



INSTITUTO
COSTARRICENSE DE
PESCA Y ACUICULTURA

GOBIERNO DE COSTA RICA

Data collection comparison between onboard human observers and electronic monitoring

Proyecto realizado en colaboración con:
INGOPESCA, FEDENAP, TNC, IATTC, BV, Thalos

Pilot project overview

1 longline vessel > 20
m

2 fishing trips (8
months)

Costa Rica EEZ and
HS (majority)

100% human
observer coverage

90% EM coverage

100% EM review

Capability of Electronic Monitoring of IATTC required data (C-24-09)

DATA REQUIRED PER C-24-09 (ANNEX 3)		COLLECTED BY EM	LIMITATIONW
TRIP INFORMATION		MOST	Port name
VESSEL ACTIVITY		MOST	Type of bait and number of hooks
C D I S C A R D I N G	Species identification (total catch and discards, to the extent that EM technology allows it)	YES	Sometimes species identification was not possible due camera position and manipulation techniques
	Size (Size of each individual caught, using the recommended measurement approach and the appropriate measurement code)	YES	Some size measurement were not possible due to calibration issues.
	Condition (The estimated condition of the individual when caught, brought on deck and released, where possible.)	YES	Not possible when the animal is left in the water.
	Fate (Fate of the individual brought on deck (e.g., retained, discarded, etc.)	YES	No limitations
	Tag (Tag recovery information recorded, as feasible as EM technology allows.)	NO	Not an objective of this pilot project.
	Catch interaction (The type of catch interaction (e.g., entangled, hooked internally, hooked externally, interaction with vessel only.))	YES	EM cannot determine internal hooking

Match rate

MATCHES BETWEEN EM DATA AND HUMAN OBSERVER DATA

CATEGORIES	DETAIL	SIMILARITY RATE TRIP 1	SIMILARITY RATE TRIP 2
NUMBER OF INDIVIDUALS	Total number of individuals for the entire trip	91%	95.76%
SPECIES	Total number of same species identified for the entire trip	79%	61%
SIZE	Average of LPO/LF/LT	82%	99%
	Average of LPC/LD	95%	81%
	Average of EID	92%	81%
SEX	Female	89%	84%
	Male	29%	51%
	Unknown	3%	18%
DISCARDS		66%	83
HOOK ATTACHMENT	Mouth	93%	97%
	Tail	71%	0%
	Swallow	0%	0%
	Other	0%	0%



Limitations

Camera
cleanliness

Possible
camera
obstructions

Position

Luminosity

Poor calibration

Data
processing and
transmission



Impacts

Data collection

Species
identification

Size

Next steps

- To address the limitations and lessons learned in the next phase of the pilot.
- Submit the EM data to the IATTC Staff and work with them to analyze the data.
- Develop a standardized EM data submission template.



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¡GRACIAS!

