



CEHMM

505 North Main Street, Carlsbad, NM 88220 • 575-885-3700 • www.cehmm.org

REQUEST FOR PROPOSALS

No. CEHMM 002-2019

For

**Determination of Flow Regime Requirements for Texas Hornshell Mussel
(*Popenaias popeii*) in the Black River, Eddy County, New Mexico**

Each company or individual submitting a proposal should demonstrate their ability to perform the work by describing their experience and capabilities related to similar projects completed. Please provide evidence of any necessary licenses, bonding, and insurance with the proposal.

SUBMISSION DEADLINE: 8/30/19 at 16:00 P.M.

ELIGIBILITY: Any federal, state, or private entity.

FUNDING PERIOD: Up to 3 years, beginning 10/1/2019 and ending 10/1/2022, subject to annual review and demonstration of satisfactory progress.

FUNDING AVAILABILITY: \$220,000 total divided among all funded projects for Year 1.

SUBMIT APPLICATIONS TO: info@cehmm.org with “Texas hornshell RFP” in the subject line (all correspondence or submissions for this RFP must be sent to this address). Please provide evidence of any necessary licenses, bonding, and insurance with the proposal.

CONTACTS: Matt Ramey: (575) 885-3700.

OVERVIEW

The Center of Excellence (CEHMM) is requesting proposals for scientific research that will inform the development of flow regime requirements for the Texas hornshell mussel (“hornshell”) population in the Black River, Eddy County, New Mexico. Prior to listing the hornshell as endangered in early 2018, the U.S. Fish and Wildlife Service (Service) entered into formal conservation agreements with CEHMM and the New Mexico State Land Office (SLO) that are aimed at reducing or eliminating threats to the species. Lack of flow due to drought and other water demands is believed to be one of the most significant threats to the hornshell population in the Black River. The conservation agreements require that the species’ flow needs be determined by 2022 to provide targets for ongoing conservation efforts.

The Service, CEHMM, and SLO anticipate that more than one study or approach will be needed to understand the hornshell's flow requirements, and are therefore seeking a range of complementary proposals. Project proposals should focus on addressing gaps in existing scientific knowledge about the physiological or life cycle needs and thresholds of the hornshell and its host fish, such as seasonal flow variation requirements, if any; and relationships between flow levels and resource availability, habitat availability, habitat connectivity, or water quality. At the end of the funding period, contractors will participate in a workshop to present their findings and assist with synthesizing the results of all funded projects to develop flow targets and identify further research needs.

SPECIES

The Texas hornshell mussel is a bivalve mollusk that is native to the Pecos River and Rio Grande drainages in New Mexico, Texas, and Mexico. The Black River population occupies a 14 km reach from Black River Village (approximately 32°12'7.65"N, 104°15'2.12"W) to the Carlsbad Irrigation District diversion dam (approximately 32°13'50.79"N, 104° 8'26.41"W). The species occupies undercut riverbanks, crevices, ledges, and travertine shelves, and can be found under large boulders. Preferred substrate includes small-grained materials such as clay, silt or sand that provides areas for the mussel to anchor. Several fish species have been identified as important hosts for Texas hornshell, including gray redhorse (*Moxostoma congestum*), river carpsucker (*Carpionodes carpio*), blue sucker (*Cycleptus elongatus*), red shiner (*Cyprinella lutrensis*), and longear sunfish (*Lepomis megalotis*). For more information about the ecology of and threats to these species, please see the Texas hornshell Candidate Conservation Agreements at <http://cehmm.org/index.php/documents/tx-hornshell/> and the Texas hornshell recovery plan at <http://www.wildlife.state.nm.us/download/conservation/species/invertebrates/recovery-plans/Texas-Hornshell-Recovery-Plan.pdf>.

RESEARCH SCOPE

Proposals should address one or more of the research needs described below. Proposals for other projects that would contribute to an understanding of flow regime requirements for the hornshell will also be considered.

1. The relationships between river flow levels and hornshell or host fish physiological requirements and thresholds, including:
 - water quality
 - thermal thresholds
 - susceptibility to algae blooms, nutrient loading, or disease vectors
 - reproductive requirements
 - resource availability
 - response to and tolerance of flood and drought conditions
 - historic flow regime and life histories of the mussel or host fish
2. The relationships between river flow levels and habitat availability, including:
 - habitat structure, including streambed composition, bank structure, vegetation structure and type, sedimentation
 - stream velocity

- presence and location of riffles, pools, and runs
- habitat connectivity, including movement of host fish through river crossings and barriers

FUNDING

A total of \$220,000 is available to fund one or more pertinent projects. Funds may be used for staff time, contracts, field research, data collection, data analysis, meetings, drafting, printing, and associated costs incurred after the contract is awarded. Applicants will be notified of a decision on their proposal by 10/1/2019.

PROPOSAL GUIDELINES

The proposal should include the following:

1. Introduction
 - a) Project title
 - b) Name, title, institutional affiliation, and contact information for the principal investigator and the name and affiliation of all additional investigators listed on the proposal
 - c) Abstract of the proposed research (1-2 paragraphs)
2. Project Narrative of no more than 3000 words that describes:
 - a) project summary and scope
 - b) literature summary
 - c) project design and methods, including equipment and materials
 - d) explanation of how the project will contribute to an understanding of flow regime requirements for the hornshell
3. Project timeline
4. Detailed budget
5. A list and status of any permits or permissions required (i.e., already obtained, will request/apply for, etc.)
6. Curriculum Vitae and qualifications of the principal investigator and any additional investigators listed on the proposal
7. A list of partners or matching funds (if applicable)

PROJECT EVALUATION CRITERIA

We will evaluate proposals according to the following criteria:

1. the project's potential to advance our understanding stream flow regime requirements to sustain the Texas hornshell mussel population in the Black River;
2. qualifications of the project team;
3. the project's synergy with or complementarity to other proposals;
4. likelihood of project completion within the proposed timeframe and budget or materials; and
5. availability of partnerships or matching funds.

DELIVERABLES

Contractors will be expected to submit brief quarterly progress reports and a final report that describes the project results, explains the implications for hornshell flow regime requirements

with a recommendation of minimum stream flow, and describes any additional research needed. At the end of the funding period, contractors will also be expected to participate in a workshop to present their findings and assist with synthesizing the results of all funded projects to develop flow targets and identify further research needs.

ASSUMPTIONS & AGREEMENTS

- Be licensed to work in the state of New Mexico and comply with all applicable laws/regulations.
- Provide their own liability, auto, and workman's comp insurance.
- Provide their own on-site safety oversight and all personal protection equipment.
- Be responsible for disposal of waste in accordance with laws and regulations.
- Provide all necessary equipment.

ADDITIONAL INFORMATION OR CLARIFICATION

Any questions should be directed to:
Matt Ramey – Hornshell Project Manager at 575-885-3700.

ANTICIPATED SELECTION SCHEDULE

- Initial review and request for additional information if necessary – August 16th, 2019
- Submission deadline – August 31st, 2019
- Final award – October 1st, 2019