

## Milestone 18 Develop appropriate harvest control rules (HCRs) and tools.

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*Thai Frozen Foods Association (TFFA) and Department of Fisheries (DoF).*

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From the preparatory meeting of the Thai Blue Crab Resource Management Committee for Sustainable Management on April 11, 2023, TFFA informed the meeting the results of the 2022 BSC FIP evaluation by the MRAG and propose that a Harvest Control Rules (HCRs) for blue swimming crab fishing should be considered. (The minutes of the meeting are attached.)

After that, on April 20, 2023, the DoF invited DoF's experts, researchers from the university and TFFA to discuss the preparation of Harvest Control Rules for blue swimming crab fishing. (The minutes of the meeting are attached.) The meeting considered relevant academic information and the biological indicators (Performance indicator) were selected to set a target value (Target reference point) and a reference value (Limit Reference Point) suitable for evaluation according to international criteria, including.

- 1) Exploitation Ratio
- 2) Proportion of juvenile: adult and
- 3) Spawning Potential Ratio and specified values

The approved of Harvest Control Rules under Thailand blue swimming crab fishery harvest strategy : 2023–2027 as follow;

**Table 1: Summary of the blue swimming crab by this harvest strategy**

Feature	Details
Target species	Blue swimming crabs ( <i>Portunus pelagicus</i> )
Target area	Surat Thani province
Biology	Blue swimming crab ( <i>Portunus pelagicus</i> ) is highly valued and high demand in the market. Blue swimming crabs in the Gulf of Thailand were caught in both commercial fisheries by trawl and small-scale fisheries by crab trap and gill net.

	<p>The catch of blue swimming crab is 86.58% from small-scale fisheries and 13.42% from commercial.</p> <p>The lifespan of blue swimming crab is 2.5 years, considering life history parameters. The asymptotic length (<math>L_{\infty}</math>) and growth rate (K) were 19.83 cm and 1.47 year, respectively. The length at 50% maturity (<math>L_{50}</math>) was 9.39 cm. and the length at 95% maturity (<math>L_{95}</math>) was 11.2 cm. (Jintana et al., 2000).</p>
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**Table 2 : Resource allocation arrangements for BSCF**

Sector	Artisanal fishing		Commercial fishing	
Proportion of total harvest	86.58%		13.42%	
Within sector proportions	Crab trap fishing	Gill net fishing	Crab trap fishing	Gill net fishing
Total catch				

**Table 3 : Performance indicator and reference points for the BSCF**

Performance indicator	Target reference point	Limit Reference Point
Exploitation Ratio	0.5	0.7
Proportion of juvenile: adult	80% mature	50% mature
Spawning Potential Ratio	>20%	20%

Depending on the result of the annual stock assessment, the regulatory authority may apply the following scenarios:

**Case 1 :** When it is found that the evaluation results of all 3 indicators are higher than the target values set for at least 2 consecutive years, the level of fishing effort will be considered or increase the level of fishing effort.

**Case 2 :** When it is found that if the indicator evaluation results 2 out of 3 are between values of targets and reference points for a period of at least 2 consecutive years will consider reducing the effort on fishing or use measures to control the minimum landing size of blue swimming crabs.

**Case 3:** when it is found that the evaluation results of all 3 indicators are lower than the specified reference value. (immediately without considering the duration) consider reducing fishing effort and partial closing area for blue swimming crab fishing as appropriate.