Form PS-1 (page 1) General Information

> **Definition: Fishing Trip**
>
> A complete fishing trip is defined as 'from one full or partial unloading to the next full or partial unloading'.

If your purse-seine vessel comes into port but does not unload fish, you should normally remain on board the vessel until the trip is complete (i.e. the vessel returns to port to unload some or all of its fish). If your trip does not cover a complete fishing trip as defined in the box above, you can state the reason in your written report.

A lot of the information for the PS-1 form can be found only by questioning the captain or other officers. It might be difficult to fill in the PS-1 form as soon as you get on board, but you should make a start after the first few days. It can be a good way to build up a relationship with a new captain and the officers before the fishing starts. If you cannot get the information for some of the data fields at the beginning of the trip, you may find them later on as the trip progresses. For some data fields, such as USAGE, you will need to gather information continuously during the trip.

Fill in all data fields. Fill in all the data fields on the PS-1 form, or insert a dash. A dash shows that you tried to get the information, but were not able to get it (for a variety of reasons such as language barrier). However, as we now have 100% observer coverage on purse-seiner vessels the officers are generally aware of the information that observers require. If a dash is inserted in a data field where information is normally expected, then write a comment to explain why. If there is not enough room on the form to write the full comment, record the page number of your journal where the rest of the comment can be found.

Data to be submitted

One PS-1 (page 1) form must be filled in for every trip. Every workbook has two PS-1 (page 1) forms. Observers are required to fill in the first form. The second form is included as a back-up sheet only. If a second or third workbook is used during a single trip on the same vessel there is no need to fill in another PS-1 (page 1) form. If a second trip on the same vessel is taken you must fill in a new PS-1 (page 1) form.

Observer programme

OBSERVER PROGRAMME:	PGOB

Fill in the code for the observer programme that deployed or paid you for your placement with the vessel. For national programme deployments, the observer code is a combination of the international country code and the letters OB (for observer programme). A full list of international *country codes* can be found on the codes page in the workbook. The observer programme may not be your national observer programme. For instance, when you go on a trip organised by the Forum Fisheries Agency you may use a code like FSMA 14/30. Ask your observer coordinator or placement officer to confirm your observer programme code before you go on board.

Trip Details

On the PS-1 form the trip details are the header details.

<table>
<tr>
<td colspan="2">OBSERVER PROGRAMME: PGOB</td>
<td colspan="3" align="center">SPC/FFA REGIONAL PURSE SEINE
GENERAL INFORMATION</td>
<td colspan="2" align="center">FORM PS-1 (pg 1)</td>
</tr>
<tr>
<td colspan="7">REV. MAR. 2014</td>
</tr>
<tr>
<td colspan="7">TRIP DETAILS</td>
</tr>
<tr>
<td rowspan="4" align="center">OBSERVER</td>
<td colspan="2">NAME

Leban Benson</td>
<td colspan="2">TRIP START LOCATION

Port Moresby</td>
<td colspan="3">TRIP START (SHIP'S DATE AND TIME)
YY MM DD hh mm
15 05 13 21 55</td>
</tr>
<tr>
<td>NATIONALITY
PNG</td>
<td>TRIP ID NUMBER
LBS 15-03</td>
<td colspan="2">TRIP END LOCATION

Majuro</td>
<td colspan="3">TRIP END (SHIP'S DATE AND TIME)
YY MM DD hh mm
15 07 02 14 25</td>
</tr>
<tr>
<td colspan="2">\ VESSEL NAME

Miya #55</td>
<td colspan="2">FISHING PERMIT / LICENSE No.s
MH15-F5555P=02, PNG 77PS15, KI03- PS 234543-028</td>
<td colspan="2">VESSEL DEPARTURE PORT

Port Moresby</td>
<td>VESSEL DEPARTURE DATE
YY MM DD
15 05 13</td>
</tr>
</table>

The following seven data fields are to the right of the vertical word OBSERVER. *They ask for information related to the observer, not the vessel.*

Name

Write your full name as it appears in your passport (first name, last name). Your full name should be written on all forms. Do not use any nicknames or abbreviations on any form.

Nationality

This is your nationality as shown by the passport you hold. To indicate your nationality, use the country codes shown on the 'Codes page' in your forms workbook.

Trip ID number

Write down your complete *observer trip identification number* as issued by your placement observer programme, or as determined by the number of trips already completed during the calendar year. All observers are issued with their own personal 3-letter observer ID code during training, and this can be used to create your trip ID number. Some observer programmes issue their own trip ID numbers. You should confirm your observer trip ID number with your coordinator or placement officer before you leave port.

> ### Definition: Purse-seine vessel
>
> In this guide the '*purse-seine vessel'* is your assigned vessel, that is, the vessel you have been sent to observe catching fish. If you have to board another vessel to transit to the purse-seine vessel, this vessel is referred to as the *transit vessel* in this guide. The transit vessel may also be a purse-seine vessel, but for the purpose of this guide any vessel that carries the observer to their assigned vessel is known as the transit vessel.

Trip start location

This is the place where you first board the purse-seine vessel. Normally this is a port, and the name of the port must be written into the data field. If you travel to your purse-seine vessel by means of a transit vessel, then your *trip start location* will be recorded as 'At Sea' and the latitude and longitude of the position where you boarded the purse-seine vessel should be recorded in this field.

TRIP DETAILS								
OBSERVER NAME Leban Benson		TRIP START LOCATION At Sea 08°17 S, 165°35 W		TRIP START (SHIP'S DATE AND TIME)				
				YY 15	MM 05	DD 13	hh 21	mm 55
NATIONALITY PNG	TRIP ID NUMBER LBS 15-03	TRIP END LOCATION Majuro		TRIP END (SHIP'S DATE AND TIME)				
				YY 15	MM 07	DD 02	hh 14	mm 25
\ VESSEL NAME Miya #55	FISHING PERMIT / LICENSE No.s MH15-F5555P=02, PNG 77PS15, KI03- PS 234543-028		VESSEL DEPARTURE PORT *Port Moresby*	VESSEL DEPARTURE DATE				
				YY 15	MM 05	DD 13		

Trip start (Ship's date and time)

This is the date and time you start your trip. Use ship's time to record the time, and record the date using the ISO-8601 standard for date, i.e. 'year-month-day'. The trip start time is when your purse-seine vessel first throws off its ropes or starts its engine to leave port. You may have been on board for a day or more before it leaves port, but the information required here is the <u>date and time the vessel threw off its rope</u> or <u>started its engine</u>. The date and time you boarded the purse-seine vessel can be recorded in the trip reconciliation form, and noted in both the journal and the trip report. If you joined the purse-seine vessel at sea, then the 'trip start date and time' is the date and time you transferred from the transit vessel to the purse-seine vessel.

Recording information on transit vessels

Normally, the time you start recording data is the time you recorded in the trip start data fields (ship's date and time). If, however, you used a transit vessel to reach the purse-seine vessel and you saw an incident on board the transit vessel that you would like to report, you are encouraged to do so in your journal and trip report. You should refer to the observer forms as a guide as to what information is required (i.e. the GEN-1 data fields). If, in your opinion, it is a serious incident and merits a full form (i.e. GEN-3 form), make sure the name of the transit vessel is placed in the 'vessel name' data field – in the header details. Any such forms should be kept separate from the main set of forms and be clearly identified to the debriefer or coordinator when the forms are submitted.

Trip end location

Record the location where your trip ended. Normally, this is the name of the port where you disembark. Fill in the complete port name. If you disembark from the purse-seine vessel at sea and return to port on board a transit vessel, then the return port is 'At Sea' and the latitude and longitude are recorded.

Trip end (ship's date and time)

Use ship's time to record the time your trip ends, and record the date using the ISO-8601 date standard i.e. 'year-month-day'. If you return to port on board the purse-seiner, then record the time as the time the purse-seine vessel comes alongside the wharf, or drops its anchor.

If you return to port on board a transit vessel, then the return date and time is the time and date you leave the purse-seine vessel.

Caution! You cannot fill in the information about the trip end until just before you leave the vessel. So remember when you come into port you may not finished! Fill in these trip end data fields before you put your workbooks away!

The following data fields refer to the purse-seine vessel

\\ VESSEL NAME	FISHING PERMIT / LICENSE No.s	VESSEL DEPARTURE PORT	VESSEL DEPARTURE DATE		
			YY	M M	DD
Miya #55	MH15-F5555P=02, PNG 77PS15, KI03- PS 234543-028	*Port Moresby*	*15*	*05*	*13*

Vessel name
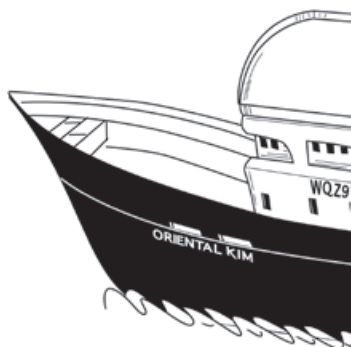
Fill in the full name of the vessel as it is written on the vessel's country registration certificate or the vessel's licence. Do not abbreviate the name. Include all numbers associated with the name.

Fishing permits or licence number(s)

The *fishing permit / licence number* the vessel is operating under during the time you are on board should <u>always</u> be recorded. It is on the vessel's licence certificate, which is displayed in the wheelhouse, or the captain can show it to you. If the vessel has paid to fish in more than one exclusive economic zone or fishery, it will have more than one fishing permit or licence number. You need to record all additional current fishing permit / licence numbers issued to the vessel.

Some examples of fishing license numbers issued by Pacific Island governments are:
- MH12-F49715L-02
- PW10-JP33621PS-028
- FM11-CN24845PSL-02
- LL087NK11

Vessel departure port

Fill in the name of the purse-seine vessel's last departure port. If you joined the purse-seine vessel in port then your Trip start location will be the same port as the vessel departure port. However, if you joined the purse-seine vessel at sea, you will have to ask the captain or another officer the name of the last port the purse-seine vessel departed from.

Vessel departure date

Fill in the date your purse-seine vessel departed port. Record the date using the ISO-8601 standard for date i.e. 'year-month-day'. If you boarded the vessel in port, your Trip end start date will be the same as the vessel departure date. However, if you joined the purse-seine vessel at sea, you will have to ask the captain or another officer the date the vessel left port.

Vessel characteristics

Much of the vessel characteristics information can be found by looking at the vessel's country registration certificate or fishing licence, both of which should be displayed in the wheelhouse, or observers can ask the captain for this information.

VESSEL CHARACTERISTICS							
VESSEL OWNER Japan Fishing Vessel Company	COUNTRY REG. No. MGI - 1252	IRCS JCRE	UVI IMO 8814275	FLAG JP	LENGTH 42 M / F	GROSS TONNAGE: 995 mT	
No. of SPEED BOATS 1	No. of OTHER ONBOARD AUXILARY BOATS 2	Do OTHER TENDER BOATS WORK with CATCHER? Y / (N)	NET SKIFF ENGINE ;	MAKE Caterpillar / POWER 650 hp	VESSEL CRUISING SPEED: 12 kts		
HELICOPTER CHARACTERISTICS	MAKE Hughes MODEL 550C	REGISTRATION NUMBER N807BA	EFFECTIVE RANGE 200 (KM) NM	COLOUR Red	No. of VESSELS that the HELICOPTER SERVICES: (including this vessel) 1		

Vessel owner

Fill in the name of the owner of the vessel as written on the country registration certificate or vessel licence.

Country registration number
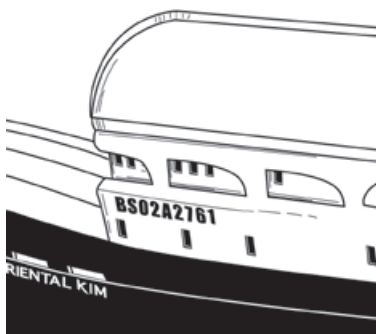
Fill in the *country registration number* as written on the country registration certificate or on the vessel licence. The country registration number is issued by the country where the vessel was registered.
Caution!   (See note under **Vessel flag** below.)

International radio call sign

The *International radio call sign* (IRCS) is a unique radio frequency for amateur and sometimes military use. Call signs are issued by the national telecommunication agency. The radio call sign should be displayed on the vessel's licence and on the sides of the vessel (port and starboard). The IRCS markings must be either in black lettering on a white background or white lettering on black background.

Unique vessel identification

The unique vessel identification (UVI) number is issued by the IMO (International Maritime Organization) or from the Lloyds Register of Shipping. The Western and Central Pacific Fisheries Commission requires all vessels over 100 GRT to have this number from 1 January 2016. You will notice the introduction of UVI numbers on purse-seine vessel paperwork (licensing certificate, etc.) during 2015 and it is likely that this requirement will be extended to smaller vessels over time. See the example above for a typical UVI number.

Vessel flag

Fill in the nationality of the vessel as recorded on the country registration certificate or vessel license. The flag (country) of the vessel is always the same as the country issuing the country registration certificate. Do not be swayed by the nationality of the captain or crew on board the vessel. Their nationality may not be the same as the flag of the vessel.

Caution! If a vessel changes its flag or gets a flag of convenience, its country registration number will change, as it will have to register with a new country to obtain its flag of convenience. (A flag of convenience is used by vessels that are registered in a country different from that of the vessel owner's country of residence.)

Length

Record the overall length of the vessel. The official term is 'Length Overall' and it can be abbreviated as LOA, o/a, o.a or oa. You can find the LENGTH on the ship's plan (often displayed in the corridor or wheelhouse) or on the registration papers. Length overall refers to the distance between the most fore and most aft points on the vessel, measured parallel to the waterline. Observers are asked to keep an eye out to see if there have been any changes to the length of the vessel in recent times. While it is rare, vessels have been cut across their full width during dry docking and new sections added into the vessel to increase its overall length

Gross tonnage

Record the vessel's *gross tonnage*. Gross tonnage is a unit-less index related to a ship's overall volume. You can find the gross tonnage of the vessel on the ship's plan (often displayed in the corridor or wheelhouse) or on the registration or licence papers. Note that *gross tonnage* is different from *gross registered tonnage* (GRT). If you cannot get gross tonnage, record the gross registered tonnage and make a comment in your journal.

Number of speedboats

Count and record the number of speedboats that are on board the purse-seine vessel. Speedboats are small, light and often brightly painted. Generally, they have a large powerful outboard engine or jet on the back and are stored on board the purse-seine vessel. On Japanese purse-seine vessels, speedboats may be bigger, often use jets, and are generally much faster that speedboats on Korean or US vessels. Speedboats are used to keep the school of tuna inside the net. They do this by creating noise and motion around any open areas of the net.

Number of other auxiliary boats
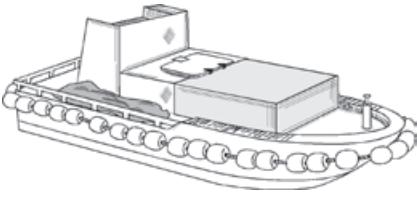
Any other type of working boats should be counted under OTHER ON BOARD AUXILIARY BOATS. Do not include speed boats or the skiff as they have specific data fields.

The auxiliary boats are similar in length to the speedboats, but are usually wider. They do not have an outboard engine like the speedboat. They may be called tow boats or light boats and have a variety of tasks to do. They may be used to tow the purse-seine vessel if there is a strong current during stacking or brailing. They can also be used to keep the school of tuna inside the net. At times they are deployed away from the purse-seine vessel with lights over the side to attract fish or hold the school of fish if the seiner makes an early morning set. They have also been used to 'spray' water on the fish to hold them in position.

Do other tender boats work with the Catcher – Yes or No? (Y / N)

Tender vessels are live-aboard vessels (~15 to 20 metres) that are independent of the purse-seine vessel (they are not stored on board the purse-seiner). They help the purse-seine vessel find fish, check fish aggregating devices and get supplies, etc. You will have to ask the captain or officers if the vessel has any tender vessels These tender boats are commonly used by Philippine purse-seiners that fish in FFA/SPC member countries.

Net skiff engine: make / power

The net skiff is the largest support vessel that is found on board purse seiners. It is kept on top of the stacked net at the back of the vessel. It holds one end of the purse-seine net during setting. You should ask the captain or chief engineer for the skiff's engine make and horsepower.

Net skiff
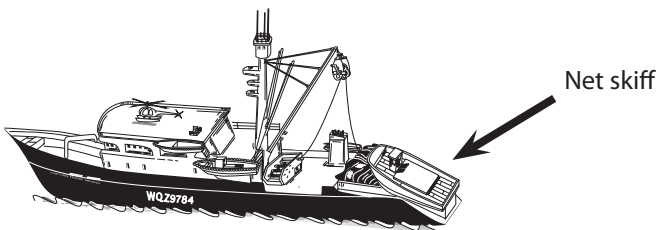
Vessel cruising speed

The cruising speed is the normal speed a vessel uses during searching and transiting to the fishing ground and returning to port. It is a safe and economic (less fuel) speed that vessels normally use when they are not fishing. Purse-seine vessels use various speeds during setting, depending on various conditions such as free school and FAD sets. Ask the captain what the vessel cruising speed is and double check with your best observation during your time on board.

Helicopter – make and model

If there is a helicopter on board, ask the helicopter pilot for the make and model. An example of this information is Hugues 550C.

Helicopter – registration number

If there is a helicopter on board, ask the helicopter pilot for the *helicopter registration number*. An example is N807BA. The helicopter registration number will be marked on the outside of the helicopter.

Helicopter - effective range

This is the furthest distance the helicopter can travel away from the vessel while guaranteeing it can return safely to the vessel's helicopter landing deck. For instance, if a helicopter can travel 120 nautical miles (Nm) before it runs out of fuel then its effective range is approximately 55 Nm. Ask the helicopter pilot for this information. Select and circle the correct unit of distance that has been recorded – kilometre (Km) or nautical mile (Nm).

Helicopter – colour

Write down the main colour on the body of the helicopter. Other identifying features can be described in the trip report (stripes, etc). Note down anything that might help identify the helicopter during a surveillance run, etc. If the helicopter has two main colours, record one colour and record the other colour in the comments section at the bottom of the form.

Number of vessels the helicopter services (including this vessel)

Some helicopters work with more than one purse-seiner and the cost of running the helicopter is shared among these fishing vessels. Normally, the helicopter has a particular fishing vessel that it returns to at the end of the day and where the helicopter pilot has a cabin. Sometimes the purse-seine vessel switches to another helicopter if its primary helicopter goes back to port, or it might have a standard contract with another purse-seine vessel for the helicopter every second month. Ask the pilot if he gives information directly to other fishing vessels. If the helicopter is servicing other vessels, record in this data field the total number of fishing vessels he gives information to and explain in the trip report how the helicopter's time is shared.
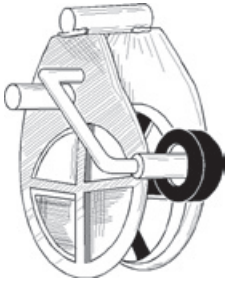
Fishing gear

> Most fishing gear is kept on the deck of the vessel. The following section helps observers identify each piece of fishing gear as listed on the PS-1 form and outlines how it is used.

Ask the captain, the chief engineer or the deck boss for assistance when collecting the fishing gear information. Most officers on purse-seine vessels are used to having observers on board and know what information is required. If you are not able to get the information for any of the data fields (due to communication problems, etc) put a dash in the data field and write a comment stating why you could not get the information. Further information can be written in your journal.

FISHING GEAR						
POWER BLOCK: *Takatori*	MAKE	MODEL *L645*	PURSE WINCH: *Hugues*	MAKE MODEL *677*	BRAIL CAPACITY (of first brail) BRAIL 1	*10* mT
NET - MAX. DEPTH: *250*	M (circled) Y F	NET - MAX. LENGTH: *1200*	Metres (circled) Yards Fathoms	NET - No. of STRIPS *27*	NET - MESH SIZE (of main body) *10* CM (circled) N	BRAIL CAPACITY (of second brail) BRAIL 2 *5* mT
BRAILING TYPE DESCRIPTION: *Using two different sizes of brails onboard. They are both the short handle type. Normally the use Brail 1, but twice when there weren't a lot of fish in the net. See jour pg 9.*					LIVE FISH BRAILING: Y / N (circled)	

**Power block (make / model)**

The power block is located at the end of the main boom and hangs over the stacked net when not in use. It has an aluminium frame with a hard rubber inner rim. The central rotating wheel does the work. The power block hauls the net on board during the net stacking/rolling stage. Record the make and model of the power block.

Purse winch (make / model)
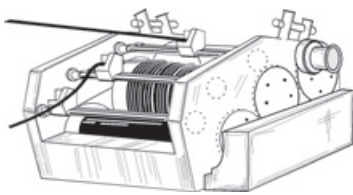
A powerful winch is usually located mid-ship on the main working deck. It is used to retrieve the purse cables and rings. It helps to close the net. The make and model are usually noted on the side of the winch.

Brail Capacity
(of first brail) Brail 1
(of second brail) Brail 2
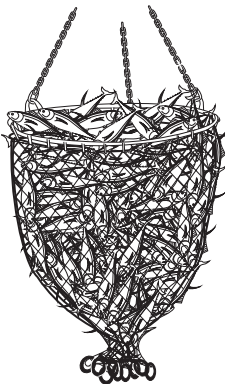
Ask the captain, the chief engineer and the deck boss what the capacity of the brail is (in metric tonnes). This is an important piece of information, so it is best to ask both the captain and chief engineer to make sure the correct information is recorded. Try to capture what a 'full brail' means to the captain. If, for instance, he tells you that the brail carries 10 mt, does this mean the brail is filled up to the top bar, or up to the top of the netting, or it is just seven eighths full?

As you gain experience you can use your knowledge to cross-check the information you have been given. For instance, if on a previous trip a 10 mt brail was used, and you are told that their current purse-seine vessel is using a 10 mt brail, you can use your experience to check if the current brail is similar in size to the one on the previous trip.

Some vessels (Japanese purse-seiners, for instance) have two sizes of brail on board. The capacity of both brails should be recorded. Identify and label each brail. **Observers are advised to always identify and record the most commonly used brail as brail 1. It is helpful, but not compulsory, to have brail 1 as the bigger brail.** This will prevent confusion later on when the observer is asked to record information about brail 1 and brail 2 separately on the PS-3 and PS-4 forms. If there is only one brail size, just put a dash in the second data field Brail Capacity (of second brail) Brail 2.

Caution! It is important that the brail that is identified and recorded as brail 1 on the PS-1 (page 1) form is the same brail that is identified and recorded as brail 1 on the PS-3 and PS-4 forms. The same applies to brail 2.

Net
Net – Max. depth

The *maximum depth of the net* tells us how deep the net will fall into the water. Deeper nets can help catch deeper schools of tuna, but they take longer to reach the maximum depth of the net. This slows down the time it takes to close the bottom of the net, and increases the chances of the fish escaping.
Ask the captain or chief engineer for this information. Remember to always select and circle the unit of length that has been recorded: M: Metres, Y: Yards or F: Fathoms.
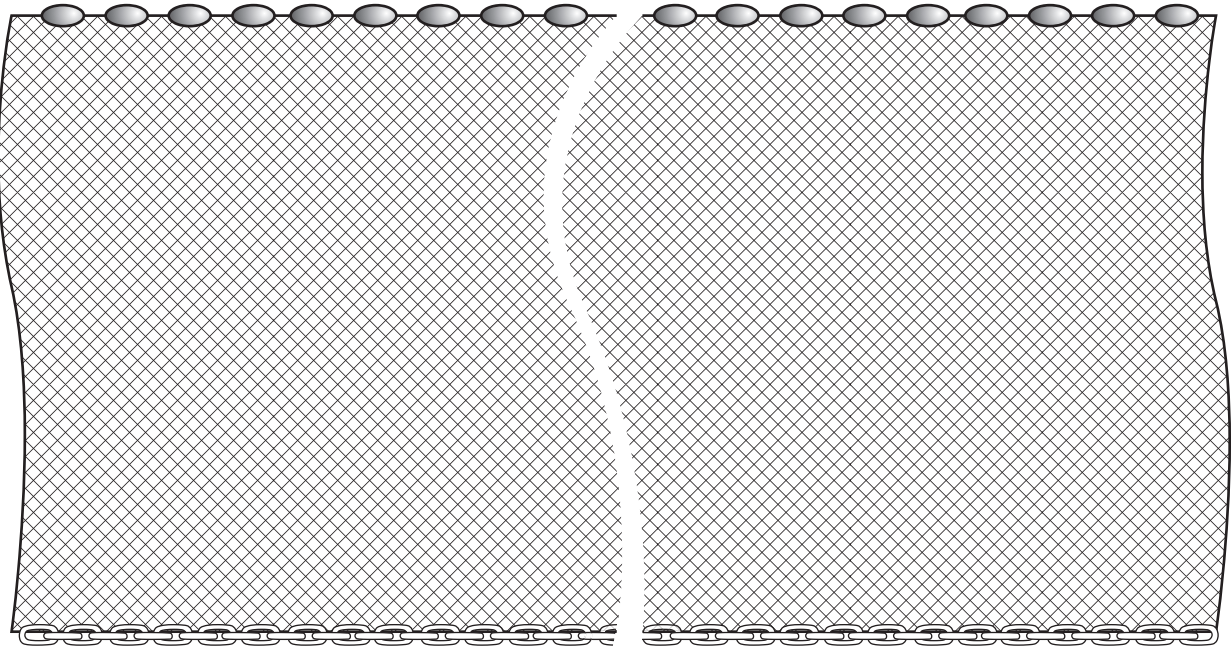

Net – Max length

The *maximum length of the net* indictaes how large a circle the net can make around the school of fish. Much like the net depth, the best *maximum length* is a compromise between having a long net that will safely circle the school of tuna and a shorter net that will take less time to deploy.
Ask the captain or chief engineer for this information. Remember to always select and circle the unit of length that has been recorded: M: Metres, Y: Yards or F: Fathoms.

Net - Number of strips

The purse-seine net is made up of horizontal panels of webbing. These are laced together to form the depth of the net. One strip is usually around 10 metres in height. The number of strips determines the depth of the net. The *number of strips* in the purse-seine net can be found by asking the captain or chief engineer, or by looking at the vessel's net plan.
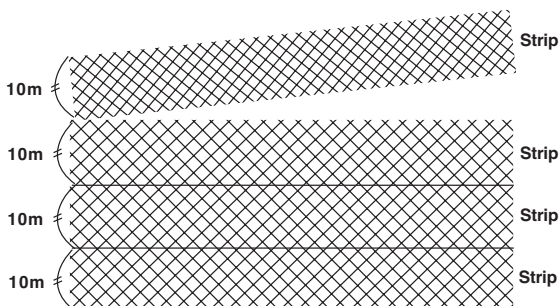
Net - Mesh size (of main body)

The mesh size is often considerably smaller at the top of the net near the floats and at the bottom of the net near the chain. Make sure that you measure the mesh in the main section (which has the largest mesh size). It should be possible to get to the main section when the net is stacked on deck. Ask the deck boss for help in locating it. Measure the size of the mesh as shown in the diagram below. Pull the net's diamond mesh lengthways so that it reaches its greatest width. Measure this width. Remember to always select and circle the correct unit that has been recorded (i.e. either centimetres, CM or inches IN).
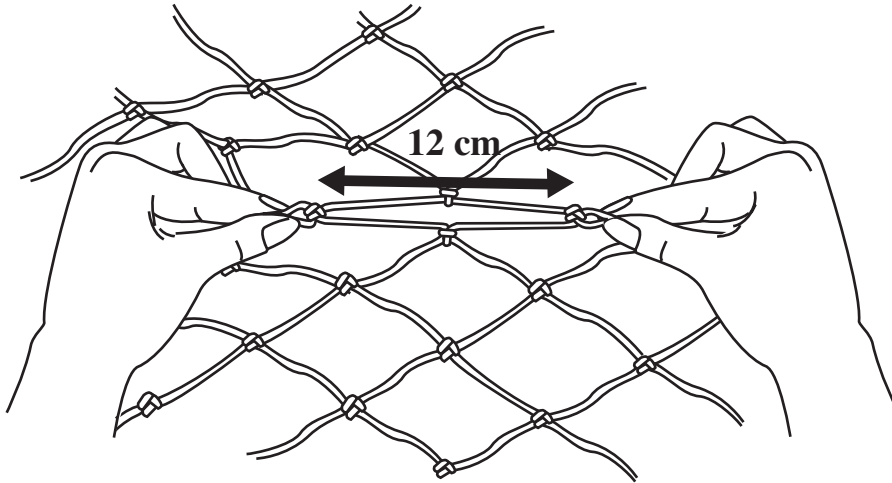
Brail type description

Describe the type of brail used. Write about the shape of the brail mouth, the shape and length of the brail handle and how the brail handle is manoeuvred during brailing (by electrical winches, etc.). This information may be used to prepare a list of standard brails. More information can be recorded in your observer trip report. Drawings and photographs of the brails are very useful.

Brail with long handle – This was used in the early days of tuna purse-seining. The crew used the handle to push the brail down into the sack (tuna), allowing more tuna to spill into the brail during the brailing operation. Small purse-seiners and some Philippine purse seiners still use this type of brail.
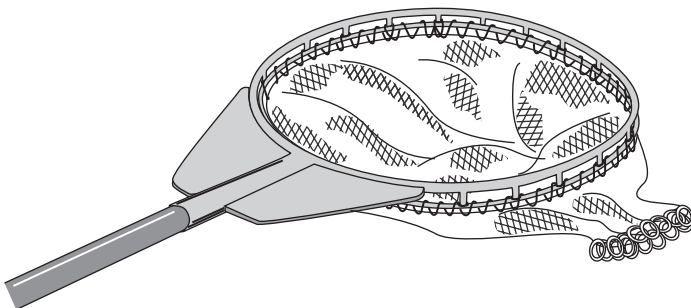
Brail with heavy stainless steel frame – The heavy frame makes it easier for the brail to sink fast into the sack (tuna) and allows the brail to scoop in more tuna every time it is dropped into the sack. The brail is manuvoured by hydraulic and electrical winches from the deck to the sack and back into the fish hatch (hopper hatch).
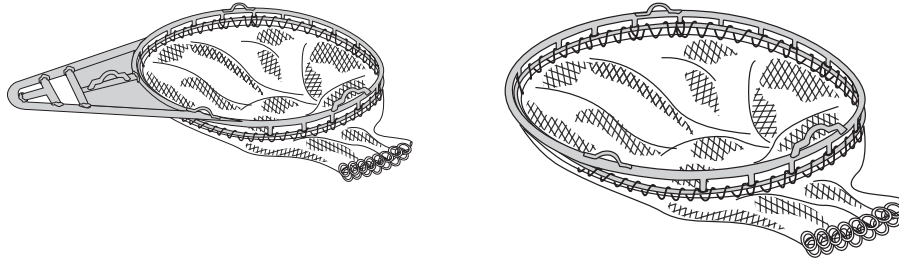
Brail with a handle attached to the davit block – The long handle helps in controlling the movement of the brail from the sack to the fish hatch during brailing operation. This type of brail also makes the brailing operation faster.
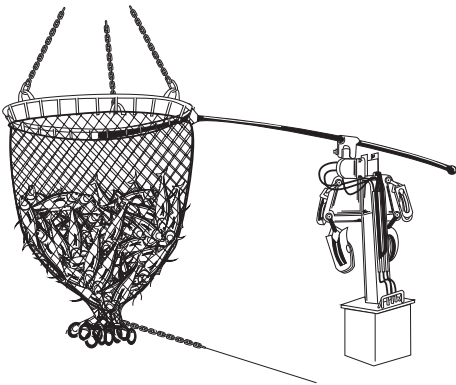
The Japanese 'net' brail is commonly found on Japanese purse-seiners. It was used in the early Japanese purse-seiner's fisheries and are still used in some Japanese seiners to brail large size yellowfin, bigeye tuna (sashimi grade) and skipjack tuna that are caught in a typical purse-seine set.
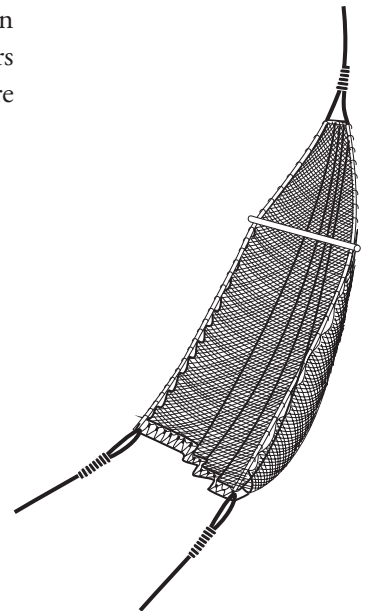
Live fish brailing Yes / No (Y/ N)

Live fish brailing is used mainly used on Japanese purse seiners to brail live skipjack tuna onboard. These fish are used for *katsuobushi*, the Japanese name for dried, fermented, and smoked skipjack tuna. Circle Y – Yes, if the vessel carries out live fish brailing, or circle N – No, if this was not seen. Describe and record information on this type of brailing in more detail in your journal and written trip report.

Electronics

ELECTRONICS		USAGE				USAGE
GPS	(Y) N	ALL	DEPTH SOUNDER	(Y) N		TRA
TRACK PLOTTER	(Y) N	TRA	SST GAUGE	(Y) N		NOL

ADVANCE in TECH		USAGE	MAKE	MODEL	COMMENTS
EQUIPMENT TYPE *SONAR*	(Y) / N		FURUNO	779	New type of Interface on sonar, linked to vessel computer. See j page 44.
EQUIPMENT TYPE _____	Y (N)	—	—	—	—
AIS	(Y) / N	ALL			Attached to the VMS antenna ??
BIRD RADAR	(Y) / N	ALL	FURNO	FR-146ODS	Used a lot during fishing
SONAR	(Y) / N	ALL	KODEN	R-120	Two on board, see comment above.
GPS BUOYS	Y / (N)		—	—	None seen
ECHO SOUNDING BUOY	(Y) / N	OIF	FURNO	LQ11	Four onboard, but told there were six more in the water
NET DEPTH INSTRUMENTATION	(Y) / N	BRO	FURNO	FNZ-28	Spooted when the net was being hauled.
DOPPLER CURRENT METER	(Y) / N	ALL	FURUNO	CI-68	—
VMS SYSTEMS 1 *Inmart Sat C*	(Y) / N				
VMS SYSTEMS 2	Y (N)		—		

COMMUNICATION SERVICES	PHONES	SATELLITE:	(Y) N	Phone No. 872 -79247258	MOBILE:	(Y) N	Phone No. _____
	OTHER	FACSIMILE:	(Y) N	Fax No. 872 -786369546	EMAIL:	(Y) N	Email: maya55@xeno.jp

INFORMATION SERVICES	WEATHER	WEATHER FAX:	(Y) N	SATELLITE MONITOR	(Y) N		
	OTHER	(Y) / N url :	Phytoplankton (Y) N www.catsat.com	SST (Y) / N www.catsat.com	Sea Height Y (N)		

Please circle 'Y' or 'N' for every item.

Indicate if each piece of the electronic equipment is on board by first circling either the Y (yes) or the N (no). When you circle N, put a dash in all the data fields, as shown in the example above. Do not forget to circle N (no) if no new piece of electronics/ advances in technology are seen on board.

Usage codes

ALL   – used all the time in fishing

TRA   – used only in transit

OIF   – used often in fishing

SIF   – used sometimes in fishing

RAR   – rarely used

BRO   – broken now but used normally

NOL   – no longer used

Usage codes show how often and how frequently a vessel uses its equipment. Knowing what equipment is on board is useful, but it is also important to know if the equipment is actually being used and at what times it is being used. Use the codes shown above to describe how each piece of electronic equipment was used during the trip. For instance, there may be some pieces of equipment (e.g. certain radars) that were used only during transiting and were deliberately switched off during fishing. These can be recorded with the code TRA (used only in transit). Watch carefully during the trip to get a good idea how each piece of equipment is used, especially when fishing.

When choosing between two codes, **choose the best or most informative code.** Sometimes two usage codes may seem possible for one piece of electronic equipment. If this happens, record the usage code that best describes how that equipment was used during the trip and record the other code in the comments section whenever possible. Otherwise, make a note about it in the written report.

It may be best to wait until a few sets have been completed before filling in the usage codes so you can find out how each piece of equipment is used. This can be done each time you visit the wheelhouse. A number of visits during different activities (when the vessel is searching, transiting, setting the net, etc.) will give you a better understanding of how the equipment is used.

If it is not clear how each piece of equipment is used, put a dash in the data field and state the reason the information was not available in the comments section or in your journal.

> Most of the vessel's electronics are kept in the wheelhouse or in a room off the wheelhouse. The following helps observers identify each piece of electronic equipment listed on the PS-1 (page 1) form and outlines how it is used.

Upper section

ELECTRONICS		USAGE			USAGE	
GPS	(Y) N	*ALL*	DEPTH SOUNDER	(Y) N	*TRA*	
TRACK PLOTTER	(Y) N	*TRA*	SST GAUGE	(Y) N	*NOL*	

State if the following pieces of equipment are on board and how they are being used.

GPS

The Global Position System (GPS) displays the vessel's exact position in latitude and longitude. The UTC date and time is also available on the GPS. The GPS helps observers to record positions and UTC times. The use of the GPS should be discussed during the placement meeting.

Track plotter

The track plotter shows a continuous track of the vessel's movements. Important positions (i.e. fishing positions, harbours, anchored FAD locations) can be logged into the track plotter, allowing the vessel to return to these exact positions. It is usually linked to the GPS and can be used with the auto-pilot to guide the vessel to a specific position. The track plotter may be connected to other pieces of electronic equipment and may display values such as sea-temperature on its screen.

Depth sounder

The depth sounder searches for and displays objects below the vessel. It may show the presence of fish and can be used to help with navigation, especially when travelling in shallow waters or entering harbour areas.

SST gauge

The sea-surface temperature gauge shows the temperature at the top of the water column. This will allow purse-seine fishers to know if the area is suitable for fishing as tuna have preferred sea-surface temperature ranges. The SST gauge can also show fishers areas where there is change in the sea-surface temperature. This might indicate a temperature front where tuna may be found.

Lower section

State if the following pieces of equipment are on board, how they are being used and what their make and model is.

The **make** is the name of the company that manufactured the equipment. Some examples of manufacturers' names are Furuno, NEC and Trimble. The make is often well displayed on the front of the equipment or it might be shown when the equipment is first turned on. The equipment manual can be a good source of this information, so you could ask the captain or another officer to show it to you.

The **model** is the version of this piece of equipment that has been issued by the manufacturer. Generally, equipment is updated as new technology or other advances come along and new versions are given new model numbers to distinguish them from older models.

Advances in technology

Observers can use these blank lines to fill in any new pieces of electronic equipment that they believe have been recently introduced to the purse-seine fishing fleet. The main purpose of these data fields is to let scientists know if new technology is being used that will help the vessel catch fish more quickly. Do not use these vacant lines to fill in standard or common pieces of electronic equipment that are normally found on board such as radios. Circle either Y (yes) or N (no) on both lines to indicate if there were any pieces of equipment that can be classified as advances in technology.

Caution! New observers (on their first or second trip) should not fill in these data fields, as all pieces of equipment will be new to them.

AIS

The automatic identification system (AIS) is similar to the VMS system, although a greater range of vessels has this system (carrier vessels, bunker vessels, etc.). AISs were initially designed for safety at sea by the IMO to help identify vessels that radars could not detect. The AIS unit sends out a unique number that is used to track the vessel. Vessels are mostly tracked by their owner, but they are also tracked by compliance personnel. The AIS unit is often attached to the VHF antenna and, unlike the VMS unit, it will always be marked with the letters AIS.

Bird radar
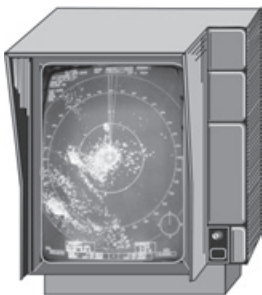
A bird radar is equipped with a large coloured screen. It displays the presence of small items that cannot normally be seen with the navigational radar. This includes flocks of birds, which may be a sign that there is a school of tuna present.

Sonar

The sonar displays solid objects in the water column below or to the side of the vessel. It can display the presence and movements of fish close to the vessel. This includes bait fish and rainbow runners, as well as tuna. The sonar is a critical piece of equipment when a vessel is preparing to make a set and wants to keep an eye on the school of fish. The size, depth, speed and the total tonnage of the school of tuna can be judged from the sonar display. The sonar is switched off and retracted into the hull once the net is closed to ensure it does not get tangled by the net.

GPS buoys

The GPS buoy (beacon) transmits its exact position (latitude and longitude) to the vessel. The signals are sent by satellite. Some may also transmit the surrounding sea-surface temperatures.

Echo-sounding buoy

Echo (or sonar)-sounding buoys transmit a range of information about the condition of the ocean around them back to a computer display on the vessel. The information is sent through a satellite and may include the position, sea-surface temperature (SST) and sonar readings (i.e. the presence of objects, possibly tuna, below the buoy). Echo-sounding buoys help vessels monitor the presence of any tuna that accumulate around the buoy from a distance. These buoys are normally tied to FADs, especially drifting FADs.

Net depth instrumentation
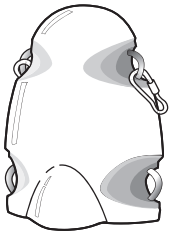
When placed on the net, these sensors can tell the captain the depth of the net and they may also record / indicate the temperature of the water at that depth. As the depth of the school of tuna will already be known through the use of the sonar, it is helpful to know the depth of the net and if it has fully unrolled before pursing starts.

Doppler current meter

The Doppler current meter displays the direction and strength of the current at various depths. The current's strength is displayed in units of knots and the direction is displayed in units of degrees. The captain will not set the purse-seine net if he thinks the current is too strong, as the net could be badly torn.

VMS
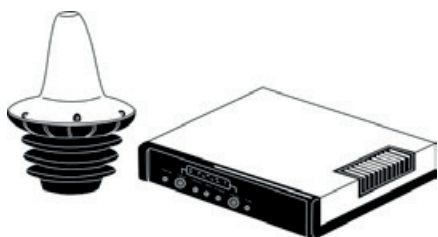
The VMS (vessel monitoring system) tracks the vessel's position using satellite technology and relays the position to a monitoring station on shore. This signal is transmitted to a satellite. Observers should be able to identify the MTU (mobile transponder unit) box or 'black box' in the wheelhouse. The box may send out a beeping sound at constant intervals, but this can be turned off. (Often a silver seal with individual numbers seals the sides of the MTU, although observers are no longer required to record information about this).

System: Record the system type. An examples of system is type is 'Inmarsat C'.
Usage: Record the VMS usage. Normally the VMS will be used all the time in fishing, so write ALL, but other codes can be used – if the VMS unit is broken, for instance.
Make: This is the name of the manufacturer. Some examples are: Trimble, Furuno, Thrane Thrane.
Model: This is the manufacturer's model number for this piece of equipment. An example is FR 1760.

COMMUNICATION SERVICES

Phones

The vessel may have access to a variety of communications services that it uses to communicate with the outside world. Indicate which type of communication services the vessel has by circling Y (yes) or N (no) and giving the individual contact numbers when known.

Phones – Satellite
Circle Y if the vessel has a satellite phone on board. Write down the phone number for the boat and remember to include the access number (area code). Three types of satellite phone services are available: Immarsat A and B provide telephone, telex, facsimile and data transmission. Immarsat B is a digital system with cheaper telecommunications rates. Immarsat C provides telex (fax), data transmission and internet.

Phones – Mobile
Circle Y (yes) if the vessel or the captain has a mobile phone that is used in port. Write down the phone number and remember to include the access number (area code). Be aware that phones may be associated to different phone services in different ports. Record the phone number that will be most helpful for your placement observer programme. The information you provide will help us contact the captain / vessel if necessary, when in port.

Other

Facsimile
Circle Y (yes) if the vessel has a fax machine. Write down the fax machine number and remember to include the access number (sea area code).

Email
Circle Y (yes) if the vessel has an email address that can be used to contact the boat. This information will be helpful if we need to contact the boat or place an observer onboard. Make sure the email address you record is useful. For instance it is no good recording one of the crew's personal email addresses.

INFORMATION SERVICES

Weather: These services provide the vessel with up-to-date information on the weather.

Weather - Fax

Vessels can receive weather reports and weather maps by fax using Inmarsat C. The reports may be received daily or on demand.

Weather – Satellite Monitor

Some purse-seiners have a computer that receives real-time data on weather conditions, ocean currents and cloud cover. This information is helpful in plotting a course to the most favourable fishing ground. Because the information is in real time, it is more accurate than the weather maps received by a weather fax.

Other

These information services provide the vessel with information that will help it find productive fishing grounds. The majority of these other services map oceanographic conditions. The vessel's fishing company may send the information by fax or it may be accessed on a website. If the website is accessed directly, you may see this information on the vessel's computer. You need to record the address of the website (URL) that provides the information.

Other - Phytoplankton

Phytoplankton are minute plant-like organisms that small vertebrates feed on. These small vertebrates are a food source for tuna-like species. Fishers look for high levels of phytoplankton, or abrupt changes in phytoplankton, hoping to find large numbers of tuna. The information is usually provided as a map with different levels of phytoplankton concentration marked with different colours. The map shown here gives the concentration of phytoplankton in the water in milligrams (mg) in each cubic metre of water (m^3). Circle Y (yes) if the vessel is receiving this information and write down the URL of the website that provided the information. Otherwise, circle N (no).
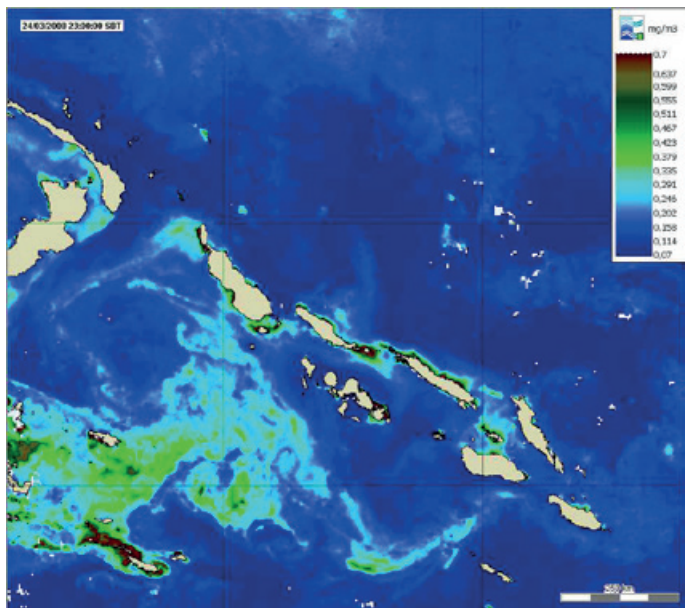
Other – SST

Information on sea-surface temperature is usually provided as a map with different sea-surface temperatures shown with different colours. Areas where different sea-surface temperatures come together can indicate ocean currents or eddies where   like to accumulate. Tuna prefer certain temperatures (~ 13°C to 30°C), so knowing the sea-surface temperature gives vessels a good idea where tuna can be found.

Circle Y (yes) if the vessel is receiving this information and write down the URL of the website that provided the information. Otherwise, circle 'N' (no).
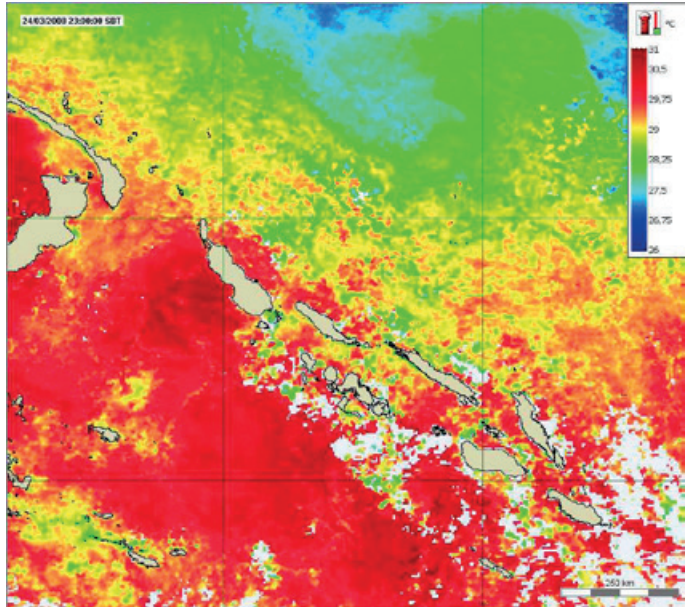
Other – Sea height

Differences in sea height can indicate oceanic fronts (where two or more ocean currents come into contact) and these areas are often rich in marine life and perhaps tuna. The information is usually provided as a map showing the direction of the currents and the difference in sea height indicated by different layers of colours.

Caution! Remember to circle N (no) for all the data fields on this line if there are no fishery information services available.

Observations / Comments: Other Gear / Unusual Use of Gear

You are asked to write a brief note on anything special about the vessel, the equipment or crew in this part of Form PS-1. Pay special attention to any new electronic equipment or new fishing gear, as well as any new or unusual techniques for using fishing gear or electronics. New technology or fishing practices may result in higher catches for a vessel, or a fleet of vessels, so it is important we learn about them straight away. You can give more detail in your journal. Compile all of your journal notes in the written report at the end.