IOTC-2022-WGEMS02-INF07

CURRENT PROJECTS RELATED TO ELECTRONIC MONITORING AND REPORTING

2ND SESSION OF THE IOTC WORKING GROUP ON EMS - JUNE 13TH - 15TH 2022

IOTC SECRETARIAT

Purpose

To provide participants at the 2nd Session of the IOTC *Working Group on Electronic Monitoring Systems* (WGEMS02) with a review of the current state-of-the-art of projects related to ROS / EM data collection and reporting in the IOTC.

Context

- **Regional Observer Scheme** (ROS) – IOTC Res. 11/04 (now 22/04)
- **Regional Observer Scheme Pilot Project** – IOTC Res. 16/04
  - **GCP INT 305** (EU – Science)
  - **GCP INT 322** (EU – joint ROS PP)

Regional Observer Scheme Pilot Project

Five key activity areas :

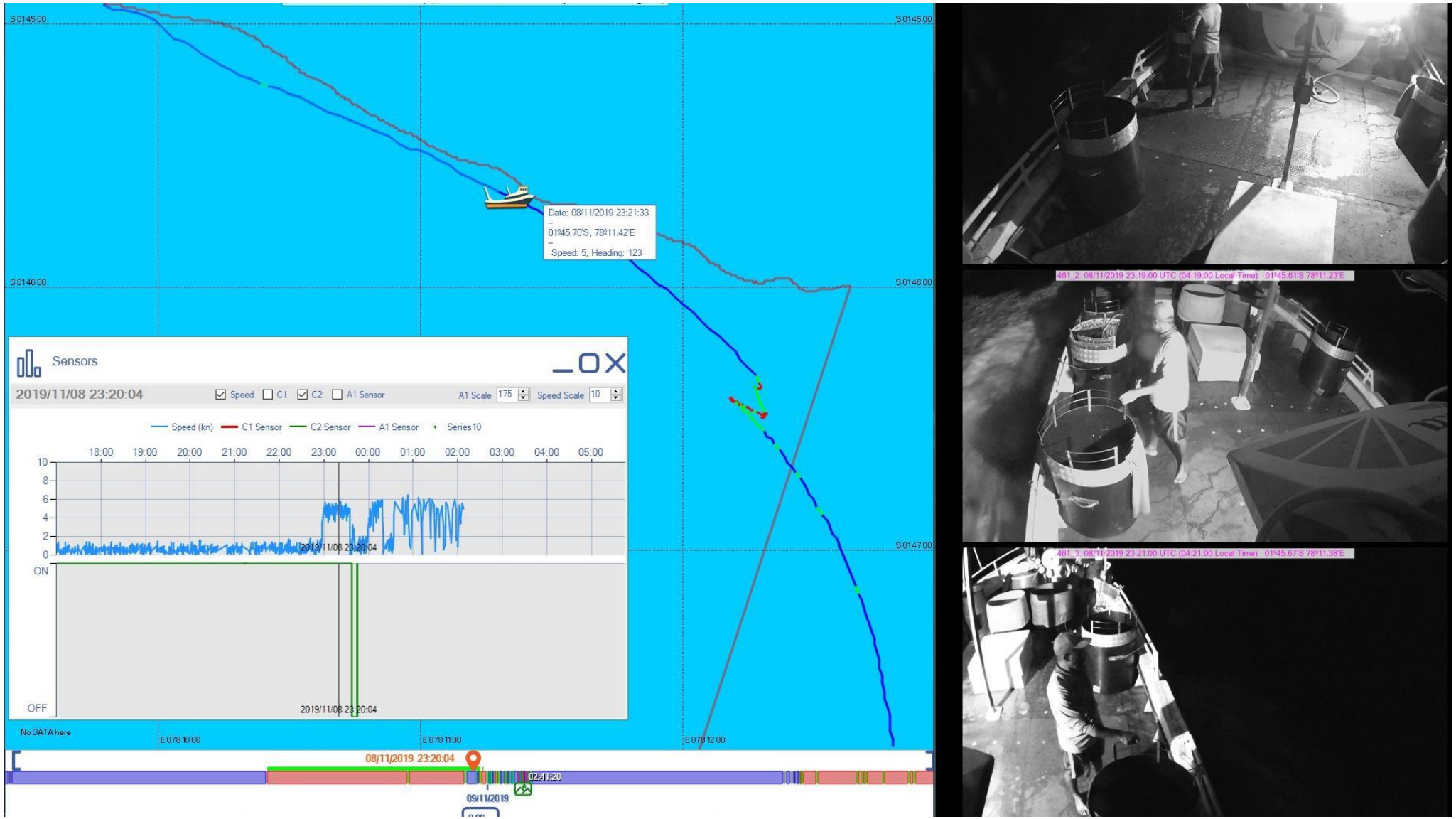
1. Observer training program and minimum standards
2. Electronic reporting
3. Observer database development and historic data collation
4. Electronic Monitoring Systems
5. Observations in-port

GCP INT 305 (EU – Science)

Activity 2.4: ROS e-Monitoring

[**IOTC ROS PP activity #4**]

- Pilot project to deploy EMS on small-scale (~15m LoA) gillnet/longline vessels (LKA);
- Procurement finalized in late 2018 (Marine Instruments);
- Delays due to administrative process and CoViD pandemic;
- Project put on hold (force majeure) and completed in September 2021;
- Technical issues identified and addressed;
- Need for further assistance to LKA, including training on data submissions and deployment of equipment on two vessels.


S 0145 00
S 0146 00
S 0147 00
Date: 08/11/2019 23:21:33
01º45.70'S, 78º11.42'E
Speed: 5, Heading: 123
Sensors
2019/11/08 23:20:04
Speed
C1
C2
A1 Sensor
A1 Scale 175
Speed Scale 10
Speed (kn)
C1 Sensor
C2 Sensor
A1 Sensor
Series10
18:00 19:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00 03:00 04:00 05:00
10
8
6
4
2
0
ON
OFF
2019/11/08 23:20:04
No DATA here
E 078 10 00
E 078 11 00
E 078 12 00
08/11/2019 23:20:04
02:41:20
09/11/2019
461_2: 08/11/2019 23:19:00 UTC (04:19:00 Local Time) 01º45.61'S 78º11.23'E
461_3: 08/11/2019 23:21:00 UTC (04:21:00 Local Time) 01º45.67'S 78º11.38'E

5kt
hauling main line
<4kt approaching
buoy or catch
<1.5kt hauling
branchline
(buoy or catch)
<1.5kt hauling catch
(long drift)
starboard, aft to bow
port, aft to bow
Sensors
Speed
hydraulic
sensor - off
starboard, bow to aft

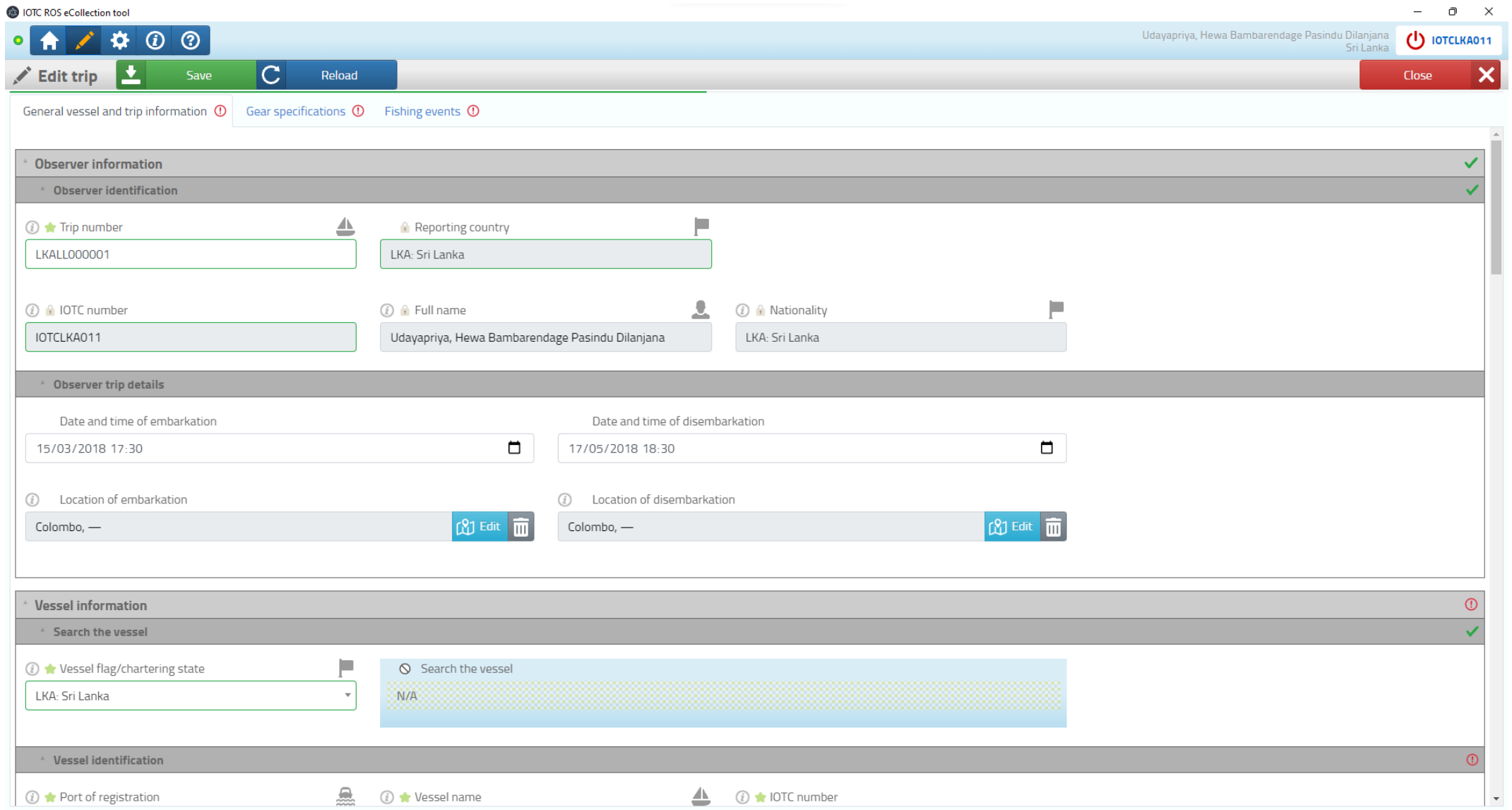
GCP INT 322 (EU – joint ROS PP)

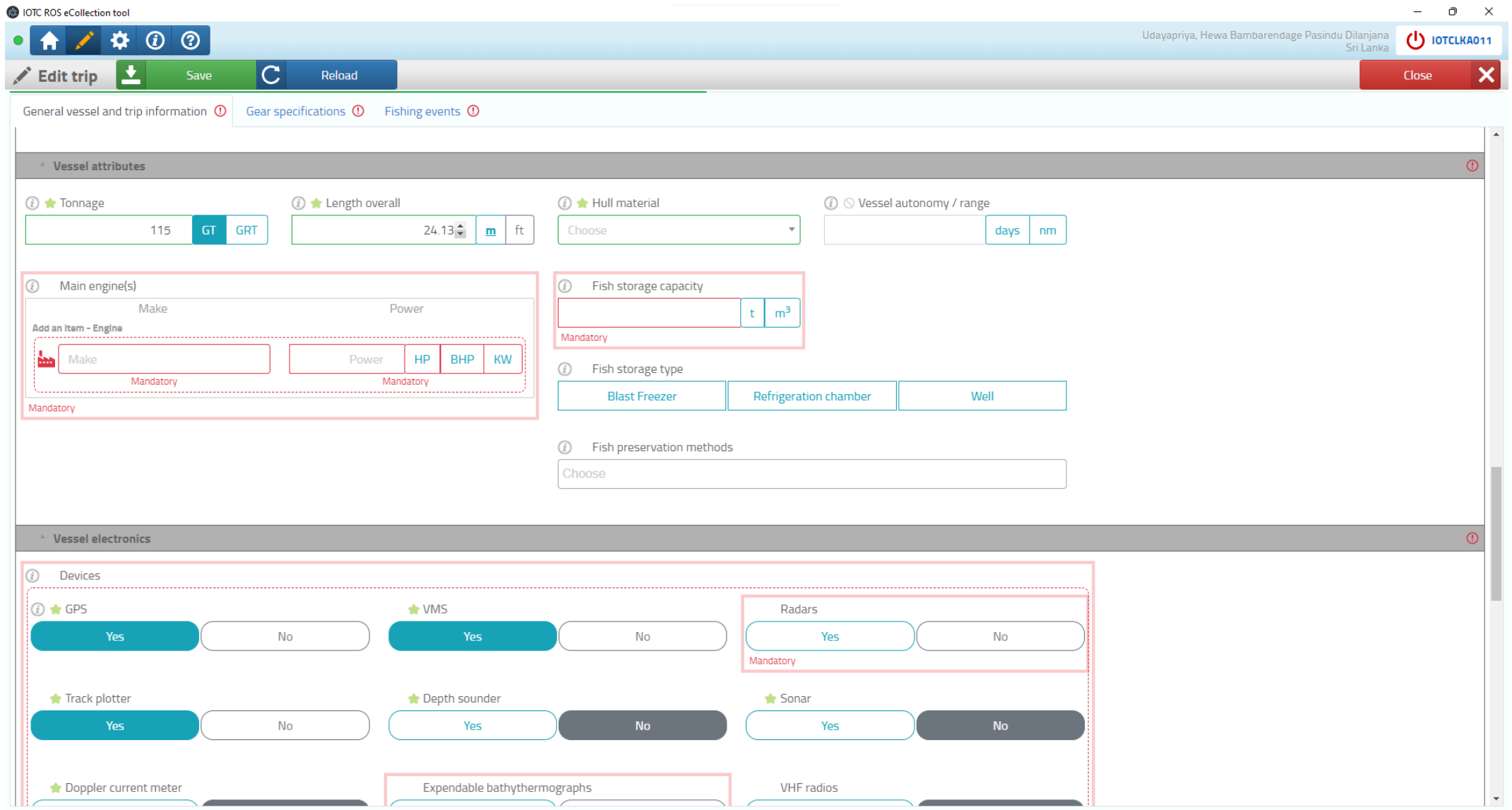
Development and implementation of ROS databases and e-tools

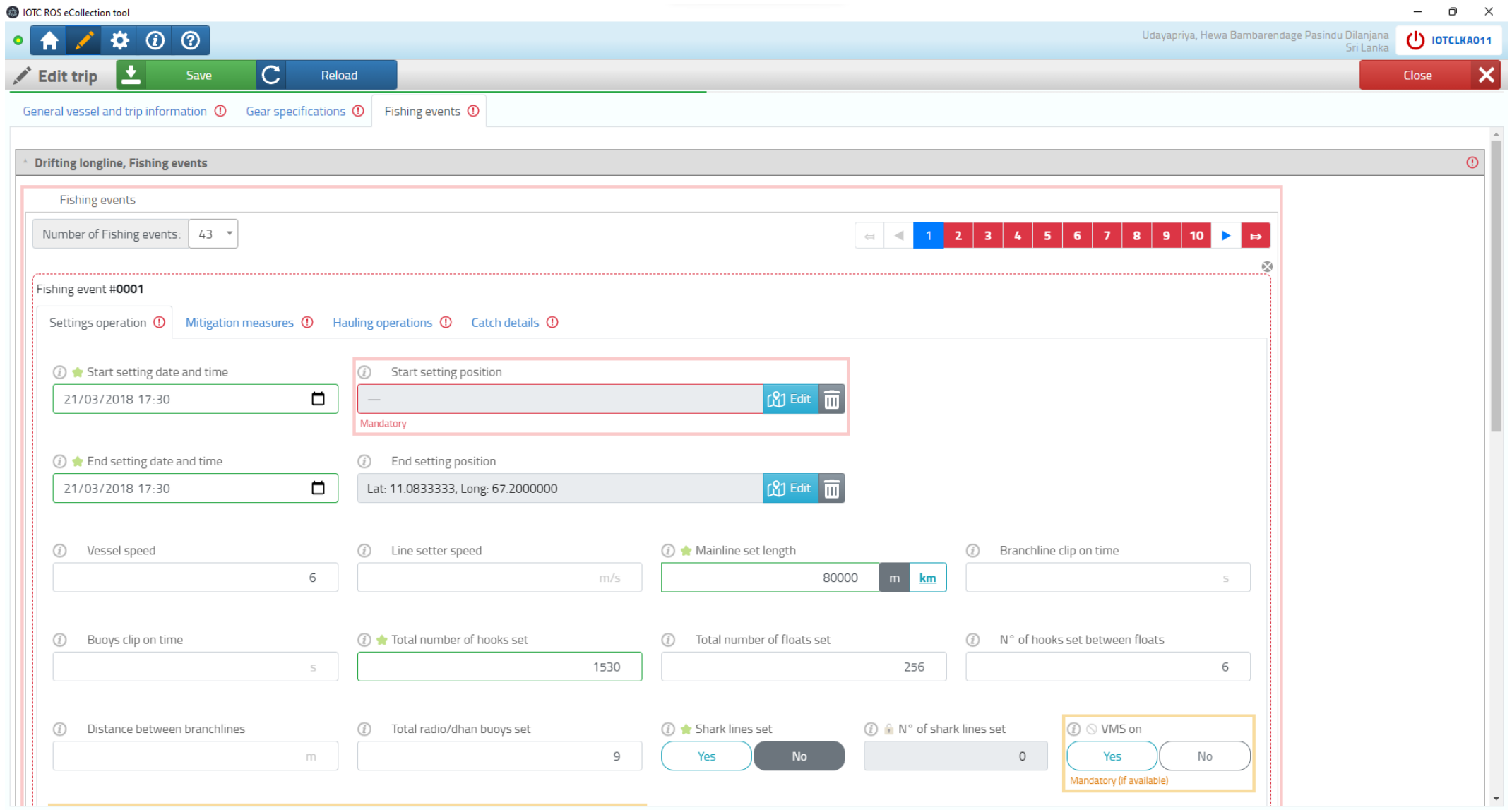
[**IOTC ROS PP activity #2 and #3**]

- Outputs:
  - ✓ROS electronic data exchange format (XML, supports all ROS data fields);
  - ➢ROS e-collection tool (for scientific observers);
  - ✓ROS e-reporting tool (multiple national databases @ CPCs);
  - ➢Revised ROS data *reporting* forms (CPCs not using the ROS e-tools);
  - ✓ROS regional database (single database @ IOTC Secretariat);

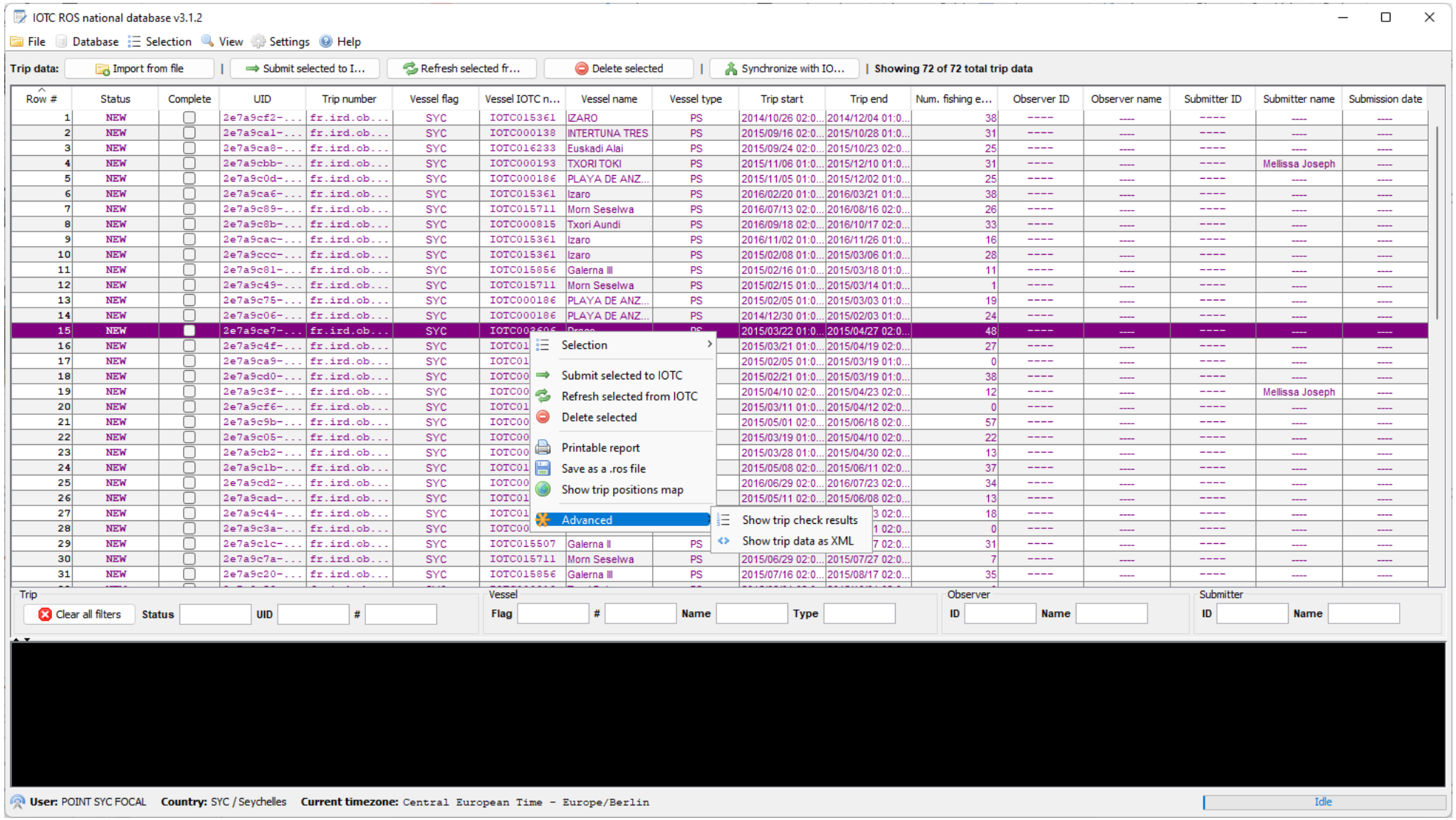
ROS e-tools: data collection

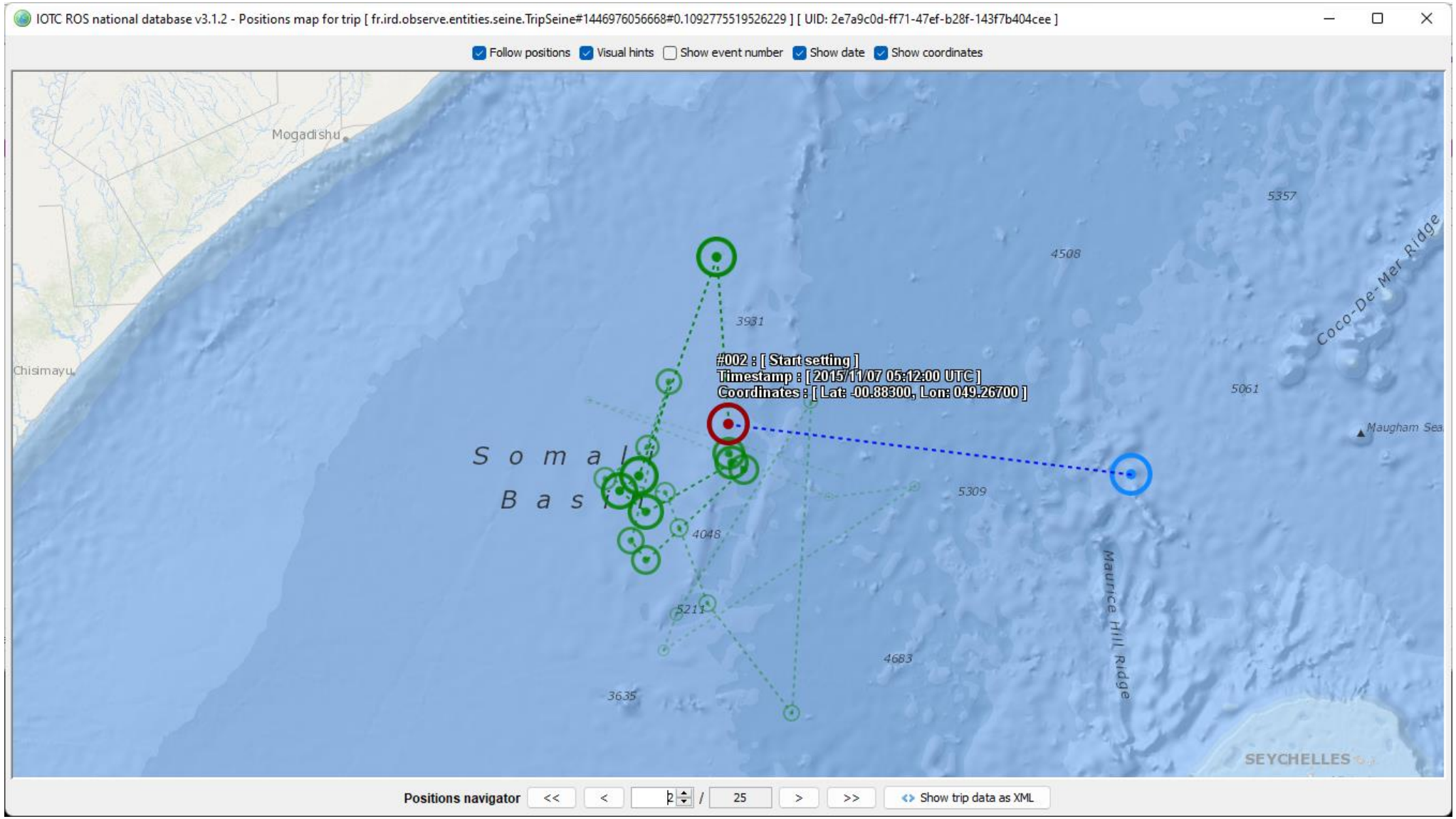

IOTC ROS eCollection tool
Udayapriya, Hewa Bambarendage Pasindu Dilanjana
Sri Lanka
IOTCLKA011
Edit trip
Save
Reload
Close
General vessel and trip information
Gear specifications
Fishing events
Observer information
Observer identification
Trip number
LKALL000001
Reporting country
LKA: Sri Lanka
IOTC number
IOTCLKA011
Full name
Udayapriya, Hewa Bambarendage Pasindu Dilanjana
Nationality
LKA: Sri Lanka
Observer trip details
Date and time of embarkation
15/03/2018 17:30
Date and time of disembarkation
17/05/2018 18:30
Location of embarkation
Colombo, —
Edit
Location of disembarkation
Colombo, —
Edit
Vessel information
Search the vessel
Vessel flag/chartering state
LKA: Sri Lanka
Search the vessel
N/A
Vessel identification
Port of registration
Vessel name
IOTC number


IOTC ROS eCollection tool
Udayapriya, Hewa Bambarendage Pasindu Dilanjana
Sri Lanka
IOTCLKA011
Edit trip
Save
Reload
Close
General vessel and trip information
Gear specifications
Fishing events
Vessel attributes
Tonnage
115
GT
GRT
Length overall
24.13
m
ft
Hull material
Choose
Vessel autonomy / range
days
nm
Main engine(s)
Make
Power
Add an item - Engine
Make
Mandatory
Power
HP
BHP
KW
Mandatory
Mandatory
Fish storage capacity
t
m³
Mandatory
Fish storage type
Blast Freezer
Refrigeration chamber
Well
Fish preservation methods
Choose
Vessel electronics
Devices
GPS
Yes
No
VMS
Yes
No
Radars
Yes
No
Mandatory
Track plotter
Yes
No
Depth sounder
Yes
No
Sonar
Yes
No
Doppler current meter
Expendable bathythermographs
VHF radios


IOTC ROS eCollection tool
Udayapriya, Hewa Bambarendage Pasindu Dilanjana
Sri Lanka
IOTCLKA011
Edit trip
Save
Reload
Close
General vessel and trip information
Gear specifications
Fishing events
Drifting longline, Fishing events
Fishing events
Number of Fishing events: 43
1 2 3 4 5 6 7 8 9 10
Fishing event #0001
Settings operation
Mitigation measures
Hauling operations
Catch details
Start setting date and time
21/03/2018 17:30
Start setting position
—
Edit
Mandatory
End setting date and time
21/03/2018 17:30
End setting position
Lat: 11.0833333, Long: 67.2000000
Edit
Vessel speed
6
Line setter speed
m/s
Mainline set length
80000
m
km
Branchline clip on time
s
Buoys clip on time
s
Total number of hooks set
1530
Total number of floats set
256
N° of hooks set between floats
6
Distance between branchlines
m
Total radio/dhan buoys set
9
Shark lines set
Yes
No
N° of shark lines set
0
VMS on
Yes
No
Mandatory (if available)

ROS e-tools: data reporting

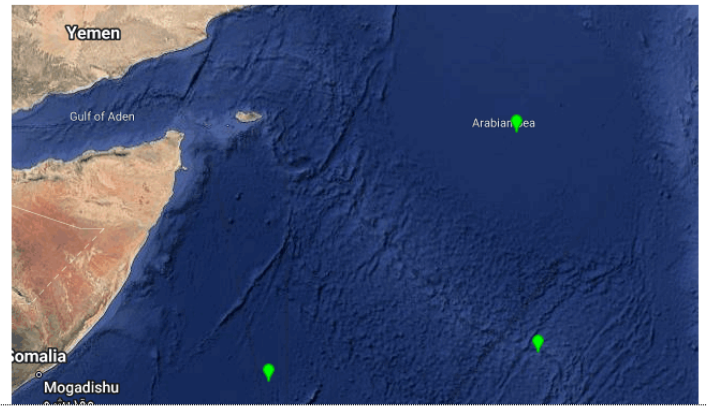

IOTC ROS national database v3.1.2
File Database Selection View Settings Help
Trip data: Import from file | Submit selected to I... Refresh selected fr... Delete selected | Synchronize with IO... | Showing 72 of 72 total trip data
Row # Status Complete UID Trip number Vessel flag Vessel IOTC n... Vessel name Vessel type Trip start Trip end Num. fishing e... Observer ID Observer name Submitter ID Submitter name Submission date
1 NEW 2e7a9cf2-... fr.ird.ob... SYC IOTC015361 IZARO PS 2014/10/26 02:0... 2014/12/04 01:0... 38 ---- ---- ---- ---- ----
2 NEW 2e7a9ca1-... fr.ird.ob... SYC IOTC000138 INTERTUNA TRES PS 2015/09/16 02:0... 2015/10/28 01:0... 31 ---- ---- ---- ---- ----
3 NEW 2e7a9ca8-... fr.ird.ob... SYC IOTC016233 Euskadi Alai PS 2015/09/24 02:0... 2015/10/23 02:0... 25 ---- ---- ---- ---- ----
4 NEW 2e7a9cbb-... fr.ird.ob... SYC IOTC000193 TXORI TOKI PS 2015/11/06 01:0... 2015/12/10 01:0... 31 ---- ---- ---- Mellissa Joseph ----
5 NEW 2e7a9c0d-... fr.ird.ob... SYC IOTC000186 PLAYA DE ANZ... PS 2015/11/05 01:0... 2015/12/02 01:0... 25 ---- ---- ---- ---- ----
6 NEW 2e7a9ca6-... fr.ird.ob... SYC IOTC015361 Izaro PS 2016/02/20 01:0... 2016/03/21 01:0... 38 ---- ---- ---- ---- ----
7 NEW 2e7a9c89-... fr.ird.ob... SYC IOTC015711 Morn Seselwa PS 2016/07/13 02:0... 2016/08/16 02:0... 26 ---- ---- ---- ---- ----
8 NEW 2e7a9c8b-... fr.ird.ob... SYC IOTC000815 Txori Aundi PS 2016/09/18 02:0... 2016/10/17 02:0... 33 ---- ---- ---- ---- ----
9 NEW 2e7a9cac-... fr.ird.ob... SYC IOTC015361 Izaro PS 2016/11/02 01:0... 2016/11/26 01:0... 16 ---- ---- ---- ---- ----
10 NEW 2e7a9ccc-... fr.ird.ob... SYC IOTC015361 Izaro PS 2015/02/08 01:0... 2015/03/06 01:0... 28 ---- ---- ---- ---- ----
11 NEW 2e7a9c81-... fr.ird.ob... SYC IOTC015856 Galerna III PS 2015/02/16 01:0... 2015/03/18 01:0... 11 ---- ---- ---- ---- ----
12 NEW 2e7a9c49-... fr.ird.ob... SYC IOTC015711 Morn Seselwa PS 2015/02/15 01:0... 2015/03/14 01:0... 1 ---- ---- ---- ---- ----
13 NEW 2e7a9c75-... fr.ird.ob... SYC IOTC000186 PLAYA DE ANZ... PS 2015/02/05 01:0... 2015/03/03 01:0... 19 ---- ---- ---- ---- ----
14 NEW 2e7a9c06-... fr.ird.ob... SYC IOTC000186 PLAYA DE ANZ... PS 2014/12/30 01:0... 2015/02/03 01:0... 24 ---- ---- ---- ---- ----
15 NEW 2e7a9ce7-... fr.ird.ob... SYC IOTC000606 Draco PS 2015/03/22 01:0... 2015/04/27 02:0... 48 ---- ---- ---- ---- ----
16 NEW 2e7a9c4f-... fr.ird.ob... SYC IOTC01 2015/03/21 01:0... 2015/04/19 02:0... 27 ---- ---- ---- ---- ----
17 NEW 2e7a9ca9-... fr.ird.ob... SYC IOTC01 2015/02/05 01:0... 2015/03/19 01:0... 0 ---- ---- ---- ---- ----
18 NEW 2e7a9cd0-... fr.ird.ob... SYC IOTC00 2015/02/21 01:0... 2015/03/19 01:0... 38 ---- ---- ---- ---- ----
19 NEW 2e7a9c3f-... fr.ird.ob... SYC IOTC00 2015/04/10 02:0... 2015/04/23 02:0... 12 ---- ---- ---- Mellissa Joseph ----
20 NEW 2e7a9cf6-... fr.ird.ob... SYC IOTC01 2015/03/11 01:0... 2015/04/12 02:0... 0 ---- ---- ---- ---- ----
21 NEW 2e7a9c9b-... fr.ird.ob... SYC IOTC00 2015/05/01 02:0... 2015/06/18 02:0... 57 ---- ---- ---- ---- ----
22 NEW 2e7a9c05-... fr.ird.ob... SYC IOTC00 2015/03/19 01:0... 2015/04/10 02:0... 22 ---- ---- ---- ---- ----
23 NEW 2e7a9cb2-... fr.ird.ob... SYC IOTC00 2015/03/28 01:0... 2015/04/30 02:0... 13 ---- ---- ---- ---- ----
24 NEW 2e7a9c1b-... fr.ird.ob... SYC IOTC01 2015/05/08 02:0... 2015/06/11 02:0... 37 ---- ---- ---- ---- ----
25 NEW 2e7a9cd2-... fr.ird.ob... SYC IOTC00 2016/06/29 02:0... 2016/07/23 02:0... 34 ---- ---- ---- ---- ----
26 NEW 2e7a9cad-... fr.ird.ob... SYC IOTC01 2015/05/11 02:0... 2015/06/08 02:0... 13 ---- ---- ---- ---- ----
27 NEW 2e7a9c44-... fr.ird.ob... SYC IOTC01 3 02:0... 18 ---- ---- ---- ---- ----
28 NEW 2e7a9c3a-... fr.ird.ob... SYC IOTC00 1 02:0... 0 ---- ---- ---- ---- ----
29 NEW 2e7a9c1c-... fr.ird.ob... SYC IOTC015507 Galerna II PS 7 02:0... 31 ---- ---- ---- ---- ----
30 NEW 2e7a9c7a-... fr.ird.ob... SYC IOTC015711 Morn Seselwa PS 2015/06/29 02:0... 2015/07/27 02:0... 7 ---- ---- ---- ---- ----
31 NEW 2e7a9c20-... fr.ird.ob... SYC IOTC015856 Galerna III PS 2015/07/16 02:0... 2015/08/17 02:0... 35 ---- ---- ---- ---- ----
Selection
Submit selected to IOTC
Refresh selected from IOTC
Delete selected
Printable report
Save as a .ros file
Show trip positions map
Advanced
Show trip check results
Show trip data as XML
Trip
Clear all filters Status UID #
Vessel
Flag # Name Type
Observer
ID Name
Submitter
ID Name
User: POINT SYC FOCAL Country: SYC / Seychelles Current timezone: Central European Time - Europe/Berlin
Idle


IOTC ROS national database v3.1.2 - Positions map for trip [fr.ird.observe.entities.seine.TripSeine#1446976056668#0.1092775519526229] [UID: 2e7a9c0d-ff71-47ef-b28f-143f7b404cee]
Follow positions
Visual hints
Show event number
Show date
Show coordinates
Mogadishu
Chisimayu
#002 : [Start setting]
Timestamp : [2015/11/07 05:12:00 UTC]
Coordinates : [Lat: -00.88300, Lon: 049.26700]
Coco-De-Mer Ridge
Maugham Sea
Maurice Hill Ridge
SEYCHELLES
5357
4508
3931
5061
5309
4048
5211
4683
3635
Positions navigator
<<
<
2
/
25
>
>>
Show trip data as XML

Fishing events [12 available]

Event #	Start setting		1st school sighting		Net pursed	Catches		Object details			Details					
								Buoy ID	Lights @		Catch				Specimen	
	Date / time	Location	Cue	Type	Date / time	MT	NO		Deploy	Retrieval	R	D	U	T	S	SC%
fr.ird.obser…	2015-11-24 02:05:00	01° 02.46' N / 054° 02.38' E	DFAD	LS	---	---	-	---	-	-	-	-	-	-	-	---
fr.ird.obser…	2015-11-28 05:35:00	01° 00.54' S / 048° 03.14' E	DFAD	LS	---	---	-	---	-	-	-	5	-	5	47	---
fr.ird.obser…	2015-11-30 02:35:00	00° 00.07' N / 050° 02.17' E	DFAD	LS	---	---	-	---	-	-	1	4	-	5	93	---
fr.ird.obser…	2015-12-01 02:05:00	00° 02.42' S / 055° 00.40' E	DFAD	LS	---	---	-	---	-	-	-	-	-	-	-	---
fr.ird.obser…	2015-12-03 04:15:00	03° 02.31' S / 066° 01.30' E	DFAD	LS	---	---	-	---	-	-	3	-	-	3	7	---
fr.ird.obser…	2015-12-04 02:10:00	04° 01.26' S / 065° 01.16' E	DFAD	LS	---	---	-	---	-	-	3	3	-	6	147	---
fr.ird.obser…	2015-12-04 05:30:00	04° 02.28' S / 065° 01.16' E	DFAD	LS	---	---	-	---	-	-	1	3	-	4	32	---
fr.ird.obser…	2015-12-05 02:15:00	04° 01.52' S / 066° 02.38' E	DFAD	LS	---	---	-	---	-	-	2	3	-	5	30	---
fr.ird.obser…	2015-12-06 02:23:00	03° 00.50' S / 066° 03.04' E	DFAD	LS	---	---	-	---	-	-	2	1	-	3	7	---
fr.ird.obser…	2015-12-07 02:15:00	03° 00.25' S / 067° 02.10' E	DFAD	LS	---	---	-	---	-	-	3	1	-	4	32	---
fr.ird.obser…	2015-12-09 09:45:00	02° 03.22' N / 065° 02.46' E	DFAD	LS	---	---	-	---	-	-	1	4	-	5	139	---
fr.ird.obser…	2015-12-11 02:45:00	11° 03.07' N / 064° 03.14' E	DFAD	LS	---	---	-	---	-	-	2	3	-	5	165	---
						---	-				18	27	-	45	699	---

Events map: Start setting operations



Events map: End setting operations

Unavailable

Navigate to: Metadata ➤ General vessel and trip information ➤ Gear specifications ➤ Fishing events ➤ Daily activities ➤ Transhipment details **Show:** Simplified version

5 catch details for ▲event ◀#2 / 12▶ fr.ird.observe.entities.seine.SetSeine#1448696938931#0.8790570818167777

Species: IOTC | Non-IOTC | SSI | SSI (non-tar… | Unknown Fate: Retained | Discarded | Unknown Condition: Alive | Dead | Unknown

Catch detail #	Species	Fate	Sampling method (total catch estimates)	Condition (NT)		Number	Weight				Specimen							
				Cap.	Rel.		Value	Unit	Type	Estimation method	SM	L1	L2	W	S	T	Total	Coverage %
fr.ird.obser…	CNT	DUN	---	---	---	-	---	---	---	---	11	11	-	-	-	-	11	---
fr.ird.obser…	DOL	DUN	---	---	---	-	---	---	---	---	1	1	-	-	-	-	1	---
fr.ird.obser…	FAL	DUN	---	---	---	-	---	---	---	---	3	3	-	-	-	-	3	---
fr.ird.obser…	LOB	DUN	---	---	---	-	---	---	---	---	2	2	-	-	-	-	2	---
fr.ird.obser…	RRU	DUN	---	---	---	-	---	---	---	---	30	30	-	-	-	-	30	---
						-	---	KG			47	47	-	-	-	-	47	---

Comments:

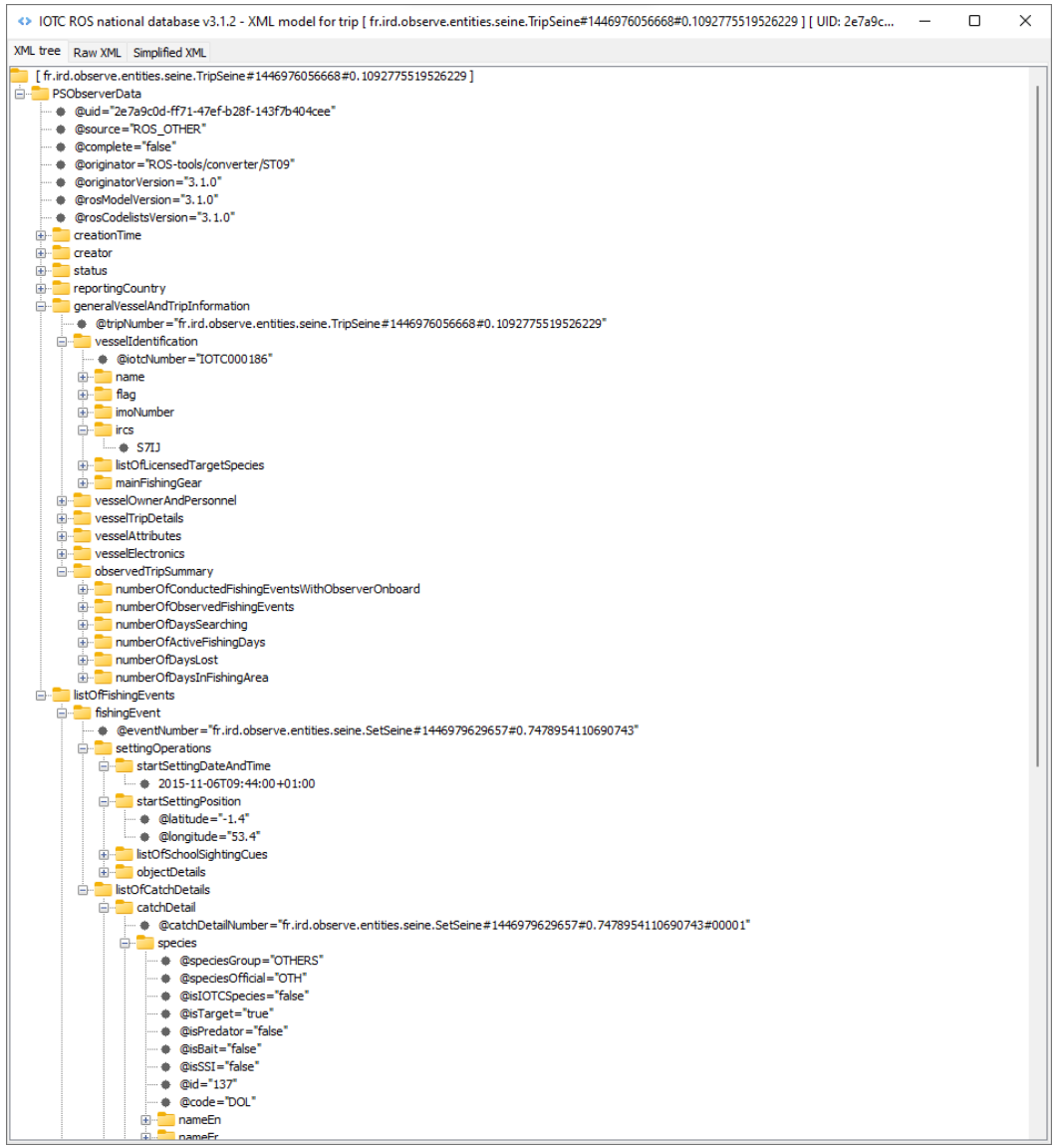
Current event catch detail ◀#1 / 5▶ fr.ird.observe.entities.seine.SetSeine#1448696938931#0.8790570818167777#00001

Catch detail #	Species	Fate	Sampling method (total catch estimates)	Condition (NT)		Number	Weight				Specimen							
				Cap.	Rel.		Value	Unit	Type	Estimation method	SM	L1	L2	W	S	T	Total	Coverage %
fr.ird.obser…	CNT	DUN	---	---	---	-	---	---	---	---	11	11	-	-	-	-	11	---

11 specimens for current catch detail

Specimen #	Species	Fate	Condition (NT)		Length			Length (alternative)			Weight				Sex	Depredation		Additional details (SSI)			Tags			
			Cap.	Rel.	Value	Unit	Type	Value	Unit	Type	Value	Unit	Type	Method		Source	Predator	Gear interaction	Brought onboard	Landing method	Release	Recovery	Type	Number
fr.ird.obser…	CNT	DUN	---	D	29.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	30.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	32.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	32.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	32.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	32.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	33.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	33.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	34.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	34.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---
fr.ird.obser…	CNT	DUN	---	D	35.00	cm	TL	---	---	---	---	---	---	---	---	---	---	---	-	---	-	-	---	---

ROS e-tools: electronic data format

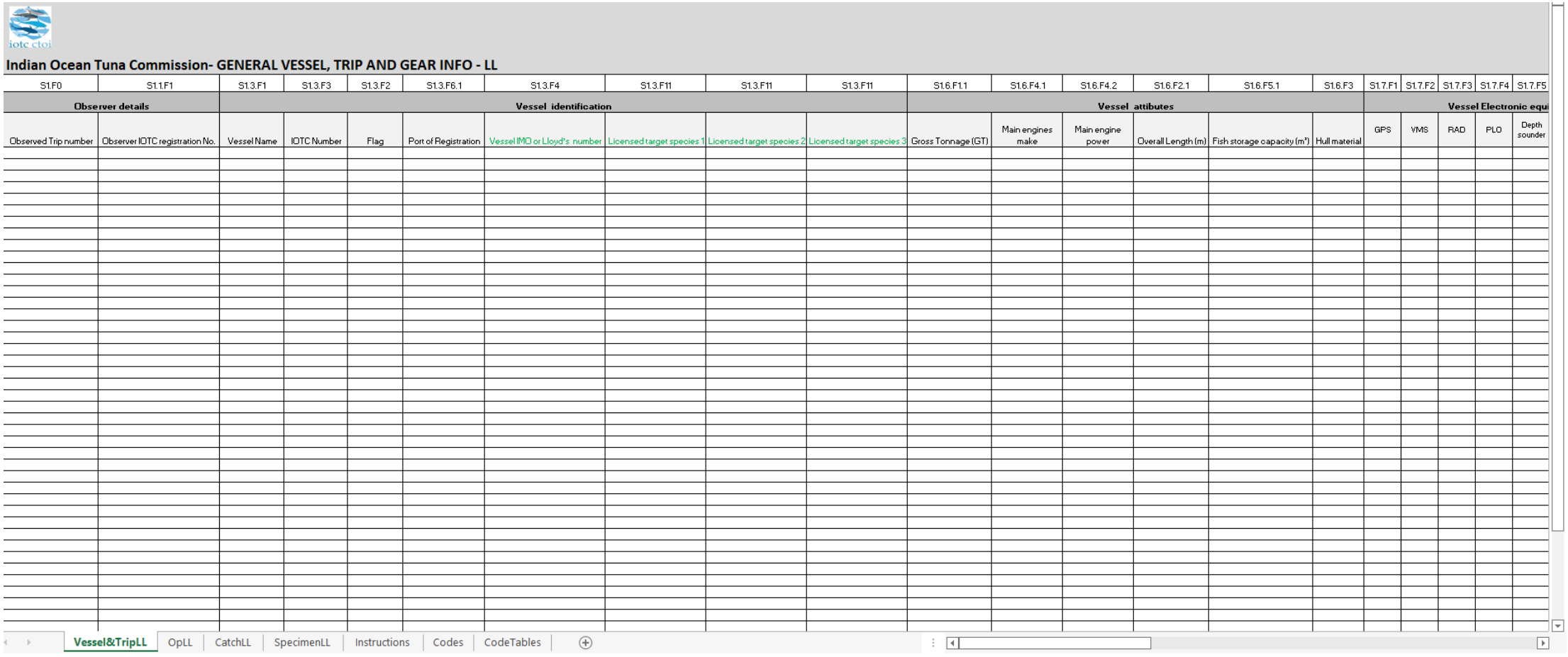

IOTC ROS national database v3.1.2 - XML model for trip [fr.ird.observe.entities.seine.TripSeine#1446976056668#0.1092775519526229] [UID: 2e7a9c...
XML tree
Raw XML
Simplified XML
[fr.ird.observe.entities.seine.TripSeine#1446976056668#0.1092775519526229]
PSObserverData
@uid="2e7a9c0d-ff71-47ef-b28f-143f7b404cee"
@source="ROS_OTHER"
@complete="false"
@originator="ROS-tools/converter/ST09"
@originatorVersion="3.1.0"
@rosModelVersion="3.1.0"
@rosCodelistsVersion="3.1.0"
creationTime
creator
status
reportingCountry
generalVesselAndTripInformation
@tripNumber="fr.ird.observe.entities.seine.TripSeine#1446976056668#0.1092775519526229"
vesselIdentification
@iotcNumber="IOTC000186"
name
flag
imoNumber
ircs
S7IJ
listOfLicensedTargetSpecies
mainFishingGear
vesselOwnerAndPersonnel
vesselTripDetails
vesselAttributes
vesselElectronics
observedTripSummary
numberOfConductedFishingEventsWithObserverOnboard
numberOfObservedFishingEvents
numberOfDaysSearching
numberOfActiveFishingDays
numberOfDaysLost
numberOfDaysInFishingArea
listOfFishingEvents
fishingEvent
@eventNumber="fr.ird.observe.entities.seine.SetSeine#1446979629657#0.7478954110690743"
settingOperations
startSettingDateAndTime
2015-11-06T09:44:00+01:00
startSettingPosition
@latitude="-1.4"
@longitude="53.4"
listOfSchoolSightingCues
objectDetails
listOfCatchDetails
catchDetail
@catchDetailNumber="fr.ird.observe.entities.seine.SetSeine#1446979629657#0.7478954110690743#00001"
species
@speciesGroup="OTHERS"
@speciesOfficial="OTH"
@isIOTCSpecies="false"
@isTarget="true"
@isPredator="false"
@isBait="false"
@isSSI="false"
@id="137"
@code="DOL"
nameEn
nameFr

IOTC ROS national database v3.1.2 - XML model for trip [fr.ird.observe.entities.seine.TripSeine#1446976056668#0.1092775519526229] [UID: 2e7a9c0d-ff71-47ef-b28f-143f7b404cee]

XML tree | Raw XML | Simplified XML


```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<PSObserverData uid="2e7a9c0d-ff71-47ef-b28f-143f7b404cee" source="ROS_OTHER" complete="false" originator="ROS-tools/converter/ST09" originatorVersion="3.1.0" rosModelVersion="3.1.0" rosCodelistsVersion="3.1.0">
    <creationTime>2022-06-09T12:18:12.368+02:00</creationTime>
    <creator uid="34883094C863C7A76D3E21A265D256CF" role="OTHER">
        <fullName>Mellissa Joseph</fullName>
        <nationality id="62" code="SYC"/>
        <email>mjoseph@sfa.sc</email>
    </creator>
    <status>NEW</status>
    <reportingCountry id="62" code="SYC"/>
    <generalVesselAndTripInformation tripNumber="fr.ird.observe.entities.seine.TripSeine#1446976056668#0.1092775519526229">
        <vesselIdentification iotcNumber="IOTC000186">
            <name>PLAYA DE ANZORAS</name>
            <flag id="62" code="SYC"/>
            <imoNumber>9176917</imoNumber>
            <ircs>S7IJ</ircs>
            <listOfLicensedTargetSpecies>
                <species id="1" code="YFT"/>
                <species id="2" code="BET"/>
                <species id="3" code="SKJ"/>
            </listOfLicensedTargetSpecies>
            <mainFishingGear id="2" code="TPS"/>
        </vesselIdentification>
        <vesselOwnerAndPersonnel>
            <registeredVesselOwner>
                <fullName>Sea Breeze Ventures Limited</fullName>
            </registeredVesselOwner>
        </vesselOwnerAndPersonnel>
        <vesselTripDetails>
            <dateTimeVesselSailed>2015-11-05T01:00:00+01:00</dateTimeVesselSailed>
            <dateTimeVesselReturnedToPort>2015-12-02T01:00:00+01:00</dateTimeVesselReturnedToPort>
        </vesselTripDetails>
        <vesselAttributes>
            <tonnage unit="GRT" value="2446.0"/>
            <LOA unit="M" value="85.5"/>
            <listOfMainEngines>
                <mainEngine unit="BHP" value="0.0">
                    <make>DUMMY</make>
                </mainEngine>
            </listOfMainEngines>
            <fishStorageCapacity unit="M3" value="2000.0"/>
        </vesselAttributes>
        <vesselElectronics>
            <GPS>true</GPS>
            <VMS>true</VMS>
            <AIS>false</AIS>
            <radars>true</radars>
            <trackPlotter>false</trackPlotter>
            <depthSounder>true</depthSounder>
            <sonar>true</sonar>
            <dopplerCurrentMeter>false</dopplerCurrentMeter>
            <expendableBathythermographs>false</expendableBathythermographs>
        </vesselElectronics>
        <observedTripSummary>
            <numberOfConductedFishingEventsWithObserverOnboard>25</numberOfConductedFishingEventsWithObserverOnboard>
            <numberOfObservedFishingEvents>25</numberOfObservedFishingEvents>
            <numberOfDaysSearching>26</numberOfDaysSearching>
            <numberOfActiveFishingDays>20</numberOfActiveFishingDays>
            <numberOfDaysLost>0</numberOfDaysLost>
            <numberOfDaysInFishingArea>26</numberOfDaysInFishingArea>
```

ROS e-tools: data *reporting* forms

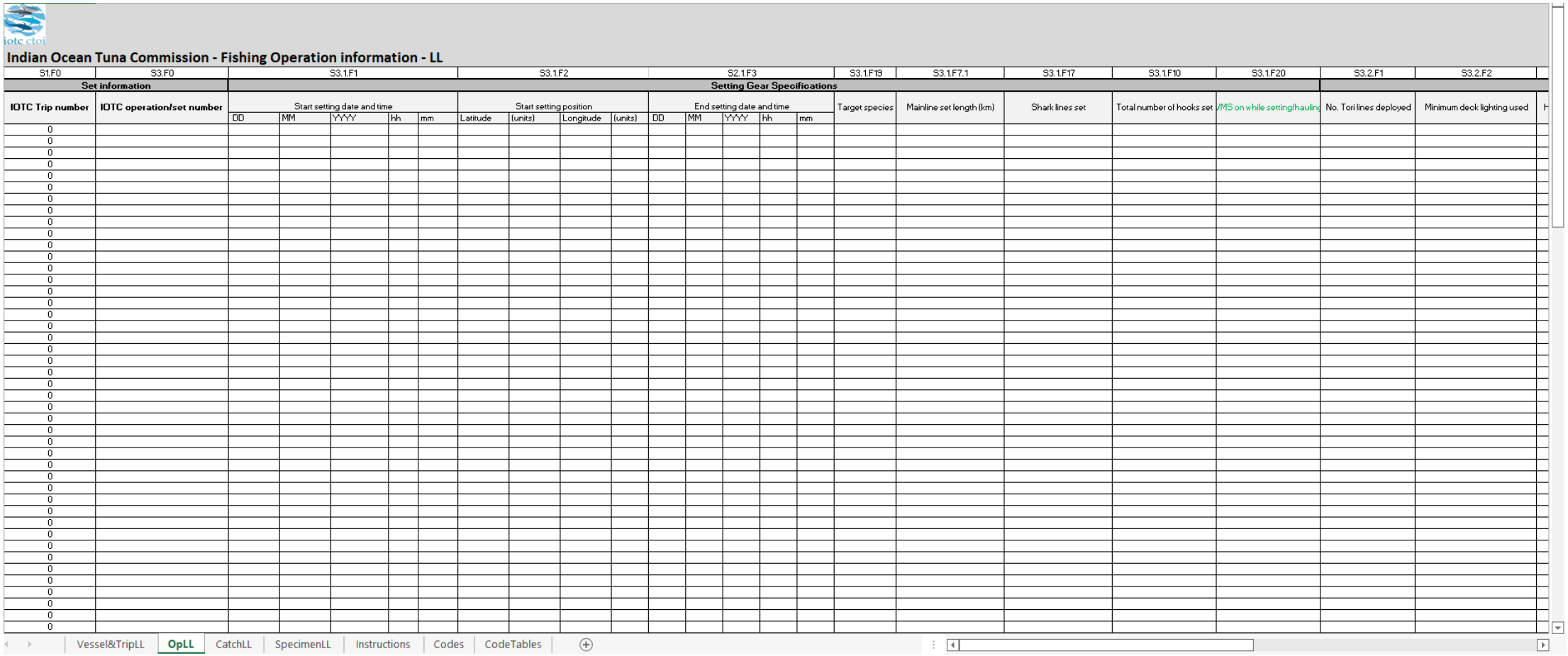


iotc ctoi

Indian Ocean Tuna Commission- GENERAL VESSEL, TRIP AND GEAR INFO - LL

S1.F0	S1.1.F1	S1.3.F1	S1.3.F3	S1.3.F2	S1.3.F6.1	S1.3.F4	S1.3.F11	S1.3.F11	S1.3.F11	S1.6.F1.1	S1.6.F4.1	S1.6.F4.2	S1.6.F2.1	S1.6.F5.1	S1.6.F3	S1.7.F1	S1.7.F2	S1.7.F3	S1.7.F4	S1.7.F5
Observer details		**Vessel identification**								**Vessel attibutes**						**Vessel Electronic equi**				
Observed Trip number	Observer IOTC registration No.	Vessel Name	IOTC Number	Flag	Port of Registration	Vessel IMO or Lloyd's number	Licensed target species 1	Licensed target species 2	Licensed target species 3	Gross Tonnage (GT)	Main engines make	Main engine power	Overall Length (m)	Fish storage capacity (m³)	Hull material	GPS	VMS	RAD	PLO	Depth sounder

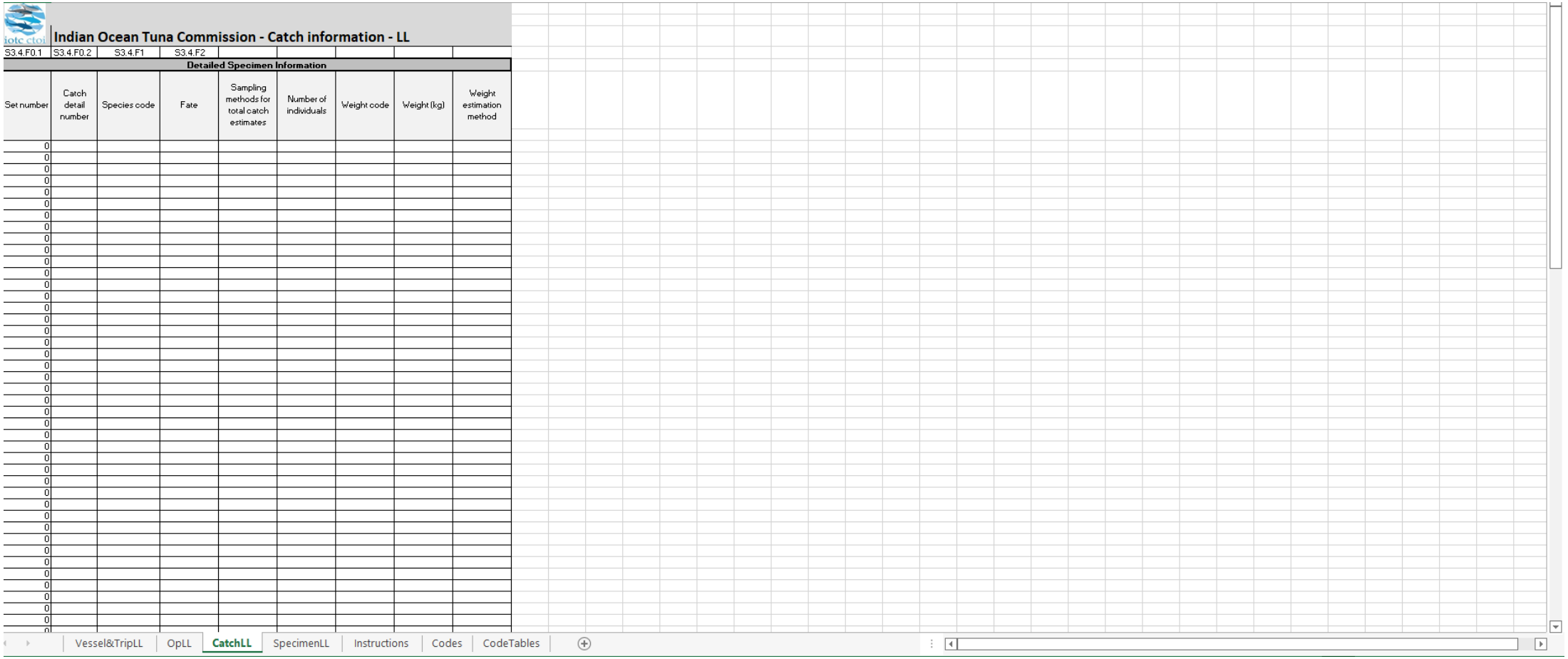
Vessel&TripLL | OpLL | CatchLL | SpecimenLL | Instructions | Codes | CodeTables



iotc ctoi

Indian Ocean Tuna Commission - Fishing Operation information - LL

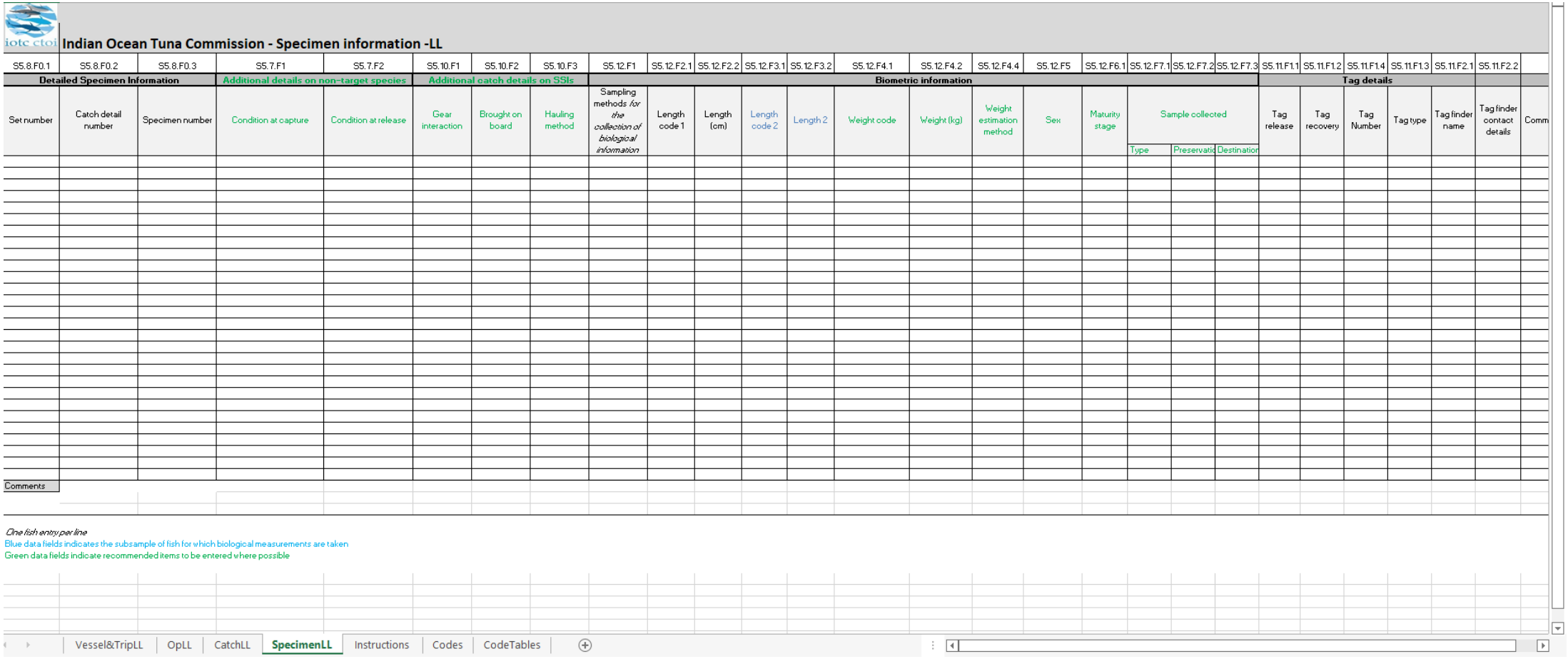
S1.F0	S3.F0	S3.1.F1					S3.1.F2				S2.1.F3					S3.1.F19	S3.1.F7.1	S3.1.F17	S3.1.F10	S3.1.F20	S3.2.F1	S3.2.F2	
Set information		**Setting Gear Specifications**																					
IOTC Trip number	**IOTC operation/set number**	Start setting date and time					Start setting position				End setting date and time					Target species	Mainline set length (km)	Shark lines set	Total number of hooks set	VMS on while setting/hauling	No. Tori lines deployed	Minimum deck lighting used	H
		DD	MM	YYYY	hh	mm	Latitude	(units)	Longitude	(units)	DD	MM	YYYY	hh	mm								
0																							
0																							
0														



iotc ctoi

Indian Ocean Tuna Commission - Catch information - LL

S3.4.F0.1	S3.4.F0.2	S3.4.F1	S3.4.F2					
Detailed Specimen Information								
Set number	Catch detail number	Species code	Fate	Sampling methods for total catch estimates	Number of individuals	Weight code	Weight (kg)	Weight estimation method
0								
0								
0							



Indian Ocean Tuna Commission - Specimen information -LL

S5.8.F0.1	S5.8.F0.2	S5.8.F0.3	S5.7.F1	S5.7.F2	S5.10.F1	S5.10.F2	S5.10.F3	S5.12.F1	S5.12.F2.1	S5.12.F2.2	S5.12.F3.1	S5.12.F3.2	S5.12.F4.1	S5.12.F4.2	S5.12.F4.4	S5.12.F5	S5.12.F6.1	S5.12.F7.1	S5.12.F7.2	S5.12.F7.3	S5.11.F1.1	S5.11.F1.2	S5.11.F1.4	S5.11.F1.3	S5.11.F2.1	S5.11.F2.2	
Detailed Specimen Information			**Additional details on non-target species**		**Additional catch details on SSIs**			**Biometric information**													**Tag details**						
Set number	Catch detail number	Specimen number	Condition at capture	Condition at release	Gear interaction	Brought on board	Hauling method	Sampling methods *for the collection of biological information*	Length code 1	Length (cm)	Length code 2	Length 2	Weight code	Weight (kg)	Weight estimation method	Sex	Maturity stage	Sample collected			Tag release	Tag recovery	Tag Number	Tag type	Tag finder name	Tag finder contact details	Comm
																		Type	Preservatio	Destination							

Data exchange standards for ROS / EMS systems

ROS regional database

- Storage of all ROS trip data from national databases;
- Dissemination of aggregated statistics;
- Centralized at IOTC Secretariat;
- Based on finalized ROS data model (ROS minimum data fields)

Data exchange

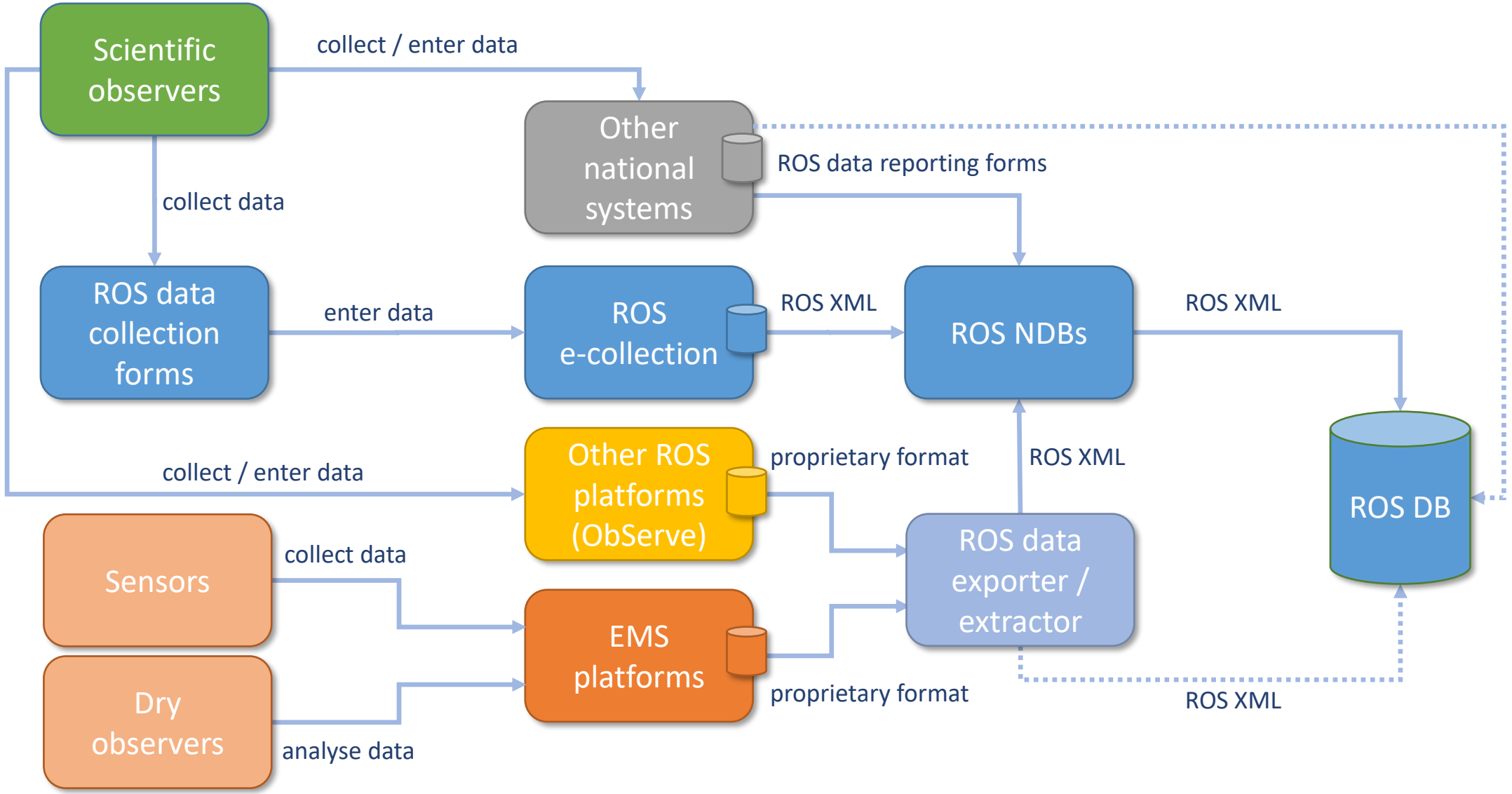
- ROS and EMS data collection tools should be able to export data in the formats accepted by the ROS regional database
- **Two** alternative exchange formats:
  - ROS XML format (FINALIZED, structured, hierarchical, machine readable)
  - ROS flat files (UNDER FINALIZATION, tabular, flat, human readable)

Data exchange (continued)

- Data structure definitions (XSD, CSV/XLS);
- Reference codelists (ROS, ASFIS, CWP);
- Minimum data fields;
- Distinction between EMS / human observers data.

In practice:

- *ROS e-tools*: already using the ROS XML format;
- *ObServe*: development of ROS data extraction module (TbD);
- *Beluga*: development of ROS data conversion module (TbD);
- *Other EMS tools*: to be evaluated.


Scientific observers
collect / enter data
collect data
Other national systems
ROS data reporting forms
ROS data collection forms
enter data
ROS e-collection
ROS XML
ROS NDBs
ROS XML
ROS DB
collect / enter data
Other ROS platforms (ObServe)
proprietary format
ROS XML
Sensors
collect data
ROS data exporter / extractor
EMS platforms
proprietary format
ROS XML
Dry observers
analyse data

GCP INT 322 (EU – Joint ROS project)

[**IOTC ROS PP activity #1**]

Development and implementation of an observer training programme

- Support the IOTC ROS;
- Bid awarded to *CapMarine ltd*.
- 6 pilot countries initially selected, covering relevant IO fisheries;
- 4 pilot countries remained in the project:
  - IDN, KEN, LKA, TZA (IRN and MDV withdrawn);
- Delays due to administrative process and CoViD pandemic;
- Project put on hold (force majeure), now resumed;
- On the field training to KEN, LKA (advanced), IDN, TZA (advancing);

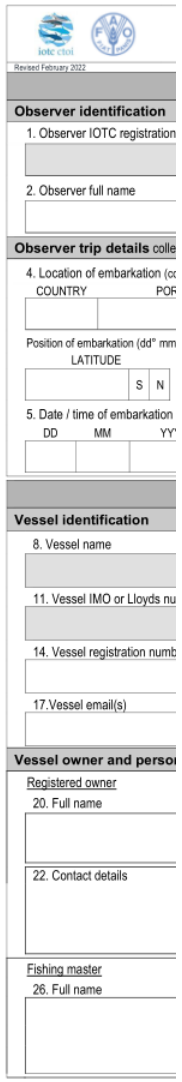
GCP INT 322 (EU – Joint ROS project)

[IOTC ROS PP activity #1]

Development and implementation of an observer training programme

- Project outputs:
  - ✓developing **packages for the training** of logistic observer coordination teams and scientific field observers;
    - ✓e-training material
    - ✓observer guidelines
    - ✓observer manuals
  - ✓producing a revised set of **data *collection* forms**;
  - ➢establishing **observer programmes and training** in voluntary CPCs;
  - ➢piloting **IOTC ROS e-tools and methods** in voluntary CPCs.

ROS training programme: data *collection* forms



Revised February 2022

Observer identification

1. Observer IOTC registration

2. Observer full name

Observer trip details colle

4. Location of embarkation (cc
COUNTRY POR

Position of embarkation (dd° mm
LATITUDE
S N

5. Date / time of embarkation
DD MM YY

Vessel identification

8. Vessel name

11. Vessel IMO or Lloyds nu

14. Vessel registration numb

17.Vessel email(s)

Vessel owner and perso

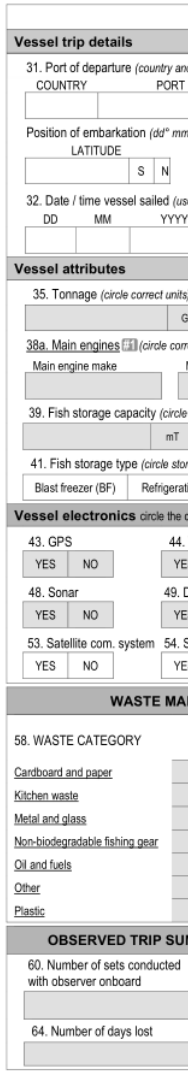
Registered owner

20. Full name

22. Contact details

Fishing master

26. Full name



Vessel trip details

31. Port of departure *(country an*
COUNTRY PORT

Position of embarkation *(dd° mm*
LATITUDE
S N

32. Date / time vessel sailed *(us*
DD MM YYYY

Vessel attributes

35. Tonnage *(circle correct units*
G

38a. Main engines *(circle corr*

Main engine make

39. Fish storage capacity *(circle*
mT

41. Fish storage type *(circle sto*
Blast freezer (BF) Refrigerati

Vessel electronics circle the

43. GPS
YES NO

44.
YE

48. Sonar
YES NO

49. D
YE

53. Satellite com. system
YES NO

54. S
YE

WASTE MA

58. WASTE CATEGORY

Cardboard and paper
Kitchen waste
Metal and glass
Non-biodegradable fishing gear
Oil and fuels
Other
Plastic

OBSERVED TRIP SU

60. Number of sets conducted with observer onboard

64. Number of days lost

Revised February 2022

IOTC ROS data-fields mandatory f

OBSERVED TRIP NUMBER: Record t
MM-DD), followed by IOTC observer n

1. OBSERVER IOTC REGISTRATION
data submissions ('FFF' is a 3-letter alp
digits uniquely identifying the observer

2.OBSERVER NAME: Record full nam

3. OBSERVER NATIONALITY: Recor

4. LOCATION OF EMBARKATION: R
observer embarked at sea outside port

5. DATE AND TIME EMBARKATION:
date/time the vessel sails.

6. LOCATION OF DISEMBARKATION
observer disembarked at sea outside p

7. DATE AND TIME OF DISEMBARKA
disembarkation date/ time may not coir

8. VESSEL NAME: Record vessel full
recorded on the vessel itself (any discr
numbers (e.g., "Agnes 83").

9. VESSEL FLAG / CHARTERING ST
occurs, name of chartering country. No
originates.

10. VESSEL IOTC NUMBER: Record
crosschecked with the number recorde

11. VESSEL IMO OR LLOYD'S NUME
(e.g.: IMO8814275).

12. INTERNATIONAL RADIO CALL S
vessel's side or superstructure.

13. VESSEL PORT OF REGISTRATIC
stern of the ship's hull.

14. VESSEL REGISTRATION NUMBE
registered, shown on its registration do
them all (e.g.: CBG303).

15. VESSEL PHONE / 16. VESSEL FA
Vessel may have several contact numt

18. LICENSED TARGET SPECIES: R
Note that vessels generally target a na

19. MAIN FISHING GEAR: Specify ve

REGISTERED OWNER **20. FULL**
first, first name last) who owns the ves
Papers.

CHARTERER / OPERATOR **23.**
operated and managed by a company
details (mobile and fix phone, email).

FISHING MASTER **26. FULL NAM**

SKIPPER **28. FULL NAME / 29. NA**
instances, the fishing master and skipp

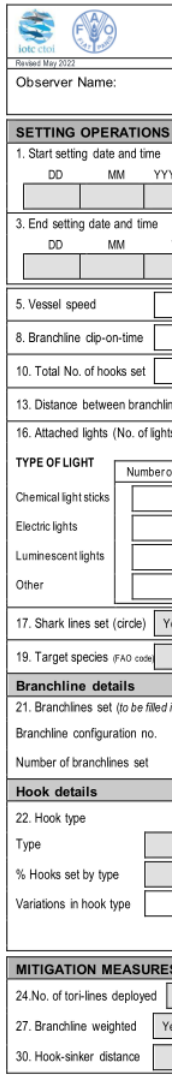
30. CREW NUMBER: Record the num

31. PORT OF DEPARTURE: Record t
a new trip at sea following transhipmer

32. DATE / TIME VESSEL SAILED: R
vessel sails may not coincide with obse

33. PORT OF RETURN: Country, nam
location record 'at-sea' and geographic

34. DATE / TIME VESSEL RETURNE
you disembark before the vessel return



Revised May 2022

Observer Name:

SETTING OPERATIONS

1. Start setting date and time
DD MM YY

3. End setting date and time
DD MM

5. Vessel speed

8. Branchline clip-on-time

10. Total No. of hooks set

13. Distance between branchlin

16. Attached lights (No. of light

TYPE OF LIGHT | Numbero
Chemical light sticks
Electric lights
Luminescent lights
Other

17. Shark lines set (circle) Y

19. Target species (FAO code)

Branchline details

21. Branchlines set *(to be filled i*

Branchline configuration no.

Number of branchlines set

Hook details

22. Hook type

Type

% Hooks set by type

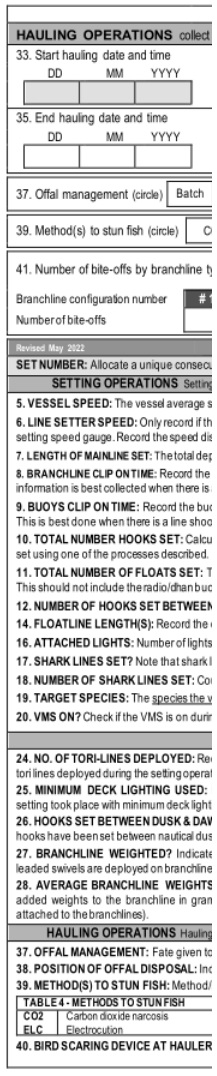
Variations in hook type

MITIGATION MEASURE

24.No. of tori-lines deployed

27. Branchline weighted Y

30. Hook-sinker distance



HAULING OPERATIONS collect

33. Start hauling date and time
DD MM YYYY

35. End hauling date and time
DD MM YYYY

37. Offal management (circle) Batch

39. Method(s) to stun fish (circle) C

41. Number of bite-offs by branchline t

Branchline configuration number #

Number of bite-offs

Revised May 2022

SET NUMBER: Allocate a unique consecu

SETTING OPERATIONS Setting

5. VESSEL SPEED: The vessel average s

6. LINE SETTER SPEED: Only record if th
setting speed gauge. Record the speed dis

7. LENGTH OF MAINLINE SET: The total dep

8. BRANCHLINE CLIP ON TIME: Record the
information is best collected when there is

9. BUOYS CLIP ON TIME: Record the buo
This is best done when there is a line shoo

10. TOTAL NUMBER HOOKS SET: Calcu
set using one of the processes described.

11. TOTAL NUMBER OF FLOATS SET: T
This should not include the radio/dhan buo

12. NUMBER OF HOOKS SET BETWEEN

14. FLOATLINE LENGTH(S): Record the

16. ATTACHED LIGHTS: Number of lights

17. SHARK LINES SET? Note that shark l

18. NUMBER OF SHARK LINES SET: Co

19. TARGET SPECIES: The species the v

20. VMS ON? Check if the VMS is on durir

24. NO. OF TORI-LINES DEPLOYED: Re
tori lines deployed during the setting operat

25. MINIMUM DECK LIGHTING USED:
setting took place with minimum deck light

26. HOOKS SET BETWEEN DUSK & DAW
hooks have been set between nautical dus

27. BRANCHLINE WEIGHTED? Indicate
leaded swivels are deployed on branchline

28. AVERAGE BRANCHLINE WEIGHTS
added weights to the branchline in gran
attached to the branchlines).

HAULING OPERATIONS Hauling

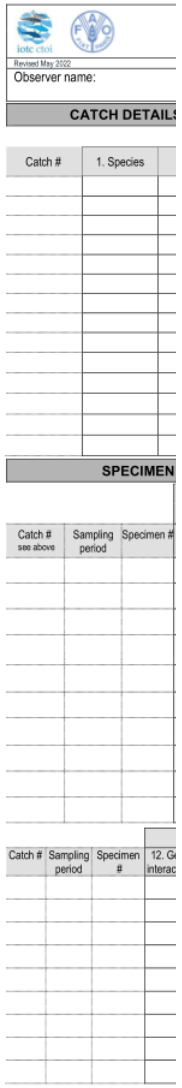
37. OFFAL MANAGEMENT: Fate given to

38. POSITION OF OFFAL DISPOSAL: Inc

39. METHOD(S) TO STUN FISH: Method/

TABLE 4 - METHODS TO STUN FISH
CO2 Carbon dioxide narcosis
ELC Electrocution

40. BIRD SCARING DEVICE AT HAULER



Revised May 2022

Observer name:

CATCH DETAILS

Catch #	1. Species

SPECIMEN

Catch # see above	Sampling period	Specimen #

Catch #	Sampling period	Specimen #	12. Ge interac

IOTC REGIONAL OBSERVER SCHEME
LONGLINE – CATCH DETAILS - Biometric information

FORM 5–LL

Page ____ of ____

Revised May 2022

Observer name: | Observed trip no:

CATCH DETAILS to be recorded for all specimens sampled, including SSIs. Use codes provided in form notes to fill in data collection fields.

				BIOMETRIC INFORMATION								
					Length 1				Weight			
Set #	Spp.	Fate	Sampling period	1. Sampling method	2. Type	3. Value (cm)	4. Measuring tool	5. Straight / curved	6. Processing	7. Value (kg)	8. Estimation method	9. Sex

References

- **IOTC Resolution 11/04** *On a Regional Observer Scheme*
- **IOTC Resolution 16/04** *On the implementation of a Pilot Project in view of promoting the Regional Observer Scheme of IOTC*
- **IOTC Resolution 22/04** *On a Regional Observer Scheme* (not yet active, supersedes 11/04)
- **IOTC-2018-WPDCS14-INF03 Rev_1** *Outputs from the expert review workshop on standards for the IOTC ROS – data collection fields*
- **IOTC-2021-WPDCS17-11** *Updates on development and implementation of ROS training programme*
- **IOTC-2021-WPDCS17-12** *Revised electronic templates for the submission of IOTC ROS data*

- **IOTC-2021-WPDCS17-INF02** *Observer Logistic Coordination WS*
- **IOTC-2021-WPDCS17-INF03** *Observer Logistic Coordination guide*
- **IOTC-2021-WPDCS17-INF05** *Scientific Field Observers training manual*
- **IOTC-2021-WPDCS17-INF06**, **INF07**, **INF08** *Guidelines Obs. LL / PS / GI*
- **IOTC-2021-WPDCS17-INF09** *Draft data collection forms LL / PS / GI*
- **IOTC-2021-WPDCS17-INF10** *ROS data fields and reference codes*
- **IOTC-2021-WPDCS17-INF11** *ROS data fields structure*
- **IOTC-2021-WPDCS17-INF12** *Draft ROS data reporting templates*

Q&A