REGIONAL ARTISANAL TUNA DATA COLLECTION PROGRAMME

- In this presentation we will take a closer look at the data collection components.
- The data collection programme is linked to the tuf-art database.
- In most cases you cannot use the tuf-art database unless you use the proposed data collection programme.
- At this stage we are not suggesting that you *have to* use this data collection programme.
- A step by step explanation of each form and each data field is available in the "Regional Artisanal Tuna Data Collection Manual" (see CD for a draft copy, a final copy will be available very soon).
- You may use this presentation to inform or train others.
- We will look at how much data is required in a later session.

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OVERVIEW OF THE DATA COLLECTION PROGRAMME

- The catch and effort data is collected through interview.
- The level of monitoring is high compared to other programmes.
- This can make the programme costly to implement.
- However, the outputs are good, reliable catch and effort data that can be used to answer a variety of questions.
- Asking fishers to record and submit the information is not encouraged. This follows the advice of the Workshop on Pacific Island Inshore Resource, 1988 and various national workshops.
- Where fisher recording is in place, we suggest close supervision of data submission is implemented.
- Fishers have time to fill out data during the trip…

OVERVIEW OF THE DATA COLLECTION PROGRAMME

- The programme collects the information at the end of the fishing trip.

- Information is not collected after the end of the trip (point of sale etc).

- A fishing trip is defined as "From the point of a full or partial unloading to the next point of a full or partial unloading". This definition may be helpful if questions arise with data collection.

- Once you have considered this programme, any decisions on how it will be implemented should be documented in a National Sampling Design Document (see later presentation)

THE FORMS

- The programme uses regionally recognised data forms that are sanctioned for use in PICTs through the FFC.
- They are known as the SPC/FFA data collection forms.
- These tuna forms are reviewed generally every two years at a 'DCC' meeting. The forms we show here are advanced drafts/new form. They will be formalised in Feb/March and distributed shortly afterwards.
- Please note they often come from you!
- Advantages of using regional standard form
  o Allows for easier comparison between fishing areas. Countries /Fishers may benefit from this.
  o Works with tuf-art database.

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We already have our own national forms, can we use them?

- Yes, however if you want to use the tuf-art database you will need to make sure that the data fields are compatible. You will only be able to enter data fields that are compatible with the regional forms. We do not have the resources to support 15 different national forms or different versions of tuf-art. If you go with a national form, you may loose out during future form changes.

Can we get translated copies of the forms to supply to fishers?

- Generally no. Experience has shown that translations of forms can cause data errors. Providing a translated reference copy can help.

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THE FIVE COMPONENTS

1. <u>FAD deployment</u> – A register of all FADs deployed.

2. <u>Vessel id</u> – A register of all small-scale vessels in country, their location and typical target species, fishing pattern.

3. <u>Vessel activity</u> – counts boats returning from a fishing trip, by vessel category, at random landing sites over random days.

CATCH IT REPORT IT

THE FIVE COMPONENTS COND

4. <u>Catch and effort logsheets</u> – general trip info (departure and return time), economic data (costs) and catch/effort by fishing event, including fishing method, location, number of lines, catch by species (individuals and total weight).

5. <u>Sampling form</u> – collects length frequencies.

THE FORMS ARE LINKED

Certain data fields establish a link between forms, it is important that these variables are recorded consistently across the forms.
Setting up reference tables will help with this (later presentation).

THE FAD Deployment Form is linked to the CATCH LOGSHEET through the the "FAD Name and Number" and the "Fishing Area" data fields.

The Vessel ID Form is linked to the CATCH LOGSHEET through the "Vessel Name" data field.

The Fishing Activity Form is linked to the CATCH LOGSHEET through the "Landing Site" data field.

The Sampling Form is linked to the CATCH LOGSHEET though the top four data fields (landing site, name of vessel, date and time of departure).
The fishing event number must also be linked.

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FAD DEPLOYMENT REGISTRY

Country:		Island:		District or province:		Village:	

FAD name, location, bathymetric and deployment information

Deployment location (link to TUF-ART "area fished"):		Deployment date (DD/MM/YYYY):	
FAD name and number:		Estimated date that FAD was lost (DD/MM/YYYY):	
Longitude (d° m' s" E/W):		Deployment depth (m):	
Latitude (d° m' s" N/S):		Distance from shore (m):	

FAD details

FAD type (circle one):	Lagoon	Nearshore surface	Nearshore subsurface	Offshore	Offshore subsurface	Other
FAD design (circle one):	Indian ocean	Spar buoy	Bamboo raft	Custom	If other, specify:	

FAD floating elements (if Indian Ocean design)

Number of pressure floats used:		Number of purse seine floats used:	

FAD mooring rode

Floating rope length (m):		Floating rope diameter (mm):		Floating rope type:		Floating rope - No. of strands:	
Sinking rope length (m):		Sinking rope diameter (mm):		Sinking rope type:		Sinking rope - No. of strands:	
Aggregator types (circle one or more):	None	Coconut fond	Bamboo	Netting	Plastic straps	Other
Supplementary buoyancy used?	Yes / No	Number of floats:		Pressure rating of floats:			
Length of chain (m):		Diameter of chain (mm):					

FAD anchoring system

Anchor types (circle one or more):	Grapnel	Anchor	Discarded machinery	Cement drums	Cement block	Other
Anchor weights (kg):						

FAD connecting parts

Number of swivels used:		Size of swivels (mm):		Number of shackles used:		Size of shackles (mm):	
Number of thimbles / connectors used:		Size of thimble / connectors (mm):		Other connectors used:		Other connectors used:	

FAD COST AND MAINTENANCE SCHEDULE

FAD name:		FAD number:		Currency: (e.g., AUD, NZD, USD, PGK,	

Total cost of FAD materials

Pressure floats:		Supplementary buoyancy:	
Purse seine floats:		Chain:	
Floating rope:		Anchoring system:	
Sinking rope:		Connecting parts:	
Aggregator:		Other: please specify:.............................	

Total cost of FAD rigging

Number of man hours to rig FAD:		Equipment hire:	
Paid labour:		Other: please specify:.............................	

Total cost of FAD deployment

Number of man hours to deploy:		Vessel hire:	
Paid labour:		Fuel:	
Other: please specify:.............................		Other: please specify:.............................	

FAD maintenance schedule, activity and cost

Date:		Maintenance activity:		Cost:	
Date:		Maintenance activity:		Cost:	
Date:		Maintenance activity:		Cost:	
Date:		Maintenance activity:		Cost:	
Date:		Maintenance activity:		Cost:	
Date:		Maintenance activity:		Cost:	
Date:		Maintenance activity:		Cost:	
Date:		Maintenance activity:		Cost:	

FAD DEPLOYMENT REGISTRY FORM – Notes

Purpose of this form

Aims to record all details of each and every FAD that is deployed in a country and territory and link the FAD name to the fishing area on the catch and effort logsheet.

When linked to catch and effort data, FAD variables (such as depth, location, structure) can help to optimise FAD programs, including:

• Increasing FAD longevity

• Improving FAD effectiveness by optimising FAD designs / locations

• Minimising cost of FAD programs

Coverage of this form

• One form should be completed for each and every FAD that is deployed.

• Note that, with exception of the 'estimated date lost' field and the 'FAD maintenance schedule, activity and cost' this form can be completed in entirety upon deployment of a FAD – it does not require onerous ongoing completion.

• All maintenance activities and costs should be recorded as they occur for every FAD.

FAD DEPLOYMENT REGISTRY – Notes

Things to look out for with this form

- The form should be completed for every FAD that is deployed
- ? Update national sampling design with new FAD name & location ?
- The form must be updated when:
  - A FAD is lost – complete estimated date that FAD was lost field; and
  - During maintenance activities.
- When a new FAD replaces a lost FAD, a new form should be completed and the FAD given a new unique name (e.g., if 'Pele FAD' is replaces, then it could be called 'Pele FAD 2'), which will facilitate maintaining a track record of FAD replacements.

SMALL-SCALE VESSEL REGISTRATION FORM

OWNER'S NAME:	Faro Malawiki
OWNER'S POSTAL ADDRESS:	1 rue des Artes, Losfesfa, Lifou, New Caledonia
ISLAND NAME, COUNTRY:	Lifou, New Caledonia
ELECTRONIC CONTACT DETAILS (phone, mobile, email):	76 69 24; foro@mail.com
NUMBER OF OTHER SMALL-SCALE VESSELS OWNED (if any)	Two

VESSEL'S NAME (enter vessel name):	ALLIGATOR
ISLAND CODE (to be risen to a handle):	LIF
UNIQUE VESSEL ID (to be risen to a handle):	00xGa
IDENTIFICATION DATE (enter the date of vessel ID):	0x/08/20xx
MOORING / DOCKING (type and location):	Buoy; Flower Bay

VESSEL MAKE (name of the manufacturer if any):	Lifou Boat Yard			
HULL MATERIALS (circle 1):	FIBREGLASS	(WOOD)	STEEL / ALUMINIUM	OTHER
VESSEL LENGTH (vessel length overall in meters):	6.5 meters			
VESSEL APPEARANCE:	(MONOHULL)	CATAMARAN	CABIN Y / N	COLOUR Yellow
VESSEL'S MAIN MODE OF POWER (circle 1):	SAIL	PADDLE	MOTOR (charge) →	INBOARD - (OUTBOARD)
MOTOR SIZE (HP) → (enter HP of main engine)	40	NUMBER OF OUTBOARDS →	1	FUEL TYPE (circle one) (2-stroke 4-stroke Diesel)

| VESSEL ACTIVITY (circle all that apply): | CURRENTLY NOT SEAWORTHY | (FISHED LAST YEAR) | (EXPECTED TO FISH THIS YEAR) | |
| REPAIRS REQUIRED: | None currently | | | |

HOW OFTEN IS THE VESSEL USED FOR FISHING (circle 1):	MOST DAYS	(WEEKLY)	MONTHLY	RARELY OR NEVER
IF MOST DAYS, HOW MANY TRIPS A DAY NORMALLY?:	(ONE)	TWO	THREE	MORE THAN THREE
WHERE DOES THE VESSEL USUALLY FISH? (circle 1):	INSIDE LAGOON	(OUTSIDE LAGOON)	INSIDE AND OUTSIDE	OTHER
WHAT FISH DOES THE VESSEL USUALLY TARGET? (circle 1):	REEF	(TUNA)	OTHER PELAGIC	REEF AND PELAGIC
IS THIS A SPORTS FISHING BOAT?:	Y / (N)			

WHAT SAFETY EQUIPMENT DOES THE VESSEL HAVE? (circle all safety equipment that are normally on the vessel, and state the approximate date where appropriate)	LIFE JACKET	LIFE RAFT	FIRST AID KIT	WATER CONTAINER
	(ENGINE TOOLS AND SPARES)	BAILING DEVICE	(ANCHOR AND ROPE)	(SPARE FUEL)
	ANCILLARY MOTOR	(PADDLE)	SAIL	SHADE CLOTH OR TARPAULIN
	FLARES	MIRROR	LASER	TORCH / FLASHLIGHT
	EPIRB (include Beacon)	(GPS)	ECHO SOUNDER	RADIO	COMPASS

DATE OF EXPIRATION (i.e. for the life/life lines or EPIRB):

COMMENTS

CATCH IT REPORT IT

VESSEL REGISTRATION FORM – Notes

Purpose of this form

Aims to 'register' or 'identify' all active vessels that are targeting tuna and other pelagic fish. This is a WCPFC requirement/request (?), but also:

• Allows for fleet profiling;

• Allows for establishment of a catch and effort baseline; and

• Allows fisheries management to establish what sea safety equipment is owned.

Coverage of this form

• 100% of 'active' vessels should be covered each and every year. Note that 'active' refers to a vessel that undertakes 1 or more fishing trips per annum.

• Ideally, vessel registration should occur on an annual basis, with ongoing collection registration of new vessels to the fleet. The annual vessel registration allows fisheries management to capture any decommissioned boats throughout the year and also any new entrants to the fleet – it maintains an up-to-date database of active fishing vessels.

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VESSEL REGISTRATION FORM
Notes

Alternatives to this form.

1. **Pre-established vessel registration forms**
Where a country or territory has pre-established vessel registration processes.
2. **Pre-established licensing arrangements**
When a country or territory has pre-established licensing arrangements that capture vessel name

Things to look out for with this form
• The 'vessel name' on the vessel registration form links to the 'vessel name' on the catch and effort logsheet, so it must be unique. For example, 'John's boat' wouldn't be appropriate as there is risk that another person would name their boat as 'John's boat' and then the catch and effort data would be linked to one vessel, rather than two.
• The 'unique vessel name' must be pre-agreed and documented in the national sampling design to facilitate data management and reporting.

SPC / FFA REGIONAL STANDARD ARTISANAL FISHING ACTIVITY LOG

SPC/FFA May 2013

YEAR	COUNTRY CODE	LANDING SITE	RECORDER – name or code
2014	NR	Boat Harbour	Peter Teriteri

Vessel Activity Count

Date DD MM	START TIME hh mm	END TIME hh mm	MOTOR	PADDLE	SAIL
7th April	07.05	08.05	7	2	
	11.25	13.20	6	1	
8th April	06.45	08.15	5	1	
	11.15	13.15	6	0	
9th April	06.50	19.10	11	0	
	11.20	13.00	6	0	
	17.00	19.20	2	1	
10th April	07.10	08.00	7	0	
	11.15	13.05	4	1	
11th April	07.15	08.10	6	2	
	11.15	13.15	3	0	
	17.00	18.30	10	4	
12th April	06.50	08.05	11	2	
	11.30	13.30	5	3	
13th April	06.50	07.30	0	1	
	17.00	17.30	3	0	

Vessel Activity Count

Date DD MM	START TIME hh mm	END TIME hh mm	MOTOR	PADDLE	SAIL
14th April	07.00	08.15	8	1	
	11.15	12.45	6	1	
15th April		No Survey			
16th April	07.00	08.40	7	0	
	11.20	13.05	6	1	
	17.20	19.25	1	1	
17th April	07.05	08.55	8	2	
	11.30	13.20	7	1	
19th April	07.10	08.10	6	3	
	11.45	13.05	2	1	
	17.20	19.10	9	3	
20th April		No Survey			
21st April		No Survey			

FISHING ACTIVITY FORM – Notes

Purpose of this form

Aims to record a visual count of the total number of fishing trips carried out during a day. (Night fishing -flying fish- can also be captured if required.)

Coverage of this form

- Should be implemented in a manner so that the maximum number of fishing trips will be counted.
- Form works best when vessels are launched from trailers and only a count of these trailers is required. Visual count also works well if the vessels return though one channel at the same time, or onto a small beach. In some cases (large beach area, dispersed return times) it can be difficult to complete this form.
- Data Collector goes to the recognised landing site (boat ramp/section of the beach) at the optimal time for returning boats. This time might change from day to day (if tidal influence).
- Data collector asked to record the times they did the boat count, as an indication of whether their effort is consistent.

FISHING ACTIVITY FORM
Notes

Alternatives to this form.

1. **Fishing Calendar**
(see the example)
Fishers asked to mark a calendar to show how many trips they have done during the day. The calendar can be printed on waterproof paper – to be kept on the boat, or with a magnetic – to be kept on the fridge...

2. **Phone enquires**
For some fleets the best solution is just to phone all vessel owners every day, every 3 days or at the end the day to ask how many trips they did that week.

3. **Boat Count**
In Samoa a weekly boat count has been operating for a number of years, and this can replace the fishing activity form.

Fishing activity collected this way will need to be manipulated before entry into tuf-art.

FISHING ACTIVITY FORM – Notes

Things to look out for with this form

- It is the <u>primary form</u>, don't overlook it, or over-focus on logsheet collection.
- High coverage for this form is suggested.
- Consider how this data can be collected at the weekends. Saturdays can be the most important fishing day.
- It is important that the forms collects change in fishing activity i.e weekends, increase in fishing before pay fortnight, festivals.
- Decide on whatever coverage level possible with the present resources, document it and stick with it until the programme is reviewed.
- If no survey was carried out this must be marked on the form.
- The form is recorded by landing site.
- A list of landing sites must be defined and compiled before the sampling programmes starts.

SPC/ FFA REGIONAL STANDARD ARTISANAL FISHING LOGSHEET

NIUE MAY 2013

Trip Information

LANDING SITE	VESSEL NAME	DEPARTURE DATE and TIME					PAGE NO ...... OF........	
Boat Harbour	Bay Ranger	DD 23	MM 05	YY 13	hh 06	mm 15	1 of 1	
RECORDER - name or code	VESSEL OWNER	RETURN TIME			hh 11	mm 37	(and date if different to departure) DD	MM YY
Peter Teriteri	Alvin Gibson							
NUMBER OF CREW	SKIPPER'S NAME	BOAT POWER - circle one						
2	Ben Bauro	(MOTOR)		PADDLE		SAIL		

Trip Costs

FUEL		BAIT		ICE		GEAR PURCHASED FOR THIS TRIP	
Amount	$	Amount	$	Amount	$	Item	$
25 litres	40	10 kg	15	50 litres	28	2 new lures	25

Fishing Events

FISHING EVENT No. 1

FISHING AREA or FAD NAME			FOR THIS EVENT DID YOU?	USE LIVE BAIT? Y / (N)	FISH ON A FAD? (Y) / N		CATCH FISH? (Y) / N	
Tuapua Fad			SPECIES	NO	KG	SPECIES	NO	KG
FISHING METHOD			Skipjack – SKJ	19	33			
Trolling			YFT	7	36			
TOTAL HOURS FISHING	NUMBER OF		BET	1	7			
	LINES	HOOKS	Great Barracuda – GBA	2	8			
3	3	3	Wahoo – WAH	3	14			

FISHING EVENT No. 2

FISHING AREA or FAD NAME			FOR THIS EVENT DID YOU?	USE LIVE BAIT? Y / (N)	FISH ON A FAD? Y / (N)		CATCH FISH? (Y) / N	
Alofi South			SPECIES	NO	KG	SPECIES	NO	KG
FISHING METHOD			Ruby Snapper – ETA	3	15			
Bottom Handline			Flame Snapper – ETC	2	6			
TOTAL HOURS FISHING	NUMBER OF							
	LINES	HOOKS						
2	3	18						

FISHING EVENT No. 3

FISHING AREA or FAD NAME			FOR THIS EVENT DID YOU?	USE LIVE BAIT? Y / N	FISH ON A FAD? Y / N		CATCH FISH? Y / N	
			SPECIES	NO	KG	SPECIES	NO	KG
FISHING METHOD								
TOTAL HOURS FISHING	NUMBER OF							
	LINES	HOOKS						

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Vessel Logsheets
Notes

Coverage of this form

Logsheet collection is not required for every single trip.

However, in some locations it is easy to get good logsheet coverage, and it should be the aim of the prog.

It can be more of a hassle to collect this form occasionally, instead of consistently.

Common problems with this form.

- Fishers may not understand the concept of a fishing event, at least initially.
- The effort data is not filled in correctly, and thus the rest of the data is 'lost'.
- The number of fish per species is estimated i.e. one esky of skipjack
- The fisher is not able to separate the catch for individual fishing events (education and persistence helps)
- The times spent in a fishing event is not recorded.
- Example : the fisher is not able to separate the catch by fishing area, FAD etc
- The vessel name is not filled in, and the data is lost.

Vessel Logsheets
Notes

Things to look out for with this form

- The new format is not as user friendly, but it collects better data.
- Some data fields require pre-defined responses which will have been set up before the programme starts (reference tables).
- The form collects the catch and the effort for one fishing trip. A fishing trip was previously defined.
- There may be more than one fishing event in a fishing trip.
- The weight and dollars values are done on a national level. For instance 20 dollars in Kiribati will be assumed to be 20 Australian dollars, but in FSM it will be assumed to be 20 US dollars (weight = is assumed to be metric or imperial – note in national sampling design.
- Only an eye-estimate of total weight of each species is required. (Tables converting length to weight are available)

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SPC/ FFA REGIONAL STANDARD ARTISANAL SAMPLING FORM

SPC FFA May 2013

LANDING SITE	VESSEL NAME	DEPARTURE DATE and TIME						PAGE NO…OF……
Boat Harbour	Bay Ranger	DD 23	MM 05	YY 13	hh 06	mm 15		1 OF 1

FISHING EVENT No. 1

SPECIES CODE	LENGTH
SKJ	38
SKJ	43
SKJ	40
SKJ	41
SKJ	37
GBA	84
YFT	59
YFT	61
YFT	61
SKJ	43
BET	66
SKJ	47
SKJ	46
SKJ	41
SKJ	39
SKJ	46
SKJ	40
SKJ	46
YFT	60
WAH	78
WAH	78
WAH	81
YFT	59
SKJ	39
YFT	59

FISHING EVENT No. 1

SPECIES CODE	LENGTH
YFT	64
SKJ	41
SKJ	40
SKJ	47
GBA	81
SKJ	43
SKJ	43

FISHING EVENT No. 2

SPECIES CODE	LENGTH
ET A	63
ETC	61
ET A	67
ET A	67
ETC	68

ARTISANAL SAMPLING FORM

Purpose of this form
To collect biological / biometric information about the catch – lengths.
The form does not record weights, as the biometric standard for tuna is lengths, not weights which is more common for reef species.
Request to record both have been noted.

Coverage of this form
About 5% of trips
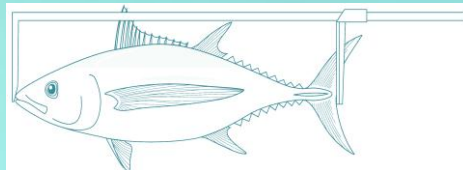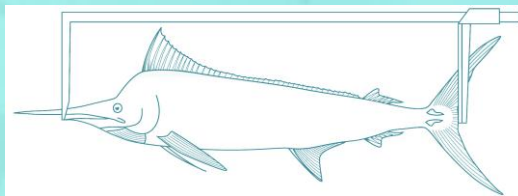On a practical level that is about once a week.

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ARTISANAL SAMPLING FORM

Things to look out for with this form

- Fish can only be measured with an upper jaw to fork length,

- Except for marlin, where obviously a lower jaw measurement is better.

- Every single fish must be measured. You do not have to sample every single boat, but once you start sampling a boat you must measure every single fish.

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ARTISANAL SAMPLING FORM

Things to look out for with this form
- Callipers are the best measuring instrument, but they are expensive, especially when multiple landing sites are involved.
- We are slowly supplying these to artisanal tuna programme.
- In the meantime measuring boards are good alternatives and deck tapes can be used if care is taken.