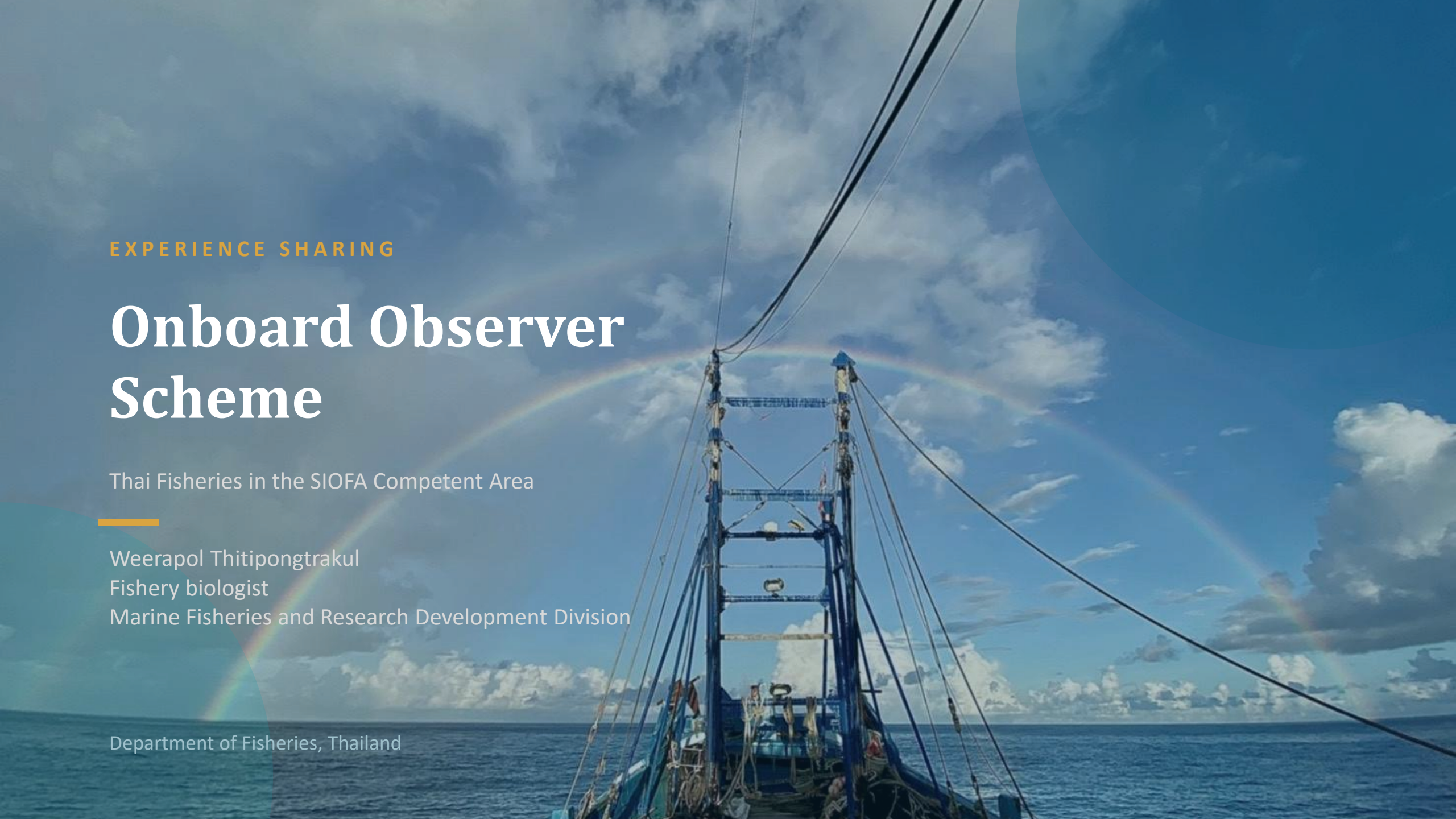




EXPERIENCE SHARING

Onboard Observer Scheme

Thai Fisheries in the SIOFA Competent Area

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What We'll Cover

1

Background

Onboard observers, SIOFA, and Thailand's fishing operations in the area

2

Thailand's Onboard Observer Program

Qualification, recruitment, welfare, and training

3

Roles & Responsibilities

What observers collect and report at sea

4

Observer Operation Workflow

From pre-embarkation to disembarkation

5

Facing Constraints

Individual, data-related, and operational challenges

6

Lessons Learned & Things for Sharing

Catch estimation, training, welfare, and technology

Q&A session at the end — please note questions as we go

SECTION 1

Background

Onboard observers, SIOFA, and Thailand's operations in the SIOFA area



What Is an Onboard Observer?

Professionally trained personnel who gather high-quality fishery data at sea — the “eyes and ears on the water.”



Scientific Purpose

Collect data on fishing effort, catch composition, bycatch, and interactions with conservation species



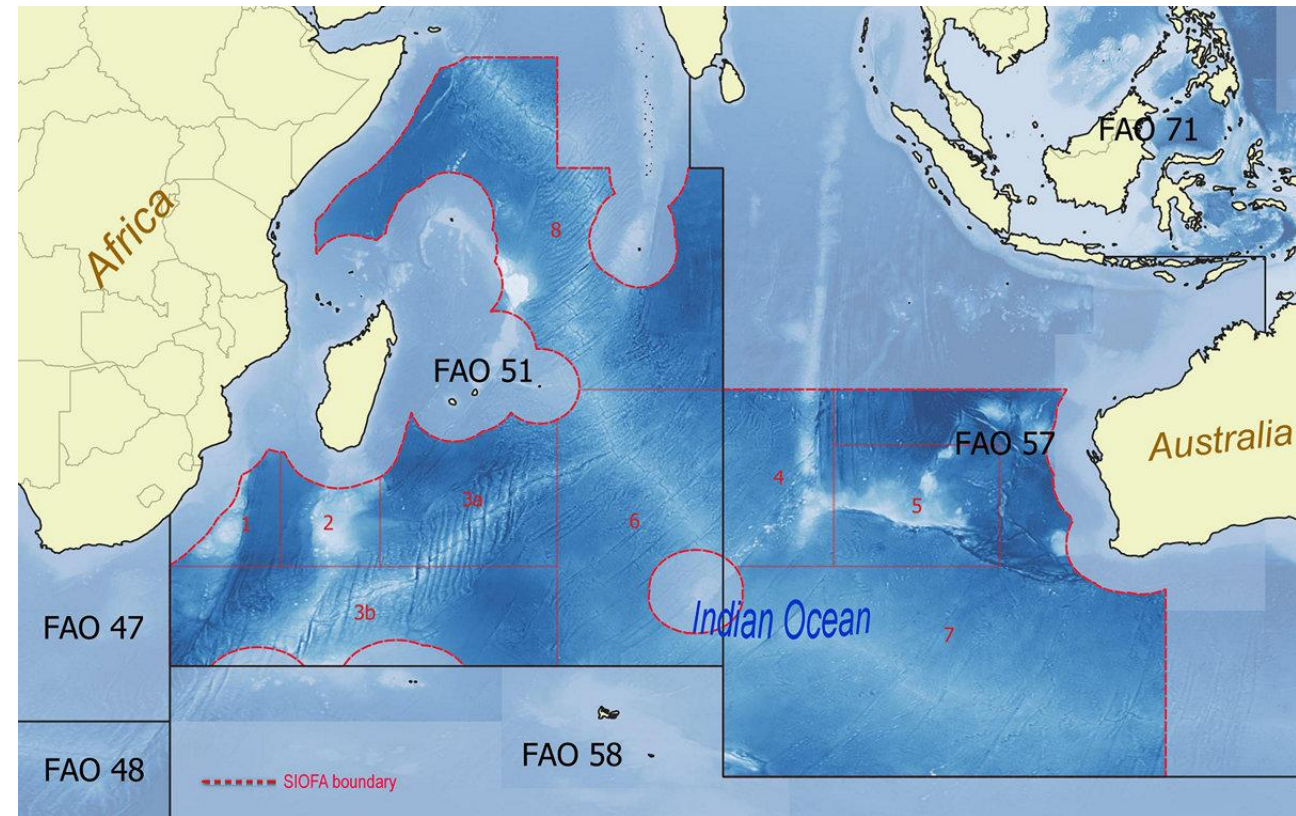
Compliance Purpose

Monitor fishing activities and safety regulations for consistency with rules and conservation measures

Benefits to fisheries management: enhanced transparency through independent verification, stronger stock assessments, prevention of IUU fishing, and compliance with national and regional laws — supporting sustainable resource management.

About SIOFA

- **Southern Indian Ocean Fisheries Agreement (SIOFA)** — the regional fisheries management organization governing bottom fishing and related activities in its competent area (only high sea)
- **Manages bottom fishing** through Conservation and Management Measures (CMMs), including protection of Vulnerable Marine Ecosystems (VMEs)
- Generally, 3 main target species of Patagonian toothfish, Alfonsino and Orange roughy. Species that not listed as IOTC concerned species are also managed by SIOFA.
- CMMs set binding requirements for onboard observer coverage, data standards, and reporting across member fishing operations



SIOFA CMMs Relevant to the Observer Scheme

CMM 01/2025

Bottom fishing

Mandatory observer coverage, VME protocols, electronic monitoring

CMM 02/2025

Data standards

Duties on data collection & reporting templates

CMM 09/2025

Transshipment monitoring

100% onboard observer coverage at sea

CMM 12/2025

Shark conservation

Protection & biological sampling for deep-sea sharks

CMM 13/2025

Seabird bycatch mitigation

Observing seabird interactions with fisheries

CMM 15/2025

Demersal stocks

Management of target species; observer tagging role

CMM 17/2025

New & exploratory fisheries

100% scientific observer coverage

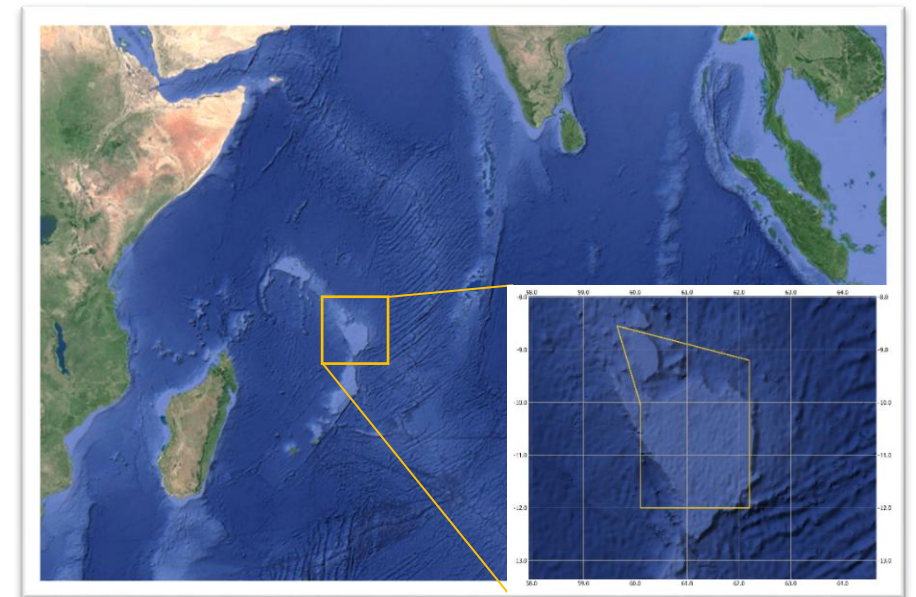
Thailand's Fishing Operations in the SIOFA Area

2015 Fishing since

2 Current authorized vessels

2 Gear types: trawl & handline

Operations are concentrated mainly in the south bank of Saya de Malha Bank and adjacent areas.



National Legal Framework & International Alignment

- Mandatory onboard observer program implemented under the Royal Ordinance on Fisheries B.E. 2025 (and its 2017 amendments), requiring overseas fishing vessels operating under an RFMO to comply with its conservation measures
- Thailand's program is designed and implemented mainly to meet SIOFA CMM requirements:

100%

Coverage on vessels fishing with bottom trawl

≥20%

Coverage on other bottom fishing gears, e.g. handline

Observer duties and coverage requirements follow SIOFA CMMs directly.

Thailand's Observer Program at a Glance

2015

Program launched

4

Training batches completed

98

Observers trained to date

9

Currently active observers

SECTION 2

Thailand's Onboard Observer Program

Qualification, recruitment, welfare, and training

Observer Qualification Requirements

1

Educational Background

Degree in fisheries, marine biology, marine science, or related fields — or at least 6 months of relevant experience in marine operations

2

English Ability

Demonstrated proficiency for crucial communication and reporting at sea

3

Physical Capability

Able to work under arduous conditions, including managing motion and seasickness; physician's certification required

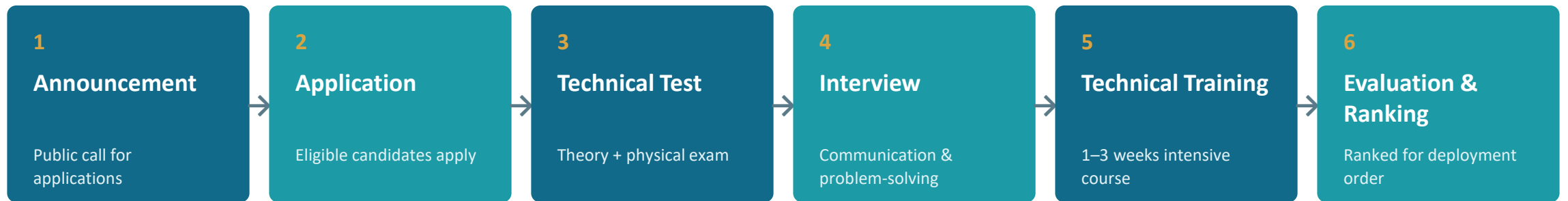
4

Technical Skills

Basic species identification, data collection, biological sampling, and computer skills (further developed through training)



Recruitment Process



Selection combines theoretical knowledge, practical fitness, and interpersonal skills before intensive field-ready training.

Welfare & Working Conditions

1

Daily Allowance

THB 2,100 per day (~USD 62) while deployed at sea

2

Insurance Coverage

Health and accident insurance for the full deployment duration

3

Code of Conduct

Observers must not interfere with fishing operations; zero-tolerance policy in place

4

24-Hour Support

Satellite communication with DOF officers available around the clock, including for emergencies

Training Course: 4 Core Elements



1

Code of Conduct

Neutrality, impartiality, avoiding interference in fishing operations

2

Laws & Regulations

National laws, RFMO measures, FAO guidelines

3

Data Collection

Gear, sampling, species & VME ID, bycatch

4

Reporting Standards

Templates, accuracy, format, timely submission

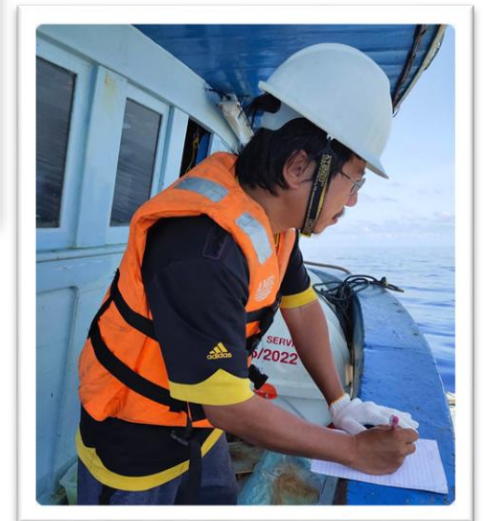
SECTION 3

Roles & Responsibilities of Observers

The scientific data observers collect and report at sea

Fishing Effort Observation

- **Recorded on a haul-by-haul basis** for every fishing operation
- Fishing gear used, and any bycatch mitigation gear deployed
- Number of hooks or fishermen involved in the operation
- Exact start and end time, and start and end location, of fishing
- Fishing depth
- All data recorded in the designated reporting template

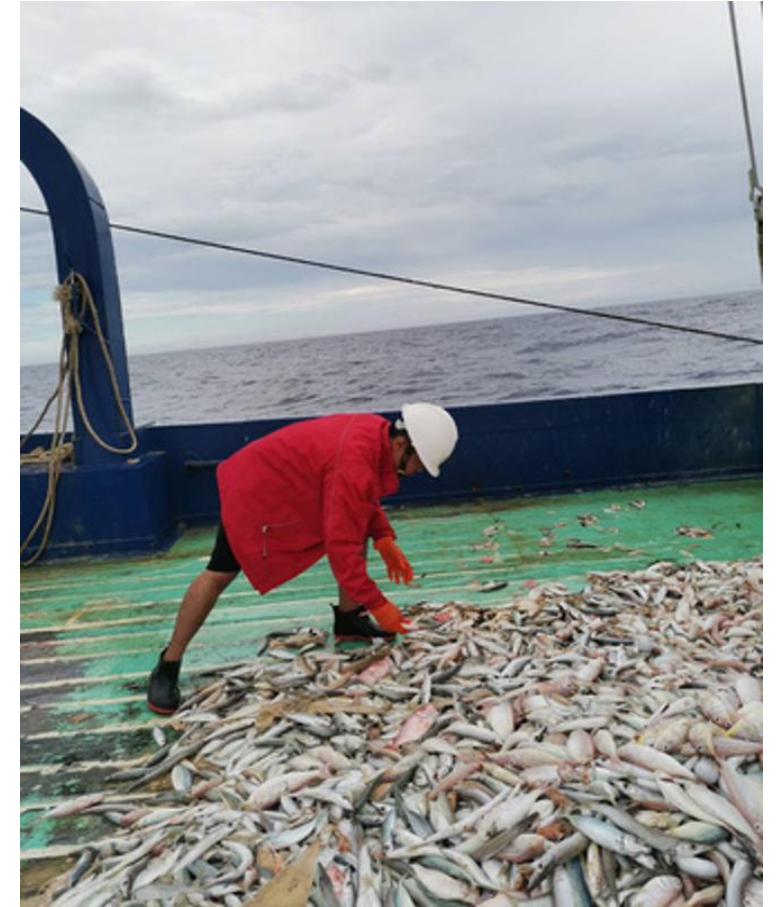


The Onboard observers shall be independent of the vessel and shall be uniquely dressed, distinct from the fishing crew.

Catch Observation & Biological Sampling

- Weight of catch recorded by haul, with **sampling for species composition**
- **Bycatch observed and recorded**, including protected species and VMEs
- **Biological sampling for target species** — primarily length measurement, plus tissue or whole-sample collection for laboratory analysis
- All data recorded in the designated reporting template

The Onboard observers shall be independent of the vessel and shall be uniquely dressed, distinct from the fishing crew.



Bycatch Observation & Reporting

Observed continuously from gear deployment until the end of operation, and reported in designated templates.

1

Conservation Species

Sea turtles, cetaceans, deep-water sharks, and species protected under national law

2

CITES / RFMO-listed

Hammerhead sharks; managed species such as tunas, neritic tunas, billfish, and seerfish

3

Other Concern Species

Thresher sharks, devil rays, tiger sharks, guitarfishes, and VME species

Bycatch & VME Species — Field Examples



Hammerhead shark — measured and recorded



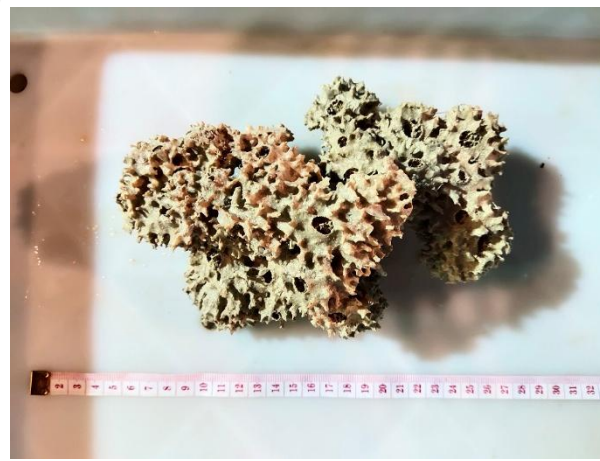
Thresher shark bycatch



Leatherback turtle released alive



VME specimen — pencil sea urchin



VME specimen — sponge



VME specimen — sponge

Additional Duties: Science, Compliance & Reporting

1

Other Scientific Observation

Tagged-fish observation when caught/present, plus seabird observation south of latitude 25°S towards the Antarctic Circle

2

Compliance Monitoring

Vessel behavior checks: fuel transfer at sea, sighting of suspected illegal fishing vessels, crew working/living conditions, and VMS malfunction reporting

3

Data Verification & Submission

Collected data are verified by DOF scientists and submitted to the SIOFA Secretariat as required under CMM 02/2025

SECTION 4

Observer Operation Workflow

From pre-embarkation to disembarkation

Three Steps of Observer Deployment



A fishing trip typically takes 70–90 days from embarkation to disembarkation — the observer's working period follows the trip length.

Step 1 — Pre-Embarkation

- Briefing on mission objectives and review of the planned fishing operation
- Emphasis on scientific data collection, sampling protocol, and reporting procedure
- Fishing gear checking
- Verification of safety equipment/gear and communication devices on the vessel



Step 2 — Onboard Duty

- Continuous data collection at sea: fishing effort and catch composition
- Biological sampling; observing bycatch and other scientific matters
- Additional monitoring of compliance with fishing regulations



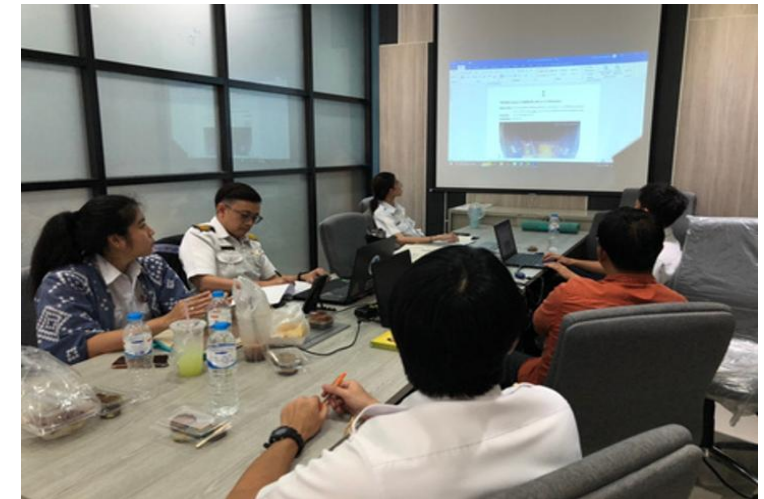
All data reported to DOF Headquarters via the Electronic Reporting System (ERS) and by email using Excel templates.



Step 3 — Disembarkation

- Debriefing session held after deployment
- Data verification for completeness, accuracy, and consistency with vessel logbooks
- Documentation of experiences and challenges for future improvement
- Performance evaluation of the deployed observer by collaborating DOF officers

Trip duration: 70–90 days — observer working period follows the length of the fishing trip.



SECTION 5

Facing Constraints

Individual, data-related, and operational challenges at sea

Individual Constraints

- Physical and mental fatigue during long deployments affects data quality
- Differences in skill, expertise, and experience among observers impact data consistency
- Consistency of data reporting varies from one individual observer to another

Data-Related Constraints

1

Weather Conditions

Strong wind and heavy rain make it difficult to observe and sample catch, and can cause seasickness

2

Species Identification

Accuracy varies by individual — some observers identify to species level, others only to genus — affecting composition data

3

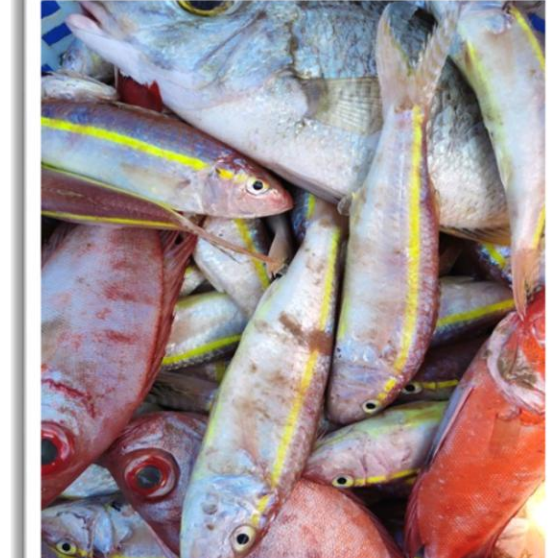
Misreporting

Inconsistent formats cause discrepancies and take time to correct in the dataset

Operational Constraints



- Limited sampling ability due to multispecies catch from trawl gear
- Limited technology or tools for data collection, especially for weighing fish
- Heavy workload on a single observer — fishing activity, bycatch, and biological sampling all at once
- Communication restraints: poor signal in the fishing ground, located in an overlapped area between two satellites



SECTION 6

Lessons Learned & Things for Sharing

Catch estimation, training, welfare, and technology



Lesson Learned: Retained Catch Estimation

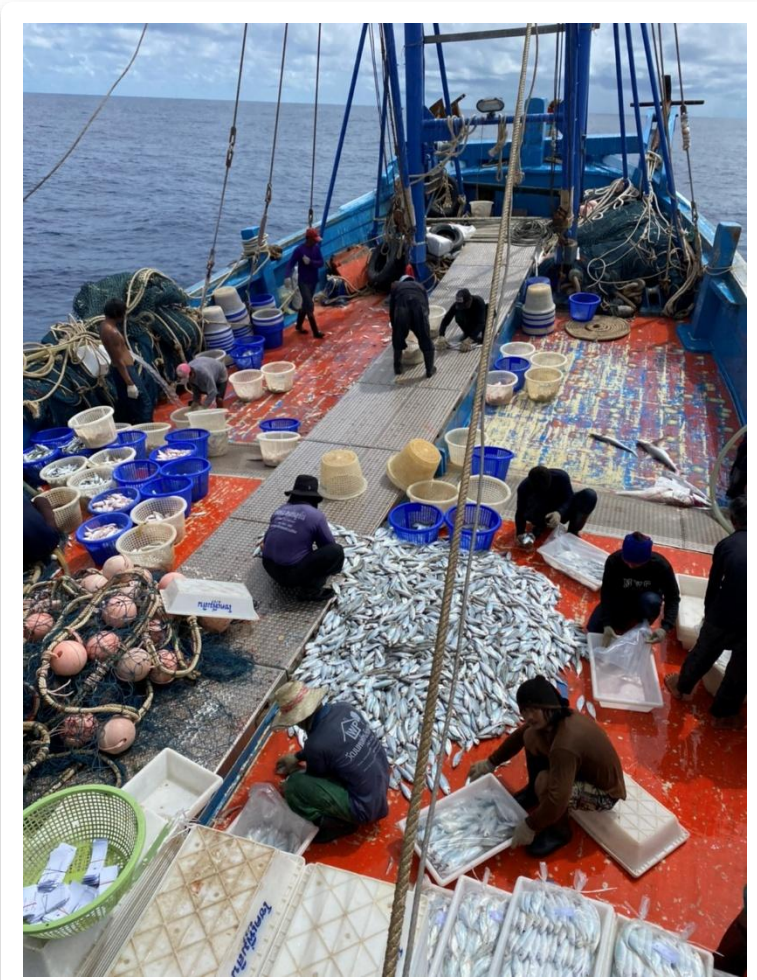
Catch is often recorded by “guesstimation” — even in vessel logbooks and by onboard observers.

Example:

Thai trawlers sort catch into grouped species (e.g. threadfin breams, lizardfish, round scads) loaded into containers. 700 kg of threadfin breams is estimated as 25 containers × 28 kg per container — an estimate, not a measurement.

The Problem

- Catch is recorded by guesstimation, generally based on personal experience
- Estimates are inconsistent between individuals — the gap widens with differing experience
- Validating observer data creates uncertainty: recorded catch is sometimes over- or under-weight compared to the logbook



Lesson Learned: A Standardized Solution

A standard catch-estimation procedure, applied to fisheries that sort catch into containers by grouped species (e.g. trawl fishery).

A. Preparing Species Average Weight

- Weighting 10–15 full containers per species, then calculate the average weight
- Repeat for every retained species (or at least the main species in the catch)
- Record **average weight** for use in the weight estimation step
- Recalculate periodically: early, middle, and near the end of the trip

B. Weight Estimation

Observe and count containers loaded by species; cross-check against the crew's container count

Retained catch = No. of containers × Average weight

Total catch = sum of all grouped species for the operation

Result: improved consistency in catch estimation across different observers.

Things Willing to Share: Strengthen Training

- Implement regular refresher courses to elevate overall program performance — not only technical training for newcomers, but continuous skill-honing and protocol updates for active observers
- Refresher courses offer mentorship opportunities for current observers to share experience with others
- Helps create an observer network and standardize best practices, increasing professionalism across the field

Things Willing to Share: Welfare, Conditions & Support

1

Financial Compensation

Payment should be attractive and reasonable — onboard duty can be a considerable “3D job” (dirty, dangerous, demanding)

2

Better Training Protocols

Improve working conditions by increasing observer knowledge to avoid hazards and risks — benefiting both observers and crew

3

Stable Support Systems

Reliable satellite communication is essential for compliance monitoring, emergency notification, and real-time data transmission — and matters for morale too

Things Willing to Share: Electronic Monitoring (EM)

- Integrate EM technology to complement human observation — CCTV cameras or sensors on fish-hold lids to record fishing activity
- Can operate offline or online depending on the situation

Limitation

Cannot replace human observers — EM hardly distinguishes fish species, cannot do biological sampling, and cannot inspect details beyond a camera's capability

Where It Helps

Useful for compliance monitoring and as a supplement to human observers' scientific work

Things Willing to Share: Electronic Monitoring (EM)

Function	Human Observer	Electronic Monitoring (EM)
Fishing activity monitoring	✓ Excellent	✓ Excellent
Compliance monitoring	✓ Direct observation	✓ Continuous recording
Species identification	✓ High accuracy	⚠ Limited
Biological sampling	✓ Possible	✗ Not possible
Bycatch assessment	✓ Detailed observation	⚠ Limited by camera view
VME identification	✓ Possible	⚠ Difficult
Data verification	✓ Real-time judgement	⚠ Requires review
Coverage duration	⚠ Limited by manpower	✓ Continuous 24/7
Operational cost	⚠ Higher	✓ Lower over time
Observer safety concerns	⚠ Present	✓ Reduced

Summarized video of Thailand onboard observer program

THANK YOU

Questions & Discussion

Any comments are welcome :D

