First TUFMAN Training Workshop (TTW-1)

3-7 December 2012

SPC, Noumea, New Caledonia

Session 2.0

TUFMAN Overview

TUFMAN OVERVIEW

Why use a database?

When you enter hard copy data into a database it converts the hard-copy data into an electronic format. This makes the information easier to store and search and it also makes it faster to retrieve by multiple users. Databases provide better data security, regular back-ups, and at the same time offer improved portability of the data. Databases cater for a high level of data integration which offers better cross-checking and reporting on multiple levels of the data.

The main disadvantages of a database are the high start up costs of the additional hardware and software. Additionally specially trained personnel are required to develop and administer the database.

Spreadsheets (like Excel) can also be used to convert hard copy data into an electronic format and they are often easier to create and can be accessed by most people with computer skills. Spreadsheets maybe a better choice if data is only going to be collected for a short time and access is only required for one person. Some caution is required when using spreadsheets; data may be lost (when only backed up on a single computer), access to the data is restricted and data from other spreadsheets cannot be integrated and finally spreadsheets are likely to become unstable if a lot of data is used.

The TUFMAN Database?

TUFMAN is a database developed by SPC for Pacific Islands Countries and Territories (PICTs) to allow them to convert their hard copy tuna data into an electronic format. Previously most tuna data was forwarded to SPC and entered into a regional database, with updates sent to countries every 3 months or so. Entering the data nationally gives countries more immediate access to their data and greater control over their tuna fisheries information should result in improved monitoring of the fishery.
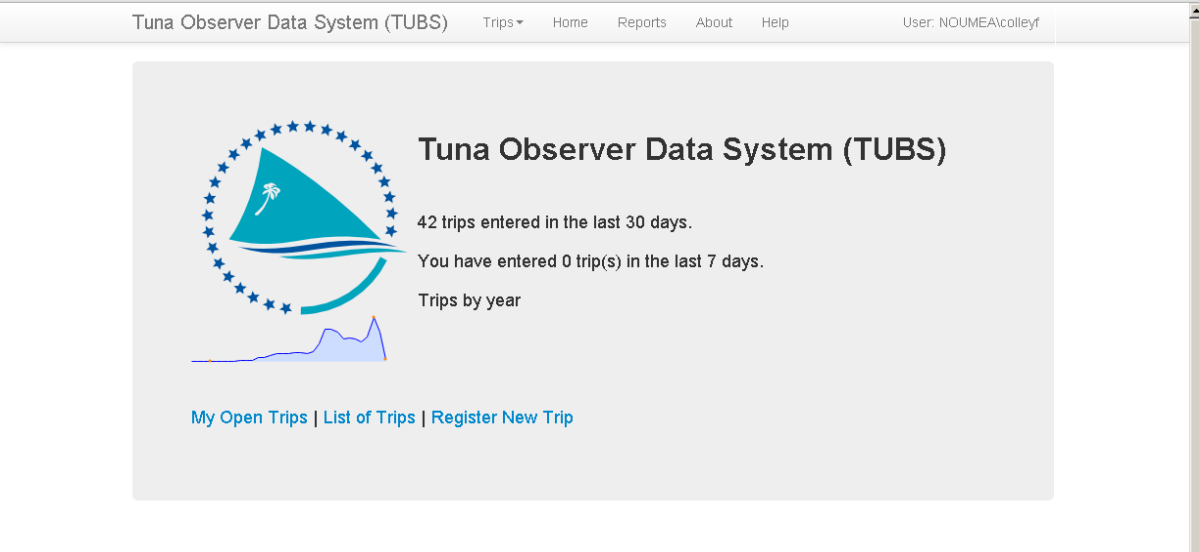
Why use TUFMAN?

TUFMAN is a tool to help PICTs manage their tuna data. There are no obligations to use TUFMAN. Countries can choose to use TUFMAN, parts of the TUFMAN system or a different database system altogether. Countries main regional data obligation is to supply operational level data to SPC as the WCPFC data provider. (See Scientific Data to be provided to the Commission - decision made by WCPFC7 (3) available from www.wcpfc.int). Essentially this means providing a copy of their logsheets, unloading, port sampling and observer forms to SPC. Currently data provided to SPC through TUFMAN is not considered as a WCPFC data provision until the TUFMAN system has been audit.

By choosing to use TUFMAN to capture their tuna data in an electronic format PICTs benefit from a customised database with on-going support and continuously updates ensuring they are always up to the regional data standards, and all of that for free.

Complimentary SPC Tuna Data Management Systems

TUBs is a database for entering data that has been collected by observers

TUF-ART is a database for entering data collected from the local artisanal fleet that commonly target tuna.

.**MCS-TUFMAN**

MCS-TUFMAN is based on TUFMAN, but currently is a separate system. In the future it is likely to be web-based.

SPC also supplies data viewer and query systems to PICTs. These systems are not databases but they allow countries to access reports on data that were entered into databases at SPC.

➢ **Observer Viewer** – allows countries to access report on observer data that was entered at SPC. The Observer Viewer system is regularly sent to countries, is available on request and from the country web pages on the Oceanic Fisheries web pages.

Query systems allow some manipulation of the reporting parameters (date range, which trips to include etc)

➢ **CES (catch and effort query system) -** allows countries to access and create their own report on the logsheet data that was entered into the database at SPC. This includes logsheet and unloading data submitted by countries, but also by the regionally managed USMLT and FSMA programmes.
➢ **ORSE (observer data query system) -** allows countries to access and create their own report on the observer data that was entered into the databases at SPC.
➢ **Country Web pages – gives countries access to pre-formatted reports on scientific tuna indicators**

TUFMAN –part of the national tuna data system

TUFMAN is fuelled by the data that is entered into it. However, the reports that TUFMAN provides are only as good as the data that has been entered. There are many elements to a good national tuna data system that must be considered before the reports produced by TUFMAN are useful or reflective of the fishery. Deciding what data will be collected is beyond the scope of this guide, but users of TUFMAN (especially Data Mangers) need to have a good understanding of how the data is collected before they use the reporting tools. The annual tuna data workshop and national procedure manuals give some guidance on setting up a comprehensive tuna data system.

Better Data Collection, better TUFMAN

The following elements of data collection should be in place to ensure good quality data is entered into TUFMAN.

- A legal obligation for fishers to fill in the tuna data forms
- Procedures to inform fishing companies, agents and fishers of the current form version.
- Training for the persons recording the information whether they are fishers or fishery officers.
- Procedures to check the quality of the submitted data
- A feedback process on the quality of the submitted data along with the assigned task of returning unacceptable data to the data provider.
- Highlight any errors on the hard copy data forms.

TUFMAN is designed to work with the 'Regional Standard Tuna Data Collection Forms' which are drafted by the Tuna Fishery Data Collection Committee, a group that meets normally every two years. The report of the meeting and the current forms are always available from SPC website

http://www.spc.int/oceanfish/en/data-collection/241-data-collection-forms

Some data types do not have regional standard forms i.e. licensing and telex data.

TUFMAN won't resolve your data collection problems.

One of the limits of TUFMAN is that it won't resolve any problems that occur in the data collection system. TUFMAN does have a number of data quality checking processes, and it can tell you where the data gaps are, but in general it can't complete or fix erroneous data in the data collection system. TUFMAN managers need to be aware of the links between the data collection system and the final reports produced by TUFMAN.

TUFMAN data concepts you need to know

A fishing trip is defined as from one complete or partial unloading to the next complete or partial unloading. The first and last date of the fishing trip as marked on the logsheet defines the trip in TUFMAN and it is important that these dates are respected by other data types (unloading, port sampling observer etc.).

The national fleet includes all vessels that are flagged (or registered) to your county along with any vessels that have been chartered to your country under the WCPFC. For further advise on what vessels should be listed under your national fleet please contact Peter Williams on PeterW@spc.int

Preparing submitted forms for data entry

Once the data forms have been received they should be managed in an agreed manner which is compatible with the database and will make any future retrieval or transfer of hard copy easy to do.

Data forms flow system

| IN-TRAY | REGISTERED | DQ CHECK | SCANNED | TRANSFERRED | ENTERED | ARCHIVED |

What data should I enter into TUFMAN?

PICTs can decide what data they want to enter into TUFMAN. SPC suggests that those decisions should be made in association with SPC and recorded in the National Tuna Data Procedures Manual as there are some fishery management implications in regard to the decisions on what data to enter. See further notes under data entry.

SPC also enters logsheets, unloading and port sampling data that is supplied by PICTs Fishery Offices, into a separate regional database. Licensing and position reports are not entered at SPC. Normally, SPC will not import the data they enter into national copies of TUFMAN, as the task is time-consuming and can be difficult (especially with on-going differences in vessel tables).
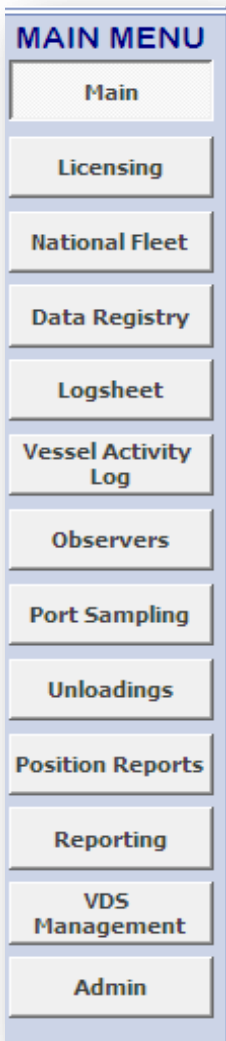
TUFMAN Layout
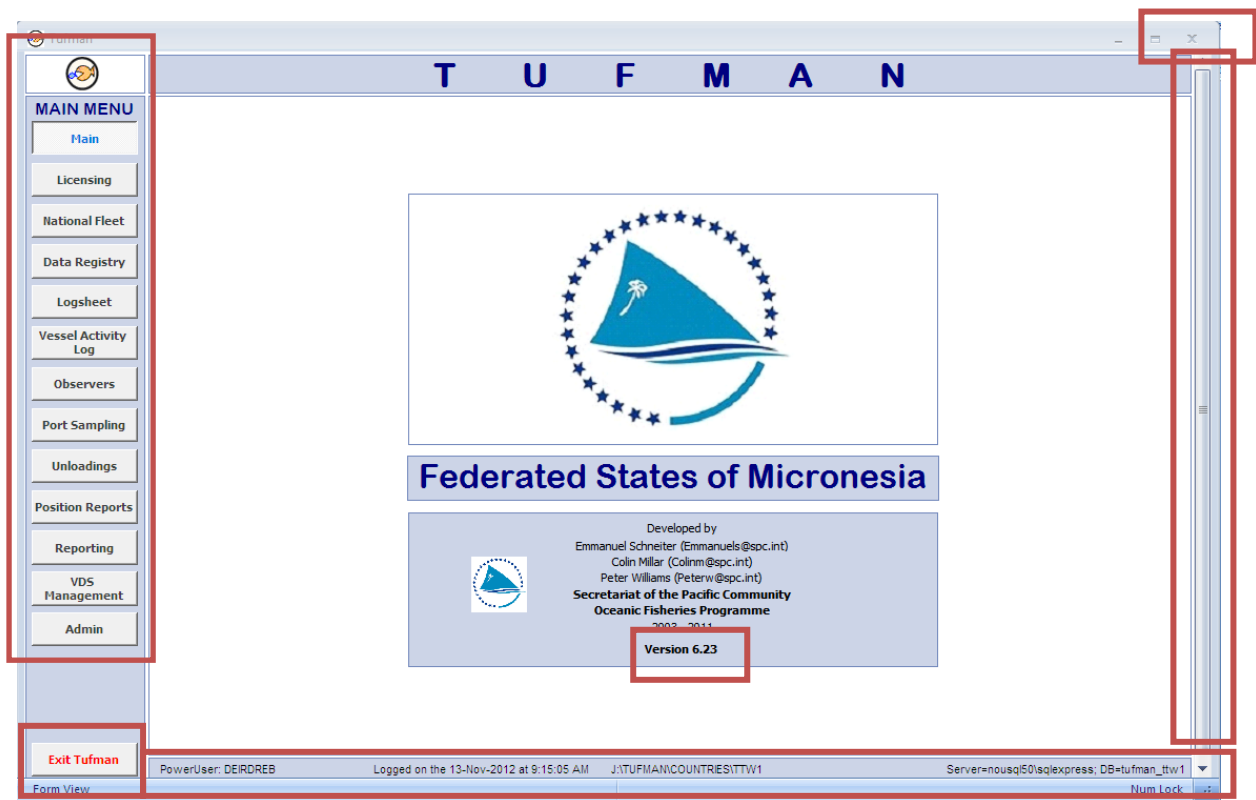
This is the front screen in TUFMAN.

The following main elements are shown.

1. The main menu
2. The bottom bar
3. The scroll button
4. Shows the version
5. Exit TUFMAN

1. **The main menu** allows you to select where you want to go in TUFMAN. The button marked "Main" will be highlighted when you are in the front screen.

2. The **bottom bar** tells you who is logged in and to which instance of TUFMAN. An instance is a database term, which basically means the complete database system. As an example you may have one copy of TUFMAN on your laptop and one on your server. These are two separate TUFMAN instances. If you enter data into one it will not be recorded in the separate instances. Sometimes it is important to know where you are entering the data. important if you have different copies of TUFMAN in your office).

3. The **scroll bar** on the right-hand-side will be become visible when the front screen is reduced to a certain size. This helps fit the front screen to certain screens, like laptops.

PowerUser: DEIRDREB   Logged on the 13-Nov-2012 at 9:15:05 AM   J:\TUFMAN\COUNTRES\TTW1   Server=nousql50\sqlexpress: DB=tufman_ttw1

4. The **version** of TUFMAN is shown on the front screen. SPC delivers new versions of TUFMAN two or three times a year (it depends). You should know what version of TUFMAN you are using.

5. You can **exit** TUFMAN from the front screen. Click the "Exit TUFMAN" button or the X button on the top right hand side.
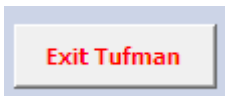
The Sub-Menus

The sub-components of the Main Menu allows users to manage information on different elements
- Vessel details {Licensing, National Fleet}
- Data Registry {Submission of data types}
- Data types {Logsheet, Vessel Activity Log, Observers, Port Sampling, Unloadings, Position Reports}
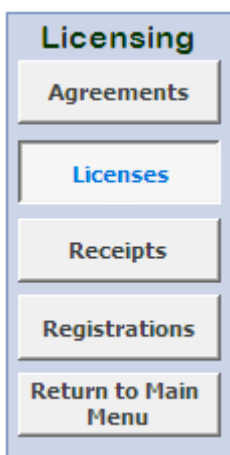- Reporting {Reporting and VDS}

And it also gives access to the area where TUFMAN can be administered from.

- TUFMAN Administration

You can decide to show or hide any of the sub-menu buttons by changing the set up under the Administration sub-menu of TUFMAN.

Data Types:

Licensing is where you can

Add a new License

Add a receipt – when money is received for a licence.

Add a vessel registration. Some countries require that the vessel is registered with them first, but most countries don't. If not required this can be switched off.

At the end of every sub-menu you can return to the main menu, and then either choose another component or exit TUFMAN.

National Fleet

The National Fleet does not have a sub-menu.

The national fleet component allows you to indicate which vessels are flying your country's flag, and the periods they are licensed to fish. Deciding whether a vessel is part of the national fleet or not can be confusing and this is best done in consultation with SPC.

Data Registry

The data registry system does not have a sub-menu. Once your data has been appropriately sorted (by fishing company, gear type, month) you can register the date the data was received, note what type of data was received and TUFMAN will generate a specific batch number for each type of data.

Logsheet

The logsheet sub-menu shows all the different type of gears that you can enter logsheet data for.

A logsheet shows a vessel's fishing effort along with its catch by species and by set, over the duration of a complete fishing trip. TUFMAN offers sub-menus for the entry of logsheet from different fishing gears used by the commercial fishing fleet. Logsheets from the artisanal fleet can be entered into another database.

Gear types that are not relevant can be switched off in the administration area of TUFMAN.

➢ Data Collection Coverage:

Every fishing vessel should submit a logsheet for every fishing trip. A fishing trip is from one full or partial unloading to the next full or partial unloading.

➢ Data Entry Coverage:

o SPC advises that all submitted logsheets should be entered into TUFMAN and that all data recorded on the logsheet should be entered.
o If you have a lot of logsheet data to manage, and are restricted by staff then you can choose to enter the fishing information that occurred in your national EEZ (Exclusive Economic Zone). After entering the date, the position information and confirming that a fishing set was made, TUFMAN will check the position and close data entry if the fishing position was out-side the EEZ. This can help speed up data entry for logsheets. However, you should be aware that this may have some implications for reporting. You can switch on or off this choice under administration.
o The logsheets for USMLT or others vessels licensed under sub-regional agreements are not generally entered into TUFMAN, although they can be. If you don't enter this data you can get access to this data through CES.

Vessel Activity Log

The vessel activity log allows you to enter the DCC fishing activity log.

➢ Data Collection Coverage: SPC advice is that a fishing activity log should be collected for every longliner and hopefully every purse-seiner. However, as VMS coverage improves the F.A.L will become less relevant for calculating trip coverage, but it remains a very good way of managing the submission of logsheets, and explains any periods where logsheets were legally not submitted i.e. no fishing occurred.

➢ Data Entry Coverage: All collected fishing activity logs should entered into TUFMAN

Observers

The observer sub-component allows you to manage your observer programme information by entering trips and other information about observers into TUFMAN. This component of TUFMAN is slowly becoming redundant while other observer systems are developing, mainly TUBs (for observer data, by SPC), but also TUBSMAN (for observer programme management, developed by FFA) and (i)FIMS (managed by PNA etc).

➢ Data collection coverage

Currently the Regional Observer Programme coverage is 100% for all purse-seine vessels and 5% for all longline vessels. The Scientific Committee suggests 20% observer programme on all gear types for all national programmes.

➢ Data entry coverage

Currently most data is being entered at SPC, with some trial entry at the national level with the TUBs programme.

Port Sampling

The port sampling sub-menu shows all of the different type of gears that you can enter port sampling data for.

Port sampling data shows the size and species composition of the unloaded catch (target and landed bycatch). The information is used in regional stock assessment work.

➢ Data Collection Coverage:

SPC advises that 20% of all tuna vessel unloading should be port sampled. Additionally, implementing full port sampling coverage provides countries with good independent monitoring data on the total number of fish unloaded.

➢ Data Entry Coverage:

PICTs are advised to enter the port sampling totals into TUFMAN (Totals are the total number of fish by species that were sampled.) Some countries may want to enter the length frequency data as it can indicate the weight of the catch and it will give island governments an independent indicator of

the total weight of fish unloaded, this is a lot of extra work but possible as long as local staff are available.

SPC enter the complete length frequency data (i.e. the actual species lengths), as this data is most valuable for regional stock assessment work. Some countries may want to enter the length frequency data as it can indicate the weight of the catch and this is possible as long as local staff are available.

Unloadings
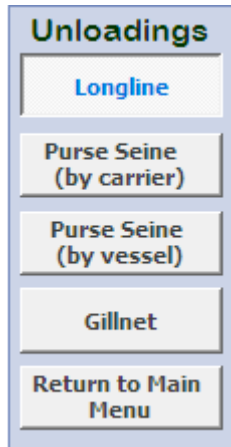
The unloading sub-menu shows all of the different type of gears that you can enter unloading data for.

Unloading data shows the total amount of fish by weight and by species, that were unloaded by the vessel after every full or partial unloading. It may also show the final destination of the catch.

➢ Data Collection Coverage:

SPC advises that unloading data should be collected after every full or partial unloading that occurs in Port States. Unloading data are also required by the WCPFC for a countries national fleet, wherever they occur in the WCPFC region.

➢ Data Entry Coverage:

SPC advises that all submitted unloading data should be entered into TUFMAN.

SPC also enters all received unloading data for auditing purposes.

Position Reports

Position reports were previously known as telex reports.

Position reports show the position of the vessel with the onboard catch at specific intervals as outlined by the fishing agreements.

➢ Data Collection Coverage

The amount of position reports that have to be submitted by a vessel is outlined in bilateral fishing agreements.

➢ Data Entry coverage

All received position reports should be entered into TUFMAN.

SPC do not enter Telex reports.

Reporting - see the session on reporting

VDS Management – see the session on VDS

Data Entry in TUFMAN

To enter data into TUFMAN open up the data type from the main menu and select the appropriate sub-menu as necessary.

The main data table screen will appear

There are four main areas to this screen.

1. Sub-menu – the sub menu you are currently in is highlighted
2. The filter bar
3. The spread sheet
4. The scroll bar
5. Delete / Edit / Add data record
6. Other options

The Data Table Screen

The filter bar

The filter bar allows you to view a selection of the total data records for the data type you are looking at (i.e. logsheets). It will remove data records that are not relevant to your search and only display records that you are interested in.   If no filters have been set the spreadsheet will show all the data that has been entered.

The filter bars for the different data types are similar, but offer different choices.

For instance the logsheet filter allows you to filter by a vessel's name, but also to view logsheets for vessels that are licensed and or not or those that are part of the national fleet. It allows you to view logsheets from one batch of data and from specific years. To help improve data quality you can view logsheets where the logsheet totals have not been completed. Finally, to help data entry staff the filter can show the records that were entered on that same day.

To use the filter bar use the drop-box on the r.h.s of the cell and click on your selection, or enter the required information into the cell.

 To set the filter click on 'Apply filter'.

To remove the filter click on 'Reset Filter'.

Choosing 'Current' means selecting by the licence that are currently active. Of course this will have to be set up correctly in your licensing area of TUFMAN. Note TUFMAN always defaults to showing all the data from last year, but this can be removed by changing the data

3. The records displayed in the **table summary** is driven by the filter bar as discussed above. You can see the total number of records in the table summary by clicking on the scroll bar to the right of the table.

You can copy any of the table summary data into an Excel file by following the steps below.

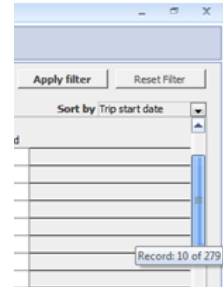Select the first line of data you want by placing the cursor into the first column of the spread sheet. A small arrow will appear. Press the shift key and keep it down. Select the last line by placing the cursor into the first column of the spread sheet. The data has now been selected. Use the Ctrl C to get a copy of this data. Open Excel and paste the data into the Excel file using the ctrl /alt / del keys.

Vessel name	Departure date	Start date	End date	Return date	Departure Port	Return Port	Lic link	Nat fit link	Batch	Checked
CN VESSEL 33133	28-Dec-12	29-Dec-12	09-Jan-13	09-Jan-13	POHNPEI	POHNPEI	Yes	No		Chk
CN VESSEL 33129	28-Dec-12	28-Dec-12	09-Jan-13	09-Jan-13	POHNPEI	POHNPEI	Yes	No		Chk
CN VESSEL 33505	26-Dec-12	27-Dec-12	01-Jan-13	02-Jan-13	POHNPEI	POHNPEI	Yes	No		Chk
CN VESSEL 33506	24-Dec-12	25-Dec-12	02-Jan-13	02-Jan-13	POHNPEI	POHNPEI	Yes	No		Chk
FM VESSEL 33448	24-Dec-12	25-Dec-12	28-Dec-12	29-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 10363	24-Dec-12	24-Dec-12	02-Jan-13	02-Jan-13	POHNPEI	POHNPEI	Yes	Yes		Chk
TW VESSEL 29843	22-Dec-12	23-Dec-12	01-Mar-13	02-Mar-13	GUAM	GUAM	Yes	No		Chk
JP VESSEL 19067	21-Dec-12	22-Dec-12	17-Jan-13	18-Jan-13	GUAM	GUAM	Yes	No		Chk
FM VESSEL 11353	21-Dec-12	21-Dec-12	02-Jan-13	02-Jan-13	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 35325	20-Dec-12	21-Dec-12	30-Dec-12		POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 35328	20-Dec-12	21-Dec-12	27-Dec-12	27-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
TW VESSEL 35309	20-Dec-12	20-Dec-12	16-Mar-13	17-Mar-13	TAIWAN	GUAM	Yes	No		Chk
TW VESSEL 34263	12-Dec-12	19-Dec-12	14-Feb-13	15-Feb-13	GUAM	GUAM	Yes	No		Chk
FM VESSEL 35326	17-Dec-12	18-Dec-12	29-Dec-12	30-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 8433	16-Dec-12	17-Dec-12	27-Dec-12	27-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 35110	13-Dec-12	14-Dec-12	27-Dec-12	27-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 33314	11-Dec-12	12-Dec-12	17-Dec-12	18-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 33448	09-Dec-12	11-Dec-12	22-Dec-12	23-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 35327	10-Dec-12	11-Dec-12	26-Dec-12	26-Dec-12	POHNPEI	GUAM	Yes	Yes		Chk
FM VESSEL 35325	07-Dec-12	08-Dec-12	17-Dec-12	19-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 35328	06-Dec-12	07-Dec-12	19-Dec-12	19-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
TW VESSEL 33714	04-Dec-12	05-Dec-12	17-Feb-13	18-Feb-13	TAIWAN	GUAM	Yes	No		Chk
TW VESSEL 25569	01-Dec-12	02-Dec-12	19-Mar-13	20-Mar-13	GUAM	TAIWAN	Yes	No		Chk
FM VESSEL 35326	30-Nov-12	01-Dec-12	15-Dec-12	16-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 8433	30-Nov-12	01-Dec-12	14-Dec-12	15-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk
FM VESSEL 35110	29-Nov-12	30-Nov-12	11-Dec-12	12-Dec-12	POHNPEI	POHNPEI	Yes	Yes		Chk

Additionally you can sort or re-arrange the data in the spreadsheet by using the sort by button. If you have physically sorted your hard copy forms alphabetically by vessel name or by port sampling date you can sort your summary table by vessel name or date the trips and the data in the table summary can be listed in the same order.

There are some many options.

4. **The scroll bar** Use the scroll bar to move up and down the summary table. The scroll bar should always be visible (unlike the scroll bar on the front screen). If the scroll button cannot be seen click to get a full screen using the 'square' image at the top right hand side of the TUFMAN screen. You can see how many records you have in the table summary by clicking on the scroll button (you may have to scroll down a bit to see the total number of records).   You can copy any of the spreadsheet area into an Excel file.

Select the first line of data you want by clicking anywhere in that line of data. A small arrow will appear on the left-hand-side of the summary table. Press the shirt key and keep it down. Select the last line by placing the cursor anywhere in that line of data. The data has now been selected. Use Crtl+ C to get a copy of the data. Open Excel and paste the data into the Excel file.

5. **Add, Edit or Delete** a record in TUFMAN

You can only add, edit or delete a data record in TUFMAN if you have been given permission to do so. See TUFMAN Administration.

To **add a** new data record simply click on the 'new trip' or 'new record' button on the bottom of the screen.
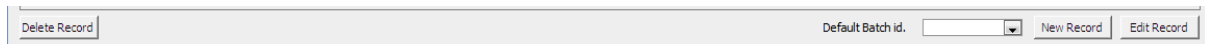
The data entry screen will appear. The layout of the data entry screen reflects the layout of the regional standard data collection form. The term 'header' is used to describe the details at the top of the form and the term 'body' is used to describe the main part of the form.

To move through the data entry fields you can use the tab button.

To enter data into a data field you can;

- Select the information from the drop box on the right hand side of the cell and click on the data you want to enter.
- Enter the data into the cell. For some cells once you start to type the information a choice will be offered. Click to select a choice or continue typing if your choice is not displayed.
- Dates can be entered in many formats (i.e. 171111 or 17/11/11, or 17/11/2011) but they will always be displayed in the same format 17-Nov-11. The displayed date format will depend on how the regional date format has been set up on your computer. See your computer's regional settings under the control panel.
- Once you start entering the body of the form a new line will automatically appear below the line you are entering data into.

If incorrect data has been entered into a data cell use the ESC key to delete it. Press ESC again to delete the data in the previous data entry field. You should take care not to use the ESC button too many times as the record can get corrupted.   You can also the 'cancel' field at the bottom right hand side of the screen if you do not want to save the record. Finally you can delete the record from the summary table page if necessary.

Once the record has been fully entered place a small red tick on the form to show it has been entered. Follow up on the recommended data entry quality controls – see the data quality session.

7. **Others** – From the logsheet sub-menu an additional button is available 'trip track map' and batch id no.

Trip track map will open a track of the selected trip. The vessel's track can be checked to see if it is reasonable or not. If the vessel has travelled a great distance in-between two sets (which were made on subsequent days) there may be a data entry error. Mapinfo should be correctly installed before you use this option.

Default Batch id

Trouble shooting with TUFMAN – support

Error messages may pop up from time to time. When this happens data operators are advised to –

1. *Read the message*

2. If the data operator is unable to resolve the problem they should take a screen shot of the error and send the screen shot to SPC by email.
    a. Either use the print screen request button on your keyboard or the snipping tool supplied with Windows 7 to get a copy of the error message.
    b. Open up a new email and paste the image into the email, using control, paste. For large screen shots, right click on the image, choose size and then crop the image so the error message is clear in the email message.

3. Make a video of what is causing the error. SPC may ask you to provide a recording of the steps you took to produce the error.
    a. Click on the Windows Start button. Enter PSR into the search field (for problem start recording).
    b. Click on 'Record steps to reproduce problem'
    c. The recorder button will appear
    d. Press start record

   e. Carry out the required steps in TUFMAN
   f. Press the stop record button when finished
   g. The PSR will automatically open a save file location. Choose where you want to save the file. The file will always be saved as a zip file.
   h. Send the zip file to SPC (ColinM@spc.int). Check the size of the file first. Smaller files can be sent by email. Larger files should be sent by www.yousendit.com