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Mid-Upper Coast Surveys of Texas Diamondback Terrapin

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1st Meeting of the Texas Diamondback Terrapin Working Group

TAMU-CC NRC, Corpus Christi, TX

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Mid-Upper Texas Coast Surveys

- Population Distribution – San Antonio Bay, Matagorda Bay, and Sabine Lake
- Funded by TPWD Grant (2-year study)
- Goal – using literature (gray and published) and new field data, attempt to update information on:
 - Distribution
 - Density
 - Demographics

Objectives

- Compile historical database for distribution and sightings along the Texas coast
- Perform field searches in historically known and previously undocumented areas along the mid to upper Texas coast
- Compile a modern database for distribution and sightings along the Texas coast

Field Survey Site Selection

- ArcGIS Modeling
 - Randomized locations
 - Include ideal and non-ideal habitat types
- Clusters of sites within bay systems
 - Sabine: 60 sites; 7 clusters
 - Matagorda: 100 sites; 14 clusters
 - San Antonio: 100 sites; 9 clusters
- Randomly selected site visits



Field Survey Methods

- Modified crab traps
- Head count surveys
- Walking transect surveys

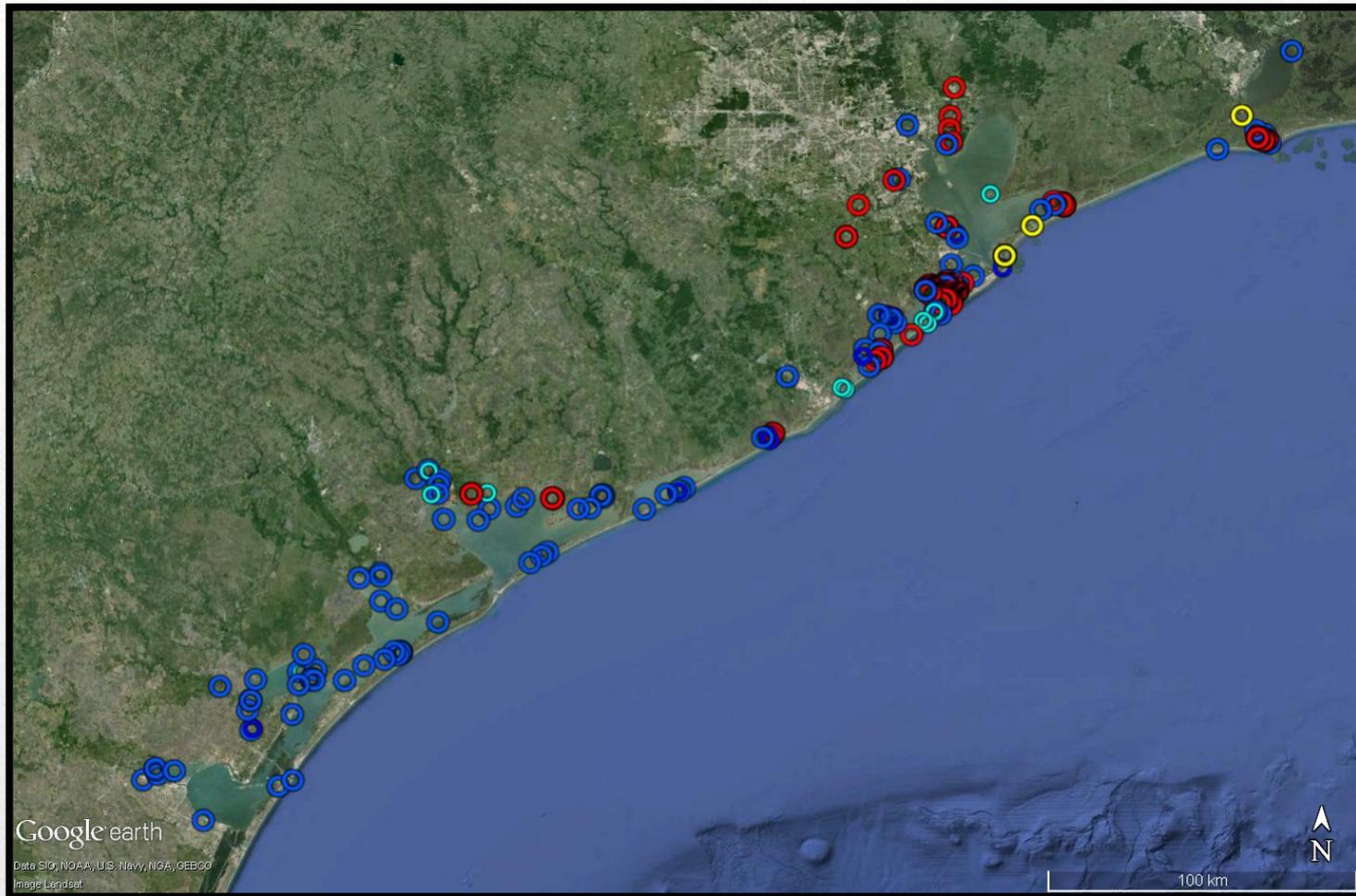


Field Survey Results

- 24 sites sampled across mid-upper Texas coast (8 per bay system)
 - Terrapin found at 3 sites in Sabine Lake (n = 19)
 - Terrapin found at 2 sites in Matagorda Bay (n = 5)
 - No terrapin found in San Antonio Bay
 - Terrapin observed around Goose Island – need to search further south from San Antonio Bay

Modern Database Compilation

- Online questionnaire developed
- Included: agency officials, fisherman, crabbers, charter captains, eco-tourism representatives, etc.
- Open from April-August 2014
- Included:
 - All 8 major bay systems
 - Clickable map for sightings
 - Estimated # terrapin observed
 - Season observed



Distribution of modern and historical terrapin observations compiled during 2014 mid-upper coast study.
Teal = TPWD independent monitoring reports from 1977-2013; yellow = incidental sightings reported to EIH personnel from 2008-2014; red = captures made by EIH personnel from 2008-2014; blue = observations reported in 2014 online questionnaire.



Past and Current Research

- Kelli Hasket (2011) – Abundance & movement of the Texas Diamondback Terrapin in the Deer Island complex, Galveston, Texas. M.S. Thesis.
- Emma Clarkson (2012) – The Diamondback Terrapin – a comparison of nocturnal and diurnal activity, range, habitat selection, & behavior. M.S. Thesis.
- Sybil Glenos (2013) – A comparative assessment of the genetic variation of diamondback terrapin in Galveston Bay, Texas in relation to other northern Gulf Coast populations. M.S. Thesis.
- Rachel George (current) – Population abundance & distribution of San Bernard National Wildlife Refuge, habitat preference, and nesting success of the Diamondback Terrapin in multiple locations in Galveston, TX. M.S. Thesis.
- Bryan Alleman (current) – The influence of prey availability & habitat on the distribution and food habits of Diamondback Terrapin in Texas. M.S. Thesis.
- On-going long-term population studies of West Bay terrapin populations.
- By-catch Mortality & Critical Life History Parameters of the Texas Diamondback Terrapin (*in prep*)
- Current & Historical Distribution of the Texas Diamondback Terrapin (*in prep*).
- Factors Influencing the Distribution & Abundance of Texas Diamondback Terrapin (*in prep*).

Future Research Endeavors

- Abundance/density of known areas of terrapin populations
- Overall population status of subspecies
- Demographic data compilation and analysis
- Movement, home range, and habitat association
- Role of major weather events on survival and dispersal
- Better definition of sources of mortality (including crab fishery and others)

Thank You!

