

Mar 3rd, 2:30 PM - 3:30 PM

Diamondback Defenders: conservation through STEM based programming

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DIAMONDBACK DEFENDERS



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WHAT ARE WE DOING TODAY?

- History of Terrapin Programming at GSTC
- Natural History of Terrapins
- GSTC Terrapin Patrol
- Road Survey Activity
- Mapping Data Sheet
- What can you do to help?

BRIEF HISTORY

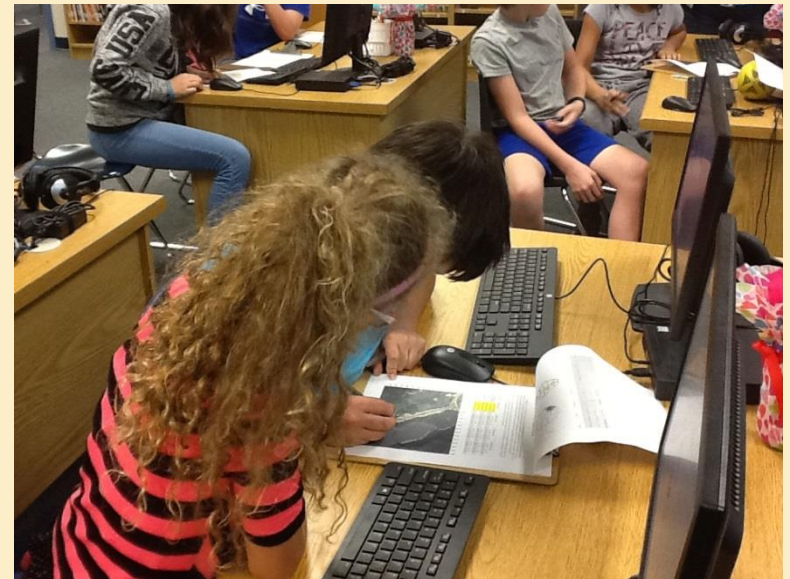
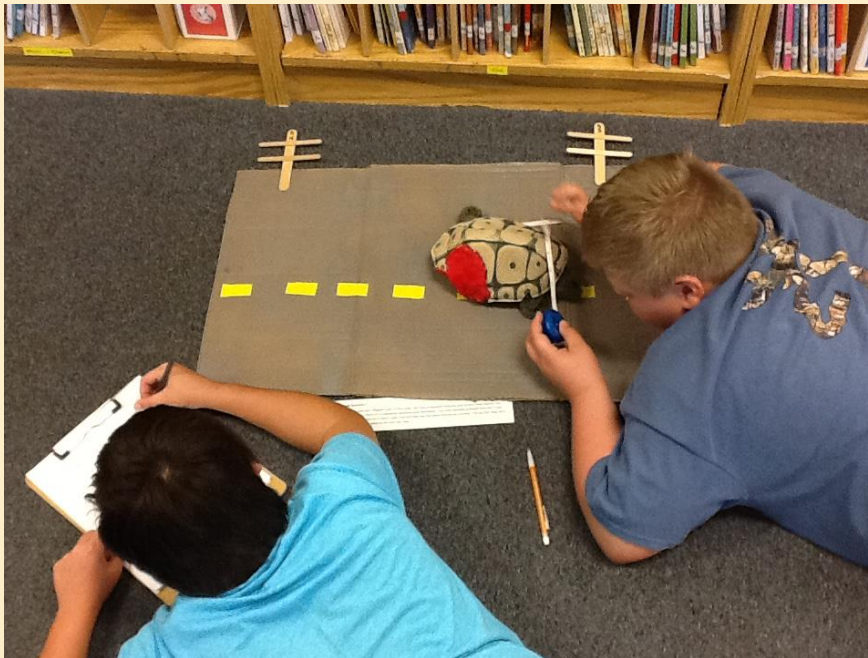
- GSTC founded 2007
- Terrapin Patrol founded 2009
- UGA grad student work: John Maris, Brian Crawford, David Zailo
- CIG grant: incorporates D. Zailo's studies of fresh and brackish water species on Jekyll, including educational elements including on site, after school and outreach programming
- Thus far we've reached 276 people, mostly students from 3rd grade and up.



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DIAMONDBACK DEFENDERS AS STEM

- This program blends mock road surveys designed as training materials for GSTC staff, AmeriCorps and volunteers with GPS technology and mapping techniques to expose youngsters to a realistic view of conservation biology in action:



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DIAMONDBACK TERRAPINS

- Only turtles in North America that live in brackish water
- Semi-aquatic
- Feed on periwinkle snails and fiddler crabs
- Nesting season is from May-July
- Females look for high, dry grounds to nest





Causeway

Nesting Habitat

Creek

Bridge

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THREATS DURING NESTING SEASON



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TERRAPIN PATROL

1813 Struck (2007-2016)

2009-2016

913 Saved (Those who would have been hit had no one interfered)

97 Successfully rehabbed and released



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GROUP ROLES

- **Recorder** – Responsible for making sure **EVERYTHING** on the data sheet is filled out correctly
- **Morphometric Specialist** – Responsible for evaluating the terrapin and measuring it
- **Speaker** – Responsible for presenting the scenario
- **GPS Technician** – Responsible for learning how to take a GPS point and relay the information to the team while completing the mapping worksheet

Date: (m/d/y) ___/___/___

Time: _____ AM PM

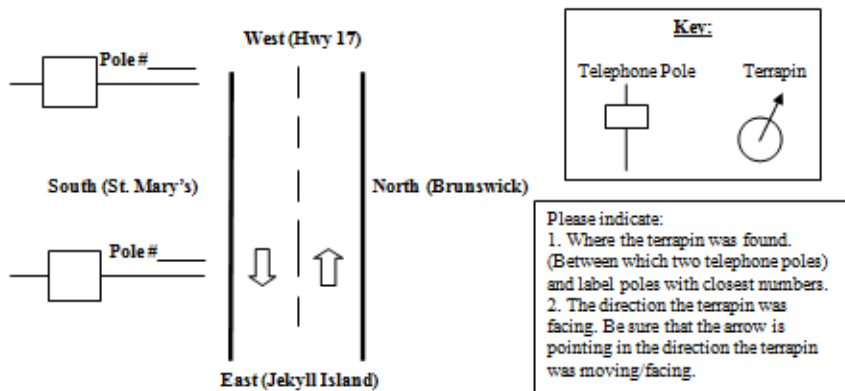
Diamondback Terrapin On Road Data Sheet

Name of Researcher(s): _____

GPS coordinates: GPS # _____ Latitude: 31. _____ Longitude: 81. _____
(Please use the highlighted GPS point for your group# located in the table on the mapping sheet)

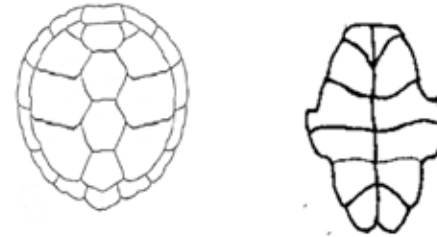
Status: (circle one) Dead Injured Alive

If Alive: Would have crossed safely? Yes / No Gravid? Yes / No



Comments: _____

Using diagrams below, indicate any shell notches or anomalies: (dead or alive)



Sex: ___ Male ___ Female ___ Unknown

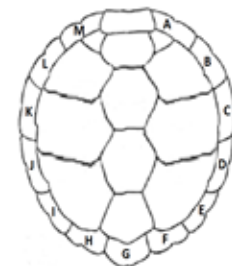
Max. Carapace Length: _____ cm Plastron Length: _____ cm

Max. Carapace Width: _____ cm

Recapture? Yes / No Notch #: _____

Other Comments: _____

Notch Code: The marginal scutes run around the outer edge of a turtle's carapace. Each marginal scute is assigned a letter. These scutes can be marked by taking a small clipping or drilling a small hole in them. Each turtle can then be given a unique code in order to help researchers identify them. Use the image to the right to help identify the code your terrapin has if it is notched!



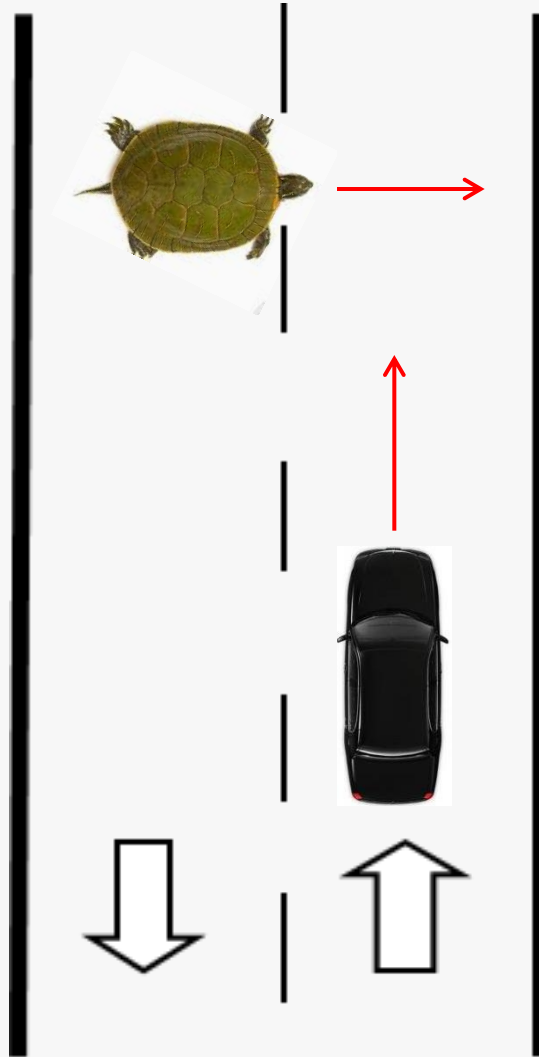
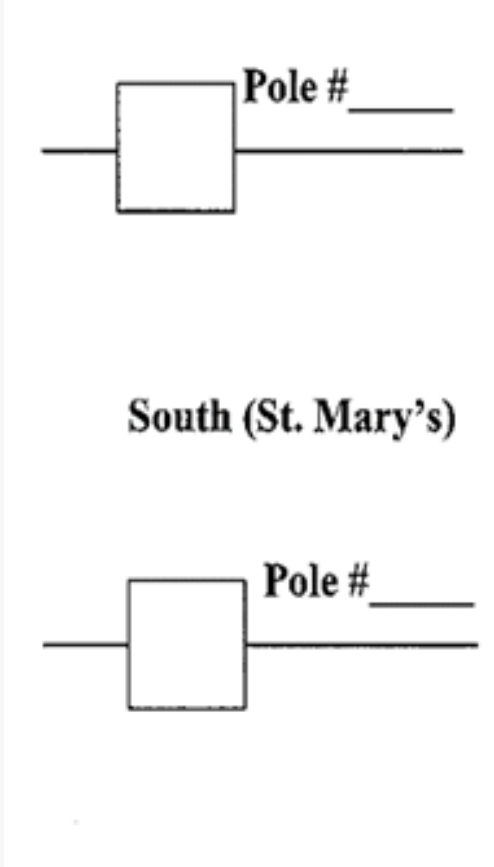
DETERMINING DEAD OR INJURED

- Deep pain response
Does animal move when pinched?
- Palpebral Response
Do eyes blink when touched?
- Is your turtle GRAVID?
Is she carrying eggs?



Palpating for Eggs

West (Hwy 17)



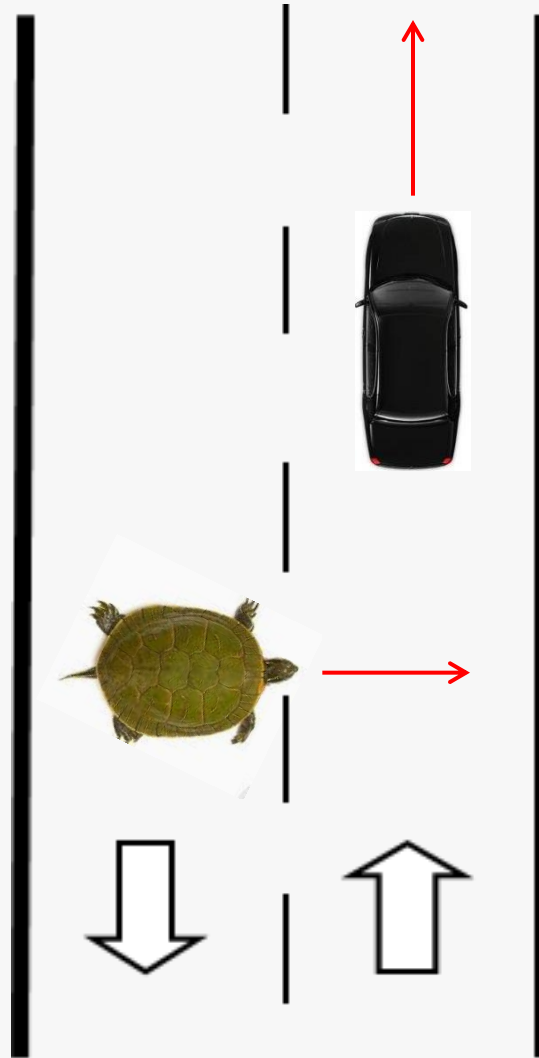
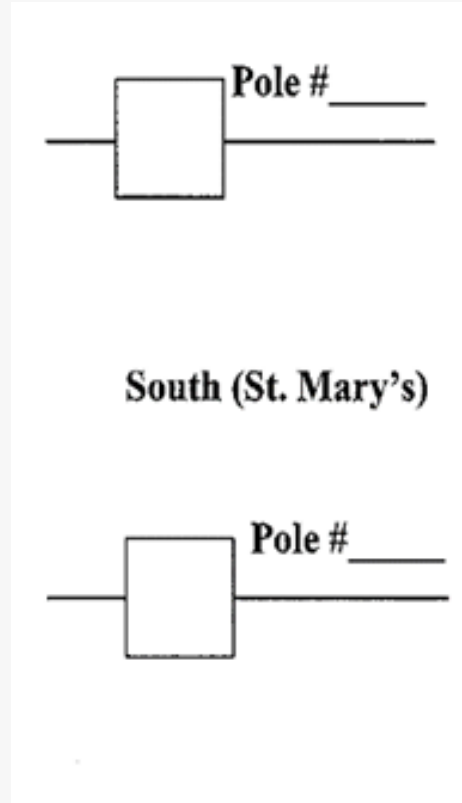
Would Have Crossed
Safely?

NO

North (Brunswick)

East (Jekyll)

West (Hwy 17)



Would Have Crossed
Safely?

YES

North (Brunswick)

East (Jekyll)

Telephone Pole Number



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Date: (m/d/y) ___/___/___

Time: _____ AM PM

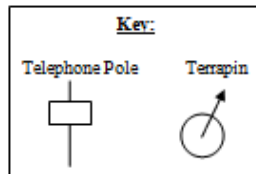
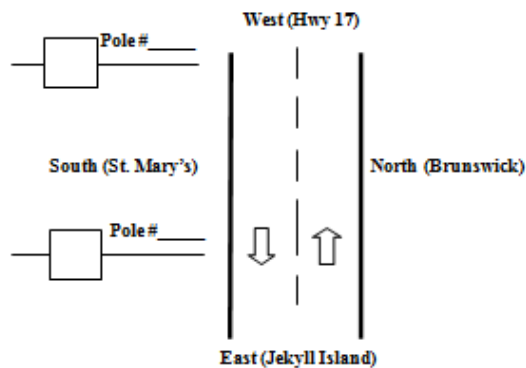
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(Please use the highlighted GPS point for your group# located in the table on the mapping sheet)

Status: (circle one) Dead Injured Alive

If Alive: Would have crossed safely? Yes / No Gravid? Yes / No



Please indicate:
1. Where the terrapin was found.
(Between which two telephone poles)
and label poles with closest numbers.
2. The direction the terrapin was facing. Be sure that the arrow is pointing in the direction the terrapin was moving/facing.

Comments: _____

Using diagrams below, indicate any shell notches or anomalies: (dead or alive)



Sex: ___ Male ___ Female ___ Unknown

Max. Carapace Length: _____ cm

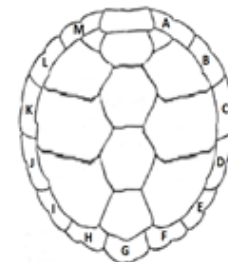
Plastron Length: _____ cm

Max. Carapace Width: _____ cm

Recapture? Yes / No Notch #: _____

Other Comments: _____

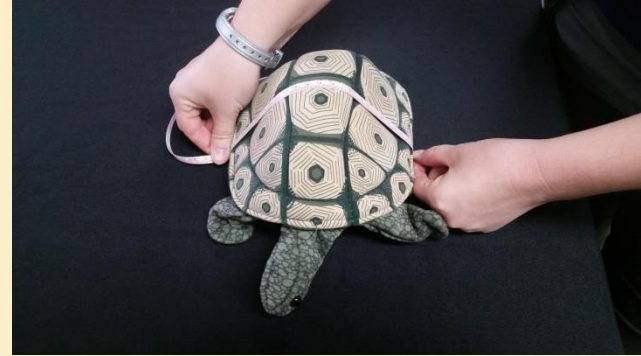
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MORPHOMETRICS



Max Carapace Length



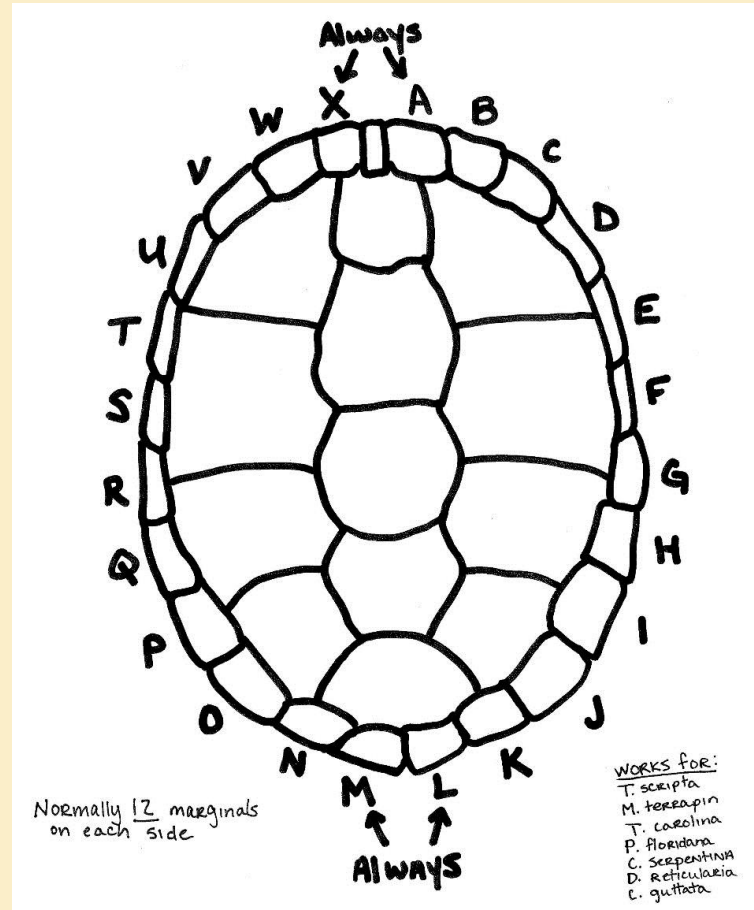
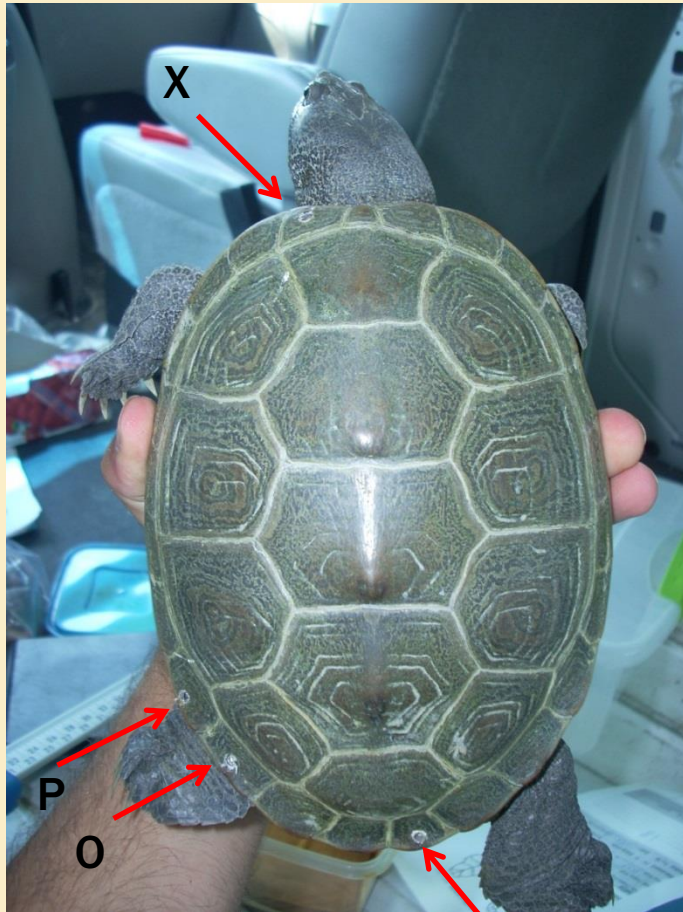
Max Carapace Width



Plastron Length

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NOTCHING



TIME FOR ROAD SURVEYS!



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RECAP

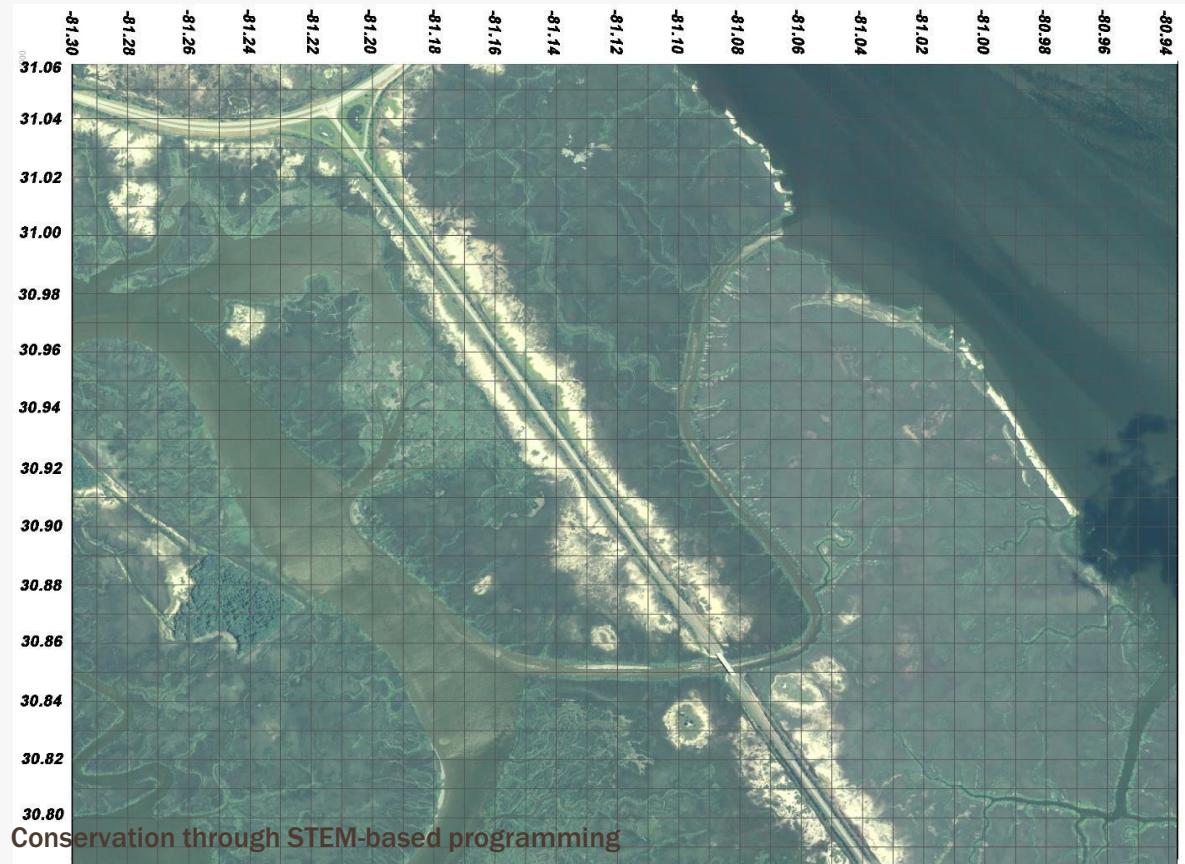
- What was the status of your turtle
 - Injured?
 - Gravid?
 - Notched?

- What was your course of action after assessing your terrapin?

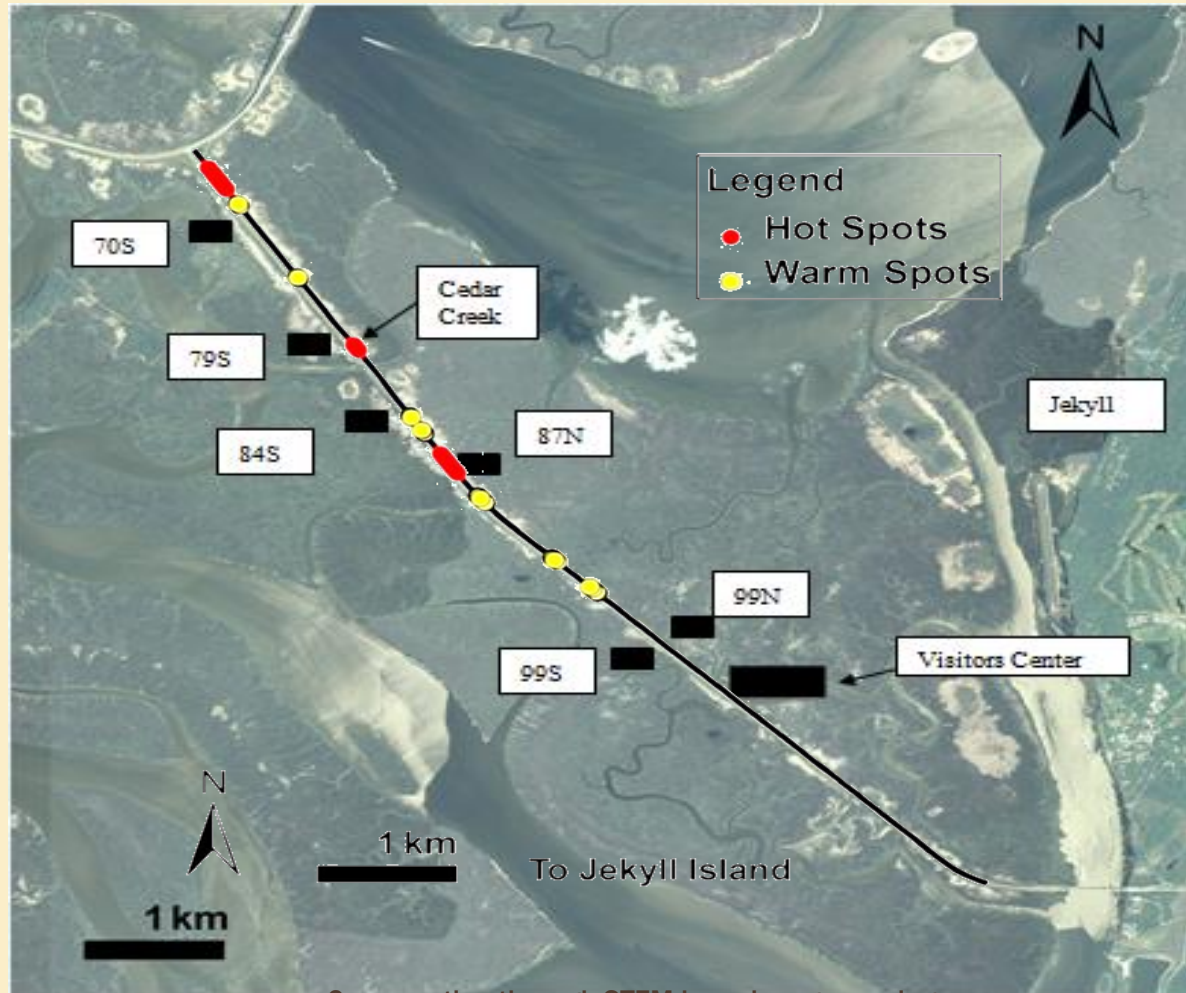
MAPPING

Group #	GPS Point 1	GPS Point 2	GPS Point 3	GPS Point 4
Group 1	31.025, -81.200	30.880, -81.100	30.960, -81.160	30.840, -81.080
Group 2	30.870, -81.100	30.985, -81.175	31.025, -81.205	30.910, -81.130
Group 3	31.020, -81.200	30.870, -81.090	30.990, -81.180	30.930, -81.140
Group 4	30.940, -81.145	30.930, -81.150	31.010, -81.195	30.860, -81.090
Group 5	31.015, -81.190	30.870, -81.095	30.830, -81.060	30.990, -81.170
Group 6	30.808, -81.050	30.860, -81.095	31.010, -81.190	30.900, -81.110

- Each group has 4 GPS points assigned
- (X, Y) (Longitude, Latitude)
- Take turns mapping the GPS points so that each member of the group gets a chance to map a point.

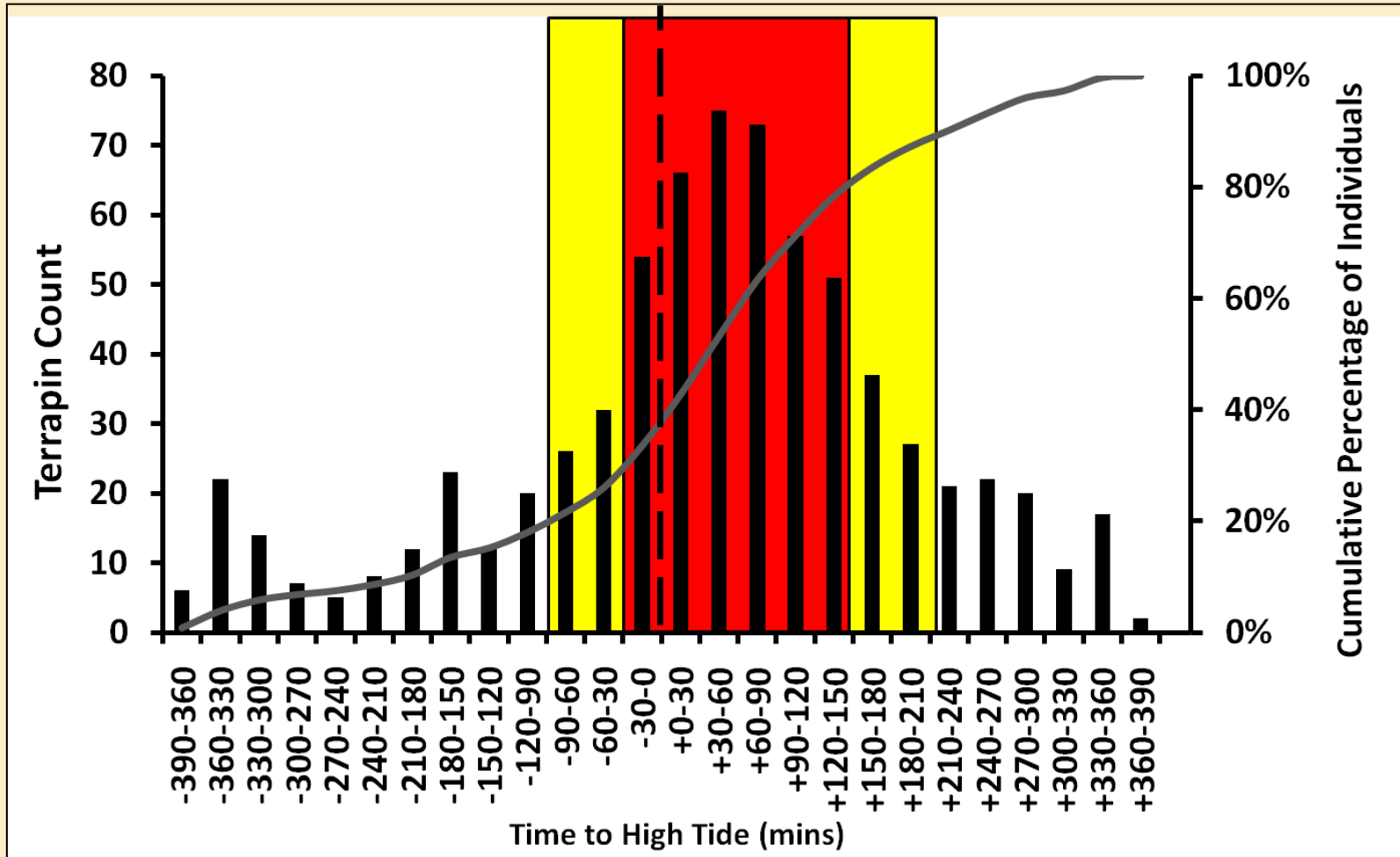


HOT SPOTS AND WARM SPOTS



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HOT MOMENTS



WHAT CAN WE DO WITH THE DATA COLLECTED?



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WHAT WE DO AT THE GSTC



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WHAT ARE WAYS YOU CAN HELP?

Drive slow... Fertile turtles are on the go!

**Diamondback
Terrapin
Monitoring Project**
www.georgiaseaturtlecenter.org



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QUESTIONS?



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ACKNOWLEDGMENTS

- University of Georgia Savannah River Ecology Lab
- GA Department of Natural Resources
- National Oceanic and Atmospheric Administration
- Georgia Sea Turtle Center
- Jekyll Island Authority
- Jekyll Island Foundation
- AmeriCorps