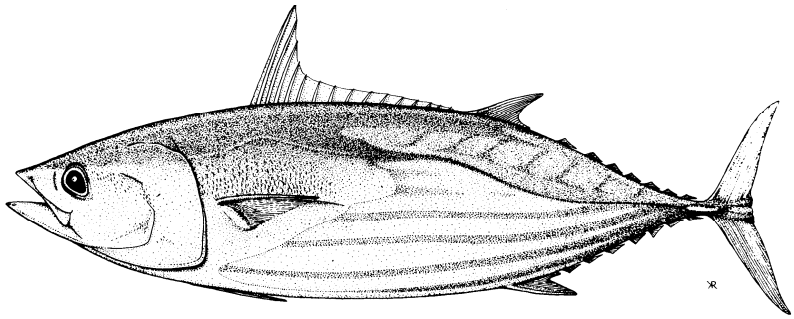
REPORT OF THE SECOND EASTERN INDONESIA TUNA FISHERY DATA COLLECTION WORKSHOP (EITFDC-2)

29 May 2008

Jakarta, Indonesia



Western and Central Pacific Fisheries Commission
Pohnpei, Federated States of Micronesia
June 2008

CONTENTS

1. OPENING

The Second Eastern Indonesia Tuna Fishery Data Collection (EITFDC-2) Workshop was held at the headquarters of the Research Center for Capture Fisheries (RCCF) in Jakarta, on the 30th May 2008. The workshop was attended by 20 participants from four Indonesian government agencies, industry, Australia, the Indian Ocean Tuna Commission (IOTC), Secretariat of the Pacific Community (SPC), the Secretariat of the Western and Central Pacific Fisheries Commission (WCPFC). This workshop was originally scheduled to run over two days, but due to urgent budget meetings for several key RCCF staff, the workshop was restricted to addressing a challenging agenda in only one day[1].

The First Eastern Indonesia Tuna Fishery Data Collection (EITFDC-1) Workshop was held in RCCF headquarters in January 2007, and both were part of the Indonesia and Philippines Data Collection Project, which was developed by the Preparatory Conference for the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific (Anon. 2003) and adopted by the WCPFC in December 2005. The objectives of the IPDCP are (1) to collect and compile data that can be used to reduce the uncertainty of the assessments of tuna stocks in the Western and Central Pacific Ocean and (2) to improve the monitoring of tuna fisheries in the Philippines and Indonesia so that both countries will be able to fulfill their future obligations in regard to the provision of fisheries data to the Commission.

Dr Victor Nikijuluw, Director of RCCF, welcomed the participants and provided some background to activities undertaken in Indonesia related to the IPDCP since the first workshop held in January 2007. He described the work involved in developing the project proposal for East Indonesia Tuna Fishery Data Collection, which included a small research project designed to determine who will do the data collection and the type of data to be collected. He mentioned that the EITFDC-2 would serve to discuss the unloading processes at Bitung and Kendari and see how a realistic data collection system can be implemented to meets of the WCPFC. He also stressed the need to be aware and take into account the constraints in undertaking data collection in East Indonesia and that the goals of proposed data collection systems are realistic, feasible and consider the real situation. It was hoped that the pilot sampling activities in 2008 would then provide the necessary information to proceed to the next step, which will be more widespread coverage and the development of a systematic data collection system for the future.

Dr SungKwon Soh provided a brief overview of the IPDCP activities in Indonesia over recent years. He noted that the first activity in Indonesia was a workshop on eastern Indonesia tuna fishery data collection, held in January 2007. Since then, RCCF conducted two other IPDCP projects in 2007, a preliminary research towards establishment of upgraded monitoring of tuna fisheries in Eastern Indonesia and a study on the rescue of Indonesian tuna catch data. In December 2007, the Commission endorsed a three-year IPDCP project in Indonesia and this second IPDCP workshop aims to review technical aspects of port sampling data collection before proceeding the first year project in 2008. Some initial constraints were noted for the project, which includes complications of fisheries based in Bitung and the logistical problems related to access to private wharfs/processing plants. In this regard, it was noted that sampling could not cover every landing site. Kendari was noted to have no such constraints.

2. APPOINTMENT OF CHAIRPERSONS AND RAPPORTEURS

Mr Peter Williams was appointed chairman and head rapporteur with assistance from Mr Craig Proctor, Mr Budi Iskandar and Dr SungKwon Soh.

3. ADOPTION OF THE AGENDA

A provisional annotated agenda had been developed and circulated to some participants prior to the meeting. However, the meeting noted that some of the topics in the original annotated agenda had been covered in the Steering Committee Meeting for Monitoring and Assessment of Indonesia's Tuna Fisheries, conducted over the

[1] The draft meeting report and guidelines of data collection matrix was reviewed and finalized by key participants during the afternoon of the second day.

previous two days (27-28 May 2008), and therefore revisions to the Agenda for this workshop were required, particularly in view of the reduced time available for discussions.

The proposed revisions to the original agenda were presented and adopted. The agenda followed by the workshop was adopted as presented in Appendix I.

4. PROPOSED PORT SAMPLING ACTIVITIES IN EAST INDONESIA FOR 2008

4.1 Background

Port Sampling refers to the collection of size and species composition data at the point of unloading the catch after a fishing trip by a fisheries officer. Port Sampling provides a convenient, cost effective method to obtain considerable quantities of species and size composition data for stock assessment work. It provides an independent verification of the data submitted by the fishing company (i.e. logsheets, unloadings data and packing/reject/cannery lists) and only partial coverage (a sub-sample of vessel unloadings) of all unloadings is required (Target 20% - randomly-selected unloadings).

Port Sampling has been identified as the most important and convenient method of data collection to obtain valuable data for stock assessment work conducted for the WCPFC in East Indonesia Tuna Fisheries in the short term, and the first EITFDC provided recommendations of the ports in East Indonesia where port sampling should be considered. Funds for port sampling in East Indonesia had been allocated by the WCPFC for activities during 2008. Unfortunately, at this stage, there are limited funds available to undertake port sampling activities covering all ports and gears required in 2008, so only two of the most important ports where vessels targeting large pelagic tunas unload – namely Biting and Kendari – are to be targeted at this stage. The main purpose of this workshop was to identify the main gears to be sampled in the selected ports and ensure the sampling protocol is appropriate to each gear so that unbiased data can be collected and provided to the WCPFC according to the guidelines set out by the WCPFC.

Indonesian agencies and government have made important commitments to the establishment of port sampling in East Indonesia since the first workshop was held in January 2007. The local government in Bitung has already provided land for the future monitoring station and the design of the new building and the development of the construction plan are currently underway.

The workshop proceeded to develop guidelines for implementing the pilot port sampling activities for 2008 by dealing with the following topics in sequence : the gears to be covered by port sampling, the landing sites to be covered, the data collection protocols/forms to be used for each gear and any issues that need to be resolved. A table containing the outcome of discussions which will be used to guide the implementation of the pilot port sampling activities for 2008 is contained in APPENDIX III. The original budget proposed in the Preliminary research proposal will be reviewed by RCCF and resubmitted as soon as possible so the necessary funds can be provided to begin work. It was noted that a review meeting will be required in early 2009 (or possibly earlier) to evaluate the port sampling activities and data collected in 2008, and to consider the issues highlighted in this table that need resolution, so that a long-term plan for port sampling can be developed for subsequent years.

4.2 Gears to be covered

The workshop participants considered which fishing gear types should be targeted in the pilot port sampling project. Tables 1 and 2 provide lists of the gear types of vessels registered to the ports of Bitung and Kendari, respectively. It was noted that the information in these tables did not necessarily mean that the vessels registered were based in these ports, for example, there are no longline unloadings in Kendari despite there being longline vessels with registration origin of Kendari. The basis for deciding which gears to sample during 2008 was information on observed vessel activity in these ports in recent years. Since the WCPFC is primarily interested in the large pelagic tuna species (skipjack, yellowfin and bigeye tuna), priority for sampling at this stage should be directed towards the gears which have these species as the predominant part of the catch (target). Based on this criterion, the following gears were selected for the pilot project in each port :

- BITUNG : Longline, Purse-seine (large-mesh), Pole-and-line, Troll, Handline

- KENDARI : Pole-and-line, Troll, Purse-seine (large-mesh)

Discussion amongst participants noted, *inter alia*, that small-mesh purse seine vessels catch some skipjack, yellowfin and bigeye, but the predominant catch by this gear is small pelagics (Mackerel scad, bullet and frigate tunas), so it will not be considered in the pilot project. It will be important to distinguish the small-mesh and large-mesh purse seine data since species composition is different and the sampling data from each of these gears must be raised with the corresponding vessel activity data for that gear only.

Table 1. Number of registered vessels by fishing gear in Bitung 2005 and 2006

Types of gear	2005	2006
Danish seine	6	8
Beach seine	95	102
Purse seine	100	87
Drift gillnet	102	101
Set gillnet	170	152
Lift net	40	35
Pole and line	65	62
Troll line	92	90
Longline	89	75
Handline	1640	1000
Traps	92	112
Others	33	30

Source: Bitung District Fisheries Office

Table 2. Number of registered vessels by fishing gear in Kendari, 2004 and 2005

No	Gear types	Number	
		2004	2005
1	Shrimp trawl	36	-
2	Seine net	7	7
3	Purse Seine	86	86
4	Drift Gillnet	67	67
5	Bottom Gillnet	38	38
6	Trammel Net	62	62
7	Lift net	44	44
8	Longline	140	140
9	Pole and Line	81	81
10	Troll Line	41	41
11	Other lines	29	29
12	Trap	56	56
13	Others	309	309

Source: Kendari District Fisheries Office

4.3 Landing sites to be covered

The approach taken by the workshop in selecting appropriate sampling sites was to consider the largest and most representative landing sites for respective gears, taking into account whether access to the landing site was currently possible. If a landing site was considered important but access was currently not possible, then a request would need to be made. The landing sites selected for sampling during 2008 for each gear are listed in APPENDIX III.

The fish port landings [for all gears] are more accessible for sampling than the private landing sites. However, it will be necessary to seek access to sample in the selected private landing sites so that the homogeneity of species composition by gear can be determined. This information may help simplify sampling in the future. There are also certain logistical issues to be resolved, for example, landings from pole-and-line vessels at the Bitung Fishing port only occurs at night.

4.4 Data collection protocols/forms to be used

The workshop acknowledged that the sampling design in Bitung should strive to be straightforward and practical; it should take into account the available resources, the logistical problems of widespread landing sites and stakeholder's interests (e.g. confidentiality) while ensuring the requirements for collecting data for the WCPFC are satisfied. In this respect, it was noted that it was better not to waste the effort in collecting data if it were biased and quality of the data was compromised.

It was agreed that sampling of longline vessels in Bitung would benefit from the experience developed in the sampling of longline vessels in the Indian Ocean. The data collection system in the Indian Ocean is well developed and tested, with training resource materials available. It was therefore suggested that the basis of the Indian Ocean longline data collection system be used for sampling longline vessels in Bitung. A brief overview of the data collection system in the Indian Ocean was provided to participants. Since the sampling of longline vessels is well understood from the experience developed in ports servicing vessels active on the Indian Ocean side, it was suggested that sampling in Bitung should concentrate on longline unloadings during 2008 while testing the data collection protocols for the other gears.

It was agreed that since the unloading of the handline vessels is similar to that of the longline vessels then the protocols and forms developed for the Indian Ocean sampling could be used for the handline unloadings in Bitung, and the situation reviewed once sufficient data had been collected in late 2008 or early 2009.

For the remaining gears (troll, large-mesh purse-seine and pole-and-line) it was suggested that the Philippines NSAP forms and protocols be trialed in collecting length measurements (termed "biological sampling") in Bitung and the situation reviewed once sufficient data had been collected in late 2008 or early 2009. Appendix III provides more detail on the recommendations for data collection protocols for each gear.

There was not enough time to discuss the specific details of sampling in Kendari, but it was noted that the suggestions for data collection protocols by gear developed for Bitung should be adopted in Kendari.

During discussions, it was noted, with appreciation, that the species identification guides developed and translated into Bahasa by the WCPFC (authored by Itano and translated by Merta & Proctor) had been distributed and used in training.

4.5 Staffing issues

The workshop briefly discussed staffing issues. The budget in the original RCCF proposal for sampling in Bitung covered the staffing requirements in detail and Mr Iskandar informed the workshop that only minor modifications would be required given the change in requirements for sampling during 2008. For example, he indicated that perhaps extra motorbikes will be required. The budget will be modified accordingly and provided to the WCPFC for review.

Personnel to cover the activities of supervisors, trainers, port sampling staff, data management and processing had already been assigned by RCCF.

4.6 Issues to be resolved

APPENDIX III includes notes on the issues that were identified during discussions that need resolution. It is hoped that information related to each issue can be obtained during 2008 activities so that they can be reviewed during the next workshop.

4.7 Stakeholder awareness

Stakeholder awareness was identified as a key requirement that should be addressed as soon as possible. Ideally, a stakeholders meeting, with WCPFC participation, would satisfy this awareness raising campaign, but the earliest this could be achieved would be September 2008. It was suggested that the preparation of a brochure or leaflet should be undertaken as soon as possible to inform stakeholders of the importance of the sampling work, linking it, in layman's terms, to the work of the WCPFC. Mr Iskandar will look at the budget for producing a leaflet and correspond with the WCPFC. The WCPFC offered assistance in reviewing or contributing to the text of the leaflet.

5. VESSEL ACTIVITY DATA

Vessel activity data should represent an unbiased account of vessel trips and a broad indication of fishing activity. The main purpose of vessel activity data is to provide an effective means of determining the coverage of all other types of data collected, and thereby an important component in producing raised catch estimates. In the East Indonesian Tuna Fisheries, the species composition of the catch by gear, determined from sampling, can be raised to produce total catch estimates by species and gear with Vessel Activity data.

The workshop briefly reviewed the potential sources of Vessel Activity data, and the "*Fleet Control and Surveillance Report*" was acknowledged to be the most appropriate source of data that represented actual vessel activity. This report contains a list of each vessel entry and departure in ports in Indonesia, and is a complete record of port entry/departure information. The report includes the following attributes : vessel name, gear, license number, departure and return dates, total catch. It was noted that carrier vessels were included in this list and that no information was available on the original catcher vessel activities, but this could potentially be resolved with reference to other data collection forms used by RCCF which list the catcher vessels supplying each carrier. Also, there may be two types of carrier vessel operating – (i) fishing vessels acting as carriers and (ii) dedicated carrier vessels. If large proportions of catches were transhipped to the latter definition of "carrier", then this situation might complicate the sampling in port.

It was acknowledged that more research of this information was necessary, but, in the first instance, it was agreed that these data should be processed and made available so that RCCF could produce summaries of vessel activity by gear.

6. OTHER TYPES OF DATA

There was no time available to discuss the implementation of other types of data (notably logshseets and observer data) in East Indonesian Tuna Fisheries, other than to note that these types of data were discussed at length during the Steering Committee Meeting for Monitoring and Assessment of Indonesia's Tuna Fisheries (27-28 May 2008). The strategy (e.g. forms and protocols to be developed) for logsheets and observer data collection is likely to be a national initiative that will cover both the Pacific and Indian Ocean fisheries through this steering committee and it will therefore be very important for the WCPFC to be involved in future Steering Committee meetings or related fora.

7. REVIEW OF RECOMMENDATIONS FROM EITFDC-1

The workshop briefly reviewed the status of progress made in regards to the recommendations proposed from the first EITFDC workshop. Unfortunately, there was insufficient time to go over each item in detail - nonetheless a summary of discussions on each recommendation is included in APPENDIX IV.

8. REVIEW OF ANNUAL CATCH ESTIMATES FOR 2007

There was limited time to review and discuss the details of the preliminary annual catch estimates for 2007, other than to note that the annual catch estimates and number of vessels by size category was provided to the WCPFC by the DGCF on 2 May 2008. It was noted that this provision was timely with respect to the WCPFC requirement for data provisions which was much better than provisions of data from Indonesia in recent years. However, the annual catch estimates were not broken down by gear type, and on receipt of advice from the Executive director of WCPFC to provide annual catch estimates by gear, the DGCF had started the process to produce estimates broken down by gear type, which will be provided to the WCPFC in the coming weeks.

9. EAST INDONESIA TUNA FISHERIES HISTORICAL DATA RESCUE

A specific IPDCP project had been approved by the WPCFC to provide funding to RCCF to compile any available historical data for the East Indonesian Tuna Fisheries for subsequent provision to the WCPFC for their stock assessment work. Funds had been sent from the WCPFC in November 2007, but they had not been received by RCCF. A check of fund transmission and receipt on each side has been initiated with urgency to ensure that this project can start as soon as possible. A brief overview of the types of data to be provided to the WCPFC under this project was presented:

- Port sampling data were collected for research purposes over the period 1970 to the early 1990s. These data are in hard-copy form only and the IPDCP funds will be used to employ temporary data entry staff to process the data
- A substantial amount of port sampling data where collected during the period IPTP were active in Indonesia. Data collected in ports throughout East Indonesia are potentially available.
- The state-owned PSB Longline company have aggregated catch/effort data (month / 1x1) for East Indonesia area (1973–present, but only data for years 1973–1995 have so far been entered into database and undergone preliminary analyses by RCCF).
- The raw data collected from recent preliminary research related to the IPDCP East Indonesia data collection (one month only)

10. CLOSE

Mr Williams thanked the organizer (RCCF) and the participants for addressing a challenging agenda in such a short time. Much had been discussed and taken on board, and the workshop achieved the main objective of establishing guidelines for the pilot sampling in Bitung. It was also encouraging to note the availability of other sources of data to determine vessel activity and recent initiatives to improve data collection and management in Indonesian Fisheries, in general. Appreciation was once again extended to the donors — France, New Zealand, Chinese Taipei and the United States of America, which have contributed to the WCPFC IPDCP. The meeting was closed with a vigorous round of applause.

APPENDIX I. AGENDA

1. OPENING
2. APPOINTMENT OF CHAIRPERSON AND RAPPORTEURS
3. ADOPTION OF THE AGENDA
4. PROPOSED PORT SAMPLING ACTIVITIES IN EAST INDONESIA FOR 2008
   - *4.1 Background*
   - *4.2 Gears to be covered*
   - *4.3 Landing sites to be covered*
   - *4.4 Data collection protocols/forms to be used*
   - *4.5 Staffing and Budget*
   - *4.6 Issues to be resolved*
   - *4.7 Stakeholder awareness*
5. VESSEL ACTIVITY DATA
6. OTHER TYPES OF DATA
7. REVIEW OF RECOMMENDATIONS FROM EITFDC-1
8. REVIEW OF ANNUAL CATCH ESTIMATES FOR 2007
9. EAST INDONESIA TUNA FISHERY HISTORICAL DATA RESCUE
10. CLOSE

APPENDIX II. LIST OF PARTICIPANTS

Directorate General for Capture Fisheries
Dyah Retnowati, Head of Data and Statistics dgcfstat@indosat.net.id
Onie, Staff of Data and Statistics of Directorate General for Capture Fisheries

Research Center for Capture Fisheries
Victor Nikijuluw, Director of Research Centre for Capture Fisheries nikijuluw_prpt@indo.net.id
Wudianto, Senior Scientiest wudianto_prpt@indo.net.id
Budi Iskandar Prisantoso, Deputy Director for Research Program budi_prpt@indo.net.id
Setiya Triharyuni setiya_trihary@yahoo.co.id
Agustinus Anung Widodo, Senior Scientiest anungwdd_prpt@indo.net.id
I Gede Bayu Sedana, Database Technician bayu_prpt@indo.net.id

Research Institute for Marine Fisheries
Budi Nugraha, Scientist for RCCF/RIMF budipsp@telkom.net

Research Institute for Mariculture, Gondol (RIM,Gondol)
Retno (Poppy) Andamari, Indian Ocean Tuna Catch Monitoring, Bali ipop@indosat.net.id

Bahari Tuna Longline (Industry representative)
Ikal R. Bahar ikal148@cbn.net.id

Indian Ocean Tuna Commission (IOTC)
Miguel Herrera, Data Coordinator mh@iotc.org
Lucia Pierre, Data Assistant data.assistant@iotc.org
Shunji Fujiwara, OFCF Project Fishery Expert sf@iotc.org

Australia
Craig Proctor, Fisheries Scientist, CSIRO craig.proctor@csiro.au

Secretariat of the Pacific Community
Peter Williams, Fisheries Database Manager peterw@spc.int

Secretariat of the Western and Central Pacific Fisheries Commission
SungKwon Soh, Science Manager sungkwons@mail.fm

APPENDIX III. GUIDELINES FOR SAMPLING IN BITUNG DURING 2008

Gear	Landing site[2]	Notes on Data Collection Protocols	Issues to resolve
Longline	1. Company #1 2. Company #2	1. Adopt data collection forms and protocol used in Benoa for sampling longline vessels (refer to manual and data collection forms). The protocol for sampling includes the following requirements: • Use calipers for length measurements • For each vessel selected for sampling., measure all fish, but concentrate on target species catch (BET, YFT) if there are problems in measuring all fish. If feasible and there is time, then collect size data on bycatch. • Record length and weight where possible 2. Since the protocols for other gear types are yet to be developed, concentrate on sampling longline vessels during 2008 - sample as many vessels as practical. 3. Sample from catcher vessel unloadings only at this stage (e.g. catcher vessels unload to COMPANY #2 with trips of 10 days on average) 4. Interview the vessel to collect effort data since there is no other opportunity to collect this type of data at this stage. The WCPFC standard for longline effort is required: • Total hooks per trip, or • Number of fishing days and average hooks set per day	1. Investigate the availability of individual fish weight data collected by the company (packing lists and reject lists). If this is available in the desired format, it may have ramifications on the frequency of sampling longline vessels required in the future. 2. Investigate the levels of cooperation with respect to port sampling with other companies handling unloadings from longline vessels. 3. Consider implementing additional measurement types for billfish species that are trunked. 4. What is the frequency of carriers with longline catch coming into port (if at all) ? 5. Consider sampling carriers if required. 6. How can "catcher" vessel activity be estimated from records of "carrier" vessel activity ? 7. Are there problems differentiating fishing vessels that may be carrying the catch of another vessel ?
Pole-and-line	1. Fish port 2. Company #3	It is suggested that the NSAP designed forms be used to collect data from pole-and-line unloadings at this stage. Regular sampling of pole-and-line vessels is required (target one vessel per day at the fish port and at least one vessel per week at Company #3). The protocol for sampling should include the following: • Select an appropriate vessel (not a carrier at this stage) • Ensure species and size sorting has not occurred on-board the vessel prior to sampling (do not sample if this is the case). That is, the sample should be random !	1. Vessels land at night at Company #3 – does this cause a problem for samplers ? 2. Investigate whether species or size sorting is occurring on-board the vessel 3. How do we sample from carrier vessels with pole-and-line catch ? 4. Investigate the levels of cooperation with respect to port sampling with other companies handling unloadings from pole-and-line vessels

[2] Company names of selected processing plants have not been included for reasons of confidentiality. Some processing plants do not have their landing sites in proximity but this list considers that the port samplers be able to have access to the landing sites that service respective processing plants.

Gear	Landing site[2]	Notes on Data Collection Protocols	Issues to resolve
		• Organize with the vessel to explain what is required and how many "baskets" are required for sampling. Ensure there are no potential problems in having access to the fish. • The port sampler should be equipped with their own baskets (transfer from to when sampling) to sample with, a vinyl portable mat and a portable folding table to facilitate sampling, to ensure they demonstrate care when sampling the fish. • Use a measuring board to record lengths. Suggest a one-metre board and a set of calipers for big fish. • Ensure basket has not excluded fish of other than SKJ,YFT,BET. Measure all fish and not just SKJ, YFT and BET (to obtain the species composition of the catch which will enable you to determine an estimate of total SKJ, YFT and BET in the overall catch) • Record the "Total unloaded catch" (obtained from interviewing the vessel captain/crew) and the "Total weight of the sampled fish" which could be obtained by considering the total weight of fish in the baskets used to transfer fish from on-board storage and counting the number of baskets both transferred and sampled, whichever method is the easiest. • Select basket(s) to sample – suggest selecting baskets throughout the unloading process (e.g. start, middle and end) , or simply select the next basket unloaded once you have finished sampling. • Record total trip effort (total fishing days), through the interview with the vessel captain/crew.	5. Test homogeneity of species composition of catch unloaded at the two landing sites that are sampled 6. Attempt to estimate the catch kept by the crew, which is usually a substantial amount.
Purse seine (large-mesh, pelagic tuna species target)	1. Fish port 2. Company #4 3. Company #5	It is suggested that the NSAP designed forms be used to collect data from purse seine unloadings at this stage (noting that small-mesh purse seine vessels should be avoided at this stage). Regular sampling of purse seine vessels is required (target two times per week). The protocol for sampling is similar to pole-and-line except that the unit of how the fish are unloaded may be different (i.e. a larger "brail" and not a "basket"). The following additional information is provided: • Select an appropriate vessel (not a carrier at this stage) • Ensure species and size sorting has not occurred on-board the vessel prior to sampling (do not sample if this is the case). That is, the sample should be random ! • Use the same protocol as per pole-and-line (see above), if the unloading is similar, otherwise this may need review • If brails, then select sub-sample of fish from a brail (the number in the sub-sample is to be determined). Sample brails at start, middle	1. Investigate whether species or size sorting is occurring on-board the vessel 2. How do we sample from carrier vessels with purse seine catch ? 3. Investigate the levels of cooperation with respect to port sampling with other companies handling unloadings from purse seine vessels 4. Company #5 may not be cooperative 5. Carrier vessels regularly unload to Company #4 6. It is not sure how the catch is unloaded at this stage – investigate and modify the protocol accordingly. 7. Assumption that these vessels fish on

Gear	Landing site[2]	Notes on Data Collection Protocols	Issues to resolve
		and end of unloading. (The number for fish to sample will be determined when more information on the brail size is available). • Do not measure frozen catch unloaded from purse seine vessels.	FADs (but perhaps this needs to be recorded by sampler) 8. Need to clearly define what large purse seine vessels represent … (issued a license depending on how they fish – mesh size depends on how they fish). i.e. depends on the gear. 9. What is the extent of frozen catch on purse seine vessels. 10. How many fish should be taken in the sub-sample from the brail.
Handline (small-scale)	1. Company #6 2. (to be identified)	It is suggested that the Benoa Longline forms and protocols be used to collect data from handline unloadings as a trial – if this is not suitable, then revert to the NSAP data collection forms. Regular sampling of handline vessels is required but this may depend on access to landing site throughout the week (it is recommended that sampling should be at least 3 times per week , but this may depend on access to landing site and fish). Note that pump boats may fish in Indonesian waters but they offload in General Santos City, not in Biting at the moment. The protocol for sampling should include the following: 1. Select a suitable vessel to sample. The catch will usually be small in number, so full enumeration should be possible. Do not sample carrier vessels at this stage. 2. (refer to the protocols for Benoa sampling – or the NSAP sampling, if this is appropriate) 3. Record both length and weight if possible, otherwise at least one of these measures.	1. Sampling should take place at the landing site and not the processing plant – are the landing sites accessible ? (need to check with Company #6) 2. Investigate the levels of cooperation with respect to port sampling with other companies handling unloadings from handline vessels 3. Is there an issue of carrier vessel landings ? 4. Are the individual fish weighed ?
Troll	1. Fish port	It is suggested that the NSAP designed forms be used to collect data from troll unloadings at this stage. Regular sampling of troll vessels is required (at least one per day). The protocol for sampling should be similar to pole-and-line and purse seine, with the following additional information: 1. Select a suitable vessel to sample. The catch will usually be large and unloading process complicated, so a sub-sample will be required. 2. In the interview with the vessel caption and crew, obtain the following information: • Check and record the gear used for each trip through the interview process, if they used more than one gear (i.e. handline and troll	1. Samplers will need record the total weights determined by owners (problem – they might do this later and it may not be available) 2. What is the extent of species sorting on-board the vessel prior to sampling ? Can this be avoided ?

Gear	Landing site[2]	Notes on Data Collection Protocols	Issues to resolve
		line) record this on the data collection form. • Check that there is no species sorting – if so, there will need to be a two-stage sampled – one for SKJ and one for YFT/BET. • Owners record the weight for market purposes – total weight is broken down by SKJ and total other tuna (YFT, BET, others). Obtain this information in the interview process. 3. Do a size sample of the SKJ (if sorted) – select baskets and ensure that total weight of SKJ unloaded and sampled are recorded if species sorting occurs) 4. Do a size /species composition sample of the YFT/BET, if species sorting occurs. 5. If no sorting by species, then simply select baskets throughout unloading process, as per the pole-and-line protocol described above. 6. Collecting effort measures through the interview process (fishing days, number of troll lines)	

APPENDIX IV. REVIEW OF RECOMMENDATIONS FROM EITFDC-1

EITFDC-1 RECOMMENDATION	*STATUS AS AT EITFDC-2*
Capture fisheries statistical system	
(1) It was recommended that DGCF, provincial, district and municipal agencies, and fishing port authorities, continue to collaborate to facilitate the collection of data on the catches of tuna and tuna-like species, separated by individual species on the revised SL forms, including training data collectors in species identification, educating them in regard to the objectives of the data, and providing them with additional resources.	DGCF indicated that these activities had been advanced, but there was not enough time during the meeting to elaborate.
(2) It was recommended that all agencies collaborate to introduce data collection procedures to allow data collectors to report changes in trends in fishing activity and catches.	This recommendation refers to the work of the EITFDC, and the work of the Steering Committee Meeting for Monitoring and Assessment of Indonesia's Tuna Fisheries (27-28 May 2008) was also noted.
(3) It was recommended that all agencies continue to collaborate to improve the timeliness of the collection, provision and processing of catch data, so that the current delays in the availability of annual catch statistics are reduced.	Preliminary annual catch estimates and number of vessels by size category was provided to the WCPFC by the DGCF on 2 May 2008. It was noted that this provision was timely with respect to the WCPFC requirement for data provisions which was much better than provisions of data from Indonesia in recent years. However, the annual catch estimates were not broken down by gear type, and on receipt of advice from the Executive director of WCPFC to provide annual catch estimates by gear, the DGCF had started the process to produce estimates broken down by gear type, which will be provided to the WCPFC in the coming weeks. In the past the delays had been due to data not being provided by certain provinces, but they have no implemented a system whereby catches from provinces not supplying data in time are estimated from data based on previous years in that province or from other provinces. It was stressed that these therefore are "preliminary estimates".
(4) It was recommended that DGCF continue to improve online access to annual catch statistics, by gear type, species, and landing sites and management areas.	DGCF continue to support the dissemination of public domain catch statistics on their web site. It was noted that the catches are "unraised" and are broken down by gear type, species, landing sites and management areas. There are also summaries with a breakdown by FAO area.
(5) It was recommended that DGCF, provincial, district and municipal agencies, and fishing port authorities, improve their levels of communication with regular coordination meetings to facilitate the collection of data and to avoid duplication of effort.	The initiative by DGCF to review, update and harmonization of data collection forms (SL-3) and the development of new software which will be installed in each port in May 2008 will improve efficiency in processing and data collected. Data collected at the auction stage from each vessel unloading – collected by fishing port staff. It was noted that the system still needed online checking to be implemented and will be released on a trial basis at this stage. The centralised database will reside at DGCF offices in Jakarta (MS ACCESS front-end with MS SQLSERVER backend). It was not certain at this stage how RCCF could use and benefit from these data.
(6) It was recommended that all agencies strive to enforce the reporting	It was noted that a new law had been passed that required companies to be more compliant in

EITFDC-1 RECOMMENDATION	*STATUS AS AT EITFDC-2*
requirements of companies and to increase their awareness and encourage them to cooperate, through the provision of fisheries information to industry, such as tuna fisheries newsletters and statistical publications, and stakeholder consultations.	the provision of data otherwise their license would be revoked. The stricter requirements for data provision are related to Indonesia's membership obligation for the provision of data to RFMOs (e.g. IOTC, CCSBT). Plan for stakeholders workshop in Bitung later in the year (2008).
Catch and effort logsheets	
(7) It was recommended that DGCF, RCCF, provincial, district and municipal agencies, and fishing port authorities, collaborate to establish logsheets for the collection of operational catch and effort data from industrial vessels, and to consider trialing logsheets with certain types of artisanal vessels, including fishers and buyers. The data collected on the logsheets should be consistent with the standards for the provision of operational catch and effort data to the Western and Central Pacific Fisheries Commission.	The implementation of logsheets was discussed by the Steering Committee meeting (27-28) with the intent to address this issue in the future (refer to the report of the Steering Committee meeting. For East Indonesia tuna fisheries, the implementation of logsheet data collection is considered premature and best resolved at the national level through the steering committee meeting (i.e. standardized forms. Legally-enforceable, etc.)
Port sampling programmes	
(8) It was recommended that DGCF, RCCF, provincial, district and municipal agencies, and port authorities, collaborate to establish tuna fishery port sampling programmes in Eastern Indonesia to collect data on the species composition and size composition of the catches by vessels of all gear types and size categories. Priority should be given to the most active ports, i.e., Bitung, Sorong, Kendari and Ternate. Consideration should also be given to establishing port sampling programmes at other ports, as the need arises and where funding and resources permit.	(Refer to the report of the 2nd East Indonesia Tuna Fishery Data Collection Workshop)
Tuna monitoring station	
(9) It was recommended that a tuna monitoring station, similar in scope and function to the tuna monitoring station for the Indian Ocean waters of Indonesia in Benoa, be considered for the Pacific Ocean waters of Indonesia in Bitung.	Land has been generously provided by the local government for the Bitung monitoring station and the design of the building and a plan of action for the construction are currently being developed.
Species of special interest	
(10) It was recommended that DGCF, RCCF and relevant NGOs collaborate to collect data on catches of species of special interest (e.g., turtles, sea birds, marine mammals, sharks) through observer programmes and, if possible, through port sampling and from fishing companies.	The Indonesia Tuna Fisheries Steering Committee meeting (27-28) discussed the need to standardize existing observer programmes in Indonesia and establish a national programme. Future work related to the recommendations of the SC will cover the requirements for observer programmes in the East Indonesia Tuna Fisheries in the future.
Numbers of vessels active	
(11) It was recommended that DGCF and port authorities endeavor to estimate the annual number of domestic and foreign tuna fishing vessels, by gear type, that have actively fished in Eastern Indonesia, as distinct from the number of vessels licensed or the number of vessels by home port. Where possible, the number of vessels active by size category, within each gear	DGCF provided a breakdown of vessels by size category to the WCPFC on 2 May 2008, but the numbers represented registered/licensed vessels and not "active" vessels, which is required by the WCPFC. DGCF will endeavour to cross-check the licensed vessels with other information collected by port authorities to ensure that a breakdown of "active" vessels are provided to the WCPFC.

EITFDC-1 RECOMMENDATION	*STATUS AS AT EITFDC-2*
type, should be determined.	It was noted that the IOTC and OFDC are working on introducing a vessel marking system that will standardize the way vessel identification is managed in Indonesia in the future. It was also noted that the Surveillance Fleet Control Report provides valuable information on vessel activity through the monitoring of vessel entry and departure information in each port. It is recommended that there is a need to reconcile information from several sources mentioned above..
Illegal, Unreported and Unregulated (IUU) fishing	
(12) It was recommended that the relevant agencies endeavor to determine the general level of unreported catches of tuna in the waters of Eastern Indonesia, to avoid the double-counting or under-estimation of catches.	There are no foreign fleets currently allowed to land their catches in Indonesian ports, however, it was noted that illegal fishing could potentially occur. There is currently no mechanism for determining if IUU fishing is occurring and if so, the extent of IUU fishing in Indonesian waters. It was noted that a new ACIAR project would be looking at certain aspects of IUU fishing in Indonesian waters.
Project development	
(13) It was recommended that Indonesia liaise with the WCPFC Secretariat to access WCPFC work programme funds to conduct preliminary work during 2007 towards the establishment of sampling programmes and other activities in Eastern Indonesia.	In June 2007, the WCPFC Secretariat made a contract with the RCCF to conduct a preliminary research as a feasibility study to prepare a three-year IPDCP project in Indonesia. In December 2007, the Commission endorsed the decision to fund Indonesia for its first year research. In order to refine technical issues related to port sampling, the second workshop was held in late May 2008. It was agreed that a revised proposal for 2008 IPDCP in Indonesia will be submitted to the Secretariat by RCCF, which would focus on data collection in Bitung and Kendari, Indonesia.
(14) It was recommended that the Western and Central Pacific Fisheries Commission endorse the indicative budget for 2008 for the Indonesia and Philippines Data Collection Project, to establish sampling programmes in Eastern Indonesia during 2008, and that the WCPFC Secretariat develop memoranda of understanding with the relevant agencies in Indonesia in this regard.	The Commission endorsed a total of USD 115,000 for the IPDCP in 2008, of which USD 42,500 was used as a GEF project co-financing fund. Indonesia will revise its project proposal after the second workshop and, if required, the development of MOU will be considered in the future.
(15) It was recommended that the WCPFC Secretariat develop a proposal during 2007 for funding by the Global Environment Facility (GEF) for sampling programmes in Eastern Indonesia during the period 2009–2012. To ensure the continuity of sampling programmes in Eastern Indonesia, it was also recommended that the WCPFC continue to support these programmes from the Commission's core budget, until the GEF project commences.	The WCPFC Secretariat applied for a West Pacific East Asia Oceanic Fisheries Management Project to UNDP-GEF in 2007 and a Project Preparation Grant was approved in early 2008. National focal points were nominated from Indonesia, Philippines and Vietnam and a medium-term full proposal for 2009-2011 will be submitted to UNDP by December 2008.

APPENDIX V. ACRONYMS USED IN EITFDC-1 and EITFDC-2

ACIAR	Australian Centre for International Agricultural Research
BBRPBL	Balai Besar Riset Perikanan Budidaya Laut (Indonesia)
CCMs	WCPFC members, cooperating non-members and participating territories
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CSIRO	Commonwealth Scientific and Industrial Research Organisation (Australia)
EITFDC	Eastern Indonesia Tuna Fishery Data Collection (Workshops)
DGCF	Directorate General of Capture Fisheries (Indonesia)
FAD	Fish aggregating device
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GRT	Gross registered tonnage
GT	Gross tonnes
OFP	SPC Oceanic Fisheries Programme
IOTC	Indian Ocean Tuna Commission
LOA	Length overall
NFRDI	National Fisheries Research and Development Institute (Philippines)
NSAP	National Stock Assessment Project (Philippines)
RCCF	Research Center for Capture Fisheries (Indonesia)
RIMF	Research Institute for Marine Fisheries (Indonesia)
SC1	Inaugural session of the WCPFC Scientific Committee, 8–19 August 2005
SCTB	Standing Committee on Tuna and Billfish
SISPT	Statistical information system for capture fisheries
SPC	Secretariat of the Pacific Community
WCPFC	Western and Central Pacific Fisheries Commission