

Milestone 36 BSC Fishing on Habitat

1. Current status of habitat (Coral Reef, Seagrass and Mangrove)

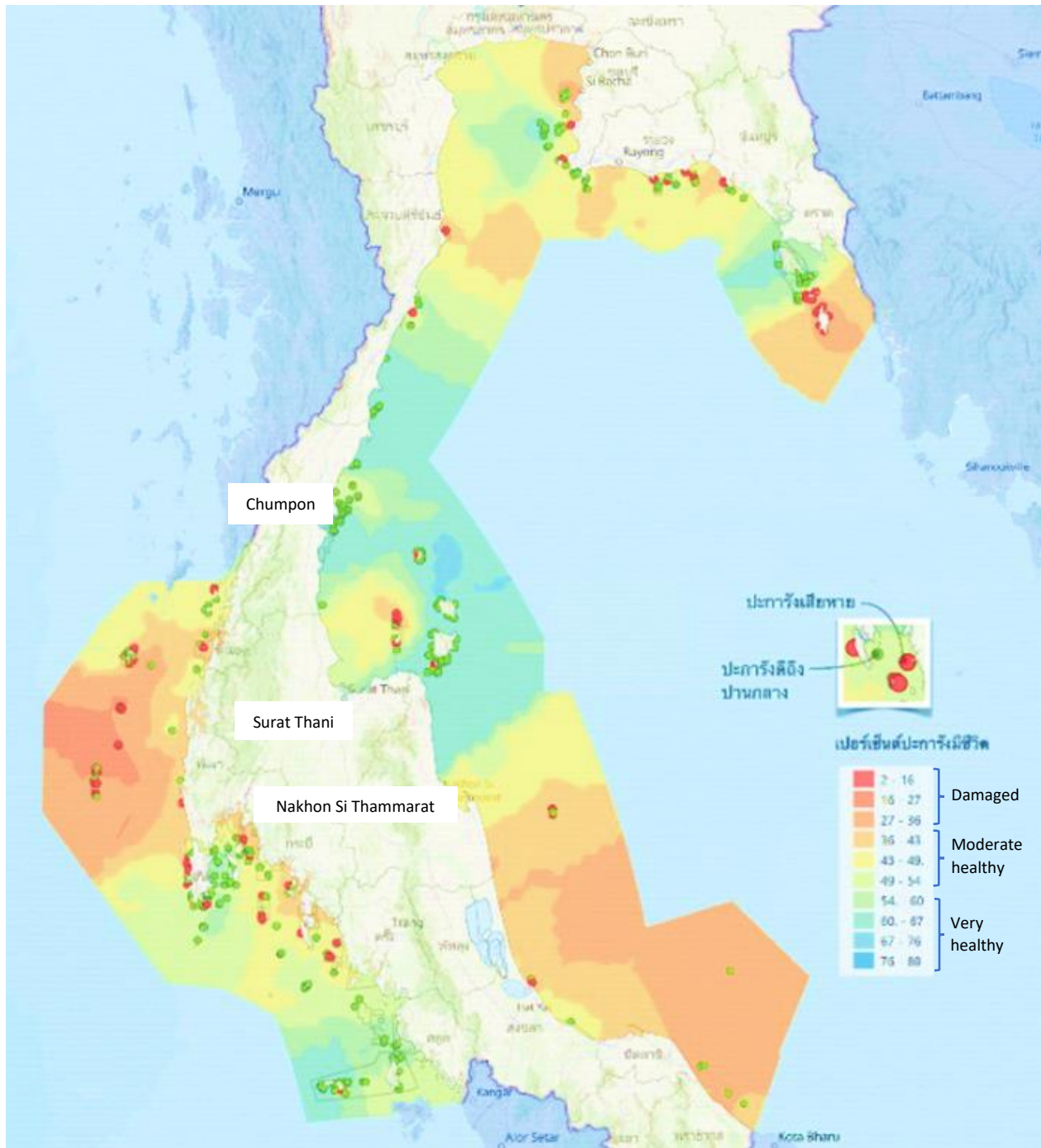
Coral Reef

According to the report on the status of coral reefs on the website of the Department of Marine and Coastal Resources, the status of coral reefs in 17 provinces in Thai waters in 2021, found that coral reefs in the Andaman Sea are in very healthy condition 54.8%, 26.3% moderately healthy, and 18.9% damaged. The Gulf of Thailand coral reefs are in very healthy condition 49.7%, moderately healthy 21.3%, damaged 29.0%. The very healthy coral reefs were Surat Thani, followed by Phang Nga, and Trat was the province with the highest damaged coral reefs.

When comparing the coral reef status data between the Andaman Sea and the Gulf of Thailand between 2020 and 2021, it was found that the overall coral reef status of the country tends to be healthier. There are better changes in both the Andaman Sea and the Gulf of Thailand, where in 2021, there are coral reefs that are in very healthy condition, 52.3% (area 77,961 rai) more than the year 2020, which has 39.2 (area 49,055 rai). Coral reefs in the Andaman Sea that are in very healthy condition increased from 33.5% to 54.9%. As for the Gulf of Thailand, coral reefs are in very healthy condition increased from 32.4% to 49.7%.

The long-term trend of changes in the status of coral reefs is generally stable both in the Andaman Sea and the Gulf of Thailand. As for the coverage of living corals of coral reefs in Thai waters in 2021, it was found that coral reefs in the central Gulf of Thailand in Surat Thani and Chumphon provinces, including coral reefs in the Andaman Sea, were covered the area of live corals 40-80% higher than coral reefs in the eastern Gulf of Thailand which covers an area of live coral at the level of 21-40%.

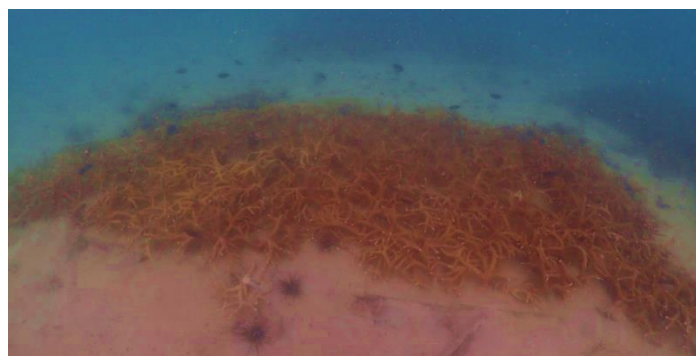
Thailand's overall coral reefs total approximately 149,182 rai, divided into the Andaman sea 73,756 rai and the Gulf of Thailand 75,426 rai. The province with the most coral reefs is Surat Thani Province with 35,982 rai followed by Phang Nga Province with 26,691 rai. Between 2020 and 2021, it was found that the coral reef status in 2021 is healthier by coral reefs in very healthy condition increased from 32.9% to 52.3%, which is the source of large coral reefs that are in very healthy condition of the country is Surat Thani Province. The coral reefs are in a damaged state. in Trat province and Phang Nga Province.



The figure shows the proportion of coral reefs in different states and the area size (rai) of coral reefs in each province. According to a survey in the year 2021

Province	Area (Rai)	Coral Reef Status		
		Very Healthy	Moderate Healthy	Damaged
Trat	17,757	1,243	657	15,857
Chanthaburi	766	423	327	16
Rayong	3,151	794	1,759	598
Chonburi	6,478	4,846	413	1,219
Prachuab Kiri Khan	1,421	1,239	45	137
Chumphon	9,143	8,503	640	0
Surat Thani	35,982	20,222	11,910	3,850
Nakorn Si Thammarat	412	163	65	184
Songkhla	167	70	61	36
Pattani	108	0	108	0
Narathiwat	41	0	41	0
Ronong	2,828	458	1,555	815
Phang-nga	26,691	12,598	6,086	8,007
Phuket	13,757	5,827	5,639	2,291
Krabi	14,039	8,414	3,931	1,694
Trang	3,015	2,421	443	151
Satun	13,426	10,740	1,721	965
Total Area (Rai)	149,182	77,961	35,401	35,820
Percentage		52.3	23.7	24

The status of coral reefs in many areas has an improving trend, such as coral reefs in many areas of Ko Kood, Trat, Khai Islands, Phang Nga, and Racha Yai Island, Panwa Cape, Mai Ton Island, Phuket Province. In addition to the natural recovery of coral reefs, corals are also planted.



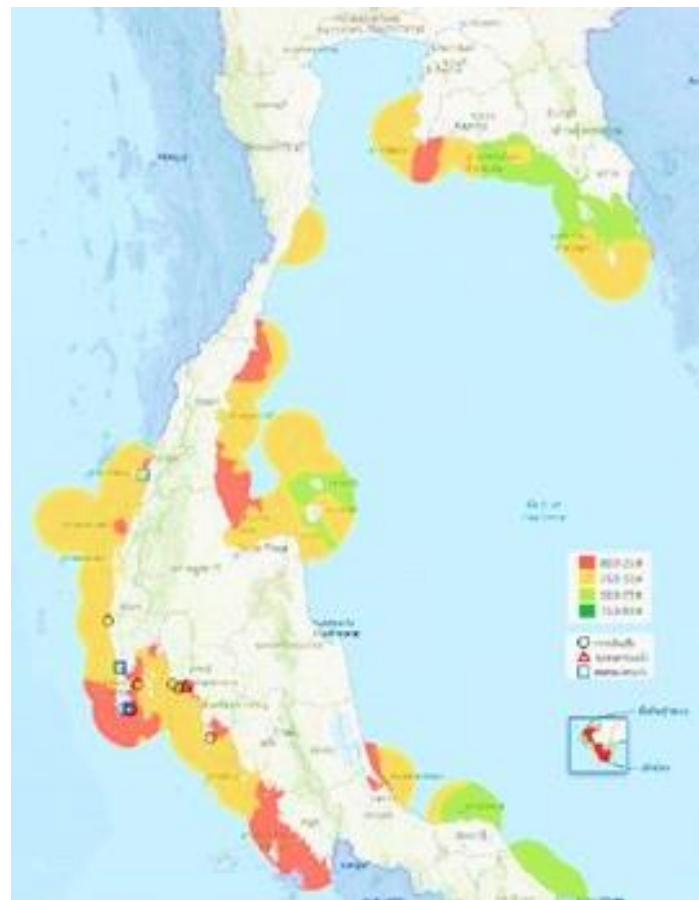
The figure shows the area of coral reefs that have been increased by replanting.

However, the Department of Marine and Coastal Resources has prepared the Thailand Coral Management Action Plan 2022-2026 to monitor the status and guidelines for coral restoration, details are provided in the attachment.

Seagrass

The Department of Marine and Coastal Resources has surveyed and monitored the status of seagrass beds both in the area that is the current source of seagrass, in the year 2021, the report found that seagrass has a total area of 99,325 rai, representing 62% of the potential area as a source of seagrass of the country (160,628 rai), covering 17 coastal provinces consisting of 11 Gulf of Thailand provinces, namely Trat, Chanthaburi, Rayong, Chonburi, Prachuap Khiri Khan, Chumphon, Surat Thani, Nakhon Si Thammarat, Songkhla, Pattani Province, and Narathiwat Province and the Andaman Sea, 6 provinces are Ranong, Phang Nga, Phuket, Krabi, Trang, and Satun.

Overall seagrass fields of Thailand were found to be in very healthy condition at 28%, moderately healthy at 52%, and slightly healthy at 20%.



Map showing the status of seagrass beds in Thai waters in 2021.

The study of aquatic animals in seagrass in 10 provinces were Trat, Chanthaburi, Rayong, Chonburi, Prachuap Khiri Khan, Rat Thani, Pattani, Krabi, Trang, and Satun. Fishes is the group with the highest species diversity. The most common and abundant aquatic species are triggerfish (*Monacanthus chinensis*), the spotted guinea fowl (*Pelates quadrilineatus*), the white-spotted gourami (*Siganus canaliculatus*), the bicolor wrasse (*Halichoeres bicolor*), and the mollusk (*Strombus canarium*). Most marine species are immature, which indicates the importance of seagrass beds in terms of nursery and habitat for young aquatic animals.

Mangrove

Mangrove forests are distributed in 24 coastal provinces, with the central region bordering the coasts of Samut Prakan, Bangkok, Samut Sakhon, Samut Songkhram, Phetchaburi, and Prachuap Khiri Khan. The eastern part is spread along the coast of Chonburi, Rayong, Chanthaburi, Trat, and Chachoengsao. The southern part is mostly found in Ranong, Phang Nga, Phuket, Krabi, Trang, and Satun. The eastern coast or Gulf of Thailand is found in Chumphon, Surat Thani, Nakhon Si Thammarat, Songkhla, Phatthalung, Pattani, and Narathiwat.

The latest information from the Department of Marine and Coastal Resources in 2018 found that there was a total mangrove forest area of 2.86 million rai, with a total of 1,538,185 rai of mangrove forest remaining intact and 8,811 rai of mangrove forest reclaimed.

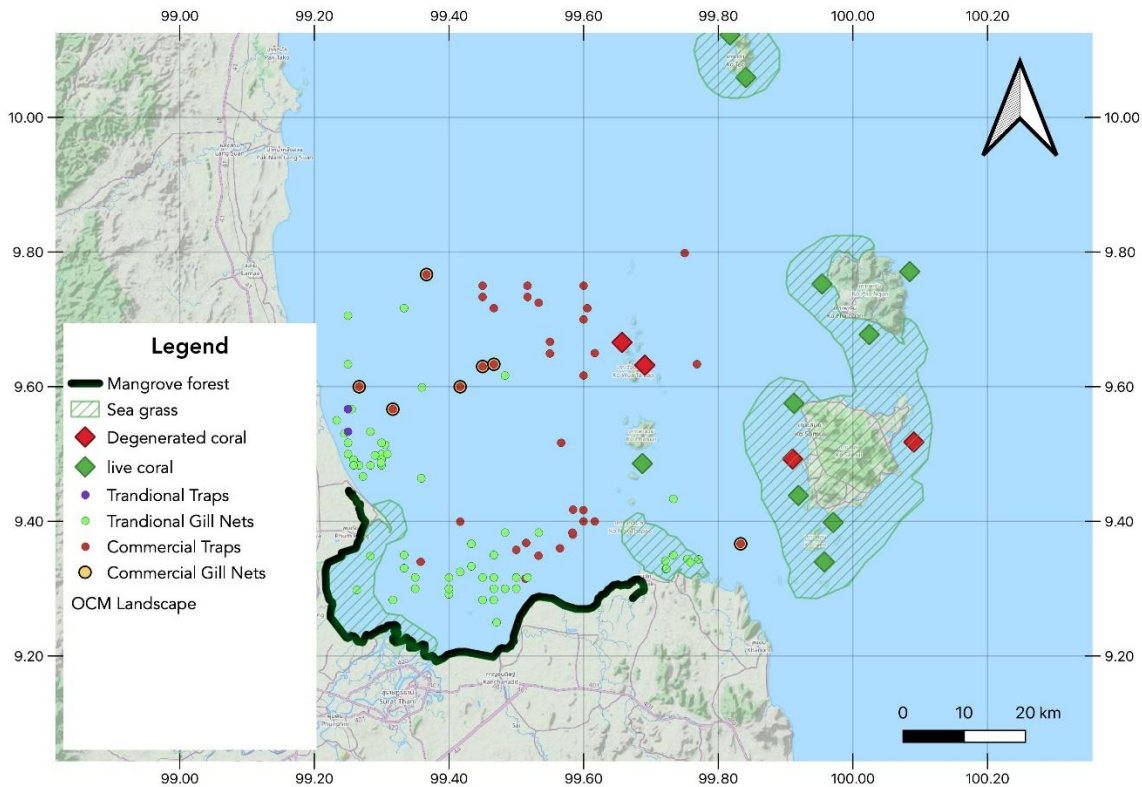
Mangrove areas tend to increase and improve their status. In addition, when considering only the preserved mangrove forest area, which is a protected mangrove forest, it was found that there was a tendency to increase and to have a better status as well.

The Department of Marine and Coastal Resources has created a mangrove forest conservation project in the provinces with mangrove forests and has included this project in the master plan of the Department of Marine and Coastal Resources and regular progress reports are required. every year.

2. Effects of fisheries on habitats

For the 2021 review, the impact of the three vessels sizes (small, medium, and large) for both gear type on habitats was provided in the updated 2021 report. Small and medium-scale crab trap vessels did not show any overlap with mangroves, coral reefs or seagrass beds in Surat Thani and therefore are unlikely to have a significant impact on these vulnerable habitats. For small and medium-scale gillnets the fishing grounds again do not show any overlap with mangroves, coral reefs or seagrass beds and therefore are unlikely to have a significant impact on these vulnerable habitats. The DoF could not identify the fishing grounds for large-scale trap or gillnet vessels which means that impact could not be determined.

Recently, the Department of Fisheries has surveyed the fishing grounds of commercial fishing vessels both crab traps and crab gill nets. The fishing area of a commercial fishing vessel does not overlap the area of vulnerable habitat (As map below)



Map showing BSC commercial fishing areas and habitats.

3. Impact of ghost gear on habitat

According to the study of ghost fishing (milestone 59), it was found that crab traps and crab gill nets had minimal impact on sensitive ecosystems such as seagrass sources, coral reefs, and mangrove forests. Because the area is not close to the source of blue swimming crab fishing. Especially along the mangrove forest which is located along the coast from Don Sak District to Chaiya District. There is very little chance that the fishing gear of trap will reach the mangrove forest line except for the monsoon wind that blows through, there are large waves of 2-4 meters or the event of a storm hitting the coast of Surat Thani province, this may cause fishing gear, especially crab gill nets, to float to the roots of mangroves or Samae trees. In the areas of seagrass source and coral reefs, there was also a small impact. According to survey data on marine waste collection by the Department of Marine and Coastal Resources and the Department of Fisheries. It was found that marine debris from ghost fishing, especially crab traps and crab gill nets, was very low which many areas have not reported such types of fishing gear.

Moreover, from scuba diving to explore nearby vulnerable areas such as seagrass and coral reefs, the fishing gear from the experimental was not found in that area.

At present, the sensitive area and a nursery for young aquatic animals such as coral reefs, seagrass sources will be declared a conservation area by the Department of Fisheries and the Department of Marine and Coastal Resources and will be inspected and monitored regularly. As asked for cooperation from fishermen not to do fishing in the area such as Koh Tha Rai which is connect to Don Sak District that is a large source of seagrass, covering an area of 88 rai (<https://www.dmcg.go.th/detailAll/48258/nws/22>) by the Department of Marine and Coastal Resources has set up a line of buoys to form the boundary of seagrass sources to prevent fishermen from fishing in the area and there are also inspections Recover any loose fishing gear in the area. In addition, marine protected areas have been designated, especially in areas with healthy coral reefs, according to Section 20 of the Marine and Coastal Resources Management Promotion Act, B.E. 2558. An order has been issued to determine the protection of coral resources in underwater rock mounds in 6 provinces, 17 areas. The area of Ban Don Bay is also included in the Kanthuli mound, Tha Chana District, Surat Thani Province by prohibiting any person to fishing, trap, and all kinds of nets in the coral reef area. At present, there are government organizations to monitor and inspect, especially in sensitive areas, to prevent illegal fishing as well as there are marine waste management, including fishing gear that has been released from fishing, cleaning coral reefs, collecting marine debris on important occasions such as World Oceans Day, World Environment Day, Mother's Day, and Father's Day, etc.

Reference

<https://edailyreport.dmcg.go.th/home?section=map>

Asst Prof.Dr. Sontaya Koolkalya, Impact of ghost gear on the fishery from trap and gillnets.

Research report. Agricultural Research Development Agency (Public Organization).