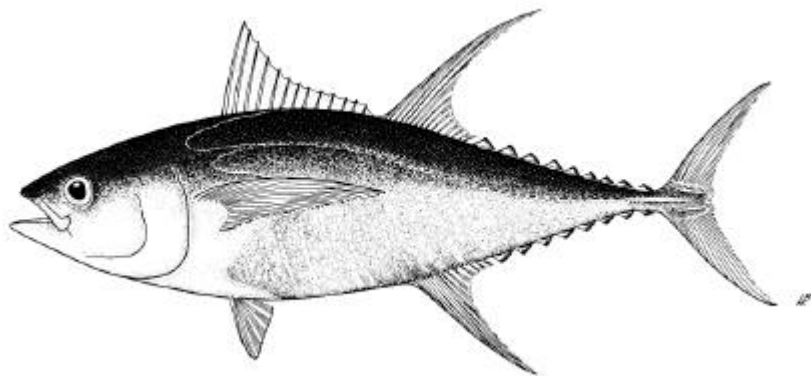




**Notes on sources, quality and coverage of
aggregate catch/effort and size composition data
available to the SCTB**



Oceanic Fisheries Programme
Secretariat of the Pacific Community
Noumea, New Caledonia

June 2003

INTRODUCTION

The following tables provide brief notes on the sources, quality and coverage of aggregate catch/effort and size composition data available to the Standing Committee on Tuna and Billfish (SCTB). These notes are referenced in the tables summarising aggregate catch/effort and size composition data available to the SCTB for each of the four target tuna species (Refer to SCTB16 Working Paper (WP) ALB-3 for albacore, WP BET-3 for bigeye, WP SKJ-3 for skipjack and WP YFT-3 for yellowfin).

These tables are referenced by note number and have been ordered by gear and vessel nation to facilitate cross-reference from the summary tables prepared for each species.

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
1	DRIFT-NET (LARGE-SCALE)	JAPAN	1983--1990	<p>Aggregated driftnet data provided by National Research Institute of Far Seas Fisheries (NRIFSF), Japan Fisheries Agency, for the Japanese driftnet fleet operating in the South Pacific Ocean, as their contribution to the South Pacific Albacore Research Group (SPAR) database. The data are stratified by month and 5°x5° grid.</p> <p>Effort is expressed in kilometres of net, and is not expressed as days. Correspondence with NRIFSF indicates that it would be impossible to estimate the number of days fishing due to the variation in the length of net set by vessels in this fleet. Nonetheless, an estimate of days has been undertaken and included here, based on kilometres.</p> <p>Coverage is not considered to be 100%.</p> <p>ALB catch, in numbers, have been provided; catch, in weight, has been estimated by applying estimates of average weights to the numbers. These estimates were determined from size composition data collected from Japanese driftnet vessels unloading in Noumea, New Caledonia.</p>
2	DRIFT-NET (LARGE-SCALE)	TAIWAN	1988--1989	<p>Aggregated driftnet data provided by National Taiwan University (NTU), for the Taiwanese driftnet fleet operating in the South Pacific Ocean, as their contribution to the South Pacific Albacore Research Group (SPAR) database. The data are stratified by month and 5°x5° grid.</p> <p>Effort is expressed in days fishing and kilometres of net. Kilometres of net has been estimated by applying the CPUE values (albacore number per km of net) obtained from the Japanese driftnet fleet by month, to the Taiwanese albacore catch (numbers).</p> <p>Coverage is considered to be 100%.</p> <p>ALB catch, in numbers and weight, have been provided.</p>
3	HANDLINE	INDONESIA	1984--2001	<p>The best estimate of catch and effort available for Indonesian handline vessels operating in and around Indonesian waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <ul style="list-style-type: none"> * An estimate of the spatial distribution of the catch for this fleet has been largely determined using the data compiled from the Philippines Tuna Research Project (PTRP) - Landed Catch and Effort Monitoring Programme (LCEM). Catch has been apportioned to 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet (i.e. according to LCEM data). * The species composition of the catch has been determined from the YEARBOOK estimate. * No effort can be assigned for this category of vessels. * The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use the LCEM data to build in some seasonality).

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NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
3	HANDLINE	INDONESIA	1984--2001	<p>* Catch, in number, has been determined by applying the monthly estimate for average weight by species (determined from data for other longline fleets operating in the vicinity) to the catch by weight data.</p> <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE AND AVERAGE WEIGHT APPLIED IN THE ESTIMATION PROCESS.</p>
4	HANDLINE	PHILIPPINES	1970--2001	<p>The best estimate of catch and effort available for Philippines Handline vessels operating in and around Philippines waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <p>* An estimate of the spatial distribution of the catch for this fleet has been largely determined using the data compiled from the Philippines Tuna Research Project (PTRP) - Landed Catch and Effort Monitoring Programme (LCEM). Catch has been apportioned to 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet (i.e. according to LCEM data).</p> <p>* The species composition of the catch has been determined from the YEARBOOK estimate.</p> <p>* No effort can be assigned for this category of vessels.</p> <p>* The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use the LCEM data to build in some seasonality).</p> <p>* Catch, in number, have been determined by applying the monthly estimate for average weight by species (determined from data for other longline fleets operating in the vicinity) to the catch by weight data.</p> <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE AND AVERAGE WEIGHT APPLIED IN THE ESTIMATION PROCESS.</p>
5	LONGLINE	AMERICAN SAMOA	1996--2001	<p>Source : NATIONAL MARINE FISHERIES SERVICE (US) Years : 1996-2001 --- Aggregated longline data provided by the U.S. National Marine Fisheries Service (NMFS) for the American Samoan longline fleet operating out of Pago Pago. Data are stratified by month and 5°x5° grid. Catch in weight and number have been provided.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
6	LONGLINE	AUSTRALIA	1985--2003	<p>Source : AUSTRALIA Years : 1985-2003 --- Logsheet data received for Australian domestic and joint-venture (with Japan) longline vessels. Coverage of data provided is not 100%.</p> <p>PLEASE NOTE THAT THERE ARE STRICT CONFIDENTIALITY REQUIREMENTS WITH THESE DATA, AND THEY CAN NOT BE USED OUTSIDE OF THE OFP WITHOUT PERMISSION FROM AFMA.</p> <p>Catch has been raised to 'green' weight from processed weight for BET and YFT. Swordfish were either processed to form trunks or fillets, so applying a raising factor to account for</p>

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NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
6	LONGLINE	AUSTRALIA	1985--2003	<p>processing is not considered appropriate (P Ward, pers. comm. August 2000).</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Source : AUSTRALIA Years : 1987-2003 --- Logsheet data received for Australian chartered longline vessels. Coverage of data provided is not 100%.</p> <p>PLEASE NOTE THAT THERE ARE STRICT CONFIDENTIALITY REQUIREMENTS WITH THESE DATA, AND THEY CAN NOT BE USED OUTSIDE OF THE OFP WITHOUT PERMISSION FROM AFMA.</p> <p>Catch has been raised to 'green' weight from processed weight for BET and YFT. Swordfish were either process to form trunks or fillets, so applying a raising factor to account for processing is not considered appropriate (P Ward, pers. comm. August 2000).</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
7	LONGLINE	CHINA	1988--2003	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1992-2003 --- Logsheet data received for the mainland-Chinese longline fleet operating out of FSM ports. Logbook coverage, based on transshipment data, is considered to be high for years since 1992.</p> <p>Source : MARSHALL ISLANDS Years : 1993-2003 --- Logsheet data received for the mainland-Chinese longline fleet operating out of Majuro. Logbook coverage, based on landings data, is considered to be high.</p> <p>Source : PALAU Years : 1988-2002 --- Logsheet data received from the mainland Chinese longline fleet operating out of Palau ports. Logbook coverage of data provided is considered to be high.</p> <p>Source : KIRIBATI Years : 2000-2000 --- Logsheet data received for the mainland-Chinese longline fleet operating in the Kiribati EEZ. Coverage unknown.</p> <p>Source : AMERICAN SAMOA Years : 2001-2002 --- Logsheet data received for distant-water mainland Chinese longline vessels. Coverage of data provided is not 100%.</p> <p>Source : FIJI Years : 2002-2002 --- Logsheet data received for distant-water mainland Chinalongline vessels offloading in Fiji. Coverage of data provided is not 100%.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
8	LONGLINE	COOK ISLANDS	1994--2003	<p>Source : COOK ISLANDS Years : 1994-2003 --- Logsheet data received for locally-based longline vessels. Coverage of data provided is not 100%.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
9	LONGLINE	FEDERATED STATES OF MICRO	1991--2003	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1991-2003 --- Logsheet data received for the FSM domestic longline vessels. Coverage of data provided is not 100%.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
10	LONGLINE	FIJI	1997--2003	<p>Source : FIJI Years : 1997-2003 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (AUSTRALIA). Coverage of data provided is not 100%.</p>

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NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
10	LONGLINE	FIJI	1997--2003	<p>Source : VANUATU Years : 1998-2001 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (AUSTRALIA) operating in Vanuatu. Coverage of data provided is not 100%. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Source : FIJI Years : 1989-2003 --- Logsheet data received for domestic and joint-venture Fijian longline vessels. Coverage of data provided is not 100%.</p> <p>Source : VANUATU Years : 2000-2002 --- Logsheet data received for domestic and joint-venture Fijian longline vessels operating in Vanuatu. Coverage of data provided is not 100%. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Source : FIJI Years : 1990-2002 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (KOREA). Coverage of data provided is not 100%.</p> <p>Source : VANUATU Years : 2000-2002 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (KOREA) operating in Vanuatu. Coverage of data provided is not 100%. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Source : FIJI Years : 1993-2002 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (NEW ZEALAND). Coverage of data provided is not 100%. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Source : FIJI Years : 1994-2002 --- Logsheet data received from US longline fleet based out of Suva (catch flagged as Fiji). Note that some of these vessels were known to target broadbill swordfish. Coverage of data provided is not 100%. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Source : FIJI Years : 1998-2003 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (MAINLAND CHINA). Coverage of data provided is not 100%. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Source : FIJI Years : 1997-2003 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (TAIWAN). Coverage of data provided is not 100%.</p> <p>Source : VANUATU Years : 1999-2001 --- Logsheet data received for domestic and joint-venture Fijian longline vessels (TAIWAN). Coverage of data provided is not 100%. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
11	LONGLINE	FRENCH POLYNESIA	1992--2003	<p>Source : FRENCH POLYNESIA Years : 1992-2003 --- Logsheet data received for the domestic French Polynesian longline fleet vessels. Coverage of data provided is not complete. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
12	LONGLINE	FRENCH POLYNESIA - BN	1997--2002	<p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
13	LONGLINE	INDONESIA	1978--2001	<p>The best estimate of catch and effort available for Indonesian longline vessels operating in and around Indonesian waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <p>* An estimate of the spatial distribution of the catch and effort for this fleet has been largely determined using the data compiled from the Philippines Tuna Research Project (PTRP) - Landed Catch and Effort Monitoring Programme (LCEM). Catch has been apportioned to 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet (i.e. according to LCEM data).</p> <p>* The species composition of the catch has been determined from the YEARBOOK estimate.</p> <p>* The catch per unit effort (CPUE) for the main target tuna species for all other fleets fishing in the vicinity (where catch and effort data are available) has been used to determine effort for this fleet.</p> <p>* The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use the LCEM data to build in some seasonality).</p> <p>* Catch, in number, has been determined by applying the monthly estimate for average weight by species (determined from data for other longline fleets operating in the vicinity) to the catch by weight data.</p> <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE AND AVERAGE WEIGHT APPLIED IN THE ESTIMATION PROCESS.</p>
14	LONGLINE	JAPAN	1950--2003	<p>Source : JAPAN Years : 1952-2001 --- Aggregated longline data provided by National Research Institute of Far Seas Fisheries (NRIFSF), Japan Fisheries Agency, for the Japanese longline fleet operating in the Pacific Ocean. The data are stratified by month and 5°x5° grid. The aggregate data provided have catch in numbers only; that is catch in weight is not available.</p> <p>Data for years 1962-1980 are available from published bulletins of catch and effort statistics (the "Yellow" books), and are therefore public domain.</p> <p>Data for years 1952-1962 and those years after 1980 have been provided specifically for SPC use and, therefore, are not available to parties outside of SPC without prior authorisation from Japan. (Latest provision of data : April 2003 by N. Miyabe)</p> <p>Note that the aggregate data provided do not cover the Japanese offshore longline fleet that are based out of ports of SPC member countries since the early 1990s (e.g. Guam, Pohnpei, Koror, Chuuk). (Miyabe, pers. comm.). The aggregate data provided also do not cover the Japanese coastal longline fishery.</p> <p>The raising process, as explained in Miyabe-san's communication of 15th Dec. 1998: "The data provided have been raised to the total statistics using raising factors calculated from total sets and sample sets submitted to NRIFSF. These raising factors are stratified by size of boats</p>

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NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
14	LONGLINE	JAPAN	1950--2003	<p>and prefecture for offshore fishery, size of boat, month and area for distant-water fishery. The area used in the raising is not so small, the raising factor applied to a certain 5x5 rectangle is the same for the same strata but different by type of fishery (offshore and distant-water fisheries) and size of boat."</p> <p>Source : UNITED STATES OF AMERICA Years : 1950-1951 --- Data collected and available in published form from cruises on Japanese longline vessels by staff from the US Fish and Wildlife Service.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 2002-2003 --- Logsheet data received from distant-water Japanese longline vessels offloading in Japanese ports. Coverage of data provided is considered to be high for the FSM EEZ, but poor for the international waters bordering the FSM EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement.</p> <p>Source : KIRIBATI Years : 2002-2002 --- Logsheet data received for distant-water Japanese longline vessels. Coverage of data provided is considered to be high for the Kiribati EEZ, but poor for the international waters bordering the Kiribati EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement.</p> <p>Source : MARSHALL ISLANDS Years : 2002-2002 --- Logsheet data received for distant-water Japanese longline vessels. Coverage of data provided is considered to be high for the Marshall Islands EEZ, but poor for the international waters bordering the Marshall Islands EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement.</p> <p>Source : PALAU Years : 2002-2002 --- Logsheet data received from Japanese longline vessels operating out of Japanese ports. Coverage of data provided is expected to be close to 100% for the Palau EEZ, but is expected to be poor for the international waters bordering the Palau EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement. Catch by weight is not provided in the aggregate data, but has been determined by estimating the average weight by species, year and month from available logsheet data. These estimates have been applied to the catch by number to give the estimated catch by weight for each species in each stratum. For years prior to 1978, one average weight for each species has been applied to catch in number to obtain catch in weight. In the future, average weights by time-area will be generated from size composition data provided, but this is currently only available for YFT, BET and ALB.</p> <p>These data do not cover the Japanese coastal longline fishery.</p> <p>Aggregated data from NRIFSF may not cover the most recent years fishing and have been covered by logbook data provided to the OFP by member countries for fishing in their EEZ only (see above); as such, DATA FOR THESE YEARS SHOULD BE INTERPRETED WITH CAUTION as spatial coverage, in particular, is very poor.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 1987-2002 --- Logsheet data received from offshore Japanese longline vessels more recently based in Guam and FSM ports. Coverage of data provided is considered to be high for the FSM EEZ, but poor for the international waters bordering the FSM EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement.</p> <p>Source : PAPUA NEW GUINEA Years : 1992-1995 --- Logsheet data received from PNG for offshore Japanese longline vessels based out of Guam and other Pacific-island ports. Coverage of data</p>

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NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
14	LONGLINE	JAPAN	1950--2003	<p>provided is expected to be 100% for the PNG EEZ, but is expected to be poor for the international waters bordering the PNG EEZ as this fleet was not obliged to provide high seas data under this bilateral agreement.</p> <p>Source : PALAU Years : 1991-1997 --- Logsheet data received from Palau for offshore Japanese longline vessels more recently based in Guam. Coverage of data provided is expected to be close to 100% for the Palau EEZ, but is expected to be poor for the international waters bordering the Palau EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement.</p> <p>Source : SOLOMON ISLANDS Years : 1985-1995 --- Logsheet data received from the Solomon Islands for the offshore Japanese longline fleet. Coverage of data provided is expected to be 100% for the Solomons EEZ, but is expected to be poor for the international waters bordering the Solomons EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement.</p> <p>Data provided for the Japanese offshore longline fleet based out of ports of SPC member countries since the mid 1980s (e.g. Guam, Pohnpei, Koror, Chuuk). These data are provided at the fishing operation level and have been aggregated by month and 5°x5° grid.</p>
15	LONGLINE	KIRIBATI	1995--1996	<p>Source : KIRIBATI Years : 1995-1996 --- Logsheet data received for the Kiribati domestic longline vessels. Coverage of data provided is incomplete.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
16	LONGLINE	KOREA	1962--2002	<p>Source : KOREA Years : 1975-2001 --- Aggregated longline data provided by National Fisheries Research and Development Institute (NFRDI), Republic of Korea, for the Korean longline fleet operating in the Pacific Ocean. Authorisation for release of these data must be sought from NFRDI. The data provided are stratified by month and 5°x5° grid. Aggregate data provided include catch in weight and number. Aggregate data for years 2000 and 2001 are provisional.</p> <p>Note that these data do not cover the Korean offshore longline fleet that are based out of ports of SPC member countries since the early 1990s (e.g. Guam, Pohnpei, Koror, Chuuk), nor the joint-venture arrangements (e.g. Fiji).</p> <p>The aggregate data provided by NFRDI do not provide 100% coverage and NFRDI provide an estimate of annual coverage based on the number of licensed vessels sampled and landings data. Note, however, that the NFRDI coverage rates have not been used.</p> <p>Annual Catch estimates are available since 1958, and size composition data are available for the period 1962-1974. Aggregate data for the years 1962 to 1974 have been estimated using the spatial information available in the size composition data for these years, in conjunction with annual catch estimates. Note that annual catch estimates for the period 1962-1974 are available only from Pago Pago unloadings so probably do not reflect the Korean longline catch for the entire Pacific Ocean catch (for example, the albacore catch might be realistic but yellowfin and bigeye catches are thought to be underestimated for these years). Effort (in hundreds of hooks) has been estimated from Japanese longline CPUE data determined for over broad areas of the Pacific Ocean for each year. CAUTION SHOULD BE EXERCISED WHEN INTERPRETING DATA FOR THESE YEARS.</p> <p>The aggregated data provided for the Korean distant-water longline fleet do not cover 100% of fishing activities (i.e. catch and effort). Therefore, the Korean distant-water longline data</p>

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NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
16	LONGLINE	KOREA	1962--2002	<p>have been raised according to the proportion of total Korean longline catch of target tuna species (as provided in the latest version of the SPC TUNA FISHERY YEARBOOK), to the total Korean longline catch of target tuna species for the aggregated data provided by NFRDI for the WCPO. Coverage by area has not been taken into account when raising these data, that is, the annual coverage rate for the entire WCPO has been used to raise the data. Note that data for 1975 cover less than 10% of the total estimated catch and hence have not been raised.</p> <p>For data since 2001, the following estimation procedure has been used:</p> <p>(i) the spatial stratification of effort/catch data within the SPC statistical area (obtained from logbooks provided to SPC) is assumed to be representative;</p> <p>(ii) the proportion of effort and catch outside the SPC statistical area has been determined by comparing the total effort in the SPC statistical area with the total effort outside the SPC Statistical area for the previous 3 years where aggregate data are available (i.e. 1999-2001);</p> <p>(iii) the average distribution of the effort and catch outside the SPC statistical area has been estimated from the previous 3 years where aggregate data are available (i.e. 1999-2001);</p> <p>(iv) 5x5 and monthly catch and effort data for the Pacific Ocean outside the SPC Statistical area have been generated for each year (since 2001 by applying the proportions determined in point (ii) and the average distribution determined in point (iii), to the logbook data available for the SPC Statistical Area for those years (mentioned in point (i)));</p> <p>(v) the catch and effort data is then raised according to the WCPO estimates of catch provided in the latest version of the SPC Tuna Fishery Yearbook.</p>
17	LONGLINE	MARSHALL ISLANDS	1992--1995	<p>Source : MARSHALL ISLANDS Years : 1992-1995 --- Logsheet data received for domestic Marshall islands and joint-venture longline vessels. Coverage of data provided is not complete. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
18	LONGLINE	NEW CALEDONIA	1983--2003	<p>Source : FIJI Years : 1996-2000 --- These data represent logsheets provided to Fiji during transshipment activities. It does not represent fishing activities in the Fiji EEZ, as no access agreement was understood to have been in force for this fleet during this period.</p> <p>Source : NEW CALEDONIA Years : 1983-2002 --- Logsheet data received from the domestic longline fleet. Note that this includes two larger freezer boats and the fleet of smaller fresh/chilled longline vessels. Coverage of data provided is known not to be complete, especially for the smaller fresh/chilled fleet, but varies from year to year.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
19	LONGLINE	NEW ZEALAND	1989--2002	<p>Source : NEW ZEALAND Years : 1989-2002 --- Logsheet data received for New Zealand domestic, joint-venture and chartered longline vessels. Coverage of data provided is not complete.</p> <p>MAF/NZ provision of data come under the following requirements (email from Bob Kennedy 20th Dec 1999):</p>

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NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
19	LONGLINE	NEW ZEALAND	1989--2002	<p>Unless specific agreements exist for the provision of data, the Ministry of Fisheries will provide information that is consistent with the requirements of Annex 1 of the United Nations Agreement on fish stocks. At present, unless good reason exists to provide more (or less) precise information, this is considered to be:</p> <p>(1) Locations for catch effort and Scientific Observer data are to be truncated to 1x1 degree. This is consistent with the Ministry's public release guidelines and is considered to be adequate for most analyses that are likely to be conducted on an international scale.</p> <p>(2) Vessel attributes (e.g. tonnage) and a unique coded vessel key may be provided when required. These are fundamental components of most standardisation procedures. However, no vessel identifying attributes (e.g. call sign, name, registration number) will be provided;</p> <p>(3) Operation specific (eg shot by shot or trawl by trawl) catch effort and scientific observer data may be provided when required; and</p> <p>(4) Research data that is derived from non-commercial sources may be released to full precision.</p> <p>Unless stated otherwise, all release of data will require that the recipient does not on-release Ministry data without explicit approval from the Ministry. Furthermore, unless Ministry approval has been obtained, the recipient will not be permitted to publish information derived from catch effort or scientific observer data in a manner that could be commercially sensitive, private, or that reveals more detail than allowed by Mfish's guidelines for public release of these data. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
20	LONGLINE	PALAU	2000--2001	<p>Source : PALAU Years : 2000-2001 --- Logsheet data received for Palau-flagged longline vessels. Coverage of data provided is not 100%.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 2000-2000 --- Logsheet data received for Palau-flagged longline vessels. Coverage of data provided is not 100%.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
21	LONGLINE	PAPUA NEW GUINEA	1993--2003	<p>Source : PAPUA NEW GUINEA Years : 1993-2003 --- Logsheet data received for domestic PNG longline vessels. Coverage of data provided is known to be non-existent for some vessels in this fleet but has improved since 2001.</p> <p>Source : MARSHALL ISLANDS Years : 1999-1999 --- Logsheet data received for the PNG-flagged vessels operating in Marshall Islands waters. Logbook coverage is unknown.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
22	LONGLINE	PHILIPPINES	1997--2001	<p>The 'Best' estimate of catch and effort available for Philippines longline vessels operating in and around Philippines waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <p>* An estimate of the spatial distribution of the catch and effort for this fleet has been largely determined using the data compiled from the Philippines Tuna Research Project (PTRP) - Landed Catch and Effort Monitoring Programme (LCEM). Catch has been apportioned to 5°x5° grids</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
22	LONGLINE	PHILIPPINES	1997--2001	<p>thought to best represent the spatial distribution of the catch for this fleet (i.e. according to LCEM data).</p> <p>* The species composition of the catch has been determined from the YEARBOOK estimate.</p> <p>* The catch per unit effort (CPUE) for the main target tuna species for all other fleets fishing in the vicinity (where catch and effort data are available) has been used to determine effort for this fleet.</p> <p>* The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use the LCEM data to build in some seasonality).</p> <p>* Catch, in number, have been determined by applying the monthly estimate for average weight by species (determined from data for other longline fleets operating in the vicinity) to the catch by weight data.</p> <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE AND AVERAGE WEIGHT APPLIED IN THE ESTIMATION PROCESS.</p>
23	LONGLINE	SAMOA	1993--2002	<p>Source : SAMOA Years : 1993-2002 --- Logsheet data received for local Samoan longline vessels. Data for 1993 and 1994 represent activity for one vessel only (MARENGO BAY). Some data for 1996-1997 were collected but are of poor quality and are therefore NOT INCLUDED HERE. Logsheet data for the period 2000-2003 are available for vessels larger than 15 metres. Port sampling data exist for the period 1998-2003 and have been used to generate catch/effort data with time/area information; the port sampling data mostly represent vessels less than 15 metres.</p> <p>The generation of catch/effort data from the port sampling data takes into account the following:</p> <p>* Protocol assumes total tuna catch is recorded (even if not all are measured) as per instructions</p> <p>* Records where "no of sets" and "hk_per_set" fields have been recorded were selected only</p> <p>* Missing area codes are filled in from previous (or subsequent) trips for that vessel</p> <p>* Weights are generated from lengths for each species using species length-weight formulae</p> <p>Coverage of data of data provided is known not to be complete.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
24	LONGLINE	SOLOMON ISLANDS	1981--2001	<p>Source : SOLOMON ISLANDS Years : 1981-2001 --- Logsheet data received for domestic and joint-venture Solomon Island longline vessels. Note that there are two distinct periods of activity. The first was in the early-mid 1980s, when a Solomon Island longline fleet was active, and more recently, with the local joint-venture fleet. Coverage of data provided for the joint-venture fleet in recent years is not known at this stage.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
25	LONGLINE	TAIWAN - DW	1964--2003	<p>Source : TAIWAN Years : 1967-2001 --- Aggregated longline data were provided by National Taiwan</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
25	LONGLINE	TAIWAN - DW	1964--2003	<p>University (NTU) for 1967-1993, while the Council of Agriculture provided data for 1994-1996; the latter data were processed by the Overseas Fisheries Development Council of the Republic of China (OFDC). The 1967-1993 data were corrected for landings by the OFP, following the method in Lawson (1997), while the 1994-1996 data were corrected for landings by OFDC. Data for years 1997-1998 were provided by Dr Shyh-Bin Wang on 4th April 2001. Data for years 1999-2000 were provided by Dr Shyh-Bin Wang on 13th June 2002 (Data for 2000 are considered provisional).</p> <p>Authorisation for release of these data must be sought from OFDC. The data provided are stratified by month and 5°x5° grid.</p> <p>The data from the distant-water fleet are assumed to provide 100% coverage.</p> <p>Note that these data do not cover the Taiwanese offshore longline fleet that are based out of ports of SPC member countries since the late 1980s (e.g. Guam, Pohnpei, Koror, Chuuk, Majuro). Nor do these data cover the Taiwanese coastal longline fishery based out of Tung Kang, Taiwan.</p> <p>Catch, in numbers and weight, have been provided.</p> <p>Source : FIJI Years : 2002-2002 --- Logsheet data received for the Taiwanese distant-water longline fleet based out of Levuka, Fiji. Coverage of data provided is considered to be high for these vessels since 1995.</p> <p>Annual Catch estimates are available since 1964, and size composition data are available for the period 1964-1976. Aggregate data for the years 1964 to 1966 have been generated using the spatial information available in the size composition data for these years, in conjunction with annual catch estimates. Effort (in hundreds of hooks) has been estimated from Japanese longline CPUE data determined for over broad areas of the Pacific Ocean for each year. CAUTION SHOULD BE EXERCISED WHEN INTERPRETING DATA FOR THESE YEARS.</p> <p>For years since the last year of aggregated data provided by OFDC, the following estimation procedure has been used.</p> <p>(i) the average distribution of the effort throughout the Pacific Ocean for the DWFN fleet for the previous 5 years has been used to determine the distribution of effort (and catch); (ii) the estimate of target catch from the SPC Tuna Fishery Yearbook has been applied to the data determined in (i) for years since last aggregate data provided; (iii) Note that the logbook data provided to SPC by member countries for the Taiwanese DWFN LL fleet is not used in the BEST database, as the coverage is considered inadequate</p> <p>This does not cover the Taiwanese longline vessels (~100) based out of Guam for which there are no licensing arrangement with PNA member countries.</p>
26	LONGLINE	TAIWAN - OD	1958--2000	<p>The database contains estimates for the Taiwanese domestically-based offshore longline fleet operating out of ports in Taiwan (primarily Tung Kang) available from statistics published by the Taiwan Fisheries Bureau.</p> <p>Points to note regarding these data.</p> <p>* Data cover years since 1958.</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
26	LONGLINE	TAIWAN - OD	1958--2000	<p>* Annual estimates for total catch have been sourced from the Taiwan Fisheries Bureau Yearbooks and used to generate catch and effort data stratified by 5°x5° grids and month for this fleet. Annual estimates for shark prior to 1989 have been estimated by applying the species composition of shark to target tuna (yellowfin+bigeye) for years where shark catch have been provided (i.e. since 1989).</p> <p>* The distribution and seasonality of the catch were determined from information provided in a paper titled "The Inshore Tuna Longline Fishery of Taiwan (1983) by Chi-lu Sun and Rong-Tszong Yang" . This paper looked, in detail, at the activities of this fleet for the years 1981-1982. The seasonal distribution of the catch/effort for these years (both over time/months and area) is believed to be roughly representative of all other years. (Currently awaiting confirmation of this assumption).</p> <p>* Effort has been estimated by applying the CPUE for the target tuna species from other fleets operating in the vicinity; the CPUE data used to determine effort has been broken down into month and 5° latitudinal strips covering the area of activity of the Taiwanese domestically-based fleet. The Japanese longline data for 1962 has been used in the estimation procedure for activities of this fleet during 1958-1961.</p> <p>* Catch, in numbers, has been estimated in a similar manner; that is, estimates of average weight have been determined from other fleets operating in a similar area and are stratified by month and 5° latitudinal strips. These estimates of average weight have been applied to catch in weight to produce catch in numbers.</p> <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE AND AVERAGE WEIGHT APPLIED IN THE ESTIMATION PROCESS.</p>
27	LONGLINE	TAIWAN - OS	1980--2003	<p>Source : MARSHALL ISLANDS Years : 1990-2003 --- Logsheet data received from the Taiwanese offshore longline fleet operating out of Majuro.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 1985-2003 --- Logsheet data received for the Taiwanese offshore longline fleet operating out of FSM ports and Guam. Logbook coverage, based on transshipment data, is considered to be high since 1992.</p> <p>Source : PALAU Years : 1980-2002 --- Logsheet data received from the Taiwanese offshore longline fleet operating out of Palau ports and Guam. Logbook coverage is estimated to be high.</p> <p>Source : SOLOMON ISLANDS Years : 1997-2001 --- Logsheet data received from the Solomon Islands for Taiwanese offshore fleet based in Honiara.</p> <p>Source : KIRIBATI Years : 1999-2000 --- Logsheet data received for the offshore Taiwanese longline fleet operating in the Kiribati EEZ. Coverage unknown.</p> <p>Source : PAPUA NEW GUINEA Years : 1990-1996 --- The database includes the Taiwanese offshore longline fleet that are based out of ports of SPC member countries since the late 1980s (e.g. Pohnpei, Koror, Chuuk, Majuro); the coverage of these fleets is considered high. These vessels are distinguished from the DWFN fleet operating in the south Pacific Ocean and the domestically-based offshore fleet.</p> <p>The database does not cover the Taiwanese longline vessels (~100) based out of Guam for which there are no licensing arrangement with PNA member countries.</p>
28	LONGLINE	TONGA	1982--2003	<p>Source : TONGA Years : 1982-2003 --- Logsheet data received for the domestic Tongan longline</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
28	LONGLINE	TONGA	1982--2003	<p>vessels. Coverage of data provided is not complete, but is considered to be high since 2002.</p> <p>Source : TONGA - ALATINI FISHERIES Years : 1998-2002 --- Logsheet data received for the domestic Tongan longline vessels from the Alatini Fisheries Company. Coverage of data provided is considered high.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
29	LONGLINE	UNITED STATES OF AMERICA	1991--2002	<p>Source : HAWAII (UNITED STATES) Years : 1991-2002 --- Aggregated longline data provided by the U.S. National Marine Fisheries Service (NMFS) - Honolulu Laboratory in the form of published statistics (Curran et al., 1996) for the US longline fleet operating out of Hawaii. Data are stratified by month and 5°x5° grid for the years 1991-1996. Catch in weight and number have been provided.</p> <p>Data for 1997-1999 were available on the NMFS website http://www.nmfs.hawaii.edu/fmpi/fmep. These data are stratified by 5°x5° grid and quarter. Data aggregated by month have been generated by apportioning the quarterly data across each month for that quarter (i.e. divide quarterly data by three). CPUE (kgs/100 hooks) have been provided and have been used to determined catch (in weight).</p> <p>Data for 2000-2002 were provided by NMFS in electronic format. These data are stratified by 5°x5° grid and month. Catch in number provided only. Coverage is not complete due to some data being withheld due to confidentiality obligations by NMFS. Catch in weight has been determined by the average weight for each species obtained for this fishery from 1996 data (stratified by quarter).</p> <p>It should be noted that both blue and black marlin probably include mis-identified striped marlin, which is the predominant marlin species catch by this fleet. The other species catch include Mahi mahi and Wahoo.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
30	LONGLINE	UNITED STATES OF AMERICA	1991--2003	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1992-2001 --- Logsheet data received for US longline vessels based in Guam and FSM ports. Coverage of data provided is expected to be high.</p> <p>Source : KIRIBATI Years : 1994-1994 --- Logsheet data received for US longline vessels based in Tarawa. Coverage of data provided is unknown.</p> <p>Source : MARSHALL ISLANDS Years : 1992-1993 --- Logsheet data received for US longline vessels based in Majuro. Coverage of data provided is unknown.</p> <p>Source : PALAU Years : 1991-1996 --- Logsheet data received from US longline vessels based in Guam. Coverage of data provided is expected to be close to 100%.</p> <p>Source : PAPUA NEW GUINEA Years : 1997-1998 --- Data received for US longline vessels operating out of Port Moresby. Coverage of data provided is unknown.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
31	LONGLINE	VANUATU	1995--1998	<p>Source : FIJI Years : 1996-1996 --- These data represent logsheets provided to Fiji during transshipment activities. (It does not necessarily represent fishing activities in the Fiji EEZ).</p> <p>Source : KIRIBATI Years : 1996-1997 --- Logsheet data received from Vanuatu-registered longline</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
31	LONGLINE	VANUATU	1995--1998	<p>vessels operating in Kiribati. Coverage of data provided is unknown.</p> <p>Source : SOLOMON ISLANDS Years : 1995-1997 --- Logsheet data received from the Solomon Islands for Vanuatu-registered longline vessels. Coverage of data provided is not known at this stage.</p> <p>Source : VANUATU Years : 1995-1996 --- Logsheet data received for locally-based Vanuatu longline vessels. Coverage of data provided is not known at this stage.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
32	UNCLASSIFIED/UNSPECIFIED	INDONESIA	1970--2001	<p>The best estimate of catches available for UNCLASSIFIED Indonesian vessels operating in and around Indonesian waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <ul style="list-style-type: none"> * Catch has been apportioned equally to the 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet. * The species composition of the catch has been determined from the YEARBOOK estimate. * No effort can be assigned for this category of vessels. * The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. * Catch, in number, has been determined by applying the monthly estimate for average weight by species (determined from data for longline fleets operating in the vicinity) to the catch by weight data. <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE AND AVERAGE WEIGHT APPLIED IN THE ESTIMATION PROCESS.</p>
33	UNCLASSIFIED/UNSPECIFIED	PHILIPPINES	1970--2001	<p>The best estimate of catches available for UNCLASSIFIED Philippine vessels operating in and around Philippine waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <ul style="list-style-type: none"> * Catch has been apportioned equally to the 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet. * The species composition of the catch has been determined from the YEARBOOK estimate. * No effort can be assigned for this category of vessels. * The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. * Catch, in number, has been determined by applying the monthly estimate for average weight by

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
33	UNCLASSIFIED/UNSPECIFIED	PHILIPPINES	1970--2001	species (determined from data for longline fleets operating in the vicinity) to the catch by weight data. DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE AND AVERAGE WEIGHT APPLIED IN THE ESTIMATION PROCESS.
34	POLE-AND-LINE	AUSTRALIA	1976--2002	Source : AUSTRALIA Years : 1976-2002 --- Logsheet data received for Australian domestic pole-and-line vessels fishing in Australian waters. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
35	POLE-AND-LINE	FIJI	1976--1996	Source : FIJI Years : 1976-1996 --- Logsheet data received for Fijian domestic pole-and-line vessels. Coverage of data provided varies from year to year. Source : SOLOMON ISLANDS Years : 1990-1991 --- Logsheet data received for Fijian pole-and-line vessels fishing in Solomon Island waters. Coverage of data provided is unknown. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
36	POLE-AND-LINE	FRENCH POLYNESIA	1997--2001	Source : FRENCH POLYNESIA Years : 1997-2002 --- Logsheet data received for domestic pole-and-line vessels fishing in French Polynesia. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
37	POLE-AND-LINE	INDONESIA	1976--2001	The best estimate of catch and effort available for Indonesian pole-and-line vessels operating in and around Indonesian waters. These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner: * An estimate of the spatial distribution of the catch and effort for this fleet has been largely determined using information on "bait boat" landing sites provided by Dr A.D. Lewis. Catch has been apportioned to 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet. As the pole-and-line database contains data to the level of 1°x1° grid, each 5°x5° grid catch has been divided into equal 1°x1° grids representing that 5°x5° grids catch (taking into account those 1°x1° grids which are exclusively land). * The species composition of yellowfin and skipjack has been determined from the YEARBOOK data; the estimated proportion of Bigeye in the Yellowfin catch has been determined from the LCEM data. * The catch per unit effort (CPUE) for skipjack, yellowfin and bigeye has been determined from all purse seine data for that Month for an area of the WCPO in the vicinity of Philippines (0-25N, 100-150E). Given the total CPUE, effort (expressed in days fishing) has also been determined by application to the catch data. * The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use Indonesian bait boat statistics to build

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
37	POLE-AND-LINE	INDONESIA	1976--2001	<p>in some seasonality).</p> <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE APPLIED IN THE ESTIMATION PROCESS.</p>
38	POLE-AND-LINE	JAPAN - DW	1972--2001	<p>Source : JAPAN Years : 1972-2001 --- Aggregated data provided by National Research Institute of Far Seas Fisheries (NRIFSF), Japan Fisheries Agency, for the Japanese distant-water pole-and-line fleet.</p> <p>The data are stratified by month and 1°x1° grid.</p> <p>Data for years 1972-1980 are available from published bulletins of catch and effort statistics (the "Blue" books), and are therefore public domain.</p> <p>Data for years after 1980 have been provided specifically for SPC use and, therefore, are not available to parties outside of SPC without prior authorisation from Japan.</p> <p>The data provided are believed to represent 100% coverage.</p> <p>It is appears that, for some years, the joint-venture arrangements with PNG (late 1970s ad 1984-1985) and the Solomon Islands (under the joint-venture arrangement with Solomon Taiyo) have been included in this aggregated data set. This has yet to be confirmed.</p> <p>For years where aggregate data are not yet provided, logbook data received via SPC member countries are only available. The coverage for these years is known to be good for EEZ waters of Pacific Island countries where this fleet has fished, but poor for the high seas areas.</p>
39	POLE-AND-LINE	JAPAN - OS	1972--2001	<p>Source : JAPAN Years : 1972-2001 --- Aggregated data provided by National Research Institute of Far Seas Fisheries (NRIFSF), Japan Fisheries Agency, for the Japanese offshore pole-and-line fleet.</p> <p>The data are stratified by month and 1°x1° grid. The data provided are believed to represent 100% coverage.</p>
40	POLE-AND-LINE	KIRIBATI	1986--1996	<p>Source : FIJI Years : 1990-1993 --- Logsheet data received for Kiribati pole-and-line vessels fishing in Fiji waters. Coverage of data provided is unknown.</p> <p>Source : KIRIBATI Years : 1986-1990 --- Logsheet data received for Kiribati pole-and-line vessels fishing in Kiribati. Coverage of data provided is poor. No logsheets provided after 1990.</p> <p>Source : SOLOMON ISLANDS Years : 1990-1996 --- Logsheet data received for Kiribati pole-and-line vessels fishing in Solomon Island waters. Coverage of data provided is unknown.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
41	POLE-AND-LINE	NEW CALEDONIA	1981--1983	<p>Source : NEW CALEDONIA Years : 1981-1983 --- Logsheet data received for New Caledonian pole-and-line vessels fishing in New Caledonia. Coverage of data provided is unknown. This fleet is now inactive.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
42	POLE-AND-LINE	NEW ZEALAND	1990--1998	<p>Source : SOLOMON ISLANDS Years : 1991-1991 --- Logsheet data received for New Zealand-flagged pole-and-line vessels fishing in Solomon Island waters. Coverage of data provided is unknown.</p> <p>Source : NEW ZEALAND Years : 1990-1998 --- Logsheet data received for domestic pole-and-line</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
42	POLE-AND-LINE	NEW ZEALAND	1990--1998	vessels fishing in New Zealand. Coverage of data provided is unknown. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
43	POLE-AND-LINE	PAPUA NEW GUINEA	1970--1985	Source : PAPUA NEW GUINEA Years : 1970-1985 --- Logsheet data received for PNG pole-and-line vessels fishing in PNG waters. Coverage of data provided is considered high. This fleet is now inactive. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
44	POLE-AND-LINE	SOLOMON ISLANDS	1971--2000	Source : SOLOMON ISLANDS Years : 1981-2000 --- Logsheet data received for Solomon Is. domestic and joint-venture pole-and-line vessels fishing in Solomon Island waters. Coverage of data provided varies throughout the time series. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
45	POLE-AND-LINE	TUVALU	1982--1988	Source : FIJI Years : 1982-1984 --- Logsheet data received for the Tuvaluani pole-and-line vessel fishing in Fiji waters. Coverage of data provided is unknown. Source : SOLOMON ISLANDS Years : 1986-1988 --- Logsheet data received for the Tuvalu pole-and-line vessel fishing in Solomon Island waters. Coverage of data provided is unknown. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
46	RINGNET	PHILIPPINES	1970--2001	The best estimate of catch and effort available for Philippines Ringnet vessels operating in and around Philippines waters. These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner: * An estimate of the spatial distribution of the catch for this fleet has been largely determined using the data compiled from the Philippines Tuna Research Project (PTRP) - Landed Catch and Effort Monitoring Programme (LCEM). Catch has been apportioned to 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet (i.e. according to LCEM data). As the purse seine database contains data to the level of 1°x1° grid, each 5°x5° grid catch has been divided into equal 1°x1° grids representing that 5°x5° grids catch (taking into account those 1°x1° grids which are exclusively land). * The species composition of yellowfin and skipjack has been determined from the YEARBOOK data; the estimated proportion of Bigeye in the Yellowfin catch has been determined from the LCEM data. * No effort can be assigned for this category of vessels. * The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use the LCEM data to build in some seasonality).

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
46	RINGNET	PHILIPPINES	1970--2001	DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE APPLIED IN THE ESTIMATION PROCESS.
47	PURSE SEINE	AUSTRALIA - AF	1975--2002	Source : AUSTRALIA Years : 1975-2002 --- Logsheet data received for Australian domestic purse seine vessels fishing in Australian waters. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
48	PURSE SEINE	AUSTRALIA - EX	1988--1993	Source : FEDERATED STATES OF MICRONESIA Years : 1989-1993 --- Logsheet data for Australian purse seine vessels operating in FSM waters, prior to becoming a part of the CFC Fishing company (Joint-venture arrangement with FSM). Source : PAPUA NEW GUINEA Years : 1988-1992 --- Logsheet data for Australian purse seine vessels operating in PNG waters, prior to becoming a part of the CFC Fishing company (Joint-venture arrangement with FSM). These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.
49	PURSE SEINE	CHINA	2001--2003	Source : MARSHALL ISLANDS Years : 2001-2002 --- Logsheets received for the Chinese purse seine fleet of data provided by Marshall Islands. Source : PAPUA NEW GUINEA Years : 2001-2003 --- Logsheets received for the Chinese purse seine fleet of data provided by Papua New Guinea. Source : FEDERATED STATES OF MICRONESIA Years : 2002-2003 --- Logsheets received for the Chinese purse seine fleet of data provided by FSM. Source : KIRIBATI Years : 2002-2002 --- Logsheets received for the Chinese purse seine fleet of data provided by Kiribati. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.
50	PURSE SEINE	FEDERATED STATES OF MICRO	1991--2003	Source : FSM ARRANGEMENT Years : 1995-2003 --- Logsheet data received for the FSM Arrangement accounting for FSM purse seine vessels. Coverage expected to be high. Source : FEDERATED STATES OF MICRONESIA Years : 1991-2002 --- Logsheet data for the domestic and joint-venture purse seine vessels operating in FSM waters. Note that in the past, there have been two companies involved, the CFC Fishing company, which operate under a joint-venture arrangement with Australian purse seine vessels, and the Yap Fishing Corporation, generally using ex-US purse seine vessels. Source : KIRIBATI Years : 1991-1999 --- Logsheet data for the FSM domestic and joint-venture purse seine vessels operating in Kiribati waters. Note that in the past these vessels have come mainly from one of the two companies involved, the CFC Fishing company. Coverage expected to be high. Source : PAPUA NEW GUINEA Years : 1994-2002 --- Logsheet data for the FSM domestic and joint-venture purse seine vessels operating in PNG waters. Note that in the past these vessels have come mainly from one of the two companies involved, the CFC Fishing company. Coverage expected to be high. Source : FIJI Years : 1998-2002 --- Logsheet data received from Fiji for FSM purse seine vessels operating under the FSM Arrangement. Coverage of data provided is expected to be high. Source : MARSHALL ISLANDS Years : 1998-2002 --- Logsheet data for the FSM domestic and joint-venture purse seine vessels operating in Marshall Islands waters. Note that in the past

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
50	PURSE SEINE	FEDERATED STATES OF MICRO	1991--2003	<p>these vessels have come mainly from one of the two companies involved, the CFC Fishing company. Coverage expected to be high.</p> <p>Source : SOLOMON ISLANDS Years : 1998-1998 --- Logsheet data for the FSM domestic and joint-venture purse seine vessels operating in Solomon Islands waters. Note that in the past these vessels have come mainly from one of the two companies involved, the CFC Fishing company. Coverage expected to be high.</p> <p>Source : TUVALU Years : 1999-2002 --- Logsheet data for the FSM domestic and joint-venture purse seine vessels operating in Tuvalu waters. Note that in the past these vessels have come mainly from one of the two companies involved, the CFC Fishing company. Coverage expected to be high.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
51	PURSE SEINE	FRANCE	1996--1996	<p>Source : NEW CALEDONIA Years : 1996-1996 --- Logsheet data received for one French purse seine vessel undertaking trial fishing New Caledonian waters.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
52	PURSE SEINE	INDONESIA - DW	1986--1990	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1986-1988 --- Logsheet data for Indonesian purse seine vessels operating in FSM waters. This fleet has been inactive in PNG for a number of years. Coverage of data provided is unknown.</p> <p>Source : PAPUA NEW GUINEA Years : 1986-1990 --- Logsheet data for Indonesian purse seine vessels operating in PNG waters. This fleet has been inactive in PNG for a number of years. Coverage of data provided is unknown.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
53	PURSE SEINE	INDONESIA	1980--2001	<p>The best estimate of catch and effort available for Indonesian purse seine vessels operating in and around Indonesian waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <p>* An estimate of the spatial distribution of the catch and effort for this fleet has been largely determined using information provided by Dr A.D. Lewis and data compiled from the Philippines Tuna Research Project (PTRP) - Landed Catch and Effort Monitoring Programme (LCEM). Catch has been apportioned to 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet (i.e. according to LCEM data). As the purse seine database contains data to the level of 1°x1° grid, each 5°x5° grid catch has been divided into equal 1°x1° grids representing that 5°x5° grids catch (taking into account those 1°x1° grids which are exclusively land).</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
53	PURSE SEINE	INDONESIA	1980--2001	<p>* The species composition of yellowfin and skipjack has been determined from the YEARBOOK data; the estimated proportion of Bigeye in the Yellowfin catch has been determined from the LCEM data.</p> <p>* The catch per unit effort (CPUE) for skipjack, yellowfin and bigeye has been determined from all purse seine data for that Month for an area of the WCPO in the vicinity of Philippines (0-25N, 100-150E). Given the total CPUE, effort (expressed in days fishing) has also been determined by application to the catch data.</p> <p>* The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use the LCEM data to build in some seasonality).</p> <p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE APPLIED IN THE ESTIMATION PROCESS.</p>
54	PURSE SEINE	JAPAN	1967--2003	<p>Source : JAPAN Years : 1967-2002 --- Aggregated data provided by National Research Institute of Far Seas Fisheries (NRIFSF), Japan Fisheries Agency, for the Japanese purse seine fleet operating in the western tropical Pacific Ocean.</p> <p>The data are stratified by month and 1°x1° grid.</p> <p>Data for years 1967-2002 have been provided specifically for SPC use and, therefore, are not available to parties outside of SPC without prior authorisation from Japan. At this stage, catch and effort data for 2002 is considered preliminary. (Latest provision of data : 15th April 2003 by N. Miyabe)</p> <p>Other than the cases mentioned in the previous paragraph, the data provided are believed to represent 100% coverage for the Japanese tropical purse seine fishery.</p> <p>Prior to 1983, effort was expressed in the number of fishing days only, but since this time, effort is measured in the number of days fishing and searching.</p> <p>Note that these data are stratified by set type.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 2003-2003 --- Logsheet data received from FSM for Japanese purse seine vessels. Coverage of data provided is expected to be 100% for the FSM EEZ, but is expected to be poor for the international waters bordering the FSM EEZ as this fleet is not obliged to provide high seas data under this bilateral agreement.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
55	PURSE SEINE	KIRIBATI	1994--2003	<p>Source : FSM ARRANGEMENT Years : 1995-2003 --- Logsheet data received for the FSM Arrangement accounting for the Kiribati purse seine vessel. Coverage for data provided expected to be high.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 1994-1995 --- Logsheet data received for the</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
55	PURSE SEINE	KIRIBATI	1994--2003	<p>Kiribati purse seine vessel from FSM.</p> <p>Source : KIRIBATI Years : 1995-2002 --- Logsheet data received for the Kiribati purse seine vessel from Kiribati.</p> <p>Source : PAPUA NEW GUINEA Years : 1994-2002 --- Logsheet data received for the Kiribati purse seine vessel from PNG.</p> <p>Source : FIJI Years : 1997-1997 --- Logsheet data received for unloading/fishing in Fiji waters under the FSM Arrangement accounting for Kiribati purse seine vessels.</p> <p>Source : MARSHALL ISLANDS Years : 1998-2002 --- Logsheet data received for the Kiribati purse seine vessel from the Marshall Islands.</p> <p>Source : SOLOMON ISLANDS Years : 1998-1998 --- Logsheet data received for the Kiribati purse seine vessel from the Solomon Islands.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
56	PURSE SEINE	KOREA	1980--2003	<p>Source : KOREA Years : 1980-1995 --- Aggregated data provided by National Fisheries Research and Development Institute (NFRDI) of Korea, for the Korean purse seine fleet operating in the Pacific Ocean.</p> <p>Authorisation for release of these data must be sought from NFRDI. The data are stratified by month and 1°x1° grid.</p> <p>Coverage is considered good since 1994, but is considered poor prior to this time. Note that prior to 1994, the coverage is considered better than the logsheet data provided to SPC from member countries.</p> <p>Note that effort is expressed in the number of fishing days only, and not the number of days fishing and searching.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 1996-2003 --- Logsheet data received for Korean purse seine vessels fishing in and around the FSM EEZ. Coverage for data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : KIRIBATI Years : 1996-2002 --- Logsheet data received for Korean purse seine vessels fishing in and around the Kiribati EEZ. Coverage for data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : PAPUA NEW GUINEA Years : 1996-2003 --- Logsheet data received for Korean purse seine vessels fishing in and around the PNG EEZ. Coverage for data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : SOLOMON ISLANDS Years : 1996-2002 --- Logsheet data received for Korean purse seine vessels fishing in and around the Solomon Islands EEZ. Coverage for data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : MARSHALL ISLANDS Years : 1996-2003 --- Logsheet data received for Korean purse seine vessels fishing in and around the Marshall Islands EEZ. Coverage for data provided is expected to be high since 1994, but poor prior to this period.</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
56	PURSE SEINE	KOREA	1980--2003	<p>Source : NAURU Years : 1996-2000 --- Logsheet data received for Korean purse seine vessels fishing in and around the Nauru EEZ. Coverage for data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : TUVALU Years : 1996-2000 --- Logsheet data received for Korean purse seine vessels fishing in and around the Tuvalu EEZ. Coverage for data provided is expected to be high since 1994, but poor prior to this period.</p> <p>The database contains aggregated data provided by National Fisheries Research and Development Institute (NFRDI) of Korea, for the Korean purse seine fleet operating in the Pacific Ocean (1980-1995). Data for years since 1996 come from logsheets provided to SPC by member countries where bilateral access arrangements with the Korean purse seine fleet existed.</p> <p>Note that effort is expressed in the number of fishing days only, and not the number of days fishing and searching for years 1980-1995 (as provided by NFRDI).</p> <p>Note that the data provided by NFRDI are not stratified by set type, but a procedure has been applied to the Korean aggregate data to provide estimates of catch/effort by set type. Estimates of catch and effort by set type have been determined from logsheet data provided to SPC via member countries; these estimates may be available at the finest resolution possible (i.e. by 1°x1° grid/month) or it may be necessary to use very coarse estimates where logbook data are not available (i.e. for years prior to 1979). The procedure then involves portioning the total species catch and effort (sets) according to the estimated breakdown by set type.</p> <p>Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
57	PURSE SEINE	MARSHALL ISLANDS	2000--2003	<p>Source : MARSHALL ISLANDS Years : 2000-2003 --- Logsheet data received for Marshall Islands purse seine vessels fishing under the FSM Arrangement from the Marshall Islands. Coverage for data provided is expected to be high for EEZ activities.</p> <p>Source : FSM ARRANGEMENT Years : 2001-2002 --- Logsheet data received for Marshall Islands purse seine vessels fishing under the FSM Arrangement from FFA. Coverage for data provided is expected to be 100%</p> <p>Source : PAPUA NEW GUINEA Years : 2001-2002 --- Logsheet data received for Marshall Islands purse seine vessels fishing under the FSM Arrangement from PNG. Coverage for data provided is expected to be high for EEZ activities.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
58	PURSE SEINE	MEXICO	1983--1984	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1984-1984 --- Historic logsheet data for Mexican purse seine vessels operating in FSM waters.</p> <p>Source : PAPUA NEW GUINEA Years : 1983-1984 --- Historic logsheet data for Mexican purse seine vessels operating in PNG waters.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
59	PURSE SEINE	NEW ZEALAND	1983--2002	<p>Source : FIJI Years : 1983-1985 --- Historic logsheet data for NZ purse seine vessel operating in Fijian waters.</p> <p>Source : NEW ZEALAND Years : 1983-2002 --- Logsheet data received for the New Zealand domestic purse seine vessels. Effort is expressed as days fishing only (i.e. days searching are not included) for years 1990-1997. Coverage for data provided is believed to be close to 100% for 1990-1997, but unknown for years prior to 1990.</p> <p>Source : MARSHALL ISLANDS Years : 2000-2002 --- Logsheets received for New Zealand purse seine vessels fishing in and around the Marshall Islands EEZ. Coverage of the data provided is expected to be high.</p> <p>Source : TUVALU Years : 2000-2002 --- Logsheets received for New Zealand purse seine vessels fishing in and around the Tuvalu EEZ. Coverage of the data provided is expected to be high.</p> <p>Source : KIRIBATI Years : 2000-2002 --- Logsheets received for New Zealand purse seine vessels fishing in and around the Tuvalu EEZ. Coverage of the data provided is expected to be high.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
60	PURSE SEINE	PAPUA NEW GUINEA	1994--2003	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1995-1999 --- Logsheet data received for the PNG purse seine vessels fishing in FSM waters. Coverage of data provided is expected to be high.</p> <p>Source : PAPUA NEW GUINEA Years : 1994-2003 --- Logsheet data received for the PNG purse seine vessels. This includes the Philippine joint-venture vessels. Coverage of data provided is close to 100% for years since 2001.</p> <p>Source : FSM ARRANGEMENT Years : 1998-2003 --- Logsheet data received for the FSM Arrangement accounting for PNG purse seine vessels. Coverage of data provided is expected to be high.</p> <p>Source : KIRIBATI Years : 2002-2002 --- Logsheet data received for PNG purse seine vessels fishing in and around the Kiribati EEZ under the FSM Arrangement. Coverage of data provided is expected to be high.</p> <p>Source : SOLOMON ISLANDS Years : 1998-2001 --- Logsheet data received for the PNG purse seine vessels. Coverage of data provided is unknown.</p> <p>Source : FIJI Years : 2000-2001 --- Logsheet data for PNG purse seine vessel unloading in Fiji ports. Source : MARSHALL ISLANDS Years : 1999-2003 --- Logsheet data received for PNG purse seine vessels fishing in and around the Marshall Islands EEZ under the FSM Arrangement. Coverage of data provided is expected to be high.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
61	PURSE SEINE	PHILIPPINES - DW	1982--2003	<p>Source : FIJI Years : 1989-1989 --- Historic logsheet data for Philippine purse seine vessel operating in Fijian waters.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 1986-1990 --- Logsheet data received for Philippine purse seine vessels fishing in FSM waters. This fleet is now not active in FSM waters. Coverage of data provided is unknown.</p> <p>Source : MARSHALL ISLANDS Years : 1982-2002 --- Logsheet data received for Philippine purse</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
61	PURSE SEINE	PHILIPPINES - DW	1982--2003	<p>seine vessels fishing in Marshall Islands waters. This fleet is now not active in Marshall Islands waters. Coverage of data provided is unknown.</p> <p>Source : PAPUA NEW GUINEA Years : 1984-2002 --- Logsheet data received for the Philippine purse seine vessels fishing in PNG waters. Coverage of data provided has improved since 2001.</p> <p>Source : SOLOMON ISLANDS Years : 1991-1997 --- Logsheet data received for the Philippine purse seine vessels fishing in Solomon Islands waters. Coverage of data provided is unknown.</p> <p>Historic logsheet data for Philippine purse seine vessel operating in Fijian and Marshall Is. waters.</p> <p>Logsheet data received for Philippine purse seine vessels fishing in FSM, PNG and Solomon Is. waters. This fleet is now not active in FSM waters.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p> <p>Logbook records where catch and effort indicated drifting FAD sets have been set to Anchored FAD sets for the domestic and DWFN Philippine fisheries, reflecting the mode of fishing by these fleets.</p>
62	PURSE SEINE	PHILIPPINES	1998--2001	<p>The best estimate of catch and effort available for Philippines purse seine vessels operating in and around Philippines waters.</p> <p>These data have been generated from annual catch estimates presented in the most recent version of the Tuna Fishery Yearbook. Catch and effort estimates have been determined for this fleet in the following manner:</p> <p>* An estimate of the spatial distribution of the catch and effort for this fleet has been largely determined using the data compiled from the Philippines Tuna Research Project (PTRP) - Landed Catch and Effort Monitoring Programme (LCEM). Catch has been apportioned to 5°x5° grids thought to best represent the spatial distribution of the catch for this fleet (i.e. according to LCEM data). As the purse seine database contains data to the level of 1°x1° grid, each 5°x5° grid catch has been divided into equal 1°x1° grids representing that 5°x5° grids catch (taking into account those 1°x1° grids which are exclusively land).</p> <p>* The species composition of yellowfin and skipjack has been determined from the YEARBOOK data; the estimated proportion of Bigeye in the Yellowfin catch has been determined from the LCEM data.</p> <p>* The catch per unit effort (CPUE) for skipjack, yellowfin and bigeye has been determined from all purse seine data for that Month for an area of the WCPO in the vicinity of Philippines (0-25N, 100-150E). Given the total CPUE, effort (expressed in days fishing) has also been determined by application to the catch data.</p> <p>* The temporal distribution of the catch has been determined by simply dividing the catch into equal twelve month portions. (We hope to eventually use the LCEM data to build in some seasonality).</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
62	PURSE SEINE	PHILIPPINES	1998--2001	<p>DUE CAUTION SHOULD BE EXERCISED WHEN USING THESE DATA DUE TO THE COARSE ESTIMATES OF CPUE APPLIED IN THE ESTIMATION PROCESS.</p> <p>Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
63	PURSE SEINE	SOLOMON ISLANDS	1984--2002	<p>Source : FSM ARRANGEMENT Years : 1995-2002 --- Logsheet data received for the FSM Arrangement accounting for Solomon Islands purse seine vessels. Coverage expected to be high.</p> <p>Source : SOLOMON ISLANDS Years : 1984-2000 --- Logsheet data received for the Solomon Islands domestic and joint-venture purse seine vessels. Coverage of data provided is expected to be high.</p> <p>Source : MARSHALL ISLANDS Years : 1999-2002 --- Logsheet data received for Solomon Islands purse seine vessels operating under the FSM Arrangement provided by the Marshall Islands. Coverage of data provided is expected to be high.</p> <p>Source : KIRIBATI Years : 1999-2000 --- Logsheet data received for Solomon Islands purse seine vessels operating under the FSM Arrangement provided by Kiribati. Coverage of data provided is expected to be high.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
64	PURSE SEINE	SOVIET UNION	1985--1994	<p>Source : KIRIBATI Years : 1985-1986 --- Logsheet data received for Russian purse seine vessels. Coverage of data provided is unknown.</p> <p>Source : SOLOMON ISLANDS Years : 1993-1994 --- Logsheet data received for Russian purse seine vessels fishing in Solomon Islands waters. Coverage of data provided is unknown.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
65	PURSE SEINE	SPAIN	1998--1998	<p>Source : OPAGAC - SPAIN Years : 1998-1999 --- Logsheet data received for Spanish purse seine vessels fishing in the western portion of the eastern Pacific Ocean. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
66	PURSE SEINE	TAIWAN	1983--2003	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1984-2003 --- Logsheet data received for Taiwanese purse seine vessels fishing in and around the FSM EEZ. Coverage of data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : KIRIBATI Years : 1994-2001 --- Logsheet data received for Taiwanese purse seine vessels fishing in and around the Kiribati EEZ. Coverage of data provided is expected to be high since 1994, but poor prior to this period.</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
66	PURSE SEINE	TAIWAN	1983--2003	<p>Source : PAPUA NEW GUINEA Years : 1983-2003 --- Logsheet data received for Taiwanese purse seine vessels fishing in and around the PNG EEZ. Coverage of data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : SOLOMON ISLANDS Years : 1995-2002 --- Logsheet data received for Taiwanese purse seine vessels fishing in and around the Solomon Islands EEZ. Coverage of data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : FIJI Years : 1998-1998 --- Logsheet data received from Fiji for the Taiwanese purse seine fleet offloading their catch in Fiji.</p> <p>Source : MARSHALL ISLANDS Years : 1998-2003 --- Logsheet data received for Taiwanese purse seine vessels fishing in and around the Marshall Islands EEZ. Coverage of data provided is expected to be high since 1994, but poor prior to this period.</p> <p>Source : NAURU Years : 1998-1999 --- Logsheet data received for Taiwanese purse seine vessels fishing in and around the Nauru EEZ. Coverage of data provided is expected to be high since 1994, but poor prior to this period.</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
67	PURSE SEINE	UNITED STATES OF AMERICA	1981--1988	<p>Source : AMERICAN TUNA-BOAT ASSOCIATION Years : 1981-1988 --- Aggregated purse seine data provided by the Inter-American Tropical Tuna Commission, acting on authorisation from the American Tunaboat Association, for the US purse seine fleet fishing in the western and central Pacific Ocean prior to the commencement of the US Multi-lateral Treaty.</p> <p>Data are stratified by month, 1°x1° grid and set type (school, log, unidentified and other) for the years 1981-1988.</p> <p>Coverage of data provided for the WCPO in the years 1981-1984 are considered to be 100%. Coverage of data provided for the WPO in the years 1985-1988 were as follows : 1985-88.3%; 1986-47.5%; 1987-50.8%; 1988(pre-treaty):34%. (M. Hinton, pers.comm.)</p> <p>The database contains aggregated purse seine data provided by the Inter-American Tropical Tuna Commission (I-ATTC), acting on authorisation from the American Tunaboat Association, for the US purse seine fleet fishing in the western and central Pacific Ocean prior to the commencement of the US Multi-lateral Treaty (data provided for years 1981-1988).</p> <p>Source : NEW CALEDONIA Years : 1992-1992 --- Logsheet data for US purse seine vessels operating in New Caledonian waters under a separate bilateral arrangement outside of the US Multilateral Treaty.</p> <p>Source : SECRETARIAT OF THE PACIFIC COMMUNITY Years : 1993-1994 --- Logsheet data for US purse seine vessels under the US Multilateral Treaty. These logsheets were received from FFA and entered at SPC.</p> <p>Source : FEDERATED STATES OF MICRONESIA Years : 1988-1988 --- Historic logsheet data for US purse seine vessels operating in FSM waters since the commencement of the US Multilateral Treaty in mid-1988. Coverage is known to be poor (but refer to US Treaty data provided via FFA).</p> <p>Source : KIRIBATI Years : 1990-1998 --- Historic logsheet data for US purse seine vessels</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
67	PURSE SEINE	UNITED STATES OF AMERICA	1981--1988	<p>operating in Kiribati waters since the commencement of the US Multilateral Treaty in mid-1988. Coverage is known to be poor (but refer to US Treaty data provided via FFA).</p> <p>Source : PAPUA NEW GUINEA Years : 1995-2002 --- Historic logsheet data for US purse seine vessels operating in PNG waters since the commencement of the US Multilateral Treaty in mid-1988. Coverage is known to be poor (but refer to US Treaty data provided via FFA).</p> <p>Source : USA PURSE SEINE MULTI-LATERAL TREATY Years : 1988-2002 --- Logsheet data provided by the Forum Fisheries Agency (FFA) as managers for the US Multilateral Treaty covering US purse seine vessels operating under the treaty since mid-1988. Coverage of data provided is expected to be 100% for the region.</p> <p>Source : FIJI Years : 1998-2001 --- Historic logsheet data for US purse seine vessels operating in Kiribati waters since the commencement of the US Multilateral Treaty in mid-1988. Coverage of data provided is known to be poor, but refer to data provided via FFA, which is 100%.</p> <p>Source : MARSHALL ISLANDS Years : 1998-2002 --- Historic logsheet data for US purse seine vessels operating in Marshall Islands waters since the commencement of the US Multilateral Treaty in mid-1988. Coverage of data provided is known to be poor (but refer to US Treaty data provided via FFA).</p> <p>Source : SOLOMON ISLANDS Years : 1997-2001 --- Historic logsheet data for US purse seine vessels operating in Solomon Islands waters since the commencement of the US Multilateral Treaty in mid-1988. Coverage of data provided is known to be poor (but refer to US Treaty data provided via FFA).</p> <p>These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK, although coverage is considered to be 100%. Estimates for the proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.</p>
68	PURSE SEINE	VANUATU	1994--2000	<p>Source : FEDERATED STATES OF MICRONESIA Years : 1994-2000 --- Logsheet data received for the Vanuatu purse seine vessels fishing in FSM waters. Coverage of data provided is expected to be high.</p> <p>Source : PAPUA NEW GUINEA Years : 1995-2000 --- Logsheet data received for the Vanuatu purse seine vessels fishing in PNG waters. Coverage of data provided is expected to be high.</p> <p>Source : SOLOMON ISLANDS Years : 1995-1998 --- Logsheet data received for the Vanuatu purse seine vessels fishing in Solomon Islands waters. Coverage of data provided is expected to be high.</p> <p>Source : KIRIBATI Years : 1997-2000 --- Logsheet data received for Vanuatu purse seine vessels fishing in and around the Kiribati EEZ under the FSM Arrangement. Coverage of data provided is expected to be high.</p> <p>Source : MARSHALL ISLANDS Years : 1998-2000 --- Logsheet data received for Vanuatu purse seine vessels fishing in and around the Marshall Islands EEZ under the FSM Arrangement. Source : NAURU Years : 1998-1999 --- Logsheet data received for Vanuatu purse seine vessels fishing in and around the Nauru EEZ under the FSM Arrangement. Source : TUVALU Years : 1999-1999 --- Logsheet data received for Vanuatu purse seine vessels fishing in and around the Tuvalu EEZ under the FSM Arrangement. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK. Estimates for the</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
68	PURSE SEINE	VANUATU	1994--2000	proportion of bigeye expected in the reported catch of yellowfin have been determined using a procedure described in the latest version of the SPC TUNA FISHERY YEARBOOK.
69	TROLL	AUSTRALIA	1989--2003	Source : AUSTRALIA Years : 1989-2003 --- Logsheet data received for Australian troll vessels fishing in Australian waters. Coverage of data provided is unknown. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
70	TROLL	FRENCH POLYNESIA	1997--2002	Source : FRENCH POLYNESIA Years : 1997-2002 --- Logsheet data received for domestic troll vessels fishing in French Polynesian waters. Coverage of data provided is unknown. These data have been raised according to the catch estimates presented in the latest version of the SPC TUNA FISHERY YEARBOOK.
71	TROLL	NEW ZEALAND	1982--2002	<p>Source : NEW ZEALAND Years : 1982-1992 --- Aggregated data provided by Ministry of Fisheries (MAF) New Zealand as their contribution to the South Pacific Albacore Research Group (SPAR) database for New Zealand troll vessels fishing in New Zealand waters and the Sub-tropical Convergent Zone (STCZ). The SPAR aggregate data are stratified by month and 5°x5° grid.</p> <p>Source : NEW ZEALAND Years : 1993-2002 --- Logbook data provided by Ministry of Fisheries (MAF) New Zealand for New Zealand troll vessels operating in New Zealand waters and the Sub-tropical Convergent Zone (STCZ). The original data are stratified by operation and position representing the midpoint of the NZ troll fishery statistic area.</p> <p>MAF/NZ provision of data come under the following requirements (email from Bob Kennedy 20th Dec 1999):</p> <p>Unless specific agreements exist for the provision of data, the Ministry of Fisheries will provide information that is consistent with the requirements of Annex 1 of the United Nations Agreement on fish stocks. At present, unless good reason exists to provide more (or less) precise information, this is considered to be:</p> <p>(1) Locations for catch effort and Scientific Observer data are to be truncated to 1x1 degree. This is consistent with the Ministry's public release guidelines and is considered to be adequate for most analyses that are likely to be conducted on an international scale.</p> <p>(2) Vessel attributes (e.g. tonnage) and a unique coded vessel key may be provided when required. These are fundamental components of most standardisation procedures. However, no vessel identifying attributes (e.g. call sign, name, registration number) will be provided;</p> <p>(3) Operation specific (eg shot by shot or trawl by trawl) catch effort and scientific observer data may be provided when required; and</p> <p>(4) Research data that is derived from non-commercial sources may be released to full precision.</p> <p>Unless stated otherwise, all release of data will require that the recipient does not on-release Ministry data without explicit approval from the Ministry. Furthermore, unless Ministry approval has been obtained, the recipient will not be permitted to publish information derived from catch effort or scientific observer data in a manner that could be commercially sensitive, private, or that reveals more detail than allowed by Mfish's guidelines for public release of these data.</p> <p>Aggregated data provided by Ministry of Fisheries (MAF) New Zealand as their contribution to the South Pacific Albacore Research Group (SPAR) database for New Zealand troll vessels fishing in</p>

Table 1. Notes on sources, quality and coverage of aggregate catch and effort data available to the SCTB

NOTE No.	Gear	Flag	Period	Notes on sources, quality and coverage of data
71	TROLL	NEW ZEALAND	1982--2002	New Zealand waters and the Sub-tropical Convergent Zone (STCZ).
72	TROLL	UNITED STATES OF AMERICA	1986--2001	<p>Source : NATIONAL MARINE FISHERIES SERVICE (US) Years : 1986-1995 --- Aggregated data provided by National Marine Fisheries Service (NMFS) of the United States of America (USA) as their contribution to the South Pacific Albacore Research Group (SPAR) database for US troll vessels fishing in New Zealand waters and the Sub-tropical Convergent Zone (STCZ). An estimate of average weight (determined from available length frequency data) has been applied to catch in numbers to determine catch in weight, where catch in weight has not been provided.</p> <p>The data are stratified by month and 5°x5° grid.</p> <p>Aggregated data provided by National Marine Fisheries Service (NMFS) of the United States of America (USA) as their contribution to the South Pacific Albacore Research Group (SPAR) database for US troll vessels fishing in New Zealand waters and the Sub-tropical Convergent Zone (STCZ).</p> <p>The data are stratified by month and 5°x5° grid.</p>