SCIENTIFIC COMMITTEE
SECOND REGULAR SESSION

7-18 August 2006
Manila, Philippines

CANADIAN ANNUAL FISHERY REPORT

WCPFC/SC2/2006

Max Stocker

Fisheries and Oceans Canada
Science Branch
Pacific Biological Station
3190 Hammond Bay Road
Nanaimo, B.C., Canada V9T 6N7

July 2006

INTRODUCTION

The Canadian fishery for albacore tuna (*Thunnus alalunga*) in the Pacific is a troll fishery using tuna jigs. Canadian fishermen have been fishing albacore since the mid-1930s. The fishery targets albacore over an expanded range broadly classified into four fishing areas: (1) BC coastal, (2) BC/US coastal, (3) highseas North Pacific Ocean, and (4) high-seas South Pacific Ocean. The coastal fleets contain the majority of the vessels, but in recent years, some of the fleet, like U.S.-based troll vessels, follow albacore concentrations into offshore waters.

Canada is committed to providing detailed catch and effort statistics, logbook data, and fishing vessel information, as is required under the new Highly Migratory Species Convention. This report presents summaries of catch, effort and catch per unit of effort (CPUE) data for the Canadian north Pacific albacore tuna fishery in 2005. Shaw (1997, 1999), Shaw and Argue (1999 and 2000), Shaw and Stocker (2002) and Stocker and Shaw (2004a, 2004b and 2005) present similar information for previous years.

DESCRIPTION OF THE CANADIAN ALBACORE TUNA FISHERIES

North Pacific Jig Fishery

The Canadian jig fishery is comprised of two fleets. The coastal fleet operates within and near the Canadian and United States fishing zones in accordance with zone and port access privileges under the Canada/U.S. Albacore Tuna Treaty. Vessels in this fleet, mostly 35 to 60 feet in length, concentrate their fishing effort primarily from the southern California coast to the northern tip of Vancouver Island and, in some years, as far north as off the west coast of the Queen Charlotte Islands. Ocean conditions, the availability of albacore, and abundance and distribution of Pacific salmon all influence the size and distribution of the Canadian tuna fleet in any particular year. Effort in the coastal fishery normally starts in June and peaks in September, after the salmon season for trollers has wound down. The catch is primarily bled and blast frozen with some vessels holding fresh caught fish in ice or frozen brine. The catch from the coastal fleet is sold either into U.S. or Canadian plants where the fish are sold in the canned tuna market or the fresh-frozen sashimi market.

The Canadian high seas fleet is comprised of larger jig vessels (most greater than 60 feet) with crews typically of two to four fishermen that remain at sea for trips of several months. These vessels, most of which are equipped with large freezers, operate primarily from west of the dateline to the Canadian zone in the north Pacific. Offshore fishing in the north Pacific on the Midway and Wake Islands grounds usually starts in late May or June and, weather and tuna abundance permitting, lasts through late fall as the vessels follow albacore towards the North American coast. Offshore vessel catches are also sold into the canned market, although the majority is bled and blast frozen then sold into the fresh-frozen sashimi market. There are a number of small processors that have established special niche markets for albacore. The product is either smoked (hot or cold) or loined and sold directly to consumers.

South Pacific Jig Fishery

Since the mid 1980s a smaller fleet has fished south Pacific albacore between the New Zealand zone and 140°W and 30°S to 45°S. After the end of the north Pacific albacore season (sometime in October), a small number of Canadian vessels fish in the southern albacore fishery during the austral summer months (December to April). These vessels range between 70 and 90 feet and have a crew of four. The majority of the fish are bled and blast frozen with a few vessels using brine. Some of the vessels will tranship their catch to carrier vessels at sea in order to continue fishing operations on migrating schools of tuna. However, in most cases the catch is sold to American Samoa, Fiji, French Polynesia (Papeete) and Canada. The Canadian markets are the same as for the north Pacific fishery.

ANNUAL FISHERY STATISTICS

Prior to departing for the fishing grounds, Canadian tuna fishermen are requested to notify DFO of their intent to fish albacore tuna, and under the Canada/U.S. Albacore Tuna Treaty must indicate to DFO at least 48 hours in advance whether they intend to fish in the U.S. zone (Shaw 1997, 1999). The reporting information includes vessel name, homeport, CFV #, registration #, radio call sign, and Captain/operator name. All Canadian vessels must carry logbooks while fishing for highly migratory species in any waters. Logbook information consists of daily catch and bycatch (numbers of fish), effort (numbers of jigs, hours fished), position (Lat/Long), average fish weight, and SST. Logbooks and sales slips must be returned to DFO for entry into DFO's relational database (Argue et al. 1999).

North Pacific Albacore

Below, for FAO Statistical Areas (Figure 1), are the estimates of the 2004 and the *preliminary* estimates of the 2005 northern albacore catch by Canadian jig boats.

FAO STATISTICAL AREA	ESTIMATED TOTAL 2004 CATCH (mt)	ESTIMATED TOTAL 2005 CATCH (mt)
Northeast Pacific, Area 67	7,696	4,798
Northwest Pacific, Area 61	44	12
Eastern Central Pacific, Area 77[1]	102	0
TOTALS	7,842	4,810

The distribution of total north Pacific Canadian catch between FAO Statistical Areas was based on the distribution of reported catch from logbooks. Logbooks coverage was 940% of an estimated fleet of 220 vessels that were fishing in 2004, and 94% of an estimated fleet of 208 vessels that were fishing in 2005.

[1] Excludes catch data from below the equator.

The total estimated Canadian catch in the north Pacific for 2005 was 4,810 mt, compared to 7,842 mt in 2004. Most of this catch (99.7%) was taken in FAO Area 67, which comprise the US and Canadian Exclusive Economic Zones. Catch in 2005 was 39% smaller than catch in 2004.

South Pacific Albacore

In recent years, a small number of Canadian flag vessels have fished southern albacore stocks below the equator during the November to March seasons. These vessels fished primarily in an area that extends from 130°W to 165°W and 30°S to 45°S. They have landed their catch at ports in American Samoa, Fiji, French Polynesia (Papeete) and Canada. Based on analyses of transhipment records and discussions with skippers, Canadian landings in this fishery from its inception in 1987/88 to 1994/95 are estimated to have ranged from 134 to 335 mt per season. Based on log book, sales slips, transhipment data, and fisherman interviews, the 1995/96 to 2004/2005 catch of southern albacore by Canadian registered vessels was:

FISHING SEASON	ESTIMATED TOTAL CATCH (mt)
1995/96	136
1996/97	149
1997/98	167
1998/99	253
1999/00	351
2000/01	206
2001/02	144
2002/03	0
2003/04	63
2004/05	72

No catch was reported for the 2002/03 fishing season. The estimated catches for the 2003/2004 and 2004/2005 fishing seasons were 63 mt and 72 mt respectively.

RESEARCH ACTIVITIES

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. A project to document the existing relational database for the Canadian Pacific albacore catch and effort data is underway. A technical report will describe the design of the entire database (including triplog, saleslip and hail components) based on a venn diagram concept, and include the relationship diagram that documents the structure of the relationships between these components. The description includes a *conceptual data model*, which outlines the logical relationship of fields and tables, and a *physical data model*, which describes the hardware/software implementation of the conceptual model, and includes an outline of the data compilation,

formulation, and summary procedures used to convert raw fishery data into an expanded catch and effort estimate at geospatial coordinates. The documentation will allow new users to efficiently familiarize themselves with the database contents and extract data for reporting under various domestic and international obligations.

REFERENCES

Argue, A.W., W. Shaw and N. Williscroft. 1999 MS. An update for Canadian albacore fisheries in the north and south Pacific Ocean. Report prepared for the 12th meeting of the Standing Committee on Tuna and Billfish in Tahiti, French Polynesia, June 16-23, 1999.

Shaw, W. 1997 MS. The Canadian albacore fishery off the west coast of British Columbia, 1996-97. 15 pp. Document submitted by DFO to the Fifteenth Meeting of the North Pacific Albacore Workshop, Nanaimo, B.C., December 1997.

Shaw, W. 1999 MS. An update of the Canadian north Pacific albacore fishery. 6 pp. Document submitted by DFO to the Second Meeting of the Interim Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean, Honolulu, Hawaii, January 1999.

Shaw, W. and M. Stocker. 2002. An update for Canadian tuna fisheries in the north and south Pacific ocean for 2001. Report prepared for the 15th meeting of the Standing Committee on Tuna and Billfish, Honolulu, Hawaii, July 18-27, 2002. NFR-3: 9 p.

Stocker, M. and W. Shaw. 2004a MS. The 2002 Canadian north Pacific albacore troll fishery. Document submitted by DFO to the Fourth Meeting of the Interim Scientific Committee on Tuna and Tuna-like Species in the North Pacific Ocean (ISC), Honolulu, Hawaii, 26 January-4 February, 2004. ISC/04/Plenary/1: 11p.

Stocker, M. and W. Shaw. 2004b MS. The 2002 and 2003 Canadian north Pacific albacore troll fishery. Document submitted by DFO to the Nineteenth Meeting of the North Pacific Albacore Workshop, Nanaimo, BC, November 25-December 2, 2004. NPALB/04/03: 11p.

Stocker, M. and W. Shaw. 2005 MS. The 2004 Canadian north Pacific albacore troll fishery. Document submitted by DFO to the ISC Albacore Working Group Meeting, NOAA Fisheries, Southwest Fisheries Science Center, La Jolla, CA, USA, November 28-December 2, 2005. ISC-ALBWG/05/12: 10p.

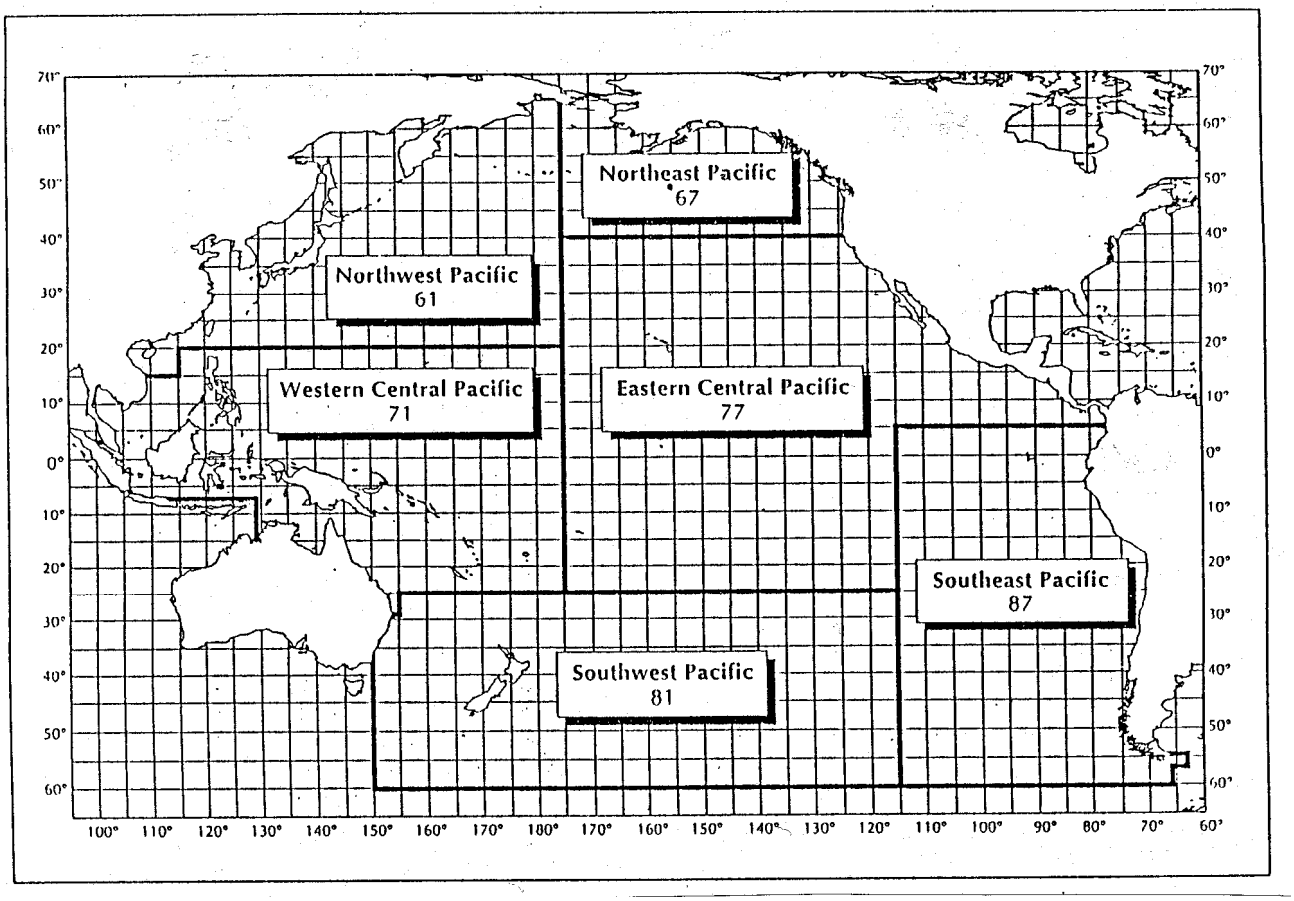

Figure 1. Food and Agricultural Organization fishing areas for statistical purposes.