

Renovating Fishing Policy to Prevent Potential Fishery Collapse

A great majority of commonly harvested pelagic fish caught with current fishery practices in **Gulf of Thailand** are smaller than the size at first maturity. This is concern that eliminating large numbers of immature fish will eventually translate into the decline of fish populations; thus implying the future collapse of the fishery. The existing Fishery Act in Thailand is completely outdated, and the constantly changing fishing practices need new regulation to benefit both fishers and ecosystem. In this policy brief, an immediate scientific research, an introduction of co-management framework by establishing fishery cooperative unions, as well as fishing gear restrictions are recommended

The current fishery operation in Gulf of Thailand employs Thai purse seine (TPS) and fish aggregating device (FAD) in combination. **Ninety-eight percent** of yellowtail scad, **91%** of yellowstripe scad, **92%** of short mackerel, **98%** of kawakawa, and **100%** of frigate tuna and longtail tuna caught with these practices are **smaller than the size at the first maturity**, meaning that these immature fish have never spawned.¹ This leads to the significantly small number of reproductive adult fish, which will result in the less recruitment to fish populations, and thus it is highly possible that the fish population will eventually collapse.

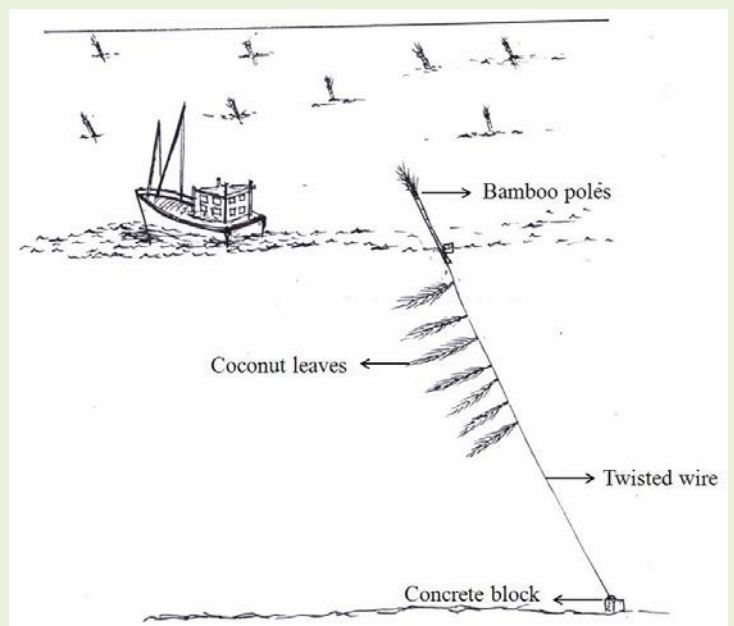
Current conservation statuses of these fish species are not recognized as a concern due to a **Data Deficiency** or **Not Evaluated**. In fact, a study have shown a gradual decline in landing of the commonly harvested pelagic fish species in Gulf of Thailand between 1976 and 2007.¹

Actions to renovate the current fishery management policy are urgently needed to reduce the risk of these fish species becoming endangered.

The currently employed Fisheries Act in Thailand was established in **1947**, since which the fishing practices have changed dramatically and the outdated regulation has no longer held a capacity to properly manage the current fishery in Thailand.



School of yellowtail scad²



Fish Aggregating Device¹

¹ Noranartragoon *et al.* 2013

² http://farm5.staticflickr.com/4048/4625605312_beb1db72cf_z.jpg

Current Fishery Regulations

- The minimum mesh size for TPS is 2.5 cm (issued by the ministry in 1991)
- FAD fishery is currently unregulated.
- Fishing ground and timing regulation: no commercial fishing gear is allowed in Prachuap Khiri Khan, Chumphon, and Surat Thani areas between February 15th and May 15th since 1984. (only 3 month closure)
- No structured management framework implemented

Implication of the Current Regulation

- The TPS with small mesh size is non-selective with regard to fish maturity and captures a whole school of juvenile fish, eventually reducing recruits to the fish population. Unregulated FAD has allowed fishers to perform maximum effort to gather fish with advanced fishing techniques such as fish sonar and strong fish attraction light. Only 3 month of fishing closure in the three limited areas unlikely favours fish to spawn and mature safely to become reproductive. No structured management in terms of number of fishers and fishing boat and fishing quota maximize fishing effort to the limit.

Policy Recommendations

Resource analysis:

- Conducting initial scientific research on **population status** and **important spawning and nursery ground** for each of the commonly harvested pelagic fish species

Fishing gear and fishing ground restrictions:

- Determine **larger mesh size** based on scientific researches
- Limit the **number of FAD** deployed per single fishing operation
- Limit the intensity or numbers of **fishing light** in night fishing
- Establishing year-round **protected areas** to protect spawning and nursery ground of commonly harvested pelagic fish species

Management structure:

- Establish **community co-management framework** by grouping individual fishers into fishing cooperative unions to:
 - reduce number of fishing boat to **reduce fishing effort**
 - compensate the loss of catch with the **cost reduction in fishing operation**
- **Community fishery certificate** program – non-transferrable fishing rights
- Determine **total allowable catch (TAC)** annually and divide it into fishing cooperative unions, thereby establishing **community fishing quota (CFQ)**
- **Fishing boat buyback** program – incentive for fishers who join a fishing union
- **Fishing boat registration** program – limit the number of boat per fishery union
- Explicitly **state liability** for both the government (fishery department) and fishing cooperative unions, especially in terms of:
 - Defrayer and organizer for **annual fish stock assessment**
 - **Penalty** of overharvesting for each community
- Establish fishing surveillance center to **oversee compliances** from fishers