

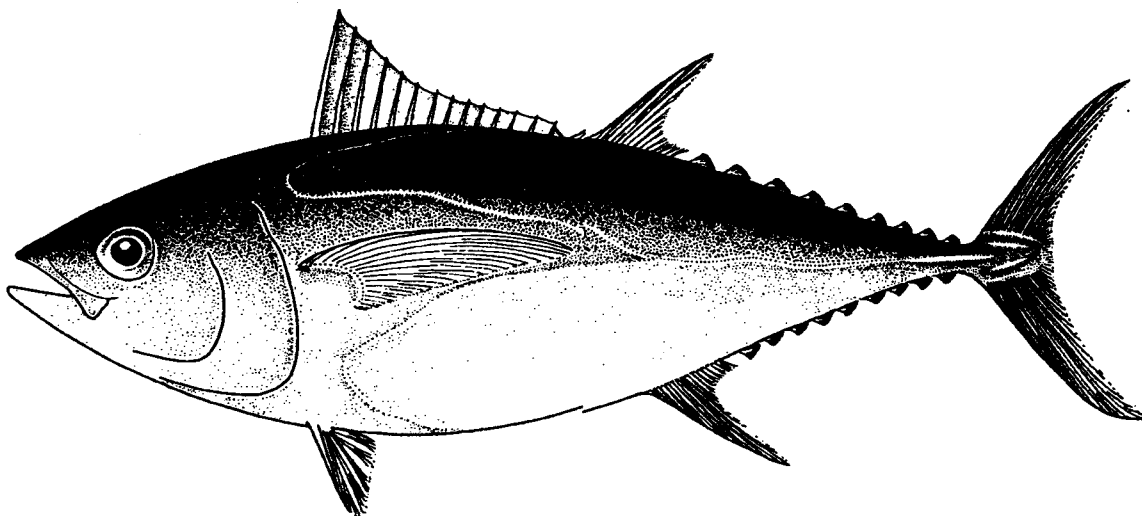


SCTB13 Working Paper

**NFR-3**

## **An update for Canadian tuna fisheries in the north and south Pacific through 1999**

A.W. Argue and W. Shaw



Fisheries and Oceans  
Canada

July 2000

# **An Update for Canadian Tuna Fisheries in the North and South Pacific Ocean Through 1999<sup>1</sup>**

A.W. Argue

Fisheries and Oceans Canada  
Fisheries Management Branch  
Vancouver, B.C., Canada V6B 5G3

and

William Shaw

Fisheries and Oceans Canada  
Fisheries Management Branch  
Nanaimo, B.C., Canada V9T 1K3

July 2000

---

<sup>1</sup> Canadian National Fishery Report for the 13<sup>th</sup> meeting of the Standing Committee on Tuna and Billfish (SCTB13) in Noumea, New Caledonia, July 5-12, 2000. Document not to be cited without permission of the authors.

## **INTRODUCTION**

Canadians began fishing albacore tuna (*Thunnus alalunga*) in the north Pacific with troll vessels using feathered jigs in the mid 1930s. Canadian trollers began fishing albacore in the south Pacific in the mid 1980s. In the last two decades, larger vessels in the Canadian troll fleet have increasingly expanded their albacore fishing from the North American coast westward past the dateline and southward to the southern tropical convergence zone. Recently, as fishing opportunities and prices for salmon declined, many smaller Canadian vessels have been exercising their tuna fishing privilege in the North American coastal fishery, and a few larger Canadian vessels have tried surface longlining for tuna and billfish on the high seas.

These fishing interests formed the basis for Canada's entry into the multilateral negotiations for a new, Pacific Ocean wide Convention for Highly Migratory Fish Stocks (HMS). Canada now is a full participant at the Multilateral High-Level Conference on the Conservation and Management of HMS in the Central and Western Pacific (MHLC). Representatives from the Canada Department of Fisheries and Oceans (DFO) and the Canada Department of Foreign Affairs and International Trade attended the sixth MHLC session in Honolulu, Hawaii in April 2000.

Canada is committed to providing detailed catch and effort statistics, logbook data and fishing vessel information, as will be required under the new HMS Convention being negotiated at the MHLC. This report provides a brief description of Canada's fisheries in the north and south Pacific over the last five years, recent Canadian fishery statistics and logbook information, and new developments for the Canadian HMS fishery. A similar report was prepared for SCTB12 (Argue et al. 1999).

## **DESCRIPTION OF THE CANADIAN HMS FISHERY**

### **Albacore Jig Fishery**

The Canadian jig fishery is comprised of two fleets. The coastal fleet operates within and near to 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 Oregon coast to the northern tip of Vancouver Island. Ocean conditions, the availability of albacore, and abundance and distribution of salmon all influence the size and distribution of the Canadian tuna fleet in any particular year. Effort in the coastal fishery normally peaks in September, after the salmon season for trollers has wound down. In recent years, with very limited salmon opportunities in Canada, the coastal fleet has been starting on tuna at an earlier date, and has extended into California waters. Most of the catch from the coastal fleet is sold into the canned tuna 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. Since the 1980s a smaller fleet has fished south Pacific albacore between the New Zealand zone and 140°W. Offshore vessels often tranship their catch to carrier vessels at sea in order to continue fishing operations on migrating schools of tuna.

Offshore fishing in the north Pacific on the Wake Island 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. Canadian vessels fish in the southern albacore fishery during the austral summer. 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.

In the last five years in excess of 400 Canadian vessels have fished at least once for albacore. During this period the Canadian fleet ranged from approximately 150 to 250 vessels each year, with some 40 to 60 vessels fishing on the high seas in the north Pacific, and between 2 and 5 vessels fishing in the south Pacific.

Longstanding fisheries on the west coast of Canada, such as the Pacific salmon and herring fisheries, have become markedly less lucrative in the last decade. As a result an increasing number of Canadian fishermen have entered the albacore fishery. Due to this build-up in fishing capacity, DFO is considering announcement of a control date for the Canadian albacore fishery. A control date is adopted in order to reduce speculative entry into a fishery by informing fishermen that landings after the control date may not be considered in the allocation of future access rights.

#### **Other HMS Fisheries**

New Canadian interests are exploring possibilities to fish other highly migratory species by longlining or seining. It is expected that the number of vessels wishing to diversify their fishing opportunities to include high seas species will continue to grow at a modest rate in the coming years. To date four vessels have been licensed to longline HMS in the 2000 season.

#### **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. Tuna Treaty must indicate to DFO at least 48 hours in advance whether they intend to fish in the U.S. zone (Shaw 1997). 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). Currently DFO is working in collaboration with the members of the newly formed British Columbia Tuna Fisherman's Association to collect basic biological data (length, weight, sex) from albacore during the 2000 fishing season.

#### **Northern Albacore**

In March 1999, DFO embarked on a program to reconcile past estimates of total Canadian catches of albacore from logbook, sales slip, phone-in and transshipment data. 1998 and 1999 data have been reconciled with the exception of inclusion of data from U.S. logbooks that were held by some Canadian vessels. This final reconciliation should not change 1998 and 1999 catches appreciably. Reconciliation of catches for 1994 to 1997 is underway so there are no changes to

these data that were first reported in SCTB 12 (Argue et al. 1999). Based on 1998-99 catch reconciliation, we would expect earlier catches to increase by at least 50%.

Below, for FAO Statistical Areas (Chart 1), are the revised *preliminary* estimates of the 1998 and 1999 northern albacore catch by Canadian jig boats based on data received by DFO as of June 15, 2000.

FAO STATISTICAL AREA	ESTIMATED TOTAL 1998 CATCH (mt)	ESTIMATED TOTAL 1999 CATCH (mt)
Northeast Pacific, Area 67	4,062	2,349
Northwest Pacific, Area 61	120	52
Eastern Central Pacific, Area 77 <sup>2</sup>	143	302
<b>TOTALS</b>	4,325	2,703

The distribution of total catch between FAO Statistical Areas was based on the distribution of reported catch from logbooks. Logbooks have been received from 51% of an estimated fleet of 172 vessels that were fishing in 1998, and 63% of an estimated fleet of 219 vessels that were fishing in 1999.

The total estimated Canadian catch for 1999 was 2,703 mt, somewhat lower than in 1998 due to poorer availability of albacore, particularly offshore. Most of this catch was taken in FAO Area 67, but closer to the North American coast than in 1998.

Charts 2, 3 and 4 show the distribution, by one degree square, of 1999 northern albacore catch (numbers of fish), fishing effort (days fishing) and CPUE (numbers of fish per day fishing), respectively, based on logbooks from Canadian vessels. Charts 5 to 7 show comparable 1998 data (Shaw and Argue 1999). Productive fishing in 1999 was primarily near the North American coast, compared to high offshore catches in 1998. The SST anomalies for 1998 in Chart 8 show warmer waters (+1 C above normal) in the offshore albacore fishing area. In contrast to 1999 (Chart 9) where the warmer waters (+0.5 C above normal) were found along the North American coast inside the 200 nm EEZs. At the same time in 1999 there was a large pool of colder water (-1 to -2 C below normal) situated in the offshore albacore fishing area. The distribution of sea surface temperatures appears consistent with catch distributions in the two years. As in 1998, the Canadian fleet off the North American coast caught fish from southern California to the Queen Charlotte Islands. Catches in the Canadian zone were higher in 1999 than in 1998.

Based on sales slip records starting in 1945 (Ware and Yamanaka 1991), historical Canadian catches of northern albacore have ranged from less than 100 mt to 3,921 mt (1972). In the last four years north Pacific catches, based on analysis of sales slip data (Shaw 1999), were:

<sup>2</sup> Excludes catch data from below the equator.

1994	1,003 mt
1995	1,698 mt
1996	602 mt
1997	1,045 mt

## South Pacific

In recent years, between two and five 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 35°S to 40°S. They have landed their catch at ports in American Samoa, Fiji, French Polynesia (Papeete) and Canada. Based on analyses of transshipment records and discussions with skippers, Canadian landings in this fishery from its inception in 1987/88 to 1996/97 are estimated to have ranged from 134 to 335 mt per season.

Based on log book, sales slip and transshipment data, and fisherman interviews, the preliminary 1997/98 and 1998/99 catch of southern albacore by Canadian registered vessels was 167 and 117 mt, respectively. Charts 10 to 12 show the distribution of the 1999 southern albacore catch, effort and CPUE, respectively.

## REFERENCES

- Argue, A.W., W. Shaw and N. Willisroft. 1999 MS. An update for Canadian albacore fisheries in the north and south Pacific Ocean. Report prepared for the 12<sup>th</sup> 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 A. W. Argue. 1999 MS. The Canadian albacore fisheries in the north Pacific Ocean, 1995-1998. 11 pp. Document submitted by DFO to the Sixteenth Meeting of the North Pacific Albacore Workshop, Kesen-numa, Japan, November 1999.
- Ware, D.M. and K.L. Yamanaka. 1991 MS. Catch statistics for the Canadian albacore tuna fishery: 1945-1990. 4 pp. Document submitted by DFO to the Annual Meeting of the International North Pacific Fisheries Commission, Tokyo, Japan, November 1991.

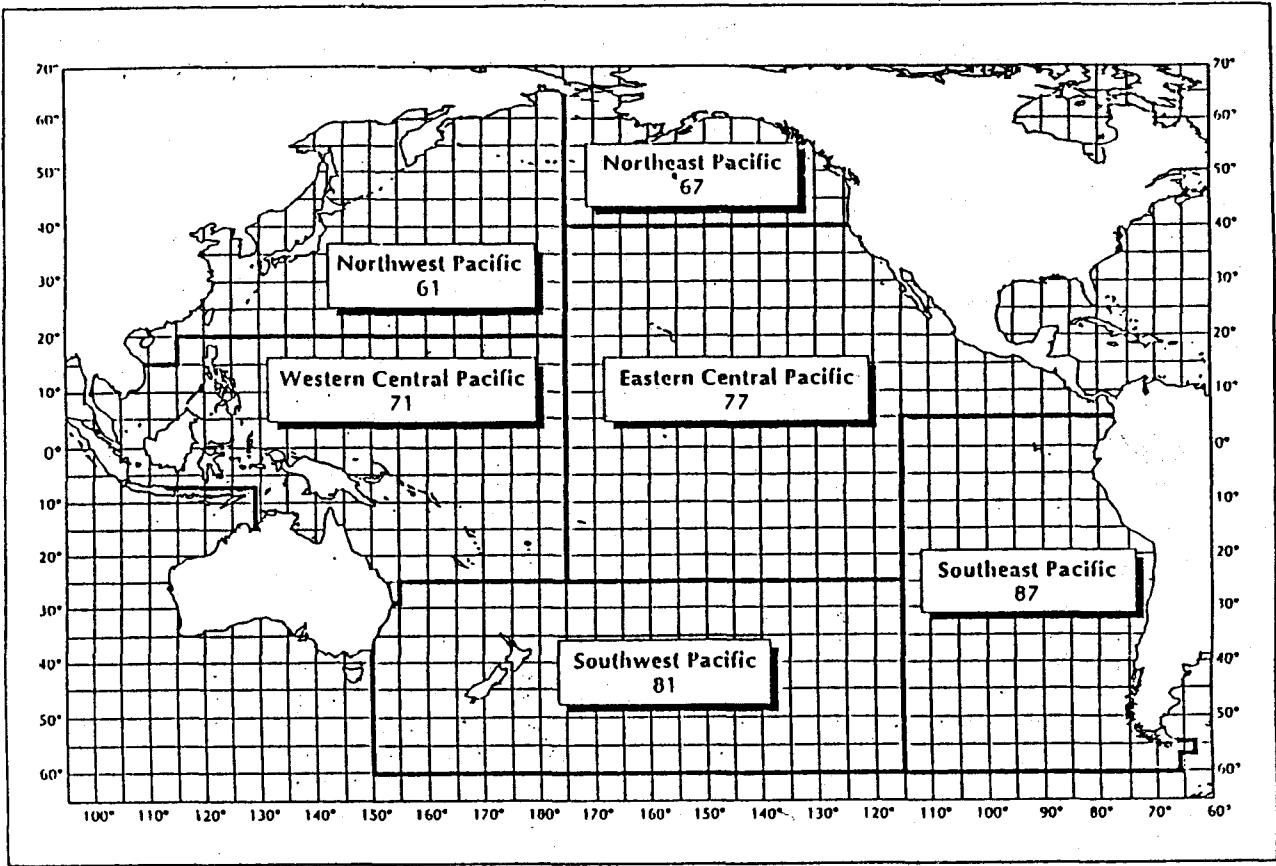


Chart 1. Food and Agricultural Organization fishing areas for statistical purposes.

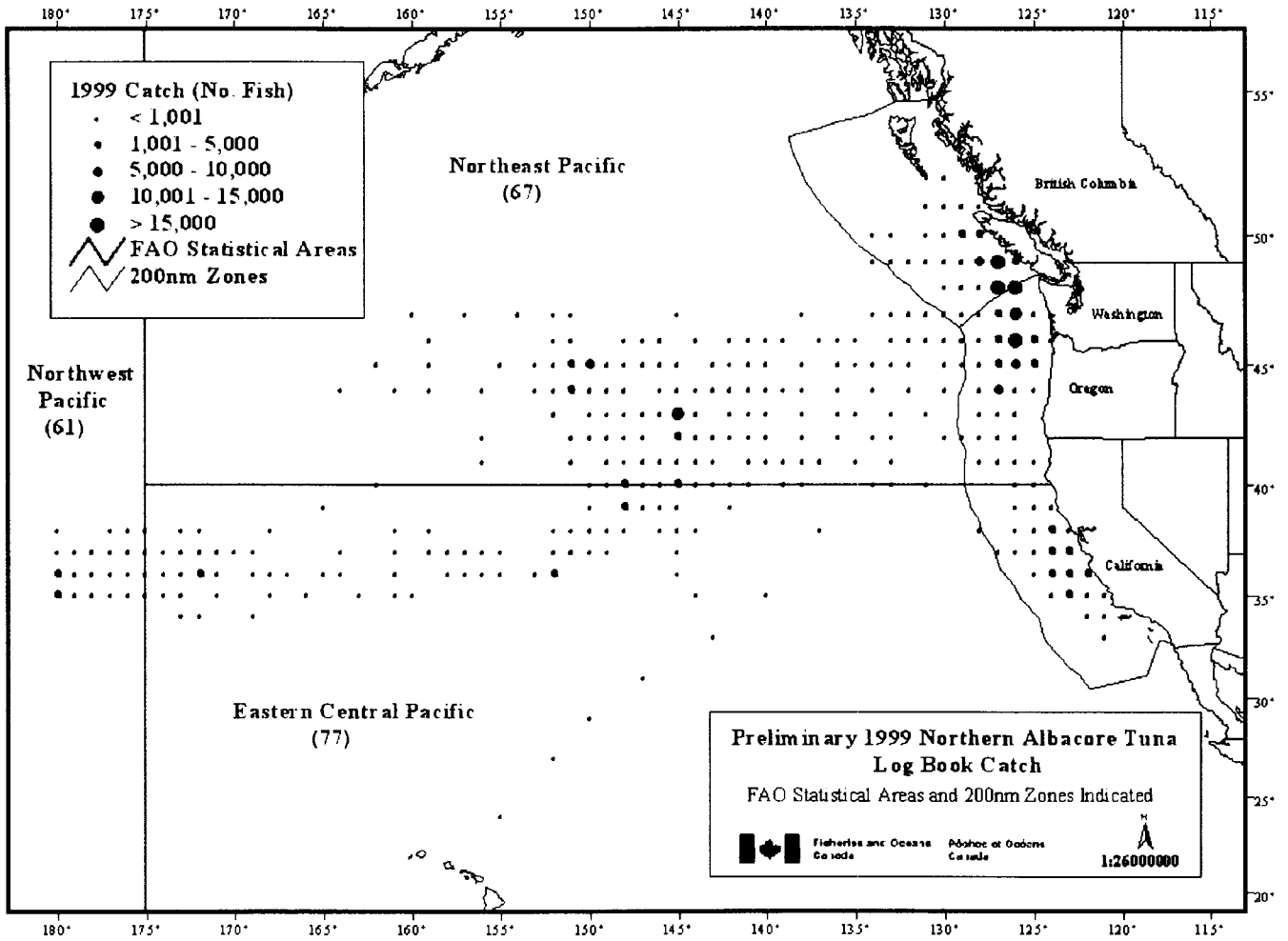


Chart 2.



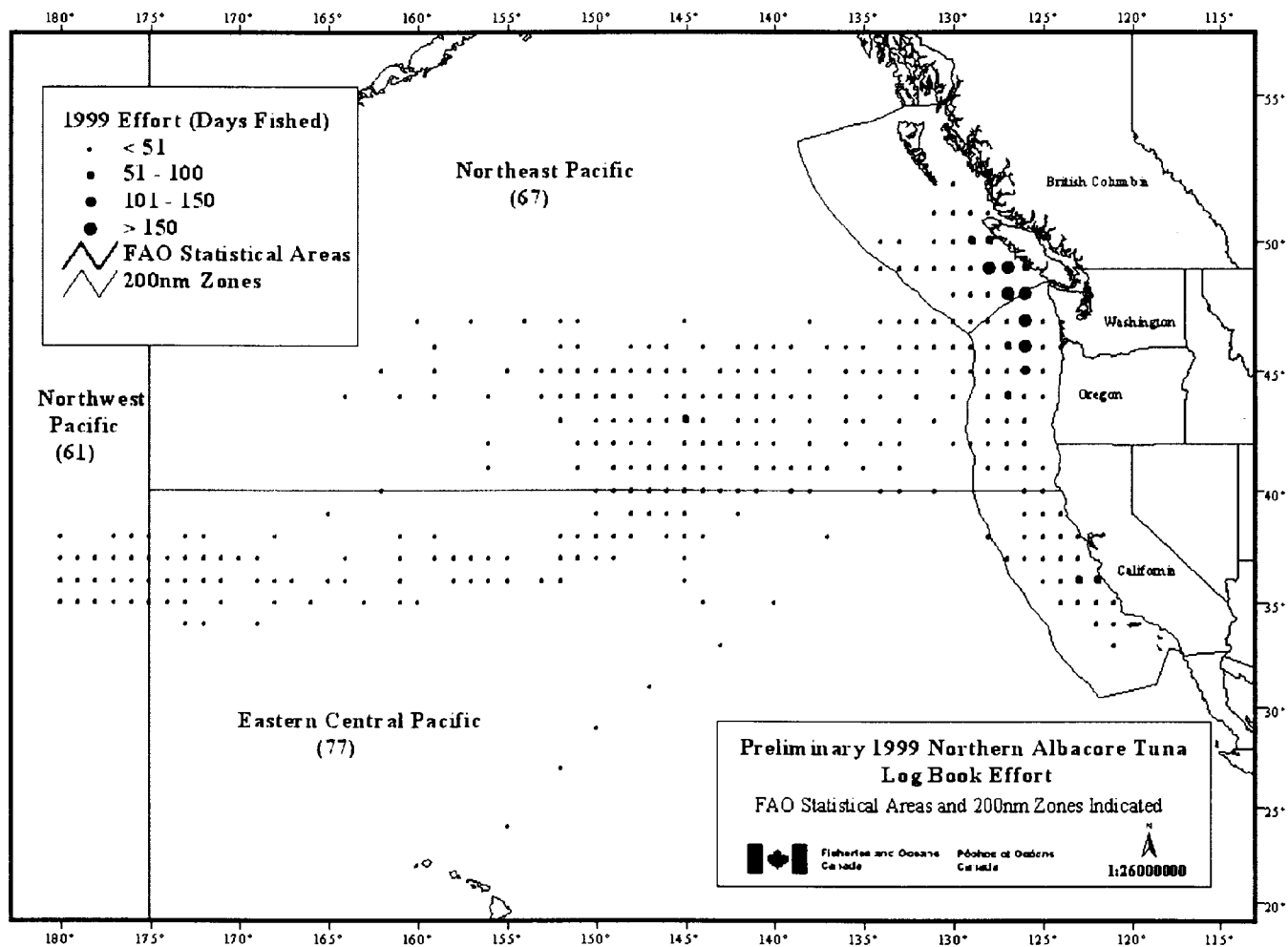


Chart 3.

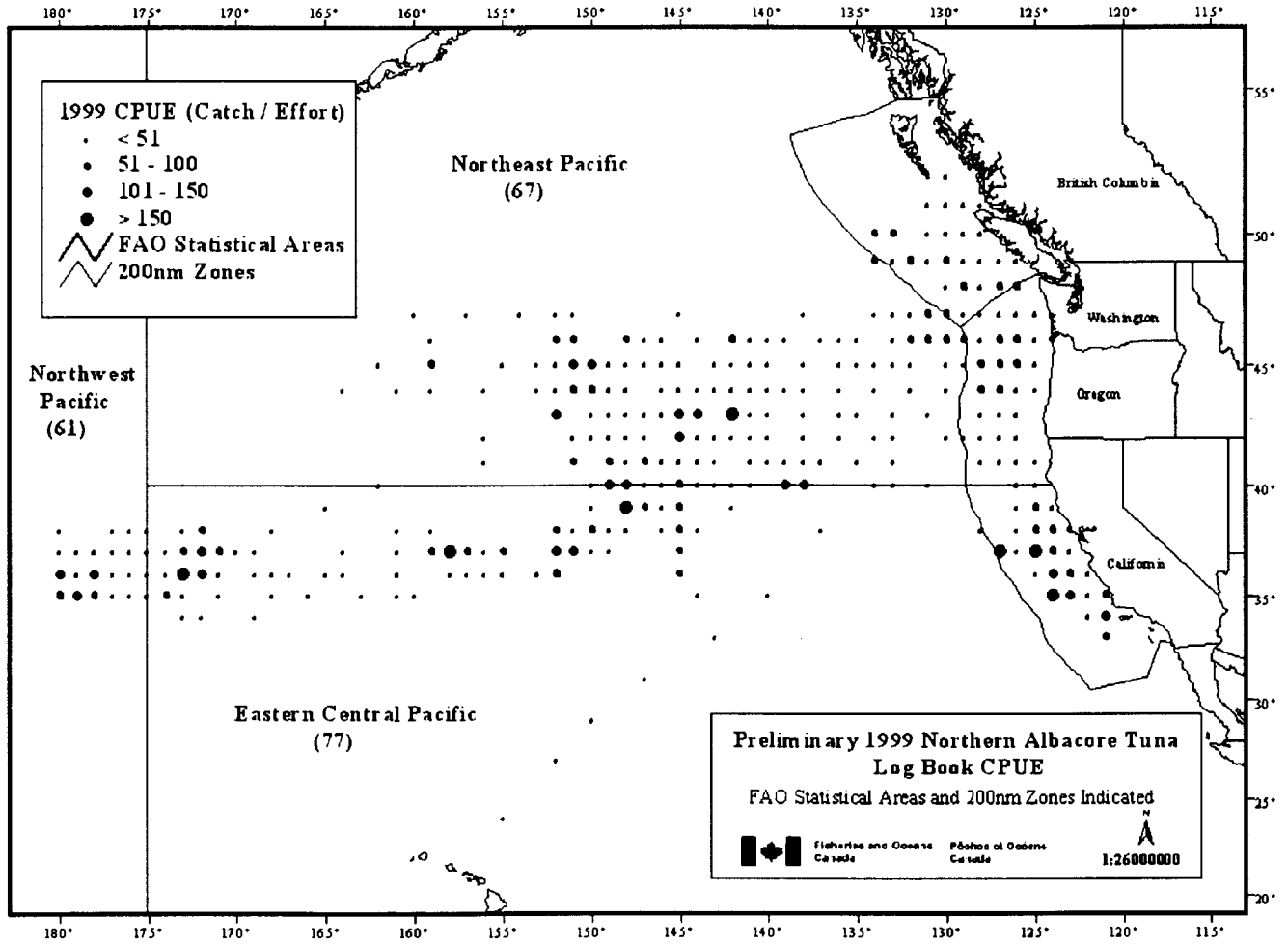


Chart 4.

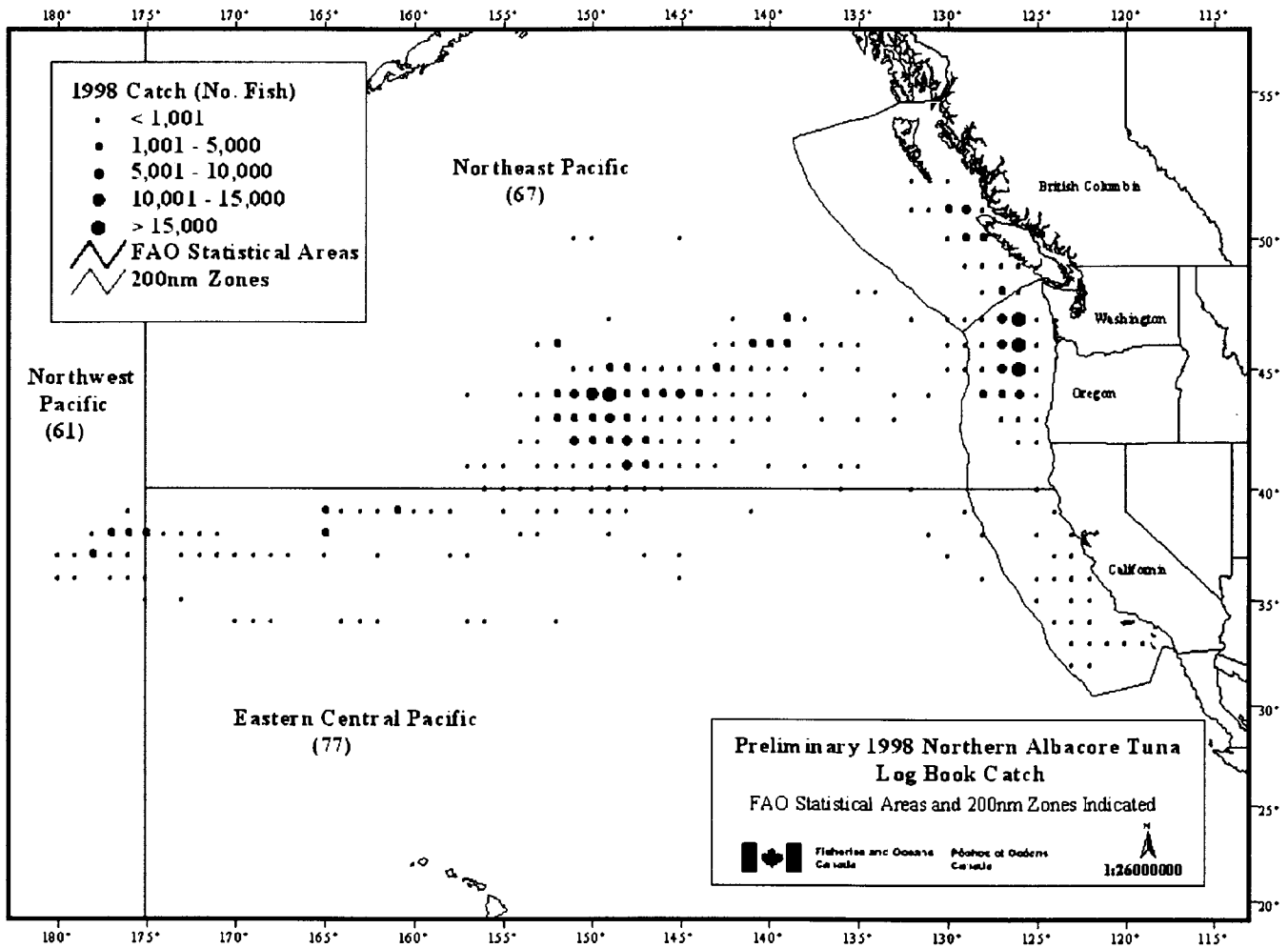


Chart 5.

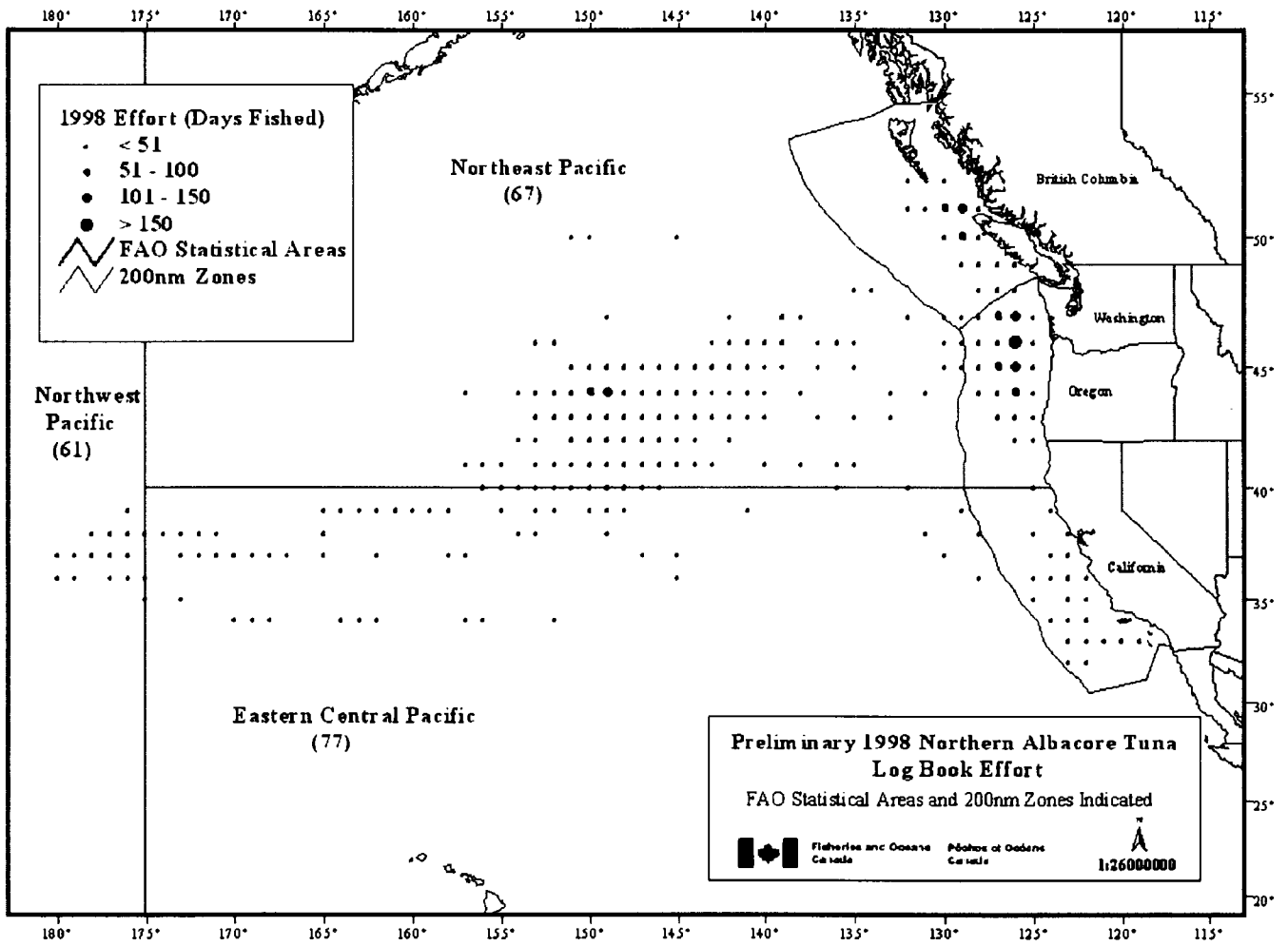


Chart 6.

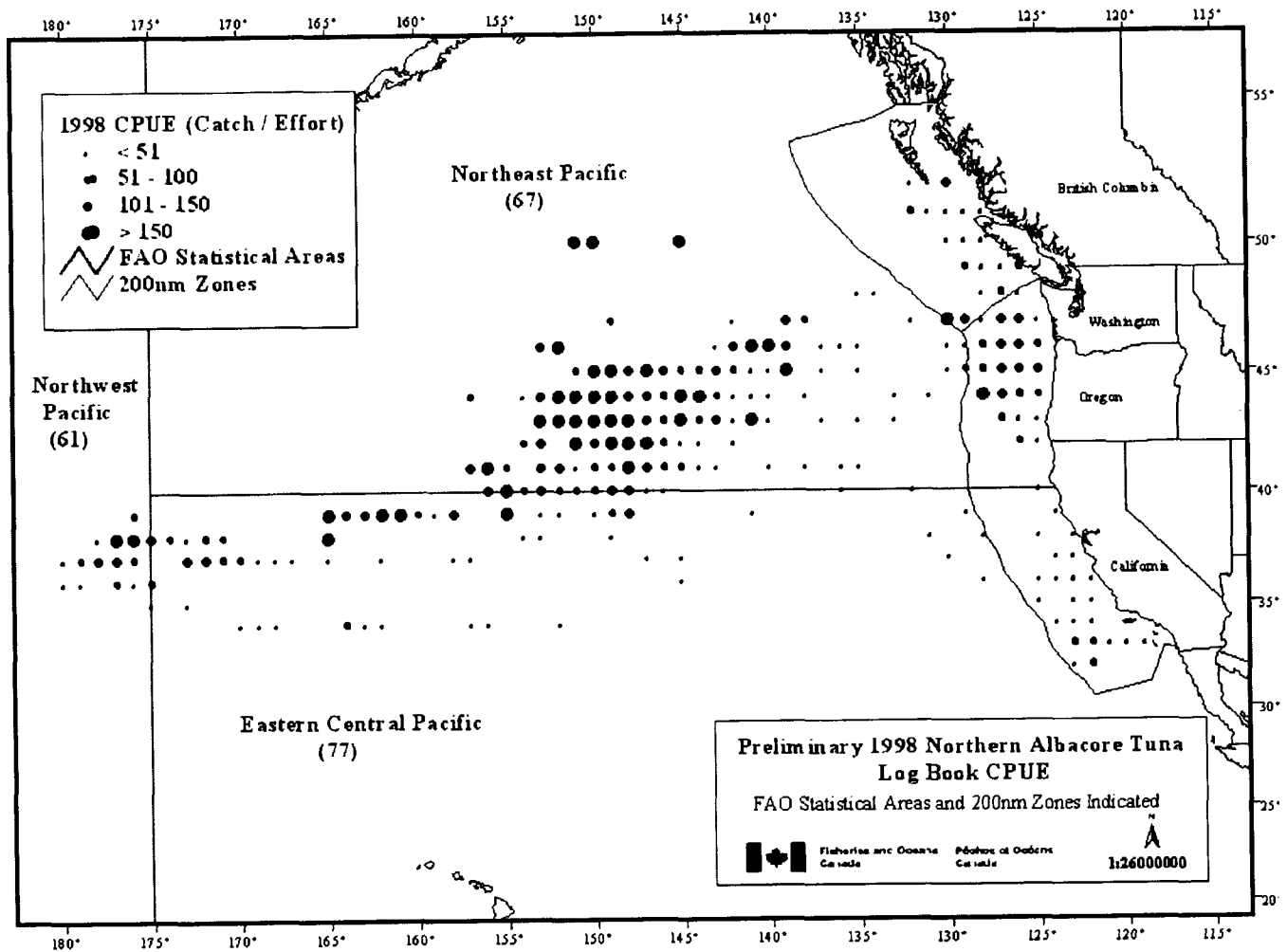


Chart 7.

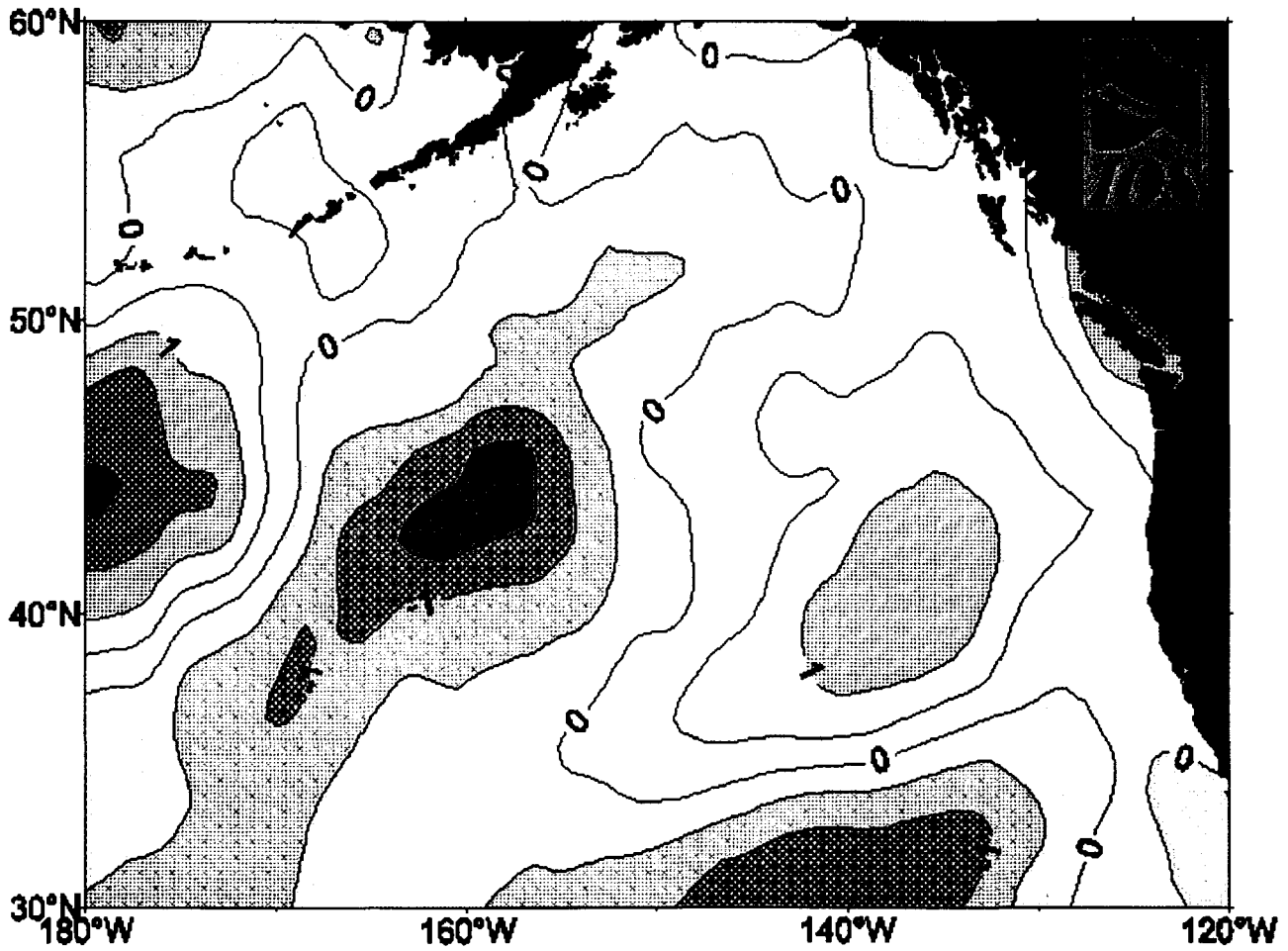


Chart 8. Sea surface temperature anomaly for August 1998.

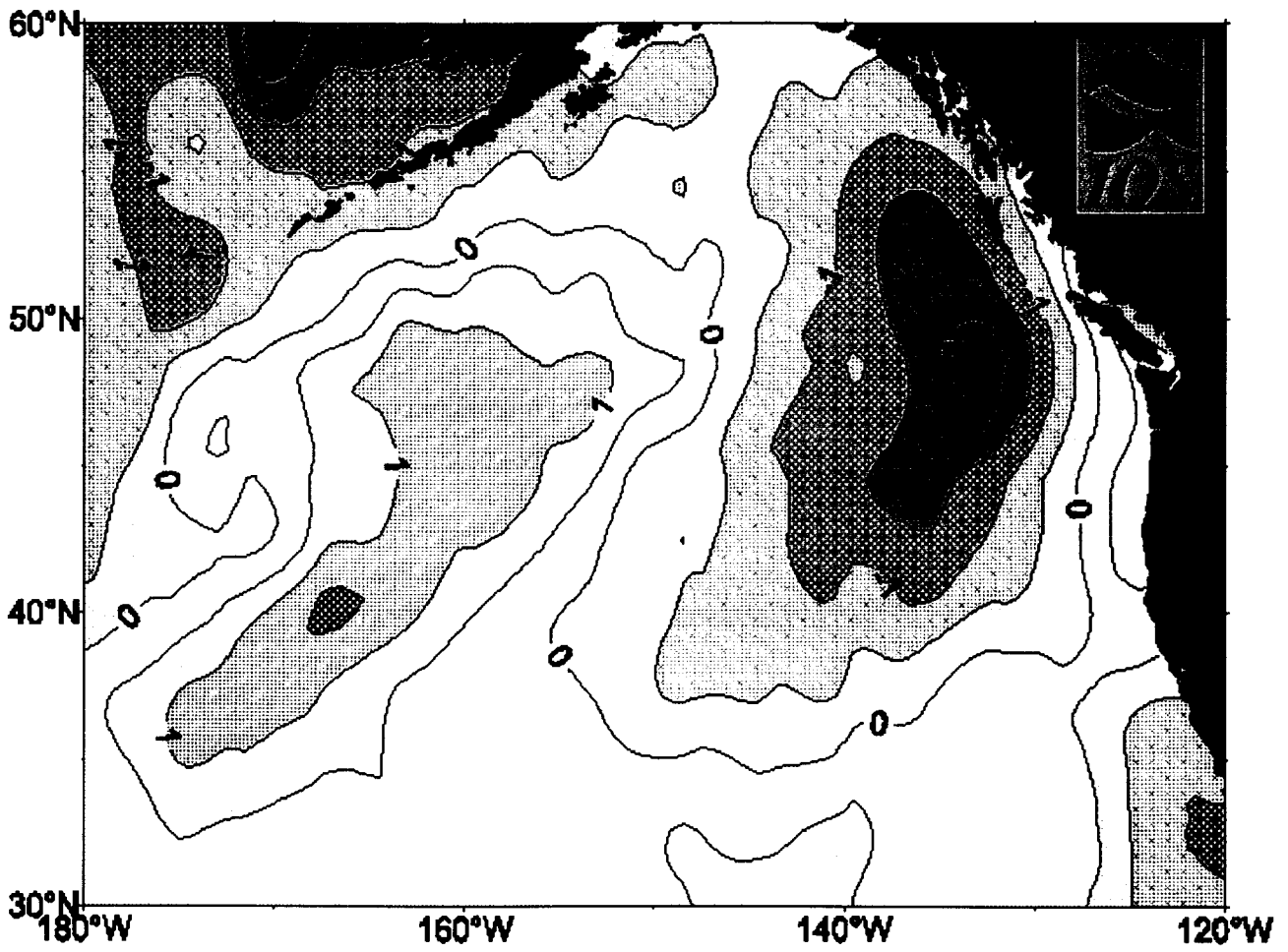


Chart 9. Sea surface temperature anomaly for August 1999.

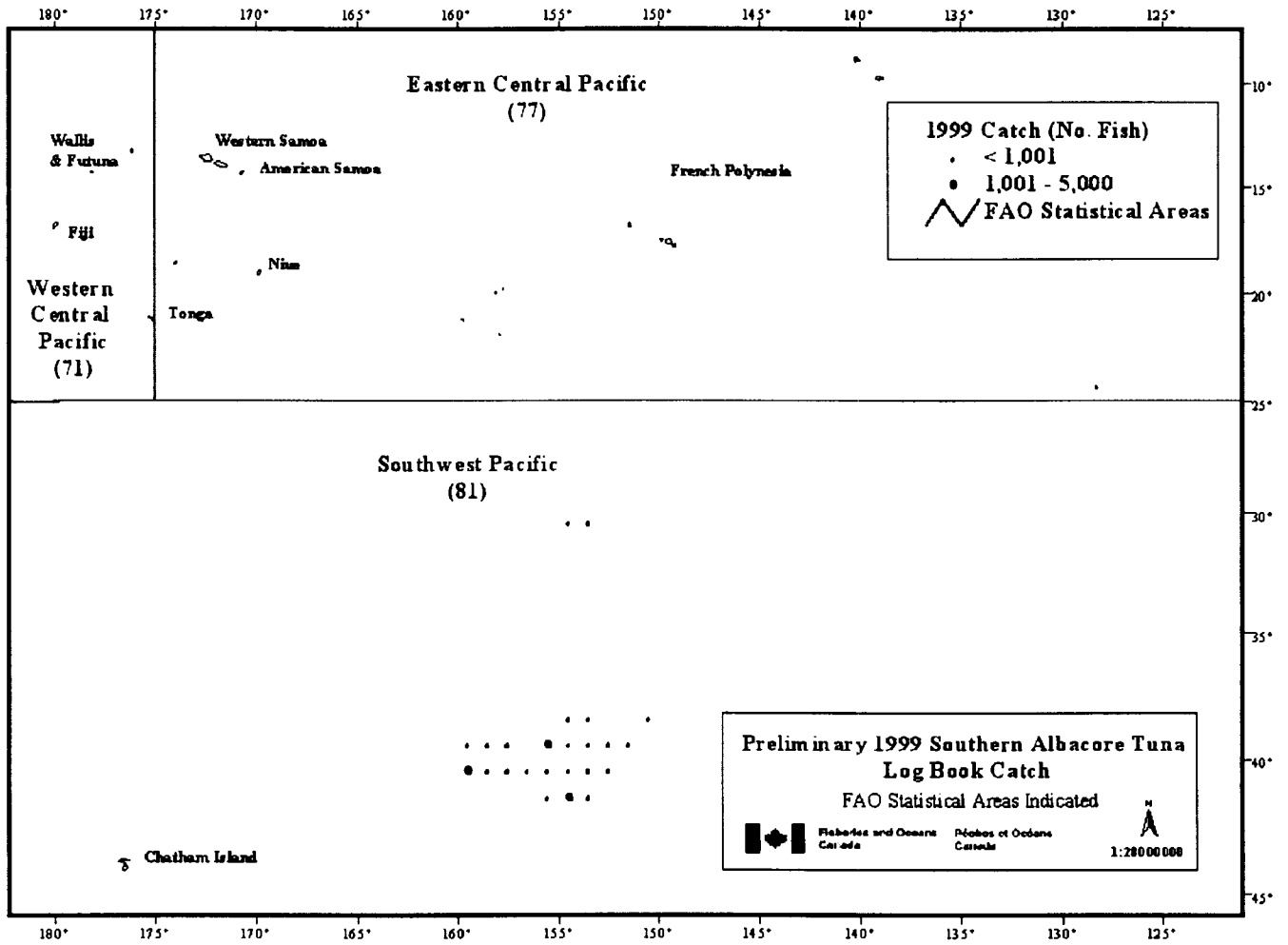


Chart 10.



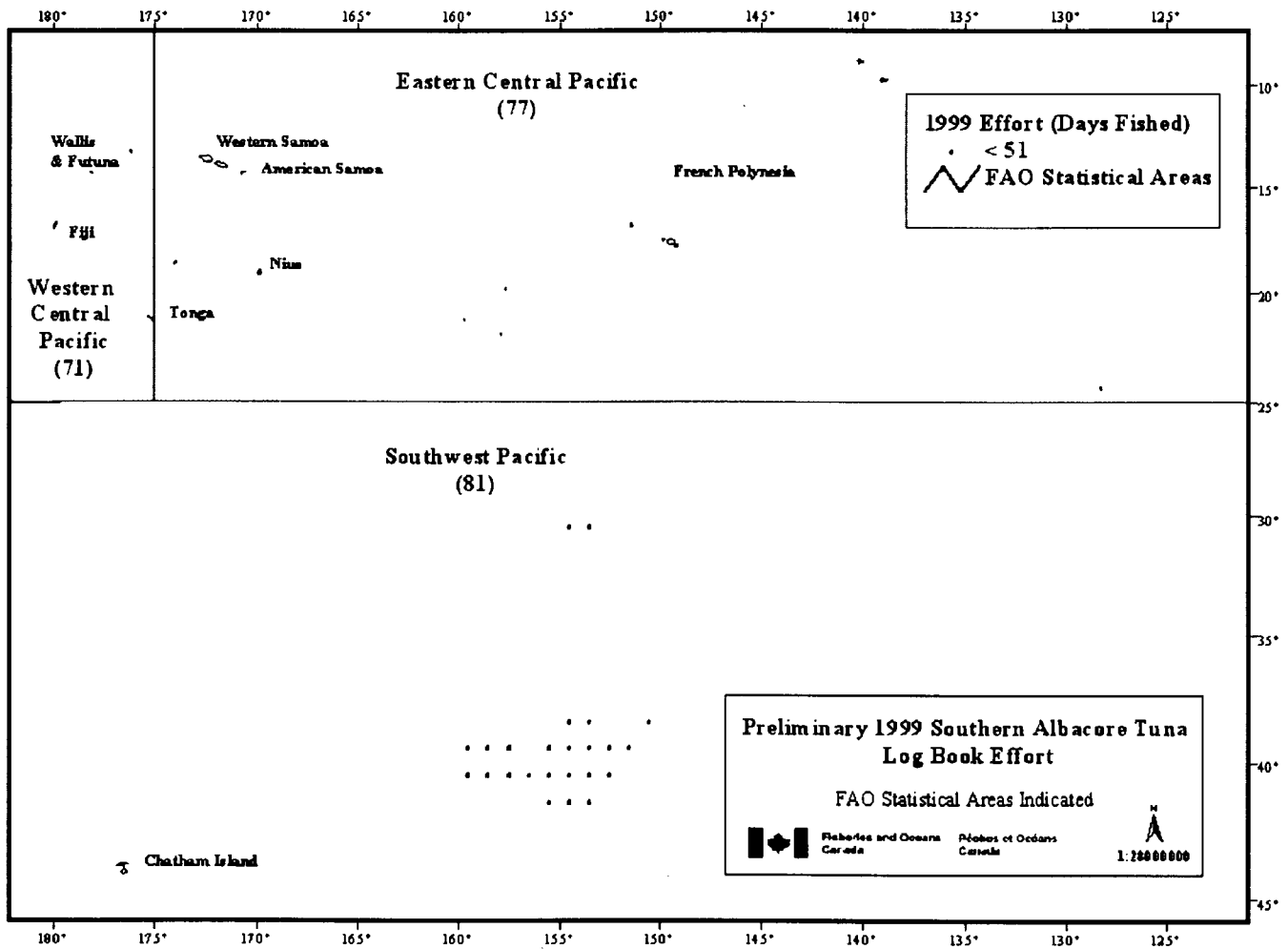
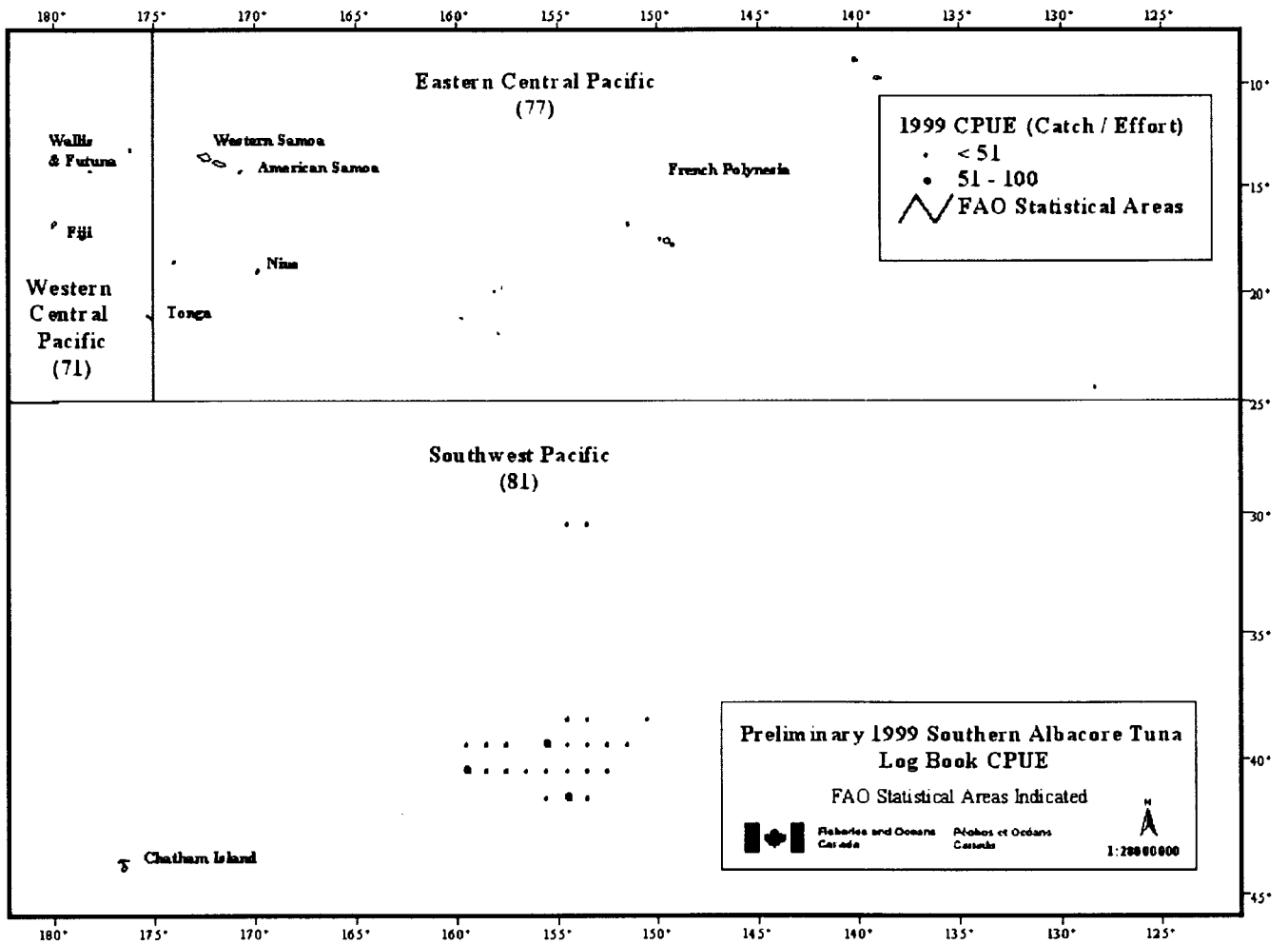


Chart 11.



**Chart 12.**