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Report of the Third Eastern Indonesia Tuna Fishery Data Collection Workshop (EITFDC-3)

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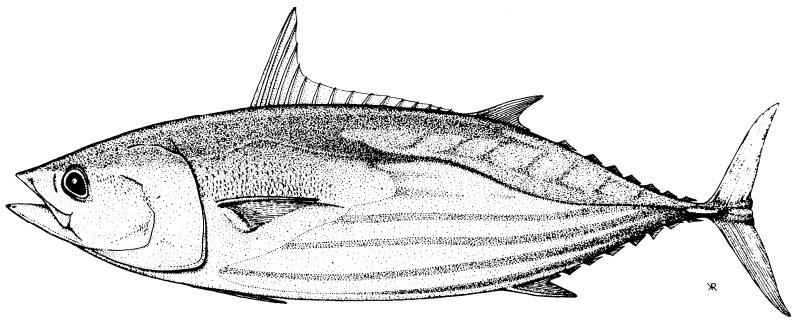
REPORT OF THE THIRD EASTERN INDONESIA TUNA FISHERY DATA COLLECTION WORKSHOP (EITFDC-3)

15-17 January 2009

Manado, Indonesia



Western and Central Pacific Fisheries Commission
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1. OPENING

1. The Third Eastern Indonesia Tuna Fishery Data Collection (EITFDC-3) Workshop was held at the Formosa Hotel Conference Room in Manado North Sulawesi, 15–17 January 2009. The workshop was attended by 21 participants from several Indonesian government agencies[1], Australia (Commonwealth Scientific and Industrial Research Organisation – CSIRO), the Secretariat of the Pacific Community (SPC), and the Secretariat of the Western and Central Pacific Fisheries Commission (WCPFC).

2. Previously, the First Eastern Indonesia Tuna Fishery Data Collection (EITFDC-1) Workshop was held at the headquarters of the Research Centre for Capture Fisheries (RCCF) in January 2007 through the support of the Indonesia and Philippines Data Collection Project (IPDCP), 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 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.

3. The Second Eastern Indonesia Tuna Fishery Data Collection (EITFDC-1) Workshop was held in RCCF headquarters in May 2008 and focused on developing suitable protocols for establishing pilot port sampling in two main ports in East Indonesia, Bitung and Kendari. The second workshop also reviewed other types of data potentially available to the WCPFC (vessel activity data and logsheets), and an historical data rescue project for East Indonesian tuna fishery data (see http://www.wcpfc.int/ipdcp/pdf/EITFDC-2-Report.pdf).

4. Mr Budi Iskandar welcomed participants to the Third Workshop on behalf of the RCCF Director, Dr. Achmad Poernomo, who unfortunately was unable to attend the workshop due to an urgent Ministry meeting. He briefly summarized the work that had been done since the last workshop (EITFDC–2) and thanked the WCPFC and donors for the continued support they have provided in establishing data collection systems in the East Indonesian tuna fisheries.

5. Mr Peter Williams thanked the Director and staff of the RCCF for organizing the workshop on behalf of the WCPFC. He provided a brief overview of the IPDCP activities in Indonesia over recent years, highlighting the outcomes of the previous two EIFTDC workshops held in January 2007 and May 2008. The main focus of this workshop would be a review of the pilot port sampling established in the ports of Bitung and Kendari since the last workshop. He stressed that it was important for the WCPFC to gain an appreciation of the vessel landing activities and the port sampling work involved, to ensure appropriate systems are put in place, thereby satisfying the data requirements of the WCPFC. He noted that the WCPFC appreciates the commitments made by Indonesia to improving their tuna fisheries data collection systems and looked forward to another productive workshop.

6. This report includes a summary of discussions held during in EITFDC-3 workshop plenary, which was conducted over two days (15th and 17th January), a summary of outcomes of field trips to Bitung port (16th January 2009) and Kendari port (18–19 January 2009), and a summary of follow-up discussions and meetings with staff at RCCF headquarters on the 20–21 January 2009.

[1] See the Participants List in APPENDIX II. Representatives from the Directorate General of Capture Fisheries (DGCF) Jakarta were invited to attend this workshop but unfortunately were not able to attend.

2. APPOINTMENT OF CHAIRPERSONS AND RAPPORTEURS

7. Mr Peter Williams was appointed chairman. Mr Craig Proctor and Mr Budi Iskandar were appointed rapporteurs.

3. ADOPTION OF THE AGENDA

8. The agenda proposed for the workshop was adopted as presented in APPENDIX I and the list of the participants can be found in APPENDIX II.

9. The visit to Bitung port was arranged for Friday (16th January 2009) and this schedule meant that the workshop plenary was conducted on Thursday 15th January and Saturday 17th January. Visits to Kendari port were conducted on Sunday 18th January and Monday 19th January. Some of the agenda items were covered in more detail during later discussions in the offices of RCCF in Jakarta (Tuesday and Wednesday, 20-21 January 2009). The work in Jakarta included review of the data rescue project and agreeing on the draft version of the new EITFDC forms.

4. Review of progress of PORT SAMPLING ACTIVITIES in Biting

4.1 Status port sampling in Bitung

10. Mr. Anung Widodo, the supervisor for the Bitung port sampling staff, provided a presentation on the status of port sampling in Bitung. As at December 2008, there were about 40 fishing companies based in Bitung and 1009 registered fishing vessels (> 30 GT) although only ~40 % of these vessels are active. The gear types of vessels based in Bitung that fish for tuna are purse seine (Pukat cincin/Jaring pajeko), pole-and-line (Huhate/Pancing funae), troll-line (Pancing tonda), handline (Pacing ulur tuna) and longline (Rawai tuna).

11. The implementation of port sampling in Bitung began in mid-late 2007 with visits by senior RCCF staff to each of the fishery companies and the recruitment and training of port sampling staff. Full data collection began in September 2008, after recruiting and training more staff and the provision of an office in the port area, courtesy of the surveillance department. Mr Widodo presented some summaries of the data collected which included individual vessel landings data for November 2008 and monthly size frequency data for October-December 2008. The main constraint to port sampling is distance between certain sampling sites with only one motor cycle available to the samplers.

12. In the ensuing discussion, it was noted that bigeye catch was not specified in the landings summaries but is included in the yellowfin catch for the purse seine landings data since the data originated from the fishing companies. It was suggested that future activities could consider the sampling of tuna landings from handline vessels in Belang which is about 150 km from Bitung, although much of their catch is ultimately transported to Bitung.

13. With respect to obtaining information on fishing grounds at the time of landing, it was noted that only broad fishing areas were provided by skippers. Companies/vessels are however licensed to fish in particular areas. If the fishing area for that vessel is known and if vessels fish in the wrong areas, then other vessels will often report that activity to Dinas, Port Authority, or to WASKI (office of fisheries surveillance).

4.2 Review of "protocols" and "issues to resolve" in Bitung

14. The workshop reviewed the implementation of port sampling in Bitung against the guidelines for port sampling established during EITFDC-2 (see APPENDIX III of EITFDC-2

Report). The table showing the revisions to "issues to resolve" for port sampling in Bitung has been included in this report as APPENDIX III. This table is simpler than the version compiled as an output to EITFDC-2 since the notes on data collection forms and protocols/instructions have been removed and are included in separate documentation (see APPENDIX VIII).

15. The following sections summarize the pertinent points with respect to discussions on the protocols and issues to resolve in port sampling in Bitung.

4.2.1 Longline landings in Bitung

16. Since the majority of longline unloadings occurring at BMU company wharf[2] are sampled, then coverage should not be an issue, but the level of coverage should be confirmed. Some effort data (hooks) were being collected from the longline vessels. As the individual weights of tuna recorded during the longline unloading process were a very good source of historical size data which is required by the WCPFC, efforts should be made to request these data from the fishing company/agent. At this stage, there are no carrier vessels for longline-caught fish unloading in Bitung (only catcher vessels), but on a few occasions, one catcher vessel may hold the catch of another catcher vessel. However, when this occurs, each fish is tagged to distinguish which vessel it came from, so port samplers can link each fish to a corresponding catcher vessel.

4.2.2 Pole-and-line landings in Bitung

17. At present the only monitoring of pole-and-line vessels unloadings occurs at the Bitung fishing port. It was not yet possible to undertake sampling of pole-and-line vessels at the company Sari Cakalang landing site, although access may be possible at Sari Cakalang in March 2009. It was important to gain access to the private wharves since about half of the pole-and-line landings in Bitung are at these landing sites. It was noted that there were fewer pole-and-line vessels active in Bitung than usual, mainly due to problems with bait supply, but this situation was expected to improve. It was not clear whether the fleet surveillance reports cover unloadings to private wharves, but that this issue would need to be resolved to ensure an accurate accounting of all Bitung landings. There are currently 10 active pole-and-line vessels unloading at the fish port at least twice a week, and 6 active vessels unloading at Sari Cakalang. If the weather is bad, the Sari Cakalang vessels will unload at the Bitung fishing port. All pole-and-line landings come directly from the catcher vessels. There are only three *funae* (smaller pole-and-line vessels) in Bitung but many in Belang (150 km from Bitung) – the three funae in Bitung are covered by port sampling.

18. The major issue with sampling pole-and-line vessels is obtaining cooperation with the companies as they are concerned with interference in the landing process, particularly for small fish. There was no opportunity to observe pole-and-line landings and sampling during the port visit, so it is difficult at this stage to comment on any revisions to the sampling protocols other than the general changes required for sampling in general. It was noted that there were problems with species identification (small bigeye and yellowfin), despite having the Itano small yellowfin/bigeye identification guide available in Bahasa. However, the available guides were on fish in good condition and not the version of fish in poor condition, which will be required in Bitung and Kendari.

4.2.3 Purse-seine landings in Bitung

19. The purse-seine landings of interest to the port sampling project are those vessels utilizing large-mesh nets to target pelagic tuna species and not the mini purse-seine vessels

[2] Anekaloka accepts longline-caught fish unloaded to the BMU landing facility.

(pajeko) that mainly catch small pelagics. All purse seine landings in Bitung are from carriers. The unloaded fish often come off the vessel rapidly and therefore it has been difficult to get samples. It is easy to get weights for every basket and to count baskets, but difficult to get a sample to measure. The sample is obtained from a basket, two or three fish from each basket. On average 30-50 fish are measured from whole catch (40–60 kg of fish are contained in one basket). It has been difficult to obtain the total unloaded catch because there can be baskets from more than one source. It was suggested that it would be better to select one basket and sample the entire contents rather than selecting 2-3 fish per basket, providing that no species or size sorting of the fish occurs before selecting the basket. Cooperation with the companies would be required to do this. Another problem which was common to Bitung sampling in general was the use of tape measure to measure fish, which will introduce bias into the length measurements. It was strongly suggested that a measuring board or calipers be introduced as soon as possible.

20. The participants discussed the issue of whether unbiased samples could be obtained from purse seine carriers unloading in Bitung. The catch from each carrier unloading at Sinar Purefoods cannery wharf usually comes from one catcher vessel in a "group" operation, so sampling each carrier vessel would be representative of the catch of one vessel, so should not be a problem. A description of how the carriers from one company (Ocean Mitramas) record the catch from each catcher vessel was provided. In summary, participants agreed that more information would be required to determine the extent of the problem for carriers unloading purse seine catch at other landing sites.

4.2.4 Handline landings in Bitung

21. A breakdown of the handline offloading activity in Bitung was provided. The "*Kapal pelang*" (local name) undertake 4-day trips, have a maximum 4 crew and catch a maximum of 12 fish per trip (fish size range is 30–82kg). The fish price is determined by the company, with a difference in price between YFT and BET. There are nine (9) of these vessel (15-18 GT) unloading to PT. Nutrindo, and at least 13 vessels based at Belang.

22. In the ensuing discussion it was noted that all large fish caught by handline end up at PT Nutrindo, so this should be the focal point for sampling, provided the origin of the fish (vessel) can be determined.

23. It was noted that the smaller processing plants for handline-caught fish (observed in 2006) were no longer active. The current sampling protocol for handline-caught fish delivered to PT Nutrindo was that all vessel unloadings were covered, but only 30-50% of the fish sampled for measurement from each unloading. It was suggested that it was better to sample all fish from a selected vessel unloading rather than only part of the catch from several vessels (this protocol will be reflected in the revised instructions for sampling). In addition, the total catch (by species) unloaded for vessels that were not selected for sampling should be obtained, either from company or from fleet surveillance reports – these data will provide an overall accounting of the handline catch landed in Bitung.

5. Review of progress of PORT SAMPLING ACTIVITIES in Kendari

5.1 Status port sampling in Kendari

24. Mr Mahiswara, the supervisor for the Bitung port sampling staff, provided background on the status of port sampling in Kendari. There are two landing centres in Kendari (Kendari Fishing Port and Sodoha landing site) which are located on opposite sides of the harbor/bay, but around 20-30 minutes travel time by road between these two sites. These sites service pole-and-line, troll-line, handline and mini purse-seine vessels landing their catch. Sodoha mainly services

the landings of carriers and catcher vessels for the troll-line, handline and mini purse-seine gear types. It was noted that there are no longline vessels unloading in Kendari.

25. Mr Mahiswara provided some summaries of the data collected which included monthly landings of tuna species catch for 2007, monthly size frequency data for July-December 2008, a graph showing fishing season index and a breakdown of operational parameters for each gear type.

5.2 Review of "protocols" and "issues to resolve" in Kendari

26. The workshop reviewed the implementation of port sampling in Kendari, noting that similar issues had already been discussed during the review of Bitung port sampling (see Section 4.2 above). The following sections summarize the pertinent points with respect to discussions on the protocols and issues to resolve in port sampling in Kendari. APPENDIX IV contains a list of the "issues to resolve" with respect to port sampling in Kendari landing sites.

27. There are two main issues with respect to sampling landings in Kendari : (i) ensuring that the sampler has access to the fish before they are sorted, and (ii) ensuring that an unbiased, representative sample can be obtained from the carrier vessels that account for the majority of the troll-line catch unloaded in Kendari.

5.2.1 Pole-and-line landings in Kendari

28. Sampling is done by taking basket from unloading line on the wharf prior to being loaded into truck to go to PT Samudera Sentosa. When sampling a carrier vessel, the enumerators try to get the number of catcher vessels represented in catch; the carrier vessel may be a catcher vessel that has collected catch from sister vessels. It was noted that as long as catch on carrier vessels comes from vessels of the same gear that have fished in the same general area (which is typically the case), then sampling the carrier vessels would be appropriate. In any event, it would be useful to investigate whether it was possible to obtain the catch values of each vessel loading to the carrier at sea, and verify whether catches from carriers are from vessels that fish in a similar manner (e.g. with the same gear and general fishing area).

5.2.2 Purse-seine landings in Kendari

29. There are no large-mesh purse seine vessels unloading in Kendari as all purse seine vessels in Kendari are mini purse-seine (local name "*gae*"), which sometimes have "large" pelagic tuna in their catch (the *Fleet surveillance reports* include "baby tuna" in the catch of these vessels, that is yellowfin and bigeye tuna). The sampling of mini purse seine vessels has been considered low priority at this stage, although there may need to be further review of the extent of catch of skipjack, yellowfin and bigeye by these vessels to ensure we are not missing a substantial catch. It was also noted that there is a big size range amongst the mini purse seine vessels unloading in Kendari.

5.2.3 Handline landings in Kendari

30. There are 46 handline vessels (2-3 GT) registered in Kendari but only 20 vessels are active; these vessels target large tuna, of which some are loined at sea.

31. During the visit to the port, it was noted that the handline vessels may use different methods to target large-fish. For example, there are some vessels that use handlines to target large fish at shallow depth using kites and lures. This method of fishing, which is common in Sulawesi, appears to be becoming more and more popular among handline fishers elsewhere in Indonesia (as the Sulawesi influence spreads and as a result of increased fuel prices). As the trend moves to landing more large fish of higher quality, to serve the increase in fillet/loin processing plants, the catch by this method may increase beyond what is already a significant

level. The new EITFDC data collection forms do not yet include a form to specifically cater for the sampling of the "Surface Handline large-fish" vessels.

5.2.4 Troll-line landings in Kendari

32. Landing of the troll-line catch occurs at both landing sites (the fishing port and Sodoha), although sampling has only been conducted at the Fishing port at this stage. Since October 2008, "production" data have been collected at Sodoha on Saturdays and Mondays, through interviews with skippers/crew; the data collected includes fishing area but no measure of fishing effort. Troll-line catch can be offloaded from carriers or catcher vessels and there was some concern expressed on what appears to be a significant number of vessels using more than one gear (e.g. troll-line and handline) in the one trip and what the ramifications are for sampling. Troll-line vessels typically undertake 10-day fishing trips – during low season ("paceklik"), catch is usually less than 1 tonne per trip, but during the high season, catches range 2-3 tonnes per trip.

33. The suggested method of sampling these vessels was similar to the purse seine vessels in Bitung, that is, to select "baskets" of fish at random during the unloading process, ensuring that species and size sorting has not occurred before-hand (except for the rare catch of other species and large tunas, which are enumerated separately) and measure the entire contents of each basket. More details on the protocol is described in Appendix VIII.

6. Port Sampling Management issues

6.1 Review of data collected, data quality and timing for provision to WCPFC

34. Workshop participants visited Biting port from the early hours of the morning of the 16th January until mid afternoon to observe the offloading activities. A separate visit to Kendari port to observe landings was conducted by the WCPFC and CSIRO representatives on the 18th and 19th January, accompanied by the RCCF monitoring supervisor for Kendari.

35. The implementation of the port sampling and the data collected so far were encouraging, although it was acknowledged that the visit to the landing sites was invaluable for understanding the difficulties involved in sampling and where revisions to the data collection protocols were required. With a better understanding of the complexities of landing activities in Bitung and Kendari ports, it was decided that dedicated data collection forms for the East Indonesia tuna fisheries needed to be developed. While the new data collection forms would be based on the Philippines NSAP data collection forms (which have been used to date), it was clear that a set of forms should be designed to better suit the conditions experienced in East Indonesian landing sites. It was therefore agreed that the new data collection forms and revised protocols would be developed as soon as possible. Draft versions of data collection forms, with instructions, were designed in days subsequent to the workshop and reviewed in Jakarta. The plan was to have the data collection forms and instructions translated into Bahasa, and training courses conducted in February 2009 with the objective of implementing the new data collection forms in late February. The data collection forms can be found in APPENDIX VIII. It was agreed that implementation of the new data collection forms would need to be reviewed within six months by a WCPFC representative.

36. In addition to the new data collection forms, it was recommended that a document describing the tuna product flow should be produced and maintained for Bitung initially, and then the other ports [to be covered by port sampling] at a later date. This document will need to be continually updated as activities in each port change, and would serve as an invaluable document, not only for planning port sampling strategy, but for providing a general, regular update of port activities throughout East Indonesian ports.

37. A brief review of the data collected so far was undertaken in the margins of the workshop, with more substantial discussions planned during a visit to RCCF offices in Jakarta following the workshop. The data that has been collected to date will be useful to the Commission, and should be provided to the WCPFC prior to the April 30th deadline for the submission of data.

38. With respect to the sampling protocols, one key problem may be carrier vessels that bring in catch that has come from vessels of multiple gear types. At this stage, it was suggested that these carriers should not be sampled if catch cannot be differentiated by gear type and an assessment of how common this occurs will be needed. In this respect, it was noted that landing activities in East Indonesian ports is a lot more complex than in Benoa. It was also noted that monitoring/sampling will ultimately be the responsibility of Indonesia, but that "monitoring" is actually under DGCF, so relevant DGCF (Jakarta) representation at future meetings was crucial. It will also be important to ensure that the port sampling is linked to the collection of official catch statistics by DGFC and the Provinces.

6.2 Staffing and Budget

39. With respect to issues on the staffing and budget, it was suggested that the workshop discuss the issues, which would then be referred to Dr SungKwon Soh (WCPFC) who administers the IPDCP funds.

40. Mr Iskandar reported that there are currently a total of 13 enumerators employed, 8 in Biting and 5 in Kendari. One enumerator in Bitung is a staff member of Dinas Kota and another is from Fishing Port Authority. The enumerators in Kendari are all staff from Kendari Fishing Port Authority. The standard of monitoring in Kendari is not as good as in Bitung as they are apparently reluctant to adopt the new methods. He noted that the system needs to evolve as the requirements for sampling are better understood, including more information on the fishery and company operations, as was the case in Benoa.

41. Mr Iskandar presented the budget for the Bitung and Kendari port sampling programs. He mentioned the current problem of transfer of funds to projects in general due to the introduction of a new National system of funds allocation. He highlighted the significant in-kind contributions by Indonesia, which was acknowledged, with thanks, by the WCPFC representatives at the workshop. A significant in-kind contribution to the East Indonesia monitoring programme was the donation of a site by the Directorate General of Surveillance where the new monitoring station can be built. The site is conveniently located to the port facilities and very close to one of the purse seine company's landing site.

42. In regards to the most important needs for the monitoring project, Mr Iskandar stated that they need more enumerators, particularly as the number of sampling sites increases. Also, they would like to formally involve Pak Bemo (Sinar Purefoods) in the program as he will facilitate the sampling of the landing site which comprises a large volume of the total Bitung landings. The need for another motorcycle was also mentioned and will be taken up with Dr Soh.

6.3 Stakeholder awareness

43. It was acknowledged that stakeholder awareness is critical to the success of the monitoring programmes in East Indonesia tuna fisheries and had already been written into the UNDP-GEF WPEAOFM project proposal and referred to as "*Northern Tuna Fishermen Association*". Stakeholder awareness had been built into the Benoa, Jakarta, Cilacap monitoring programs with great success, and annual meeting with stakeholders has proved very effective – the same formula needs to be considered for Bitung and Kendari as a high priority item.

44. It was noted that the fishermen's association HNSI (Himpunan Nelayan Seluruh Indonesia) in Bitung and Kendari were unfortunately not very active at this stage, and that all relevant stakeholders should be included in the future.

6.4 Other issues

45. There were no other issues raised.

6.5 Recommendations on future port sampling strategy

46. The future port sampling strategy was discussed within agenda items 4, 5 and 6, and recommendations coming from this workshop are dealt with in Section 9 of this report. Participants agreed that there was a need to ensure the port sampling in Bitung and Kendari was operating smoothly before considering expanding activities to other ports in East Indonesia.

7. Status of GEF project – transition from IPDCP to WPEAOFM

47. Dr Lewis provided an overview of the new GEF West Pacific East Asia Oceanic Fisheries Management (WPEAOFM) project, of which Indonesia will be one of three beneficiaries (with the Philippines and Vietnam. Work has already been begun with the compilation of baseline information on oceanic fisheries in each of the countries as input to the project design and strategy, including review of policy, legal and institutional arrangements for conservation and management of shared oceanic fish stocks in each country. Project submission occurred in January 2009, with approval expected in the first half of 2009 and a scheduled to start soon after approval (it will be a three-year project). GEF funds of approximately USD 100,000/year will be available to each country initially, plus co-financing and in-kind contributions, which should all contribute to a total up to ~USD 200,000/year/country initially. The main objective is for Indonesia to have full, effective participation in the WCPFC including full compliance with its oceanic fisheries obligations (data, in-zone and high seas management). A good outcome with this project will be seen as favorable for more extensive funding support under the next GEF funding cycle.

48. It was noted that there were delays experienced in the availability of funds in the latest ACIAR project, due to the introduction of the new national system of project funds 'dispersal'. However, it was expected that once the WPEAOFM project documents were received that it would take no longer than one month to have the project fully operational.

8. Review of other data-related matters

8.1 Summary of recent tagging activities and tag return management

49. Dr Lewis provided a presentation on the recent tagging activities in Indonesia. The campaign in Indonesia was conducted from 27th September to 30th October 2008 and resulted in a total of 25,225 tag releases (19,604 skipjack, 5,267 yellowfin and 354 bigeye tuna). There were already more than 2,500 tag recoveries and he stressed the importance of the work involved in tag return management, such as the establishment of the Tag Recovery Officers (TROs) in key ports to ensure quality data are obtained from the tag recoveries. It was also fundamentally important to ensure that canneries and other processing plants in Indonesia were aware of the tagging project as soon as possible and to expect tags to flow in.

50. In this respect, it was noted that there had yet to be follow-up for tag recoveries in several places and that a high priority task is for someone (from RCCF/RIMF) to visit ports that have not yet been covered in the tag recovery process as soon as possible; for example, places in eastern Nusa Tenggara, and areas of Sulawesi other than Bitung and Kendari (e.g. Bone, Gorontalo, Kolaka, Makassar).

8.2 Collection of other types of fishery data

51. The *Fleet Control and Surveillance Report* provides the most accurate accounting of vessel landings in ports monitored by Port Authorities. It was therefore suggested that the port samplers be formally instructed to review and record the information from this report as one of their duties, since for example, it provides an accurate measure of total landings by gear type and an indication of the coverage of vessels they sample. It was noted that these reports have to be obtained through Office of Control and Surveillance, and would only be available 2–3 months later.

52. The Chair reiterated the importance of other types of fishery data, in particular logsheet and observer data. In regards to logbooks, it was noted that DGCF was in the process of developing (through an outside consultancy) a standard logbook to be used in all fisheries, although there were some concerns expressed by Regional Fisheries Management Organisations (RFMOs) that it will not produce operational data that are required by the RFMOs. The IOTC (in consultation with the WCPFC and CCSBT) were in the process of preparing a paper to highlight the requirements of RMFOs to ensure that everyone's interests (Indonesia and the RFMOs) will hopefully be covered. It was noted also that stakeholder awareness of what the logbook data is to be used for and all the flow-on benefits, are important considerations during the design and implementation phase. It was clearly acknowledged that a logbook system for small vessels would be too onerous and that these vessels can hopefully be covered by the monitoring/sampling program.

8.3 Data Rescue project

53. In late 2007, the WCPFC, through the IPDCP, provided funds 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. Mr Iskandar reported that good progress had been made on the data rescue project with a great deal of the historic data located and compiled over the past year. However, the main problem was how to validate the data which are available in numerous formats (e.g. port sampling, fishing logs, company records, summaries from research studies, including tagging projects) and avoid "double-counting". In the days following the EITFDC-3 workshop, a review of the historical data already compiled by RCCF was conducted by WCPFC/SPC and templates for compiling operational, aggregate and size data were developed and provided which will assist RCCF standardize their historical data into a format suitable to the WCPFC and to RCCF researchers. The formats for each data type are included in APPENDIX V.

54. It was also noted that RCCF/RIMF hold extensive historical tagging and baitfish project data and that these data should be compiled into a standard format which would be invaluable for studies looking at the comparisons with recent tagging efforts, for example.

8.4 Preparation of Annual catch estimates for 2008

55. It was acknowledged that DGCF - Data and Statistics Section (Jakarta) are responsible for preparing and providing annual catch estimates to the WCPFC, but were unfortunately not

present at the workshop, so this agenda item was not discussed. It was noted that there remain problems in the annual catch estimates provided to the WCPFC and that the current port sampling initiative would provide valuable information to assist in the process of producing annual catch estimates in the East Indonesia tuna fisheries. It was suggested that a quarterly report produced from the port sampling data would be useful for DGCF to compare to their estimates, especially for the breakdown of species by gear which is a fundamental requirement of the data provided to the WCPFC.

9. Recommendations from EITFDC-3

56. Based on discussions during the workshop, ten (10) recommendations were developed by participants to guide the work required in the coming year (see APPENDIX VI).

10. CLOSE

57. Mr Williams thanked the staff of RCCF for organizing the meeting. He noted that the visit to Bitung and Kendari (where the pilot port sampling has been undertaken) was an invaluable experience and will again be necessary during the next review workshop, which should provide final acceptance of the port sampling protocols and data collection forms. Progress with the historical data rescue process was noted and the WCPFC was looking forward to an interim provision of historical data in the next few months. Appreciation was once again extended to donors – France, New Zealand, Chinese Taipei, Australia and the United States of America, which have contributed to the WCPFC IPDCP over recent years, and special mention was made of the major contribution that the UNDP-GEF WPEA OFM project will provide in the coming years.

58. Mr Iskandar also thanked the WCPFC, donors and participants on behalf of RCCF, the organizers of the workshop. The meeting was closed with a vigorous round of applause.

APPENDIX I. EITFDC-3 AGENDA

THIRD EASTERN INDONESIA TUNA FISHERY
DATA COLLECTION WORKSHOP
(EITFDC-3)

Manado, North Sulawesi, Indonesia
15–17 January 2009

Provisional Agenda

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- 4.2 Review of “protocols” and “issues to resolve”

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- 5.1 Brief introduction on status port sampling in Kendari
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- 6.3 Stakeholder awareness
- 6.4 Other issues
- 6.5 Recommendations on future port sampling strategy

7. Status of GEF project – transition from IPDCP to WPEAOFM

8. Review of other data-related matters
- 8.1 Summary of recent tagging activities and tag return management
- 8.2 Collection of other types of fishery data
  - 8.2.1 Vessel activity data
  - 8.2.2 Logsheet data
- 8.3 Data Rescue project
- 8.4 Preparation of Annual catch estimates for 2008

9 Wrap-up Session
- Main recommendations from the workshop
- Timing of the report of workshop
- Next meeting

APPENDIX II. LIST OF PARTICIPANTS

Name	Title	Organization	Email
Budi Iskandar Prisantoso	Deputy-Director for Research Programme	Research Center for Capture Fisheries - PRPT BRKP (RCCF)	budi_prpt@indo.net.id
Agustinus Anung Widodo	Scientist	RCCF	anungwdd_prpt@indo.net.id
Dr Subhat Nurakim	Senior Scientist	RCCF	subhat_prpt@indo.net.id
Mahiswara	Scientist	RCCF	
I Gede Bayu Sedana	Database Technician	RCCF	bayu_prpt@indo.net.id
Maltonius Tassi, A. Md	Enumerator	PPS - Bitung	
Erick Pudihang, A. Md	Enumerator	PPS - Bitung	
Irwan Tahir	Enumerator	PPS - Kendari	
Iswadi Rahman	Enumerator	PPS - Kendari	
Sahbudin Dg. P	Enumerator	PPS - Kendari	
Wine Sargian, A. Md	Enumerator	Setasiun Monitoring Tuna (Bitung)	
Syafril, ST	Enumerator	Setasiun Monitoring Tuna (Bitung)	
Mistun, A. Md.	Enumerator	Setasiun Monitoring Tuna (Bitung)	
Muh. Yusuf, A. Md	Enumerator	Setasiun Monitoring Tuna (Bitung)	
Syamsul Muhamad, A. Md	Enumerator	Setasiun Monitoring Tuna (Bitung)	
Bahrul Yusuf	Enumerator	Setasiun Monitoring Tuna (Bitung)	
Yulius Ramda	Enumerator	Dinas Kelautan dan Perikanan Propinsi Sulawesi Utara	
Budi Muljanta	Staff	Dinas Kelautan dan Perikanan Propinsi Sulawesi Utara	
Dr Tony Lewis	Fisheries Consultant	WCPFC	al069175@bigpond.net.au
Crag Proctor	Fisheries Scientist	CSIRO	craig.proctor@csiro.au
Peter Williams	Fisheries Database Manager	SPC-OFP	peterw@spc.int

APPENDIX III. Issues to be resolved for sampling in Bitung– JANUARY 2009

Gear	Landing site[3]	Issues to resolve / follow-up
Longline	Company #1	1. Implement the new data collection forms and protocols (see Appendix VIII) 2. 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. 3. Investigate the levels of cooperation with respect to port sampling with other companies handling unloadings from longline vessels. 4. Consider implementing additional measurement types for billfish species that are trunked. 5. Use calipers or measuring boards instead of measuring tapes and provide training on how to use these equipment in confined spaces, to ensure minimal interference to processing operations.
Pole-and-line	Fish port Company #3	1. Implement the new data collection forms and protocols (see Appendix VIII) 2. Vessels land at night at Company #3 – does this cause a problem for samplers ? 3. Investigate whether species or size sorting is occurring on-board the vessel 4. Investigate the levels of cooperation with respect to port sampling with other companies handling unloadings from pole-and-line vessels 5. Test homogeneity of species composition of catch unloaded at each landing site that is sampled 6. Attempt to estimate the catch kept by the crew, which is usually a substantial amount. 7. Ensure that species identification of small yellowfin and bigeye are accurate with the help of the Itano et al. species identification guides (particularly the fish in poor condition version). 8. Use calipers or measuring boards instead of measuring tapes.
Purse seine (large-mesh, pelagic tuna species target)	Fish port Company #4 Company #5	1. Implement the new data collection forms and protocols (see Appendix VIII) 2. Continue to be vigilant with respect to whether species or size sorting is occurring on-board the vessel to be sampled 3. Investigate the levels of cooperation with respect to port sampling with other companies handling unloadings from purse seine vessels 4. Assumption that these vessels fish on FADs (but perhaps this needs to be recorded by sampler) 5. Use calipers or measuring boards instead of measuring tapes. 6. It was not clear whether the sampling at PT Sinar Purefoods would hinder the unloading process.
Handline (small-scale)	Company #6 (to be identified)	1. Implement the new data collection forms and protocols (see Appendix VIII) 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. Use calipers instead of measuring tapes and provide training on how to use these equipment in confined spaces, to ensure minimal interference to processing operations (this is in particular reference to company PT Nutrindo Freshfoods where space is limited).
Troll-line		1. Are there any troll-line vessels unloading in Bitung ?

[3] 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.

APPENDIX IV. Issues to be resolved for sampling in Kendari– JANUARY 2009

Gear	Landing site[4]	Issues to resolve
Pole-and-line	Fish port	1. Implement the new data collection forms and protocols (see Appendix VIII) 2. Investigate whether species or size sorting is occurring on-board the vessel 3. Do carriers receive fish from catcher vessels fishing in very different areas ? 4. Investigate the levels of cooperation with respect to port sampling
Purse seine (small-mesh, small pelagic species target)	Fish port	1. Investigate the extent of small skipjack, yellowfin and bigeye catch from these vessels and then consider whether it is feasible to sample these vessels (including consideration of which data collection forms and protocol to use).
Handline (small-scale)	Sodohoa Fish Port	1. Implement the new data collection forms and protocols (see Appendix VIII) 2. Develop a new data collection form and protocol to cater for the "shallow/big-fish" targeting handline vessels. 3. Is there an issue of carrier vessel landings ? 4. Investigate whether species or size sorting is occurring on-board the vessel
Troll-line	Sodohoa Fish port	1. Implement the new data collection forms and protocols (see Appendix VIII) 2. Investigate the extent of carrier or catcher vessels using more than one fishing method during a fishing trip (e.g. deep handline and troll-lineing). 3. What is the extent of species and size sorting on-board the vessel prior to sampling ? Can this be avoided ? Is it an issue, or can the new protocol cater for the separation of the rare, large fish from the bulk of the (small-fish) catch ? 4. Are there issues with gaining the cooperation of the vessel during the unloading process ?

[4] 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.

APPENDIX V. FORMATS OF DATA REQUIRED IN THE WCPFC DATA RESCUE PROJECT

Formats of data required from the WCPFC Data Rescue Project

January 2009

Based on the review of the data that have been compiled to date under the WCPFC Data Rescue Project, the following sections provide a description of the standard data formats that correspond to the WCPFC requirements for each data type. It is recommended that work on the data rescue project proceed by transferring the various data files that have been compiled by RCCF into the standard formats below.

There may be problems related to gaps in some of the fields in each data type, but this process will at least provide a standardized database which will make it easier to examining the data in a standard format and thereby a better way to make use of the data. This process will also make it easier to determine where there might be duplicate data compiled from different "sources".

It should be noted that the process of putting the historical tuna data into a standard database should also be of significant benefit to RCCF researcher in their future work.

OPERATIONAL CATCH/EFFORT DATA

Any data that have been **collected on a daily basis** should be compiled in an OPERATIONAL CATCH/EFFORT database. The following table provides a list of the essential fields that should appear in an operational database (noting that there are potentially many other fields that could be included). Fields that are important are underlined. Data can be compiled in this format from the existing RCCF data files. If there are gaps in the data, but it is clear the data are 'operational' then you can still transfer the data into this format and the gaps may be filled in later from other types of data.

Source of data	Where the data came from, for example : • Fishing Company (PSB, Usaha Mina, etc.) • RCCF Research data collection • RIMF Tagging • Port Authorities • IPTP • DGCF statistics • [Other sources ?] • Production statistics
Port	Port base for the fishing vessel
Gear	Gear
Date	Day that fishing was conducted
Vessel No or Name	Vessel name or identifier
Fishing Position	Fishing position could be in the form of the following: • Latitude /Longitude • Fishing ground • Use the port as a proxy for fishing area • Broad fishing area (EITF standard fishing areas)
Effort	The effort expended in catching fish (See Effort_unit)
Effort_unit	Effort can depend on gear and this field should have a code that reflects the effort units

	• Fishing days • Hooks • Sets • (other effort unit)
FAD or not	Surface fisheries only – whether fishing was on a FAD or not
Catch by species	At least, total tuna catch is required. Ideally, the following species catch is required Surface Gears : SKJ, YFT, BET and OTHERS Longline : YFT, BET, ALB, SBT, BUM, BLM, MLS, SWO, SHK, OTHERS Catch in weight for SURFACE gears Catch in Number and Weight for LONGLINE
CPUE	If Effort is not provided, but CPUE exists, enter this value here. At least, total tuna CPUE is required and ideally CPUE by species is required.
CPUE units	Provide a code here to indicate what the CPUE units are, for example, • Total catch in weight per day • Total catch in number per day • Total catch in number per 100 hooks • (or other CPUE measures)

AGGREGATE CATCH/EFFORT DATA

Any data that have been **aggregated at a monthly level** should be compiled in an AGGREGATE CATCH/EFFORT database. The following table provides a list of the essential fields that should appear in an aggregate database (noting that there are potentially many other fields that could be included). Fields that are important are underlined. Data can be compiled in this format from the existing RCCF data files. If there are gaps in the data, but it is clear the data are 'aggregate' then you can still transfer the data into this format and the gaps may be filled in later from other types of data.

Source of data	Where the data came from, for example : • Fishing Company (PSB, Usaha Mina, etc.) • RCCF Research data collection • RIMF Tagging • Port Authorities data • IPTP • DGCF statistics • [Other sources ?] • Production statistics
Port	Port base for which data have been organised (optional)
Gear	Gear
YEAR	Year
MONTH	Month
Fishing Position	Fishing position could be in the form of the following: • 1x1 or 5x5 Latitude /Longitude • Fishing ground • [Use the port as a proxy for fishing area]

	• Broad fishing area (EITF standard fishing areas)
Effort	The effort expended in catching fish (See Effort_unit below)
Effort_unit	Effort can depend on gear and this field should have a code that reflects the effort units • Fishing days • Hooks • Sets • (other effort unit)
FAD or not	Surface fisheries only – whether fishing was on a FAD or not
Catch by species	At least, total tuna catch is required. Ideally, the following species catch is required Surface Gears : SKJ, YFT, BET and OTHERS Longline : YFT, BET, ALB, SBT, BUM, BLM, MLS, SWO, SHK, OTHERS Catch in weight for SURFACE gears Catch in Number and Weight for LONGLINE
CPUE	If Effort is not provided, but CPUE exists, enter this value here. At least, total tuna CPUE is required and ideally CPUE by species is required.
CPUE units	Provide a code here to indicate what the CPUE units are, for example, • Total catch in weight per day • Total catch in number per day • Total catch in number per 100 hooks • (or other CPUE measures)

AGGREGATE SIZE DATA

Any size data (lengths or weights) that have been **aggregated at a daily, weekly or monthly level** should be compiled in an AGGREGATE SIZE database. The following table provides a list of the essential fields that should appear in an aggregate size database (noting that there are potentially many other fields that could be included). Fields that are important are underlined. Data can be compiled in this format from the existing RCCF data files. If there are gaps in the data, but it is clear the data are "size data" then you can still transfer the data into this format and the gaps may be filled in later from other types of data.

Source of data	Where the data came from, for example : • Fishing Company (PSB, Usaha Mina, etc.) • RCCF Research data collection • RIMF Tagging • Port Authorities data • IPTP • DGCF statistics • [Other sources ?] • Production statistics

Port	Port base for which data have been organised (optional)
Gear	Gear
YEAR	Year
MONTH	Month
Broad Fishing Area	Fishing position could be in the form of the following: • [Use the port as a proxy for fishing area] • Broad fishing area (EITF standard fishing areas)
FAD or not	Surface fisheries only – whether fishing was on a FAD or not
Species	Species
Size class units	This field should indicate how the size data are organized and can cover the following : • 1 cm size class (Ideally required) • 2 cm size class • Weight categories • Other ? A code should be used for each of the size class units available, e.g. ('W1' for a certain set of weight categories (which will need to be defined); '1' for 1 cm seize intervals, etc.)
Size class	The actual size class that data were collected. (e.g. '45' for the fish that were measured to be 45 cms (if the size class units are '1' – see above).
Frequency	The number of fish of the species that were measured to be in this size class

TAGGING DATA

(not a requirement of the WCPFC at this stage, but should be considered given the importance of the historical RIMF tagging data holdings).

APPENDIX VI. RECOMMENDATIONS FROM EITFDC-3

THIRD EASTERN INDONESIA TUNA FISHERY
DATA COLLECTION WORKSHOP
(EITFDC-3)

Manado, North Sulawesi, Indonesia
15–17 January 2009

RECOMMENDATIONS

1. The protocols and data collection forms currently used in the pilot port sampling should be revised as soon as possible based on discussions during the EITFDC-3 workshop, the review of the unloading sites and review of the data collected during the pilot implementation phase to date. Specific instructions for sampling each gear type should be provided with the revised data collection forms. **ACTION : WCPFC/SPC and RCCF**

2. The port samplers will be trained in using the new protocols and data collection forms as soon as possible and implemented immediately thereafter. **ACTION : RCCF**

3. A document describing the tuna product flow should be produced and maintained for Bitung initially, and then the other ports [to be covered by port sampling] at a later date. It is expected that this document will need to be continually updated as activities in each port change. **ACTION : RCCF (with assistance from WCPFC and CSIRO)**

4. Port samplers should switch from using tape measures to calipers (big fish) and measuring boards (small fish) as soon as possible. It is acknowledged that there are problems using calipers during the unloading process. Training should be provided on how best to use the calipers and measuring boards in situations where space is limited, to ensure minimal interference to processing operations. **ACTION : RCCF (with assistance from WCPFC)**

5. A concise quarterly port sampling summary report should be produced for dissemination to the WCPFC, DGCF and other important stakeholders. **ACTION : WCPFC/SPC to provide input into the design of the report and RCCF staff to produce the report on a quarterly basis**

6. A further review of port sampling in Bitung and Kendari should be undertaken within six months of implementing the revised protocol and data collection forms **ACTION : WCPFC**

7. It will be very important to engage stakeholders in all data collection processes to ensure their cooperation and ultimate success in the future. An annual meeting should be established to present the summarised information collected by port samplers to stakeholders, but also to provide the opportunity to involve stakeholders in providing information and feedback. It will be important to include a presentation on the WCPFC and why data are required from a regional point of view in initial meetings. **ACTION : RCCF with assistance from WCPFC**

8. RCCF will continue to compile historical data (under the data rescue project) as a priority task with assistance from the WCPFC with respect to the provision of the required data formats. **ACTION : RCCF with assistance from WCPFC/SPC**

9. The anticipated commencement of the UNDP-GEF project means that work on assigning respective priorities amongst the stakeholders in the East Indonesian Tuna fishery should begin as soon as possible. **ACTION : WCPFC and RCCF and other relevant stakeholders**

10. RCCF will endeavour to keep the DGCF fully informed on the progress with the East Indonesian tuna fishery port sampling initiative so that respective roles and responsibilities are clearly assigned for future long-term monitoring. **ACTION : RCCF and DGFC (with assistance from WCPFC).**

APPENDIX VII. ACRONYMS USED IN EITFDC Workshops

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)
PPS	Pelabuhan Perikanan Samudera (Oceanic Fishing Port)
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

APPENDIX VIII. Draft EITFDC Forms and instructions

(see <web link>)