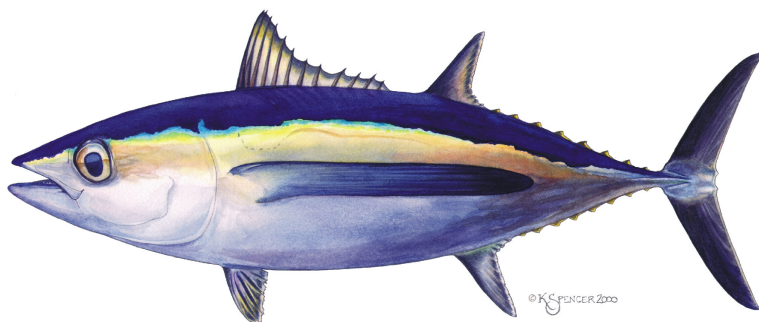


Canadian Fishery Statistics for North Pacific Albacore from the 2009 Fishery

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SUMMARY

Fishery statistics from the Canadian fishery in 2009 are reported. Total annual catch and effort were 5,685 t and 6,631 vessel-days respectively. More than 90% of the catch and effort occurred in the coastal waters of the United States under access provisions granted by the recently renegotiated Canada/United States Albacore Tuna Treaty. Nominal CPUE in this fishery has averaged about 850 kg/v-d since 2006. An on-board size sampling program was implemented in 2009 and resulted in 11,717 fork length measures from the Canadian catch (1.46% of the catch was sampled). These measurements were dominated by a single mode corresponding to 3-year old fish 64-66 cm FL (5.76 kg). Reported bycatch consisted of 59 yellowtail and 9 Pacific bluefin. Although more than 4,000 skipjack tuna were reported as by-catch by a single vessel, this is believed to be a misidentification of bonito and is currently being investigated to determine the correct species.

INTRODUCTION

This working paper presents fishery statistics from the Canadian troll fishery for north Pacific albacore for the period 1965-2009. Although a Canadian fishery for albacore has been active since 1939, the stock assessment model uses time-series extending from 1965 forward. The new data reported here are Category I (total annual catch and effort), Category II (monthly catch and effort summarized on 1° x 1° latitude x longitude grid), Category III data (size composition) and by-catch data from the 2009 fishing season.

RESULTS

Category I

The Canadian troll fleet consisted of 135 unique vessels in 2009 and total annual catch and effort were 5,685 metric tons (t) and 6,631 vessel-days, respectively (Table 1). Nominal CPUE appears to have remained at the same level since 2007, averaging approximately 850 kg/v-d.

Category II

The Canadian troll fleet operated within a latitudinal range of 37 to 52 °N and from the west coast of North America to 142° W in 2009 (Figure 2 and 3), which is approximately the same area of ocean fished in 2008. As in previous years, the majority of Canadian catch (92 %) and effort (97%) occurred in the United States EEZ, in the coastal waters of Oregon and Washington. About 7% of the total catch occurred in Canadian waters in 2009, which is lower than the 16% average for the 2000-2008 period. The remaining 1% of catch and 2% of effort occurred in highseas waters adjacent to the USA and Canadian EEZs.

Category III

Canada implemented an on-board length sampling program in 2009. Harvesters were asked to measure and record the fork lengths (rounding down to the lowest whole number) of the first 10 fish landed on a daily basis, or as often as possible. Thirty-eight vessels participated and turned in 11,717 fork length measurements (Figure 4), which represents 1.46% of the total catch (804,781 fish) in 2009. Canadian catch landed in designated ports in Washington and Oregon may be sampled by the port sampling program collecting size composition from the USA troll fleet, but these data are not available at present.

Based on the data submitted by the Canadian fleet, albacore in the Canadian catch ranged from 50 cm (2.63 kg) to 90 cm (15.25 kg) in size (Figure 4). One mode is present in the length frequency data at 64-66 cm (5.76 kg), corresponding to 3-yr old fish. Weights were estimated from the length-weight relationship for both sexes reported by Clemens (1961).

Reported bycatch in 2009 consisted of 59 yellowtail *Seriola lalandi* (averaging 2.93 kg in size) and 9 Pacific bluefin tuna (*Thunnus orientalis*) averaging 6.42 kg in size. Although 4,289 skipjack tuna (*Katsuwonus pelamis*) were also reported by a vessel, this report may be a misidentification of bonito (*Sarda chiliensis lineolata*) since skipjack were not reported by other vessels in the same area at the same time. All by-catch was retained.

DISCUSSION

The Canadian troll fishery has largely been confined to the coastal waters of North America since about 2006. More than 85% of the annual catch and effort has occurred within the EEZ of the United States. Canadian access to these waters is governed by the Canada-United States Albacore Tuna Treaty. A new treaty was renegotiated at the end of 2008 and implemented for the 2009 fishing season. The major provision affecting the Canadian fishery was an increase in the number of vessels permitted to enter US waters and fish for albacore from 94 in 2006-2008 to 110 vessels in 2009. This increase in vessels is largely responsible for the 4% increase in catch and 13% increase in effort relative to 2008 (Table 1).

Clemens, H.B. 1961. The migration, age, and growth of Pacific albacore (*Thunnus germon*), 1951-1958. California Department of Fish and Game, Fish Bulletin 115: 128 p.

Table 1. Annual fishery statistics for the Canadian north Pacific albacore tuna fishery, 1995-2009.

Fishing Season	Total Catch (metric tonnes)	Effort (vessel-days)	Total Unique Vessels	CPUE (kg/v-d)	Logbook Coverage²
1995	1,763	5,930	284	297	22%
1996	3,316	8,151	292	407	28%
1997	2,168	4,324	197	501	38%
1998	4,177	6,018	213	694	51%
1999	2,734	6,969	233	392	74%
2000	4,531	8,769	238	517	70%
2001	5,248	10,021	244	524	81%
2002	5,379	8,323	228	646	81%
2003	6,861	8,429	192	814	98%
2004	7,856	9,943	220	790	95%
2005	4,845	8,565	213	566	94%
2006	5,832	6,243	174	934	99%
2007	6,075	7,113	198	854	96%
2008	5,478	5,881	134	931	96%
2009 ¹	5,685	6,631	135	857	99%
Mean	4,797	7,421	213	648	75%
Maximum	7,856	10,021	292	934	99%
Minimum	1,763	4,324	134	297	22%

¹ 2009 data are preliminary based on Ver.10.03.07 of the *Canadian Albacore Tuna Catch and Effort Relational Database* and v09.12.30 of the codebase.

² (Reported Catch/Expanded Catch) x 100

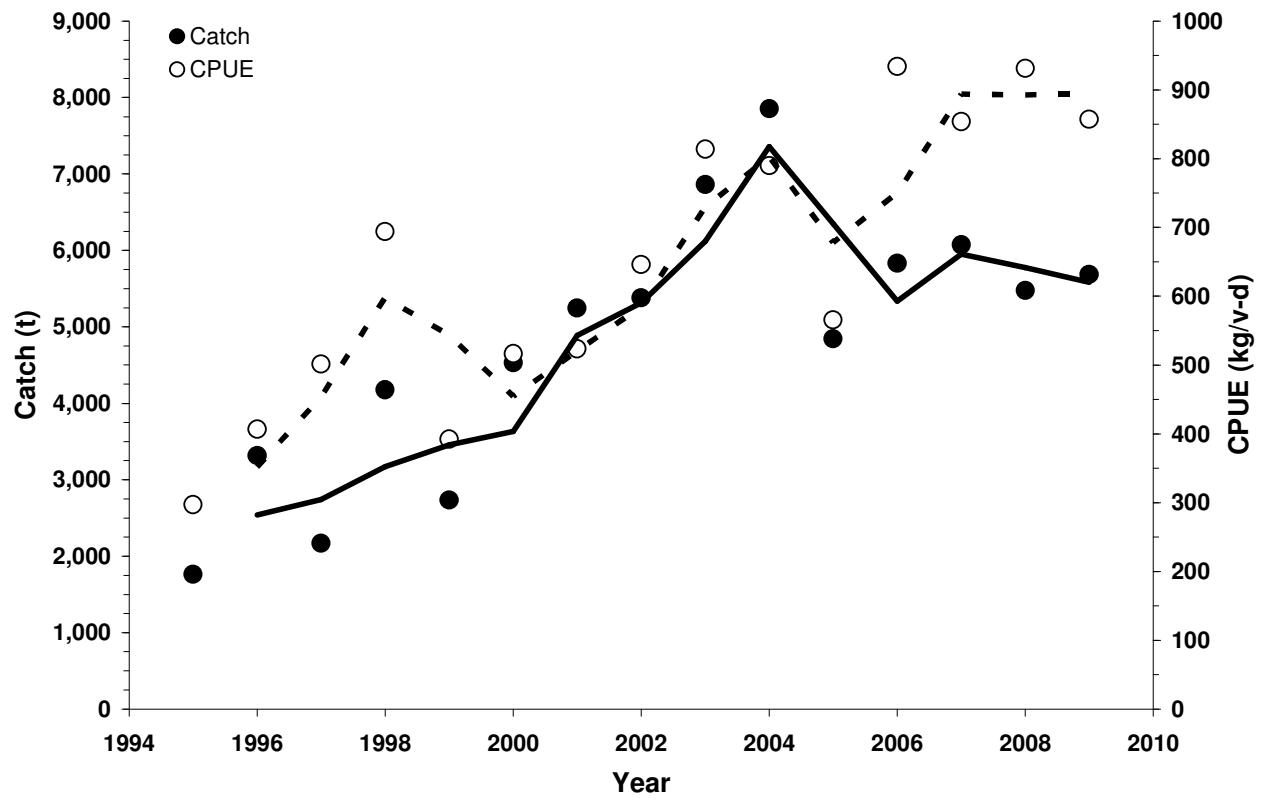


Figure 1. Canadian north Pacific albacore troll catch (●) and catch-rates (CPUE) (○) from 1995 to 2009. Lines are 2-yr moving averages of catch (—) and CPUE (— —).

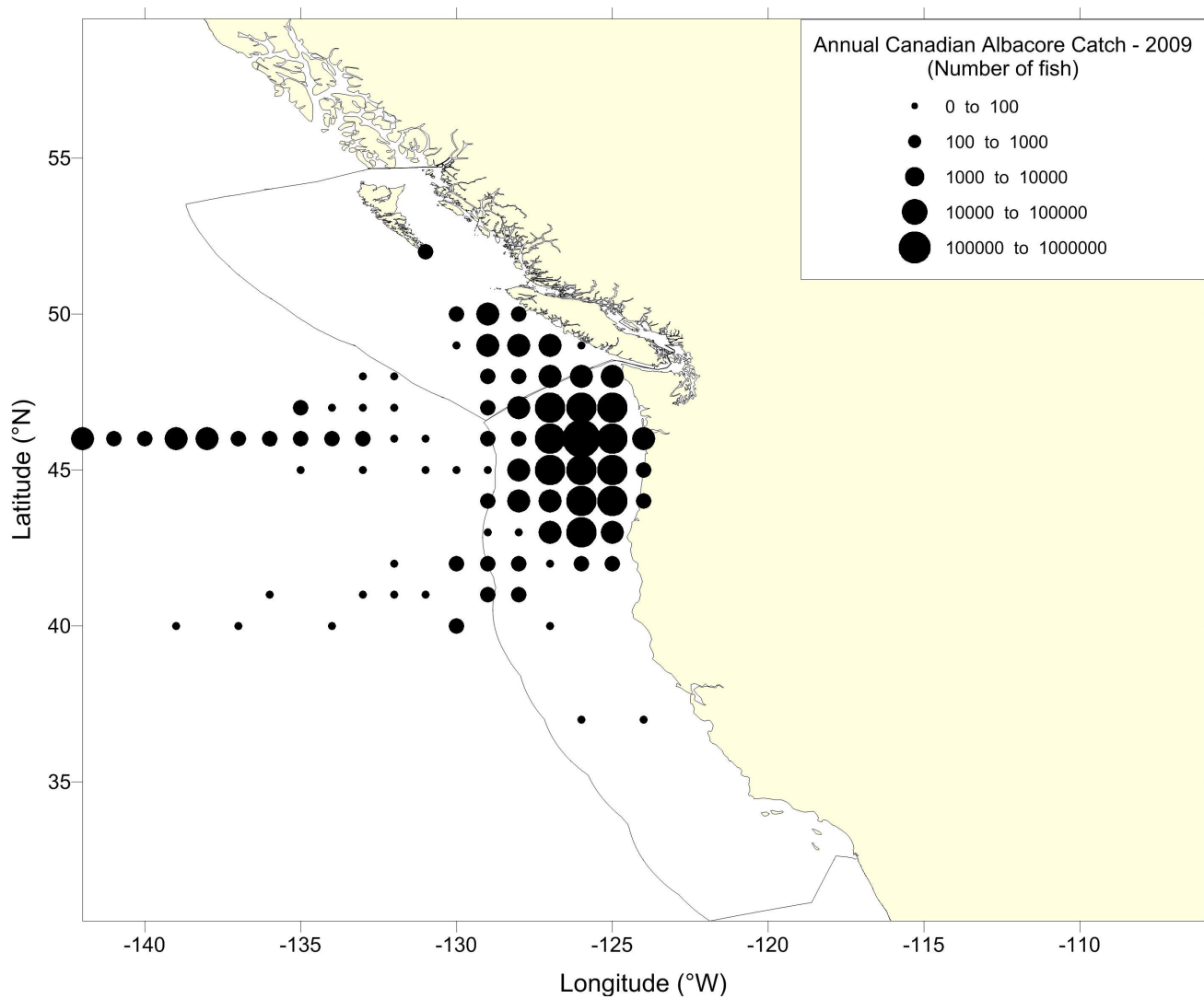


Figure 2. Distribution of the Canadian north Pacific albacore tuna troll fishery catch (Number of fish) in 2009. Data are plotted on a 1° x 1° grid with symbols located on the bottom-right corner of each grid cell. Size of the symbol is proportional to the catch. The plot also shows the boundaries of the Canadian and United States exclusive economic zones (200-mile limit).

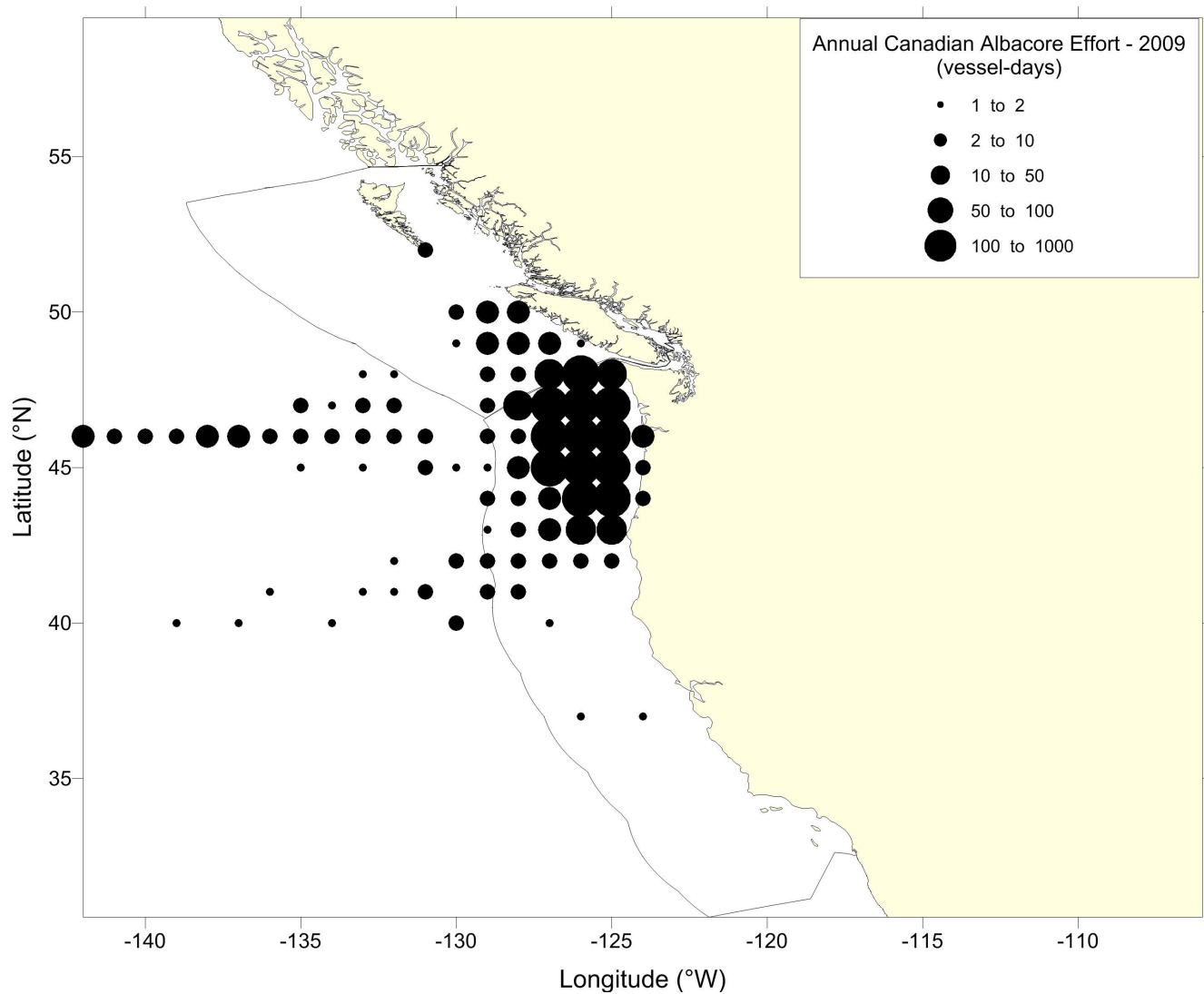


Figure 3. Distribution of the Canadian north Pacific albacore tuna troll fishery effort (vessel-days) in 2008. Data are plotted on a $1^{\circ} \times 1^{\circ}$ grid with symbols located on the bottom-right corner of each grid cell. Size of the symbol is proportional to effort. The plot also shows the boundaries of the Canadian and United States exclusive economic zones (200-mile limit).

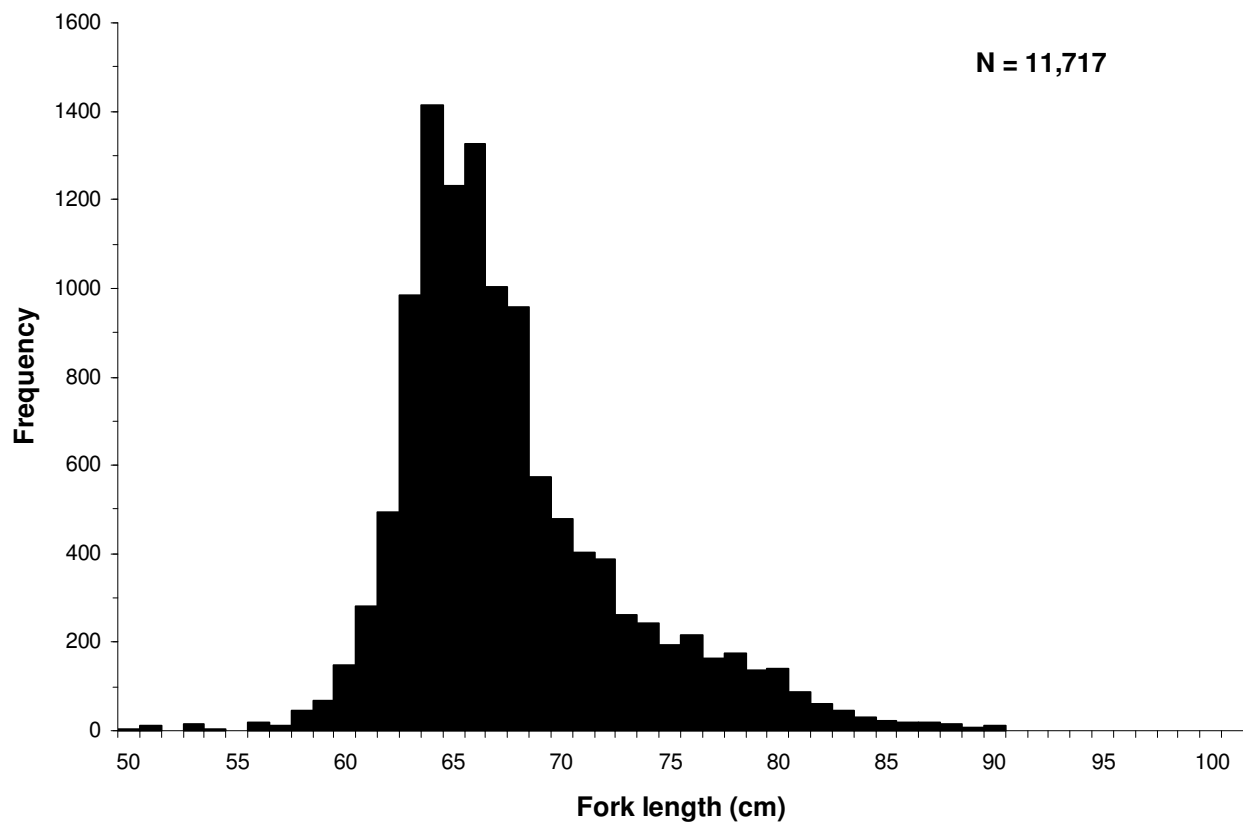


Figure 4. Fork lengths of North Pacific albacore harvested by the Canadian fishery in 2009 and recorded on board by harvesters.