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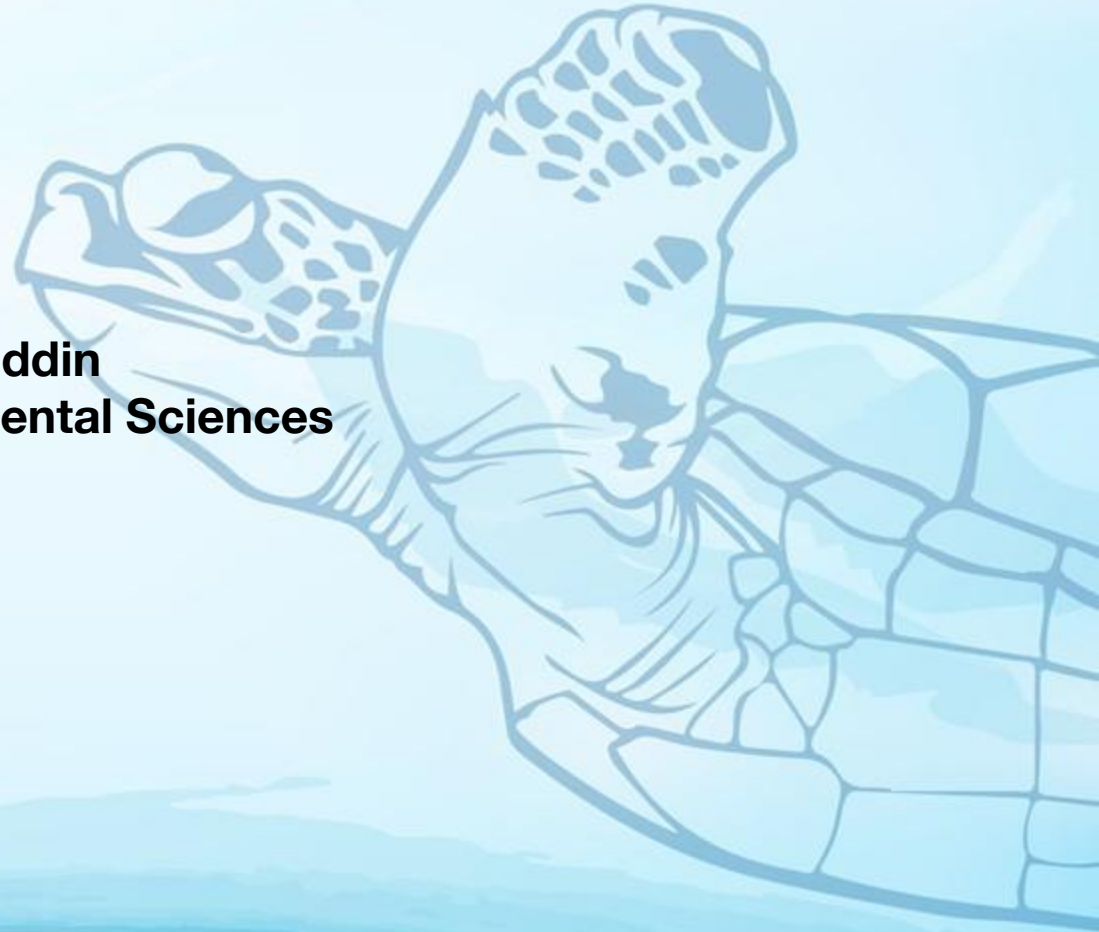
Sea Turtle
Biology & Conservation

UNIVERSITI MALAYSIA TERENGGANU

TOPIC 5
ANTHROPOGENIC THREATS



Presented by:

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Topic Outline

- Direct threats
  - Egg collection & turtle poaching
- Indirect threats
  - Bycatch
  - Ingestion of marine debris
  - Habitat loss
  - Artificial lighting

Egg Collection/Turtle Poaching

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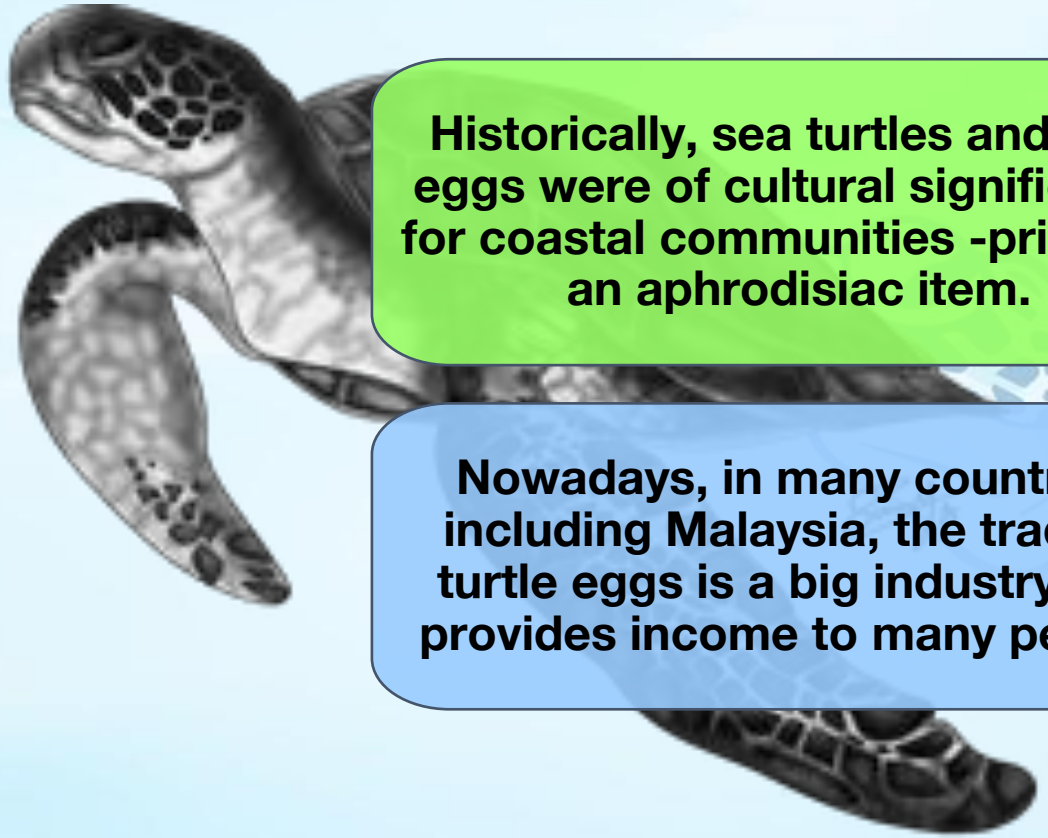
Sea turtles poaching continues to be a threat.
Harvested for their meat and eggs, for human consumption and considered a delicacy.
Harvesting continue even though populations have declined

Photo from SEATRU collection

Egg Collection/Turtle Poaching



Historically, sea turtles and their eggs were of cultural significance for coastal communities -prized as an aphrodisiac item.

Nowadays, in many countries, including Malaysia, the trade in turtle eggs is a big industry that provides income to many people.

In South East Asia

Demand for turtle products remains high with many shops in Hainan Island and Vietnam - selling turtle products openly.

Slaughtered and sold as food, medicine and decorative items.

Image from www.publicdomainpictures.net

In South East Asia

Harvesting turtles from the wild has a devastating effect on the natural population of the turtles

Their shells and skins - used to make jewelry, sunglasses, tourist trinkets, instruments, and wall hangings.

The hawksbill is particularly valued for its shell which is used for ornamental purposes

Image from www.flickr.com/photos/usfwssoutheast/5840602412

In Malaysia

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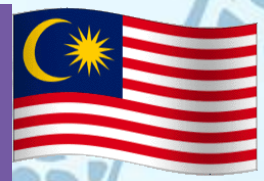
01 Poaching has become a serious threat -usually caught in large numbers, thus drastically reducing the turtle population in Malaysian waters.

02 There has been a subsequent decline of about 38% in the last 10 years, believed to be caused by poaching

03 A fresh sea turtle eggs sold at ±RM5/1EURO per egg - incomes to local people OR the egg collectors.

04 Local and foreign demand promote poaching activities especially during the nesting season.

In Malaysia

05	Many locals have outlawed due to lack of enforcement and communities still continue to poach the eggs.	
06	Between 2004 and 2008, several turtle poaching cases made headlines.	
07	Many locals have outlawed due to lack of enforcement and communities still continue to poach the eggs.	
08	Between 2004 and 2008, several turtle poaching cases made headlines.	

In Malaysia

09

In May 2004, the Malaysian Marine Police arrested 16 fishermen from Hainan Island + 160 dead marine turtles

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In 2005, > 100 marine turtles were seized from a Hainanese trawler - off Labuan.

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In addition, an international turtle poaching syndicate was busted in March, 2007, with nearly 260 protected turtles recovered from a trawler, off Sabah waters.

Bycatch

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01	Turtles are accidentally caught in shrimp trawl, longline hooks and in fishing gillnets every year.
02	Fisheries bycatch = unintended catch of non-targeted species.
03	Incidental capture = is the greatest threat to most sea turtles.
04	For example, shrimp trawlers without turtle excluder devices or TED, trap and drown sea turtles.
05	Trawls that are not outfitted with turtle excluder devices (TEDs) do not allow turtles to escape, which may result in mortality through drowning.

Bycatch

06	Gill nets also snare turtles - many drown once caught OR they were not pulled soon enough for the turtles to breath.
07	Longline gear also hook turtles in the jaw, esophagus, or flippers.
08	Fishing dredges - can crush and entrap turtles, causing death and serious injury.

Ingestion of Marine Debris

Marine debris has numerous effects - particularly the ingestion of marine debris by turtles.

Sea turtles commonly ingest OR become entangled in marine debris as they feed along oceanographic fronts, where debris and their natural food items converge.

Ingestion of Marine Debris

This is especially problematic for turtles that spend all or significant portions of their life cycle in the pelagic environment.

Ingestion of Marine Debris

It is widely assumed - that hatchling turtles spend their "lost years" drifting with sargassum and other sea grasses.

Unfortunately, drifting garbage collects in the same places as the seaweeds do. Young turtles - eat some of this material, with devastating consequences.

Ingested plastic = toxic & obstructs the stomach and prevents the turtle from receiving nutrition from real food.

Habitat Loss

Uncontrolled coastal development, vehicle traffic on beaches and other human activities have destroyed or disturbed sea turtle nesting beaches.

Residential and tourist use of beaches can result in disturbance to nesting turtles. The most serious threat = increased human presence on beaches

This results in nesting females shifting their nesting sites, sometimes being forced to use less suitable beaches. Egg laying can be aborted or delayed as well.

Recreational use may discourages nesting activity on beaches that have been used for millennia. The introduction of lounge chairs, umbrellas, small boats, and beach cycles reduce the usefulness of a beach for nesting, and damage or destroy any existing nests.

Beach armouring - save structures and property from erosion, but can impede a turtle's access to upper regions of the beach, thereby limiting amount of available nesting habitat.

Beach erosion of nesting beaches = loss of nesting habitat. Human interference has hastened erosion in many places

Marine turtles have an extremely high affinity for their nesting beaches, therefore the loss or reduction of even a single nesting beach can have serious effects

Turtle feeding grounds are also damaged and destroyed by activities onshore - sedimentation and nutrient run-off

Environmental contamination - increased under water noise and boat traffic can degrade marine habitats used by sea turtles.

The development of marinas and docks in inshore waters can negatively impact near shore habitats - Discharge oil, gas, and sewage into estuarine and coastal habitats.

Increase number of docks built may increase boat and vessel traffic.
Turtles swimming or feeding at or just beneath the surface of the water = serious propeller injuries and death.

Artificial Lighting

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Artificial lighting on or near the beach adversely affects both nesting and hatchling sea turtles.

Hatchlings have a tendency to orient toward the brightest direction = the broad open horizon of the sea.

Artificial lighting may deter adult female turtles to nest where beachfront lighting is most intense.

Turtles also abort nesting attempts more often in lighted areas.

Artificial lighting has had profound negative effects on nesting behaviour and success.

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THANK YOU

Terima kasih