



Data Collection

A Requirement for Fisheries Management Success

*The Canadian Experience in the Bluefin Tuna
Fishery*



The Global Context

- Obligated as members of regional fisheries mechanisms (RFMOs) to collect and provide data
- Access to complete and accurate data fundamental to improve credibility of RFMOs
- Important links not only with RFMOs, but in various multilateral fora including FAO/UNGA





Fisheries Data Collection

- Effective fisheries management requires the collection of timely and accurate data to ensure conservation and the economic viability of the fishing industry
- Data should include at a minimum: catch, effort, size, and area of capture
- Data collected forms the basis for scientific advice, upon which fisheries managers make decisions
- Finding an effective process of data collection, assessment and compilation can be challenging





Modernizing the Process

- In the late 1980's Canada took steps to improve the data collection process and use technology to increase efficiencies
- Over a period of many years a comprehensive management system involving the integration of scientific advice, enforcement monitoring, catch-effort data and controls on quota was developed
- This process has greatly improved confidence in the decisions taken with respect to harvest of the resource





The Canadian Bluefin Tuna Fishery

- 750 individual licenses – 450 active vessels
- Average yearly catch of 500t
- Some incidental catches of other tuna species
- Large percentage of catch is taken by angling or tended line (individual fish)
- Approximately 2500 trips (fishing events) on an annual basis
- Most trips occur close to shore but can extend to outside EEZ (bycatch fisheries)





Management Elements of the Atlantic Bluefin Tuna Fishery

- Licences and conditions – to control access and ensure understanding of the fishery rules
- Quota allocations – to control removals and ensure sustainable harvest
- Hail out and hail in – to provide notification of legal activity on the water, and facilitate identification of illegal activity
- Logbooks – to capture mortality and effort data
- Tags – to discourage discards/high-grading/over-fishing
- Dockside monitoring/Observers – to facilitate timely receipt of data and independent observation/verification of catch
- Catch documents – entered in a timely fashion
- Data entry – received in electronic format by DFO





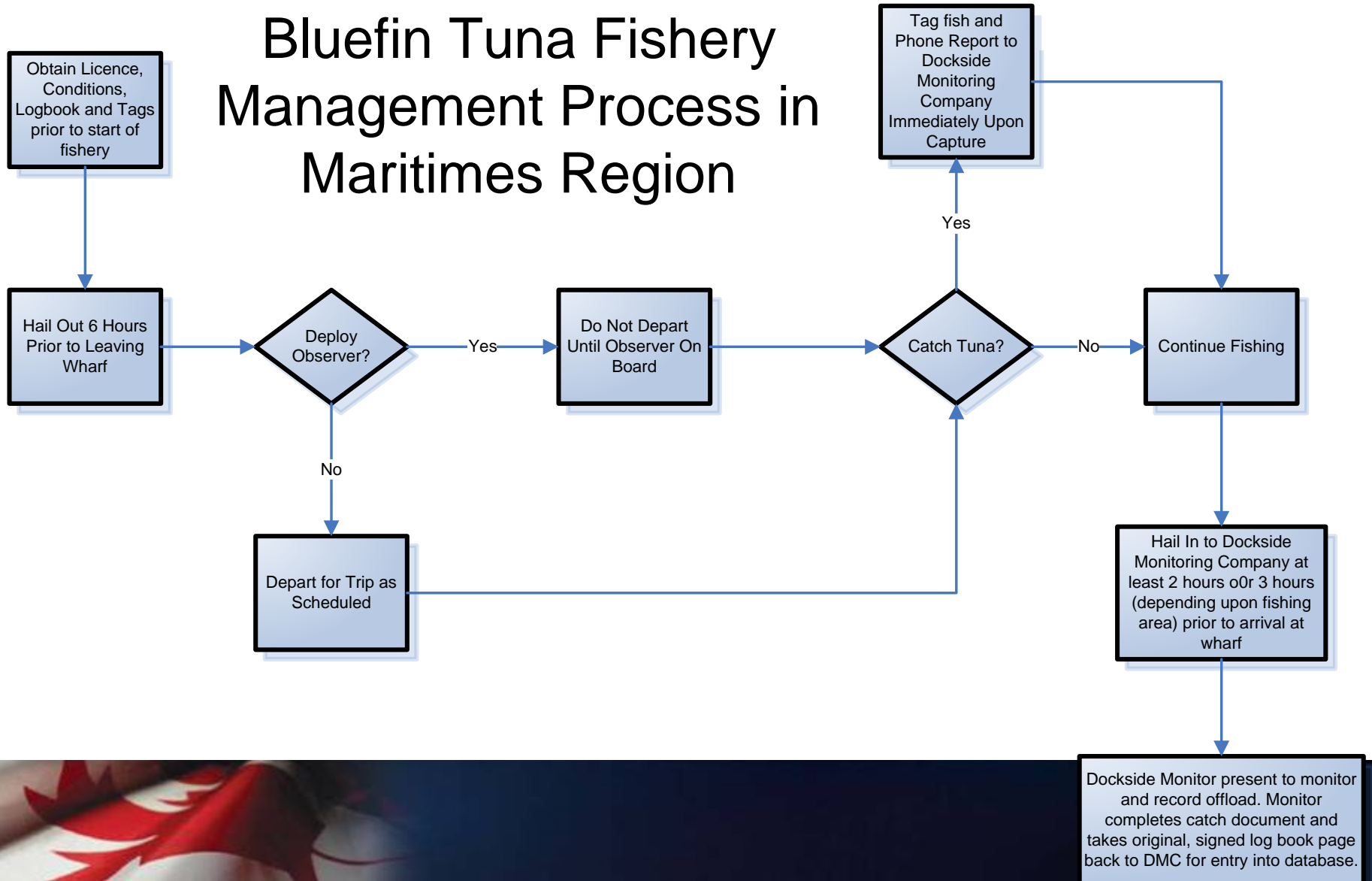
Management Tools Utilized

- Fisheries Information System (Oracle Relational Database)
- Dockside Monitoring Company (3rd Party, independent, industry paid, DFO-certified service providers)
- At-sea observers (DFO-contracted, industry paid contractors)
- Voice-Enabled, Interactive Voice Response (IVR) technology





Bluefin Tuna Fishery Management Process in Maritimes Region



Quota Screen

Stock: **BLU** (Metric Tonnes)
 Actual Catch: 0.000 Current: 0.000
 Species: **BLU** (SFT) TUNA, BLUEFIN
 Area Type: **BLUFIN TUNA FISHING AREA** Area: **ATL** Est. Catch: 1.000
 Management Plan: **MARFIS - marfis@pfisp**
 Start Date: **2011**

Hail Out FE3201 (v 3.0.296)

Stock: **BLUFIN TUNA - 3**
 Hail-Out Conf #: **39992870** Status: **MATCHED** Trip Identifier: **285761** Responsibility: **ATLANTIC CATCH DATA**
 Vessel Reg. Number: **106723** VESSEL NAME: **STEPHEN MEADE**
 Port Sailed: **11501**
 Date Sailed: **2010-NOV-15**
 Est. Date Landed: **2010-NOV-09**
 Fishing Area Type: **LINKNOWN**
 Call Made By: **MATTHEW STE**
 Issued by: **IVR**
 Created by: **CULLENL**

Catch Notification

Notification Number: **03414**
 Hail-Out Conf. #: **39992870**
 Tag Number: **4687**
 Licence Details:
 Fishing Licence: **109452/ATUN05020 SF TUN EX**

Log Entry

Monitoring Document Entry **FE3601 V3.0.394**
 Document Identifier: **11264**
 Licence #: **109452/ATUN05020 SF TUN EX**
 Date Rec'd: **2010-NOV-15**

Slip Entry

Monitoring Document Entry **FE3601 V3.0.394**
 Document Identifier: **11264**
 Licence #: **109452/ATUN05020 SF TUN EX**
 Date Rec'd: **2010-NOV-15**

Catch Estimates

Species	Weight	UOM	Licence	Catch Usage	Do not post against quota
254	9	1	500.000 LBS	109452/ATUN05020	L

Buyer: **4058 HALIFAX FISHERMEN'S MKT INT.** Agent's Name: **M WALLACE**

Sample Oracle Database Screens



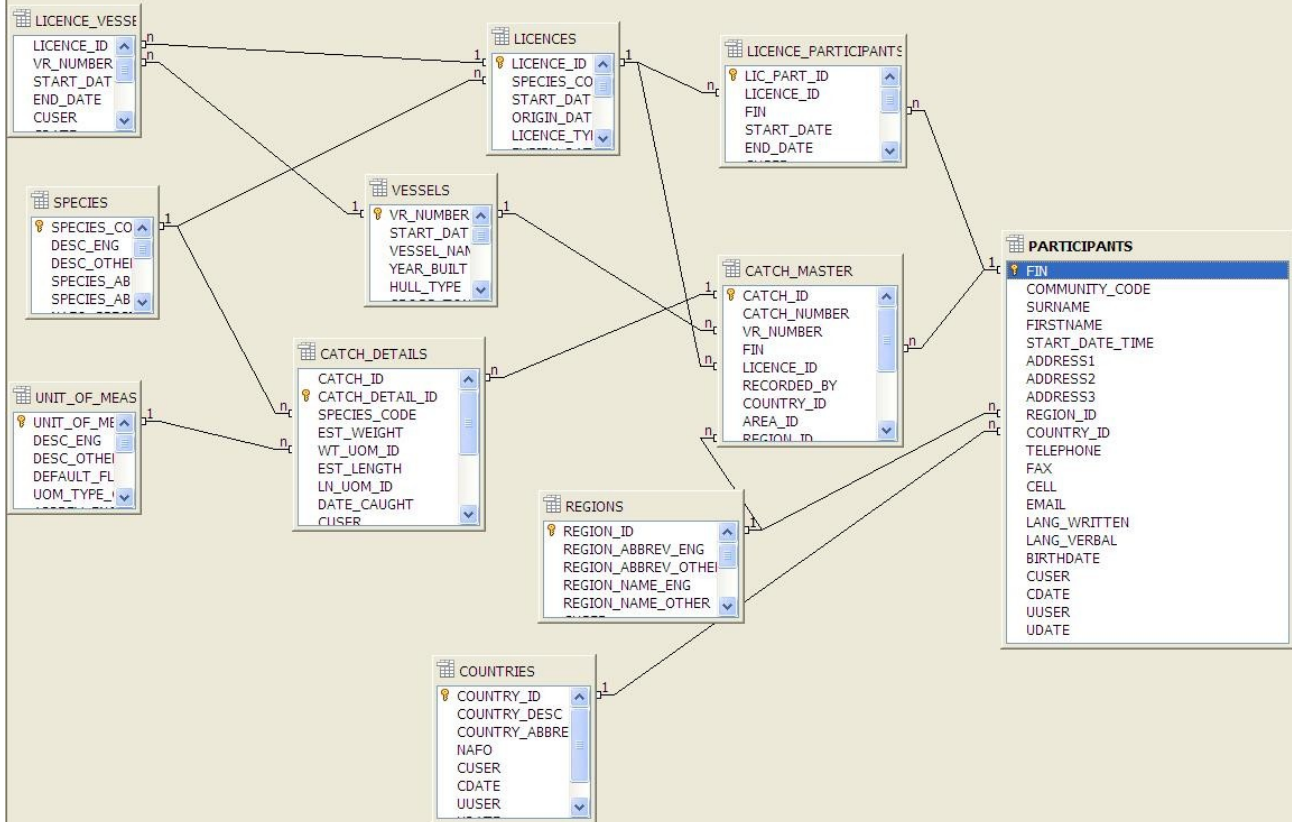


Table Relationship Schematic



CMPDev.odb : CATCH_MASTER - OpenOffice.org Base: Form Design

File Edit View Insert Format Table Tools Window Help

Default Times New Roman 12 B I U

CATCH_NUMBER LICENCE_ID AREA_ID CDATE

VR_NUMBER RECORDED_BY REGION_ID UUSER

FIN COUNTRY_ID CUSER UDATE

SPECIES_CODE UUSER

EST_WEIGHT UDATE

WT_UOM_ID

EST_LENGTH

LN_UOM_ID

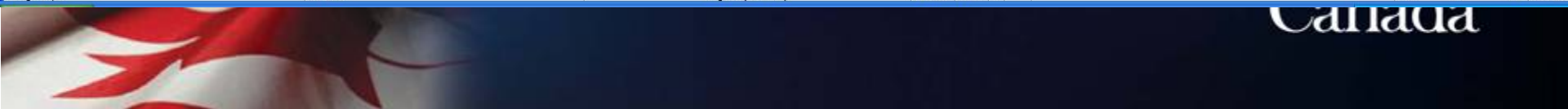
DATE_CAUGHT

CUSER

CDATE

Catch Entry Screen

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Why This Can Work for You

- Ease in monitoring catch
- Provides timely information for management decision
- Information is in a consistent format
- Can better meet reporting requirements





What We Can Offer

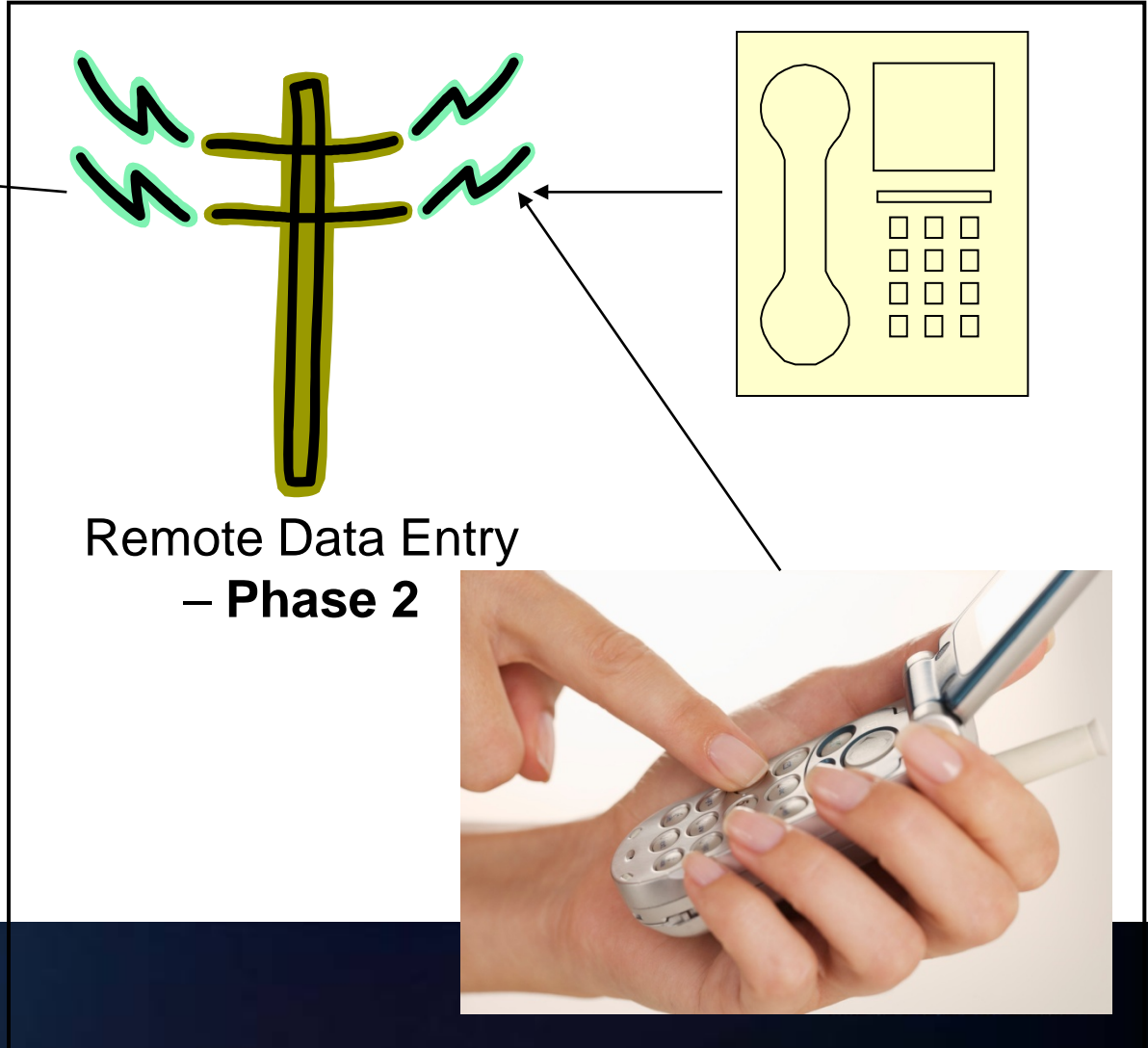
- Phase 1
 - Simple Catch Reporting Database (Microsoft Access or similar software) Visual Basic application compiled on self-installing compact Disc
- Phase 2
 - Technical advice on the addition of a simple Interactive Voice Response (IVR) application capable of automatically receiving Catch Reporting data via the telephone network (pre-loaded and configured on a PC containing a telephony card).





Phase 1 and 2 System

Direct Data Entry –
Phase 1





Capacity Building

- need exists for enhanced capacity for data reporting
- RFMO/Member States must work together
- Canada committed to addressing this issue