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CANADA

2008 Annual Report to the Western and Central Pacific Fisheries Commission

Canada

PART I. INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS
For 2007

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Abstract

Catch, effort and catch per unit of effort (CPUE) data for the Canadian albacore tuna (*Thunnus alalunga*) fishery in the WCPFC Convention Area for 2007 is summarized in this document (SC4-AR-WP-3). The Canadian is a troll fishery that uses tuna jigs. One Canadian-flagged vessel actively fished in the WCPFC convention area in 2007 between 38-41°S and 130-167°W. No effort or catch were reported from the convention area north of the equator. Preliminary estimates of 2007 catch and effort within the WCPFC convention area are 36.5 mt and 56 vessel-days (v-d), respectively, which represent a 73% decline in catch and a 47% decline in effort relative to 2006. The total Pacific albacore tuna catch from 2002–2007 by the Canadian albacore troll fishery ranged from 83 mt in 2005 to 453 mt in 2003 and effort has) ranged from 56 v-d in 2007 to 408 v-d in 2002 and have followed decreasing trends over this period. The preliminary estimate of CPUE for 2007 is 652 kg/v-d – a 49% decline relative to 2006. CPUE follows a decreasing trend from 2003–2005, then increased in 2006 and has resumed declining in 2007. The Canadian fishery in the WCPFC convention area did not report bycatch or interactions with sharks, seabirds and sea turtles in 2007. A technical report describing the Canadian albacore tuna catch and effort database was published in 2007.

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PART I. INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS (For 2007)

Canadian fishermen have been fishing for albacore tuna (*Thunnus alalunga*) since the mid-1930s. The Canadian fishery started in the coastal waters off British Columbia and is a troll fishery using jigs to target albacore tuna in the surface waters of four areas of the Pacific Ocean in which the fleet operates: (1) British Columbia coastal, (2) British Columbia/United States coastal, (3) high seas north Pacific ocean, and (4) high seas south Pacific ocean. Although the Canadian fleet will follow albacore tuna concentrations into offshore waters, in recent years the majority of effort and catch has occurred in the coastal waters of Canada and the United States and this trend continued in 2007. Access by Canadian vessels to waters in the U.S. Exclusive Economic Zone (EEZ) is governed by a bilateral Canada-United States albacore tuna treaty, which enables Canadian and U.S. fishers to catch north Pacific albacore in each other's EEZ, and land albacore tuna at designated ports in Canada and the United States.

Canada is committed to providing detailed catch and effort statistics, logbook data, and fishing vessel information, as is required under the Highly Migratory Species Convention. Management regulations for Canadian vessels fishing albacore tuna in 2007 are documented in the *Pacific Region Integrated Fisheries Management Plan: Tuna - April 1, 2006 to March 31, 2007* and *Pacific Region Integrated Fisheries Management Plan: Tuna - April 1, 2007 to March 31, 2008.* These regulations specify that Canadian fishers must obtain a licence to fish for albacore tuna and that they must maintain accurate records of daily harvest operations in the *Canadian Pacific Albacore Tuna Logbook*. Logbooks are purchased from the Canadian Highly Migratory Species Foundation and fishers are required to submit their logbooks within 7 days of their final landing or mid-November. The Canadian tuna fishery in the coastal waters of British Columbia and the United States and in high seas areas was open from 01 April 1 2006 to 31 March 2007 and 01 April 1 2007 to 31 March 2008. All catch and effort in the North Pacific Ocean occurred between June and October 2007 and all catch and effort in the South Pacific Ocean occurred between January and March 2007.

This report presents summaries of catch, effort and catch per unit of effort (CPUE) data for the Canadian albacore tuna troll fishery in the WCPFC Convention Area in 2007.

1.1 Annual Fisheries Information

Data on albacore tuna catch and effort are compiled from hailing records, logbooks, and sales slips from processing plants and stored in the *Canadian Albacore Tuna Catch and Effort Relational Database* (Stocker et al. 2007). This database contains all fishery-related scientific

data from 1995 to the present and provides the best estimate of total annual catch and effort by vessel and geographic area. All fishing vessels are required to hail out when they intend to start fishing and hail in when fishing ceases. Hail data from vessels fishing in Canadian waters are obtained from Marine Communications and Traffic Services, Canadian Coast Guard, and hail data for vessels fishing in U.S. waters are obtained from Ship.com. The hail data are used to estimate total vessels fishing (Stocker et al. 2007). Canadian vessels must also carry logbooks while fishing for highly migratory species in any waters of the Pacific Ocean. Daily catch and effort data at the highest temporal and spatial scales are obtained from completed copies of the logbooks submitted at the end of the fishing season. A full description of the type of information recorded in the logbooks is provided by Stocker et al. (2007). Sales slips records of landings provide the most accurate estimates of albacore landings (weight), although they underestimate total annual landings because they do not fully account for international sales, domestic public sales or take-home totals (Stocker et al. 2007). Logbooks, sales slips and at-sea trans-shipment slips, completed at the time fish are landed and sold, must be returned to Fisheries and Oceans Canada (DFO) for entry into the albacore catch database (Argue et al. 1999; Stocker et al. 2007). Canada does not currently have a domestic program to collect biological data (lengths, weights, sex) from catch landed in Canadian ports.

The data presented in this report were obtained using codebase Version 8.02.05 to query and compile the data from Version 8.05.22 of the *Canadian Albacore Tuna Catch and Effort Relational Database*. The data in this report are definitive up to 2006 because they are derived from a reconciliation of trip log (best estimates of geospatial distribution of catch and effort) and sales slip (best estimate of catch weight) data (S + X report described in Stocker et al. 2007). Similar summaries of data from 2002 to 2006 are provided by Stocker and Shaw (2003, 2004, 2005) and Stocker (2006, 2007). The 2007 data are considered preliminary.

1.1.1 Annual Catch in the WCPFC Convention Area

The preliminary estimate of albacore tuna caught by the Canadian troll fishery in the WCPFC convention area in 2007 is 36.5 metric tons (t), which is a 73% decrease in catch from 2006 (Table 1). Canadian catch of albacore tuna within the convention area has averaged 216 t since 2002, but has declined 92% from 453 t in 2003 to 36.5 t in 2007 (Figure 1).

The Canadian catch of albacore tuna in the WCPFC convention area occurred in the WCPFC statistical areas south of the equator and between 130° and 150°W (Areas 4 and 5 in Figure 2; Table 2). There was no catch of albacore tuna by the Canadian troll fleet in the North Pacific WCPFC statistical area (Area 3 in Figure 2) in 2007. All catches of albacore tuna in the North Pacific reported by the Canadian troll fleet in 2007 occurred east of 150° W.

1.1.2 Annual Effort in the WCPFC Convention Area

One Canadian vessel operated in the convention area in 2007 (Table 1). The number of vessels operating in the convention area has declined from a peak of 16 in 2003 to one vessel in 2007, and has averaged 6.5 vessels in the 2002 to 2007 period.

Fishing effort in the Canadian albacore troll fishery is measured as the number of vessel fishing days (v-d). Fishing vessel days ranged from 56 v-d in 2007 to 408 in 2002 (Table 1). The average for the period from 2002 to 2007 is 224 v-d.

1.1.3 Annual CPUE in the WCPFC Convention Area

Catch-per-unit-effort (CPUE) has ranged from a low of 494 kg/v-d in 2005 to a high of 1,286 kg/v-d in 2006, with an average of 907 kg/v-d between 2002 and 2007 (Table 1). Although annual catch has been decreasing since 2003, the decline in CPUE over the same period is less precipitous, except for a temporary decline in 2005 (Figure 1).

1.1.4 Interactions with other Species in the WCPFC Convention Area

There were no reported interactions or bycatch of sharks, seabirds, or sea turtles by the Canadian fishery in the WCPFC convention area in 2007.

1.2 Research and Statistics

1.2.1 Statistical data collection system

The *Canadian Albacore Tuna Catch and Effort Relational Database Management System* was developed by Fisheries and Oceans Canada to address the issues of tracking albacore catch and effort data from fishing logbooks and sales slips landings from the Canadian troll fleet operating in the Pacific Ocean. The design of this database, including the trip log, sale slip and hail components, is documented in a technical report published in 2007 (Stocker et al. 2007).

1.2.2 Stock assessment studies

Canada participated and chaired the ISC Albacore Working Group (ISC-ALBWG) in 2007 and provided an overview of stock status and conservation advice for north Pacific albacore tuna to the 7th plenary session of the ISC in Busan, Korea, from 25 to 30 July 2007. This overview is based on the results of a stock assessment workshop with participants from Japan, United States, and Canada held in late 2006 to conduct a full assessment of the north Pacific albacore stock with data up to 2005. Results of the workshop, including scientific advice, are contained in Annex 5 of the "Report of the Seventh Meeting of the International Committee for Tuna and Tuna-like Species in the North Pacific Ocean".

References

Stocker, M. 2006. Canadian albacore tuna fisheries in the north and south Pacific Ocean in 2005. Canadian National Fishery Report for the 2nd Regular Session of the Scientific Committee of the Western and Central Pacific Fisheries Commission, Manila, Philippines, August 7-18, 2006. FR WP-2: 6 p.

Stocker, M. 2007. 2007. Canada Part I. Information on fisheries, research, and statistics for 2006. Canadian annual report to the Western and Central Pacific Fisheries Commission, Honolulu, HI, U.S.A., 13-24 Aug 2007. AR WP-3: 5 p.

Stocker, M. and W. Shaw. 2003. An update for Canadian tuna fisheries in the north and south Pacific Ocean for 2002. Report prepared for the 16th meeting of the Standing Committee on Tuna and Billfish, Mooloolaba, Australia, July 9-16, 2003. NFR-3: 8 p.

Stocker, M. and W. Shaw. 2004. An update for Canadian tuna fisheries in the north and south Pacific Ocean for 2003. Report prepared for the 17th meeting of the Standing Committee on Tuna and Billfish, Majuro, Marshall Islands, August 9-18, 2004. NFR-3: 9 p.

Stocker, M. and W. Shaw. 2005. Canadian albacore tuna fisheries in the north and south Pacific Ocean in 2004. Canadian National Fishery Report for the 1st meeting of the Scientific Committee of the Western and Central Pacific Fisheries Commission, Noumea, New Caledonia, August 8-19, 2005. FR WP-4: 7 p.

Stocker, M., Stiff, H., Shaw, W., and Argue, A.W. 2007. The Canadian albacore tuna catch and effort relational database. Canadian Technical Report of Fisheries and Aquatic Sciences 2701: vi+76 p. http://www.dfo-mpo.gc.ca/Library/327827.pdf

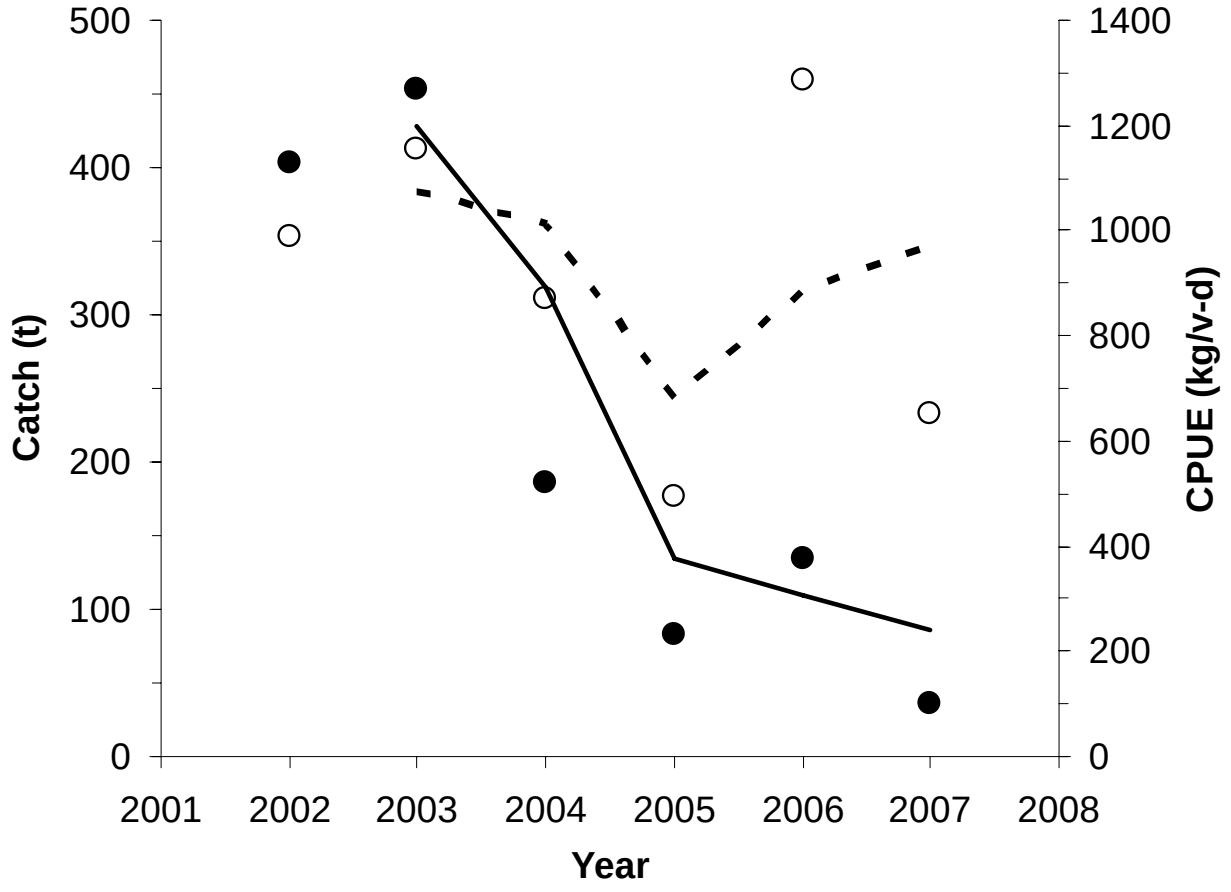

Figure 1. Canadian south Pacific albacore tuna catch (●) and catch-per-unit-effort (kg/v-d), CPUE (○) in the WCPFC convention area, 2002-2007. Two-year running averages of catch (solid line) and CPUE (dashed line) are also shown.

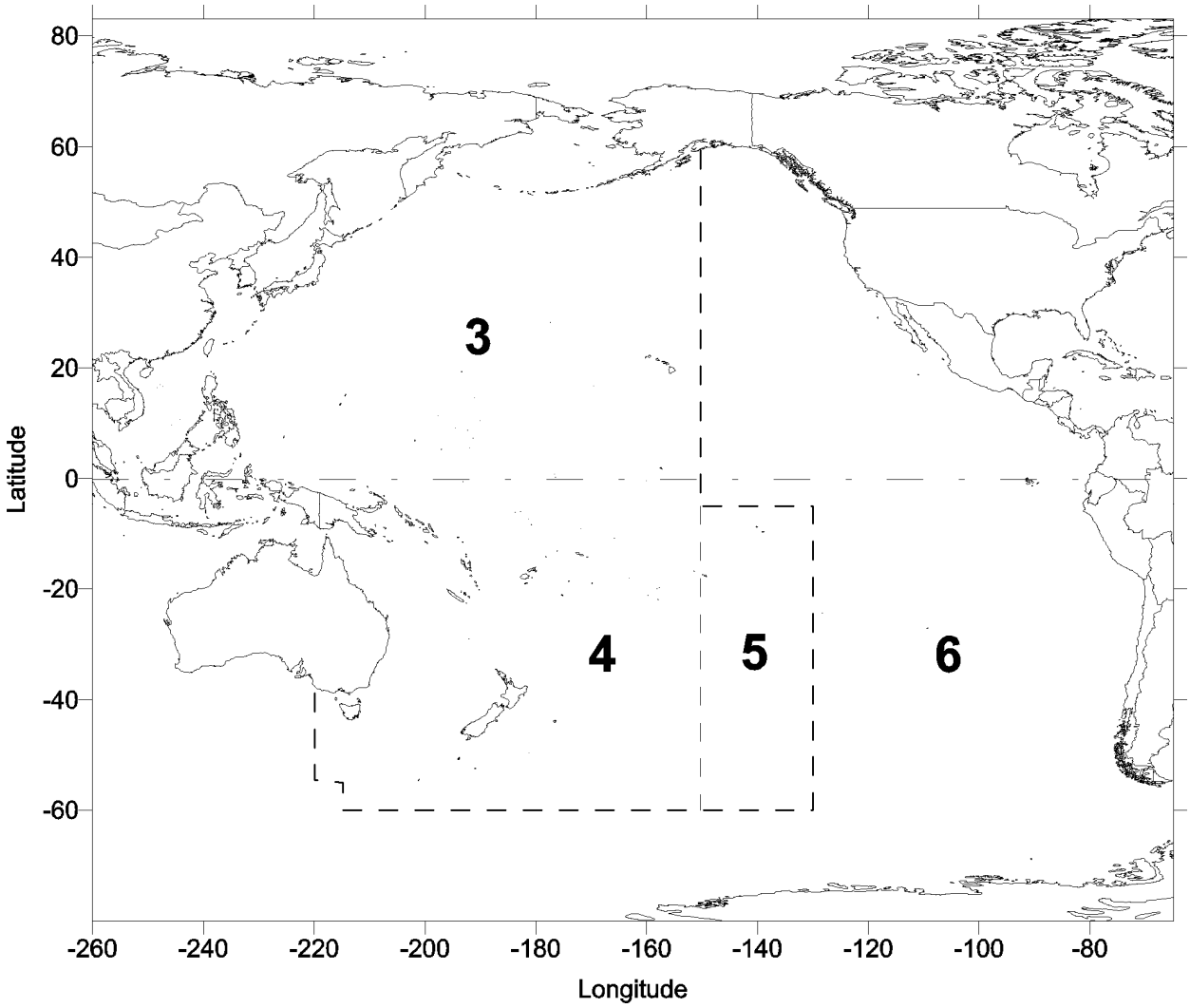

Figure 2. Statistical areas used for reporting of albacore tuna aggregated catch and effort data in the WCPFC convention area. Numbers refer to area catches and efforts shown in Table 2.

Table 1. Fisheries statistics for the Canadian fleet operating in the WCPFC convention area, 2002 to 2007.

Year	Catch (t)	Effort (v-d)	Vessels (#)	CPUE (kg/v-d)
2002	403	408	11	988
2003	453	393	16	1,153
2004	186	214	6	869
2005	83	168	3	494
2006	135	105	2	1,286
2007[A]	36.5	56	1	652

[A] Preliminary data obtained from database v08.05.22.

Table 2. Aggregated Canadian albacore tuna catch and effort data in the Pacific Ocean for 2007.

Area	Catch (t)	Effort (vessel-days)
1. North Pacific Ocean	6040	7062
2. South Pacific Ocean	38	59
3. WCPFC Statistical Area N	0	0
4. WCPFC Statistical Area S	26.8	33
5. WCPFC Statistical Area E of 150°W	9.7	23
6. IATTC E of 130°W	1.5	3