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working together to secure its future.*



Report of the  
**Follow-up mission to improve data entry on the  
Pelagos database**

2-9 September 2013 • Colombo, Sri Lanka

**Bay of Bengal Large Marine Ecosystem Project**





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BOBLME Project

This work was made possible by the kind assistance of NARA and MFARD staff. Special mention must go to Ms Lashanti, Pelagos database administrator, who went out of her way to provide information and assistance for successfully getting the database up and running.

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## Acronyms used

IOTC	Indian Ocean Tuna Commission
MFARD	Ministry of Fisheries and Aquatic Resources Development
NARA	National Aquatic Resources Research and Development Agency
BOBLME	Bay of Bengal Large Marine Ecosystem
PC	Personal Computer
SQL	Structured Query Language

## 1. Background

Indian Ocean Tuna Commission (IOTC) has developed a sampling database named Pelagos for the purpose of assisting Sri Lanka to electronically record fish sampling data. A training workshop for the database was held in July 2013 in Sri Lanka with the participation of Ministry of Fisheries and Aquatic Resources Development (MFARD) and National Aquatic Resources Research and Development Agency (NARA). However, it was deemed that a refresher session was necessary to get the data entry process rolling.

As part of BOBLME Project's capacity building initiative, the BOBLME Technical Officer (TO) was asked to do a follow up on that workshop, to assist the Sri Lankan institutions to get on track with their data entry. The BOBLME Technical Officer met with database administrators, data entry operators and managers at NARA and MFARD to assist them with their task of fully utilizing the Pelagos database to record the sampling data currently being collected. After understanding the situation and needs of the institutions, the BOBLME Technical Officer was tasked to make the necessary changes to the database software and to report on the general setup and recommend future improvements.

## 2. Introduction

Work was carried out at MFARD from 2–9 September 2013 and during that time; a day visit was made to NARA on 6 September 2013.

During this time in Sri Lanka and the subsequent week, we managed to start data entry to the Pelagos database. Moreover, we set the database up on the network and entered data simultaneously from multiple PCs.

Using the valuable feedback from data entry operators and guidance from the department heads at NARA and MFARD, we ironed out some of the initial software and setup issues, and moved on to make further improvements and recommendations.

More time was spent at MFARD than NARA. The reason for this was that there were 3 data entry operators at MFARD compared to just one at NARA. Hence MFARD was used as the test ground for the database development and "fine tuning".

This report identifies the main issues that were encountered, and documents the setup and software changes made to rectify some of them. There are also recommendations to improve the database software and setup for increased ease of use and maintenance. All improvements are with the aim of increasing efficiency and accuracy of data entry.

The version of the Pelagos as on 2 September 2013 just before the follow-up mission will be named Version 1.0 and the network ready version submitted to MFARD and NARA after the updates will be named Version 1.2 in this report.

## 3. Data entry status

Data collecting work was ongoing with the many completed forms that had been submitted to NARA and MFARD. MFARD receives around 250 completed datasheets monthly from the field. However neither of the institutions was entering data on Pelagos as on 2 September 2013.

### 3.1. NARA

Although NARA was not entering the collected data into Pelagos, they were entering data into an older sampling database. NARA wants to move to the Pelagos database at the beginning of next year and they would like to wait until all the technical issues were identified and corrected. They were happy that this debugging and development work on this was being done at MFARD.

However, on 6 September 2013, a short data entry session was organised at NARA. The database operator entered some data to the new database but there were issues - by then all the problems were with the database we not yet resolved. However, it must be mentioned that the only data entry operator at NARA, Mr Malith, was quite familiar with the database and was able to quickly show me the issues he had. Dr Rekha, the database Administrator was also present and showed me the improvements needed.

Most of these problems were cleared and the new version (V1.2) of the database has been sent to NARA on 19 Sep 2013, and they will soon start a short trial data entry session again.

#### Data flow

There are currently 9 NARA enumerators based at landing sites country wide and these enumerators submit the completed sampling forms when they all meet at NARA on a monthly basis.

### 3.2. MFARD

At MFARD data collection was being done and there were many completed data entry forms returned. However, similar to NARA, as on 2 September 2013, no data entry to Pelagos had been performed.

One of the reasons for this was that due to the high validation at data input, certain data was not able to be inserted. Also, the code tables were locked somehow and they were not able to make changes to the codes or add new staff members.

The selected locked code tables were unlocked and the data entry operators started entering data the next day on 3 Sep 2013. More details on the code table issues are discussed in **section 6 Code tables**.

While data entry was being done that week at MFARD, we sat together with the data entry operators and made small adjustments and improvements on the fly.

Initially the data entry was being done on one PC by one data entry operator. The software was later modified to work from a server to and allow multiple data entry operators to work simultaneously. On 18 September, there were 5 database operators who managed to enter data simultaneously at MFARD. This modification to work from the network is described in **section 4 Capability to operate from network**.

There was some measurement of speed of data entry done by the MFARD data entry operators.

Average time for data input:

- Form A - 5minutes
- Form B - 3minutes
- Form C - 2minutes

Average time for a full set is 10 minutes, but taking into consideration all other activities like starting up the program and picking up the last form, or entering missing vessels, it is safe to assume about 15 minutes for a form set. This information was reported by the data entry staff and the database administrator.

MFARD is aiming to enter one month's worth of data in 2 weeks, with half a day spent on data entry every day. The aim is to complete arrears within one and a half months.

## Data flow

There are currently 26 MFARD enumerators working at landing sites around the country. The enumerators keep the completed forms and submit to the District Fisheries Assistant Director (DFAD) on a monthly basis. The DFAD in turn sends the completed forms to MFARD once a month by mail to MFARD to be entered into Pelagos database.

## 4. Capability to operate from network

With the large amount of sampling data involved, it is clearly advantageous for the database to be accessible simultaneously by multiple data entry operators and users. Adding this capability was a major part of the work in this follow-up mission.

At MFARD a 2.5 gigabyte partition was created on the file server dedicated to house the database file on the network. This location was mapped as the S: drive on each data entry computer.

When Pelagos V1.0 database file was placed on network S drive and tested for simultaneous data entry, it failed to work faithfully. Some records would not register and some forms would not open.

The reasons for both these issues were identified and solved in V1.2.

The reason for some records not registering on the database was because there were conflicting primary keys issued to the new records by the software. This was fixed by changing the timing of issuing the primary key values. Explanation for this is in **Appendix V Issue with simultaneous data entry (resolved)**. All changes to software code have been documented in the code files as comments.

The reason why some forms were not opening was because Access did not like the same form being accessed from 2 places at the same time. If a form was being used by one user, and another user tried to access the same form, the software would report that the form was not to be found. This was fixed by having the Pelagos upgraded from a single to a two tier database. Detailed explanation to this is given in **Section 5 Single file to 2 tiers**.

## 5. Single file to 2 tiers

MS Access is a desktop database as opposed to a server database. However, single file Access database normally works when accessed from multiple users in a networked scenario. For the case of Pelagos however, when the same form was opened by 2 users, we faced a difficulty. When the first user opened the "Daily effort form", it opened fine, however, when the second user tried to open the same form, the software gave an error saying the form was not to be found.

To resolve this, the database was divided into two files; the database file, "PelagosTables.accdb", was placed on the server, and an interface file, "Pelagos.accdb", a copy of which was placed on each of the user PC hard drives. The database file now contains only data, tables and the relationships between tables while the interface file contains the forms and queries with which the user interacts with the database.

The interface file is linked to all the tables in the database file, allowing the setup to work as before. The link information can be accessed using the "Link table manager" in Access.

One implication of this 2 tier setup is that every user PC must have a copy of the interface file on its hard disk. Furthermore, it is the interface file on the PC that has to be run or executed.

Another side benefit of this 2 tier setup is that the interface file is small and stays the same size compared to the database file which grows with data entry. Updates to the interface which

essentially contains all the forms and code can be easily sent via email. This side benefit has become an invaluable feature when it comes to future maintenance of the software.

The backup code was also modified resulting from this. The backup of both the database file and the interface file would be stored on the PC hard disk at <current directory>\backups\. This will ensure that a backup of the database is stored in the PC. Please see the **section 9** for more details about backups.

### 5.1. Changes to installation steps

As a result of going from a single file setup to 2 tiers, the installation instructions in the Pelagos manual had to be changed.

In version 1.0, the installation involved placing a single Pelagos.accdb file on the c:\IOTC\Pelagos\ and executing it.

In version 1.2, the installation instructions have changed as follows:

1. Map network drive S: drive on the user PC.
2. Create Folder structure S:\IOTC\Pelagos\.
3. Place "PelagosTables.accdb" file at S:\IOTC\Pelagos\ (This is the database file).
4. Create folder C:\IOTC\Pelagos\ on the User computer.
5. Create folder C:\IOTC\Pelagos\BACKUPS\ on the User computer.
6. Place the interface file "Pelagos.accdb" at C:\IOTC\Pelagos\ (this is the interface file).
7. Open the file C:\IOTC\Pelagos\Pelagos.accdb to run Pelagos database.
8. Optionally make a shortcut to the C:\IOTC\Pelagos\Pelagos.accdb file on the desktop for easier access.

Note that a non-networked version had been sent to NARA and the stand alone setup also has to be documented in the manual

## 6. Code tables

Database codes maintain referential integrity of most of the text fields in the database when inputting new data to the database. The code tables must stay more or less constant for realistic data recording. These codes were decided at the workshop held in 01 July 2013 in Sri Lanka (see report).

However in this follow up mission, it was found that the code tables were locked for data entry including staff list. The following codes tables were identified as would change more often and they were unlocked.

- Boat category
- Species
- Landing Sites
- Staff
- Measurement types

ID	Title	Description	Source	Role	Status	Staff ID	Remarks
11	Boat	Boat Category	Database Administrator	Unknown	Unknown	Unknown	30.00
12	Species	Species	Database Administrator	Unknown	Unknown	Unknown	30.00
13	Landing Sites	Landing Sites	Database Administrator	Unknown	Unknown	Unknown	30.00
14	Staff	Staff	Database Administrator	Unknown	Unknown	Unknown	30.00
15	Measurement Types	Measurement Types	Database Administrator	Unknown	Unknown	Unknown	30.00

Staff members will have to be added and removed often

Landing sites have to be added often because in the event that landing site closes, for some reason, the sampler may be sent to a nearby landing site which may not be in the list in the database.

It was suggested also that the map on the codes form be updated.

### **6.1. Synchronising of codes between NARA and MFARD (2 database scenario).**

If it is decided to continue using 2 databases, one at NARA and the other at MFARD, without a network link, then the synchronisation of the codes between the 2 databases will become a very important issue. Any changes to the codes at one institution will have to be reciprocated at the other institution.

If it is an addition of a new code then there is no need for that code to be immediately added to the other database. However, if a meaning of a code changes or a code itself changes, this has to be immediately changed in the other database and all the data collectors have to be informed of the change.

## **7. Boat registration**

There is a vessel registration database maintained at MFARD. This database is in a separate department from the statistics department that is doing data entry to Pelagos and is headed by Mr Prasanna.

Pelagos has a copy of the vessels list that is imported periodically from the vessel database via an Excel file. Instructions for doing this are in the Pelagos manual.

There were times when the information in the collected forms does not tally with the information in the vessel list. This could be in the vessel number or the vessel length. When such situations arise the data entry operators record it in an Excel file and sends to the vessel registration office for verification. The vessel registration office then sends an update file in Excel format and is imported to Pelagos

During the time of waiting for the update from the vessel registry, the physical form is tagged and kept aside.

This method works but is inefficient. As solution to this has not been found or implemented yet.

While the ideal solution is to get network connectivity to the vessel record database, another option is to allow the data entry operator to enter any unlisted vessel in to the database with a flag. This way the same physical form will not have to be gone through again and the vessel registry import process can be modified to consider the flag and report on the clashing data to the vessel registry.

## **8. Data entry and debugging forms**

As data was being entered we were able to find bugs. Some of these were fixed on the run while others were noted for fixing in the near future.

The issues with forms A, B, and C are documented in **Appendix II, Appendix III and Appendix IV** respectively.

## **9. Computer setup and backups**

At MFARD there were 3 PCs used for data entry, all running windows 7 and Ms Office 2007. All PCs were networked to a domain and had access to the database file on the network. At NARA the test data entry session was set up on a single PC running windows 7.

### **Backups**

There is a backup being made into each user PC, each time the Pelagos database interface is closed. However, this does not substitute for a regular onsite and off-site backup system. It is therefore recommended that the Network Administration implements such a system to the database partition on the file server as soon as possible because there is danger of losing work time.

## **10. Improvement recommendations**

### **10.1. Data entry at 2 locations**

As far as the data and data entry is concerned, it is best if the data is entered into one centralised database. This can be achieved by linking NARA and MFARD via a network or by entering data only at one institution. This way, referential integrity of the tables can be maintained effectively. Having 2 databases and merging from time to time is inefficient and time consuming rendering it more expensive. The task of merging the data should not be taken lightly, especially where the samplers and enumerators of NARA and MFARD are working at the same sites and there is possibility of duplication data.

The next best position to take is to have NARA samplers and MFARD samplers working at different sites divided among them. This way no forms from the same site would go to the 2 institutions. With this method merging would be easier because NARA data and MFARD data would never be duplicates.

### **10.2. Validation vs. Verification**

It is clear that there is extensive validation and some detailed verification routines in the database. This ensures data quality. However, validation could sometimes restrict good data from being entered if the validation is too tight as it was the case for vessel IMULA0662TLE which was using a Ring Net (RN) (see **Appendix III Issues in form B**).

### **10.3. Security and free software**

NARA and MFARD were concerned about DB security. They wanted user level DB access control to the database. This way the users changes could be logged. This was highlighted by Dr Rekha on her visit to MFARD, Dr Sisira and Mr Jayathilaka

It is recommended that the database is moved to a server system like MySQL server.

When doing this it is recommended that as far as possible free software is used. For the database, MySQL is free while MS Access and MS SQL are not free

The user interface could also be moved to a web server so that it is more portable and does not rely on Access which is not free.

### **10.4. Training**

It is recommended that some further advanced training on relational databases is provided to the staff at MFARD and NARA. This knowledge would make them more at ease with the database and allow them to do their own maintenance to Pelagos. Knowing more about the relational databases would also help them make their own queries and reports from the data.

### **10.5. Maintenance**

The database is now in working order and data entry is ongoing, however, there are some issues mentioned in this report that need to be addressed. For this, services of a person familiar with Access and Pelagos will be required.

Even after that, support and maintenance will be needed from time to time, and the services of a person familiar with the Access and the Pelagos database will be needed.

It is recommended that provision is made for this.

#### **10.6. Double entry**

At some point in the future, it is advisable to have double entry of the same data to a second database and compare with the original database to measure the error at data entry.

#### **10.7. Error handling**

There are some unhandled errors or pop up messages that are not very clear to the data entry operators. This should be improved in the next revamp of the database.

#### **10.8. Calculated values**

Showing calculated values in the forms at data entry time is probably not necessary. These could be left to the reports and queries. For example in the length weight part of form C. See **Appendix IV Issues in form C**.

**There might be technical reasons that call for these values to be visible**

#### **10.9. Some remaining work**

At the back of Form B, **Appendix III Issues in form B**, there is a species code list which is now in the 8<sup>th</sup> edition and has to be checked if they are all included in the database. This can be done by the database administrator

### **11. Conclusion**

There are many further improvements to be made, and decisions to be taken, however, we can safely say that we have a working networked database at MFARD where the arrears or sampling sheets are being entered. Furthermore, the system is now easily maintainable by simply updating the smaller interface file.

BOBLME's assistance in in the follow-up work on the Pelagos database was appreciated by MFARD and NARA.

## Appendix I List of participants

MFARD	
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## Appendix II Issues in form A.

Vessel information and fleet information are entered in Form A

Figure 2 the screen shot of form A in the database

### Small fixes

1. Tab issue at sub form 8 (Active boats information) were fixed as requested by data entry operator.

### Points of interest

2. There was concern that the auto completion combo of the boat registry number could cause errors. This has to be carefully looked at because it could also be reducing error by making it easier for the data entry person to home in on the correct IMUL number.
3. If two different enumerators have different data for the same landing site and date, form A might be filled twice. This could cause duplication of data.
4. There had to be agreement on who fills the data on Form A and the other forms chain linked to form A. The possibility of the harbour master filling the data on Form A was discussed.
5. There must be agreement between NARA and MFARD enumerators on who fills the A form. Do we want cases where form A is sent to both Nara and MFARD with the same information?
6. IMUL 6 is not an option on the physical form but is available in the Pelagos database (Fleet details -> Boat category)

Large Pelagic Fishery Survey of Sri Lanka										
Ministry of Fisheries & Aquatic Resources Development										
(Conducted in collaboration with DFAR and NARA)										
DAILY EFFORT FORM										
1. DATE		16/08/2013				2. SHEET NUMBER				FORM A
3. ENUMERATOR(S)		M. M Ariyaratna								
4. LOCATION		District Colombo			Harbour/ Landing site Panadara			5. TIME OF LISTING		
					Started			07:00 A.M.		
					End			12:00 P.M.		
6. FLEET DETAILS		MTRB	OFRP (UN1) 17 ft - 23 ft	IDAY (UN2A) 28 ft - 34 ft	IMUL-1 (UN2B) 28 ft - below 34 ft	IMUL-2 (UN3A) 34 ft - below 40 ft	IMUL-3 (UN3B) 40 ft - below 50 ft	IMUL-4 (UN4) 50 ft - below 60 ft	IMUL-5 (UN5) 60 ft and over	
Number of Boats Unloaded Fish		—	—	07	08	—	—	—	—	
Number of Boats Sampled		—	—	01	02	—	—	—	—	
7. REMARKS										
8. INFORMATION OF BOATS UNLOADED FISH										
SN	A Boat Registration Number	B Length (ft)	C Date of Trip Started (DD/MM/YYYY)		D Harbour Departed (Last Port of Call)	E Main Fishing Gear	F Catch on Board (kg)		G Sampled (Y/N)	
							Fish	Dried Fish		
1	IDAY A0041 C30	26'	15/08	2013	Panadara	ONLM	82	—	Y	
2	IDAY A0047 C30	26'	15/08	2013	"	"	35	—	N	
3	IMULA0033 C30	34'	15/08	2013	"	"	40	—	N	
4	IDAY A0051 C30	28'	15/08	2013	"	"	20	—	N	
5	IMULA0028 C30	34'	15/08	2013	"	"	45	—	N	
6	IDAY A0077 N30	28'	15/08	2013	"	"	50	—	N	
7	IMULA0050 C30	30'	15/08	2013	"	"	70	—	N	
8	IMULA0026 C30	34'	15/08	2013	"	"	67	—	Y	
9	IDAY A0031 C30	30'	15/08	2013	"	"	80	—	N	

Figure 3 the scan of a completed physical form A (front side only)

## Appendix III Issues in form B

The effort details, unloading and catch are entered in Form B.

Effort details are entered in the top part of form B. Form B has a sub form “boat activity” where the unloading event details are entered. This sub form itself has a sub form “Catch” where the catch by species is entered. Basically, a boat can have many unloading events and each unloading event can have many catches of different species.

Figure 4 screen shot of form B in Pelagos

### Small fixes

1. There were small differences in the layout order of some controls where they were not in the same order as the physical form B. These were fixed to conform to the physical form (Figure 6).
2. The “main gear(s)” and “other gear(s)” combos do take a 2 letter code for gear. However in the back of the physical forms B (Figure 7) there are 4 letter codes for the gear. Now both the 2 letter and 4 letter gear code have been made to appear in the combo list for these two combos.

### Major Bug fixed

There are validation settings that restrict the number of gears possible on a boat depending on the length of the vessel in the “boat registry”.

In the vessel record table, the field Cbc\_Code contains the vessel type which determines the possible gears on the vessels. The value for this field is generated by code on importing the vessel record table.

The data administrator could not access the code tables to add the gear because the code tables were locked. This was the reason why date entry was not

Figure 5 gears flap in code tables form

done before 2 September 2013 at MFARD

As a temporary solution, for the purpose of data entry, the combo now has been set to display and allow all the gear types and will take any gear type for any boat.

The data administrator did mention that in Sri Lanka many different types of gears are used on vessel regardless of the size of vessels

It is recommended that the validation must be relaxed and checking routines put at verification time instead.

The specific details of the record that could not be entered follows:

Vessel IMULA0662TLE is listed as an "IMUL03" type Vessel. The physical data entry form lists the gear used as RN (Ring Net). This was not available in the combo list. The reason is because IMUL3 (NARA:UN3B , IOTC: ART) boat category has only GN, LG, LL and UN as allowed gears in the Boat category table.

#### **Issues of interest**

1. Sometimes data entry forms have information that does not tally with the vessel registry info available. This could be the length of a vessel or the IMUL number. In these cases, information must be sent to the vessel registry for inspection. Data entry on that sheet is halted until update from vessel registry. (Not very efficient. Need improvement)
2. There was issue where when species MZZ was added and number of fish was not added, error was produced. Since these are very small fish, it is not possible to say the number of fish. This error happened in the version of database used by NARA. However, the same problem did not occur in later versions.
3. Dr Rekha, noted that some of the areas fished must be removed because they were duplicates. (G001-G005)
4. Area for bait fished could be added as this information does not have a control. (Dr Reka)



## Appendix IV Issues in form C

Form C is the catch sampling form. This is where the lengths of the fish are entered

Species	Meas type	Measurement	stdLength	EstndW	Sex	Value(Rs)	no.aMeas	Enumerator(s)	Remarks
ALO	FLT	1	1	0.0	U		2	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	2	2	0.0	U		0	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	4	4	0.0	U		2	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	7	7	0.0	U		0	Aluthwaththa, Mr. A.N.	Alt. Measures
ALO	TLT	5	0	0.0	U		0	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	8	8	0.0	U		0	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	7	7	0.0	U		0	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	9	9	0.0	U		0	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	10	10	0.0	U		0	Nawarathna, Mr. A.A.	Alt. Measures
ALO	FLT	11	11	0.1	U		0	Nawarathna, Mr. A.A.	Alt. Measures
ALO	TLT	5	0	0.0	U		0	Khanna, Mr. B. Ramesh	Alt. Measures
ALO	TLT	5	0	0.0	U		0	Khanna, Mr. B. Ramesh	Alt. Measures
ALO	TLT	5	0	0.0	U		0	Khanna, Mr. B. Ramesh	Alt. Measures
ALO	TLT	4	0	0.0	U		0	Khanna, Mr. B. Ramesh	Alt. Measures

Figure 8 screen shot of form C in Pelagos

### Solved tab issues

1. In V0.1, the tab was enabled only at the Measurement field. The tab order was changed according to request of data entry operators. The new tab order is: "Measure type" -> "Measurement" -> "Sex -> Enumerator"

### Bugs to be fixed:

2. There is an error "Runtime error '94': Invalid use of Null" which appears when a measurement is entered without Measure type. This error must be handled. Just after this error there is a handled message saying 'Tbl\_EffortBoatActivityDetEventCatchMeas.Cst\_sID' field needs a value. This message must be made user friendly and set to something like please enter Enumerator's name.

### Requested improvements by Data entry operators

3. The tab should go from the defaults combos directly to the measure type combo control.
4. There should be possibility to jump directly to a new form A, without having to close the form chain one by one. This involves 4 clicks.
5. If it is always the same enumerator on the form B that completes the form C, then form C's enumerator must automatically default to that in Form B.



## Appendix V Issue with simultaneous data entry (resolved)

In V1.0,

It was reported by Miguel that there is a bug in Access auto number setting. When the numbers of records are high, non-unique numbers are assigned to the index by the auto number generator. For this reason, Miguel had hard coded the assignment of unique number to work around the bug. The index number is taken from the last number + 1 and inserted into the control. This was done at the "onInsert" trigger.

For example for the form\_Tbl\_EffortBoatSum Subform code:

```
Private Sub Form_BeforeInsert(Cancel As Integer)
Me.Tss_ID.Value = CLng(Nz(DMax("[Tss_ID]", "[Tbl_EffortBoatSum]"),
0)) + 1
```

Gets and inserts the value to the TSS\_ID control upon the "oninsert" trigger

However, with this code, when entering a new record, by two users through the network, the same ID is inserted to the Tss\_ID control. So, only one user gets to commit her record. The other user gets the unique ID violation error and the record is not update.

In V1.2,

This problem was solved by slightly changing the code. This assignment of ID was moved to the "beforeUpdate" trigger/event.

Furthermore the ID was assigned after checking if there was already a value in the ID control because we want IDs assigned only for new record and not when editing records..

```
Private Sub Form_BeforeUpdate(Cancel As Integer)
If IsNull(Me.Tss_ID.Value) Then
    Me.Tss_ID.Value = CLng(Nz(DMax("[Tss_ID]",
"[Tbl_EffortBoatSum]"), 0)) + 1
End If
```







Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand are working together through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project and to lay the foundations for a coordinated programme of action designed to improve the lives of the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries.

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