

Gulf States Marine Fisheries Commission, Crab Subcommittee, March 10, 2020

Development of a Diamondback Terrapin Conservation Action Plan

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Project Overview

Funded by the Gulf of Mexico Alliance (Gulf Star Program)

Wildlife and Fisheries Priority Issue Team

Terrapin CAP is phase one of a two phase effort by GOMA. Phase two will consist applying secured funding to projects recommended by the conservation plan.

Project Need

Terrapins are generally considered to be a species in decline and are a species of concern in 4 of the 5 Gulf States.

Texas (S1S2), Louisiana (S3), Mississippi (S2), Alabama(S2), Florida (no ranking).

Historically in the Gulf, there has been a limited amount published. However over the last 10 years or so this has changed.

Potential increases in interactions with ramped up restoration.

Habitat loss, degradation, and transformation.

In particular nesting habitats often rank as “habitats of conservation concern”.

Lack of data and data sharing.

A conservation plan does not exist for terrapins in the Gulf.

Project Advisory Team

- FL: Daniel Catizone, USGS
- FL: Margaret Lamont, USGS
- FL: Rick O'Connor, Florida Seagrant
- FL: Kristen Hart, USGS
- FL: Traci Castellon, Florida Wildlife Conservation Commission
- AL: Thane Wibbels, University of Alabama Birmingham
- MS: Christina Mohrman, Gulf of Mexico Alliance
- MS: Jennifer Frey, Wildlife Biologist
- MS: Traci Floyd, MS Department of Marine Resources
- LA: Julia Lightner, LA Wildlife and Fisheries
- TX: Aaron Baxter, Texas A&M University
- TX: Paul Crump, Texas Parks and Wildlife
- TX: George Guillen, University of Houston
- TX: Mandi Gordon, University of Houston
- National: Amanda Williard, University of North Carolina, Wilmington
- National: Willem Roosenburg, Miami University of Ohio



Stakeholder Engagement (tentative)

Introductory stakeholder webinar, January- February

Threat Assessment- completed remotely

State workshops, TBD

Mississippi: Grand Bay NERR

Florida 1: Apalachicola NERR

Alabama: Weeks Bay NERR

Louisiana: TBD

Texas Workshop TBD

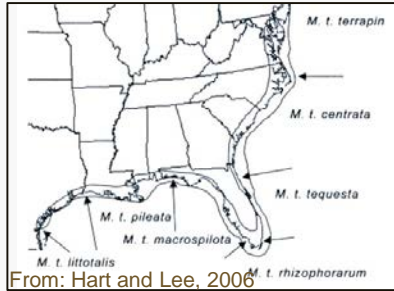
Florida 2: Archbold Biological Station in Venus FL

Follow up webinars for feedback and confirm details

Review of draft materials



Project Scope



Sub-species

Four subspecies of terrapin will be considered for this conservation plan.

Texas
Mississippi
Ornate
Mangrove



Nesting Habitats

Available nesting areas vary from state to state, but can include natural beaches, shell middens, shell hash, and man-made embankments.



Associated Habitats

Terrapins utilize marsh and mangrove habitats throughout their range.



Nested Targets

Any associated species or system of conservation concern may be considered a nested target. Actions supportive of the primary target in turn benefits the nested target.

Viability Assessment



Key Ecological Attribute

Define the most important ecological requirements of a healthy target.

What key characteristics define a healthy target?



Identify Indicators

Identify the current health of a target.

How do we physically measure those characteristics?



Current Status

Set appropriate and measurable goals for desired future health of target.

Develop a rating scale for each indicator.

How is our target doing *now*?



Desired Future Condition

Develop monitoring plans.

What do we want to achieve?
(ultimate, measurable goals)

Threat Assessment



Severity

The level of damage to the conservation target by a threat that can reasonably be expected within 10 years under current circumstances (i.e., given the continuation of the existing situation).



Scope

Most commonly defined spatially as the geographic scope of impact of a threat on a target at the site that can reasonably be expected within 10 years under current circumstances (i.e., given the continuation of the existing situation).



Irreversibility

The degree to which the effects of a threat can be restored.



Common Taxonomy

Threats are defined according to the standardized terminology and taxonomy of the international Conservation Measures Partnership (CMP). Definitions for these Threats can be found at: <http://www.conservationmeasures.org/initiatives/threats-actions-taxonomies/threats-taxonomy>.

Potential Strategies



Conservation

Direct conservation of habitat, such as preservation of nesting areas mangroves, and salt marsh.



Management

Regulatory actions to support reduction of mortality, such as derelict fishing gear collections.



Academic

Research to identify key knowledge gaps such as population demographics and historical ecology.



Educational

Outreach and education relating to terrapins as they are a mighty charismatic and biologically interesting representative of coastal habitats.



Setting Objectives

Specific

Measurable

Attainable

Relevant

Time limited

Maintain or enhance a target

Abate or reduce a threat

Process

SCOPE, THREATS, VIABILITY, OBJECTIVES AND DEVELOPMENT STRATEGY



Summary of Threats									
Coastal Streams & Habitat Initiative									
Threats Across Targets		Magnolia & Watts Bayous	Turkey Creek	Brickyard Bayou	Bear Point Bayou & Coffee Creek	Oyster Bayou	Rhodes Bayou	Bayou Chico	Overall Threat Rank
Project-specific threats		1	2	3	4	5	6	7	
1	Housing & Urban Areas	Very High	High	Very High	High	High	High	Very High	Very High
2	Commercial & Industrial Areas	High	High	High	High	High	High	Very High	Very High
3	Roads & Railroads and Utility & Service Lines	High	Very High	High	High	High	High	High	Very High
4	Climate Change	Medium	High	Medium	High	High	High	High	High
5	Invasive Non-Native/Alien Species	High	High	High	Medium	High	Medium	High	High
6	Garbage & Solid Waste	Medium	High	High	Medium	Medium	Medium	High	High
7	Canals, Dredging & Other Ecosystem Modifications	High	Medium	Medium	Medium	Medium	Medium	Medium	High
8	Dams & Water Management/Use	Medium	Medium	Medium	Medium	Medium	Medium	Medium	High
9	Recreational Activities	Medium	Low	Low				Low	Low
10	Tourism & Recreation Areas	-	Low	-	-	Medium	Low	Low	Low
11	Fire & Fire Suppression	-	Medium						Low
12	Fishing & Harvesting Aquatic Resources	Low	Low	Low			Low	Low	Low
13	Flight Paths		Low	Low	Low				Low
14	Air-Borne Pollutants							Low	Low
15	Logging & Wood Harvesting	-	Low	-	-	-	-	-	Low
16	Oil & Gas Drilling	-	Low	-	-	-	-	-	Low
Threat Status for Targets and Project		Very High	Very High	Very High	High	High	High	Very High	Very High



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