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Thailand's Research Cruise Plan for the Saya de Malha Bank

Delegation or Thailand

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Abstract

This paper presents the Research Cruise Plan for an exploratory fishery to be conducted by Thailand. The surveyed area will be divided into 12 stations covering the south part of the Saya de Malha Bank within SIOFA Convention Area 8. The survey is expected to be conducted during the third or fourth quarter of 2027. The research vessel, R.V. Mahidol, is 62.53 meters in length with a gross tonnage of 1,276 GT. The fishing gears to be used include fish trap, bottom vertical longline, automatic squid jigging, and automatic fishing line, targeting demersal fishes (e.g. snappers and groupers), trevallies, and squids. Abundance and some biological parameters will be analysed. In addition to fisheries resources survey, oceanographic data will be collected, and plankton and fish larvae will be identified. Vulnerable Marine Ecosystems (VMEs) and Endangered, Threatened, and Protected (ETP) species, if accidentally caught, will be identified and recorded

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[2] Documents available only to members invited to closed sessions.

Thailand's Research Cruise Plan for the Saya de Malha Bank

SC11-recommendation

The Scientific Committee (SC) determined that Thailand does not need to submit a proposal for a new exploratory fishery or a Research Cruise Plan ~~(FOP)~~. Furthermore, because the initiative is a research cruise with minimal seabed impact, a Bottom Fishery Impact Assessment (BFIA) is also unnecessary. The SC noted that future impact assessment requirements should be established alongside a broader framework for scientific research cruises. Ultimately, the SC recommended that the Meeting of the Parties (MoP) recognize Thailand's proposed voyage as a valuable contribution to SIOFA's scientific goals and gave the project its full support

Draft Plan on the Research Cruise of Thailand for 2027 survey year

1. Introduction

The Saya de Malha Bank is a large underwater bank in the western Indian Ocean with complex underwater topography and is significant for marine fishery resources beyond national jurisdiction. This area is under the framework of the Southern Indian Ocean Fisheries Agreement (SIOFA), which aims to conserve and sustainably utilize fishery resources.

To contribute to the objectives of SIOFA and further enhance scientific knowledge of the area, Thailand is planning a scientific research cruise on the southern Saya de Malha Bank in 2027. The survey will improve understanding of fishery resources, fishing grounds, associated marine ecosystems, and environmental conditions through the use of alternative fishing gears designed to minimise seabed impacts, thereby supporting future scientific assessments and sustainable fisheries management in the region.

2. Background

Thailand has conducted fishing activities in the Saya de Malha Bank within SIOFA Sub-area 8 since 2015. Current fishing operations in the area are primarily undertaken by Thai commercial vessels using bottom trawl and handline gears.

In line with the Department of Fisheries' policy to promote fishing gears with reduced seabed impacts, the proposed research cruise will utilise alternative fishing gears, including fish traps, bottom vertical longlines, automatic fishing lines, and automatic squid jigging.

3. Proposed Research Activities

The proposed research cruise will undertake scientific surveys of fishery resources, marine ecosystems, and environmental conditions in the Saya de Malha Bank.

The main research activities will include:

- Assessment of fishery resources, species composition, and fishing grounds through the use of alternative fishing gears
- Collection of biological information from target and non-target species, including species composition, abundance, length, weight, sex, and maturity
- Collection of oceanographic and environmental conditions of the survey area

- Conducting phytoplankton, zooplankton, and fish larvae surveys to support ecosystem studies
- Observation and recording of Vulnerable Marine Ecosystem (VME) indicator taxa and any interactions with Endangered, Threatened and Protected (ETP) species.

4. Survey Design

The research cruise is planned to be conducted during 2027 using the R.V. Mahidol, a research vessel operated by the Department of Fisheries, Thailand.

The survey will be undertaken in the Saya de Malha Bank within SIOFA Sub-area 8 (Figure 1). A total of 12 survey stations will be established to collect fisheries, biological, oceanographic, and ecosystem information.

The survey will utilise alternative fishing gears with reduced seabed impacts, including fish traps, bottom vertical longlines, automatic fishing lines, and automatic squid jigging. Oceanographic observations, plankton sampling, and fish larvae surveys will also be conducted at the selected stations.

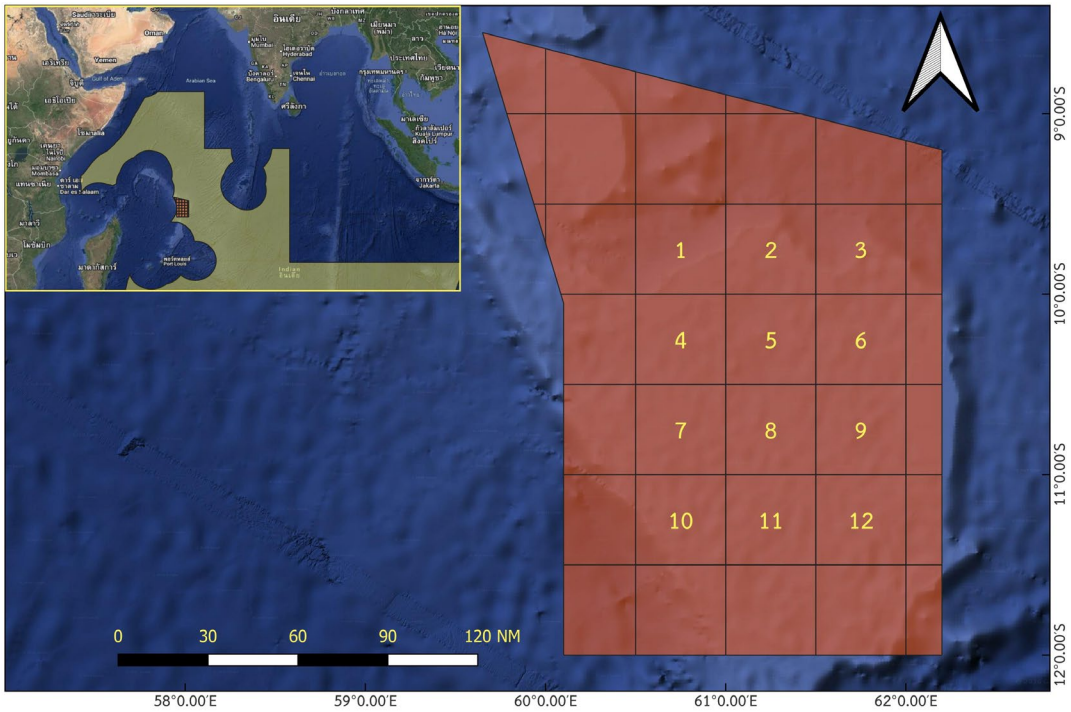

Figure 1 - Survey Area: SIOFA Convention Area 8 (Saya de Malha Bank)

The survey stations are located within the boundary defined by the four coordinate points as follows.

1) Latitude 09°30' S, Longitude 60°30' E
2) Latitude 09°30' S, Longitude 62°00' E
3) Latitude 11°30' S, Longitude 62°00' E
4) Latitude 11°30' S, Longitude 60°30' E

Expected Period of Operation : 2027 (approximately 76 days, including sailing and survey operations)
Research Vessel : R.V. Mahidol, operated by the Department of Fisheries, Thailand
Survey Stations: 12 stations

Depth Range: approximately 50 - 250 m

Proposed Methods of Fishing :

- Fish traps
- Bottom vertical longline
- Automatic fishing line
- Automatic squid jigging

Additional Scientific Activities :

- Oceanographic observations
- Water quality sampling
- Plankton and fish larvae surveys

Data collection and analysis plan (DCAP)

Sampling methodology:

Plankton & larval survey:	Phytoplankton samples will be collected using a Van Dorn water sampler and filtered through plankton net with 20 µm mesh. Zooplankton and fish larvae will be collected using a Bongo net (330 µm and 500 µm mesh) via oblique tows from 5m above the seabed to the surface. Samples will be preserved in 2% buffered formalin (phytoplankton) and 10% buffered formaldehyde (zooplankton) for density analysis (cells/L or ind./100m^3)
Heavy metal analysis:	Analysis of heavy metals (Cd, Pb, Cu, Fe, Zn, Hg) will be conducted on seawater (5 depth levels), sediments, and aquatic animal tissues. Analytical methods include Graphite Furnace Atomic Absorption Spectrometer (GF-AAS) for Cd, Cu, Pb; Flame-AAS for Zn, Fe; and Cold Vapor Atomic Fluorescence Spectrometer for Hg
Biological Data:	Length, weight, sex for all fish, gonads (maturity), tissue (heavy metals)
Oceanographic data:	CTD profiles (temperature, salinity, DO, pH); water samples (nutrients, chlorophyll-a, heavy metals); plankton (phytoplankton 20µm net, zooplankton Bongo net)
Analyses:	Length-frequency, sex ratios, age structure, biodiversity assessment, environmental assessment

5. Conclusion

The SC endorsed Thailand's proposed research cruise, acknowledging that although SIOFA has not yet created a management framework for such cruises, the information expected to be gathered from Thailand's research attempt would exceed the usual requirements of such a framework. The SC advised that the MoP recognize that it views Thailand's research cruise as a valuable addition. Thailand welcomes further dialogue with SIOFA members regarding appropriate mechanisms for cooperation and participation in the Agreement.