

# MONITORING OF SEA TURTLE NESTING ACTIVITY ON SANDING ISLAND AND THE SURVEY OF TURTLE USE AND TRADE

FIELD REPORT 31.5. - 13.6. 2021

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A juvenile hawksbill turtle (*Eretmochelys imbricata*) that was caught by a fisherman from Mentawai archipelago.

## MONITORING OF NESTING ACTIVITY

The team from the Conservation and research department of Liberec Zoo (Pavel Zoubek, Adela Hemelikova) together with Indonesian field assistants (Stefanus Satoto, Ilham Nas) conducted monitoring of sea turtle nesting activity and assessment of human-threats to sea turtles in Sanding islands in, South Pagai, Mentawai archipelago, Indonesia. Czech-Indonesian team was accompanied by two local community members (Putra, Basilius Wagiman) to ensure a safe and smooth stay in the area.

Sanding islands consist of two islets - Sanding besar (-3.478363, 100.649670) is partly inhabited by fishermen who stay in the area for up to 2 months while Sanding kecil (-3.454540, 100.679539) is uninhabited and much smaller island where sea turtles nest. Fishermen who stay in the area are from different parts of Sumatra as Sanding islands are located on the border of Western Sumatra Province and Bengkulu Province. Also, fishermen from Nias and Sibolga (North Sumatra Province) occur in the area.



Top right: It takes approximately 6 hours to get to Sanding island from Sikakap port. Bottom left: When we arrived to Sanding Besar island, a fisherman was keeping a hawksbill turtle. After the examination and measurement, we have released the turtle back to the sea. Bottom right: An important part of our stay in the field were interviews with fishermen and questionnaire surveys as well as awareness raising and education about sea ecosystem.

## MONITORING OF NESTING ACTIVITY

During the 10 days stay in the field (31.5. - 9.6.2021) in total 9 individuals come to lay eggs on the beach of Sanding kecil. Eight of the individuals were hawksbill turtles (*Eretmochelys imbricata*) and one individual was leatherback turtle (*Dermochelys coriacea*). Only 5 individuals successfully laid eggs. Each individual conducted 2 up to 3 nesting attempts before laying eggs. The potentially higher rate of failed nesting attempts is caused mainly by erosion and abrasion, and high overgrowth of shrubs and trees. One hawksbill turtle had to be rescued when stuck in the shrubs and roots and could not move forward. All 5 nests (in total 517 eggs, average 103,4 eggs per nest) were relocated to a safer part of the beach to ensure that the eggs will safely develop and hatch after incubation.

In general, all sea turtles were in a good health condition, no tumors, scars or boat strikes had been observed. Six hawksbills had a few barnacles on the carapace with one hawksbill turtle having a barnacle on the top of its head. The average curved carapace length of observed hawksbill turtles was 73,4 cm (max CCL 85 cm, min CCL 65 cm). Also, all individuals came to the beach during high tide.



Top left: One of the hawksbills that came to nest on the beach of Sanding Kecil. Top right: A hawksbill turtle that got stuck in shrubs and roots during its nesting attempt. The turtle had to be cut out from the shrubs and then released back to the sea. Bottom left: Each turtle that came to the beach was measured on its way back to the sea. Bottom right: Each turtle nest was relocated to the more safe part of the beach.

## QUESTIONNAIRE SURVEY AND INTERVIEWS

Local fishermen were interviewed to get more information regarding the situation with sea turtles and their poaching. During the short visit to Sanding besar one fisherman was keeping a juvenile hawksbill turtle (CCL 50cm) that he planned to eat. After a talk with the fisherman, the turtle was released back to the sea. Unfortunately, we were informed by a local informant that during our stay on Sanding kecil, three other turtles (two hawksbills, one leatherback) were caught by other fishermen and eaten. As most of the local fishermen are Christians, turtle meat is for them a delicacy and when they have opportunity they seek for sea turtles to get meat. Turtle eggs are widely consumed by all fishermen. High turtle poaching rate was also confirmed during the first day of our stay in Sanding kecil where all nests were poached. Fishermen also admitted that they use tortoiseshell to create bracelets, rings, and other decorative products that they take home for their families. The fishermen describe two ways of removing the tortoiseshell - using a hot water and then peel the scutes (usually done by fishermen from Sibolga, North Sumatra Province, and Sipora, the north of Mentawai archipelago), or using a fire to remove the scutes (fishermen from Pagai islands, the south of Mentawai archipelago). The turtle can be either alive or dead during the process of removing the scutes - a turtle that is to be consumed is usually dead when removing the scutes while a turtle that is not to be consumed is thrown back to the sea. Fishermen claimed that all scutes are used. It is also interesting that one fisherman from Bengkulu reported that they sometimes catch a turtle with a metal tag on the flip.

Four community members were interviewed in Bungorayo village. Two men in the village specialize in sea turtle catch. During the interviews they reported that on average they catch up to 50 sea turtles per year which is much lower compared to 25 years ago when they started to catch turtles (they reported up to 100 turtles per year). Both of them also reported that it is now more difficult to catch turtles (they have to go farther) and that the turtles are smaller in size. Other local fishermen stated that when they catch turtles as by-catch in the net, they keep them. Also, some fishermen are coming to Sanding kecil or Satan island during night and encounter a turtle when it attempts to nest and then catch it. According to community members, neither turtles or their parts are traded out of the area and are only consumed in the local villages. Also, all respondents agreed that the consumption of sea turtles and their parts is not part of any special occasions but rather a part of a regular diet.

After the 10 days stay in Sanding kecil island, we spent additional three days in Sikakap which is a small port town in Pagai island, Mentawai archipelago. Sikakap used to be one of the centres in Mentawai islands for tortoiseshell trade, and tortoiseshell jewelry was highly-demanded souvenirs. Nowadays, tortoiseshell is still being processed, however, only on small-scale and products are not being sold on the open market.



Left: Releasing the caught hawksbill turtle back to the sea. Right: A harpoon is one of the tools that is used to catch the sea turtles - a fisherman is waiting on the boat and waiting for a turtle to come to the surface to take a breathe

In conclusion, turtle use in the area of South Pagai is high and all turtle parts are being used. Turtle products are mainly for private consumption or given e.g. to family members, trade in turtles is only limited. However, the high consumption of sea turtles by local communities presents a threat to sea turtles with reported high population declines by local people. Sanding kecil island is nesting site for two critically endangered sea turtles - hawksbill turtle (*Eretmochelys imbricata*) and leatherback turtle (*Dermochelys olivacea*). Other sea turtle species inhabit local waters - green turtle (*Chelonia mydas*), olive ridley turtle (*Lepidochelys olivacea*).



Top left: Interviews and questionnaire surveys on turtle use and trade in Bungorayo village. Vlevo nahoře: Rozhovory a dotazníkové šetření mezi místními rybáři bylo důležitou součástí cesty, sbírali jsme především informace o lovu želv a jejich spotřebě. Top right: A hawksbill turtle track on the beach. Left: Abrasion and erosion on nesting beach are making nesting more difficult. In the middle: During relocation, turtle eggs were measured and deformations and other anomalies were monitored. Right in the middle: A hawkbill turtle's eggs during relocation. Bottom right: Indonesian part of the team is relocating eggs from the nest.



Czech-Indonesian team on Sanding kecil island (from left: Adela Hemelikova, Ilham Nas, Wagiman, Stefanus Sattoton, Jurnal, Putra and Pavel Zoubek).



Thank you for support



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