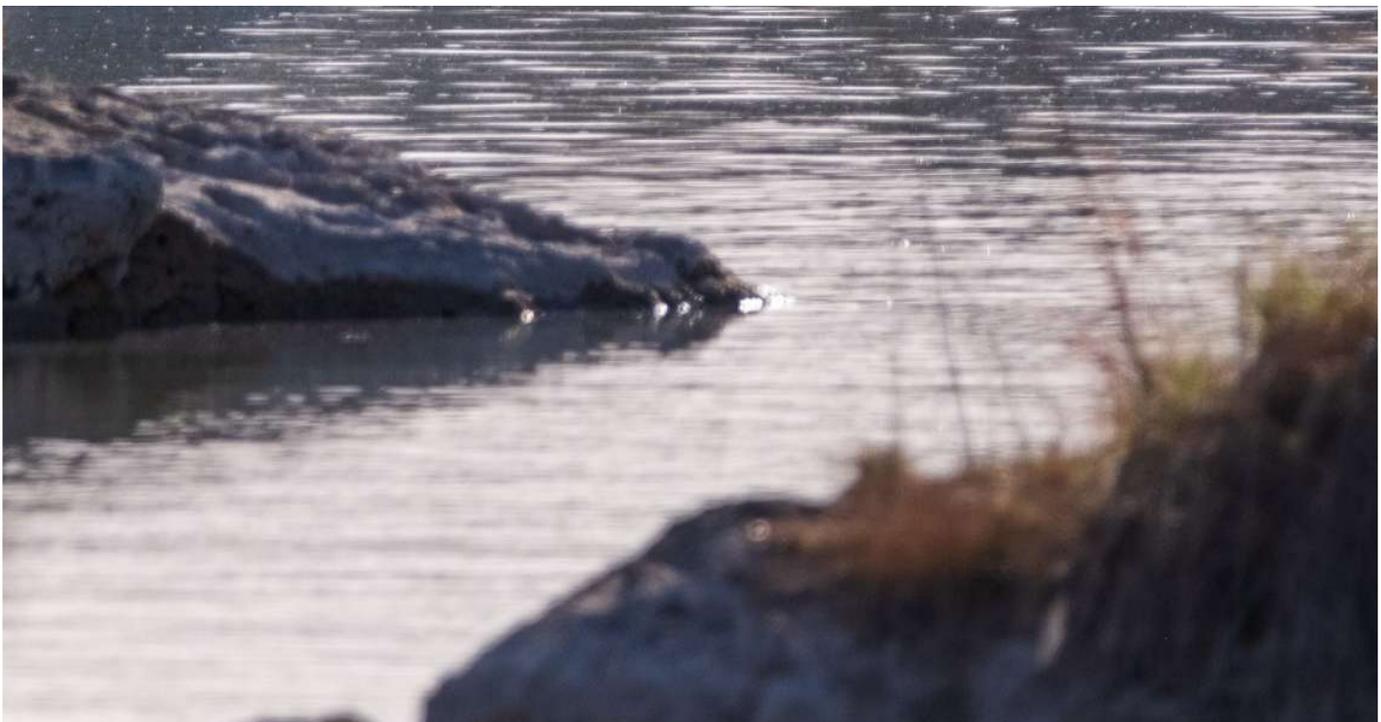




2025 Annual Report



Candidate Conservation Agreements: Texas Hornshell Mussel (*Popenaias popeii*) and Other Covered Species



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Introduction

The Center for Environmental Health, Monitoring, and Management (CEHMM) is a 501(c)(3) non-profit corporation engaged in research, conservation, and environmental management in southeastern New Mexico. CEHMM utilizes funding and collaborative conservation frameworks to provide habitat protections, implement restoration activities, and conduct long-term monitoring that supports the persistence of the Texas hornshell mussel (THM; *Popenaias popeii*) and other at-risk aquatic species. These efforts aim to improve conditions across occupied and potential habitat, reduce threats, and proactively address conservation needs to help avoid future federal listing actions.

The THM is a freshwater mussel native to the Rio Grande drainage basin of New Mexico and Texas (Figure 1). Historically, the species occupied river systems throughout southern New Mexico and west Texas; however, its current distribution is now limited primarily to portions of the Black and Delaware rivers in New Mexico, the lower Pecos River in Texas, and isolated segments of the Rio Grande. The THM relies on stable stream channels with moderate flows, clean substrates, adequate dissolved oxygen, and it is highly sensitive to water quality degradation, sedimentation, dewatering, and habitat fragmentation. In New Mexico, occupied habitat occurs almost exclusively within the Black River Basin, where bedrock shelves, undercut banks, and variable-flow systems create essential microhabitats for the species.



Figure 1. Texas hornshell mussel (*Popenaias popeii*) observed in the Black River.

The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 et seq.), provides mechanisms for the protection and recovery of species that are endangered or threatened throughout all, or a significant portion, of their range. Section 9 of the ESA prohibits “take” of listed species on both public and private lands, and Section 7 requires federal agencies to ensure their actions do not jeopardize listed species or adversely modify designated critical habitat. In 2018, the THM was listed as endangered throughout its range, and critical habitat was designated along occupied reaches of the Black and Delaware rivers, further elevating the need for coordinated conservation actions and proactive land stewardship.

This joint annual report to the U.S. Fish and Wildlife Service (Service) summarizes all activities conducted in 2025 under the three sister Candidate Conservation Agreements for the THM and other covered species. These agreements guide coordinated conservation efforts intended to protect THM populations, improve aquatic habitat conditions, and reduce the need for future federal regulatory intervention through collaborative, science-based management. CEHMM administers two of these agreements: a Candidate Conservation Agreement (CCA) for federal lands and a Candidate Conservation Agreement with Assurances (CCAA) for non-federal and non-state private lands. The New Mexico State Land Office (NMSLO) administers the third agreement, a CCAA specific to state trust lands. Collectively, these conservation instruments are referred to throughout this report as the “CCA/As.”

Implementation of the CCA/As is carried out through a shared governance framework involving CEHMM, the NMSLO, the Bureau of Land Management (BLM), and the Service. Through coordinated planning, field operations, water quality monitoring, data sharing, and adaptive management, these partners work together to maintain and enhance habitat conditions across the Black and Delaware river basins. These watersheds represent core areas for the persistence and potential recovery of the THM and are focal points for ongoing restoration, hydrologic protection, and long-term population monitoring.

Candidate Conservation Agreements and Candidate Conservation Agreements with Assurances

The THM CCA/As operate as voluntary, landscape-scale conservation agreements that allow land and water users to participate in species protection while maintaining lawful operations. These agreements provide a cooperative framework through which CEHMM, land and resource management agencies, private landowners, and industry partners implement conservation measures that avoid, minimize, and mitigate impacts to occupied and suitable habitat. Participation is open to entities such as oil and gas operators, ranchers, utility providers, and other land or water users (collectively referred to as Participating Cooperators), who enroll by signing either a Certificate of Participation (CP) for the federal CCA or a Certificate of Inclusion (CI) for the private or state CCAA. Enrollment is entirely voluntary, and participants may withdraw at any time; however, most remain engaged to retain program benefits and regulatory assurances that additional restrictions will not be imposed on otherwise lawful activities should federal permitting or regulatory conditions change in the future.

Upon enrollment, Participating Cooperators implement conservation measures relevant to their activities and contribute conservation fees that support habitat protection, water quality monitoring, research, restoration, and response actions that directly benefit the THM. These measures may include flow coordination, erosion and sediment control, spill prevention and containment, riparian setback or infrastructure siting considerations, and operational best practices aimed at reducing the likelihood or severity of impacts. CEHMM manages daily operations of the CCA/As as the federal permit holder, while the NMSLO oversees the state trust land CCAA. CEHMM processes enrollments, tracks conservation commitments, manages program funds, coordinates with agency partners, and reports program outcomes to the Service. Conservation fees are allocated to projects through a collaborative review and approval process led by the Implementation Committee, which includes representatives from CEHMM, the Service, the BLM, the NMSLO, and the New Mexico Department of Game and Fish (NMDGF).



Figure 2. Black River in SE New Mexico.

Through the CCA/As, conservation actions are tied directly to conditions within the Black and Delaware river basins (Figure 2) and reflect evolving science and management needs. This structure allows the program to adapt to changing hydrologic conditions, land use patterns, and new information regarding species ecology or habitat function. The agreements enable CEHMM and partners to proactively implement measures that protect water quality, maintain or enhance stream connectivity, reduce sedimentation risk, and address emergent threats before they escalate to regulatory conflicts. In practice, the CCA/As serve as a mechanism for balancing continued land and water use with measurable, science-based conservation outcomes, positioning Participating Cooperators as active contributors to the long-term viability of the Texas hornshell in southeastern New Mexico.

Enrollment

Due to the federal listing of the THM under the ESA in 2018, the THM CCA/A is currently a closed program and no longer accepts new enrollment. As of 2025, CEHMM and the NMSLO have issued a combined total of 103 CIs in the CCAAs for non-federal land or CPs for the CCAs for federal land. Fifty Participants are enrolled in multiple Candidate Conservation Agreements. NMSLO administers 28 CIs and CEHMM administers 42 CPs and 33 CIs (Figure 3).

In 2025, NMSLO had 112,284.17 acres of state trust land enrolled in its CCAA. CEHMM had 293,504.34 acres of private land enrolled in its CCAA and 391,278.49 acres of federal land enrolled in its CCA (Figure 4). The total amount of acres enrolled in CCA/As in 2025 was

797,067.00 (Figure 5). Annual acreage can

vary since the Participants that opted for “All Activities Enrollment” can add or remove enrolled acreage based on their current activities. The same acres can also be enrolled more than once by different Participants that are using that acreage for different activities; the totals therefore reflect multiple enrollments of the same parcels.

Figure 3. 2025 CCA and CCAA enrollment summary.

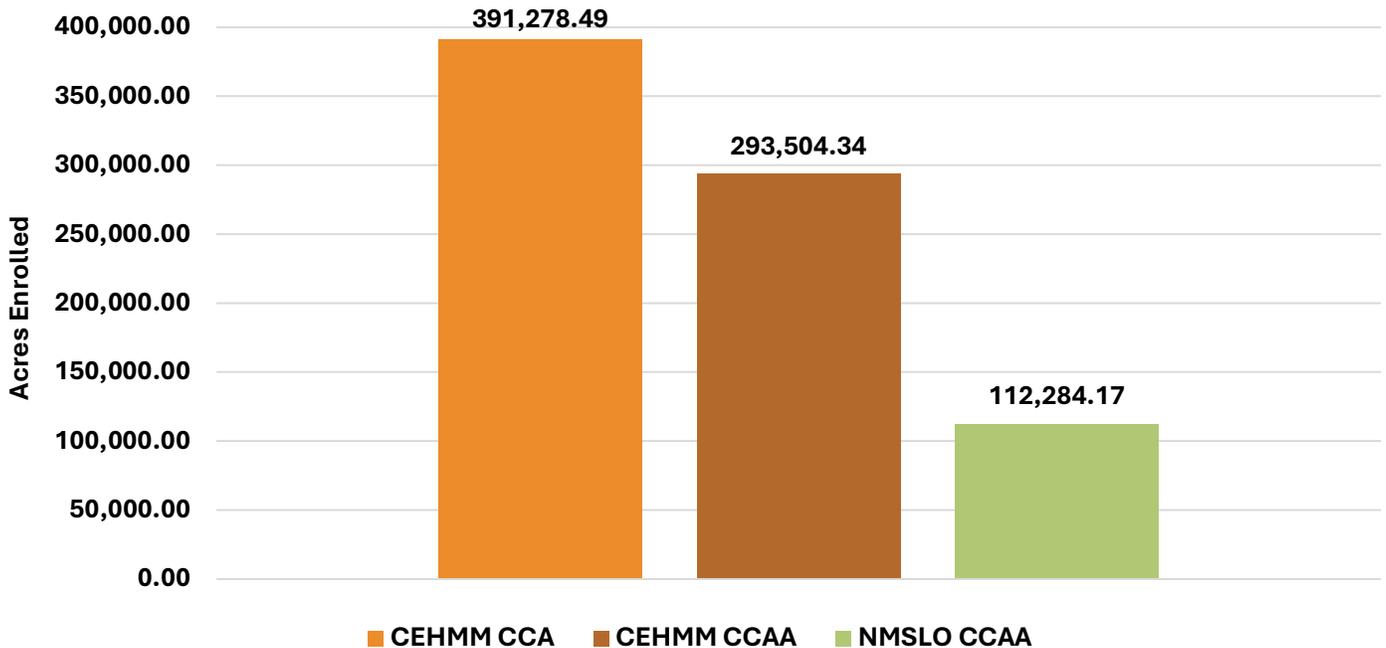
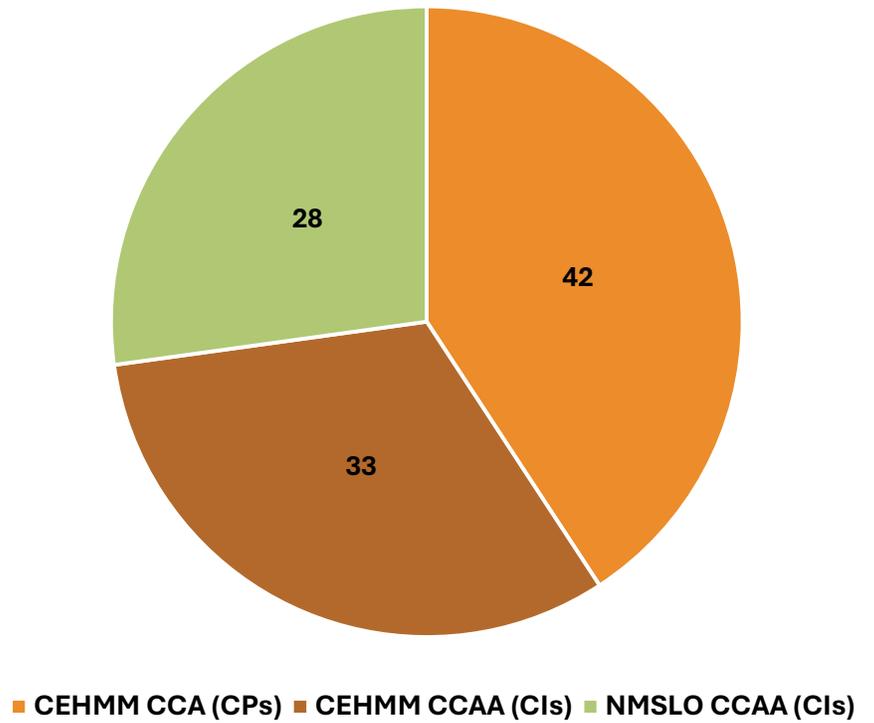


Figure 4. 2025 CEHMM and NMSLO CCA/A acres enrolled.

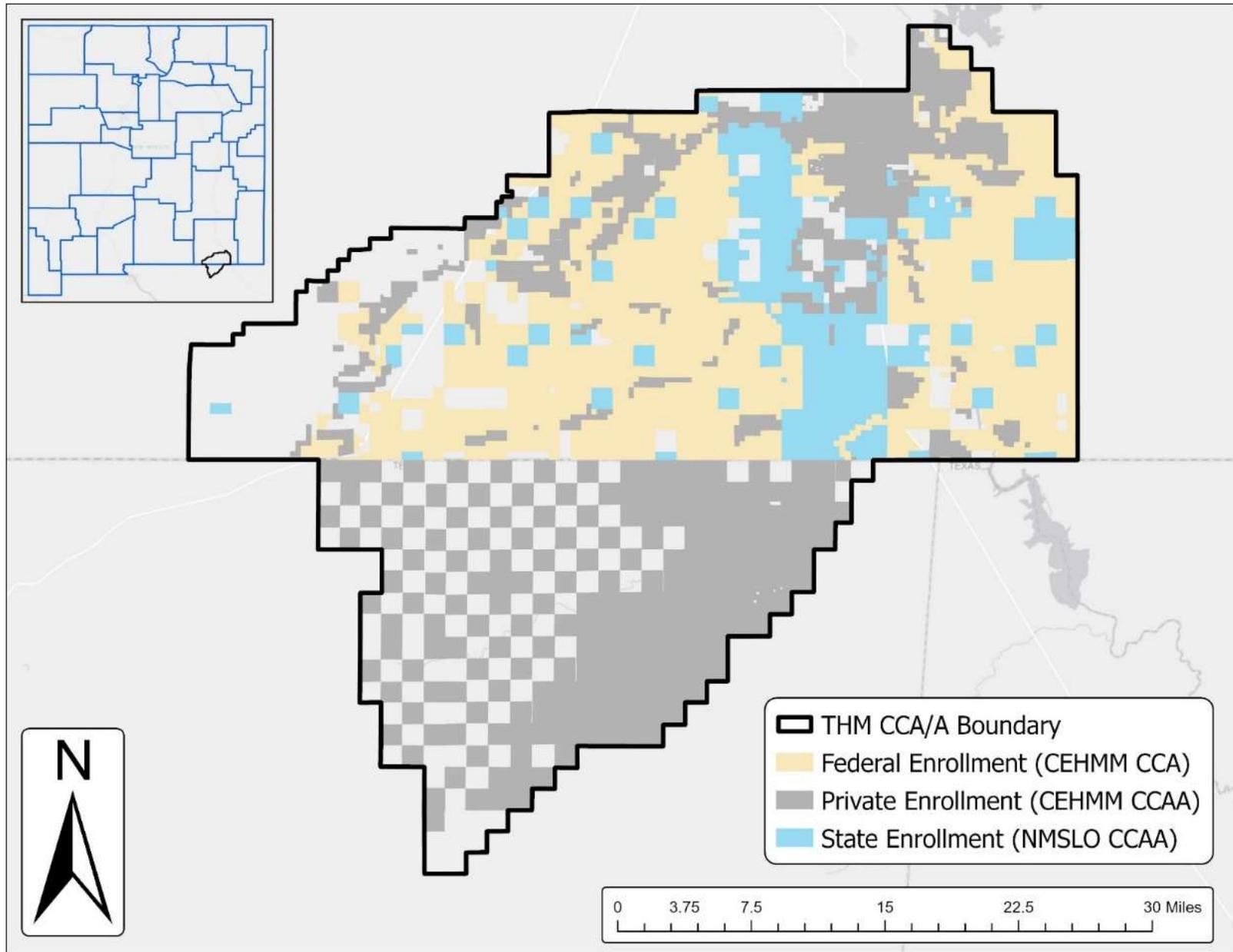


Figure 5. THM CCA/A boundary (black), federally enrolled lands (yellow), privately enrolled lands (grey), and state enrolled lands (light blue).



Conservation Measures

Conservation measures implemented under the THM CCA/As emphasize habitat protection, flow maintenance, invasive species control, and the minimization of disturbance to occupied and sensitive habitat. These actions are guided by a zone-based management framework (Tables 1 & 2; Figure 6) that organizes habitat into categories based on ecological sensitivity and potential for impacts. This structure allows CEHMM and Participating Cooperators to implement targeted, science-based practices that reduce threats to the Texas hornshell and its aquatic systems.

Table 1. THM conservation measure examples by enrollment type.

Enrollment Type	Conservation Measures (Examples)
Oil & Gas / Infrastructure	Participants avoid new disturbances in occupied habitat and minimize impacts in floodplains and other sensitive areas while implementing erosion control, Spill Prevention, Control, and Countermeasure (SPCC) compliance, and providing project maps and pre-construction notice to CEHMM.
Solid Minerals Mining	Participants avoid disturbance in occupied habitat, implement reclamation and erosion control for permitted sites, provide permits, mine plans, and reclamation documentation, and comply with SPCC and other applicable permits.
Water Withdrawers	Participants maintain minimum stream flows, curtail withdrawals when thresholds are reached, and coordinate with CEHMM on hydrologic monitoring and permitting.
Agriculture & Ranching	Participants follow grazing and vegetation management plans near sensitive habitat, limit water pumping during low-flow events, support invasive species removal and native vegetation restoration, and avoid new disturbance in high-priority zones.

Table 2. Management zone-based conservation measure examples.

Management Zone	Habitat Context	Conservation Measures (Examples)
Zone A	Occupied Habitat within the Black River and Delaware River.	No new surface disturbance is allowed. Participants must cease pumping when minimum flow is reached and avoid low-water crossings when alternatives exist.
Zone B	The Black and Delaware rivers (excluding Zone A in each), Blue Springs, and their associated USGS 100-year floodplain.	Participants should avoid disturbance where feasible. If disturbance is unavoidable, they must minimize impacts and document justification. Erosion control measures and SPCC compliance are required.
Zone C	Ephemeral drainages to the Black and Delaware rivers, including Owl Draw.	Participants must maintain natural hydrologic connectivity and avoid obstruction of drainages where feasible. If impacts occur, erosion controls must be implemented.
Zone D	The area within the CCA Boundary, not otherwise described in management zones A, B, or C.	Participants must provide project documentation to CEHMM, maintain compliance with SPCC and grazing or vegetation plans, and allow access for monitoring and restoration work.

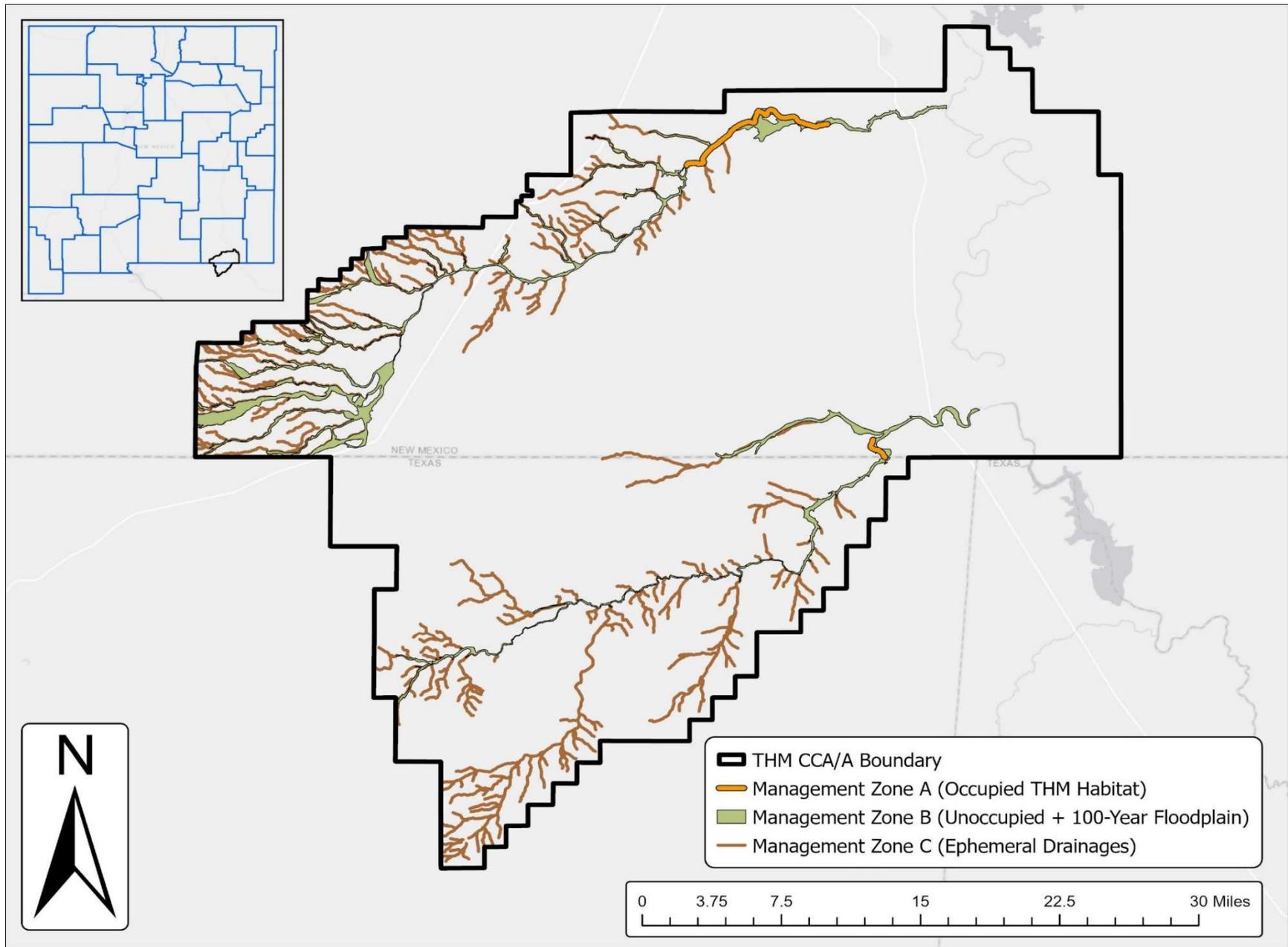


Figure 6. THM CCA/A boundary (black), management zone A (orange), management zone B (green), and management zone C (brown).

Compliance Monitoring and Conservation Measure Violations

The CCA/As require CEHMM and the NMSLO to submit an annual compliance verification to the Service for each enrolled Participant. As administrators, CEHMM and NMSLO are responsible for performing compliance monitoring and for notifying Participating Cooperators if any conservation measures outlined in their CIs or CPs are not implemented.

Compliance monitoring in 2025 included field inspections, review of new surface disturbance notifications, verification of SPCC and Reasonable and Prudent Practices for Stabilization (RAPPS) compliance where applicable, and review of relevant data from the New Mexico Oil Conservation Division and BLM right-of-way records. No instances of non-compliance were observed during 2025.

A Conservation Measure Violation (CMV) formally documents a failure to implement conservation commitments and functions similarly to the BLM's Incident of Non-Compliance. When a CMV is issued, CEHMM and NMSLO work with the Participating Cooperator to develop and implement corrective actions specific to the conservation measures in question. No fines or penalties are associated with a CMV; however, if three CMVs are issued within a 12-month period, the Participating Cooperator risks termination of their CI or CP and forfeiture of any associated CCA/A benefits. In 2025, no CMVs were issued.

Industry Activities Covered in 2025

In 2025, CEHMM received a total of 142 notices of new surface disturbances from industry (Figure 7), documenting 843.41 acres of new disturbance (Figure 8). Of these, one disturbance occurred in Management Zone B, while the remainder were in Management Zone D. The NMSLO received 63 notifications of new surface disturbances from Participants (Figure 7), totaling 170.87 acres (Figure 8), all within Management Zone D. CEHMM collaborated with Participants to ensure proper conservation measures were implemented, including RAPPS and SPCC measures. These efforts included installing water-bars, silt fences, culverts, erosion blankets, wattles, and reseeded disturbed areas.

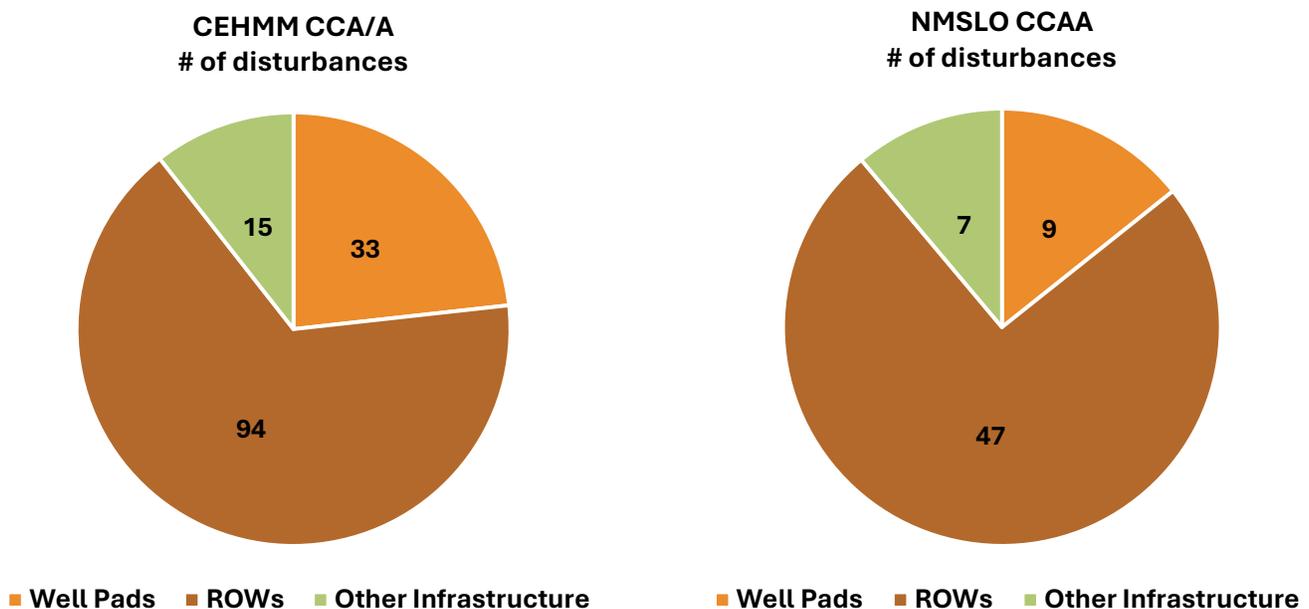


Figure 7. Disturbance breakdown for CEHMM CCA/A and NMSLO CCAA.

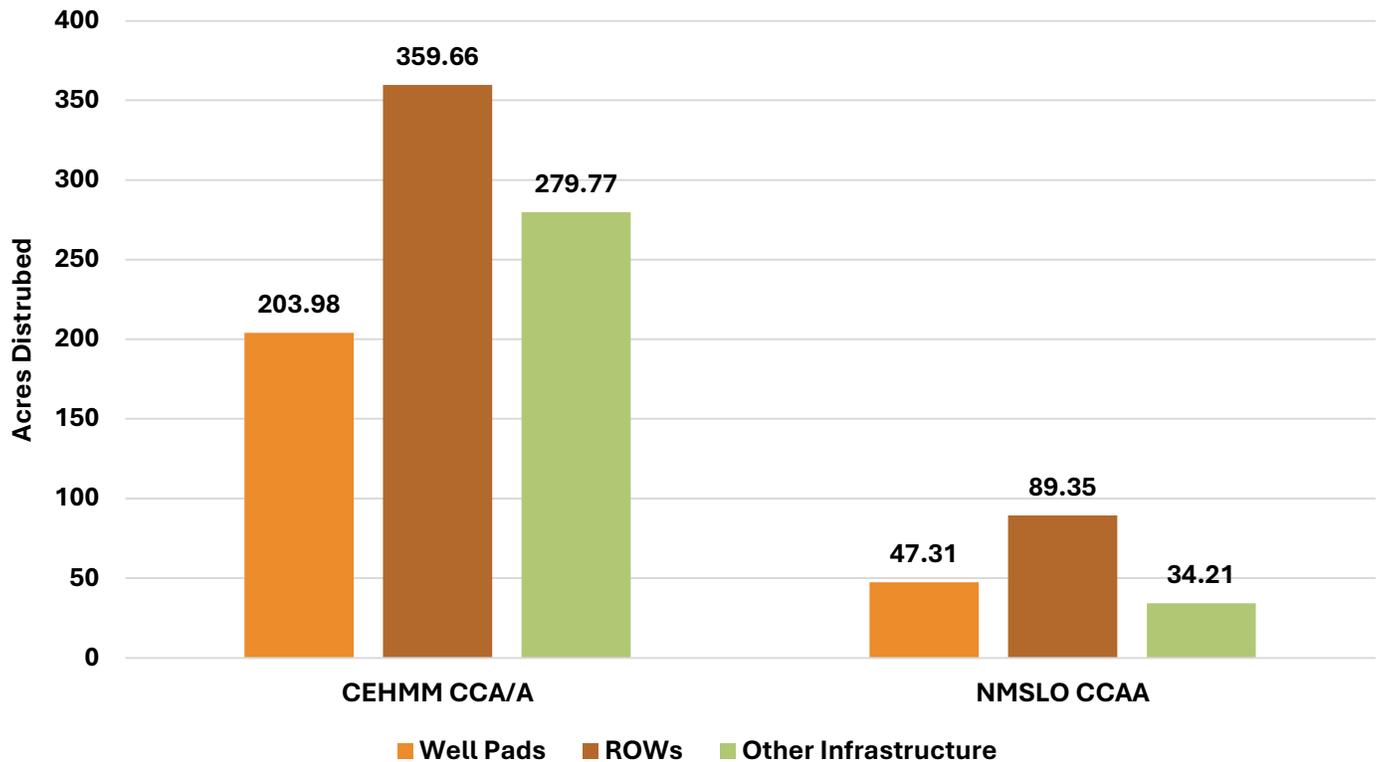


Figure 8. Acres of disturbance breakdown by disturbance type for the CEHMM CCA/A and the NMSLO CCAA.

Funding

Habitat Conservation Fund

CEHMM and the NMSLO establish a Habitat Conservation Fund (HCF) for each oil and gas operator with an executed CI or CP agreement. The contribution amount is determined by the number of acres disturbed from new well locations or other new surface development. Once land-disturbing activities are submitted and reviewed by CEHMM or the NMSLO, conservation fees are debited from the Participant’s HCF. The debited amount is based on the management zone (as described in Appendix A) in which surface-disturbing activities occur. CEHMM manages each Participating Cooperator’s HCF by tracking balances and applying debits as appropriate.

Approximately 29 percent of the funds received through industry participation are allocated to overhead costs such as building rentals, utilities, and insurance. The remaining balance is used solely and exclusively in support of the CCA/As which include, but are not limited to: planning and implementation, on-sites, projects authorized by the committees, research, enrollments and amendments, project monitoring, education and outreach, and support services (e.g., vehicles and equipment).

Grants

CEHMM actively pursues grant funding from federal, state, and private sources to support Texas hornshell conservation efforts. Grant funding helps facilitate new partnerships with agencies and granting institutions while diversifying funding sources for the long-term sustainability of the program.

Projects and Grants

2021 NFWF Pecos Watershed Conservation Initiative Grant: Instream Flow Project

In 2020, CEHMM and the NMSLO partnered on a proposal to the National Fish and Wildlife Foundation (NFWF) to fund the development of an instream flow program to protect the endangered THM and other at-risk species in the Black (Figure 9) and Delaware rivers. The grant was awarded in 2021, with CEHMM providing in-kind match through the CCA/A program. In 2025, CEHMM, the NMSLO, AMP Insights, and a participating water user finalized a short-term water user agreement to restore up to 221.4 acre-feet of water annually to the THM-occupied reach of the Black River. The



Figure 9. Black River in SE New Mexico.

agreement, which includes a new downstream point of diversion, ensures water can be diverted for human use without impacting mussels. A permit for the point-of-diversion change was submitted to the New Mexico Office of the State Engineer and has been approved. This milestone represents the first instream flow restoration agreement of its kind on the Black River and establishes a model for future cooperative conservation efforts.

2022 NFWF Pecos Watershed Conservation Initiative Grant: Sensor Array Study

In 2021, CEHMM submitted a proposal to the NFWF to establish a network of water quality sensors within the THM occupied reach of the Black River. The grant was awarded in 2022, launching a multi-year effort to better understand hydrological and water quality conditions influencing THM survival and long-term population persistence. This project was designed to utilize HOBOWare data loggers (Figure 10) to capture continuous data on environmental stressors known to affect THM, focusing on temperature, dissolved oxygen (DO), and discharge dynamics at both microhabitat (individual pools) and macrohabitat (river-wide) scales.

A central objective of the project is to determine whether the USGS gage at Harkey Crossing can function as a watershed-wide “alarm system” for emerging environmental stress. If thermal and hydrological patterns recorded at the gage reliably reflect conditions in occupied THM pools, it could serve as a practical tool for real-time risk assessment and early warning of temperature-driven stress events. This is critically important given that thermal regimes in the Black River routinely approach the upper edge of the species’ observed tolerance range during peak summer months and DO concentrations in isolated pools periodically decline to levels of concern.



Figure 10. CEHMM staff extracting HOBOWare data loggers from the Black River as part of the Sensor Array Study.

Understanding the frequency, duration, and spatial extent of conditions that exceed known THM thermal and DO tolerance thresholds is central to risk mitigation and conservation planning.

The overarching goal of the project is to characterize the natural environmental envelope that supports THM occupancy, identify conditions associated with physiological stress or mortality risk, and integrate these findings into future restoration, flow protection, and management strategies. The long-term outcome of this work is to improve conservation decision-making capacity by defining when, where, and why unfavorable conditions occur, and how managers may intervene to increase resiliency. CEHMM is actively preparing a peer-reviewed journal article, with publication targeted for 2026, to present analytical results, data interpretations, and implications for THM management.

In 2025, CEHMM completed all remaining field components for the project. Final extraction of 12 dissolved oxygen/temperature loggers and six pressure/temperature loggers from three priority pools was conducted (Figure 10), along with continued weekly data collection from the USGS Harkey Crossing gage. Routine sensor maintenance, calibration checks, and environmental condition documentation occurred throughout the final monitoring period to maintain data quality and ensure the reliability of long-term datasets. The complete dataset is now under review, with analyses underway to evaluate relationships between hydrological variability, microhabitat water quality profiles, and the spatial distribution of thermal and DO stress risk across occupied habitats. These analyses will directly inform the forthcoming journal submission and provide the basis for determining whether the Harkey Crossing gage can serve as a reliable basin-wide thermal tolerance alarm system for THM.

2023 NFWF Pecos Watershed Conservation Initiative Grant & 2024 USFWS Cooperative Endangered Species Conservation Fund Grant: Texas Hornshell Habitat Conservation Plan

CEHMM has actively pursued the development of Habitat Conservation Plans (HCPs) to further support the conservation of the THM (Figure 11) and associated aquatic habitats. In 2022, CEHMM applied to the NFWF for funding to initiate HCP development. The grant was awarded in 2023, and following an amendment process, it became effective on January 23, 2024. Using this support, CEHMM began drafting the HCP with guidance from the Service's HCP Handbook and the existing CCA/A program framework, ensuring alignment with established conservation measures and permitting requirements.

In parallel, CEHMM applied to the US Fish and Wildlife Service Cooperative Endangered Species Conservation Fund in 2023 to support development of a Texas Hornshell Mussel HCP. Funding was awarded in October 2023, and a Memorandum of Agreement was finalized on June 11, 2024.

In 2025, CEHMM made substantial progress on HCP development. Drafts were completed outlining sections for covered activities related to Energy Development and Agriculture and Ranching, as well as the Environmental Settings section, which incorporated a comprehensive watershed analysis, information on threatened and endangered species,



Figure 11. THM observed in the Black River in SE New Mexico.

detailed descriptions of the covered species, and relevant biological data. CEHMM also applied for a one-year, no-cost extension for HCP development, which was approved by the Texas Parks and Wildlife Department (TPWD).

Work on drafting mitigation measures for the covered activities advanced throughout the year, guided by ongoing interpretation of the HCP Handbook and close coordination with the Service to ensure alignment with regulatory

requirements. Multiple meetings with the Service facilitated review of the HCP, clarification of outstanding questions, and refinement of draft sections. CEHMM also began developing Conservation Priority Areas for the plan, integrating habitat, species, and watershed information to guide future conservation actions. These efforts, combined with continuous reference to the HCP Handbook and scientific data from field surveys, positioned the HCP to meet regulatory standards and laid a strong foundation for final completion by January 31, 2027.

2025 NFWF Pecos Watershed Conservation Initiative: Comprehensive Hydrologic Modeling (BRW)

In 2024, CEHMM submitted a proposal to the NFWF under the Pecos Watershed Conservation Initiative (PWCI) to complete a comprehensive watershed modeling and hydrologic structure and design of the Black River Watershed (BRW) in southeastern New Mexico (Figure 12). The proposal was awarded in early 2025, initiating a multi-year effort to assess hydrological connectivity, water quality conditions, sediment and erosion processes, and climate-related vulnerabilities across the watershed. This project will provide an integrated spatial and hydrologic analysis of the BRW and is intended to directly inform restoration, flow management, and conservation strategies for the federally endangered THM and other at-risk species dependent on river function and habitat quality.

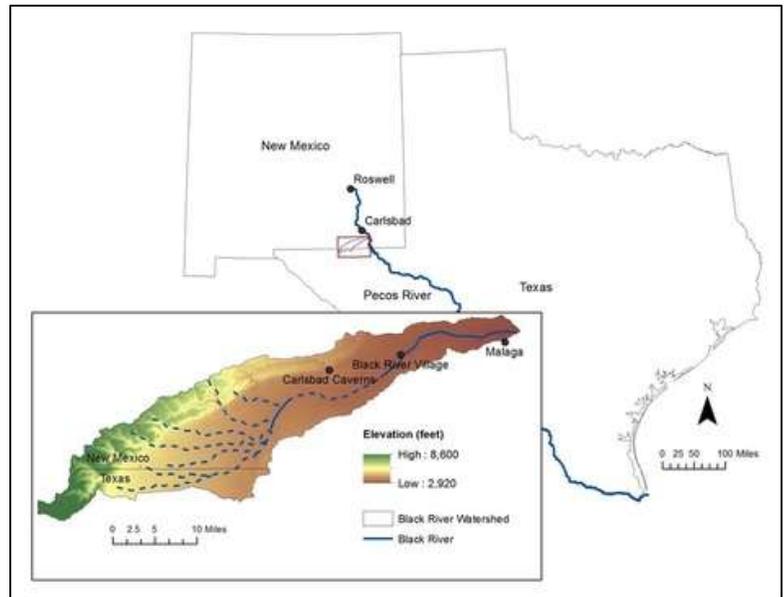


Figure 12. Map of the Black River Watershed showing large scale location as well as elevation features within the BRW.

This assessment will focus on building a detailed understanding of BRW structure by identifying groundwater and surface water features, modeling flow pathways, evaluating watershed-scale sediment transport and erosion risk, and assessing water quality sensitivity to land use, water withdrawal, and climate variability. These analyses are designed to address critical conservation questions identified through the CCA/A program and partner coordination, including how drought, aridification, sedimentation, and reduced discharge alter habitat conditions in occupied THM reaches and whether targeted management interventions can reduce environmental risk. The project will also support future decision-making and community planning by identifying priority areas for erosion control, potential restoration actions, and vulnerabilities that may require long-term mitigation or policy support.

This work directly complements ongoing CEHMM monitoring and research efforts in the Black River, including studies of hydrologic drivers of thermal and dissolved oxygen stress, instream flow protection initiatives, and habitat restoration planning. The watershed assessment is expected to produce actionable outcomes including a water resource inventory and hydrologic atlas, sedimentation and erosion risk maps, water quality vulnerability profiles, and science-based recommendations for management and stakeholder coordination. As of the end of 2025, fieldwork has not yet begun; however, project planning is underway and CEHMM is currently soliciting subcontractors with specialized expertise in watershed modeling, geomorphology, and hydrological design to lead technical implementation. Subcontractor selection and contracting are expected to be finalized in early 2026, with field assessments and modeling efforts beginning shortly thereafter.

2026 Desert Fish Habitat Partnership Grant: Blue Sucker Habitat Assessment

In 2025, CEHMM submitted a grant application to the Desert Fish Habitat Partnership (DFHP) to support implementation of a Blue Sucker Habitat Assessment on the Black River. Funding decisions are expected in March 2026, and if awarded, the project will begin later that year. The proposed assessment focuses on determining whether current habitat conditions in the Black River can support future blue sucker (*Cycleptus elongatus*; Figure 13) repatriation and identifying reaches where habitat restoration may be necessary to meet biological requirements for the species. This work represents a coordinated effort with the NMDGF to address long-standing data gaps related to habitat suitability for blue sucker in southeastern New Mexico.



Figure 13. CEHMM staff holding a Blue Sucker that was observed in the Black River in SE New Mexico.

The assessment is structured to evaluate physical stream characteristics and environmental conditions across a targeted reach of the Black River, with proposed survey sites spaced approximately one kilometer apart from the Carlsbad Irrigation District canal to the confluence at Blue Spring. Project methods are based on BLM Assessment, Inventory, and Monitoring (AIM) stream habitat protocols, with modifications to emphasize features most relevant to blue sucker ecology, including flow velocity and discharge, riffle and pool frequency and length, channel morphology, depth profiles, substrate composition, and water quality indicators such as temperature, salinity, conductivity, turbidity, and pH. These data will be compared to established habitat parameters for the species documented from other rivers throughout its range to determine if conditions meet thresholds associated with occupancy, spawning, and long-term persistence. Where habitat gaps are identified, results will also help pinpoint locations where targeted restoration could meaningfully improve system suitability.

Throughout 2025, CEHMM coordinated with the NMDGF to finalize methodology, confirm training and technical support needs, and identify preliminary access requirements with the BLM and private landowners. The project is designed so that, if funded, CEHMM will conduct fieldwork, data management, and reporting, with the NMDGF providing technical assistance and review. The final deliverable will be a comprehensive habitat assessment report used to guide future management decisions, evaluate feasibility for species reintroduction, and support long-term conservation strategies that could benefit not only blue sucker, but also the federally endangered THM which relies on blue sucker as a host fish during part of its reproductive cycle.

2026 NFWF Pecos Watershed Conservation Initiative: A Comprehensive Habitat Assessment of the Texas Hornshell

In 2025, CEHMM submitted a proposal to the NFWF under the Pecos Watershed Conservation Initiative to support a three-year the THM microhabitat assessment on the Black River. Funding notifications are anticipated in March 2026, and if awarded, the project will begin during the 2026 field season. The proposal directly aligns with conservation priorities identified under the Endangered Species Act listing decision for the THM (USFWS 2018) and long-standing objectives identified through CEHMM's CCA/A programs.

The proposed assessment addresses an urgent conservation need driven by ongoing declines in the Black River (Figure 14) population, the last remaining extant population in New Mexico. Population monitoring and flow observations indicate reductions in both individual abundance and available habitat, emphasizing the need to better understand fine-scale habitat drivers and thresholds associated with persistence. While previous studies have focused on broad environmental variables or population-level patterns, comprehensive data describing microhabitat conditions across the Black River are lacking. This gap limits the ability of CEHMM and partners to identify refugia, evaluate candidate reintroduction or translocation sites, and anticipate areas most at risk from hydrological or land-use change.



Figure 14. A riffle that is occupied by Texas hornshell in the Black River in SE New Mexico.

To address this, the proposed project would apply advanced habitat selection and habitat suitability modeling approaches to evaluate the suite of environmental conditions associated with both occupied and unoccupied sites. Field sampling would be conducted across approximately 12 miles of river, focusing on 120 sampling localities representing multiple habitat types (e.g., riffle, midstream, bank, depositional zones, and transitional features). Each locality would be surveyed twice annually for two years to account for seasonal variability and intra-annual environmental fluctuations. Data collection methods would closely follow established aquatic survey and unionid habitat assessment standards, incorporating quantitative measurements of water quality (e.g., dissolved oxygen, conductivity, salinity, turbidity, temperature, total dissolved solids, and pollutants), hydrological characteristics (e.g., depth, flow rate, discharge, slope, and channel position), substrate conditions (e.g., compaction, soil composition, silt cover, and bed texture), and bank structure and vegetative features that influence thermal buffering, channel stability, and sedimentation patterns. Mussel community composition, including the presence and size-class structure of both Texas hornshell and invasive Asian clam (*Corbicula fluminea*; Figure 15), would also be assessed to evaluate potential competitive interactions and bed integrity.



Figure 15. Photo of CEHMM staff holding Asian clam shells observed in the Black River in SE New Mexico

Modeling will be designed to accommodate the life-history complexity of the species, particularly the distinctions among larval, juvenile, and adult habitat requirements, and the extremely limited mobility of adults. A Bayesian analytical framework will be applied to reduce parameter bias, incorporate ecological threshold boundaries (e.g., thermal tolerance limits and dissolved oxygen minima), and improve predictive power when forecasting habitat suitability under shifting hydrological conditions. Expected outcomes include a spatially explicit habitat suitability model, maps identifying refugial

habitat and potential emergency salvage locations, and decision-support products that can be integrated into ongoing management, restoration planning, and stakeholder coordination.

If funded, the project will be implemented by CEHMM in coordination with the NMDGF, the Service, the BLM, and private landowners enrolled in the existing CCA/A programs. The resulting dataset will support near-term decision-making for the Black River and inform longer-term recovery planning at both the watershed and regional scale.

Black River Salt Cedar Spray

CEHMM completed a hand and herbicide treatment of salt cedar along three acres of the Black River (Figure 16). This project targeted an invasive species of concern that can significantly impact riparian ecosystems by reducing water availability, increasing soil salinity, and outcompeting native vegetation. Field crews first conducted a manual removal of smaller stems and applied targeted herbicide sprays to remaining vegetation to prevent regrowth. This integrated treatment approach aims to improve bank stability, reduce sedimentation, and enhance habitat quality for native species, including the Texas hornshell and other aquatic and riparian organisms. By reducing salt cedar density, the project also supports natural vegetation recovery, improves water flow, and helps maintain the ecological function of the river corridor. Long-term monitoring will evaluate vegetation response and the effectiveness of these treatments in promoting sustainable riparian habitat conditions.



Figure 16. Salt cedar along the Black River in SE New Mexico.

River Monitoring

Black River Monitoring

Since the CCA/A took effect in 2017, CEHMM has remotely monitored daily average flow remotely using existing USGS gages in the Black River Above Malaga and at Blue Springs. In 2018, the CCA/A temporarily set a minimum flow goal of 9.3 cubic feet per second (cfs) at the USGS Above Malaga gage while awaiting the development of a revised flow requirement for the THM CCA/A. Shortly thereafter, partners determined that these two gages did not provide sufficient information about flows or water quality within the THM occupied reach, and additional gage installation was prioritized.

In 2019, CEHMM, NMSLO, and the Service agreed to install two new USGS gages in the Black River: one at Harkey Crossing and a second below Blue Springs (Figure 17). CEHMM funds the operation and maintenance of the Harkey Crossing gage using CCA/A funds.

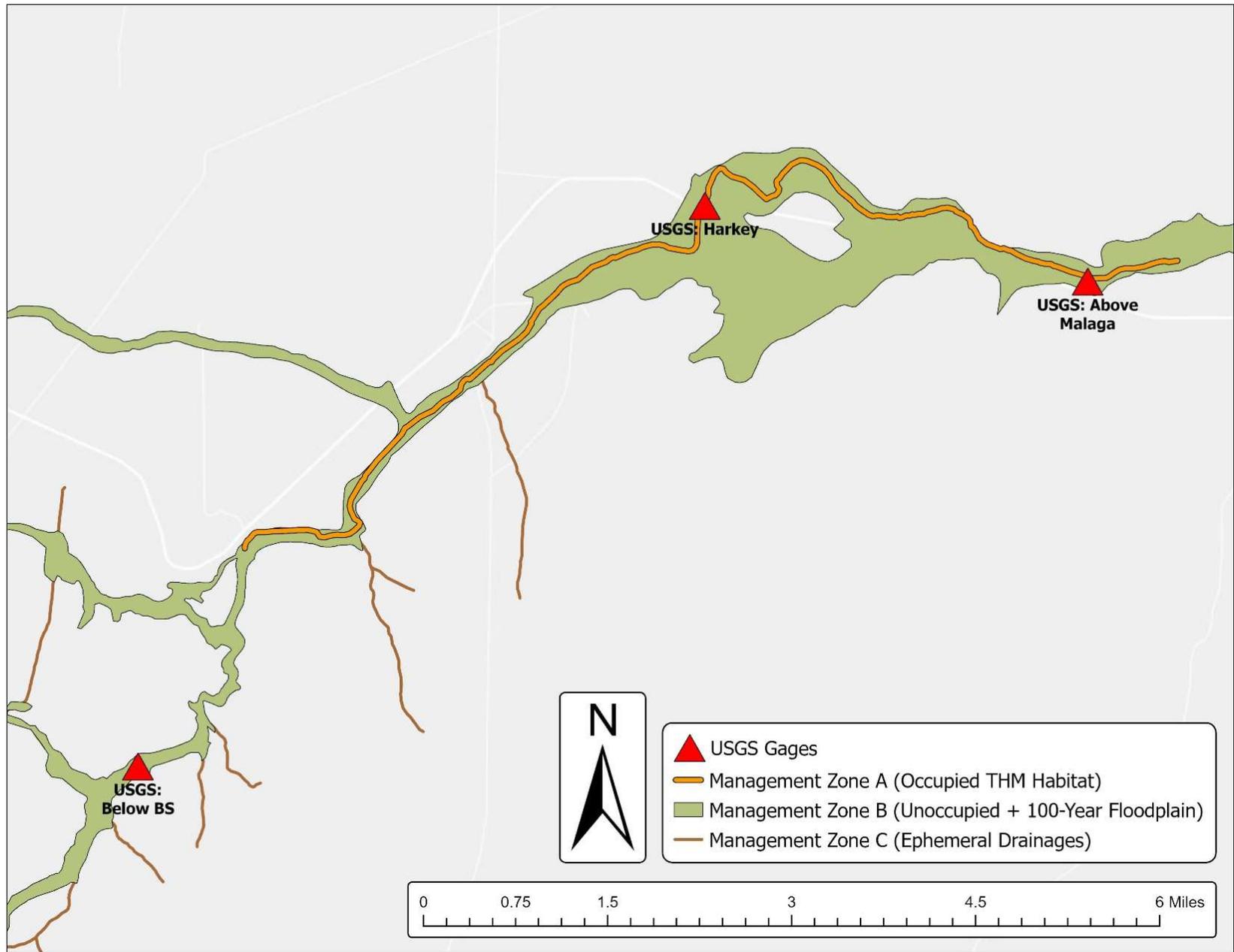


Figure 11. Map of the USGS gages utilized by CEHMM for Black River monitoring (red triangles), management zone A (orange), management zone B (green), and management zone C (brown).

The specific goal for these gages is to report low flow conditions (less than 3.0 cfs, which is the identified exposure risk set by the NMDGF). During periods of low flow, CCA/A Participants who withdraw water from or near the Black River are notified to implement pumping curtailment or conservation measures contained in their CIs and CPs. CEHMM staff also conduct visual inspections of the Black River to monitor overall river conditions. In 2025, monthly visual inspections were completed. During these visits, river conditions were documented with photographs; USGS gage data were compared with field observations; and any unusual or concerning conditions at monitoring locations were noted. In 2025, no curtailment notices were issued, as field verification indicated flows were higher than gage readings, and the low readings were determined to be caused by gage malfunctions (Figure 18).

2025 Black River USGS Gages Mean Daily Discharge

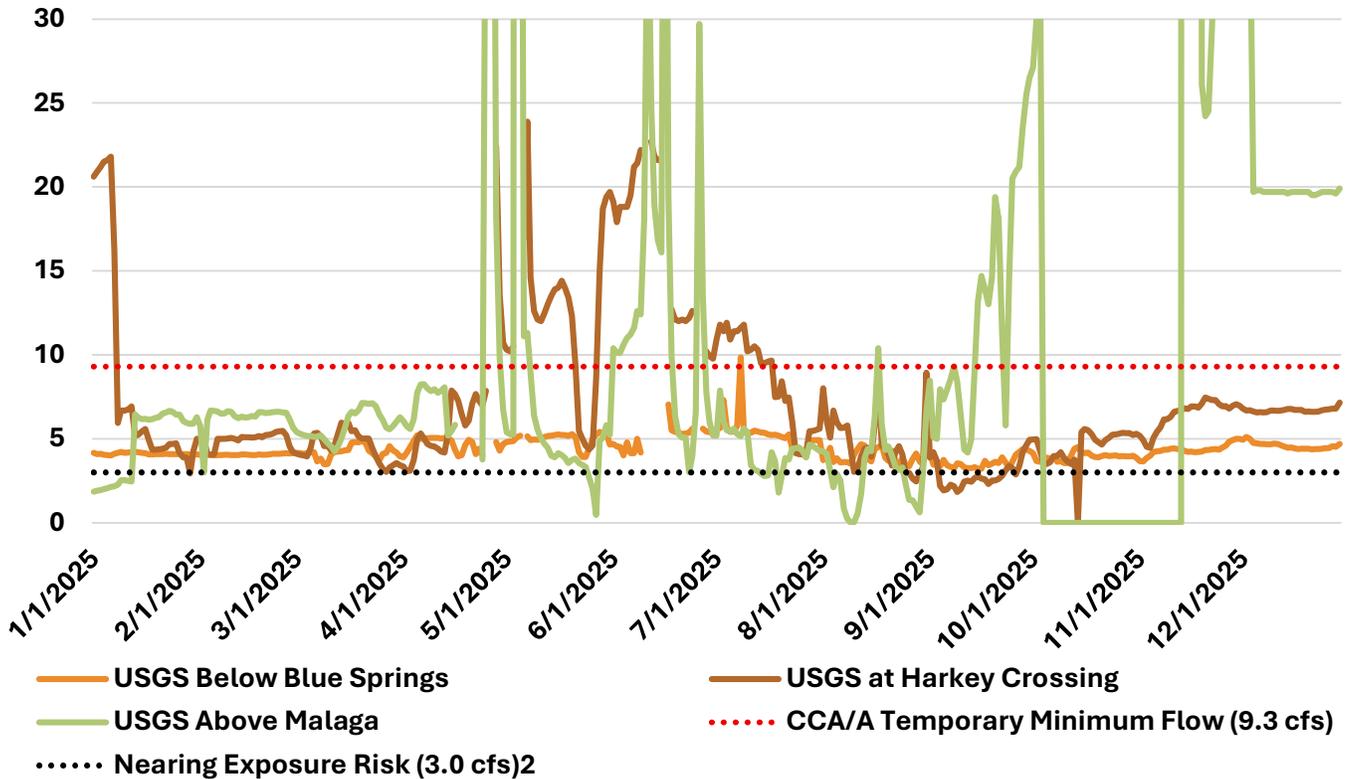


Figure 18. Mean daily discharge of the Black River at USGS Below Blue Springs gage (orange line), USGS at Harkey Crossing gage (brown line), USGS Above Malaga gage (green line) from January 1, 2025, to December 31, 2025, NMDGF's identified exposure risk for THM of 3.0 cfs (black line), and the current CCA/A temporary minimum flow of 9.3 cfs (red line)

Unlike the other gages, the USGS gage at Harkey Crossing provides continuous, real-time monitoring of additional water quality parameters within the occupied reach of the Black River, including water temperature, dissolved oxygen, conductivity, and salinity. These parameters are critical for assessing habitat conditions for THM populations and for identifying environmental factors that may pose stress or risk to the species.

CEHMM previously funded a detailed study to establish water quality thresholds necessary to support the survival and health of THM populations. This study evaluated mussel behavior and physiological responses under varying environmental conditions, providing science-based criteria for adaptive management. Based on the results, environmental thresholds for the species include a maximum water temperature of 28.2 °C (82.76 °F), above which physiological stress and glochidia mortality occurs, and a minimum dissolved oxygen concentration of 1.5 mg/L, below which mussels experience hypoxic stress or mortality.

By continuously collecting these water quality measurements at Harkey Crossing, CEHMM can detect when conditions approach or exceed these critical thresholds. Data from the study, together with ongoing monitoring at Harkey Crossing, are summarized in the graphs below (Figures 19 and 20), which illustrate observed temperature and dissolved oxygen concentrations relative to the recommended thresholds and highlight periods when conditions approached or exceeded these limits. Some gaps in the dataset are present during periods of gage malfunctions, which temporarily interrupted the collection of continuous measurements.

2025 Black River Temperature at the USGS Harkey Crossing Gage

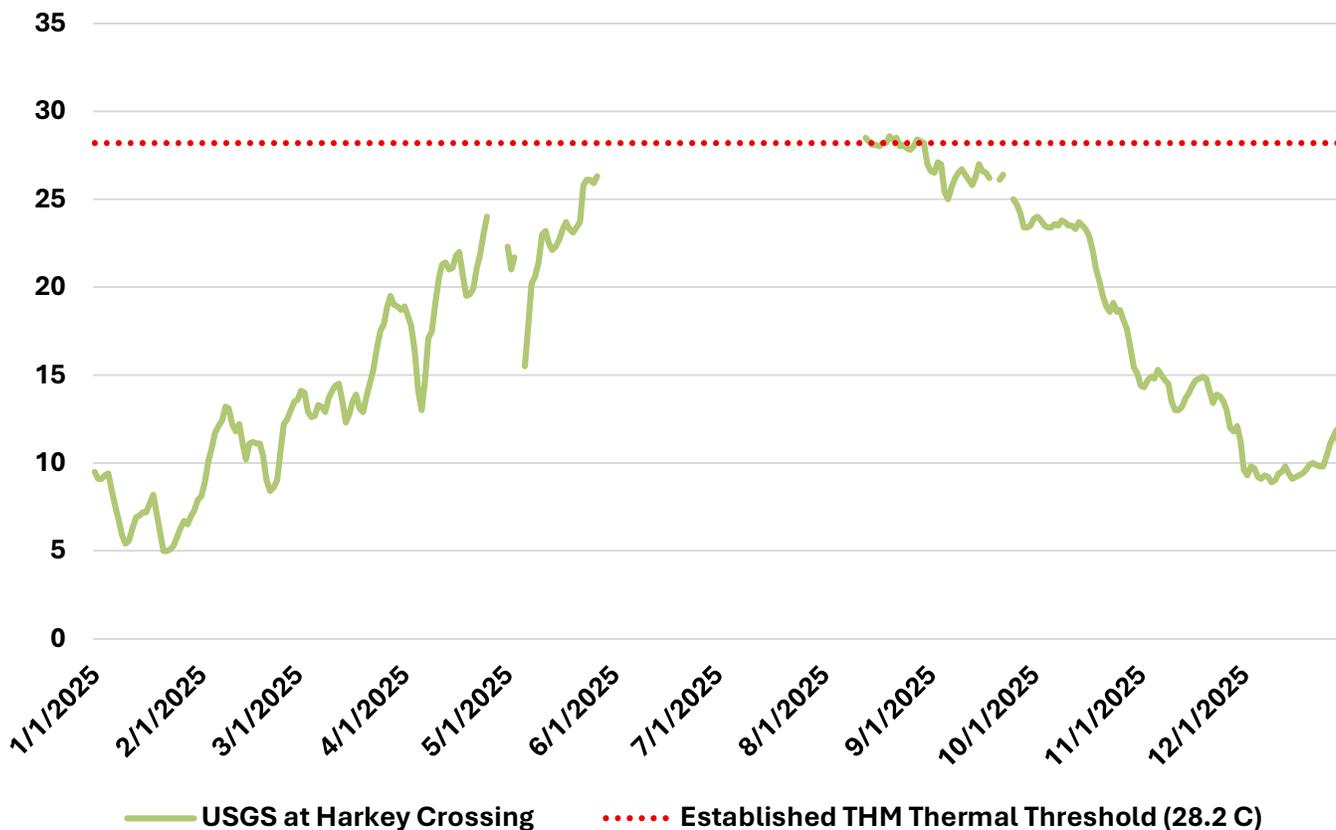


Figure 19. Mean daily temperature of the Black River at the USGS Harkey Crossing Gage (green line) from January 1, 2025, to December 31, 2025 and the established thermal tolerance threshold for THM of 28.2 degrees Celcius.

2025 Black River Dissolved Oxygen Levels at the USGS Harkey Crossing Gage

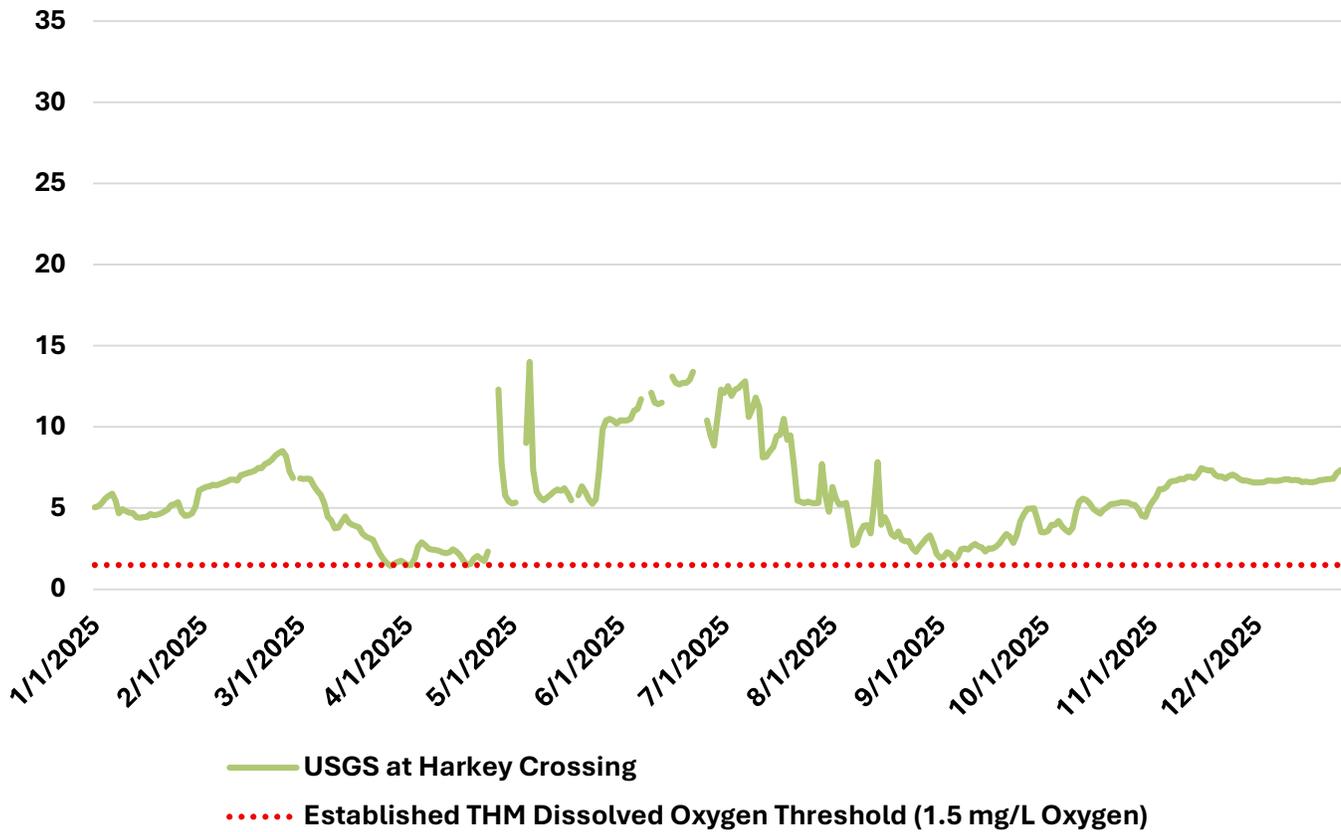


Figure 20. Mean daily dissolved oxygen levels of the Black River at the USGS Harkey Crossing Gage (green line) from January 1, 2025, to December 31, 2025 and the established minimum dissolved oxygen threshold for THM of 1.5 mg/L oxygen.

Delaware River Monitoring

In response to recurring low-flow conditions in previous years, CEHMM has established a routine monitoring program for the Delaware River, relying on on-site visual inspections to document flow conditions and habitat status (Figure 21). At the primary monitoring location (32.011727, -104.105712), the river experienced no measurable flow for roughly 115 days during 2025, highlighting the continued challenges of sustaining aquatic habitat in this system.

Throughout the year, CEHMM staff conducted 11 site visits to confirm whether water was present at the monitoring site and to check for exposed mussels. Inspections were structured to quickly identify whether any mussels were stranded in drying substrate, allowing staff to implement immediate management actions if necessary to prevent mortality. No mussels were observed during these inspections in 2025. Beyond assessing flow and mussel exposure, these visits provided a record of seasonal and hydrologic variability in the river, helping to place periods of low flow in the context of broader watershed conditions.

By maintaining consistent monitoring, CEHMM is able to track changes in flow patterns over time, identify periods of hydrologic stress, and ensure that protective measures for mussels and other aquatic organisms can be implemented promptly. This approach supports both short-term response and long-term conservation planning for the Delaware River ecosystem.



Figure 21. Photographic timeline of the Delaware River flow in 2025.

Species Monitoring

THM Life History Surveys

As part of CEHMM’s long-term annual THM population monitoring program, life history surveys were conducted at three established sites along the Black River. These surveys track population structure, individual growth, and recruitment within Texas hornshell populations. Field staff use tactile survey methods to carefully locate mussels within the river substrate, allowing for accurate data collection while minimizing disturbance to the animals and their habitat.

During surveys, a total of 237 individuals were documented: 218 large adults (>70 mm), 18 adults (50–69 mm), 1 subadult (30–49 mm), and no juveniles (<30 mm). Each individual was measured for size, and new individuals were given passive integrated transponders (PIT tags) for long-term identification and tracking. Combined with size distribution data, PIT tag records allow CEHMM to evaluate recruitment trends, assess overall population health, and detect changes in life stage composition across sites. The full data breakdown can be seen in Figure 22.

By conducting these surveys annually at the same locations, CEHMM can monitor population health, size distributions, and recruitment trends over time. The September survey results provide a late-season snapshot of population structure, highlighting the predominance of large adults and the limited presence of younger life stages, contributing critical information for adaptive management and long-term conservation planning for the species.

2025 Life History Survey Results

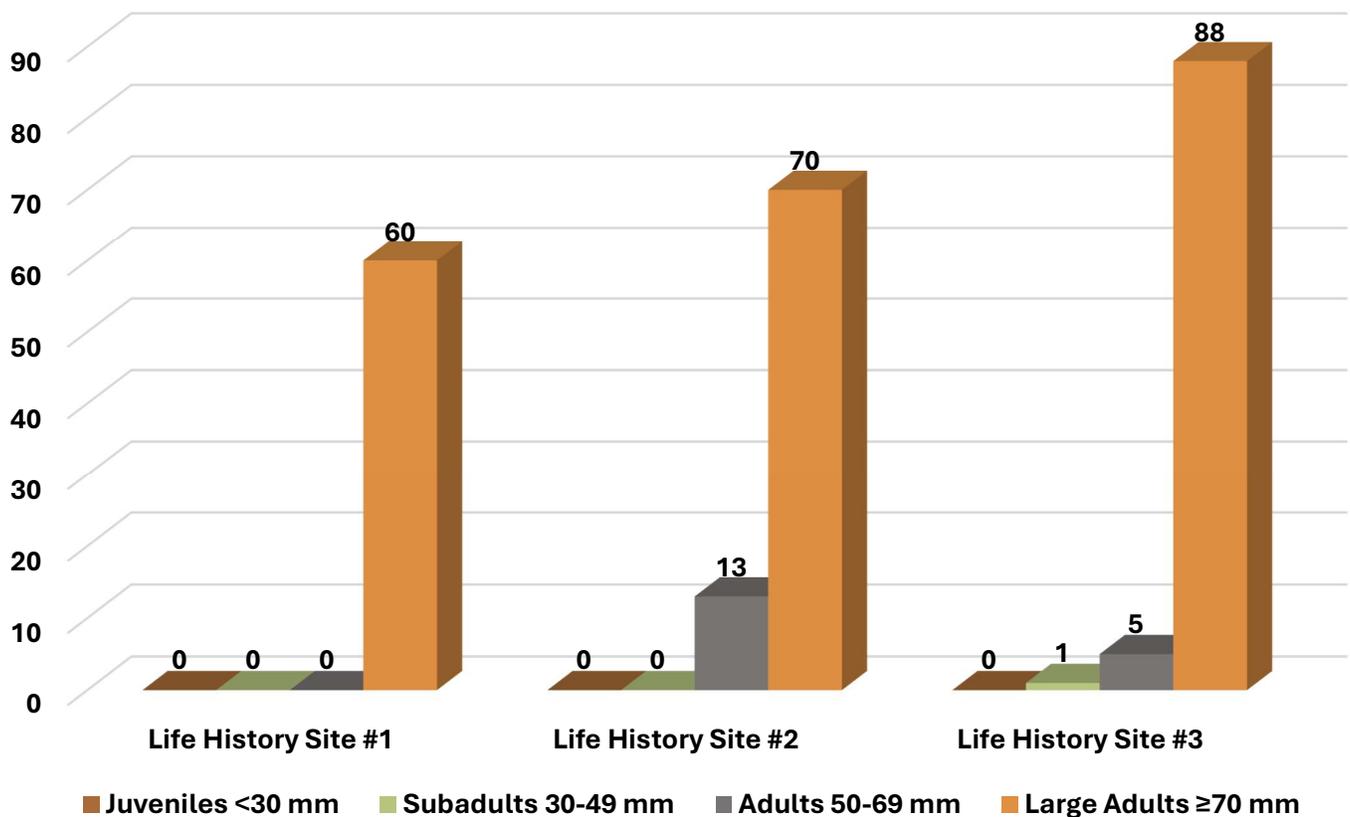


Figure 22. Graphic depicting the 2025 THM life history survey results.

THM Population Estimate Surveys

In 2024, CEHMM, in partnership with Miami University in Ohio, developed and finalized a population estimation model for the THM in the Black River. The model incorporates site-specific survey data, including density, size class distributions, and observed mortalities, to generate robust estimates of overall population size and provide insight into population structure across different habitats.

During 2025, surveys were conducted at 27 established sites along the Black River, including 16 riffle sites and 11 pool sites (Mid-channel areas were not surveyed at pool sites per Miami University recommendations). Since these areas provide minimal habitat and have low occupancy, they do not significantly affect the model. Field staff employed tactile transect survey methods to locate mussels within the substrate, recorded individual size and life stage, and attached PIT tags to the shell of newly encountered individuals for long-term tracking (Figure 23).



Figure 23. CEHMM and NMDGF staff conducting annual population estimate survey for the THM in the Black River in SE New Mexico.



Figure 24. 2025 THM population estimate survey data broken down by pool and riffle habitat observations.

Individuals were recorded to assess the population health and habitat pressures. In riffle habitats, 34 live individuals were observed in the mid-channel areas and 94 along riffle banks, with 38 mortalities documented. In pool habitats, 96 live individuals were observed along pool banks, with three mortalities recorded in pool areas (Figure 24). Survey data are being incorporated into the population estimation model, with updated results pending; the most recent estimate is 33,455 individuals. These surveys inform population density, spatial distribution, mortality patterns, and habitat-specific occupancy, supporting long-term monitoring, adaptive management, and targeted conservation planning for THM populations.

Texas Hornshell Host Fish Surveys

CEHMM assisted the NMDGF with annual host fish surveys in the Black River to document the presence, distribution, and relative abundance of known THM host fish species. These surveys are an essential component of ongoing research, as successful reproduction of THM relies on the availability of suitable host fish for larval development.

Sampling was conducted using a combination of electroshocking and trammel netting to effectively target multiple habitat types within the river system. A total of 24 riffles were electroshocked (lengths varied by site to accommodate habitat conditions), allowing for targeted sampling of shallow, fast-water environments where host fish species are likely to occur. In pool habitats, 28 trammel nets were deployed for standardized 2-hour sets to evaluate fish presence in deeper, slower-moving reaches. This dual-method approach provides a more complete assessment of host fish occupancy across the system.

Survey efforts documented 174 gray redhorse, 47 river carpsucker, and 1 blue sucker across sampled reaches (Figure 25). The presence of gray redhorse and river carpsucker in multiple habitat types supports current understanding of their role as key host species for THM within the Black River. Although only one blue sucker was observed, this detection remains notable due to the species' limited distribution and importance as an additional potential host.

Results from these surveys contribute directly to ongoing management and research for both the host fish community and THM conservation in the Black River. These data help inform spatial priorities for habitat protection, evaluate host availability relative to occupied THM reaches, and guide future coordination with NMDGF to refine survey strategies and research needs.

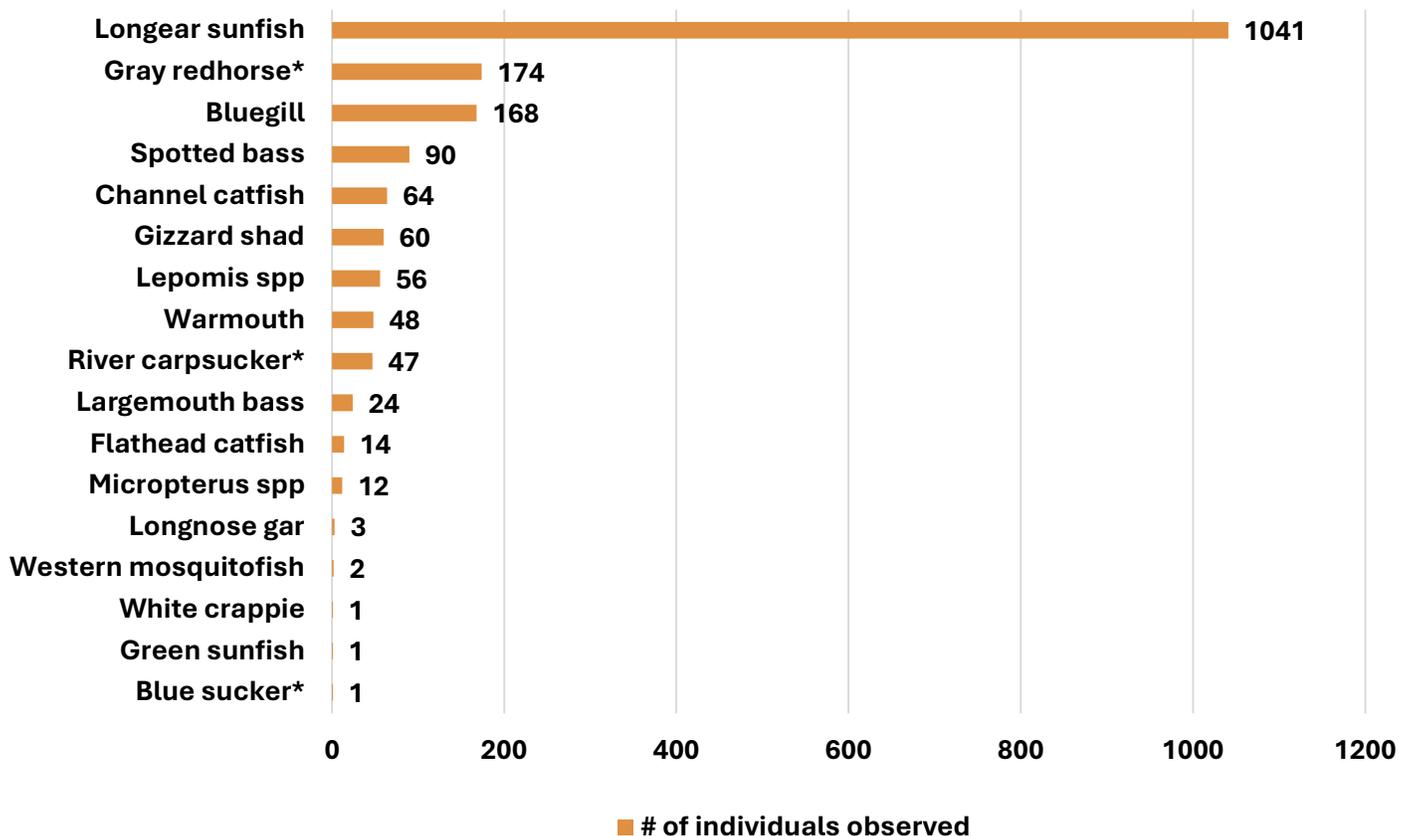


Figure 25. 2025 THM host fish survey results in the Black River in SE New Mexico.

Pecos Springsnail Population / Recruitment Surveys

CEHMM conducts annual Pecos springsnail (Figure 26) population and recruitment surveys in partnership with the NMDGF. These surveys evaluate population condition, annual recruitment, and habitat stability at established monitoring sites through standardized tile sampling.

Size-class measurements are used to assess recruitment success and overall population structure, with individuals >1 mm indicating established snails and individuals <1 mm representing newly recruited juveniles. This size-based approach provides a clear index of reproductive output and early survival, allowing for meaningful comparisons across survey events.



Figure 26. Pecos springsnail observed during population and recruitment surveys.

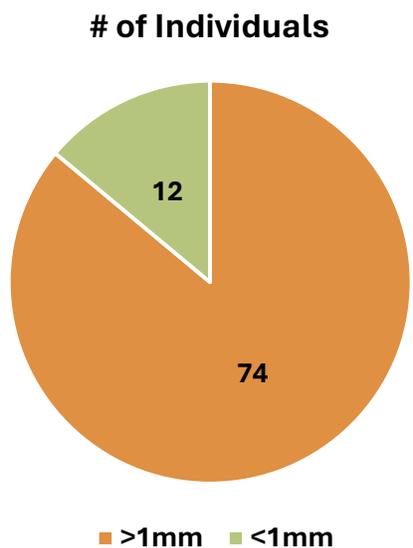


Figure 27. 2025 Pecos springsnail survey results.

A total of 86 individuals were documented during surveys: 74 established individuals (>1 mm) and 12 newly recruited juveniles (<1 mm) (Figure 27). Several survey tiles were missing this year, likely due to recent flooding events that displaced tiles or buried them beneath accumulated sediment. Because of these missing tiles, a population estimate is not available; however, the presence of both established adults and new juveniles confirms that recruitment is occurring and that the population remains active within monitored springsnail habitats.

Ongoing monitoring supports long-term assessments of population trends and habitat conditions, helps document responses to hydrologic and sedimentation events, and will continue to inform conservation planning and site management needs for the Pecos springsnail.

Outreach and Education

Carlsbad High School Energy and Natural Resources Pathway Program

In March, CEHMM staff provided an educational presentation to the Natural Resource Management class at Carlsbad High School (Figure 28). The course is designed for students interested in careers in natural resource management and, at the time of the presentation, students were actively developing right-of-way (ROW) routes for hypothetical oil and gas projects. CEHMM staff discussed key natural resource considerations when planning ROW routes, including the presence of threatened and endangered species, CCA/A conservation measures, special status plant species, and other environmental and regulatory factors that influence project design and placement.

The presentation also served as a career outreach opportunity, allowing staff to share their professional backgrounds, field experience, and pathways into natural resource management. This provided students with real-world context for the conservation and regulatory principles discussed in class, while helping highlight the diversity of career options available within the field of environmental management and conservation.

NMED Spring Wetlands Roundtable

In April, CEHMM staff presented at the New Mexico Environment Department (NMED) Spring Wetlands Roundtable to provide an overview of the program, ongoing surveys, and conservation projects within the Black River system. The presentation highlighted CEHMM’s role in coordinating species and habitat conservation through the CCA/CCAA framework, monitoring THM populations, and implementing habitat restoration and water quality initiatives. Staff also discussed collaborations with partner agencies, landowners, and industry to address flow protection needs, expand monitoring capacity, and promote habitat resilience. Participation in the Wetlands Roundtable provided an opportunity to share program accomplishments, showcase field survey efforts, and reinforce support for continued research, conservation planning, and stakeholder engagement across southeastern New Mexico.

Whiteface Elementary Presentation

In May, CEHMM staff presented to third grade students at Whiteface Elementary School, highlighting the history of CEHMM, the biology of the THM, and the importance of water quality for mussel survival. Students were engaged through age-appropriate explanations of species ecology and conservation challenges, fostering early awareness of aquatic ecosystems and the role of environmental stewardship. This event also provided an opportunity to inspire the next generation of conservation-minded students and introduce them to local species and habitats within southeastern New Mexico.

Christmas Mountains Research Symposium

Also in May, CEHMM staff presented at the Christmas Mountains Research Symposium, held at the Terlingua Ranch Lodge in Terlingua, Texas (Figure 29). The presentation, titled “Current Status of the Texas Hornshell in the Black River,” highlighted recently funded research, ongoing survey efforts, and key findings on environmental thresholds and population trends of the species. This event provided a valuable opportunity to share CEHMM’s conservation work with universities, researchers, and other regional partners, fostering collaboration and strengthening connections in freshwater mussel research across the region.



Figure 28. CEHMM staff presenting to students in the Carlsbad High School Energy and Natural Resources Pathway Program in Carlsbad, New Mexico.



Figure 29. CEHMM staff presenting at the Christmas Mountains Research Symposium in Terlingua, Texas.

Career and Technical Education Center (CTECH) Presentation

In June, CEHMM staff presented to students at the CTECH in Hobbs, New Mexico (Figure 30). The presentation emphasized the importance of considering wildlife and environmental concerns when planning and installing rights-of-way. Staff highlighted strategies for identifying and mitigating potential ecological impacts during infrastructure development and shared examples from CEHMM's conservation and monitoring programs. This event provided an opportunity to engage students interested in the oil and gas industry, showcase the integration of environmental stewardship into project planning, and demonstrate real-world applications of conservation principles in natural resource management.

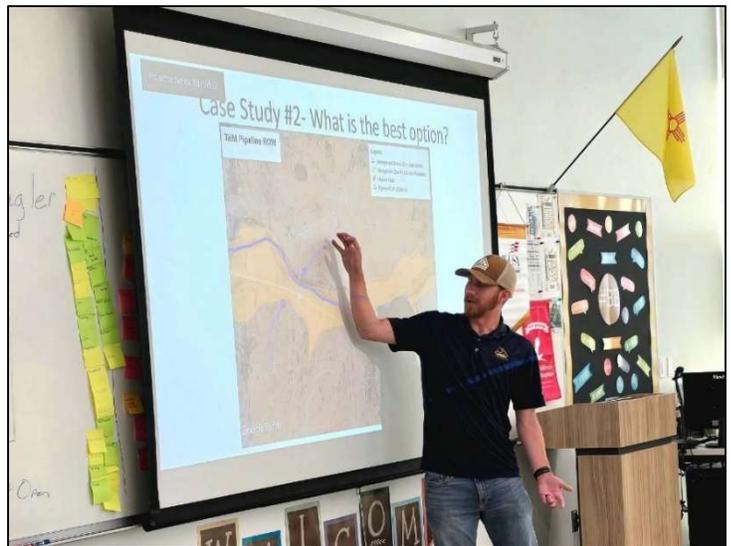


Figure 30. CEHMM staff presenting to students at the CTECH in Hobbs, NM.

National HCP Coalition Annual Meeting

In October, CEHMM staff attended the National Habitat Conservation Plan (HCP) Coalition Meeting in Shepherdstown, West Virginia. The meeting brought together conservation practitioners, regulatory agency representatives, and HCP professionals from across the United States to share insights, challenges, and best practices related to species and habitat conservation under regulatory frameworks. While at the meeting, CEHMM staff participated in presentations, panel discussions, and networking sessions, gaining valuable knowledge on emerging conservation strategies, adaptive management techniques, and collaborative approaches to implementing HCPs and similar agreements. Attendance also provided an opportunity to connect with peers, exchange ideas on effective monitoring and management practices, and strengthen professional networks that support long-term species conservation and habitat protection efforts.

Trash Cleanups

Each year, CEHMM hosts two community trash cleanup events in the spring and fall, aimed at improving habitat conditions in our project areas and fostering environmental stewardship among residents. During the fall 2025 cleanup (Figure 31), volunteers removed nearly 900 pounds of trash from waterways and surrounding habitats, reducing pollution and improving conditions for aquatic species, including the THM and other native wildlife. These events are conducted in partnership with CCA/A Participants, landowners, and other conservation partners, highlighting the importance of collaboration in maintaining healthy ecosystems. By engaging the community directly, these cleanups restore critical habitat while strengthening local connections to conservation efforts and promote long-term stewardship of New Mexico's rivers and riparian areas.



Figure 31. CEHMM staff along with industry partners during the fall 2025 trash cleanup.

Committees and Meetings

Joint Executive Committee

The Executive Committee for the CCA/A is composed of two representatives each from the Service, the BLM, and CEHMM, all with expertise in endangered or threatened species. The committee provides strategic oversight and guidance for implementing and administering the CCA/A. It meets at least once annually, or more frequently as needed, and can take actions to advance CCA/A objectives when consensus is reached among the Service, BLM, and CEHMM.

Key responsibilities include reviewing CCA/A implementation and financial status, approving funding for restoration and conservation projects, considering recommendations from the Stakeholder Committee and other advisory groups, approving adaptive management changes consistent with the CCA/A, resolving disputes and appeals, and initiating amendments to the CCA/A or associated permits when necessary. The committee ensures coordination among agencies and CEHMM to support effective conservation and management of covered species.

2025 Joint Executive Committee Discussion Topics



Implementation Committee

The Implementation Committee (IC) is composed of scientists from participating state and federal agencies with expertise on the Covered Species, including representatives from the Service, BLM, CEHMM, and NMSLO, with additional members from the NMDGF, TPWD, and the Texas Comptroller of Public Accounts, as they elect to participate. The Committee meets at least once annually, selects a chair to represent it before the Stakeholder Committee, and addresses issues referred by the Executive or Stakeholder Committees, as well as those it identifies independently. The IC reviews biological and habitat data, develops and prioritizes conservation actions, advises on management measures and adaptive strategies, consults on new surface disturbances, and maintains a repository of scientific information to support decision-making.

2025 Implementation Committee Discussion Topics



Stakeholders Meeting

The Stakeholder Committee provides enrolled CCA/A Participants an opportunity to engage in decision-making on issues relevant to their agreements, voting only on matters for which they are enrolled. The Committee meets at least once annually and includes voting representatives from key industry sectors including oil and gas, agriculture and ranching, water withdrawers, the Carlsbad Irrigation District, and the Interstate Stream Commission, as well as non-voting representatives from CEHMM and the NMSLO. Members serve two-year terms and select a chair to represent the Committee at Executive Committee meetings. The Committee reviews annual reports, conservation measures, management zones, and adaptive management actions; identifies challenges in implementing the CCA and CCAA; provides input on recommendations from the Implementation Committee; and may propose Technical Working Groups to address specific issues. CEHMM assists with coordination, meeting summaries, and recommendations, ensuring that the Committee effectively contributes to conservation planning and decision-making.

2025 Stakeholders Meeting Discussion Topics



Year in Review

We look back on 2025 with pride and appreciation for the dedication of our staff, stakeholders, and partners who helped advance the conservation of THM and its aquatic ecosystem. This year, CEHMM focused on habitat protection, innovative research, and community engagement, building on the foundation established through our CCA/A programs. From restoring riparian areas and controlling invasive species to deploying sensor arrays and monitoring covered species populations, our projects strengthened both the rivers and the communities that depend on them. Collaboration with enrolled Participants and agency partners fueled creative solutions and successful on-the-ground actions, reinforcing the value of cooperative conservation. Looking ahead, CEHMM will continue to expand these efforts, maintaining partnerships and science-driven strategies to safeguard critical habitat and ensure the long-term persistence of these imperiled native species.



Signature

If you have any questions, please call Austyn Chester at CEHMM at (575)-885-3700.

Signed: Emily K. Wirth
Emily K. Wirth, Executive Director
CEHMM

Date: 02/02/2026

Signed: April Elliott
April Elliott, Director, Surface Resources
New Mexico State Land Office

Date: 31 January 2026

Appendix A – Habitat Conservation Fees for the Calendar Year 2026

CCA/CCAA for the Texas Hornshell and other Covered Species Fee Structure – Revised 2/1/2026 for Inflation

The Participant may be responsible for paying an Enrollment Fee for the first three years this CCA and CP are in effect. If the Participant opts out of the CCA, the Participant is still responsible for these fees. The Participant shall pay the \$30,000 Enrollment Fee for enrollment of facilities existing within the Covered Area if enrolling by the All Activities method of enrollment. The Participant may choose to enroll via the Parcel-by-Parcel method. In this case, the Participant shall pay a minimum Enrollment Fee of \$3,000 for up to 1,000 acres. For all acreage above 1,000 acres, the Participant shall pay \$3/acre. For either method of enrollment, the Participant shall make the first payment of Enrollment Fees at the time of enrollment. The Participant shall pay the second and third on the first and second anniversaries of the CCA effective date. If the Participant so chooses, the Participant may pay all three Enrollment Fees at the time of enrollment. Enrollment Fees will not be required after the initial three-year period.

The Habitat Conservation Fee for New Surface Disturbance associated with oil and gas development activities will be calculated using the following scales. The scales also apply to third parties doing work for the Participant either on or off the Participant’s Enrolled Lands, regardless of who constructs or operates the associated facilities. The Participant may prepay Habitat Conservation Fees at any time at their discretion. The Participant must notify CEHMM prior to conducting any surface disturbing activities associated with this CP on or off the Enrolled Lands either by the Participant or third-party subcontractors. Management zone of the New Surface Disturbance is determined by the location of the activity being developed, not actual habitat found on site.

All Habitat Conservation Fees will be adjusted once yearly by CEHMM to account for inflation or deflation. The term “Base Habitat Conservation Fee” shall refer to the values of the Habitat Conservation Fees set forth in this Exhibit. For purposes of this section, the term “CPI-U” shall refer to the Consumer Price Index for All Urban Consumers, U.S. City Average, all items less food and energy (base 1982-84=100), not seasonally adjusted, as published by the U.S. Department of Labor, Bureau of Labor Statistics. The Maximum Annual Inflation Increase shall be based on the percent increase between the annual average CPI-U for the calendar year that precedes the date of the adjustment (“Current CPI-U”) and the annual average CPI-U for calendar year 2016 (“Base CPI-U”). The Maximum Annual Inflation Increase shall be calculated as follows:

$$\text{Maximum Annual Inflation Increase} = \text{Base Habitat Conservation Fee} \times ((\text{Current CPI-U} - \text{Base CPI-U}) / \text{Base CPI-U})$$

Increases, if any, shall occur on the January release date of the CPI-U. The Maximum Annual Inflation Increase will reflect the most recent revision to the annual average Current CPI-U, if any. CEHMM will send Participants a notification, both electronically and by mail, each year at the time the fees are adjusted.

If the annual average CPI-U is unavailable for a calendar year, no increases will be made. If the CPI-U is discontinued entirely or unavailable for a period longer than two calendar years, CEHMM will consult with the Participant to select an appropriate alternative index.

1) New Well Location Fees¹

Management Zone	Conservation Fee
Zone A	Not applicable
Zone B	\$26,844.40/location
Zone C	\$13,422.20/location
Zone D	\$3,355.55/location

¹ Includes a single well pad no larger than 3 acres, multi-well pad no larger than 5 acres, and associated access road not to exceed 1 acre. Anything larger will be considered New Surface Development Fees described below. If any portion of the project falls into a higher management zone, the charge incurred will be that of the higher management zone.

2) New Surface Development Fees

For other New Surface Disturbances associated with Enrolled Lands, but not directly attributable to a new well pad² and associated road, including but not limited to pipelines, frac ponds, electric lines, pits, etc. the Habitat Conservation Fee will be based on the following scale:

Management Zone	Conservation Fee ³
Zone A	Not applicable
Zone B	\$10,066.65/acre
Zone C	\$3,355.55/acre
Zone D	\$1,342.22/acre

² Co-located wells that require an increase in the size of the existing pad will be assessed by new acres disturbed.

³ These Conservation Fees are based on the following figures. No additional amounts are owed beyond the amount of the Conservation Fees:

Lease of Water Rights.....	10 acre feet = \$5,000-\$10,000
Purchase of Water Rights.....	1 acre foot = \$5,500-\$10,000
Habitat Restoration (i.e., salt cedar treatment)	4 acres = \$10,000
Caliche Removal.....	2-3 acres = \$10,000
Reseeding.....	1 acre = \$1,000
Rebuilding Water Crossings.....	Undeterminable at this time

Note: All acreage calculations will be rounded up to the next whole acre, if over 0.5 acres.

New operations on previously disturbed land (e.g., co-located new well on an existing pad or new pipeline in an existing corridor, etc.) will incur no additional Habitat Conservation Fee, unless the area to be redisturbed has been reseeded and/or reclaimed as part of reclamation. Fees will also be assessed for any new acreage disturbed.

CEHMM will calculate area of New Surface Disturbances based on information received and/or on-the-ground observation. Should the Participant disagree with CEHMM's calculation of the area of New Surface Disturbance, the Participant has the right to challenge the estimate, provide supporting data, and meet with CEHMM and/or the FWS, if necessary. CEHMM and FWS, if participating, will have the responsibility for the final determination of the area of New Surface Disturbance.

The Habitat Conservation Fee for above-ground powerlines will be calculated using the above scale for New Surface Development. The acreage of New Surface Disturbance will be based on information found in the OCD and SLO New Surface Disturbance activities approval document provided by the Participant to CEHMM.

If New Surface Disturbance falls within two or more management zones, the amount of the Habitat Conservation Fee will reflect the amount of the New Surface Disturbance within each management zone.

3) Fees associated with new seismic data acquisition

<u>Management Zone</u>	<u>3D Survey Conservation Fee</u>	<u>2D Survey Conservation Fee</u>
Zone A	\$13.42/acre	\$268.44/linear mile*
Zone B	\$10.07/acre	\$201.33/linear mile*
Zone C	\$6.71/acre	\$134.22/linear mile*
Zone D	\$2.01/acre	\$33.56/linear mile*
		*or any fraction thereof

The acquisition of seismic data on enrolled parcels may also disturb the surface of other land not enrolled in this CP. The Habitat Conservation Fee calculated for seismic activity includes disturbances occurring on both enrolled and non-enrolled land.

Routine production operations

Routine production operations are not considered New Surface Disturbance and will not create the obligations to pay a Habitat Conservation Fee. Routine production operations are those which do not require an agency permit or approval, and those operations that require an agency approval but do not disturb the surface.

Appendix B – Projects Funded by the CCA/As

Project Name	Date Funded	Completion Date	Units	Project Description
DM Erosion Control	9/19/2019	8/21/2019	1 Acre	Installed silt fencing and filter sock to prevent erosion and sediment loading into Zone A of the Black River. This project was funded using CCAA funds.
Black River Salt Cedar Spraying	9/19/2019	12/5/2020	46 Acres	Hand treatment of salt cedar on the Black River from John D Forehand downriver. Hand treatment of salt cedar to allow native flora the opportunity to become reestablished. This project was completed by Carlsbad Soil and Water Conservation District.
River Flow Regime Requirements Study	9/19/2020 amended 12/19/2020	9/8/2023	Black River	This project was both a research and technical assistance project. The research involves determining streamflow and in situ conditions necessary for the Texas hornshell to survive and thrive in the Black River by examining lethal and sublethal thermal, hypoxia, and salinity thresholds and by collecting and assessing in-stream water-quality conditions.
Black River (Rio Grande River Cooter Study)	12/19/2022	12/31/2021	Riparian Area of Black River	CEHMM and ENMU completed the following: (1) identified nesting grounds at various stretches of the Black River, (2) confirmed the peak of the nesting season, (3) improved understanding of the daily nesting activity (diurnal vs. nocturnal), (4) characterized nesting substrate, (5) identified nest distance from the water's edge, and (6) quantified nest success and nest predation.
Black River Wetlands Action Plan	3/24/2020	9/15/2021	Black River Watershed	Wetland Action Plans (WAPs) are designed to specifically address wetlands and riparian resources within the boundary of the Black River Watershed. Goals of the Wetland Action Plan are to assess wetlands/riparian resources in their watershed and develop ways to protect, restore, and create wetlands locally.
Flume Draw Erosion Control	8/12/2020	2/12/2022	3 Acres	CEHMM installed 16 erosion control fences at the headwaters of Flume Draw. The fencing positively affects
Environmental DNA Assay Development	8/12/2020	1/15/2023	eDNA microsatellite	This project developed environmental DNA (eDNA) assays for the Texas hornshell, gray redhorse, and blue sucker, and completed preliminary eDNA-based surveys for these species.
Davis Riparian Restoration	8/12/2020	TBD	10 Acres of Vegetation Restoration	Native trees and shrubs will be planted to help support bank stabilization and restore riparian function back to the habitat. The project area will encompass approximately 13 acres along the banks of the Black River.
Beard Black River Erosion Control	8/12/2020	6/24/2021	3 to 5 Acres	CEHMM installed 18 erosion control structures to span areas with highest erosion due to bare soils, small indentations where water can speed up, and areas with erosion already occurring.
Bounds Riparian Restoration	8/12/2020	10/3/2024	13 Acres of Vegetation Restoration	Native trees and shrubs were planted to help support bank stabilization and restore riparian function back to the habitat. The project area encompassed approximately 13 acres along the banks of the Black River.
USGS Stream Flow Gages	9/1/2020	8/31/2021	2 USGS Gages in Black River	Operation, maintenance, and calibration of two USGS stream flow gages in the Black River.
Instream Flow Program	6/1/2021 to 5/31/2024	8/31/2025	Provide optimal flow and habitat for covered species	Our long-term objective was to provide instream flow for the Texas hornshell in the Black and Delaware rivers through purchase or lease of water rights, or through alternative mechanisms such as forbearance agreements, to dedicate to instream flow for the THM.
USGS Stream Flow Gages	9/1/2021	8/31/2022	2 USGS Gages in Black River	Operation, maintenance, and calibration of two USGS stream flow gages in the Black River.
Population Monitoring Program for THM	7/1/2022	In-progress	Population estimate model	The project aims to develop methods for estimating the THM population in the Black River and to employ these methods for long-term monitoring.
Magby Salt Cedar Spray	4/5/2024	3/26/2025	3 Acres	Hand treatment of salt cedar on the Black River on Daniel Magby's property. Hand treatment of salt cedar to allow native flora the opportunity to become reestablished.
NFWF Sensor Array Study	2022	In-progress	12 data loggers	Utilization of HOBOWare Water Quality/Condition loggers to monitor and compare microhabitats to large-scale monitoring systems like USGS gages.
BPD Educational Exhibits	4/15/2022	1/26/2024	3 Educational Exhibits Installed	Exhibits addressing aquatic species of concern in the lower Pecos River Drainage, educating the public and fostering knowledge and appreciation of the species, ultimately promoting the well-being of wildlife and their habitats.

NFWF Habitat Conservation Plan	1/23/2024	In-progress	Habitat Conservation Plan	Develop and implement a Habitat Conservation Plan that further promotes the conservation of the Texas hornshell and other covered species.
Texas Habitat Conservation Plan	Oct-23	In-progress	Habitat Conservation Plan	Develop and implement a Habitat Conservation Plan in Texas that further promotes the conservation of the Texas hornshell and other covered species.
NFWF Black River Hydrologic Assessment	Mar-25	In-progress	Black River Watershed	Conduct a comprehensive watershed assessment of the Black River watershed in southeastern NM. Provide detailed spatial understanding of the BRW landscape.