

Tag recovery

Manual for Fishing Vessels / Carriers

www.spc.int/tagging

2010



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Introduction

The objectives of the project are to obtain:

- data that will help provide more accurate stock assessments of tuna in the western and central Pacific Ocean (WCPO);
- information on movement and mixing of tuna in the equatorial WCPO, between this region and adjacent regions of the Pacific, and the impact that fish aggregating devices (FADs) have on movement over large and small areas throughout the region;
- information on the depths that different tuna species live and move within in the tropical WCPO, and the impacts of FADs on this vertical behaviour;
- information on local exploitation rates and productivity of tuna in various parts of the WCPO.



To achieve these objectives, the project used tags on skipjack, yellowfin and bigeye tuna throughout the equatorial WCPO (10°N–10°S; 120°E–130°W). A chartered commercial pole-and-line vessel suitably modified for tagging operated for 20 months, primarily in the western part of this region (west of 180°). Other smaller chartered vessels undertook shorter cruises of 1–2 months in the central Pacific, targeting bigeye tuna by hand-line fishing on drifting FADs, oceanographic moorings and seamounts.



Three types of tag are used in the project:

- archival tags to measure a range of environmental parameters,
- sonic tags used in monitoring the behaviour of tuna around FADs;
- conventional tags (the most commonly used type) to monitor movement, growth and fishery interaction studies or just to indicate the presence of the other types of tags.

Getting maximum return of recaptured tags is crucial to the success of this work. Wide publicity, attractive rewards, lotteries, in-country tag recovery officers are conducted to achieve (and verify) high rates of tag reporting. Tag releases and returns are processed and stored in an established database. Tag return data are cross-checked against other data sources (logsheets, vessel monitoring systems) to verify reported data and estimate missing data. The work to collect tag recovery data and to verify, correct and compile those data contributes to the conservation and management of the WCPO tuna fishery, one of the world's largest capture fisheries.

Purpose of this manual

The purpose of this guide is to reinforce the tag recovery procedure with Fishing vessels and Carriers

What are the different tags used?

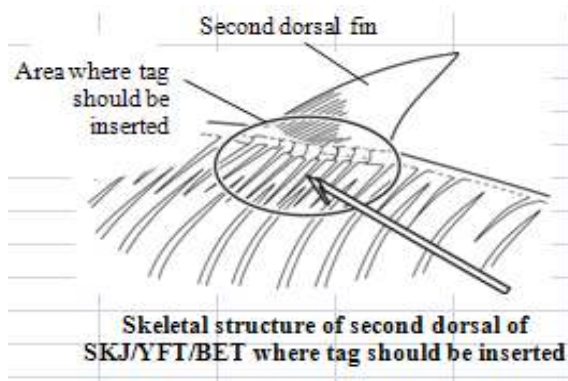
Conventional dart tags



Conventional dart tags are composed of a composite plastic barbed head or a steel head with a polyvinyl plastic streamer/shaft. The tag series number is written at both ends of the streamer, along with the legend 'SPC NOUMEA - REWARD - www.spc.int/tagging'.

Three colours of conventional tags were used for this project:

- **Yellow** conventional tags were the standard tags used. Two different sizes of yellow tags have been used depending on the size of the tuna when tagged and released.
- **Green** conventional tags were used to indicate that a sonic tag was placed in the abdominal cavity of the tagged tuna, or to indicate that an archival tag was placed in the abdominal cavity of the tagged tuna on one of the central Pacific cruises.
- **Orange** conventional tags were used to indicate that an archival tag was placed in the abdominal cavity of the tagged tuna on other cruises.



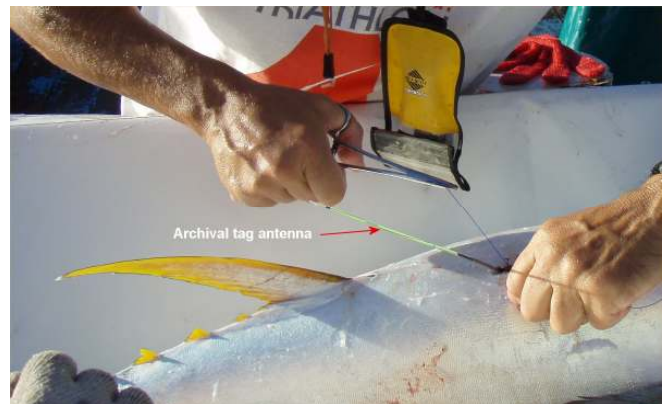
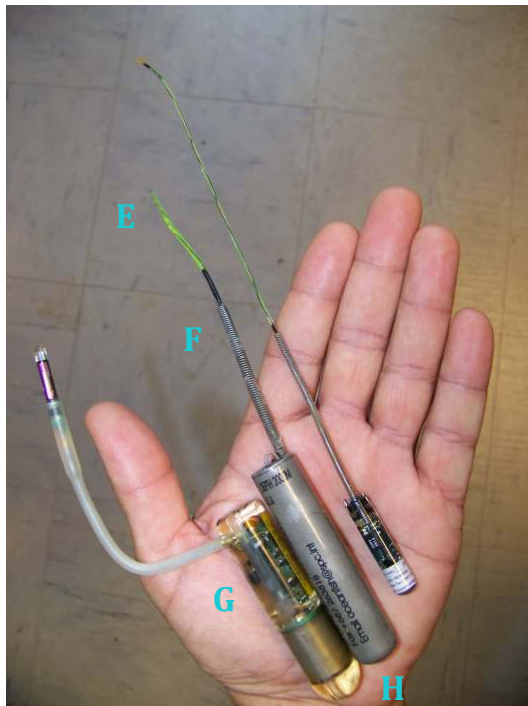
Conventional tags are placed behind the second dorsal fin in the fin spines located there. This anchors the tag in the muscle and between the dorsal fin spines (the pterigophores) to hold it in place.

"When the tag is removed from the fish, be sure none of it remains inside the fish"

Archival tags

Archival tags are miniature computerised data recorders that are surgically implanted into the peritoneal cavity of a tuna. Archival tags measure a range of parameters, including water pressure, water temperature, light intensity and the internal body temperature of the tagged tuna.

These parameters are often recorded every minute and the information is stored into the tag memory. The tag needs to be retrieved to get the information.



- E** – Light sensor.
- F** – Thermometer to record water temperature
- G** – Internal clock, internal temperature thermometer and data storage.
- H** – Battery

An **orange or green conventional tag** indicates that the fish also carries an archival tag. The archival tag will be located in the peritoneal cavity and can be further identified by the stalk/antenna protruding externally from the peritoneal cavity.

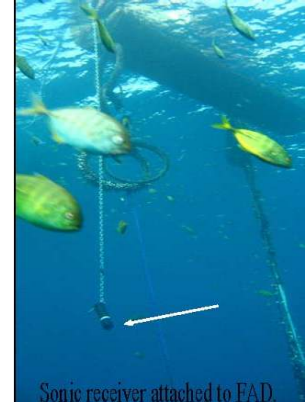


Sonic tags



Sonic tags are miniature radio transmitting devices that are surgically implanted into the peritoneal cavity of the tagged tuna.

Sonic tags send a coded radio signal that could be detected and stored into a receiver station if the tagged fish is swimming into the detection range of the receiver (often around 800 meters). Some sonic tag models could also record depth of the tagged tuna and send this information to the receiver. Receiver memory needs to be downloaded to get the informations.

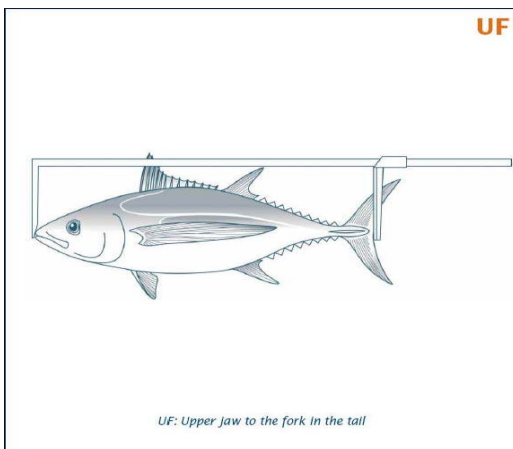


A **green conventional tag** indicates that the fish also carries a sonic tag.

Unlike archival tags, sonic tags do not have an externally protruding stalk/antenna, so they can not be identified in this manner.



Tuna length measurements: a quick reminder



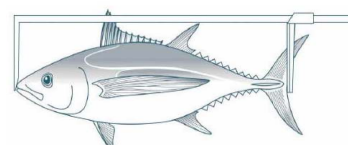
For whole fish, take a UF code measurement, (upper jaw to the fork in the tail). Length measurements are rounded down to the nearest whole centimeter.

If you are using a deck tape, place it under the fish with the start ('0') of the ruler against a raised hard object. This way you will ensure that the nose of the fish is aligned with the zero mark on the deck tape. If you don't do this, it will be easy for the fish to slip down the tape measure while you are measuring it, giving you an incorrect record.

First things to do if a tagged fish is found

Advices for Tag finders onboard fishing vessel

- 1 Put the fish aside from normal activity
- 2 Take a pencil, a measuring tool and a recovery form
- 3 **Remove entirely the tag from the fish.** Be sure that the dart or the steel head don't remain inside the flesh of the fish.
- 4 If the tag is green or orange, there is an **archival tag** inside the stomach cavity of the fish. You should be able to see the antenna of the archival tag sticking out. Remove the archival tag by cutting the fish from the anus toward the gills.
- 5 **Record the tag number** and the **specie** of the fish on the tag recovery form.
- 6 If there is an archival tag, **record the serial number** in the comments section.
- 7 **Attach the tag** to the tag recovery form in the comments section (you can use sticky tape).
- 8 Record the **length** of the fish (UF) on the tag recovery form.
- 9 If there is a scale onboard, record the **weight** of the fish on the tag recovery form.
- 10 If the tagged fish come from a well, **write down the well number** in the comments section.
- 11 Fill the rest of the tag recovery form, using the logbook of the vessel.



You can detach this part of the manual.
Use it as an informative poster



How to fill out the tag recovery form

Tag recoveries can be reported to SPC on a web-based form at www.spc.int/tagging. From this site you can also print copies of the form which allow you to have already some forms available.

This form is used to record the data associated with the recapture of a tagged tuna and the recovery information. It is important to ensure that the information is as accurate as possible. In some instances part of the data will not be available, but later it may be possible for others to trace it using the additional information recorded with the tag recovery information on the form.

Critical tag information

Tag number: This is a required field. Every conventional tag should have a series number printed on both ends. Write down the **full series number including the single letter prefix**. If you have an archival tag, the series number is written on the archival tag itself; record this series number in the comments.

Date when tag

was found: Use two digits each to write the day and month, and four digits for the year (DD/MM/YYYY) e.g. the 3rd of June 2011 would be written as 03/06/2011.
The date of recovery allows us to match your sampling data with the vessel's logsheet. If we have the date when you recovered the tag, we will be able to match your data to the logsheet data. The date of recovery may also help indicate the probable date of capture. Also sometimes the tag is found but kept aside by the crew before the form is filled; filling in this information could help the crew to remember the date of the catch.

Batch

reference number/

identification: This area on the form is reserved for **cannery only**

Fish information

Species: The three species tagged during the field work are **skipjack, yellowfin and bigeye tuna**. If the crew returns the tags only, ask him or her for the species.

Species

reliability: If the tag finder is not sure of the species, then tick the 'guessed' box in the species reliability section. If the finder is sure and you are confident that the information is reliable then tick the 'Confirmed' box.

Fork length: *if the length of the fish hasn't been taken*

⇒ Tick the 'No length information' box and go to the next section.

If the length can be taken or has been taken

⇒ Take the measurement from the upper jaw to the fork in the tail (UF). It must be given in centimeters.

How measured: Was the measurement an estimate or was the measurement taken using a measuring board, a ruler, a deck tape or calipers? If the measurement was taken with a piece of string, or by eye, tick the 'Estimated' box.

**Processed state
when the fish**

was measured: How was the fish when it was measured – was the fish fresh, frozen, previously frozen but then thawed (defrosted) or even cooked (this latest state will be more likely inside a cannery)?

Fish weight: If the weight of the fish hasn't been measured, tick the 'NO weight information' box and go to the next section. If a weight can be taken on board try to get it in kilograms.

How weighed: Is the weight an estimate or was it obtained more precisely, using scales?

Processed state

when weighed: Record the state of the fish when it was weighed, e.g. whole, gilled and gutted or in some other processed state.

Fish catch information

**Date when fish
was caught by**

fishing vessel: It is important to determine the date when the fish was caught.

if you have an exact date

⇒ Tick the 'Exact' box and enter the exact date.
Use two digits each to write the day and month, and four digits for the year (DD/MM/YYYY).

***If the tag finder is not sure of the exact date
or doesn't know about the date when the tagged fish was caught
or if the fish came from a well where several sets have been mixed with each other***

⇒ Tick the 'Estimated' box and enter two dates to provide a range of dates (period).
Go back to the vessel log or the observer logbook and write down the period during which the fish was most likely caught.

- If there is really no information and the tag finder informs you that it was during the last trip, the date range could be from the start of the trip to the end of the trip. Try to reduce the period of discovery to the most accurate date possible.
- If the fish came from a well with several sets, write down the period that includes all the dates of the sets that are present in the well (see example).

Latitude and longitude where fish was caught by

fishing vessel: *If you have an exact position, i.e. you are sure of the latitude and longitude*

⇒ Tick the 'Exact' box and enter the exact position.

If the tag finder is not sure or doesn't know the position

⇒ Tick the 'Estimated' box and enter two latitudes and two longitudes that will include the position where the fish was most likely caught

-Go back to the logbook of the vessel to match the date when the fish was caught and the fishing area of the boat.

- If you have several dates and positions corresponding to sets, plot the latitude and longitude of all the sets on the map at the back of the recovery form. Write down the set number and the dates on the map. Report on the front page the two latitudes and the two longitudes outlining a box that encompasses all of them (see example).

-if you can only provide information on a fishing area, take the minimum and maximum latitudes and longitudes of the geographic zone and report them on the form.

Example: A tagged fish has been discovered during the transfer of a well onto a carrier.

The well included six different sets and dates.

Set 1 date: 28/04/2010 position: **07°20.300N** and 175°10.000W

Set 5 date: 03/05/2010 position: 05°10.100N and **172°36.200W**

Set 15 date: 15/05/2010 position: 02°50.200S and 177°30.000W

Set 30 date: 25/05/2010 position: **10°25.400S** and 178°30.150E

Set 45 date: 06/06/2010 position: 07°30.480S and **170°25.800E**

Set 58 date: 26/06/2010 position: 03°50.325N and 172°49.750E

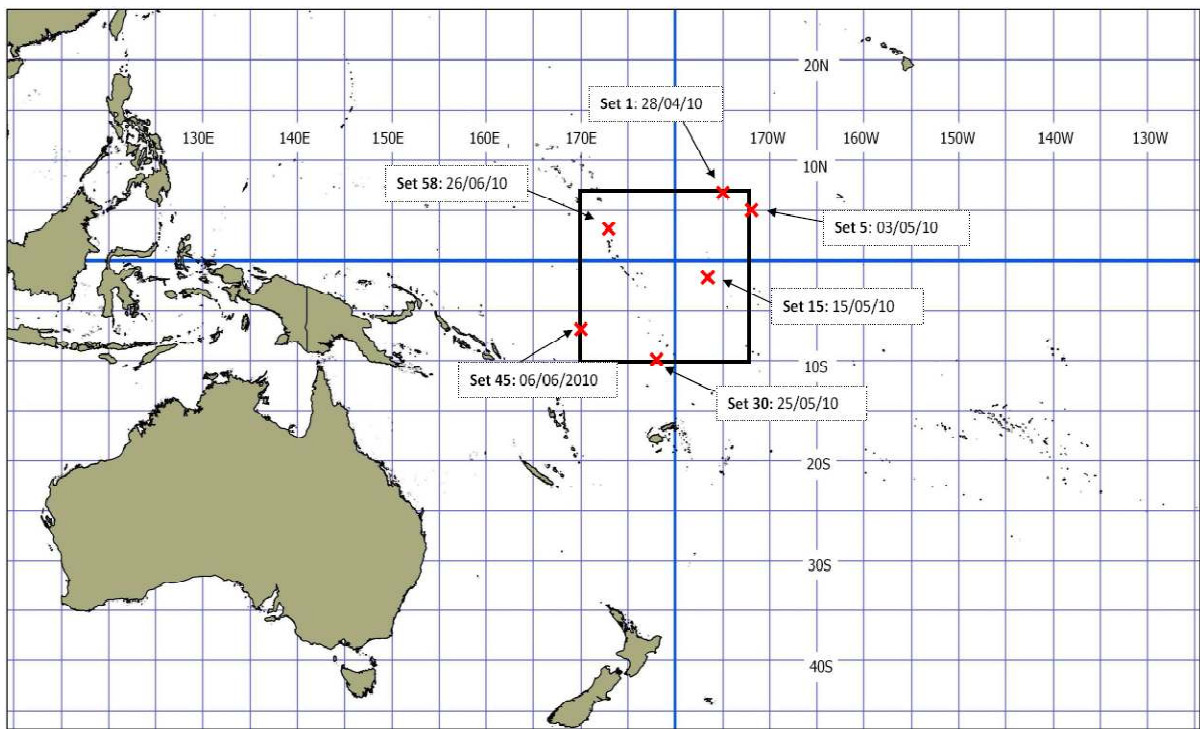
For the date, tick 'Estimated' and write down 28/04/2010 to 26/06/2010.

For the position, tick 'Estimated'. Mark the six positions on the map (on the back of the form) and identify the most northern and the most southern latitudes as well as the most western and the most eastern longitudes. It will outline a box surrounding the locations of all the sets (see map) and report them on the form. For this example, the minimum latitude (S) will be from set 30; the maximum (N) from set 1. The minimum longitude (W) will be from set 5; the maximum longitude (E) from set 45.

The latitude and longitude should be provided in degrees and decimal minutes.

Section of the tag recovery form

DATE	Exact <input type="checkbox"/>	dd	mm	yyyy	Estimated <input checked="" type="checkbox"/>	From	dd	mm	yyyy	to	dd	mm	yyyy		
							28	04	2010		26	06	2010		
POSITION	Exact <input type="checkbox"/>	dd	mm	ss	N / S	Estimated <input checked="" type="checkbox"/>	Report 2 lines of latitude and 2 of longitude in form here in which tag was likely recovered								
	Latitude	dd	mm	ss	N / S	Latitude	dd	mm	ss	N / S	Longitude	dd	mm	ss	E / W
						Min	7	20.300	N		Max	170	25.800	E	
	Longitude	dd	mm	ss	E / W	Min	10	25.400	S		Max	172	36.200	W	
or DESCRIBE THE FISHING AREA:															



Please use this map of the Pacific Ocean with a grid of 5 squares to determine where the tagged fish has been caught (Point or area)
If you have several dates and positions corresponding to sets, plot the latitude and longitude of all the sets (make a cross where the set have been deployed). Write down the set number and the date next to the set position (cross)

Describe

fishing area: Was the fish caught around a particular island or in a specific area...? If there is no information on latitude or longitude, this will provide a good approximation of the latitude and longitude. The tag recovery data you collect is more useful if we know the area where the fish were caught. This allows scientists to monitor the rates of movement of fish between release and recapture.

Fishery information

Vessel name: Record the name of the vessel that recaptured the tagged tuna. Do not record an abbreviated name; use the full name every time. Be aware that your data are used by a lot of people who will not know the local names for vessels.

If you find a tagged fish on a carrier, if possible provide the name of the fishing vessel that caught the tagged fish and not the carrier name.

Vessel flag: The vessel's country of registration

School type: Fill in the appropriate school type and don't forget to add any FAD number if available.

Fishing

method: The fishing method used to catch the fish (if the crew do some hand-line fishing onboard a purse-seine vessel, report that it was hand-line and not purse-seine).

Where found: Where was the fish when the tag was found. If you find the tagged fish onboard and frozen in a well, tick 'Fishing vessel' and 'Cold storage'. If it is inside the cold storage of a carrier, tick 'Carrier' and 'Cold storage'.

Process

when found: What was the vessel/crew staff doing when the tagged fish was found?
“Processing” is related to butchery or when the fish is gilled and gutted, but it does not refer to sorting fish during storage in the well. “Transfer” is when the fish is either transferred to a carrier or when it is transferred from one well to another inside the vessel.

Trans-shipment information

This section will be only filled in if you find the tagged fish during trans-shipment or inside a carrier.

Finder information

Finder’s

name: The name of the finder is important for us to know who to send tag return rewards to. As well as this, it is important for us to associate recovered tags to finders for the purpose of conducting a tag lottery.

Finder’s

address: This is important so we are able to get in contact with tag finders in order to pay tag return rewards and in the case of tag lotteries, contact winners.

Port of

recovery: This is the port where the recovery was reported. If you find the tagged fish in the Marshall Islands exclusive economic zone but the boat unloads in Tarawa, the port of recovery will be Tarawa.

**Recovery
information**

received at: Name or contact details of the Coordinator, Tag Recovery Officer, or company that collected and compiled the recovery details concerning a tagged fish.

Type of

reward: For each tag reported there is a reward (see tag reward poster at the end of this manual). All Tag Recovery Officers are listed by country at the end of the form and they are able to collect forms and give rewards. Try to ensure that recovered tags are reported as soon as you get to port.

Form

completed by: Please write down the name of the person who filled out the form.

Comments: Additional information that could be relevant and does not fit in other sections, such as the registration number of an archival tag. This is also a space where you can attach the tag with adhesive tape.

The Tag recovery form -Front page (Data)

SPC TAG RECOVERY FORM

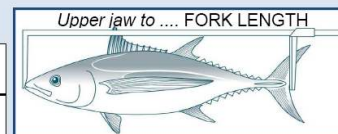
REVISED SPC - August 2010

CRITICAL TAG INFORMATION

TAG NUMBER:	DATE WHEN TAG FOUND:	DD	MM	YYYY	BATCH REFERENCE No. / ID No.: (CANNERY ONLY):
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FISH INFORMATION

SPECIES:	SPECIES RELIABILITY:	<input type="checkbox"/> Confirmed	<input type="checkbox"/> Guessed
Upper jaw to FORK LENGTH	NO length information <input type="checkbox"/>	HOW MEASURED?	<input type="checkbox"/> Measuring tool <input type="checkbox"/> Estimated
cm	WHO MEASURED?	<input type="checkbox"/> Port sampler <input type="checkbox"/> Observer <input type="checkbox"/> Other.. <i>Please specify:</i>	
	PROCESSED STATE WHEN MEASURED:	<input type="checkbox"/> Fresh <input type="checkbox"/> Frozen <input type="checkbox"/> Frozen then thawed <input type="checkbox"/> Cooked	
FISH WEIGHT	NO weight information <input type="checkbox"/>	HOW WEIGHED?	<input type="checkbox"/> Measuring tool <input type="checkbox"/> Estimated
kg	PROCESSED STATE WHEN WEIGHED:	<input type="checkbox"/> Whole weight <input type="checkbox"/> Gilled & gutted <input type="checkbox"/> Other... <i>please specify:</i>	



FISH CATCH INFORMATION / Date and position when fish was caught by the fishing vessel

DATE	Exact <input type="checkbox"/>	DD	MM	YYYY	Estimated <input type="checkbox"/>	From	DD	MM	YYYY	to	DD	MM	YYYY
POSITION	Exact <input type="checkbox"/>	dd	mm.mmm	N / S	Estimated <input type="checkbox"/>	Record 2 lines of latitude and 2 of longitude to form box in which tag was likely recovered							
	Latitude	dd	mm.mmm	N / S		ddd	mm.mmm	N / S		ddd	mm.mmm	E / W	
	Longitude	ddd	mm.mmm	E / W		Latitude	Min	Max		Longitude	Min	Max	
or DESCRIBE FISHING AREA:													

FISHERY INFORMATION

VESSEL NAME:	FLAG:
SCHOOL TYPE:	<input type="checkbox"/> Log <input type="checkbox"/> Free school <input type="checkbox"/> Anchored FAD <input type="checkbox"/> Drifting FAD FAD no: _____
FISHING METHOD:	<input type="checkbox"/> Longline <input type="checkbox"/> Purse seine <input type="checkbox"/> Troll <input type="checkbox"/> Handline <input type="checkbox"/> Gill net Other: _____
WHERE FOUND:	<input type="checkbox"/> Fishing vessel <input type="checkbox"/> Cold storage <input type="checkbox"/> Reefer / Transfer / Carrier <input type="checkbox"/> Cannery <input type="checkbox"/> Fish market / Port
ACTIVITY WHEN FOUND:	<input type="checkbox"/> Fishing <input type="checkbox"/> Processing <input type="checkbox"/> Transfer / Transshipment <input type="checkbox"/> Unloading at port

TRANSSHIPMENT INFORMATION/ Carrier only

NAME OF CARRIER:	DATE OF TRANSSHIPMENT FROM FISHING VESSEL TO CARRIER:	DD	MM	YYYY	to	DD	MM	YYYY
LOCATION OF TRANSSHIPMENT:								

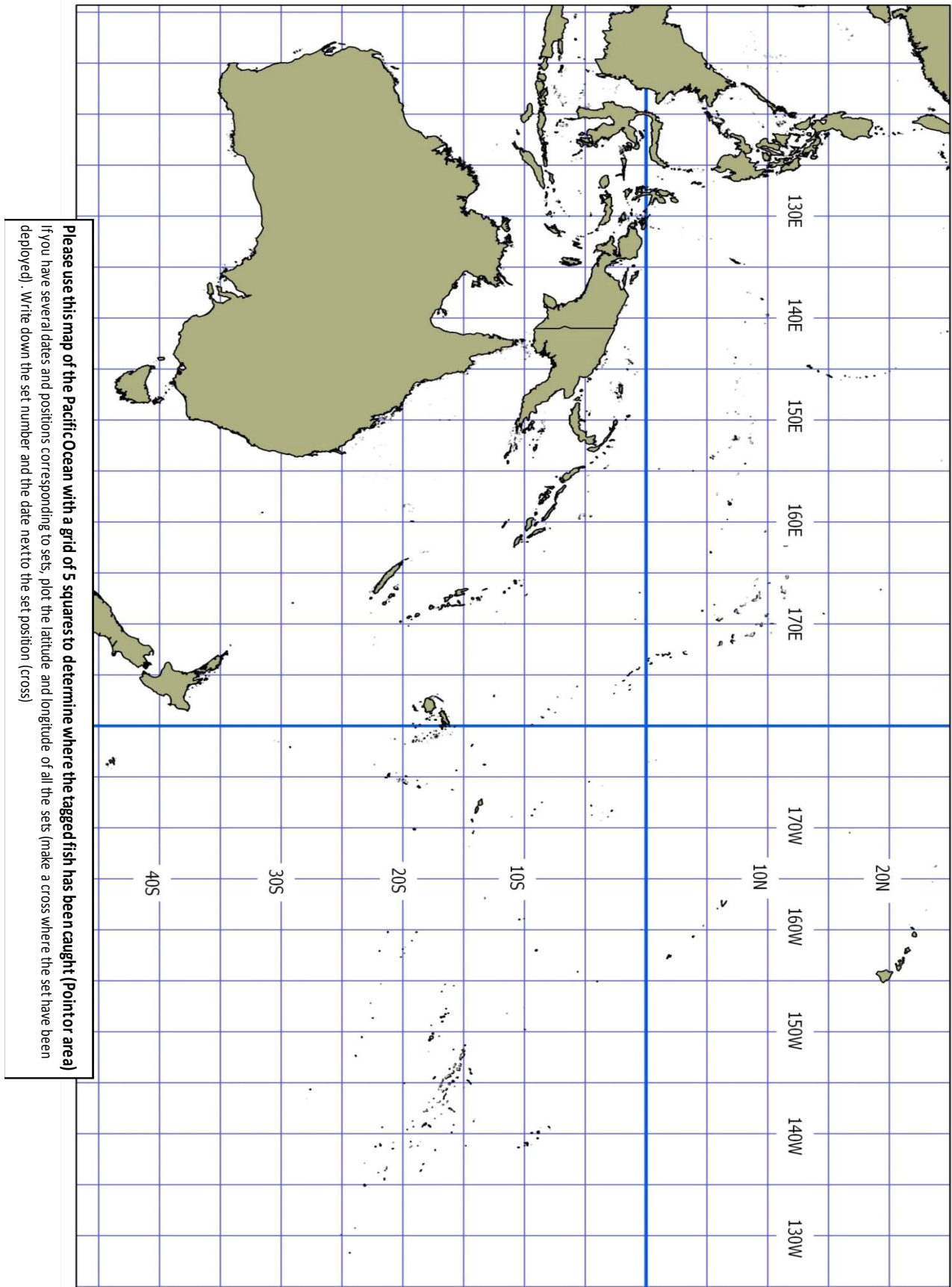
FINDER INFORMATION / finder details for lottery

FINDER NAME:	FINDER ADDRESS:
PORT OF RECOVERY:	RECOVERY INFORMATION RECEIVED AT (Cannery/Company/Agency name):
TYPE OF REWARD	FORM COMPLETED BY:
<input type="checkbox"/> Not given <input type="checkbox"/> T-shirt <input type="checkbox"/> Cap <input type="checkbox"/> Cash - amount: _____	

COMMENTS:

Type of tag	Reward
Yellow tag, Orange tag or Green tag	- 10\$ or Cap or T-shirt
Internal archival tag	- 250\$

The Tag recovery form -Back Page (The map)



What are the rewards for reporting tags?

Every time someone finds a tag and fills out a tag recovery form, a reward can be claimed.

For a conventional tag (yellow, green, orange), the reward is either USD 10 (or equivalent in local currency), a hat or a shirt especially designed for the project.

For a sonic or acoustic tag the reward is USD 50; for an archival tag it is USD 250. For each of these tags, you also need to report the conventional tag that is inserted on the back of the fish (which has an additional USD 10 reward).

To advertise the project and rewards, posters in different languages have been created to be distributed to fishing companies and stevedores and posted onboard vessels, at ports and in processing plants and canneries. If you want some posters to advertise it to your crew don't hesitate to contact Caroline Sanchez – Carolines@spc.int / (+687) 24 22 27.



TUNA TAGGING IN THE WESTERN AND CENTRAL PACIFIC

**HELP US TO BETTER UNDERSTAND AND MANAGE OUR TUNA RESOURCES!
RETURN THE TAGS AND GET A REWARD; ANNUAL LOTTERY FOR TAG FINDERS**

REWARD

The SECRETARIAT OF THE PACIFIC COMMUNITY is conducting research into BIGEYE, SKIPJACK and YELLOWFIN TUNA, movements and behaviour using different type of tags. Tagging tuna will provide better information on fishery exploitation rates and population sizes in the Western and Central Pacific. These data will allow the improvement of regional stock assessment for the 3 species. Every tagged tuna will have a yellow, green or orange DART TAG on its back, near the second dorsal fin. Each tag has a number (written twice) and the words "SPC NOUMEA-REWARD - www.spc.int/tagging" on it.

YELLOW tagged tuna have no other tags, or occasionally have a second yellow tag on the other side of its back. Every tag gets a reward.

GREEN tagged tuna also have an acoustic tag hidden INSIDE their body cavity. Acoustic tags are used to study the movement of tuna around FADs, payaos and other floating objects.

ORANGE tagged tuna also have an archival tag placed INSIDE their body cavity. These tuna also have a pencil-length clear antenna trailing from their body cavity. Archival tags are small computers that record depth, inside and outside temperature, position and time. Please be careful when cutting the archival tag out and **please avoid pulling** the antenna when removing the tag from the fish. Wash the tag and keep it in a dry place until you return it.

FOR A DART TAG

\$10 US

FOR AN ACOUSTIC TAG

\$50 US

FOR AN ARCHIVAL TAG

\$250 US

Please record the fork length of the fish (from the upper-jaw to the fork in the tail), and the date and position of the recapture. Return the tag and information (with your name and address) to either :

JOHN HAMPTON
Oceanic Fisheries Programme (OFP)
Secretariat of the Pacific Community (SPC)
B.P. D 5, 98848 Noumea Cedex, New Caledonia
Telephone : (Int) +687 262000 Fax : (Int) +687 263818
www.spc.int/tagging
Email : Oceanfish@spc.int

or your local government fisheries office ...

SPC Secretariat of the Pacific Community
PACIFIC ISLANDS
EUROPEAN UNION
nzaid

Where can I deliver the tag recovery form and receive the reward?

In each main port you can find a Tag Recovery Officer (TRO); he or she will be able to collect and check your tag recovery forms and deliver you rewards. If you have an observer onboard he can help you to fill the tag recovery form and submit the form to the TRO.

**For collection of reward you need to directly give the tag to the TRO.
The tag acts like a ticket for reward.**

If you have any question while you are onboard or at port don't hesitate to contact Caroline Sanchez – Carolines@spc.int / (+687) 24 22 27. She will be able to advise you and redirect you to the closest Tag Recovery Officer.



If you do encounter a lot of tags during fishing activity you can ask a TRO to give you some tags envelopes.

From a same catch date and position, basic information can be recorded on the top of the envelopes. The tags can be put together inside the envelopes.

However the length of the fish needs to be written for each tag.



News

In December release of the new website www.spc.int/tagging

You will be able to fill tag recovery forms online! Download documents, or find out about the tagging cruises

Location and name of tag recovery officers per country

American Samoa

1. NOAA – American Samoa Field Office
Station PAGO PAGO
(Contact: Gordon Yamasaki)

China

1. China Fisheries Association, BEIJING
(Contact: Zhao Gang)
2. Ningbo Poseidon Food Company NINGBO
(Contact: Shirley Chen)

Cook Islands

1. Ministry of Marine Resources
RAROTONGA
(Contact: Pamela Maru)

Federated States of Micronesia

1. Secretariat of the Pacific Community
POHNPEI
(Contact: Angie Semes)
2. National Oceanic Resource Management
Authority POHNPEI
(Contact: Steve Retalmai)

Fiji

1. Secretariat of the Pacific Community SUVA
(Contact: Front Office)

Guam

1. Guam Fishermen's Cooperative Association
GUAM
(Contact: Manuel Duenas)

Indonesia

1. Research Centre for Capture Fisheries,
JAKARTA
(Contact: Anung Widodo)

Japan

1. National Research Institute of Far Seas
Fisheries SHIMIZU
(Contact: Takayuki Matsumoto)

Kiribati

1. Ministry of Fisheries & Marine Resource
Development, Bairiki TARAWA
(Contact: Aketa Taanga)
2. Ministry of Fisheries & Marine Resource
Development,
CHRISTMAS ISLAND
(Contact: Tikarerei Mwea)

Korea

1. National Fisheries Research and Development Institute BUSAN
(Contact: Seon Jae Hwang (황선재))

Marshall Islands

1. Marshall Islands Marine Resources Authority MAJURO
(Contact: Berry Muller)

New Caledonia

1. Secretariat of the Pacific Community NOUMEA
(Contact: Caroline Sanchez)

Palau

1. Bureau of Marine Resources KOROR
(Contact: Kathy Sisior)
- 2.

Papua New Guinea

1. National Fisheries Authority PORT MORESBY
(Contact: Brian Kumasi)
2. National Fisheries Authority MADANG
(Contact: Front Office)
3. RD Fishing PNG VIDAR
(Contact: Sammy Rivera)
4. Frabelle PNG LAE
(Contact: Celia Batobato)
5. South Sea Tuna Corporation WEWAK
(Contact: Eldwin Umusig)

Philippines

1. Bureau of Fisheries & Aquatic Resources/NFRDI MANILA
(Contact: Noel Barut / Elaine Garvilles)
2. Bureau of Fisheries & Aquatic Resources GENERAL SANTOS
(Contact: Glennville Castrence)
3. Bureau of Fisheries & Aquatic Resources DAVAO
(Contact: Front Office)

Seychelles

1. Indian Ocean Tuna Commission SEYCHELLES
(Contact: Julien Million)

Solomon Islands

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Acknowledgements

This manual was a collective effort and would not have been possible without the extensive input and contributions of the Ecosystem Monitoring and Analysis Section from the Oceanic Fisheries Programme of the Secretariat of the Pacific.

The Pacific Tuna Tagging Project is funded by:

Fonds Pacifique, Republique Francaise
New Zealand Aid, New Zealand
Pelagic Fisheries Research Program, University of Hawaii
The Australian Centre for International Agricultural Research
The 9th European Union Development Fund
The 10th European Union Development Fund
The Global Environment Facility
The National Fisheries Authority, Papua New Guinea
The Republic of Korea
The Republic of China
The Western and Central Pacific Fisheries Commission

