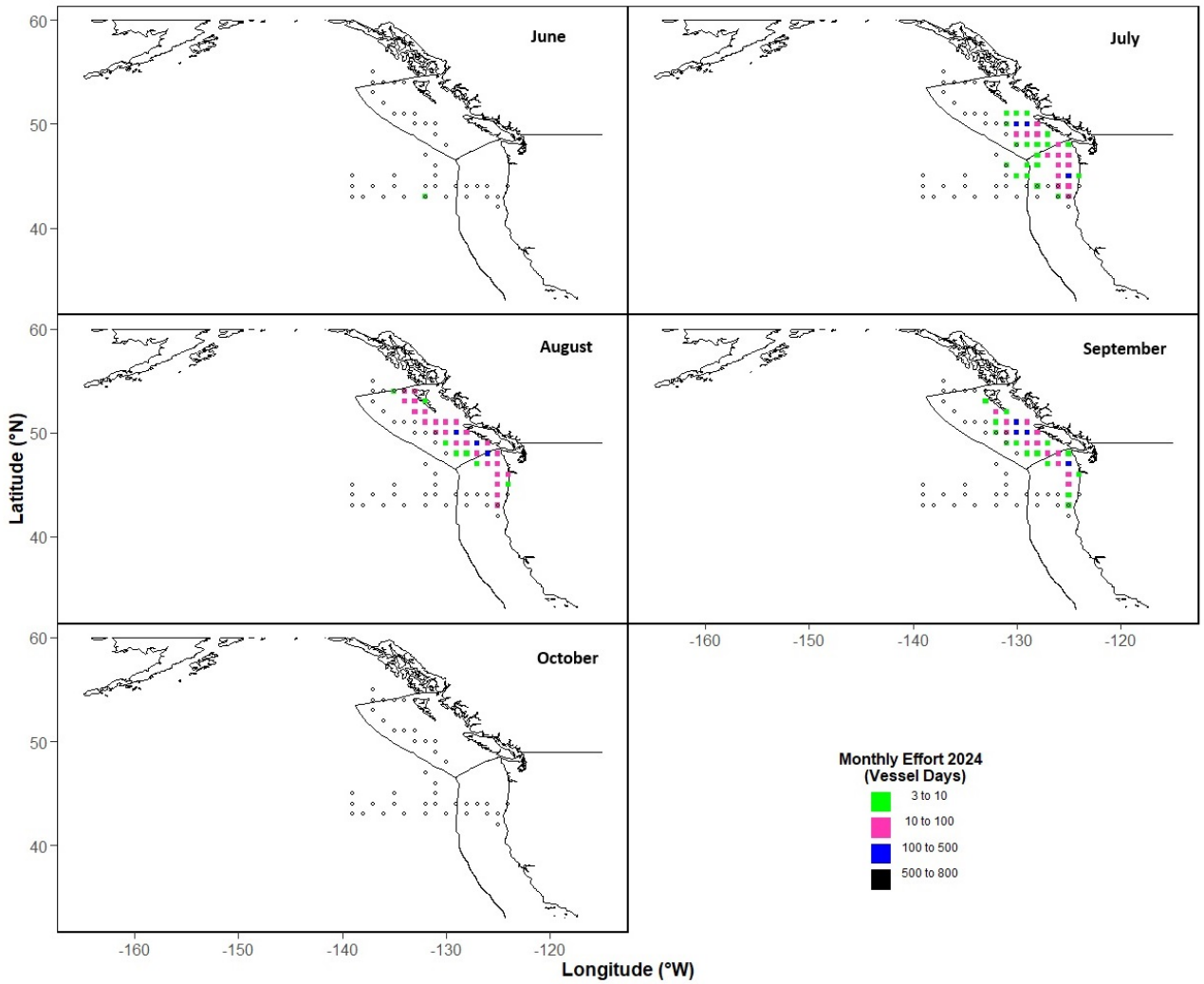

Figure 4. Monthly spatial distribution of effort by the Canadian Albacore Tuna troll fishery in 2024. Data in locations with less than 3 unique vessels operating are excluded due to domestic privacy rules. Data are plotted on 1° x 1° strata with symbols located on the bottom-right corner. Empty dots approximate the border of the annual operational area of the Canadian fishery in 2024.

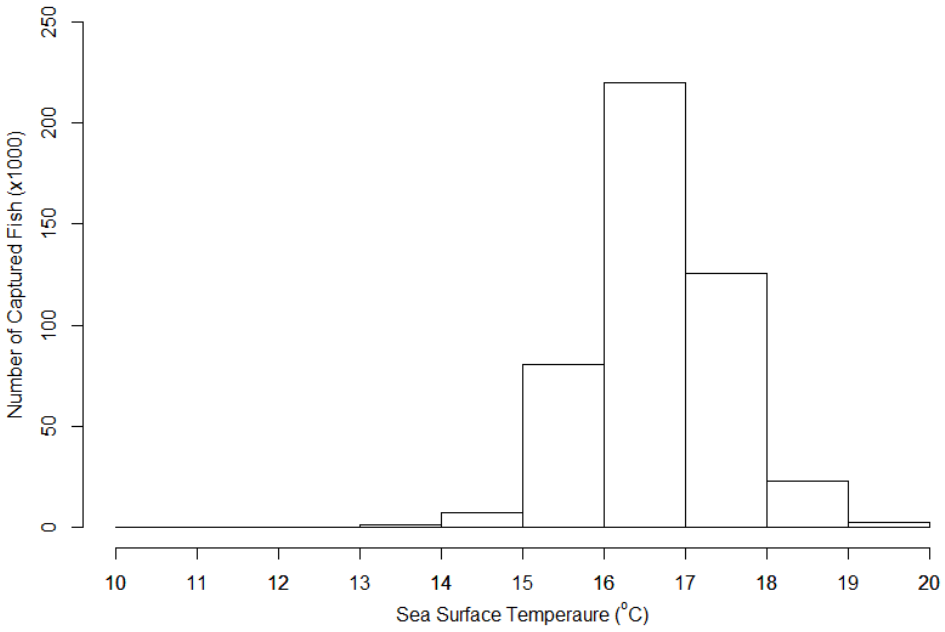

Figure 5. Number of north Pacific Albacore Tuna caught by the Canadian troll fishery in 2024 at various sea surface temperatures.

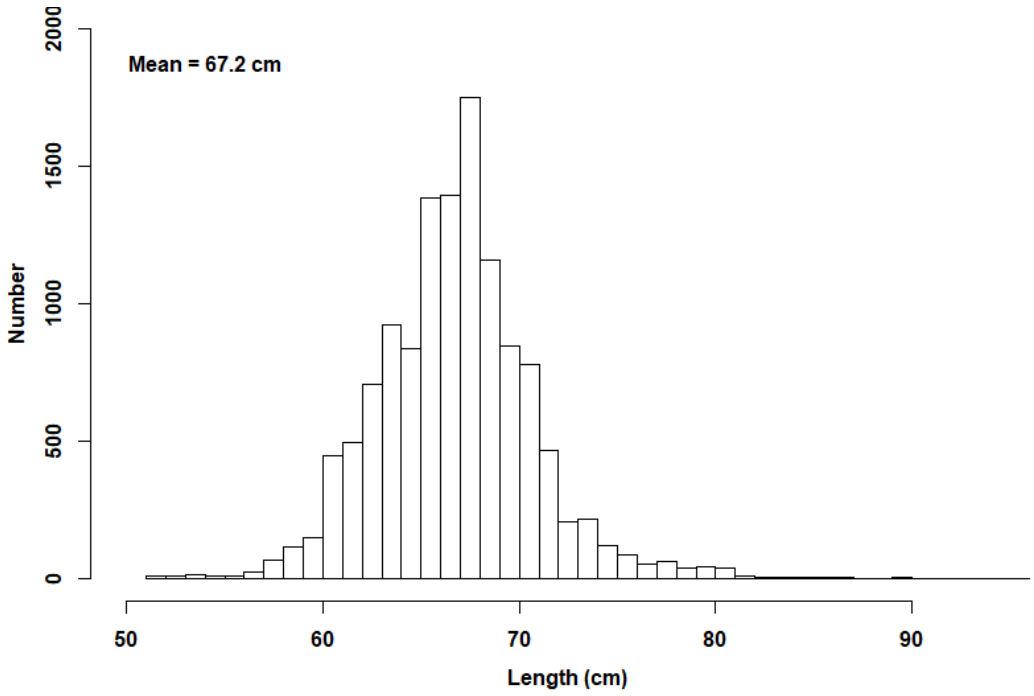

Figure 6. Distributions of fork lengths (cm) of north Pacific Albacore Tuna harvested by the Canadian troll fishery in 2024.

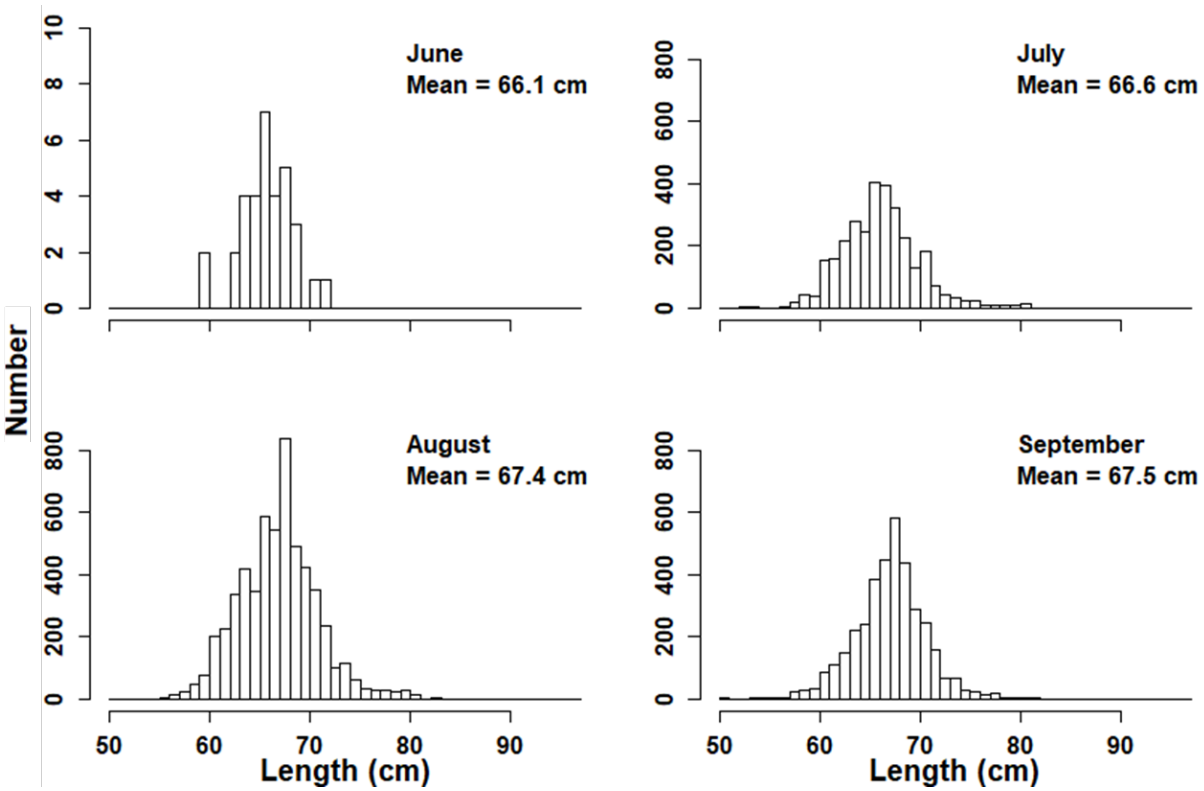

Figure 7. Monthly fork length (cm) distributions of north Pacific Albacore Tuna harvested by the Canadian troll fishery in 2024.

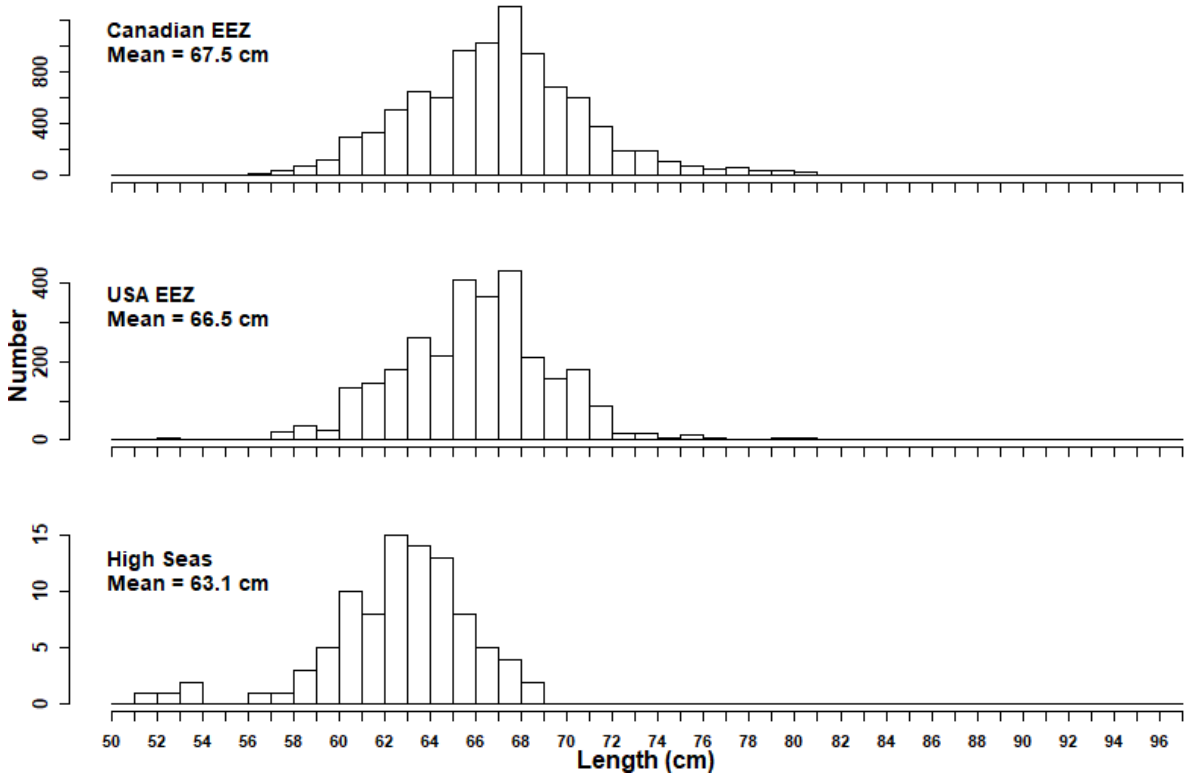

Figure 8. Distributions of fork lengths (cm) of north Pacific Albacore Tuna harvested by the Canadian troll fishery in 2023 in Canadian EEZ, USA EEZ and High Seas. Note: No fishing occurred by the Canadian fleet in the USA EEZ in 2024.