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**GLENN HEGAR**  
**TEXAS COMPTROLLER OF PUBLIC ACCOUNTS**

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**Baseline study of Alligator Snapping Turtle (*Macrochelys temminckii*) population viability**

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<b>Anticipated Schedule of Events</b>	<b>Date</b>
Call for Proposal Issued	July 28, 2020
Proposal Due	September 30, 2020
Contract Execution	December 2020
Commencement of Work	January 2021

**E-mail proposal to [nat.res.research@cpa.texas.gov](mailto:nat.res.research@cpa.texas.gov)  
by 5:00 p.m. on September 30, 2020.**

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The selected Respondent will enter into an interagency contract (“Contract”) with the Texas Comptroller of Public Accounts (CPA) pursuant to Chapters 403 and 771 of the Texas Government Code. The Contract is for services; it is not a grant and should not be processed as such. The Contract between CPA and selected Respondent will require itemized expenses accompanied by appropriate documentation, which will be reviewed in detail by CPA before payment. Expenses must be justifiable, reasonable and necessary, and directly relate to the research objectives. Potential respondents should consider the reimbursement requirement burden before submitting a proposal.

## **PART 1**

### **Scope of Work**

#### **1.1 Species of Interest:**

- Alligator Snapping Turtle, *Macrochelys temminckii*

#### **1.2 Geographic Area**

- East Texas river basins (e.g. Trinity, Sabine, Lower Neches, Angelina-Neches); may include accessing private lands, and/or other public lands

#### **1.3 Project Timeline:**

- 24 months

#### **1.4 Maximum Budget:**

- \$400,000

#### **1.5 Research Goals:**

The purpose of this project is to contribute to an understanding of viability of the Alligator Snapping Turtle population in Texas and contribute a baseline study to future monitoring efforts to inform the U.S. Fish and Wildlife Service Species Status Assessment (SSA) process and voluntary conservation actions.

#### **1.6 Research Objectives:**

This research will (1) characterize demographics of *M. temminckii* in Texas, (2) assess the genetic structure of *M. temminckii* in Texas, and (3) serve as a basis for long-term population monitoring efforts and provide field training for stakeholders.

Suggested tasks to meet the objectives include:

- 1) Characterize abundance and demographic parameters to understand viability of Texas populations of *M. temminckii*.
  - A. Select representative survey sites to encompass different habitats such as urban, rural, reservoir, and riverine habitats for each river basin across the known current range of *M. temminckii* in all East Texas river basins. Revisit each site quarterly/seasonally.
  - B. Following Rudolph et al. 2002<sup>1</sup> and coordinating with Texas Parks and Wildlife Department (TPWD) on survey methods, live capture *M. temminckii* individuals near aquatic habitat at survey sites for multiple days across multiple seasons. Record information for all non-target turtle species captured as well as target species.
  - C. For each captured individual, deploy a PIT tag and mark shells to enable tracking and identification between survey sites, movement, longevity and local population estimates. Collect blood and/or tissue samples from each captured individual to provide genetic material needed for Task 2. Note individual characteristics (e.g. sex, size) for examining population demographics.

- D. Quantify abiotic and biotic habitat characteristics at survey sites, including water quality parameters, presence of other turtle species, existence of coarse woody debris, dominant vegetation type, etc. Collect and record GPS locations of capture sites.
  - E. Analyze population demographic data including population sizes, age structure, and specific habitat usage. Estimate abundances of Alligator Snapping Turtles at each survey site and evaluate population viability.
  - F. Develop a detailed map of survey sites, movements, abundances, and average population metrics where appropriate using data collected under Task 1. Identify any patterns in demographics across the landscape.
- 2) Assess population genetic structures of *M. temminckii* in Texas.
- A. Use genetic material collected from individuals outlined in Task 1 to assess genetic structure of the species across Texas and evaluate whether this structure is influenced spatially, including potential barriers to gene flow and whether it occurs between major river drainages. Assess if genetic structure is characterized by recognizable sub-populations.
  - B. Obtain any other existing collections of genetic material of the Alligator Snapping Turtle in Texas to provide information on populations.
  - C. Develop a detailed map of genetic structure, if appropriate, using data examined in Task 2.
  - D. Develop a tool or report for resource managers to easily use for future reintroduction work.
- 3) Coordinate with stakeholders to provide a basis for future long term-monitoring efforts.
- A. Coordinate in advance with local stakeholders to identify access for survey locations, stay up to date on study sites for other research projects, and leverage any local knowledge or citizen scientist efforts to inform the research.
  - B. Provide opportunities for local resource management staff to observe field sampling efforts.
  - C. Host at least two formal trainings for any interested stakeholders to describe sampling efforts and processes to provide tools for future long-term monitoring efforts. Trainings should be set at times and in locations most convenient for stakeholders.
  - D. Attend annual stakeholder meetings to present research updates. Frequently communicate with stakeholders in collaboration with Comptroller.
- 4) Create or contribute to a database or web-based viewer that can be combined with historical data to serve as a baseline for future monitoring efforts. Database (or similar) should show current study sites as well as population information of alligator snapping turtles in Texas, using data collected during this study.

<sup>1</sup>Final Report: Historical and local processes determining the current status of *Macrochelys temminckii*: the Alligator Snapping Turtle in Texas. Rudolph, D.C., Fitzgerald, L.A., Nelson, R.E., Hibbits, T., and R.W. Maxey. Submitted to Texas Parks and Wildlife Department on 31 March 2002.

**PART 2**  
**PROPOSAL FORMAT**

**2.1 Respondent Identifying Information**

<b>University Information</b>	
University Name:	
Address:	
Tax ID Number:	

Identify all program and subcontractor personnel in the proposed research project. Subcontractors may include but are not limited to universities, state or federal agencies and private entities.

Provide the following summaries for principal investigators and key personnel, including subcontractors:

1. curriculum vitae;
2. list of accessible publications most closely related to the proposed research project; and
3. description of each person's knowledge of and experience with:
  - A. the ESA, recovery plans, and five-year reviews;
  - B. conducting research on the species of interest.
  - C. their particular task on the project

Limit to 5 pages or less per person.

**2.2 Project Description**

Organize proposed project description by section, as shown below. Page limits for each section are maximum numbers, not suggested numbers.

Project Summary: Limit one page. Provide a summary/abstract of the proposed project. Include hypothesis, design, and impact of research.

Background Information: Limit 5 pages. Provide a summary of existing scientific literature and data regarding *M. temminckii* throughout the species' entire historic range. Detail how information from this study would fill knowledge gaps for the species.

Questions/Hypotheses: Limit 2 pages. List hypotheses and specific research questions the project would answer.

Research Tasks and Methods: No page limit. Describe how each Research Objective would be addressed, including the following information:

1. Methods to address each objective, including survey methods, locations and format of data sets. Explain deviations from suggested tasks in Section 1.6;
2. Assumptions made in the proposed design;
3. Description of access to or plan to obtain permission to access privately owned property where necessary to perform research, including a contingency plan if the desired access cannot be obtained;
4. Description of expected challenges to the research and appropriate solutions to each challenge (including potential impacts and adaptations to SARS-CoV-2); and
5. Description of plan to disseminate publicly accessible data.

### 2.3 Project Management

The proposed project timeline is 24 months.

Respondent must provide a schedule of work for each of the research tasks and deliverables described in this section using a format similar to the table below.

	<b>Year 1</b> Contract execution – Aug. 31, 2021			<b>Year 2</b> Sept. 1, 2021 - Aug. 31, 2022				<b>Year 3</b> Sept. 1, 2022 - Contract expiration
<b>Task</b>	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1

A Year begins Sept 1 and ends the following August 31. Quarters are as follows:

- Q1: Sept 1 – Nov 30
- Q2: Dec 1 – Feb 29
- Q3: Mar 1 – May 31
- Q4: June 1 – Aug 31

The proposed schedule should address the following:

1. submission of detailed Research Plan to Comptroller for review prior to commencement of work;
2. procurement of permissions necessary to access sites, and plan to allow scheduled and coordinated observation by stakeholders;
3. specific milestones for research tasks and project deliverables (*e.g.*, X number of sites sampled for species Y, data submitted to Comptroller);
4. meeting with Comptroller (in person or via conference call) prior to the commencement of work;
5. quarterly status updates with Comptroller and external experts (in person or via conference call);
6. annual public stakeholder meetings or webinars to present/discuss the research;
7. a minimum of one public stakeholder training on Alligator Snapping Turtle monitoring methods, conducted in coordination with TPWD. Topics covered should include survey methodology, permits necessary, and data collection.
8. submission of annual and final reports and data sets; and
9. meeting with Comptroller and interested stakeholders following the completion of the Final Report to discuss findings and conclusions.

### 2.4 Budget, Justification and Explanation

Attachment A details the budget section of the proposal. The budget should demonstrate an efficient use of project funds. Costs, including personnel and subcontractors, must be justifiable, reasonable and necessary, and directly relate to the research objectives.

In the event Respondent is funded for other research projects related to the Species of Interest, Respondent must identify the funding source and percentage of salary, time, and other resources dedicated to the other project. Respondent must describe plans for leveraging the proposed funding such as collaborating with other researchers, institutions, and agencies to avoid duplication of effort and ensure funds are used efficiently.

## ATTACHMENT A

### Budget

The maximum budget allocated for this project is \$400,000, with the understanding that this amount is contingent upon the availability of legislated funds provided to the Comptroller for endangered species research.

Enter budget costs in the Excel spreadsheet attached to the Call for Proposals email (CPA-NR\_Project-Budget-By-Year). Green cells are fillable. In Attachment A to the proposal, include narratives for each Direct Cost category as noted below.

Contractual: Costs for services under contract with third parties.

1. Excel "Contractual" tab: list each subcontractor name, contact information and cost per contract year.
2. Proposal narrative: Describe subcontractor work and include any clarifying comments.

Personnel: All individuals receiving pay for work on project from project budget. Budgeted amounts should be based on and clearly describe the amount of effort each individual contributes to the project.

1. Excel "Personnel" tab: list names (if known), roles, compensation rates (including benefits and tuition), months dedicated to project per year, and cost per contract year.
2. Proposal narrative: include clarifying comments on personnel roles and justify any tuition requested.
  - A. CPA will consider tuition reimbursement if a student's thesis or dissertation research directly addresses project goals and the student works at least 20 hours/week on the project during the semester for which reimbursement is sought.

Travel: Lodging, transportation, and meal reimbursement in accordance with State of Texas travel guidelines. Meals are reimbursed for actual expenses. The Comptroller does not pay a per diem amount and will not reimburse for tips or alcohol.

1. Excel "Travel" tab: list trip type and annual costs per trip type.
2. Proposal narrative: justification for any conferences and other clarifying comments.

Supplies: Routine costs for items needing replenishment throughout project.

1. Excel "Supplies" tab: list supply type and cost per contract year.
2. Proposal narrative: include any clarifying comments.

Equipment: Capital expenses for equipment costing over \$1,000 per item.

1. Excel "Equipment" tab: include name of item, make and model, and cost per contract year.
2. Proposal narrative: include item purpose, direct benefit to the project and other clarifying comments.

Indirect Costs: Indirect costs must be capped at ten percent (10%) of Direct Costs. A proposal will be disqualified if indirect costs are not capped at ten percent (10%). The Comptroller does not reimburse for indirect costs calculated on subcontractor-billed indirect costs.

*Note*: Expenses generally not eligible for reimbursement by the Comptroller are computers, software, vehicles, vehicle maintenance or repairs, journal publications, laundry services, registration or cancellation fees, out-of-state conferences or in-state conferences unless personnel are presenters. If requesting any of these items, include a detailed explanation of the item's value to the project.