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The Environment Characteristics Habitat of Sea Tuntong's (*Batagur borneoensis*) on Conservation Areas in Aceh Tamiang Regency's Coastal Waters

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Abstract

One of the endemic turtle conservation areas is the sea turtle conservation area on the coast of Aceh Tamiang Regency, Aceh Province (Batagur borneoensis). This animal is categorized as an endangered animals. The IUCN (International Union for Conservation of Nature and Natural Resources) designated sea turtles as Critically Endangered (CE) in 1996. The distribution of sea turtles is limited because the beach type must be suitable for spawning and survival. The goal of this study was to determine the physical, chemical, and biological characteristics of sea tuntong (Batagur borneonsis) habitat in a conservation area in Aceh Tamiang Regency. In this study, the descriptive method was used. The data collection process was completed. Data was gathered through direct observation in the field. Purposive sampling was used to identify observation stations. There are three research stations: Pusong Kapal (hatching hatchlings), Ujung Tamiang Beach (habitat for adult sea turtles), and Pusung Cium Beach (habitat for sea turtles) (nesting habitat). The study's findings revealed differences in physical, biological, and chemical characteristics at the three stations. It is possible to conclude that the water area off the coast of Aceh Tamiang Regency, Aceh Province, is suitable for sea turtle habitat (Batagur borneoensis)
Keywords: *Biology, chemistry, habitat, physics, sea turtles*

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INTRODUCTION

Sea tuntong (*Batagur borneoensis*), along with *Batagur baska* and *Batagur affinis*, is one of three turtle species found in the mangrove ecosystem. However, *B. borneoensis* is the only species that migrates from fresh water to coastal areas during the nesting season. As a result, its long-term viability is heavily reliant on the preservation of mangrove ecosystems, rivers, and nesting beaches. B. borneoensis was classified as a Vulnerable species (V) from 1982 to 1986, but was later upgraded to Endangered (E) from 1998 to 1994 (Hernawan et al., 2019). The IUCN (International Union for Conservation of Nature and Natural Resources) then listed the sea tuntong as Critically Endangered (CE) in 1996. This is due to a significant population decline that has reached 80% in 10 years, or three generations. Sea tuntong have been included in CITES Appendix II (Convention on International Trade in Endangered Species of Wild Fauna and Flora) since 1997 (Hernawan et al., 2018).

These animals are only found along the coast, particularly in the lowlands of rivers with mangroves. Furthermore, the salinity and availability of *Sonneratia* sp., the primary food source for *B. borneoensis*, influence their presence. *B. borneoensis* is most commonly found in rivers with a salinity of 0 and within 2.1 miles of a nesting beach. In Southeast Asia, sea tuntong can be found in the southern regions of Thailand, Indonesia, Malaysia, and Brunei. This species is only found in Sumatra and Kalimantan in Indonesia. It can be found on Sumatra's east coast, including Aceh Tamiang District (Aceh), Langkat Regency (North Sumatra), and Riau. It can be found on both the west and south coasts of Kalimantan. Only Aceh has a relatively complete report on B. borneoensis habitat in Indonesia. Aceh has three main nesting beaches: Pusong Cium, Kuala Genting, and Kuala Berango (Hernawan et al., 2019) .

Through District Head Decree Number 63 of 2014 and Aceh Tamiang Regent Regulation Number 2 of 2014 concerning the Protection and Preservation of Sea Tuntong as Protected Animals in Aceh Tamiang District (Syaputri, 2022) . Aceh Tamiang District Government has designated sea tuntong (*Batagur borneoensis*) as protected animals. According to Aceh District Qanun Number 3 of 2016, the sea turtle protected area is organized into three categories: protection, limited activity, and utilization. The protection zone is used for sea tuntong species rehabilitation, quarantine, breeding, and adaptation. The restricted activity zone is used for limited educational activities and research that does not affect the physical condition of the area. While the utilization zone is intended for eco-tourism, general education, and research.

The freshwater and brackish water habitats of the sea tuntong (*Batagur borneoensis*). Females will swim out of river mouths during spawning season to lay their eggs on sandy beaches. This study focuses on the coastal waters of Aceh Tamiang Regency, specifically the estuary river area in Pusong Kapal Village, Ujung Tamiang Beach, and Pusong Cium Beach. The Pusong Kapal Village estuary river is a river area located behind the tuntong information house. The hatchlings are raised in this house before being released. Sometimes hatchlings escape from their rearing grounds and end up in river waters. This demonstrates that river waters are a safe haven for hatchlings and tuntong. Meanwhile, hatchlings are typically released on the outskirts of Ujung Tamiang Beach. Meanwhile, sea turtle nesting grounds are typically found on Pusong Cium Beach. Of course, the tuntong chooses its habitat because physical, chemical, and biological factors all affect the tuntong's survival (Setyoko et al., 2019)

METHOD

The descriptive qualitative method was used in this study. Direct observation in the field is used to collect data. Purposive sampling was used to identify observation stations. The Pusong Kapal area, Ujung Tamiang Beach area, and Pusung Cium area all have research stations. The Pusong Kapal area is in the estuary and serves as a breeding ground for hatchlings before they are released when they are ready, but the hatchlings occasionally crawl out into the estuary river. Because there are plants as food sources, Ujung Tamiang Beach is a tuntong area in search of food. Meanwhile, Pusung Cium is a tuntong nesting site.

Biological Factors in Habitat

The cruising method is used for collecting coastal plants, with quadrant transects at each station determined by a spot check (Djamaluddin & Djabar, 2022). The presence of plankton is determined by taking water samples at each predetermined station using a 5 l bucket and filtering it vertically with a plankton net (repeated 5 times at each observation point), then transferring the water contained in the plankton net bucket into a bottle sample and adding 3 drops of Lugol's solution before closing and storing in a black plastic polybag. Water samples were transported to the Ocean University Laboratory, where they were identified using a microscope and a plankton identification guide.

Variables Affect Habitat Physics

The lux meter is a device used to measure the intensity of sunlight (Aulia & Sudibyo, 2021). A rod therometer was used to measure the temperatures of the air, substrate, and water. The thermometer's mercury will rise or fall, indicating the magnitude of the temperature scale (Taher *et al* ., 2021). Substrate humidity is measured with a soil meter by digging approximately 20-30 cm into the substrate (Syaputra *et al*., 2020). Nest sand samples were collected at random from each station and placed in plastic bags. To taste, samples were taken at a depth of 30 cm with a small spade. A mesh is used to determine the grain size of sand (Rachman, 2021) . The width of the beach is measured from the highest tide to the farthest vegetation, using a meter roll for supratidal width. The intertidal width is measured from the highest tide to the lowest tide. The length of a beach is calculated by following the coastline (OM *et al*., 2020) .

Chemical Factors in Habitat

(Hamuna *et al*., 2018) The pH of the water is measured in situ with a pH meter by collecting water in a bucket, dipping the pH meter into the water, and recording the results. While testing the pH of the substrate, use a soil tester by inserting the tool to the limit, pressing the button, and recording the results. A DO meter was used to measure dissolved oxygen (DO) in the field. Laboratory test analysis techniques were used to obtain the BOD5 value (Mardhia & Abdullah, 2018) . TDS levels were determined in situ using a conductivity meter (Artidarma et al., 2021) . An in-situ refractometer was used to determine the salinity of the water. The water sample is dripped into the refractometer sensor area with a pipette, and the salinity number is read (Purwanto *et al*., 2022) .

RESULTS AND DISCUSSION

Results

Three research stations were visited and observations were made. Station 1 is Pusungkapal, which has both a conservation house and a hatchling hatchery. Where can I find baby sea tuntong (*Batagur borneoensis*). Station 2 is Ujung Tamiang Beach, which is a feeding ground for sea turtles. Station 3 is Pusung Cium Beach, which is a good place for sea turtles to nest because it is quieter and farther away from humans. Furthermore, the physical, chemical, and biological characteristics of Pusung Cium Beach are more conducive to spawning. The results of observations at these three stations are shown in the table 1.

Table 1. Physical and Chemical Factors of Observe Stations

No	Parameter	Unit	Observation Station		
			1	2	3
1	Substrate type		Mud	Sand	Sand
2	Substrate temperature	°C	29	30	31
3	Water temperature	°C	30,3	30,1	30
4	Air temperature	°C	30	28,3	30,76
5	Substrate moisture		46	50	56,66
6	Light intensity	C	600.33	700.75	780.66
7	water pH		5,4	8.55	7,8
8	substrate pH		6	6,1	8,66
9	Dissolved oxygen		5	5,5	6,8
10	BOD_5		0.5	0.7	0.8
11	TDS		0.21	0.524	1,961
12	Salinity	‰	0	22	25

Station Description: 1. Pusung Kapal; 2. Ujung Tamiang; 3. Pusung Cium

The differences in physical-chemical factors at the three stations are shown in table 1. Although the differences are not particularly noticeable because all three must conform to the tolerance limits of sea turtles in order to live. At station 1, the substrate is finer than at stations 2 and 3. This substrate has a significant impact on the process of locating food and storing sea tuntong eggs (*Batagur borneoensis*). The temperatures of the substrate, water, and air at the three stations are nearly identical. The pH of the water at station 1 is lower than at stations 2 and 3, owing to differences in water conditions. Stations 2 and 3 share many physical-chemical characteristics in general because they are both beaches, whereas station 1 is an estuary river.

Table 2 . Observation Site Data on Coastal Plant Types

Latin name	family	Observation			Category
		1	2	3	
Acanthus ilicifolus	Acanthaceae	√			Bush
Avicennia alba	Avicenaceae	√	√	√	Stake, pole, tree
A. marina	Avicenaceae	√	√	√	Stake, pole, tree
Bruguiera gimnorhiza	Rhizophoraceae	√	√	√	Stake, pole, tree
B. sexangular	Rhizophoraceae	√	√	√	Stake, pole, tree

Casuarina equisetifolia	Casuarinaceae		√	√	Stake, pole, tree
Ceriops decandra	Rhizophoraceae	√	√	√	Stake, pole, tree
C. tag	Rhizophoraceae	√	√	√	Stake, pole, tree
Excoecaria agallocha	Euphorbiaceae		√	√	Stake, pole, tree
Nypa fruticans	Arecaceae	√			Stake, pole, tree
Rhizophora apiculate	Rhizophoraceae	√	√	√	Stake, pole, tree
R. mucronate	Rhizophoraceae	√	√	√	Stake, pole, tree
R. stylosa	Rhizophoraceae	√	√	√	Stake, pole, tree
Sonneratia alba	Sonneratiaceae	√	√	√	Stake, pole, tree
S.caseolaris	Sonneratiaceae	√	√	√	Stake, pole, tree

Station Description: 1. Pusung Kapal; 2. Ujung Tamiang; 3. Pusung Cium

Table 2 describe that the types of coastal plants differ between the three observation stations. This is because environmental differences affect the carrying capacity of these plants' growth. The characteristics of the water and soil have a large impact on the types of plants found in this area. This plant also has an impact on the behavior of the sea tuntong (*Batagur borneoensis*), such as its diet and where it rests under certain plant species.

Table 3 . Diversity of Plankton at Observation Locations

Latin name	**family**	**Observation**			**Information**
		1	**2**	**3**	
Acartia clausi	Copepods		√	√	Bush
Balanus	Copepods			√	Stake, pole, tree
bosmina	Cladocera	√			Stake, pole, tree
Brachionus	Rotifers	√			Stake, pole, tree
Cyclops	Copepods	√			Stake, pole, tree
Diacyclops	Copepods	√			Stake, pole, tree
Eurytemora	Copepods		√	√	Stake, pole, tree
Kerala	Rotifers	√			Stake, pole, tree
Microcalanus	Copepods		√	√	Stake, pole, tree
Moina	Copepods	√			Stake, pole, tree
Nothoica	Copepods	√			Stake, pole, tree
Paramaecium	ciliates	√			Stake, pole, tree
Paracalanus aculeatus	Paracalanidae		√	√	Stake, pole, tree
Paracyclops	Copepods	√			Stake, pole, tree
Platynereis dumerili	Annelids		√		Stake, pole, tree
Pseudacalanus	Copepods		√	√	
Asterionella	Bacillariophyceae	√			
ceratium	Dinophyceae	√	√	√	
Chaetoceros	Bacillariophyceae	√			
Chorella	Chlorophyceae	√			
Closteropsis	Chlorophyceae	√			
Closterium	Chlorophyceae	√	√	√	
Coscinodiscus	Coscinadeceae	√			
Dinopodiella	Dinophyceae	√			

Euglena	Dinophyceae	√	√	√
Fragillaria	Dinophyceae	√		
Navicula	Bacillariophyceae	√	√	√
Nitzschia	Bacillariophyceae	√		
Odontella	Bacillariophyceae		√	√
Oscilatoria	Chlorophyceae		√	√
Peridinium	Dinophyceae		√	√
Pinnularia	Bacillariophyceae	√	√	√
Pediastrum	Chlorophyceae	√		
Pleurosigma	Bacillariophyceae		√	√
Rhizosolenia	Bacillariophyceae		√	√
Stentor	Dinophyceae		√	√
Tablelaria	Bacillariophyceae	√	√	√
Ulothrix	Chlorophyceae	√		

Station Description: 1. Pusung Kapal; 2. Ujung Tamiang; 3. Pusung Cium

Table 3 shows that there are various types of plankton at the three observation stations, including phytoplankton and zooplankton. These plankton have an impact on the physical and chemical properties of water. Plankton metabolism, for example, affects DO and COD values and is reflected in water turbidity. The presence of this plankton may also serve as a natural food source for sea tuntong (*Batagur borneoensis*).

Discussion

Factors of Physicochemistry

Observations showed differences in the physical characteristics of the sea tuntong (*Batagur borneoensis*) habitat at three different stations. The type of substrate, substrate temperature, water temperature, air temperature, substrate humidity, light intensity, beach slope, water pH, substrate pH, dissolved oxygen, BOD5, TDS, and salinity are all examples of differences. The humidity of the substrate, light intensity, water pH, substrate pH, TDS value, and salinity are the most noticeable differences.

According to Table 1, the substrate at Station 1 is sandy mud, while the other two stations are sand. Because Station 1 is an estuary river in Pusung Kapal Village, the substrate is smoother than at Stations 2 and 3, which are beaches where sea tuntong find food and lay their eggs. Because water does not retain much on a sand-type substrate, sea tuntong prefer the sand structure at Ujung Tamiang Beach and Pusong Cium Beach, which can prevent nests from stagnant water. The type of sand also has a significant impact on sea tuntong nesting because if the sand is too coarse, the tuntong broodstock will have difficulty digging nests, whereas if it is fine, it will easily slide. Furthermore, the type of substrate influences the ability to maintain temperature. Sand with fine to medium particle sizes is better at keeping the nest temperature warm, making it ideal for embryo development (Rachman, 2021) .

According to Table 1, the air temperature in the tuntong habitat ranges between 28.3 and 30.76o C. The temperature of the substrate will be affected by the air temperature. The substrate of the sea tuntong habitat ranges in temperature from 29o C to 31o C. Because heat is absorbed and propagated to deeper parts of the substrate, this temperature range is influenced by the intensity of light received on the surface of the substrate. The temperature of the substrate has a significant impact on the hatching of tuntong eggs. During the incubation period, the embryo's temperature should be between 25-27 o C and 33-35 o C. A temperature change of 1 o C in the 26-32 o C range can increase or decrease the incubation period by 5 days (Setiawan et al., 2022) .

According to field data, the water temperature in the sea tuntong habitat ranges between 30 and 30.3 degrees Celsius. There is no temperature standard for seawater quality, according to Minister of State for the Environment Decree No. 51 of 2004. Temperature varies all the time because it is natural. Nonetheless. (Hamuna *et al*., 2018) stated that water temperature is a critical factor in the survival of marine biota such as tuntong. Latitude, season, time of day, air circulation, cloud cover, and water flow and depth all influence water temperature. The decomposition of organic matter by microbes accelerates as temperature rises. Surface temperature changes can have an impact on physical, chemical, and biological processes in these waters.

According to field data, the substrate humidity in sea tuntong habitat ranges from 46 to 56.66. This humidity has a big impact on the development of hatchling embryos in eggs. If the substrate is too moist, mold can grow on the egg shell, allowing pathogenic bacteria to enter the egg and kill the developing embryo. The low humidity of the substrate can cause liquid to leak from the eggs, causing hatchlings to struggle and run out of energy to open their shells (O *et al* ., 2020) .

According to Table 1, the light intensity in the sea tuntong habitat ranged from 600.33-780.66 C. The density of vegetation at the location influenced the value of this light intensity. The less light intensity it will consume, the denser the vegetation. The vegetation is denser at Station I than at the other two stations. There are more trees on the banks of the Pusung Kapal river than on Ujung Tamiang and Pusung Cium beaches. Light intensity, which is blocked by coastal vegetation (Rachman, 2021) ,can protect nests from extreme temperature changes. It has previously been discussed how this temperature condition affects embryo development. Pusung Cium Beach has a higher light intensity than Ujung Tamiang Beach, according to research. Tuntong, on the other hand, prefers to lay her eggs on Pusong Cium Beach because the beach there is more sloping. Furthermore, due to its popularity as a tourist destination, Ujung Tamiang Beach is more frequently visited by humans. Tuntong prefers quiet places to lay its eggs, even landing at night.

According to Table 1, the pH of the water at Station I is 5.4. This means that the water at this location is acidic. Whereas at stations II and III, the pH is 8.55 and 7.8, respectively, indicating that it meets the seawater quality standards for marine biota established by Minister of Environment Decree No. 51 of 2004, namely 7-8.5 (Hamuna *et al* ., 2018) . As the name implies, sea tuntong are more prevalent in sea water than in river water, which has a lower pH. However, during the hatchling phase, the hatchlings are raised in fresh water.

Table 1 also shows that the pH of the substrate ranges between 6 and 8.66, indicating that it is neutral. When building a nest, Tuntong will choose a beach with a neutral pH because at an acidic pH, several toxic elements are found due to the increased solubility of Fe and Mn elements in large quantities. Sand with an alkaline pH causes the nest to contain a lot of water, making the nest moist, which can damage the eggs and cause them to hatch (Rachman, 2021) .

From Table 1 it is found that the DO value in the water which is the habitat of tuntong, ranges from 5-6.8 mg/L. This value meets the seawater quality standard No. 51 of 2004 for marine life with a DO> 5 mg/L (Hamuna *et al* ., 2018) . This means that the water in the sea turtle habitat is still suitable for marine biota. Dissolved oxygen (DO) is the main component that affects the metabolism of aquatic biota. This DO value can decrease due to water pollution, because it reduces the productivity of phytoplankton to produce oxygen. DO values are also affected by temperature, salinity, and altitude. If the temperature, salinity, and altitude increase, the DO decreases. The DO value is also fluctuating, changing every day depending on the turbulence of water masses, photosynthetic activity, and the mixing of water from tributaries. The DO standard for marine life is >5mg/ltr.

According to Table 1, the BOD5 value in these waters ranges from 0.5 to 0.8. This value is quite good because it is still far below the recommended maximum BOD5 standard for marine biota, which is a maximum of 20 mg/L according to Minister of Environment Decree No. 21 of 2004. Under aerobic conditions, a BOD value of 5 indicates the amount of dissolved oxygen required by microorganisms to break down or decompose organic matter (Hamuna *et al*., 2018) . The BOD5 (Biochemical Oxygen Demand) value indicates the amount of pollutants in water that are affected by human activities such as nearby industrial waste dumping. Because the DO value decreases after being used by microorganisms to decompose organic matter, the BOD 5 value is affected by the organic components in the area. Table 1 also shows that the TDS values at stations I, II, and III increase sequentially. The amount of solids dissolved in water is measured as total dissolved solids (TDS). The TDS value influences light penetration into water. When TDS levels are high, sunlight penetrates the water less effectively, reducing productivity. The TDS value is not included in the Ministry of Environment's water quality parameters for marine biota.

The fact that the salinity at station I is 0 indicates that the water is fresh. Stations II and II have salinity values of 22 and 25, respectively. This demonstrates that the tuntong can live in both fresh and salt water, with a salinity tolerance. Sea tuntong (*Batagur borneoensis*) are raised in fresh water as hatchlings, but are released into the sea as adults in salt water. Because of the fresh water supply from the Pusung Kapal river, which empties into the Ujung Tamiang sea, the salinity value in these waters is not too high. Pusong Cium has a higher salinity value because it is farther from the river. According to the seawater quality standards in Kepmen LH No. 21 of 2004, this salinity value is less than optimal for the growth of marine biota such as corals, sea grasses, and mangroves. A salinity value of 28-32 is required for optimal survival of the three types of biota (Hamuna *et al* ., 2018) .

Factors of Biology

According to Table 2, there are 15 plant species along the habitat of sea tuntong (*Batagur borneoensis*). Each study station contained Avicenniaceae, Rhizophoraceae, and Sonneratiaceae. This is most likely due to the three families' ability to grow on a variety of substrates and have a high tolerance for environmental conditions. *Rhizophora apiculata* has a root that sticks firmly into the soil and many air-breathing branches. Meanwhile, because Sonneratia alba has a large number of seeds and a greater ability to live, it influences dominance over a larger area. The natural dispersal of *Sonneratia* sp seeds is also enabled by sea tuntong (Hernawan *et al* ., 2018). *Sonneratia* sp., also known as Brembang in Indonesia, is one of the tuntong's food sources.

Acanthus ilicifolus and *Nypa fruticans* were discovered only at Station I. The stalk of *Acanthus ilicifolus* has two thorny leaf wings. The surface of the leaf is smooth, with variable edges that can be zig-zag or serrated. When young, the fruit is bright green and oval in shape, with a smooth, shiny surface. The leaf arrangement of *Nypa fruticans* is similar to that of a coconut leaf, with a bunch/peduncle length of 4-9 m. Each leaf bunch contains 100-120 leaflets with lanceolate leaves and pointed tips. Handayani describes the fruit as round, brown, stiff, and fibrous (Handayani, 2018).

Excoecaria agallocha and *Casuarina equisetifolia* were only found at stations I and II. The sea cypress (*Casuarina equisetifolia*) is a coastal plant. With its needle-like leaves, this plant resembles a Christmas tree. Cypress has the ability to resist waves, preventing sand from sliding due to abrasion (Alisani *et al.* , 2022). This function is undoubtedly required by sea tuntong in order to preserve their habitat and ensure the safety of their eggs. *Excoecaria agallocha* has dark green leaves that turn brick red before falling, finely serrated edges, and elliptical leaves with tapered tips. The fruit has three protrusions, is green in color, has a skin-like surface, and contains dark brown seeds with a diameter of 5-7 mm (Handayani, 2018) .

Coastal vegetation also serves as a shade for sea tuntong nests, preventing excessive sunlight from heating the substrate and killing the embryos, as well as a shelter for sea turtles when laying eggs, preventing predator attacks (Syaputra *et al* ., 2020). The presence of the tallest tree will provide a sense of security and will serve as a special indication for turtles to lay their eggs. The spawning beach must be calm, with no storms or strong winds, and it must be dark. These conditions are ideal for turtles to land and lay eggs (Hamino et al., 2021) .

In the Sea Tuntong habitat, 38 plankton species have been identified (*Batagur borneoensis*). There are 17 zooplankton species and 21 phytoplankton species. Copepoda, Cladocera, Rotifera, Ciliata, Paracalanidae, and Annelida are the six families of zooplankton. The Copepoda family dominates and can be found at all stations. Copepods are the main link between phytoplankton and the upper tropic level, the marine food chain, and an important part of the diet of many marine animals (Setiawan *et al* ., 2022) . Copepods have a biochemical contouring, particularly fatty acids, which are consumed and beneficial to fish larvae. It is believed that fish larvae in these waters feed primarily on copepods and other zooplankton. These fish then become tuntong food, and zooplankton is also included as natural tuntong food.

Table 3 also shows that the types of zooplankton at station I are more diverse than at the other two stations. This is due to the fact that station I contains a lot of nutrients that come from the mainland and are widely used by plankton, particularly zooplankton. Many nutrients are carried by river currents to the mouth of the river, which is very beneficial to plankton. These nutrients influence phytoplankton growth; the more nutrients, the better the growth and abundance of phytoplankton. If phytoplankton is abundant, zooplankton will increase as well. Because phytoplankton provides food for zooplankton (Paiki *et al* ., 2018) . These waters are home to four phytoplankton families:

Bacillariophyceae, Dinophyceae, Chlorophyceae, and Coscinadeceae. Bacillariophyceae is the most common. Bacillariophyceae is the most common type of algae found in all bodies of water. This is due to Bacillariophyceae's greater adaptability. Furthermore, the Bacillariophyceae class is a phytoplankton class that shrimp and fish larvae prefer.

CONCLUSION

Based on the findings of the research, it is possible to conclude that stations I, II, and III have physical, biological, and chemical characteristics that make them suitable for sea tuntong habitat (*Batagur borneoensis*). Sea tuntong can tolerate both fresh and salt water with salinities of up to 25, which is an adaptation of sea turtles that migrate frequently. Sea tuntong spend a significant amount of time in the water, both in estuarine rivers like station I and in sea water like stations II and III. When sea tuntong are about to lay eggs, build nests, or look for food, they will land on the coast.

The sea tuntong prefer a sloping beach with a sand substrate that is not too fine. Mangroves dominate the vegetation surrounding the sea turtle habitat. This vegetation serves two purposes: it provides a comfortable environment in the habitat and it serves as a food source for sea turtles. There are several types of plankton in the waters of the sea turtle habitat; these plankton are suspected of being a natural food source for sea turtles, as well as small fish and crustaceans that sea turtles consume.

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