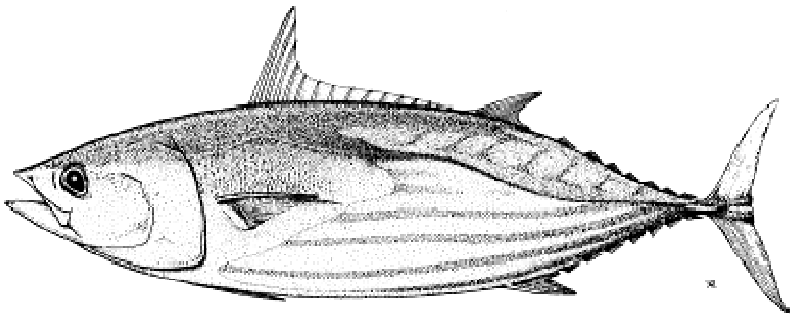
REPORT OF THE
FIRST INDONESIA (WCPFC AREA) TUNA FISHERIES ANNUAL CATCH ESTIMATES REVIEW WORKSHOP

8-9 March 2010

Jakarta, Indonesia



Western and Central Pacific Fisheries Commission
Pohnpei, Federated States of Micronesia
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CONTENTS

1. OPENING

The First Indonesia Tuna Fishery (WPCFC Area) Annual Catch estimates review Workshop was held at the Krystal Hotel in Jakarta, Indonesia, 8–9 March 2010. The workshop was attended by 24 participants from several Indonesian government agencies[1] and the Secretariats of the Western and Central Pacific Fisheries Commission (WCPFC) and the Pacific Community (SPC).

The provision of annual tuna catch estimates is an important annual reporting obligation for member and cooperating non-member countries (CCMs) of the WCPFC. The annual catch estimates provided to WCPFC by Indonesia in the past have been incomplete, in particular, Indonesia's catch estimates have not provided a breakdown of tuna catch BY GEAR and SPECIES, which is a fundamental requirement for the work of all Tuna Regional Fisheries Management Organisations (RFMOs). Also, the Fifth Regular Session of the WCPFC Scientific Committee (SC5) held in Vanuatu, 10-21 August 2009, reiterated its concerns on the uncertainty of the bigeye catch estimates from Indonesian domestic fisheries (covering the WCPFC Convention Area), particularly the potential effect this relatively large catch has on the regional bigeye stock assessments for the Western and Central Pacific Ocean (WCPO).

This workshop was therefore convened to focus on improving the annual tuna catch estimates for the Indonesian fleets fishing in the WCPFC Convention Area. It is acknowledged that Indonesia has comprehensive artisanal fisheries targeting the oceanic tuna species (skipjack, yellowfin and bigeye tuna) which provide a significant challenge for monitoring and data collection, but that monitoring of larger vessels with gears targeting tuna is more achievable. With this in mind, the stated objective of the workshop was to concentrate on producing annual catch estimates for the longline, purse seine, pole-and-line and large-tuna handline fisheries in Indonesia and address the annual catch estimates for the smaller artisanal gears (e.g.. troll and small-fish handline) in the longer term.

Ir. Agus A.Budhiman, Director of Sub Directorate of Capture Fisheries (DGCF) Fisheries Resources Management, provided an opening address to the workshop, providing guidance on how presentations and discussions would proceed, and covering the objectives/outcomes of the workshop.

This report includes a brief summary of presentations (a list is provided in Appendix 6) and discussions held during workshop plenary.

2. Overview of tuna fisheries in WCPFC Convention Area

Mr. Peter Williams presented a brief overview of tuna fisheries in the WCPFC Convention Area, concentrating of the longline, purse seine, pole-and-line and large-tuna handline fisheries. The longline fishery is essentially a "sub-surface" fishery which targets adult yellowfin and bigeye tuna in the tropical areas but extends to the higher latitudes where adult albacore, Pacific bluefin and southern bluefin are also target species. The longline fishery commands the highest prices for its landed tunas, but also takes billfish and shark species as bycatch – the estimated longline tuna catch in 2008 was 230,000 t. with a delivered value US$ 1.384 billion – 2008. The purse seine fishery is a "surface" fishery that occurs mostly in the tropical areas. The typical species composition is skipjack 70-85%, yellowfin tuna 15-25% and bigeye tuna around 5%. This fishery targets juvenile tunas for canning and accounts for around 70-75% of the total WCPFC Convention Area catch (1.78 million t. in 2008) with estimated delivered value at US$ 3.124 billion in 2008. The pole-and-line fishery is also a surface fishery targeting juvenile tunas, with a similar species composition as the purse seine fishery but with considerably smaller catch (170,000 t. in 2008).

[1] See the Participants List in APPENDIX II.

Indonesia has a relatively large pole-and-line fishery compared to most places in the WCPFC Convention Area. The large-tuna handline fishery mainly occurs in the Philippines and Indonesia with the target predominantly adult yellowfin tuna (90-95% of the catch). It produces a higher quality product than purse seine and pole-and-line, but usually not as high as the longline fishery.

Tuna clearly do not recognise man-made boundaries – they are "highly migratory" species - so stock assessment and management must be done on a regional, and sometimes ocean-wide basis. In order to conduct the scientific work necessary to ensure the conservation and management of the target tuna species throughout their stock boundaries (essentially the WCPFC Convention Area), WCPFC member countries have agreed that a set of fishery data must be provided on an annual basis to conduct the regional stock assessments, which would provide advice to the WCPFC member countries to manage their stocks.

The provision of Annual Catch Estimates to the WCPFC is a fundamental reporting obligation by members and cooperating non-members. Annual catch estimates are simply the total catches by species and gear for the national fishing fleet covering a calendar year [Catch is expressed in units of metric ton]. Annual catch estimates provide a summary of actual catch at the highest level which is the most basic way to describe a fishery; they provide a summary of data collected in the tuna fishery at the highest level; they provides an indication of the evolution of that fleet in the WCPFC fisheries; they allow easy comparisons of other fleets, and provide an indication of coverage of other data collected.

The main points with respect to the provision of annual catch estimates (and other types of data) to the WCPFC data provision are (i) data covering all national fleets catching tuna in the WCPFC Convention Area are required, (ii) the deadline is 30th APRIL each year.

In the ensuing discussion, it was noted that distinction is made between fisheries targeting "baby tuna" and adult tuna and a definition of the two with respect to size would be useful for future discussions. In answer to a question on WCPFC data submission obligations, it was noted that the agreed Provision of Scientific Data to the WCPFC[2] specifies the data to be provided in each country's annual submission, and the area that the data should be provided (Section 8 in this document - "***Definition of the WCPFC Statistical Area")***.

3. Review of Current DGCF catch estimates for Indonesian tuna fisheries

Ir. Bambang Ariadi, Head of DGCF Data and Statistics, presented a brief overview of current DGCF catch estimates for Indonesian tuna fisheries

The reporting structure of the statistical system starts with the survey form (sampling) at the district level (processing/quarterly/annually), which is consolidated at the provincial level as a report which is then fed into the National-level report. Information is collated in the following categories:

- Data by species and FMA
- Data by species and gear (only few provinces have this data)
- Tuna fisheries revitalization data of PPS Bitung and PPN Ternate
- Capture fisheries statistics data and daily record of PPS Bitung and PPN Ternate

The data are then processed and publications are produced with the following types of data broken down within each Fisheries Management Area (FMA):

- Production by species and FMA
- Production by group of fisheries resources and FMA
- Production by species, province and FMA
- Fishing vessel by size and FMA

[2] http://www.wcpfc.int/doc/data-01/scientific-data-be-provided-commission-revised-wcpfc4-wcpfc6

The data compilation takes into account the coverage of the data collected against the extent of registered fishing vessels from base data for each districts/towns that constitute the FMA. The assumption is that registered fishing vessels operate around the coastal area of its district/town. There is possibility that some large vessels fish farther (i.e. in other FMAs) and in this case, the approach is for catch to be assigned to the fishing port where those vessels unload their catches.

The constraints of the current system include:

- Data of production by species and fishing gear hasn't been covered in data publication
- Data of production by species and fishing gear has been covered only in data publication of PPS Bitung and PPN Ternate (central authorized fishing port)
- It is difficult to collect production data by species and fishing gear at fishing port under province authority

Tables of catch by species and gear were compiled and presented for FMAs 716 and 717, based on a procedure of data estimation on proportion of catches by gear and species. At this stage, it was noted that these estimates unfortunately do not fully describe the fisheries production of districts/towns which cover these FMAs. In the future, DGCF hope to have better data collection systems (e.g. logbooks) for collecting data of production by species and gear. This will involve training for each data collection method and identification of species and fishing gear, with more intensive collection of data especially at central of fish landing place in each FMA.

In the ensuing discussion, it was noted that there had been very few data provided to DGCF directly from the fishing companies but those data that had been provided were submitted to licensing then onto the statistics division. However, the planned implementation of the logbook system was expected to provide much better data from the industry to DGCF and specifically, much better information on the catches by gear and species. It was also noted that the Statistical Bulletins are produced on an annual basis, but with a one-year lag (2008 version was published in 2009), but they only provide a breakdown of catches by FMA and not species and gear. It was noted that the estimates provided covered only FMAs 716 and 717 and should include other FMAs, covering for example, Central and south Sulawesi and the Banda Sea Area (FMAs 714 and 715). The SL3 report is collected from each port by DGFC and provides a breakdown of production by species and gear and therefore a usual source of information for the work conducted by this workshop. In regards to collecting data from industry around Bitung, the following was noted: the logbook data are currently not comprehensive enough, but hopefully will be more comprehensive in coming years. The SL-3 report is one kind of report that should be completed by fishing port authority on a monthly basis and should be submitted to DGCF, fisheries offices in districts/town, and province where the fishing port located. The LL-3 form is a key form at district level that provides catch by species and gear and is submitted to provinces to be compiled quarterly in order to publish capture fisheries statistics report at province level. The data compiled from the LL-3 forms by provinces should be submitted to DGCF annually. Some problems that are faced with respect to the LL-3 form include: a). Not all districts/town submit the LL-3 form and b) time lag of reporting.

4. Review of summarized data compiled from recent port sampling by RCCF

Mr. Anung Widodo, RCCF Port Sampling Coordinator for Bitung, presented an overview of the monitoring the catches of high migratory species in Pacific Ocean Waters of Indonesia and in particular, port sampling activities in Bitung during 2009 (see maps in Appendix 5).

The monitoring of Indonesia's tuna fisheries is acknowledged to be a challenge with many vessels and landing sites spread out over of a very large area. Data collection is inadequate mainly due to the constraints on resources. The WCPFC have been involved in assisting establish data collection systems in Bitung and Kendari since 2007 and more recently under the GEF-funded WPEA OFM project : **"Monitoring the catches of high migratory species in**

Pacific Ocean Waters of Indonesia" commission by the Research Center of Capture Fisheries (RCCF). During the period July 2008 – June 2009, the RCCF monitoring project covered fishing fleets in Bitung and Kendari. Training of enumerators included tuna species identification, data recording on forms and input data into a fisheries database; the participants at training courses were enumerators, statistic staff of Bitung city fishery office and statistic staff of Bitung fishing port. The landing sites monitored over this period were :

Sampling site	Gears sampled
PT. Putra Jaya Kota (PJK) (Bintang Mandiri Berasaudara-BMB)	Purse Seine Carrier vessels (for purse-seine)
PT. Bitung Mina Utama	Long Line
PT. Nutrindo Freshfood In't	Hand line From vessels in several villages (Bitung, Belang, Likupang, etc.)
Sinar Purefood	Purse Seine
PPN Bitung PT. Perikani Aertembaga	Pole and line, handline and long line.

Standardised sampling protocols and forms adhering to both Indonesia's and WCPFC's requirements for data have been developed and are used in the collecting the data. Future work will involve expanding the coverage of the port sampling in both ports (Bitung and Kendari) and establishing port sampling in other provinces (e.g. Sorong, Ternate).

A major regional tagging project has been recently undertaken in the Western and Central Pacific. The project was conducted by SPC in collaboration with RCCF in Indonesian waters as component of Pacific Tagging Tuna Programme. Phase 1 was conducted from September-October 2008 starting at Bitung-North Sulawesi and ending in Sorong-Papua; this phase released 25,000 tunas with 3,700 tags recovered to date. Phase 2 was conducted August, 19 to 14 September 2009, starting in Biak-Papua and ending in Jayapura; this phase released 15,000 tunas and 1,750 tags have been recovered to date.

5. Collecting Data from the Indonesian Fishing Ports and fisheries offices

Presentations were made by several participants responsible for collecting and compiling fisheries data from key fishing ports and offices in FMAs 716 and 717, for example, Ir. Saut Tampubolon provided a presentation on Bitung Fishing Port Data Collection Programme and Ibu Linda Hagu provided a presentation on Gorontalo Dinas Perikanadan Kelantain Data Collection Programme. The following attempts to list the key points from these presentations.

There are fifteen companies dealing with the landings of fish in Bitung:

1. PT. ANEKA LOKA INDOTUNA
2. PT. PATHEMAANG RAYA BITUNG
3. PT. BITUNG MINA UTAMA
4. PT. BINTANG MANDIRI BERSAUDARA
5. PT. PERIKANAN NUSANTARA
6. PT. MENTARI SAMUDERA RAYA
7. PT. ETMIECO SARANA LAUT
8. PT. SARI CAKALANG
9. PT. INDOHONG HAI
10. PT. ALIANS INTERNATIONAL

11. PT. CELEBES MINA PRATAMA
12. PT. SINAR FURE FOODS INTERNASONAL
13. PT. DEHO CANNING
14. PT. SAMUDERA SENTOSA
15. PT. NUTRINDO

It was noted that access to collect data is not permitted to some of these sites which hindered the ability to get accurate estimates and despite existing regulations indicating fish had to be landed at the port. In regards to the data collection process, it was noted that the STBLKSP was a mechanism for collecting total trip catch by species (agent report estimation) but that the register port clearance was the most accurate. The requirement to implement catch certification means that information on the catch will improve; the catch certification requires two forms to be provided: production data from the fishing industry and information from the fish handler/processor.

In Bitung, longline and purse seine account for the greatest landings, with each longline trip averaging around 10.5 t. of fish, typically, 60% yellowfin and 40% bigeye). The purse-seine catch typically comes in via carrier vessels (from several large purse seine catcher vessels) with catches are usually around 1,000 t per trip. This is distinct to the small purse seine vessels (pajeko). Pole-and-line vessels usually land around 6-7 t. per trip with 90% SKJ and 10% YFT and BET). Handline catches average around 80kg – 2.4 t. per trip for large vessels (10 day trips) and 300 kgs/trip for small vessels (4-5 day trips).

It was noted that the catch from handline vessels in the Gorontalo district was estimated to be around 5,000 t., with fishing mainly off the north coast of North Sulawesi. The large fish product apparently is then shipped/trucked to two main processing areas, Nutrindo (Bitung) and Makassar. It was acknowledged that the handline product flow (flow of catches after landing) needed further investigation and documentation.

In the ensuing discussion, it was noted that important information on catches by gear and species existing at the district and provincial level and would be very useful to review at this type of workshop. With this in mind, it was recommended that catches of oceanic tuna species by gear be prepared for future workshop using a standard template (see Recommendation No. 3 in Appendices 3 and 4). It was also suggested that DGFC and RCCF coordinate their resources and the utilize the respective data they collect to produce better catch estimates.

6. Current issues with Indonesian Annual catch estimates provided to the WCPFC

Mr. Williams provided an overview of the current issues with Indonesian Annual catch estimates provided to the WCPFC. The current issues with Indonesian Annual catch estimates cover the following :

- Estimates of annual catches by species have not been stratified by gear type for the period from 1991 onwards.
- Estimates of annual catch estimates by GEAR but not species provided for 2005-2007
- Estimates of annual catches of 'yellowfin' covering the period from 1970 to 2004 also include bigeye – no separate estimate for bigeye tuna provided.
- Large bigeye estimates provided since 2005 need to be clarified.
- For the period from 1970 to 2004, large annual catches have been reported for 'unclassified' gear types.
- A significant proportion of the total WCPFC catch comes from Indonesia in recent years… but the species catch is not broken down by GEAR TYPE

The presentation proceeded to review information collected on the species composition of oceanic tuna (skipjack, yellowfin and bigeye tuna) by gear type collected from the Indonesian tuna fisheries, but also the Philippines tuna fishery which is adjacent and overlapping with the

Indonesian tuna fisheries in some cases. The gears reviewed were : Longline, Purse seine, Pole-and-line, Large-fish HL. A suggestion for reviewing the estimates was proposed as follows :

1. Focus on determining estimates for industrial/commercial gears as a first step…
2. Use species composition by GEAR from sampling and other sources of information to cross-check estimates…
3. Devise strategy for reviewing estimates for artisanal gears …
4. Convene review meeting each year …

7. Review of WPEA Annual Work Plan 2010 for Indonesia

Dr. Soh introduced item on the review of the WPEA Annual work plan for 2010 for Indonesia. The main Objectives of the WPEA OFM Project were to ***"****To strengthen national capacities and international cooperation on priority transboundary concerns relating to the conservation and management of Highly Migratory Fish Stocks (HMFS) in the west Pacific Ocean and east Asia (Indonesia, Philippines and Vietnam)* ". With Project Results Framework as follows :

1. Strengthen national capacities in fishery monitoring and assessment,
2. Improve knowledge of oceanic fish stocks and reduce uncertainties in stock assessments,
3. Strengthen national capacities in oceanic fishery management, and
4. Strengthen national laws, policies and institutions, to implement applicable global and regional instruments, esp. WCPFC.

There are 3 outcomes required for the Monitoring, data enhancement and fishery assessment component and 4 outcomes for the Policy, institutional strengthening and fishery management component.

Dr Soh went through each activity listed in the WPEAOFM AWP for 2010 to determine where addition work may be required (and sourced from other areas. The outcome of this process was a revised AWP 2010 for Indonesia which is available at www.wcpfc.int. The current budget available for 2010 was US$ 121,105.

8. Progress with the National Logbook implementation in Indonesia

Ibu Erni Widjajanti provided an update on the national logbook implementation in Indonesia. The requirements to complete logbooks have been established through Law and Ministry regulations set up in recent years. Fisheries Logbook is a ***Landing Declaration*** from fishing master, or declaration letter concerning fish catches landed at a port and supports supports collection of fisheries statistics (fisheries management area, fish type, volume), fishing license data (fishing gears), vessel registration data and port of origin. The implementation of the logbook system supports the evaluation and analysis related to Fisheries resource management, for example :

- Fishing Capacity (Capacity Output vs. Real Product) → macro economy
- Efficiency Fishing (Cost Input vs. Product Value) → micro economy
- Fish Production Trajectory by species → Biomass Reference → MSY /TAC
- Fishing Seasons → Close & Open season → Conservation → spawning
- Biological parameter analysis, initial indicator data from logbook needs to be followed up by Observer Program and Research

A consultative process in introducing the logbook system was used in 2007-2008and then again in 2009 with a national workshop involving the tuna RFMOs from the Indian Ocean (IOTC) and the Pacific Ocean (WCPFC). Over the past year, the DGCF have been involved in a logbook system awareness-raising and training exercise throughout Indonesia's provinces to ensure the goals of the project are understood and that the data collection system is understood (termed as "Socialization" 11 places visited in 2009 and 6 so far in 2010). The participants included all

stakeholders: captains, owners, fishing port officers, head of fishing port and fishing associations.

The logbook format has evolved over the period 2002- 2009 with the latest set of logbooks covering (i) Indonesian Long line and hand Line fishing log book, (ii) Indonesian purse seine, Pole & line and Trolling line log book and (iii) Indonesian fishing log book (for all gears). These logbooks have been introduced in 21 key ports throughout Indonesia and preliminary data summary provided (Feb 2010) by FMA on logbooks returned is very encouraging. Logbook provision has yet to be made an obligation (i.e. enforced), but with recent developments (e.g. the EU catch certification scheme), fisher are beginning to understand the benefits of participating in a logbook system and fishing companies exporting their catch want to be involved. At this stage, problems with the system include misreporting (which will be addressed through training) and the lack of a database system to process the data. In regards to the latter point, an offer was made by the WCPFC/SPC to provide the TUFMAN database system to DGFC – this system is used in 12 WCPFC-member countries to enter and report on tuna fishery data (including logbooks, which are of a similar format to the Indonesian forms).

9. Progress with the National Observer Programme initiative in Indonesia

Ibu Erni Widjajanti provided an update on the progress with the national observer programme initiative in Indonesia. The legal basis for establishing an observer programme in Indonesia is the Ministry Decree No 05/2008 :

(1) For fisheries resources management interest, each fishing vessel or carrier vessel with Indonesian flag or foreign flag must accept and support the work and guarantee of observer officer on board which decide by the Ministry Decree

(2) The provision and method of observer on board placement as mention on paragraph (1) is arrange by technical guideline of Director General

Funding was provided by the government in 2007 to undertake an Observer Training Program attended by 22 DGCF officers. Since then, there has also been cooperation between Indonesia and the OFCF in 2008 and 2009 with respect to observer training, with four training courses conducted. After training, observers are placed on vessels that have fishing license from central government and are 24 metres LOA. In 2010, 34 MMAF DGCF officers have been trained and 34 non-DGCF (private) personal (ex-crew) have also been trained. Training includes the following areas:

- Safety at sea
- Handling on protected species
- Regulation / law enforcement
- Species identification
- Data collection
- Data input
- Equipment
- Report filling method at the field
- Tips for the observer
- Observation method for tuna and species like tuna
- Observation method for protected animal (sea turtle and sea birds)
- Photo Technique
- Series numbering method of catch
- Numbering codification of living thing
- Table of notes and measuring, also priority order
- Health manual and safety at sea
- Regulation and law enforcement

Observers are required to do the following :

1. Follow up the fisheries logbook analysis in Indonesian Fisheries Management Area if it is needed.
2. Verify the vessel position when the fishing operation starts on setting position until hauling.
3. Take an observation and recording the discarded catch, by catch and incidental catch.
4. Observe and record if any additional equipment is set by the fishing master.
5. Help the implementation of scientific activity such as sample observation, by the order of Director General of Capture Fisheries.
6. Make observer performance report to Director General of Capture Fisheries by Director of Fisheries Management within 7 days.

It was acknowledged that the establishment of observer programme in Indonesia is at an early stage with considerable work to do, for example, future immediate work in the observer area includes (i) the need to develop institutional structure including a legal base, operational base and organization, (ii) passing of the Ministry Regulation on Observer and (iii) passing of the Ministry Regulation of *Menteri Negara Pendayagunaan Aparatur Negara* on Functional occupation of fisheries superintendent and its credit number after discussion.

It was noted that future workshops should consider comparing the information collected by observers in Indonesia with the WCPFC Regional Observer Programme (ROP) minimum data standards which were developed and approved by WCPFC members as the scientific base for observers.

10. Discussion on Annual Catch estimates and recommendations from the Workshop

The workshop participants reviewed the provisional annual catch estimates for recent years prepared by the DGCF. These estimates currently cover the FMAs 716 and 717 which according to DGCF should the area to be covered with respect to the provision of estimates to the WCPFC. However, as noted earlier, the requirements of the "Scientific Provision of data to the WCPFC" indicates that annual catch estimates would also need to include FMA areas 714 and 715 to ensure stock assessments covered "the range of the tuna stocks". Further, it was noted that the Indonesia waters in FAO Area 71 corresponds to the area that the WCPFC also requires catch estimates; the tuna catch estimates by gear that Indonesia are obliged to provide to the FAO (for FAO Area 71) are in fact identical to the catch estimates that should be provided to the WCPFC (which is not the case at the moment). It was agreed that this issue was not in the scope of the workshop and would be discussed in other meetings.

The workshop reviewed the annual catch estimates one gear at a time, in conjunction with other information presented during the workshop. Several suggestions were made during this review and those that were agreed by participants were incorporated into the table of estimates. For example, the longline estimate of albacore tuna was thought to be incorrect and probably due to the reference of "*Albacares*", which is part of the scientific name for yellowfin tuna. In this instance, and since albacore tuna are rarely if at all encountered at the Bitung landing site, it was decided to remove this estimate until further information was forthcoming.

The relatively large bigeye tuna catch estimates since 2005 were reviewed and resolved by using available species composition data by gear type obtained from the Indonesian and adjacent Philippines fisheries in recent years to correctly reassign the catch of each oceanic tuna species by gear type. The implementation and expansion of several data collection systems (logsheets, landings and port sampling) in the next few years will provide invaluable data to improve this process.

The WCPFC representatives asked if the annual catch estimates for FMAs 716 and 717 could be extended back to the year 2000 and DGCF agreed that the work required would be done over the following two weeks. Appendix 6 shows the completed annual catch estimates by gear and

species for the FMAs 716 and 717, from years 2000-2009. The workshop participants acknowledged that obtaining the necessary data to produce tuna catch estimates was challenging and there remains significant work to undertake, although that the WCPFC requirements for estimates were now clearer as a result of the workshop. The WCPFC/WPEA is committed to holding this type of workshop on an annual basis in the short term to ensure the annual catch estimates for the Indonesia are reliable.

Five recommendations were formulated and agreed by workshop participants (see Appendices 3 and 4).

11. CLOSE

Dr Soh and Mr Williams thanked the staff of DGCF for organizing the workshop. They noted that this workshop was the first step towards the important work of improving the annual catch estimates provided to the WCPFC by Indonesia and that it would become an annual event until such time that the current problems with annual catch estimates had been resolved and funding was available. Appreciation was extended to donors - the UNDP-GEF WPEA OFM project administered by the WCPFC. Special mention was given to Mr. Saut Tampubolon who was tireless in providing comprehensive translation during the workshop while also presenting and participating in most of the discussions.

APPENDIX 1. WORKSHOP AGENDA

First Indonesia Tuna Fisheries (WCPFC Area)
Annual Catch Estimates Workshop

8-9 March 2010
Hotel Kristal Jakarta, 8 - 9 March 2010

Time	Agenda	Speaker	Moderator
Sunday, 7 March 2010			
Check in	14.00 – 24.00	Hotel Management	
Monday, 8 March 2010			
09.00 – 09.15	Guidance from Director of Fisheries Resources Management	**Ir. Agus A.Budhiman, M.Aq** Director of Fisheries Resources Management	
09.15 – 09.45	*Overview of tuna fisheries in the WCPFC Convention Area*	**Mr. Peter Williams**, *Fisheries Data Manager, WCPFC/SPC*	
09.45 – 10.15	Discussion		
10.15- 10.30	***Coffee Break***		
10.30 – 11.00	*Review of Current DGCF estimates for Longline, Purse Seine, Pole and Line, large tuna handline fisheries*	**Ir. Bambang Ariadi,MM** Head of Sub Directorate of Capture Fisheries Data and Statistics	
11.00- 11.30	Discussion		
11.30 – 12.00	*Review of summarized data compiled from recent port sampling*	**RCCF**	
12.00 – 12.30	Discussion		
12.30 – 13.30	**Lunch Break**	**Hotel Management**	
13.30 – 14.15	*Collecting Data on Fishing Port and fisheries office*	Authorized Bitung Fishing Port and Marine Affairs and fisheries official of Gorontalo Province	
14.15 – 15.00	Discussion		
15.00 – 15.15	***Coffee Break***		
15.15 – 16.00	*Current issues with Indonesian Annual catch estimates provided to the WCPFC* *Discussion on the following topics* • ***Short term*** *: how do we compile available information from each fishery to produce annual catch estimates for the past five years (this will require work on Monday night by WCPFC representative in compiling available information* • ***Longer term*** *: Are there any areas where*	**Mr. Peter Williams**, *Fisheries Data Manager, WCPFC/SPC*	

Time	Agenda	Speaker	Moderator
	estimation process can be improved ?		
16:00 – 17:00	*Review of the GEF West Pacific East Asia Oceanic Fisheries Management Project – Annual Work Plan 2010 for Indonesia*	**Dr. SungKwon Soh** Science Manager, WCPFC	
Tuesday, 9 March 2010			
09.00 - 09.30	*Wrap-up* of previously material (Summary of work undertaken on Monday night?)		
09.30 – 10.15	*A brief update on progress with the National Logbook implementation*	**Ir.Erni Widjajanti,M.Ag.Buss** Head of Sub Directorate of EEZI and High Seas	
10.15 – 11.00	***Running coffee break +*** Discussion	**Hotel Management**	
11.00 – 12.00	*A brief update on progress with the National Observer Programme initiative*	**Ir.Erni Widjajanti,M.Ag.Buss** Head of Sub Directorate of EEZI and High Seas	
12.00 – 12.30	Discussion		
12.30 – 13.30	**Lunch Break**	**Hotel Management**	
13.30 – 16.00	*Agreement on Annual catch estimates and RECOMMENDATIONS for future work.* *Participants will look at each fishery (gear), one at a time, and the summary information available for each fishery.* *There will be an introductory presentation of summary information available for each gear type (by WCPFC representative that compiled information from previous day), then discussion on what is considered to be the best estimates by species for that GEAR TYPE.* • *LONGLINE* • *PURSE SEINE* • *POLE-AND-LINE* • *LARGE-TUNA HANDLINE*		

APPENDIX 2. LIST OF PARTICIPANTS

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23	Agus Budhiman	Director - DFRM/DGCF		
24				

APPENDIX 3. RECOMMENDATIONS FROM WORKSHOP (English)

First Indonesia Tuna Fisheries (WCPFC Area)
Annual Catch Estimates Workshop

8-9 March 2010

RECOMMENDATIONS

1. Recognising the importance of the long term work in improving the reliability of the Indonesian annual tuna catch estimates for the WCPFC Convention Area, WCPFC will collaborate with DGCF to convene another workshop in March 2011.

2. DGFC and RCCF, with assistance from WCPFC, will compile a profile showing the number of active vessels catching tuna (skipjack, yellowfin and bigeye tuna) by GEAR[3] in each port of East Indonesia to assist in determining annual catch estimates by gear for the Indonesia FMAs 716 and 717.

3. DGCF, RCCF, provincial, district offices, fishing ports and fishing industry associations/representatives will endeavor to compile annual catch estimates for the main tuna species (skipjack, yellowfin and bigeye tuna) for each GEAR[1] using the following template and present these tables at the workshop scheduled for March 2011. The presentations at the March 2011 workshop should include (i) a short description on improvements made in collection/ methodologies, (ii) where problems still exist and (iii) what future work is required.

Port/District/Province/FMA				
Gear				
	Estimated Tuna Catch (metric tonnes)			
Year	Skipjack	Yellowfin	Bigeye	Total tuna
2000				
2001				
2002				
2003				
2004				
2005				
2006				
2007				
2008				
2009				
2010				

4. DGCF and RCCF will endeavor to obtain annual tuna landings data (by species and gear) for companies/vessels landing catch outside the Bitung fishing port (e.g. private landing wharves).

5. DGCF and RCCF will draft, in consultation with WCPFC, the annual work plan (AWP) for 2011 (Year 2 of the WPEA project) and provide it to the WPEA Project Manager by June 2010. The AWP will cover, *inter alia*, the work by DGCF and RCCF to improve the reliability of annual tuna catch estimates for national and regional purposes.

[3] Gear types will be Longline, Purse seine (large and pajeko), Pole-and-line (large and funai), large-tuna Handline. Other gears will be addressed over the longer term.

APPENDIX 4. RECOMMENDATIONS FROM WORKSHOP (Bahasa)

8-9 Maret 2010

RUMUSAN DAN REKOMENDASI

1. Memahami akan pentingnya upaya jangka panjang dalam rangka memperbaiki kualitas estimasi hasil tangkapan tuna Indonesia di kawasan konvensi WCPFC, WCPFC akan bekerja sama dengan Direktorat Jenderal Perikanan Tangkap (DJPT) melaksanakan *workshop* sejenis pada bulan Maret 2011.
2. Direktorat Jenderal Perikanan Tangkap (DJPT) dan Pusat Riset Perikanan Tangkap (PRPT) dengan dukungan WCPFC, akan menyajikan jumlah kapal penangkap tuna aktif menurut spesies SKJ (cakalang), YFT (madidihang), BET (tuna mata besar) dan menurut alat penangkapan ikan seperti *longline*, *purse seine (large and pajeko), pole and line (large and funai),* pancing ulur *(large-tuna handline)*, di tiap pelabuhan perikanan Indonesia bagian timur dalam rangka membantu menentukan estimasi hasil tangkapan tuna tahunan menurut jenis alat penangkapan ikan untuk WPP-716 dan WPP-717. Jenis alat penangkapan ikan lainnya akan dibahas di waktu yang akan datang.
3. DJPT, PRPT, Dinas Kelautan dan Perikanan Provinsi dan Kab/Kota, pelabuhan perikanan dan perwakilan asosiasi industri penangkapan tuna akan menyajikan data estimasi hasil tangkapan tuna tahunan menurut kelompok spesies utama dan menurut alat penangkapan ikan sesuai dengan tabel yang tertera di bawah dan mempresentasikannya pada *workshop* bulan Maret 2011. Presentasi pada *workshop* bulan Maret 2011 nanti harus mencakup materi sebagai berikut : i) deskripsi singkat tentang perbaikan yang dicapai dalam pengumpulan data atau metodologi, ii) permasalahan yang masih ada, dan iii) kegiatan yang diperlukan di masa depan.

Port/District/Province/FMA				
Gear				
Year	**Estimated Tuna Catch (metric tonnes)**			
	Skipjack	**Yellowfin**	**Bigeye**	**Total tuna**
2000				
2001				
2002				
2003				
2004				
2005				
2006				
2007				
2008				
2009				
2010				

4. DJPT dan PRPT akan berusaha memperoleh data hasil tangkapan tuna tahunan menurut spesies dan menurut alat penangkapan ikan yang didaratkan oleh perusahaan perikanan/penangkapan tuna di luar PPS Bitung.
5. DJPT dan PRPT, melalui konsultasi dengan WCPFC akan menyusun draft rencana kerja tahunan (*the annual work plan atau AWP*) untuk tahun 2011 (tahun ke-2 proyek WPEA) dan menyampaikannya ke *WPEA Project Manager* paling lambat pada bulan Juni 2010. Rencana kerja tahunan (AWP) tersebut antara lain meliputi kegiatan DJPT dan PRPT dalam rangka memperbaiki kualitas estimasi hasil tangkapan tuna tahunan untuk kepentingan nasional maupun regional.

APPENDIX 5. Republic of Indonesia – Fisheries Management Areas (WCPFC Area)

Figure 1. Indonesia Fisheries Management Areas (FMAs) in the WCFPC Statistical Area

713 (Makassar Strait, Bone Bay, Flores Sea, Bali Sea)
714 (Banda Sea, Tolo Bay)
715 (Maluku Sea, Tomini Bay, Seram Sea, Berau Bay)
716 (Sulawesi Sea, Halmahera Sea)
717 (Pacific Ocean)
718 (Aru Sea, Arafura Sea, Timor Sea)

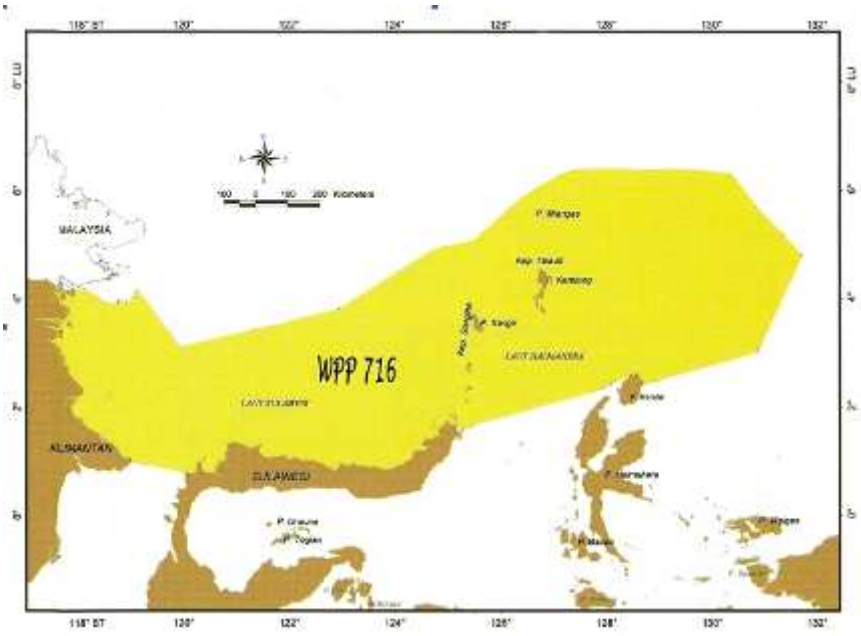

Figure 2. Indonesian FMA 716 (covers 5 provinces)

East Kalimantan (5 districts)
North Sulawesi (8 districts)
Gorontalo (1 district)
Central Sulawesi (2 districts)
North Maluku (2 districts)

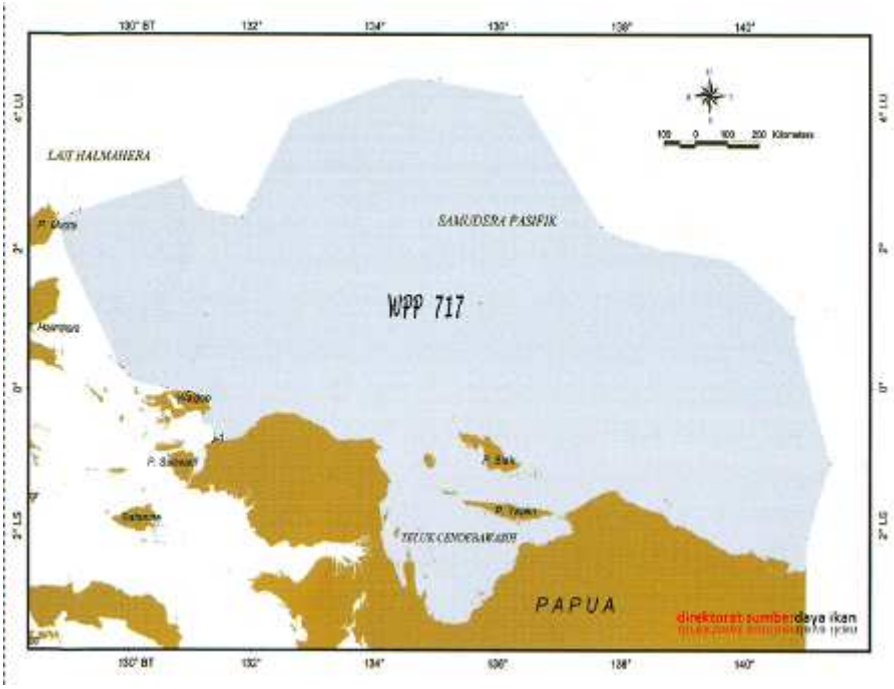

Figure 3. Indonesian FMA 717 (covers 3 provinces)

North Maluku (2 districts)
West Papua (5 districts)
Papua (10 districts)

APPENDIX 6. Provisional Annual Tuna Catch Estimates – Indonesia, FMAs 716 &717

LONGLINE (FMAs 716, 717 and High seas)

Year	Estimated Tuna Catch (metric tonnes)								
	Skipjack	%	Yellowfin	%	Bigeye	%	Albacore	%	Total tuna
2000			3,104	80.9%	731	19.1%			3,834
2001			4,001	80.9%	942	19.1%			4,942
2002			6,243	80.9%	1,470	19.1%			7,713
2003			9,209	80.9%	2,168	19.1%			11,377
2004			9,313	80.9%	2,192	19.1%			11,505
2005			10,762	83.0%	2,202	17.0%			12,964
2006			9,482	75.9%	3,011	24.1%			12,493
2007			10,371	83.9%	1,993	16.1%			12,364
2008			11,347	87.3%	1,649	12.7%			12,996
2009			10,491	82.6%	2,214	17.4%			12,704
Average 2005-2007			10,205	80.9%	2,402	19.1%			12,607

Notes on sources of data and methodology

1 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.

2 Use average species composition for years 2005-2007 and apply to the total catch for years prior to 2005

3 Use average species composition for years 2005-2008 and apply to the total catch for 2009

4 Catch of albacore needs to be reviewed (possibly mistaken as "Thunnus albacares") and was removed from these estimates

5 Catches for 2008 and 2009 are preliminary

PURSE SEINE (FMAs 716 and 717)

Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000	6,560	69.2%	2,662	28.1%	259	2.7%	9,482
2001	8,456	69.2%	3,432	28.1%	334	2.7%	12,222
2002	13,197	69.2%	5,356	28.1%	521	2.7%	19,074
2003	19,466	69.2%	7,900	28.1%	769	2.7%	28,135
2004	19,684	69.2%	7,989	28.1%	778	2.7%	28,451
2005	22,163	65.2%	10,873	32.0%	968	2.8%	34,004
2006	25,223	75.4%	7,237	21.6%	1,000	3.0%	33,460
2007	21,022	66.9%	9,653	30.7%	734	2.3%	31,409
2008	22,412	72.3%	7,874	25.4%	717	2.3%	31,003
2009	22,705	69.9%	8,909	27.4%	855	2.6%	32,469
Average 2005-2007	22,803	69.2%	9,254	28.1%	901	2.7%	32,958

Notes on sources of data and methodology

1 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.

2 Use average species composition for years 2005-2007 and apply to the total catch for years prior to 2005

3 Use average species composition for years 2005-2008 and apply to the total catch for 2009

4 Catches for 2008 and 2009 are preliminary

POLE-AND-LINE (FMAs 716 and 717)

Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000	8,414	78.4%	1,827	17.0%	484	4.5%	10,725
2001	10,846	78.4%	2,355	17.0%	624	4.5%	13,825
2002	16,926	78.4%	3,675	17.0%	975	4.5%	21,576
2003	24,967	78.4%	5,421	17.0%	1,438	4.5%	31,826
2004	25,247	78.4%	5,482	17.0%	1,454	4.5%	32,183
2005	22,209	73.1%	6,581	21.7%	1,606	5.3%	30,396
2006	28,385	80.6%	5,166	14.7%	1,673	4.7%	35,224
2007	28,064	81.0%	5,332	15.4%	1,250	3.6%	34,646
2008	31,569	84.3%	4,643	12.4%	1,222	3.3%	37,434
2009	27,557	80.0%	5,431	15.8%	1,438	4.2%	34,425
Average 2005-2007	26,219	78.4%	5,693	17.0%	1,510	4.5%	33,422

Notes on sources of data and methodology

1 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.

2 Use average species composition for years 2005-2007 and apply to the total catch for years prior to 2005

3 Use average species composition for years 2005-2008 and apply to the total catch for 2009

4 Catches for 2008 and 2009 are preliminary

HANDLINE (large-tuna) (FMAs 716 and 717)

Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000			398	98.0%	8	2.0%	406
2001			513	98.0%	10	2.0%	523
2002			800	98.0%	16	2.0%	816
2003			1,180	98.0%	24	2.0%	1,204
2004			1,194	98.0%	24	2.0%	1,218
2005			1,393	98.0%	28	2.0%	1,421
2006			1,384	98.0%	28	2.0%	1,412
2007			1,147	98.0%	23	2.0%	1,170
2008			1,110	98.0%	23	2.0%	1,133
2009			1,259	98.0%	26	2.0%	1,284
Average 2005-2007			1,308	98.0%	26	2.0%	1,334

Notes on sources of data and methodology

1 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.

2 Use average species composition for years 2005-2007 and apply to the total catch for years prior to 2005

3 Use average species composition for years 2005-2008 and apply to the total catch for 2009

4 Catches for 2008 and 2009 are preliminary

5 FMA area 715 accounts for at least 5,000 t. more HL catch, but os not included here

OTHERS (Troll, small-fish HL, gillnet, etc.) (FMAs 716 and 717)

Year	Estimated Tuna Catch (metric tonnes)						
	Skipjack	%	Yellowfin	%	Bigeye	%	Total tuna
2000	5,785	93.9%	367	5.9%	10	0.2%	6,162
2001	7,458	93.9%	473	5.9%	13	0.2%	7,943
2002	11,638	93.9%	738	5.9%	21	0.2%	12,397
2003	17,167	93.9%	1,088	5.9%	31	0.2%	18,286
2004	17,360	93.9%	1,100	5.9%	31	0.2%	18,491
2005	18,050	93.7%	1,142	5.9%	10	0.4%	19,202
2006	19,588	93.7%	1,240	5.9%	11	0.4%	20,838
2007	19,032	93.7%	1,209	5.9%	81	0.4%	20,322
2008	19,889	93.7%	1,259	5.9%	11	0.4%	21,159
2009	19,140	93.9%	1,212	5.9%	28	0.1%	20,380
Average 2005-2007	18,890	93.9%	1,197	5.9%	34	0.2%	20,121

Notes on sources of data and methodology

1 2005-2008 catch estimates determined by DGCF using their statistical data collection and estimation systems. Species composition was reviewed by the workshop, compared with other fishery data sources (e.g. RCCF port sampling data, Philippines port sampling data and industry estimates), and adjusted accordingly.

2 The workshop acknowledged that information on species compaosition for these gears is lacking and more work in data collection for these gears is required in the future.

3 % BET was reduced from 7.0% to 0.4% refecting expected %BET to %Yft composition according to understanding that most of catch comes from the TROLL gear

4 Use average species composition for years 2005-2007 and apply to the total catch for years prior to 2005

5 Use average species composition for years 2005-2008 and apply to the total catch for 2009

6 Catches for 2008 and 2009 are preliminary