

Minutes from Gulf Coast Diamondback Terrapin Working Group Meeting
February 7, 2008 – Five Rivers Delta Resource Center (Spanish Fort, AL)

Meeting began at 8:30am. Welcome and meeting summary provided by Marian Dicas, Mike Shelton, and Christina Watters. Meeting adjourned at 2:00pm.

Presentation: Update on National DTWG (Dr. Joe Butler – University of North Florida)

History of Diamondback Terrapin Working Group, beginning with 1994 workshop at SREL through most recent Symposium in 2007 in Millersville, MD. Diamondback Terrapin Working Group formally started at 2004 Workshop in Jacksonville, FL. Five regional groups were designated (Northeast, Mid-Atlantic, Southeast, Florida, and Gulf Coast) and a triennial schedule for national meetings was established. Accomplishments include:

- incorporation in Florida as a non-profit 501(c) 3
- passing of bi-laws
- creation of an official logo, website, and listserv
- Southeast group's work to remove terrapins as a game species in SC
- Mid-Atlantic group in partnership with others to close MD terrapin harvest
- Awards to Dr. Roger Wood (2004) and Dr. Whit Gibbons (2007) for outstanding contributions to terrapin research and conservation

Plans for 2007-2010 include:

- plans to host 2010 meeting on the Gulf Coast with Russ Burke as the host; hoping for New Orleans, pre-hurricane season.
- increasing research in the Gulf Coast region
- designing a generic brochure for use rangewide (national group would pay for design and individual states/groups would pay for printing as needed)
- Russ Burke working to create a presentation package for national use (PowerPoint/video)
- creation of accurate range maps, including what has been done in specific areas
- working towards a national clearing house for PIT tag numbers
- possible creation of position papers (example: pet trade)
- spending treasury money on scholarships/mini-grants

J. Butler asked for comments from the group on scholarship/mini-grant idea. Current treasury balance is ~\$6,900. Current idea would be to have \$2,000/year available for scholarships/grants. Discussed as to whether it should be one lump sum or split into smaller pots of money. If split, at least one award would go to the Gulf Coast. Also discussed possibility of allowing non-university agencies apply (ex. state offices, etc.) to hire interns.

Gulf Coast Regional Updates

Presentation: Florida Panhandle (Rick O'Connor – Escambia County Schools)

R. O'Connor is a high school teacher who is incorporating diamondback terrapins into his marine science program. FL panhandle terrapin habitat is similar to Gulf Coast, more so than peninsular Florida; little known about current status of terrapins. Four phase survey program, surveying from AL-FL stateline to Apalachicola (six counties). Phase 1 – public interest – worked with extension service to identify local boat ramps; put out “wanted” posters for terrapins and gathered data from public reports. Phase 2 – verification of locations reported by the public (summer 2007). Four

locations surveyed for one week in June and July. Of note, Mississippi diamondback terrapins (*M. t. pileata*) and ornate terrapins (*M. t. macrospilota*) were observed at Big Lagoon State Park – reported range for ornate terrapins begins farther to the southeast. Phase 3 – population assessments – scheduled to begin summer 2008. Phase 4 - education and conservation.

Presentation: Alabama (Andrew Coleman – University of Alabama at Birmingham)

A. Coleman is a graduate student at the University of Alabama at Birmingham, working with Thane Wibbels and Ken Marion. He is studying terrapin populations in Mobile County, AL focusing on Dauphin Island. His research goals have been to identify strong aggregations of terrapins, locate and monitor nesting beaches, and characterize threats; he has also focused on genetics and hormone variation. Largest numbers of depredated nests have been found on Cedar Point and Jemison Marsh. 2006 – 109 nests located, spikes in early May, late June/early July; twenty six terrapins captured. 2007 – Little Dauphin Island/Airport marsh areas 46 nests, Cedar Point marsh 69 nests; start of nesting season delayed; 11 terrapins captured. BRD evaluation: no terrapins; crabs significant difference – no BRD > crabs of all sizes; no significant difference of legal crabs. 2008 plans – study physical parameters that make nesting beaches important, cameras to look at predators, and continuing BRD studies.

Presentation: Mississippi (Tom Mann – Mississippi Museum of Natural Science)

Review of historical MS work. 1993/94 terrapin work – ten areas along the entire coast surveyed; trapping and nesting beach surveys. Crude estimate of statewide population ~3000 terrapins. 1996/97 additional work done by Pete Floyd and sons – trapping at mouth of Pascagoula River; approximately 500 captures working in all habitat types; sex ratio biased towards females. Also, tested BRDs = effective.

Presentation: derelict trap removal and terrapin excluder testing (Traci Floyd – Mississippi Department of Marine Resource and Darcie Dennis – USM Gulf Coast Research Lab)

T. Floyd: Derelict trap cleanups in Mississippi since 2000. Most recent cleanup (2007), >11,000 traps recovered. MS crabbers would probably react favorably to BRD law; Commission on Marine Resources feels that more data is needed. D. Dennis: catch per unit effort (CPUE) study – May 2007 through present; three crabbers (one/county); 10-30% of traps in regular fishing operation outfitted with BRDs (wire 2x6"); no terrapins caught in any trap – some traps in open water, so may not be trapping in terrapin habitat; no significant difference but BRDs captured fewer sublegal crabs and more males; do capture significantly larger crabs.

Presentation: Texas (Kelli Haskett – University of Houston)

Just started terrapin work in November, no results yet. Study area near Galveston with plans to expand survey to other areas. Working with Houston Zoo on education and outreach programs.

Discussion – Thane Wibbels (University of Alabama at Birmingham): discussed how to move BRDs forward; discussed method of capturing nesting females with drift fence and bucket trap; reduction/offset of depredation with oxytocin treatment of captured females, incubation of eggs and then release, nest enclosures, predator control. Mentioned work studying temperature dependent sex determination (similar to study with loggerheads). Hopes to become more pro-active in conservation – would like input on how. Mark Woodrey (Grand Bay NERR/Mississippi State University) mentioned needs for population estimates using mark recapture, radio telemetry, occupancy modeling. Need for

characterizing nesting habitat with vegetation analysis. Suggested idea of Kelli Haskett, et al partner with Houston Zoo vets for health/genetic analysis.

Group Reports – research gaps and needs

Group 1

Data very anecdotal. What are threats – think we know but what is the order/ranking of magnitude. Needs – identify nesting habitat and success, predator impacts; population level – distance and movement; migration flux and home range; lack of data from Louisiana. Need to know more about overall ecology. Suggested solutions: 1) cameras for predator information; 2) involve fishermen to get data (need to provide good incentives), include anecdotal data from “old timers”; 3) identify key LA people (LUMCON?); 4) promote living shorelines and elevate as a priority/concern for restored nesting habitat.

Group 2

Know very little – need to move everything to “unknown” column for Gulf Coast. Needs – clutch frequency, developing better assays for females; population estimates (discussed occupancy modeling – rigid sampling scheme to collect data for use in models and pursue sampling over the widest range possible - and need to bring together modelers and terrapin researchers); additional training for researchers/samplers; predation rates – who is doing the most predation, need better understanding of ecology of predator species (especially mammals), need better nest protection when predator ecology more understood. Suggestions: identify fishermen who can provide information (where are they seeing terrapins, where are areas they do not fish {may be likely locations of terrapins}), develop database of information provided by fishermen.

Group 3

Unknowns include: hormones, information on multiple matings, genetics to be high priority (standardize and/or develop protocols for genetics, blood sampling, etc); no handle on “knowns.” Priorities include determining terrapin localities and determining why known locations are important habitats; determining size, health, etc. of populations and individuals within those populations; determining threats and magnitude/ranking system for threats. Education – need to get terrapins in the public eye; sources of information to develop educational products; education on TEDs/BRDs.

Group Discussion –management applications for research and where to go from here

Management applications resulting from research efforts:

- 1) apply redbelly turtle model to management of terrapins
- 2) Consult with MS Crab Task Force
 - a. Attempt to gain support for terrapin protection efforts
 - b. Assist with gathering habitat data to take to MS Department of Marine Resources to better express need for regulations
 - c. Use existing and new data to demonstrate effectiveness of TEDs / no negative impact
- 3) Loss of habitat
- 4) Crab fishermen as part of the protection/research process

- a. Develop surveys
- b. Develop incentive programs
- c. Involve in state protection process
- 5) Broad education program for all sectors: agencies, public, commercial/sport fishermen, property owners, state/local governments
- 6) Bulkheading
 - a. Equals loss of habitat
 - b. Provide education on/incentives for alternatives (living shorelines)
- 7) Make recommendations for mitigation/restoration that improves habitat for terrapins
- 8) Identify funding sources for both research and education

Target Audiences:

- 1) Fishermen
- 2) Regulatory Agencies
- 3) Legislative Committees and Commissions
- 4) Schools
- 5) Consultants and agencies involved in restoration

Next Steps for Workgroup:

- 1) Decided that late January and early February are good times for meeting
- 2) Provide support/expertise to new researchers (especially Texas), possibly site visits
- 3) Develop questionnaire/survey
- 4) Contact University of Georgia modelers to explore use of "Occupancy Models"
- 5) Host a larger meeting in 2009 to include management and education communities
- 6) Develop SOPs, training documents and/or workshops
- 7) Explore other avenues of contact and communication among workgroup like distance learning and regular conference calls
- 8) Develop recommendations for restoration
- 9) Increase information exchange among workgroup members regarding grants, resources, people, housing for visiting researchers, etc.
- 10) Discuss with national group the funding of scholarships
 - limit to students or also agency personnel
 - involve schools
 - amount: 1 @ \$2k or 2 @ \$1K or ask participants for amounts they need?

Respectfully submitted,
Christina Watters
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Michael Shelton