

**Horseshoe crabs
Blue crabs
& Conchs**

oh my!

American Horseshoe Crab

Limulus polyphemus



FWS.gov

- Kingdom Animalia
- Phylum Arthropoda
- Not a crab!
- Related closer to spiders and other arachnids

American Horseshoe Crab

Unchanged for 450 million years!

Older than dinosaurs!

Living Fossils

Survived the Ice Age



**So why haven't horseshoe crabs
changed?**

Or have they?

If it ain't broke, why fix it?

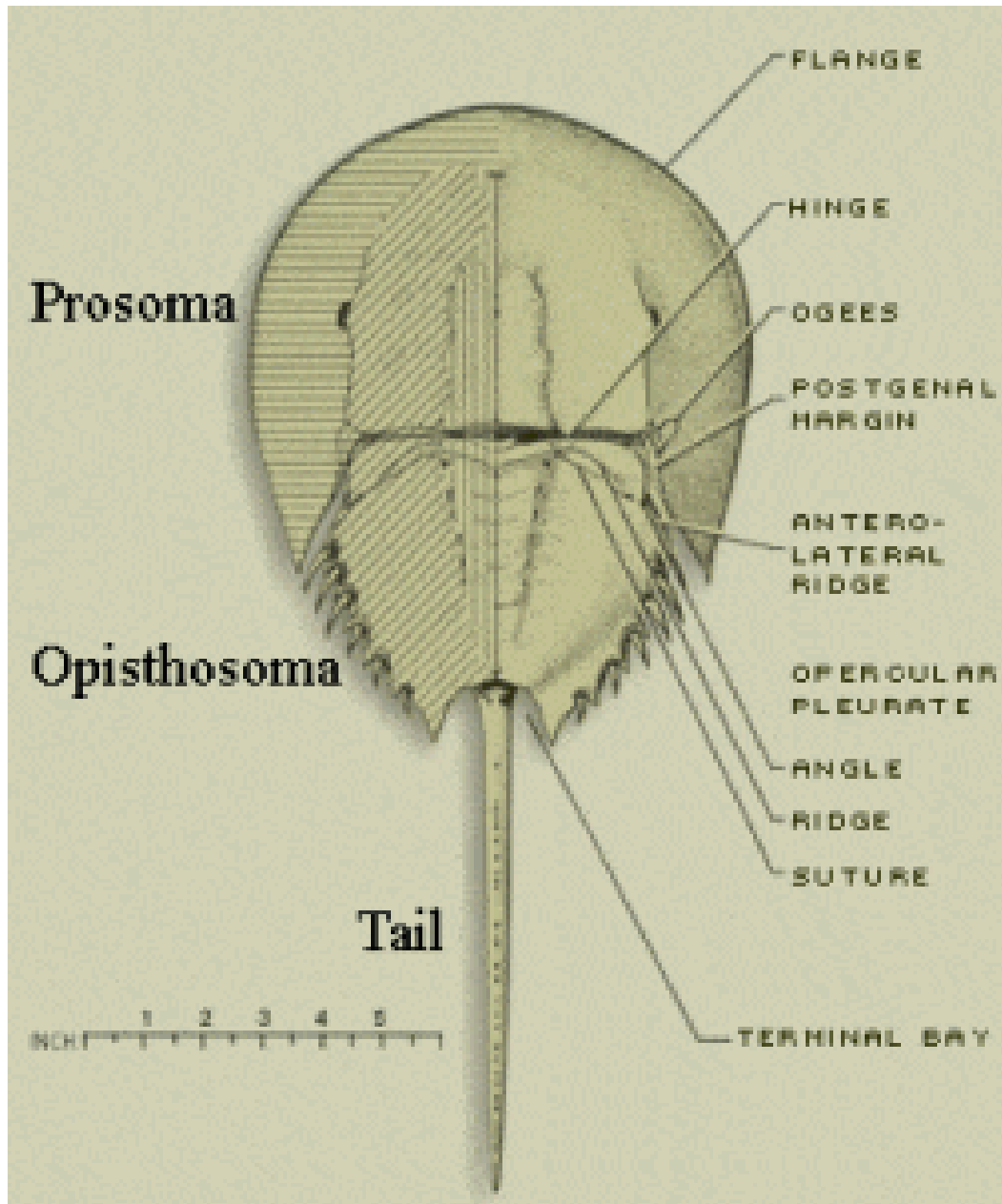
True or False

1. Horseshoe crab tails are dangerous.

2. Never pick up a horseshoe crab by its tail.

1. Horseshoe crab tails are NOT dangerous.

2. NEVER pick up a horseshoe crab by its tail.

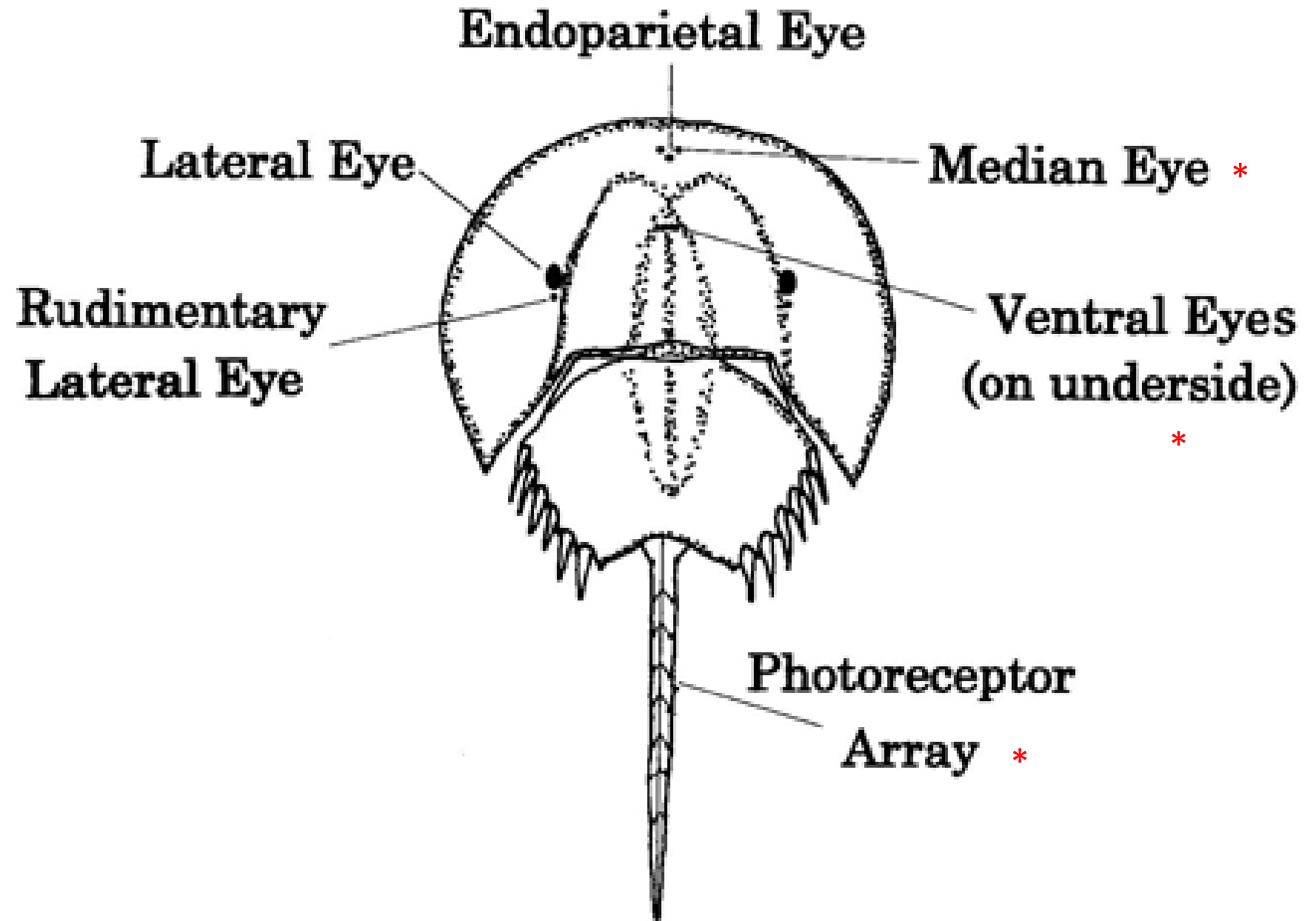


3 main body parts:

- Prosoma
- Opisthosoma
- Tail- telson *

10 Eyes

Good vision



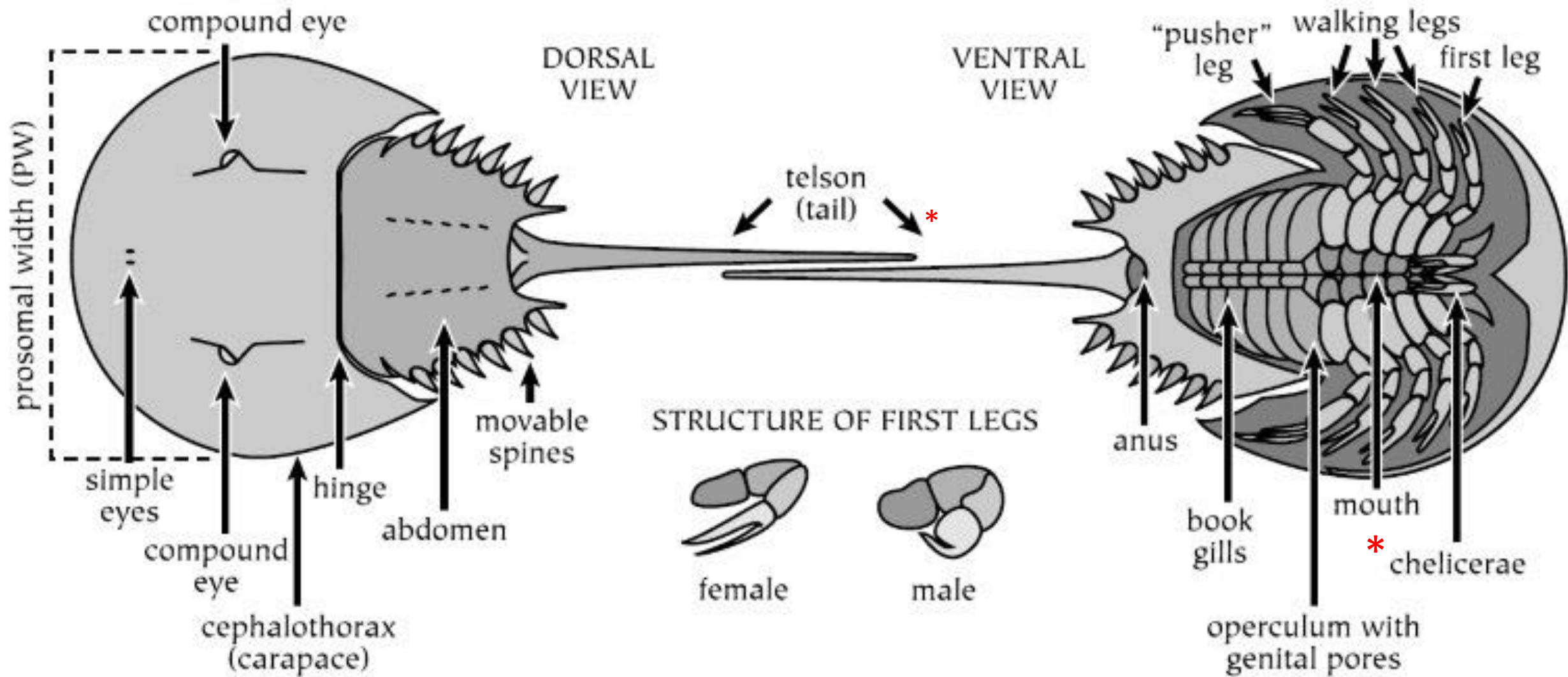
2 Compound Lateral Eyes

Used for finding a
mate!
1,000 receptors
each
Movement, light
changes



<http://tinyurl.com/4c7x2e4d>
Maryland DNR

<http://tinyurl.com/22urkv29>
SC DNR



Horseshoe Crab Diet & Feeding Behavior

- Mouth at base of jointed legs
- Grind leg bases together, chew, ingest
- Chelicera – appendages that move food into mouth
- Eat small clams, crustaceans, algae

Is it a dead horseshoe crab or a molt?

**Slit along front
Exit through slit
Fragile
Terminal molt**

Hard Exoskeleton

Molt and shed shell as they grow

16-17 times

Long maturity - 10 years *

Live over 20 years

How to age a horseshoe crab?

Mating

Breeding year round in Florida - new and full moon, high tide, spring & fall mostly

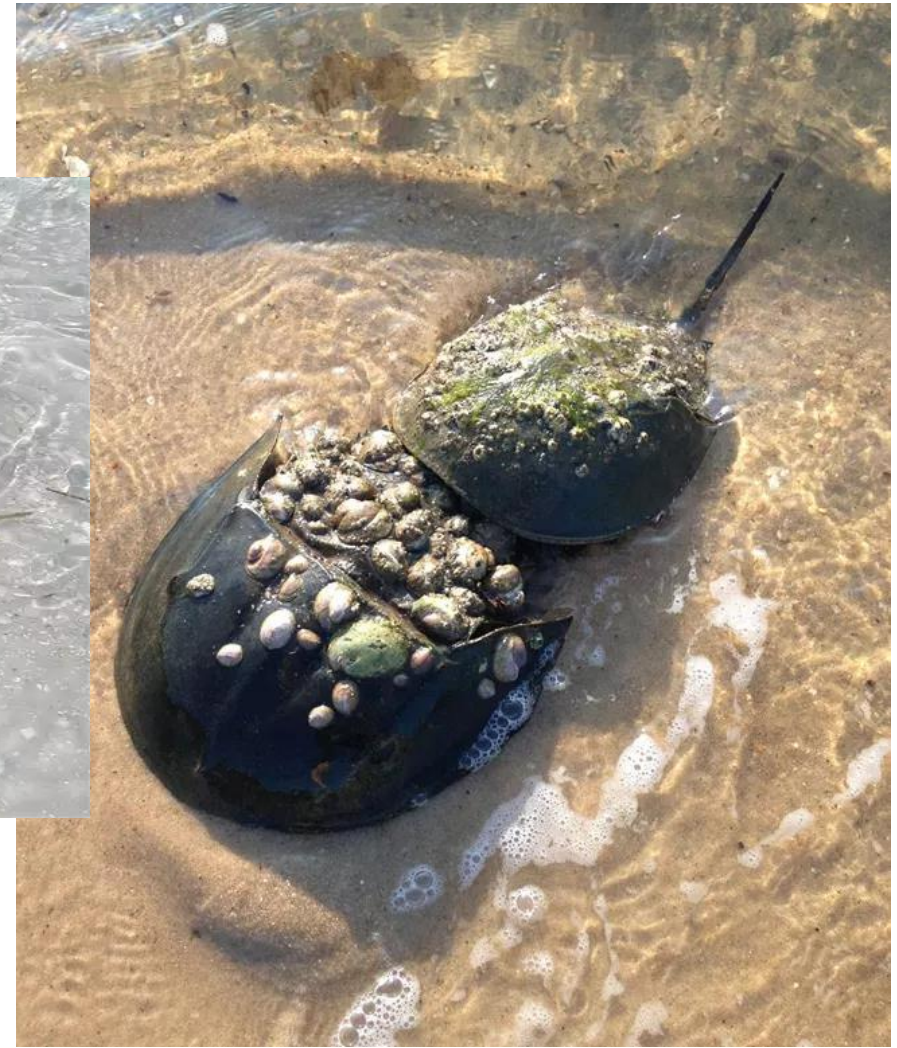
Male hooks onto female with specialized claws

Female digs shallow burrow on shore, lays eggs which are fertilized by the male.

Mating

Smaller male
attached
to female

Unpaired
satellite
males



FWS



Brockman UF

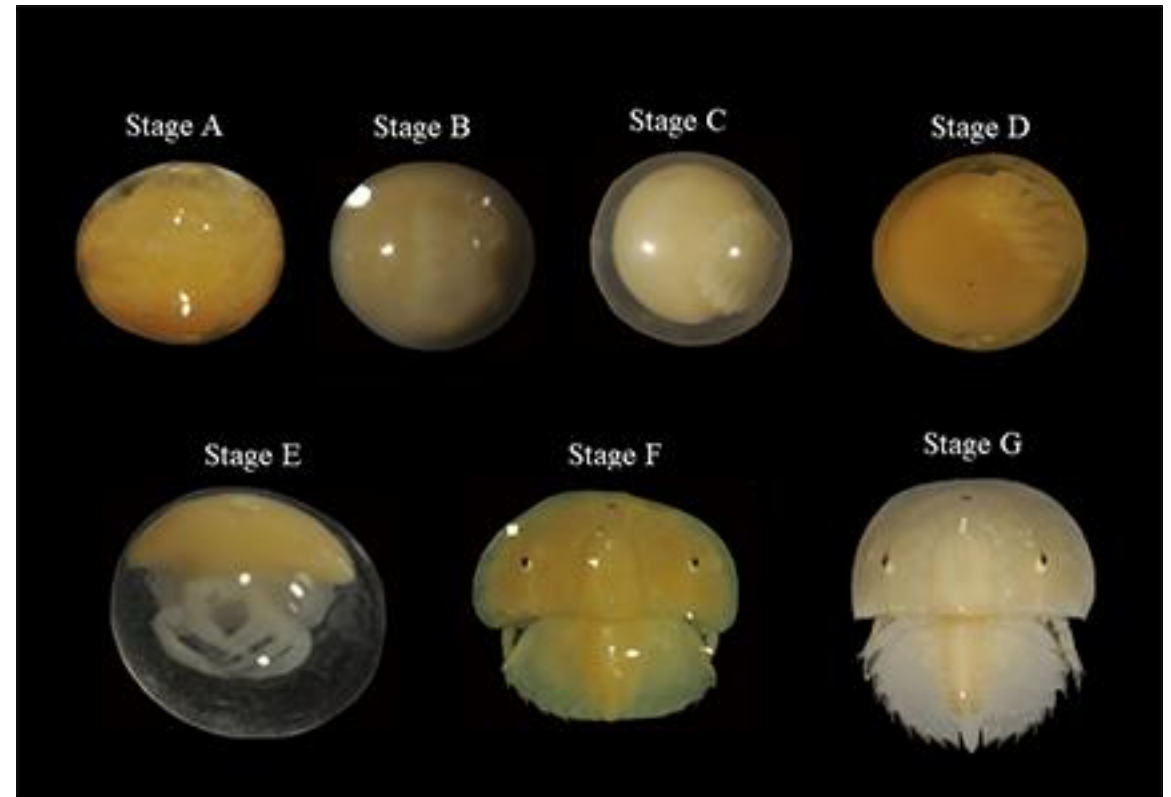
NPS

2-4 week incubation

Thousands of eggs

Hatch as
mini-horseshoe crabs

Bottom feeder



Major food source for birds & fish of coastal communities

Federally threatened Red Knot



FWS

Horseshoe Crabs and Human Health

**Johns Hopkins- endotoxins injected into crabs –
extensive clotting**

**Blue blood (due to copper) containing Limulus
Amebocyte Lysate or LAL, a protein in blood attacks
bacterial contamination**

1970's Limulus Lysate test

**FDA requires all injectable medicines,
devices used for injections & internal
prosthetics undergo testing with LAL for
endotoxins that can be fatal**

Saved millions of people worldwide

No biomedical use in Florida

Horseshoe crab watch

- **2019 began Horseshoe Crab monitoring to determine population status in Charlotte Co**



Attention Beachgoers:

Help us collect data on nesting horseshoe
crabs by reporting tagged animals



If you see a tagged crab (left):

- 1) Snap a picture or record the tag number. **DO NOT** remove the tag, **NEVER** pick a crab up by the tail.
- 2) Note the date, location, & time of sighting, and if crab is alive or dead.
- 3) **Report** the information:
www.fws.gov/crabtag
1-888-LIMULUS

UF IFAS
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NATURE COAST
NATURAL SYSTEMS



Sea Grant
Florida



BLUE CRAB

Callinectes sapidus

- **Blue crab very important species in the Charlotte Harbor inshore estuarine ecosystem**
- **Local fishery in salt, brackish and fresh water areas**
- **Recreational and commercial harvest**

Blue Crab Limits

Florida Regulations Gulf and Atlantic State Waters



Size Limit: None

Daily Bag Limit: 10 gallons whole per harvester per day

BLUE CRAB

- **Recreational harvest requires registration and trap specifications**
- **Male and female may be harvested but no egg-carrying crab may be harvested**
- **Harvest regulation – 10 gal per day from maximum of 5 traps per person**
- **Size limit - none**

Example of standard Recreational Blue Crab Trap

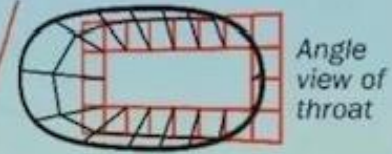
5 traps per person
Maximum trap size 2' x 2' x 2'
or a volume of 8 cubic feet
Mesh size 1 1/2" or larger

Name, address and
unique registration number
permanently affixed
in legible letters

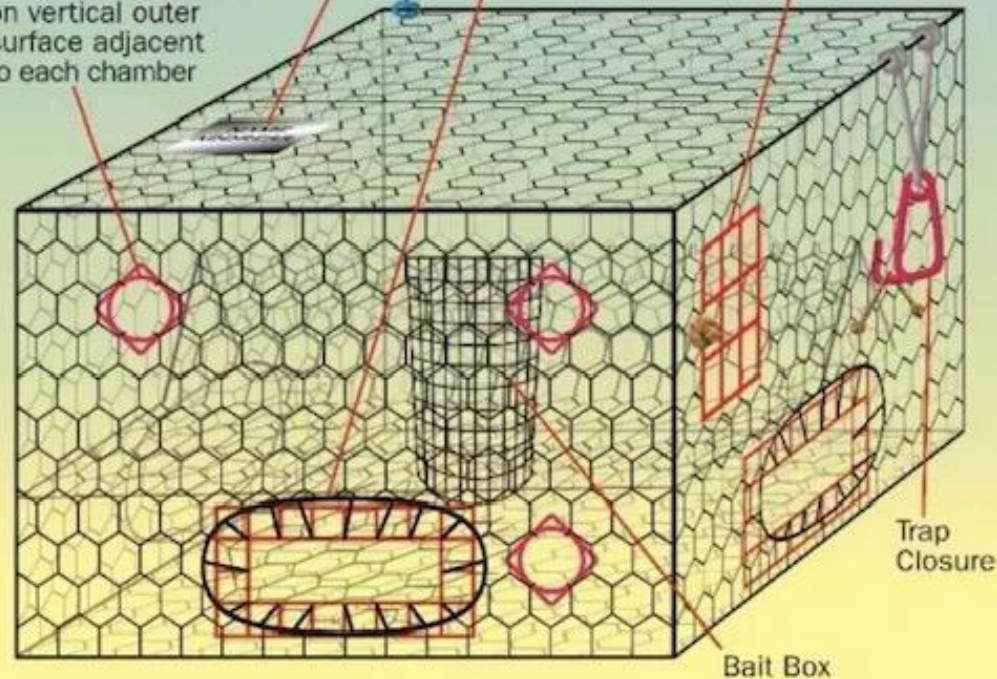
Escape Rings 2 3/8" min.
At least 3, 1 located
on vertical outer
surface adjacent
to each chamber

Buoy shall be no smaller than
6" and shall have a legible "R"
at least 2" tall

Throat (Entrance)
Shall not extend farther than 6"
into the trap. Must be made of
rigid wire no larger than 2" x 6" at
narrowest point or have a 2" x 6"
bycatch reduction device (BRD)



Degradable Panel
3" x 6" min. Example
of one of 7 types



Female with eggs



FLORIDA FIGHTING CONCH

Strombus alatus

- One of the most common and recognizable mollusk in southwest Florida
- Beautiful, colorful shell with spinal ridge spikes
- 12 year life span
- 3-4 inches in size



CONCH FACTS

- **Herbivorous, feeds on algae and detritus**
- **Valued as a culinary treat, salad, fritters, ceviche**
- **Important indicator species**

LIGHTNING WHELK

Sinistrofulgur perversum

- **Up to 8 inches in length**
- **Whorled shell, opens on left**
- **Egg case – up to 33 inches**





Lightning strikes

- **Apex predator – carnivore with a voracious appetite**
- **Scavenge for mollusks, mussels, and clams**
- **Ambush hunt**
- **Sharp shell a tool**