

Sea Turtle Strandings

Introduction

What is an animal stranding?

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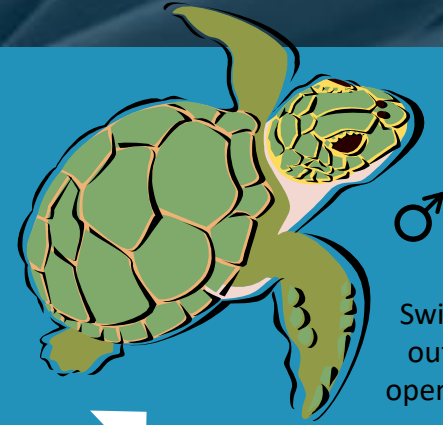
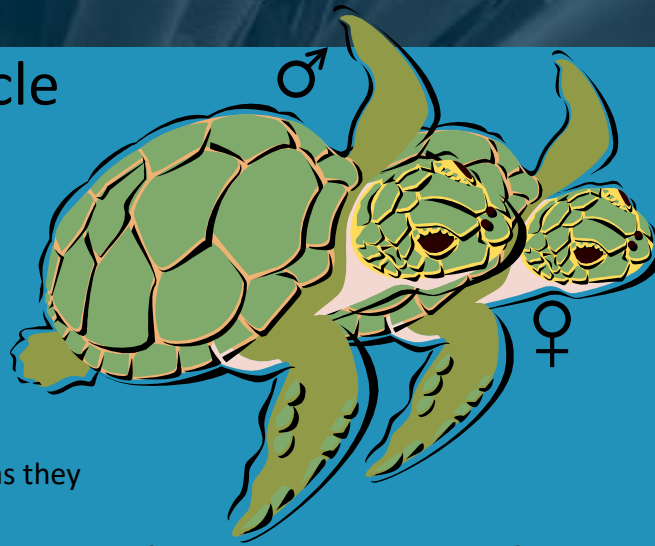
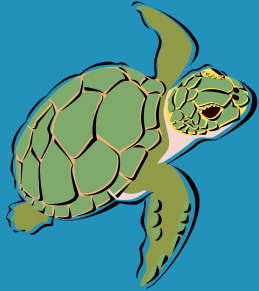
- An animal that is stuck in shallow water or stuck on shore when it should be freely swimming in the ocean
- Causes can be natural or human-induced

Natural	Human-induced
Predator	Pollution
Disease	Boats/ships
Food supply low	Fishing line and ropes

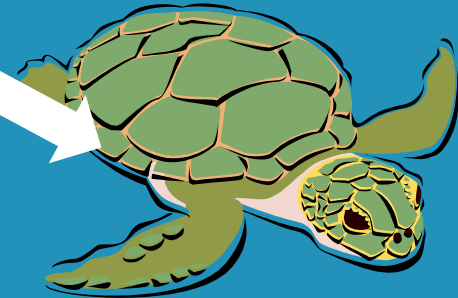
Why do animals strand?



Sea Turtle Life Cycle



Males
Swim back out to the open ocean

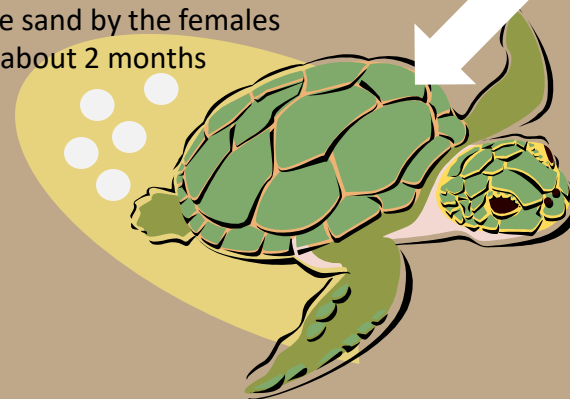


Females

Stay in coastal waters for several weeks, returning to the beaches to lay their eggs before returning to the open ocean

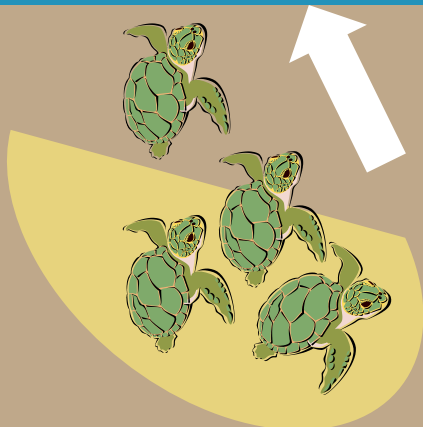
Eggs

Are buried in the sand by the females and hatch after about 2 months



Hatchlings

Hatch after eggs have been incubating for about 2 months; Head out to the ocean



Juveniles (0-5 yrs old)

Sea turtles live in the Sargasso Sea as they continue growing and maturing (see next slide)

Adults (at least 25 to 30 yrs old)

Males and females have reached reproductive maturity; they will mate in the ocean and then part ways

When should a sea turtle be on land?

When should a sea turtle be on land?

- 1) Female laying a nest
- 2) Hatchlings on their way from nest to sea
- 3) Eggs in a nest

**Anything else is a sign that the
turtle is sick or injured!**

Primary Stranding Causes

- Debilitated Turtle Syndrome (DTS)
- Boat Strike
- Fisheries Interaction – incidental
- Entanglement – passive gear
- Local Cold Stun
- Transferred Cold Stun
- Predator Attack
- Buoyancy Disorder
- No Apparent Injuries
- Other

Note: These are the 10 primary causes as defined by the South Carolina Aquarium. Other institutions may categorize them differently.

Debilitated Turtle Syndrome (DTS)



- Very sick turtle with many things wrong
 - > **Lethargic**
 - > **Malnourished and underweight**
 - > **Low blood glucose**
 - > **Usually many epibionts (organisms on shell and skin)**
- Unknown if natural or human induced or both



Boat Strike

- Most common cause of stranding in SC
- Hit by boat or propeller
- Turtles are air breathers and get hit when coming to surface to breath
- Also get hit if they are floating on the surface for other reasons



Fisheries Interaction - incidental

- Caught by hook and line by fisherman
 - > **Hook must be surgically removed if swallowed**
- Stuck in hopper dredge
- Caught in net by shrimper/fisherman
 - > **Turtle Excluder Device (TED)** required on all commercial fishing vessels which has dramatically reduced drownings



Entanglement – passive gear

- Passive gear is fishery material left in the water without human monitoring
 - > **Fishing line**
 - > **Crab pots**
 - > **Rope**
- Entanglement worsens as animal tries to escape



Local Cold Stun



- Turtles are cold blooded
 - > **Internal temperature matches external air or water temperature**
- Can't move if temperature drops below 60 degrees
- Can result in pneumonia and/or frostbite

Transferred Cold Stun

- Cold stun events take place in ocean all around the country (and world) due to drops in temperature
 - > **Sometimes includes hundreds of turtles**
- Many facilities share the care of these large events
- The South Carolina Aquarium has received patients from North Carolina and the New England area



Predator Attack



- Sharks are sometimes predators of sea turtles
 - > **Sharks can bite chunks out of flippers and shells**
 - > **They can also make puncture wounds in the skin or shell**
- Stingrays will sometimes use their barb (stinger) on a sea turtle
 - > **This can happen when turtles get trapped in net with stingrays**
- As hatchlings and juveniles, birds and fish can be a threat to sea turtles

Buoyancy Disorder

- Happens when sea turtles are unable to control their place in the water causing them to float
- Gas can build up in the body cavity because of a bacterial infection or in the intestines because of impaction
 - > **Natural would be food stuck in intestines (for example - horseshoe crab)**
 - > **Human-induced would be plastic or other marine debris stuck in intestines**
- Gas can also build up after boat strikes, lung trama, etc.
- Also called Floater Syndrome



No Apparent Injuries

- Sometimes upon first look a primary cause of stranding cannot be determined
- Further observation and testing will be needed



Other

- Many other issues can be placed in this category
 - > **Trismus (lock jaw)**
 - > **Brevetoxicosis (red tide poisoning)**
 - > **Necrotic Ulcerative Disease (dead skin and tissue)**
 - > **Metabolic Bone Disease (issues with bones)**
 - > **Fibropapillomatosis (skin tumors)**
 - > **Pulmonary Bulla (air space in lung)**



South Carolina Aquarium Sea Turtle Care Center

- Rescue
- Rehabilitate
- Release

**Leading the
way to
connect people
with water,
wildlife and
wild places.**

