

# Report for 2010 on exhaustive data collected by observers on board largest pelagic longliners based in La Reunion

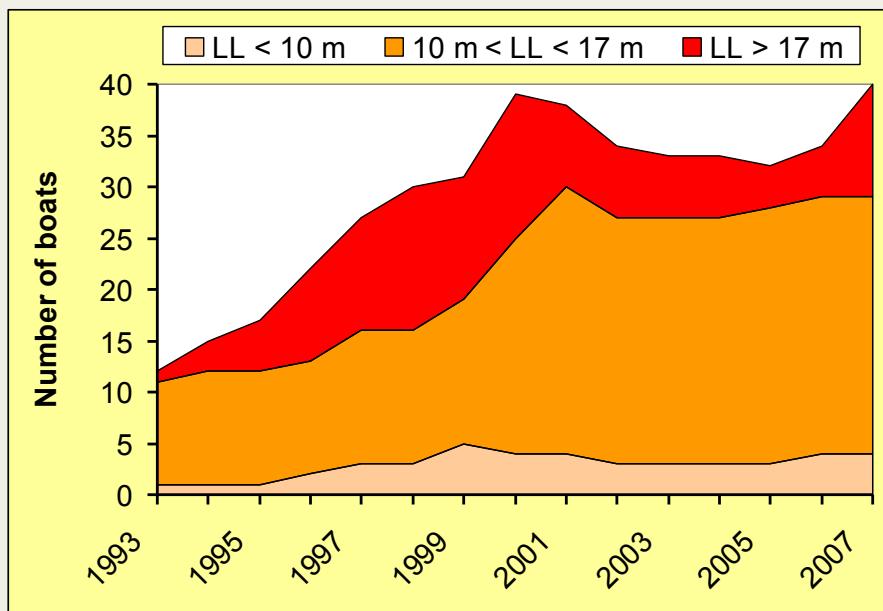
P. Bach, E. Romanov, N. Rabearisoa,  
S. Akbaraly, A. Le Turc & A. Sharp

The observer program of the longline fishery based in La Reunion is supported by E.U. funds allocated to implement the “Data Collection Framework” (Council Regulation (EC) No 199/2008 of 25 February 2008 concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy ).



# THE LARGEST LL OF LA REUNION FLEET

La Reunion LL fleet is compounded of three LL size categories

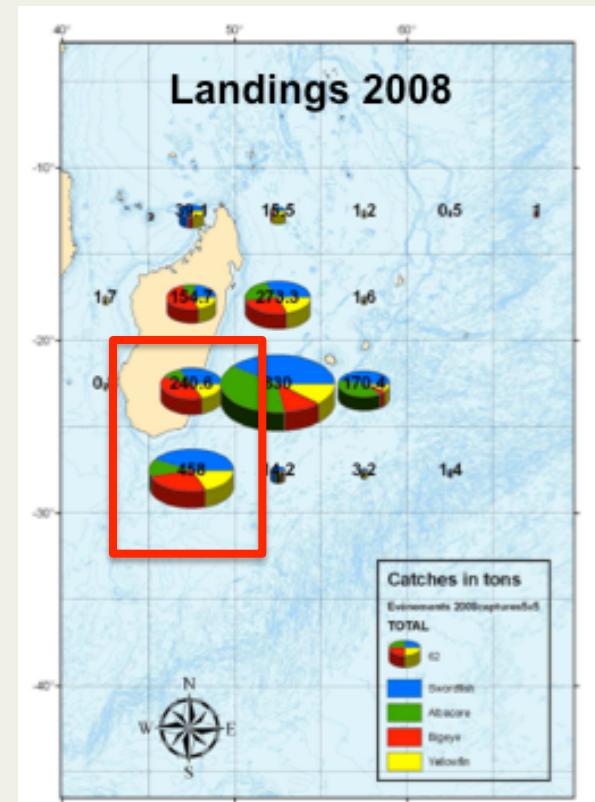
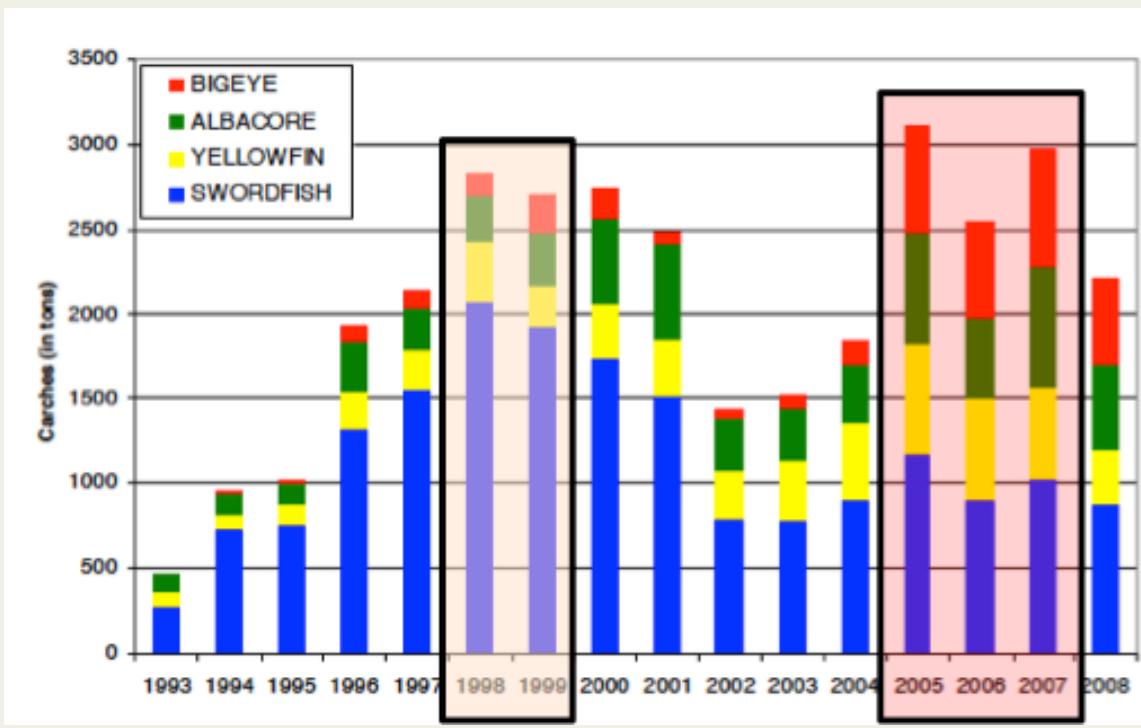


Observers can embark **ONLY** on largest boat of the fleet (i.e. LL of 22 m < LOA < 25 m, 5 to 8 boats)

- Bach P, Rabearisoa N., Filippi T., S. Hubas, 2008. The first year of **SEALOR** : Database of **SEA**-going observer surveys monitoring the local pelagic **L**Onghline fishery based in La Reunion. IOTC/2008/WPEB/WP13, 19 p.
- Bach P., Romanov E., N. Rabearisoa, T. Filippi, A. Sharp. 2010 - Note on yellowfin and bigeye catches collected during fishing and research cruises onboard pelagic longliners of the La Reunion fleet in 2008 and 2009. IOTC-2010- WPTT-11,13 p.

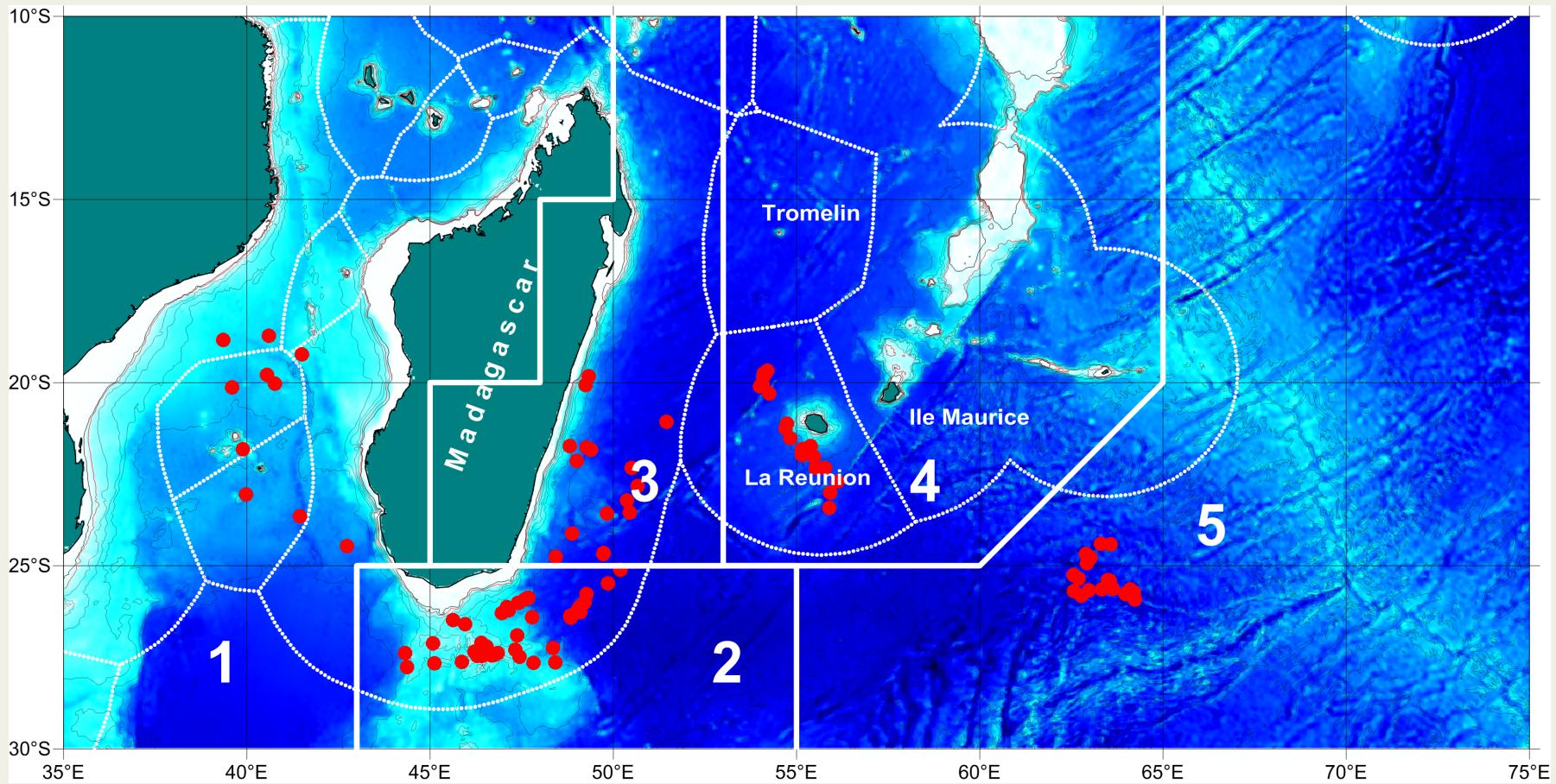
# THE LARGEST LL OF LA REUNION FLEET

These LLs are responsible of the modification of species contributions in landings started in 2005 → increase YFT and BET catches with a **fishing strategy targeting swordfish carry out mainly in the South East off Madagascar.**



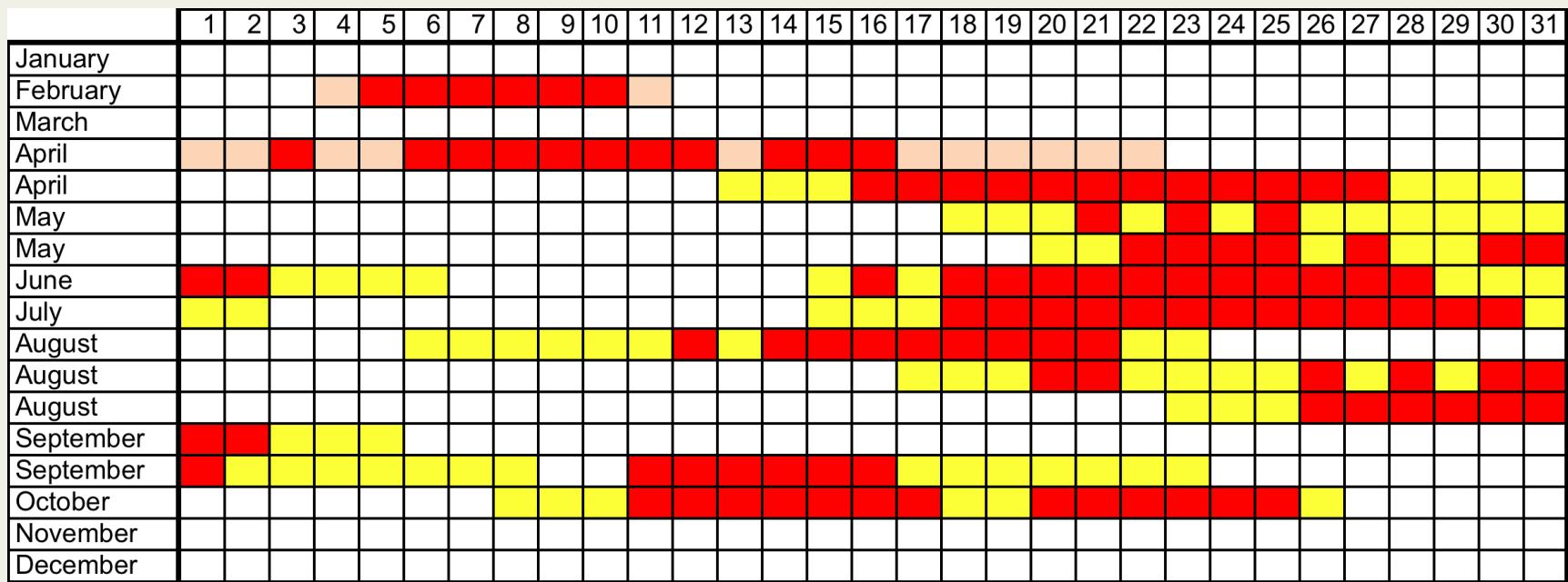
- Bach P., Romanov E., N. Rabearisoa, T. Filippi, A. Sharp. 2010 - Note on yellowfin and bigeye catches collected during fishing and research cruises onboard pelagic longliners of the La Reunion fleet in 2008 and 2009. IOTC-2010- WPTT-11,13 p.

# SPATIAL DISTRIBUTION OF OBSERVED LL SETS



Geolocalisation of LL sets sampled in 2010 in the frame of the LL RUN Observer program  
(range :  $18.5^{\circ}$  S –  $28^{\circ}$  S /  $39^{\circ}$  E –  $64.5^{\circ}$  E)

# TEMPORAL DISTRIBUTION OF OBSERVED LL SETS



LL scientific surveys



LL commercial trip



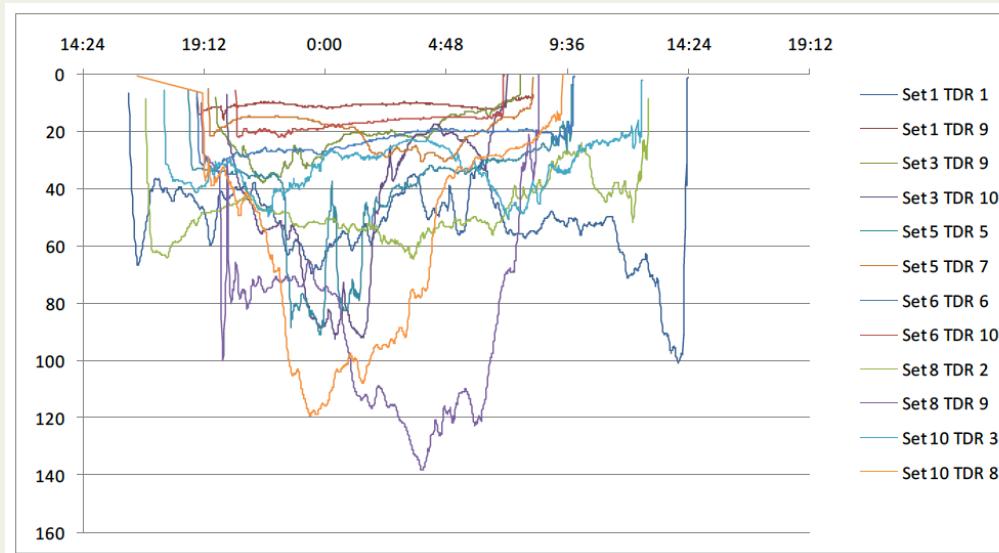
LL operations

Number of LL Trips	13
Days at sea	199
LL set operations	113
Number of hooks	120 186

Coverage rate (LL 20 m &lt; LOA &lt; 25 m) ~ 9 %

# DATA COLLECTED FOR LL FISHING OPERATIONS

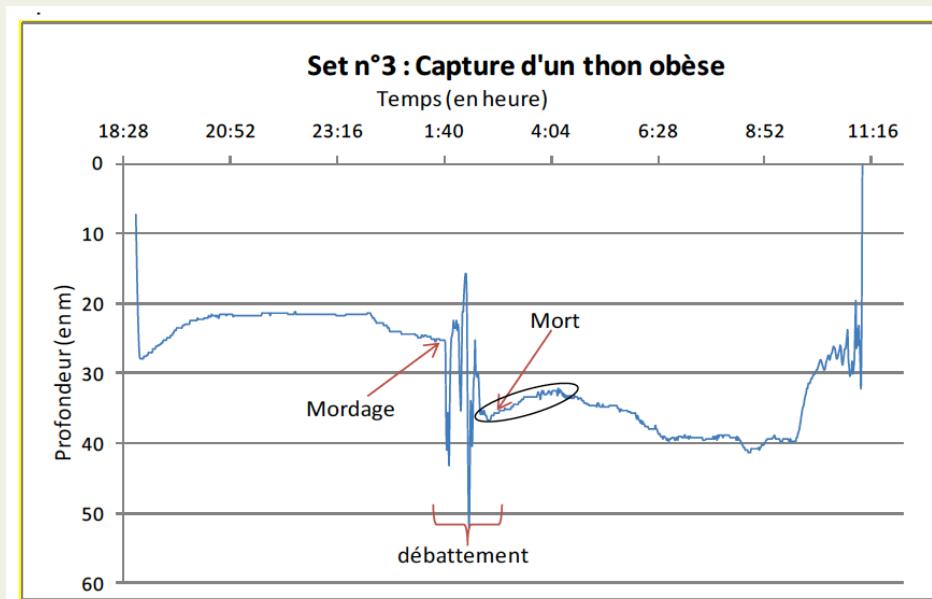
- Information of LL operations (date, time, position for setting and hauling)
- Setting strategy (HBF, time interval between floats, ...length of FL, ...)
- Material, hook type, bait type, lightsticks, ....
  
- Deployment of TDRs (to estimate hook depth distributions)



1017 TDR profiles recorded in 2010

## DATA COLLECTED FOR CAPTURE

- Species
- Basket number (hook number if possible) of the capture
- Fish status, biometrical & biological data
- Hooking position (jaw, throat, gill, gut, tail, ...)
- Fate of fish (commercialized, conserved on board, discarded, depredated)
  
- Time and depth of capture (from TDR data)

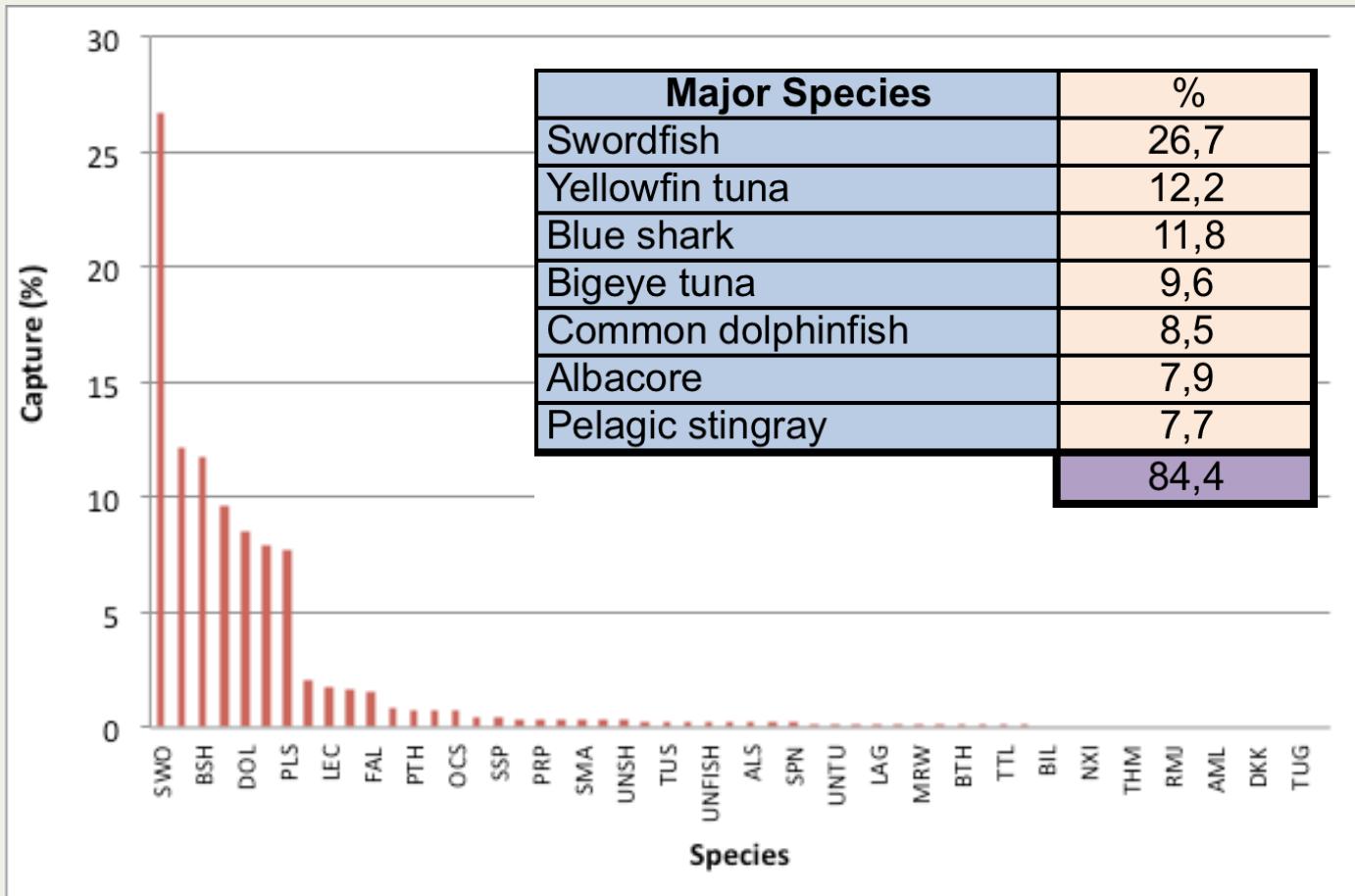


Bigeye capture at 1:40 a.m. on the hook n°3 close to the TDR (capture depth ~ 37 m)

# DIGEST OF CAPTURE DATA

TOTAL CAPTURE = 5558 ind. (GCR = 4,6%) – 56 species of group of species

LENGTH DATA = 3045 ind. (54.8%)



# DIGEST OF CAPTURE DATA

Kept on board	60,40%
Discards	39,60%
Depredation	3% (70% due to Cookie Cutter Shark)

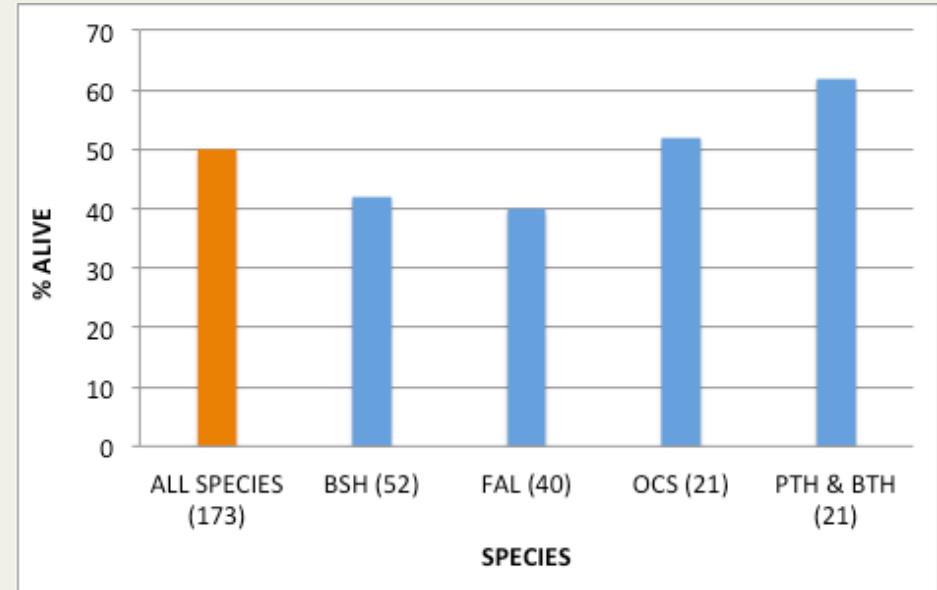
	% DISCARD	% DEPRED
SWORDFISH	21	4
TUNA	6.4	5
MARLIN	3.6	2
FINFISH	50.6	2.4
RAY	100	0
SHARK	90	0.1
ENDANGERED SPECIES		
Leatherback turtle (1)	100	0
Hawksbill turtle (1)	100	0
Loggerhead turtle (4)	100	0
Green turtle (1)	100	0
Bottlenose dolphin (5)	100	0

# CAPTURE OF SHARKS AND FATE OF THEM

15 species,  
1 underdet.  
Group

977  
individuals

SPECIES	%
Silvertip shark	1,1
Grey reef shark	0,1
Grey reef shark	0,6
<b>Blue shark</b>	<b>67,2</b>
Bigeye thresher	0,7
<b>Silky shark</b>	<b>9,2</b>
Longfin mako	0,1
Oceanic whitetip shark	3,9
Crocodile shark	1
<b>Pelagic thresher</b>	<b>4,6</b>
Shortfin mako	1,8
<b>Scalloped hammerhead</b>	<b>4,6</b>
Hammerhead sharks nei	1
Smooth hammerhead	1,7
Tiger shark	0,7
Unknown shark	1,4



## FURTHER ANALYSIS

- Analysis of the survival of sharks regarding the fishing strategy (length of branchline, fishing time), the hook type (J vs T vs C)
- Spatial analysis of shark bycatch hotspot in the SWIO