The 2004 Canadian North Pacific Albacore Troll Fishery

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The Canadian fishery for albacore tuna (Thunnus alalunga) in the North Pacific is a troll fishery using tuna jigs. Canadian fishermen have been fishing albacore since the mid-1930s. The fishery started in the coastal waters off British Columbia, and has over the years developed into four fleet types, BC coastal, BC/US coastal, high seas north Pacific and high seas south Pacific. The coastal fleets contain the majority of the vessels. Many of the smaller Canadian vessels have been following the tuna concentrations offshore, thus extending their traditional fishing range to include the high seas.

Canada is committed to providing detailed catch and effort statistics, logbook data, and fishing vessel information, as required by the Canada-U.S. Albacore Treaty, the Inter-American Tropical Tuna Commission resolutions on data provision, and the 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 2004. Shaw (1997, 1999), Shaw and Argue (1999 and 2000), Shaw and Stocker (2002) and Stocker and Shaw (2004a and 2004b) present similar information for earlier years.

DATA SOURCES

FISHERY STATISTICS

All Canadian vessels must carry logbooks while fishing for highly migratory species in any waters. Daily catch and effort data are obtained from completed copies of the Canadian Albacore Logbook submitted by fishermen. A full description of the type of information recorded in the logbooks is presented in Shaw and Argue (1999). 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).

In 1999, DFO embarked on a program to reconcile past estimates of total Canadian catches of albacore from logbook, sales slip, phone-in and transhipment data. During the process updates, based on new logbook and sales-slip information, were made to catches and number of vessels as reported in earlier reports (Shaw and Argue 1999, Argue and

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Shaw 2000 and Argue et al. 1999). The catch data up to 2003 are considered our best estimates. The 2004 catch estimates are still considered preliminary.

**Catch**

The total north Pacific albacore tuna catch from 1995 to 2004 by the Canadian tuna fleet is presented in Table 1. The catches range from 1,720 t in 1995 to 7,796 t in 2004. The average catch for the period 1995 to 2004 was 4,358 t. The catch summarized by FAO statistical areas from 2002 to 2004 is shown in Table 2. The majority of the catches are from FAO statistical area 67.

**Effort**

In 2004, 218 Canadian vessels were operating in the north Pacific ocean (Table 1). The fleet size ranged from a low of 193 vessels in 2003 to a high of 292 vessels in 1996. From 1995 to 2004 the average number of Canadian vessels fishing for albacore in the north Pacific ocean was 234. Fishing effort in the tuna fishery is measured in number of vessel fishing days (v-d). Fishing vessel days ranged from 4,637 in 1997 to 9,826 in 2001. The 2004 estimate of 9,728 v-d is higher than the 1995-2004 average of 7,731 v-d (Table 1).

**CPUE**

The CPUE ranged from a low of 291 kg/v-d in 1995 to a high of 810 kg/v-d in 2003 (Table 1). The average CPUE for the period 1995-2004 was 553 kg/v-d. Both catch and CPUE follow an increasing trend over the period 1995-2004 (Figure 1).

**Distribution of Catch, Effort and CPUE**

The distribution of northern albacore catch (numbers of fish), fishing effort (days fishing) and CPUE (numbers of fish per day fishing) for 2004 is presented by one degree square in Figures 2 to 4. The pattern of distribution of catch was similar to previous years (Shaw and Stocker, 2002; Stocker and Shaw, 2004a and 2004b) with higher catches occurring near the North American coast. This pattern was similar for effort and CPUE.
REFERENCES


Table 1. Fishery statistics for the Canadian north Pacific albacore tuna fishery.

<table>
<thead>
<tr>
<th>Fishing Season</th>
<th>Total Catch (t)</th>
<th>Effort (v-d)</th>
<th>Total Vessels</th>
<th>Cpue (kg/v-d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>1,720</td>
<td>5,909</td>
<td>284</td>
<td>291.1</td>
</tr>
<tr>
<td>1996</td>
<td>3,591</td>
<td>9,164</td>
<td>292</td>
<td>391.9</td>
</tr>
<tr>
<td>1997</td>
<td>2,433</td>
<td>4,637</td>
<td>197</td>
<td>524.7</td>
</tr>
<tr>
<td>1998</td>
<td>4,188</td>
<td>6,032</td>
<td>213</td>
<td>694.3</td>
</tr>
<tr>
<td>1999</td>
<td>2,641</td>
<td>6,776</td>
<td>233</td>
<td>389.8</td>
</tr>
<tr>
<td>2000</td>
<td>4,465</td>
<td>8,691</td>
<td>238</td>
<td>513.7</td>
</tr>
<tr>
<td>2001</td>
<td>4,985</td>
<td>9,826</td>
<td>244</td>
<td>507.3</td>
</tr>
<tr>
<td>2002</td>
<td>5,022</td>
<td>8,235</td>
<td>229</td>
<td>609.8</td>
</tr>
<tr>
<td>2003</td>
<td>6,735</td>
<td>8,315</td>
<td>193</td>
<td>810.0</td>
</tr>
<tr>
<td>2004¹</td>
<td>7,796</td>
<td>9,728</td>
<td>218</td>
<td>801.4</td>
</tr>
</tbody>
</table>

¹ 2004 data are preliminary.

Table 2. Canadian total catch (t) of North Pacific albacore tuna by FAO statistical area.

<table>
<thead>
<tr>
<th>FAO Statistical Area</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast Pacific, Area 67</td>
<td>4,731</td>
<td>6,314</td>
<td>7,620</td>
</tr>
<tr>
<td>Northwest Pacific, Area 61</td>
<td>131</td>
<td>330</td>
<td>44</td>
</tr>
<tr>
<td>Eastern Central Pacific, Area 77¹</td>
<td>160</td>
<td>91</td>
<td>132</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>5,022</strong></td>
<td><strong>6,735</strong></td>
<td><strong>7,796</strong></td>
</tr>
</tbody>
</table>

¹ Excludes catch data from below the equator
Figure 1. Canadian North Pacific albacore tuna catch and CPUE from 1995 to 2004.
Figure 2. Canadian North Pacific albacore tuna catch in 2004.
Figure 3. Canadian North Pacific albacore tuna effort in 2004.
Figure 4. Canadian North Pacific albacore tuna CPUE in 2004.