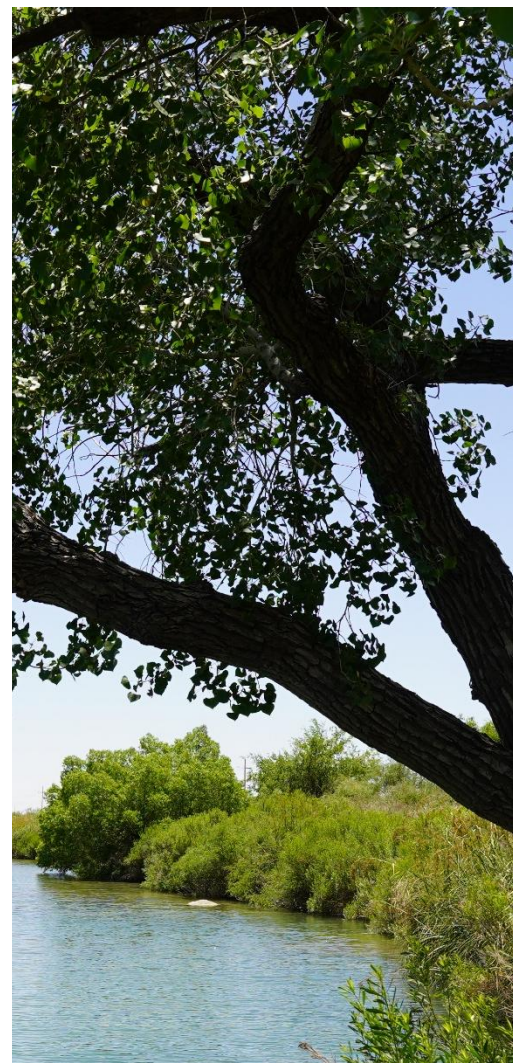
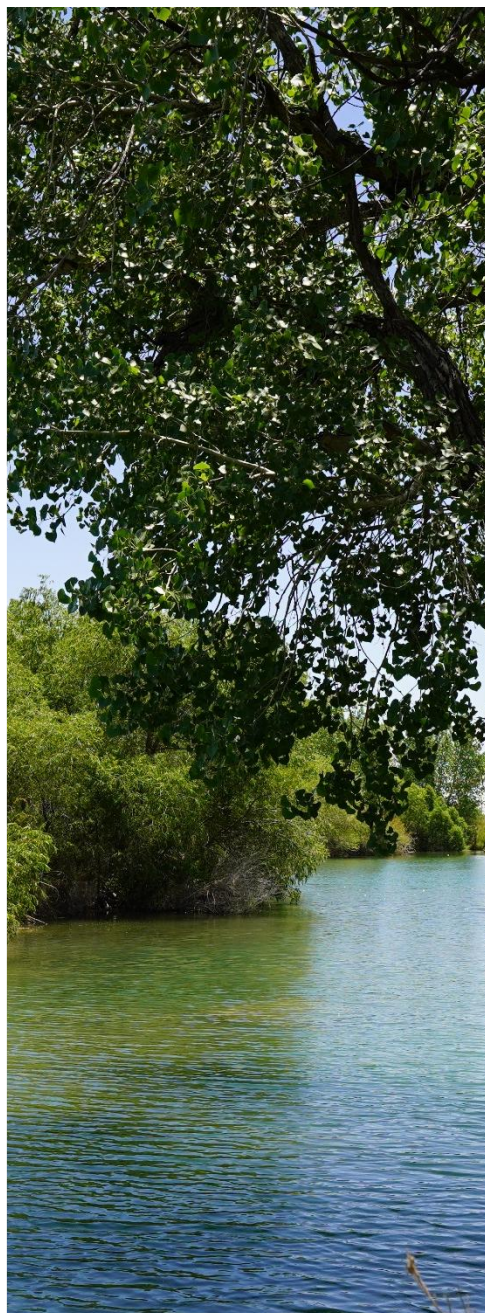
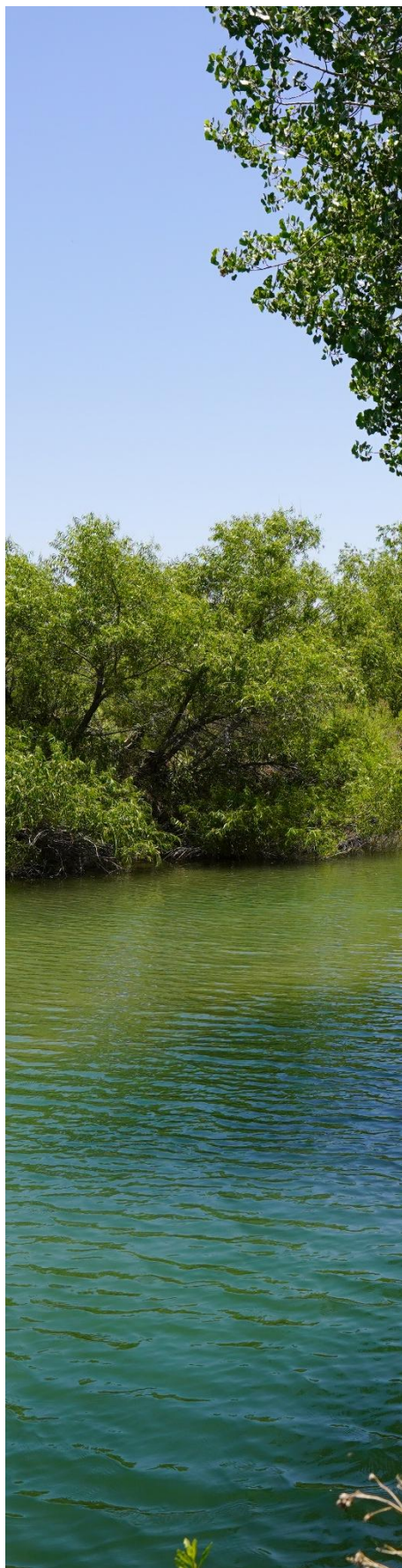




## **2026 Quarter Two Report**

**April 1, 2026 – June 30, 2026**

**Candidate Conservation Agreements**

**Texas Hornshell (*Popenaias popeii*)**

**and other Covered Species**

**Prepared for: U.S. Fish and Wildlife Service**

**Prepared by: CEHMM**

**Date Submitted: 6/30/2026**

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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 support recovery of the species and reduce additional regulatory pressures on enrolled participants.

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 (S. M. Carman, 2007). The THM relies on stable stream channels with moderate flow, clean substrates, and adequate dissolved oxygen, and it is highly sensitive to water quality degradation, sedimentation, dewatering, and habitat fragmentation. In New Mexico, occupied habitat occurs in the smallest subwatershed that encompasses both the Black and Delaware rivers.



**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, further elevating the need for coordinated conservation actions and proactive land stewardship.

This quarterly report to the U.S. Fish and Wildlife Service (Service) summarizes all activities conducted in the second quarter of 2026 under the three 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 impacted stakeholders including ranchers, oil and gas developers, mining operators, and water users to participate in species protection while maintaining lawful operations. These agreements establish a cooperative framework through which CEHMM, the BLM, the NMSLO, the Service, private landowners, and industry partners implement conservation measures to avoid, minimize, and mitigate impacts to both occupied and suitable habitat. Participation includes entities such as oil and gas operators, ranchers, utility providers, and other land or water users (collectively referred to as Participating Cooperators), who enrolled 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 ESA restrictions will not be imposed on covered activities should regulatory requirements increase 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, habitat restoration, and response actions that directly benefit the THM and other covered species. These measures may include flow coordination, erosion and sediment control, riparian setback or infrastructure siting considerations, and operational best practices aimed at reducing the likelihood or severity of impacts.



**Figure 2.** Black River in SE New Mexico.

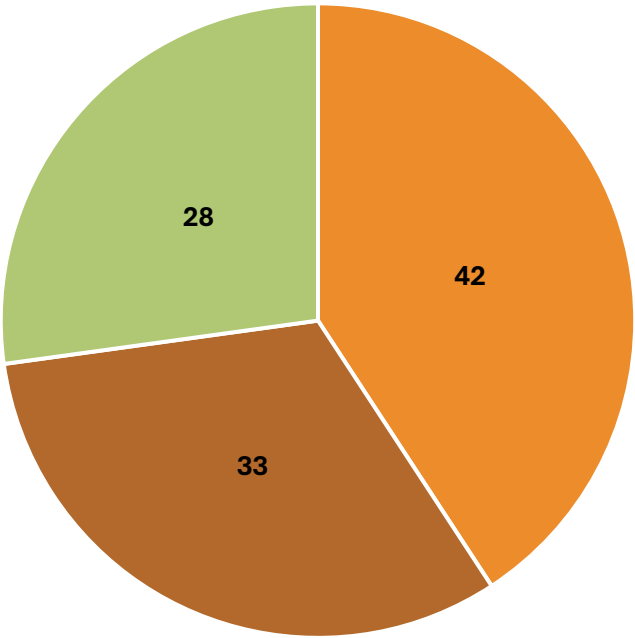
CEHMM processes enrollments, tracks conservation commitments, manages program funds, coordinates with agency partners, and reports program outcomes to the Service. Conservation fees are allocated to projects through a collaborative review and approval process led by the Implementation Committee, which includes representatives from CEHMM, the Service, the BLM, the NMSLO, and the New Mexico Department of Wildlife (NMDOW).

Through the CCA/As, conservation actions are tied directly to habitat 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. The agreements enable CEHMM 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 THM in southeastern New Mexico and the Delaware River in west Texas.

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 enrollments. There were no changes to enrollment during the second quarter of 2026. Currently, CEHMM and the NMSLO have executed 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. The NMSLO administers 28 CIs and CEHMM administers 42 CPs and 33 CIs (Figure 3).

Due to no changes in enrollment, there were also no changes to enrolled acreages during the second quarter of 2026. The NMSLO currently has 112,284.17 acres of state trust land enrolled in its CCAA; CEHMM has 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 as of the second quarter of 2026 is 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.



■ CEHMM CCA (CPs) ■ CEHMM CCAA (CIs) ■ NMSLO CCAA (CIs)

Figure 4. CCA and CCAA enrollment summary as of Q2 2026.

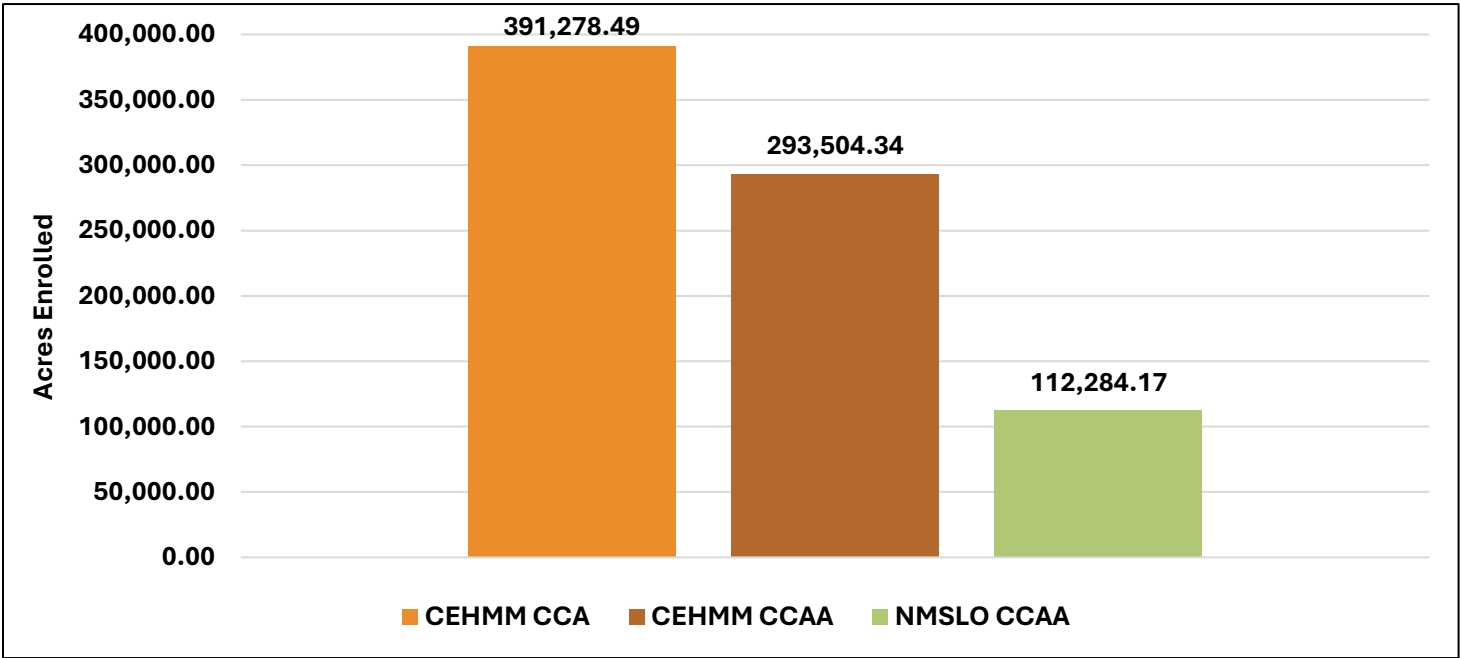
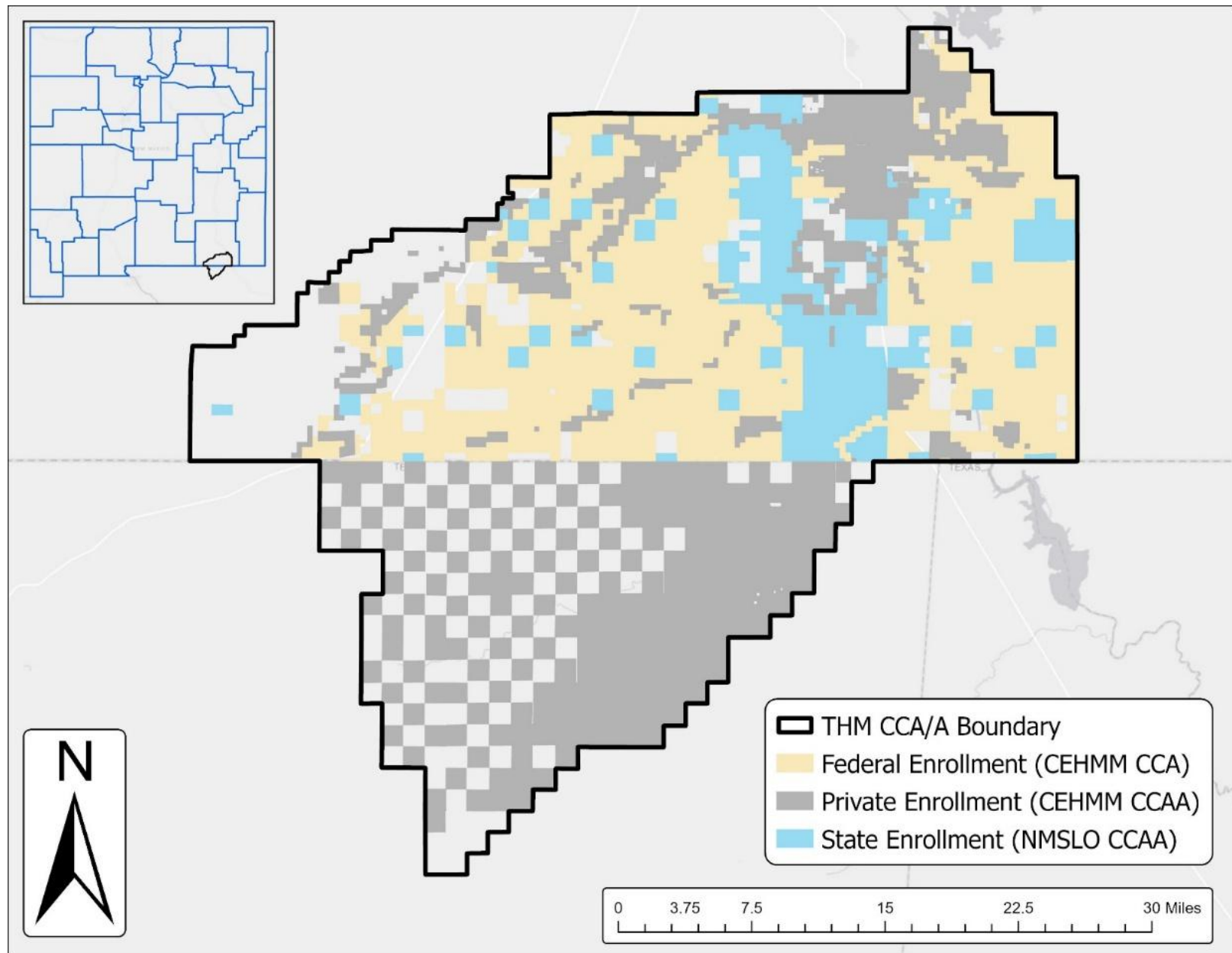


Figure 3. CEHMM and NMSLO CCA/A acres enrolled as of Q2 of 2026.



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





## Conservation Measures

Conservation measures implemented under the THM CCA/As emphasize habitat protection, instream flow protection, 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 to implement targeted, science-based practices that reduce threats to the Texas hornshell and the aquatic systems it inhabits.

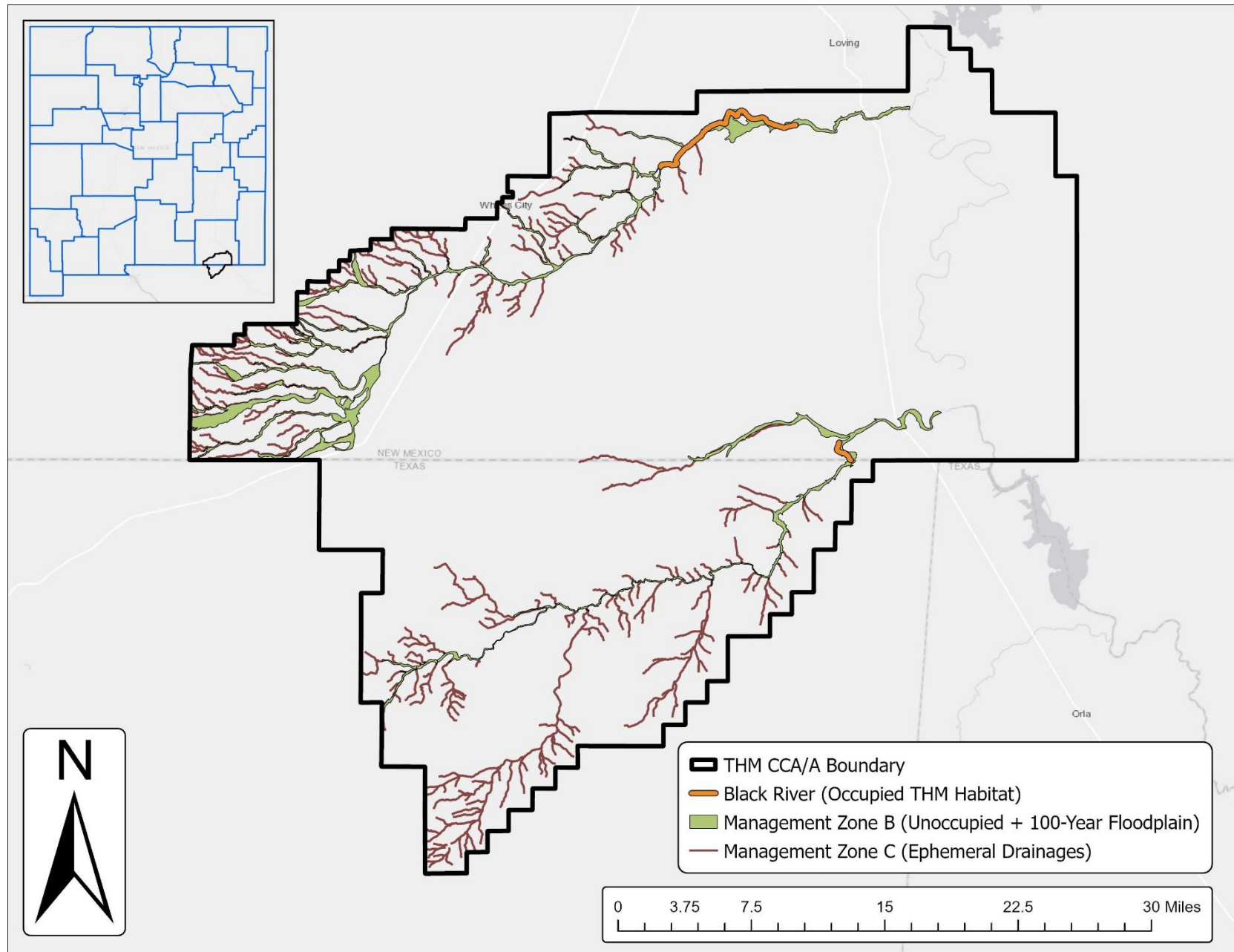
**Table 1.** THM conservation measure examples by enrollment type. (Conservation measures listed are not all inclusive).

| 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.                                                                                                                                                                                                |
| 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. (Conservation measures listed are not all inclusive.)

| 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 with direct connectivity 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

As administrators, CEHMM and the 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 during the second quarter of 2026 included monthly well updates, 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. One instance of non-compliance was observed during the second quarter of 2026, and CEHMM is currently working with the enrollee to address and mitigate the issue.

A Conservation Measure Violation (CMV) formally documents a failure to implement conservation commitments. When a CMV is issued, CEHMM or the NMSLO work with the Participating Cooperator to develop and implement corrective actions specific to the conservation measures in question. 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. No CMVs were issued during the second quarter of 2026.

## Industry Activities Covered in Q2 2026

During the second quarter of 2026, CEHMM received a total of 32 notices of new surface disturbances from Participating Cooperators (Figure 7), documenting 147.09 acres of new disturbance (Figure 8). All but one of these disturbances occurred within Management Zone D, with the remaining disturbance occurring within Management Zone B. The NMSLO received six notifications of new surface disturbances from Participants (Figure 7), totaling 22.66 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 include the Participants installing water-bars, silt fences, culverts, erosion blankets, wattles, and reseeded disturbed areas.

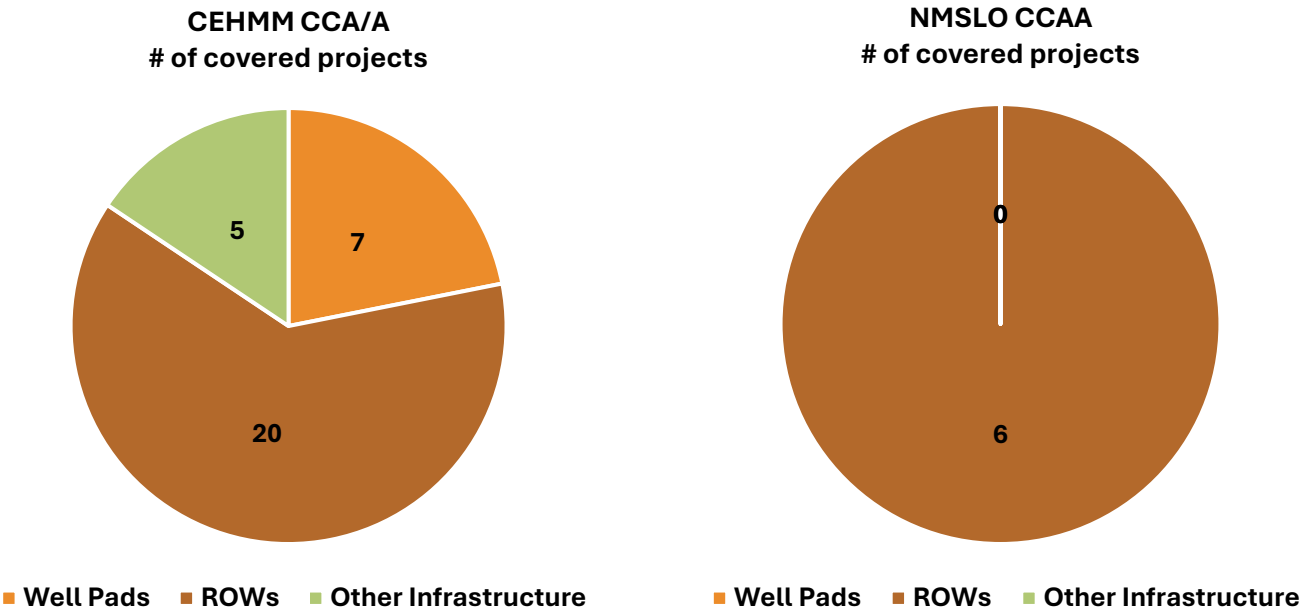
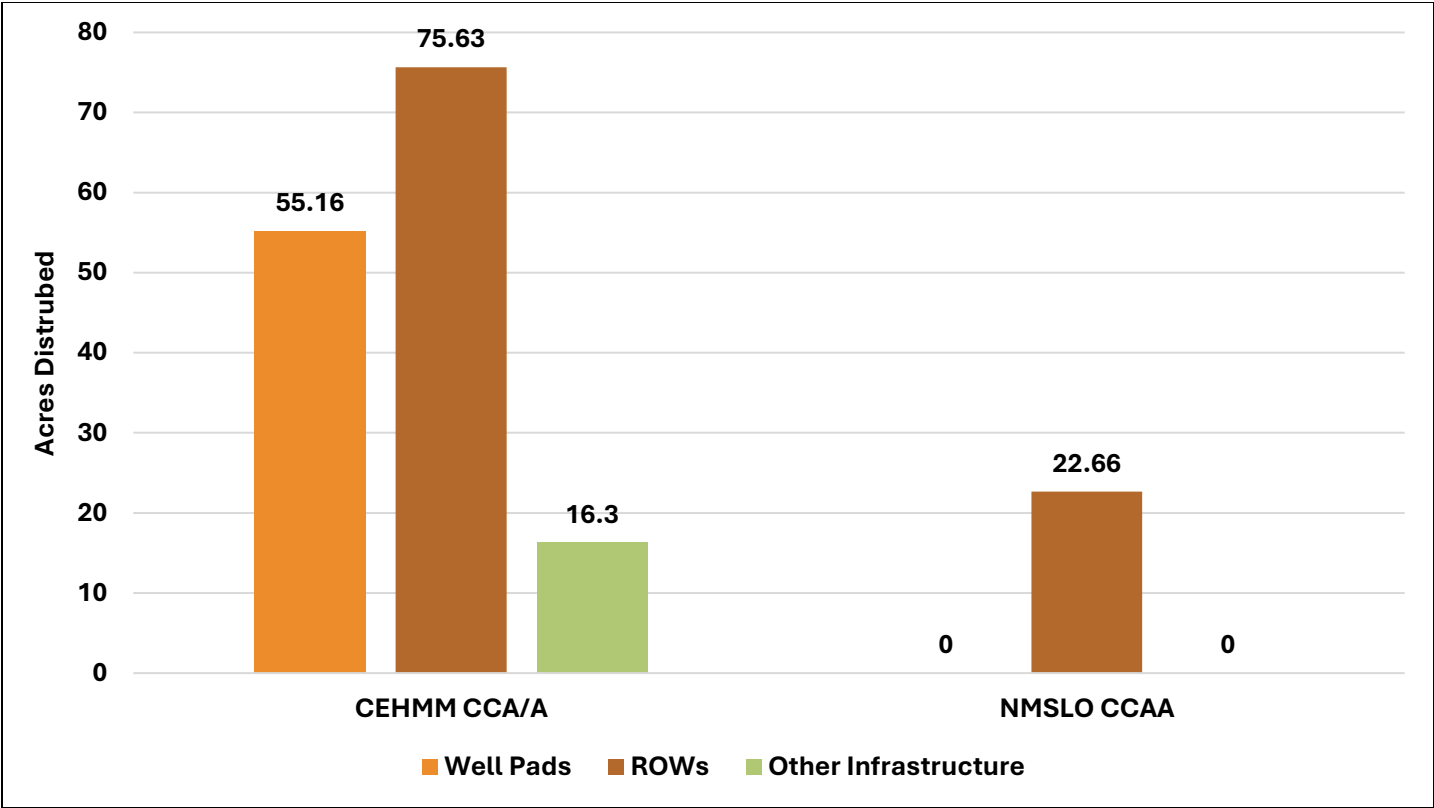


Figure 7. Covered projects breakdown for CEHMM CCA/A and NMSLO CCAA during the second quarter of 2026.



**Figure 8.** Acres of disturbance breakdown by disturbance type for the CEHMM CCA/A and the NMSLO CCAA during the second quarter of 2026.

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 initial contribution amount is a base fee as part of the CCA/A program enrollment. Additional contribution amounts are determined by the number of disturbed acres from new well pads 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 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. 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, habitat improvement 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 conservation efforts for the Texas hornshell and other covered species. 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

### 2024 USFWS Cooperative Endangered Species Conservation Fund Grant: Texas Hornshell Habitat Conservation Plan

CEHMM has actively pursued the development of a Habitat Conservation Plan (HCP) to further support the conservation of the THM (Figure 9) and associated aquatic habitats. In 2023, CEHMM was awarded funding through the U.S. Fish and Wildlife Service's Cooperative Endangered Species Conservation Fund to support development of the Texas Hornshell HCP. A Memorandum of Agreement was finalized on June 11, 2024, allowing work on the HCP to begin. Using this support, CEHMM initiated a draft of the HCP with guidance from the Service's HCP Handbook and the existing Texas Hornshell CCA/A framework, ensuring alignment with established conservation measures and permitting requirements.



**Figure 9.** Texas hornshell observed in the Black River in SE New Mexico.

**Progress in Q2 2026:** During the second quarter of 2026, CEHMM, in coordination with the U.S. Fish and Wildlife Service, agreed to merge the Texas Hornshell Habitat Conservation Plan (HCP) with the Lesser Prairie-Chicken and Dunes Sagebrush Lizard HCPs into a single, multi-species HCP. Consolidating the three plans will streamline the permitting process, reduce redundancy among shared program elements, and provide a comprehensive conservation framework for covered activities across the planning area.

Following this decision, CEHMM and the Service met and established a coordinated plan of action for completing the unified HCP, including defining project roles and responsibilities, establishing project milestones, and outlining the review process to ensure all parties remain aligned throughout development. Sections 1 (Introduction) and 2 (Goals and Objectives) successfully completed internal review during the second quarter, and reviewer comments have been incorporated into the draft. Section 3 (Environmental Setting) also completed internal review, with revisions currently being incorporated based on reviewer feedback. Sections 4 (Covered Species Ecology) and 5 (Covered Activities) are scheduled for internal review during the next phase of HCP development.

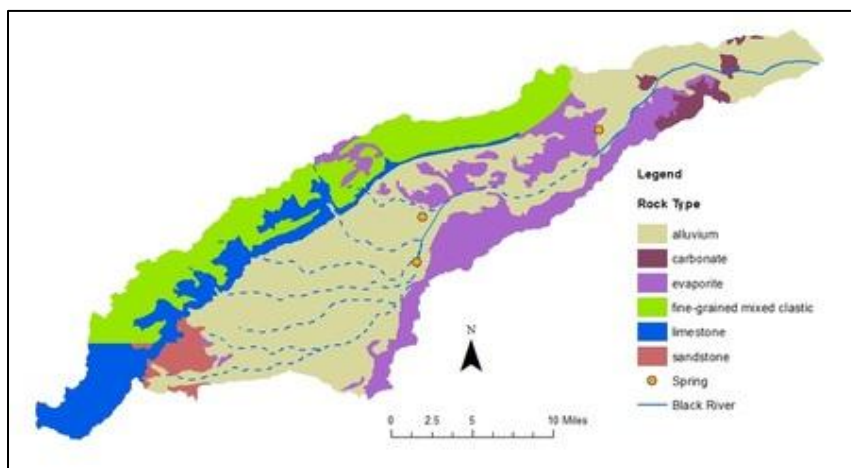
### 2025 NFWF Pecos Watershed Conservation Initiative: Comprehensive Hydrologic Modeling (BRW)

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 10). 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.

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 CCAA 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.

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.



**Figure 10.** Map of the Black River watershed, illustrating its different geologic formations.

**Progress in Q2 2026:** During the second quarter of 2026, CEHMM held meetings with interested parties that responded to the Request for Proposals (RFP) for the watershed assessment project. Following these discussions, CEHMM requested an amended proposal from one of the respondents to better align the proposed scope of work and budget with the grant requirements. Proposal review is ongoing, and subcontractor selection will be finalized upon completion of the evaluation process.

### 2026 NFWF Pecos Watershed Conservation Initiative: Assessing Habitat Needs to Inform Conservation of the Texas Hornshell Mussel (NM)

In 2025, CEHMM submitted a proposal to conduct a comprehensive habitat assessment and habitat suitability modeling project for the federally endangered THM in the Black River. The proposed study was developed to address critical knowledge gaps regarding the environmental conditions that influence THM distribution, persistence, and recovery. As flow conditions continue to change and the species faces ongoing threats from habitat degradation and water availability, understanding the habitat characteristics that support healthy mussel populations is essential for guiding future conservation and management actions.

The proposed project will evaluate approximately 120 sampling locations across occupied and unoccupied reaches of the Black



**Figure 11.** CEHMM staff conducting mussel surveys in the Black River in SE, NM.

River over multiple seasons (Figure 11). At each site, CEHMM will collect detailed measurements of water quality, hydrology, substrate composition, channel morphology, and other habitat characteristics while documenting Texas hornshell presence and population demographics. These data will be used to develop advanced habitat selection and habitat suitability models capable of identifying the environmental factors strongly associated with suitable THM habitat and predicting additional areas capable of supporting the species.

Upon completion, the project is expected to produce one of the most comprehensive habitat datasets collected for THM in New Mexico. The resulting models will provide a science-based framework for identifying priority conservation areas, evaluating potential restoration and translocation sites, supporting emergency salvage planning, and informing long-term management decisions aimed at improving the resilience and recovery of the Black River Texas hornshell population.

**Progress in Q2 2026:** During the second quarter of 2026, CEHMM was officially notified that the Black River Habitat Assessment and Suitability Modeling Project has been selected for funding. Following the award, CEHMM met with representatives from the NFWF to discuss project implementation, reporting requirements, and the anticipated project timeline. Field activities are expected to begin in the summer of 2027, following completion of project startup activities and equipment acquisition.

### **Black River Trash Cleanup**

On May 27, 2026, CEHMM coordinated the Spring Trash Cleanup along the Black River (Figure 12). The event brought together CEHMM staff and local partners to remove illegally dumped debris and litter from riparian areas within the watershed. Cleanup efforts focused on improving habitat quality, reducing potential impacts to aquatic and riparian species, and maintaining the ecological integrity of the Black River. This cleanup resulted in over 700 pounds of trash and illegally dumped debris being removed from two priority cleanup sites.

The event also provided an opportunity to engage conservation partners and promote community stewardship of one of southeastern New Mexico's most ecologically significant river systems. In

addition to the spring effort, a second cleanup is planned for fall 2026 to continue addressing debris accumulation and further support long-term watershed restoration and habitat protection goals along the Black River.



**Figure 12.** CEHMM staff along with enrollee and federal partners at the 2026 Spring Black River Trash Cleanup.

## **River Monitoring**

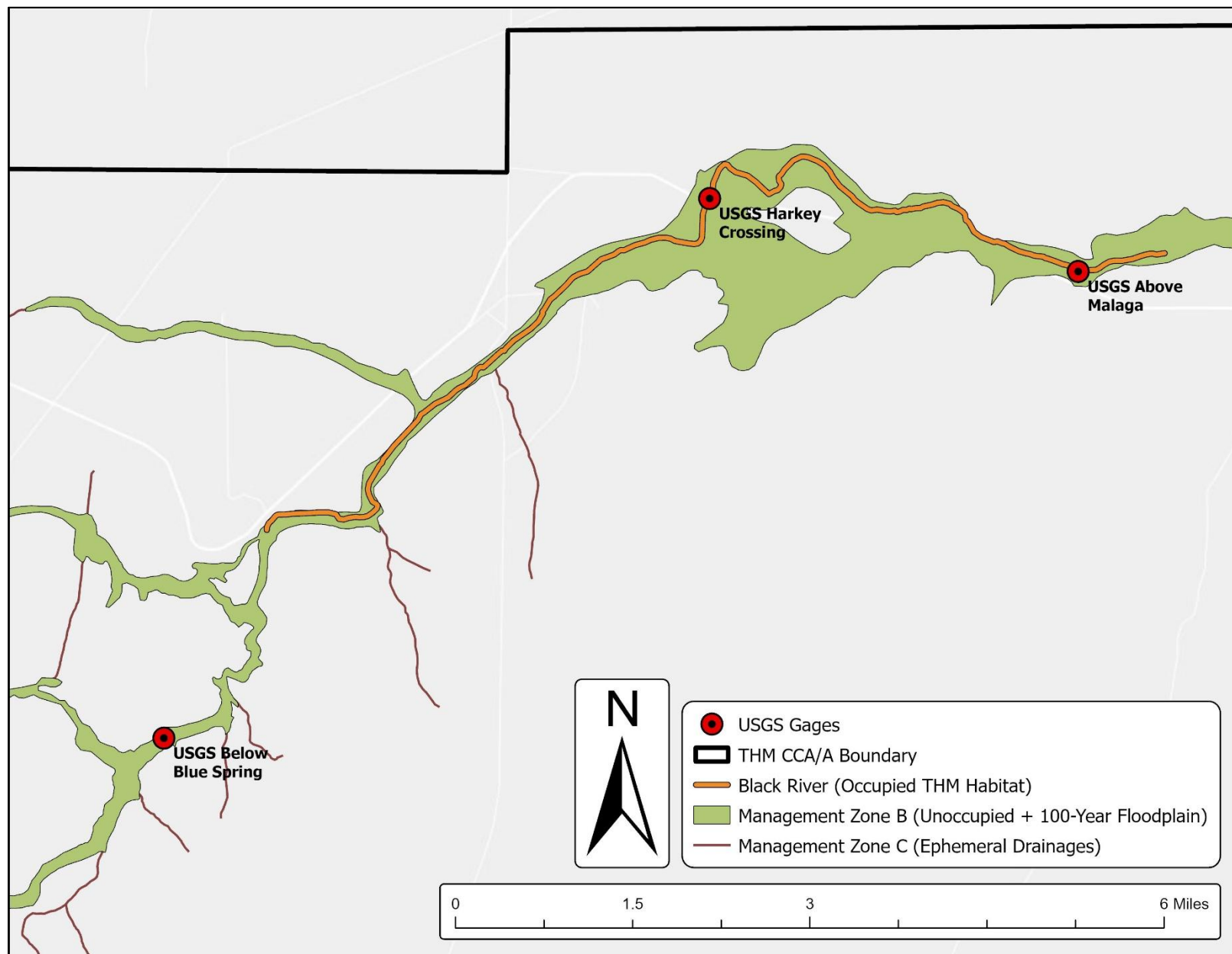
### **Black River Monitoring**

Since the CCA/A took effect in 2017, CEHMM has remotely monitored daily average flow 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.

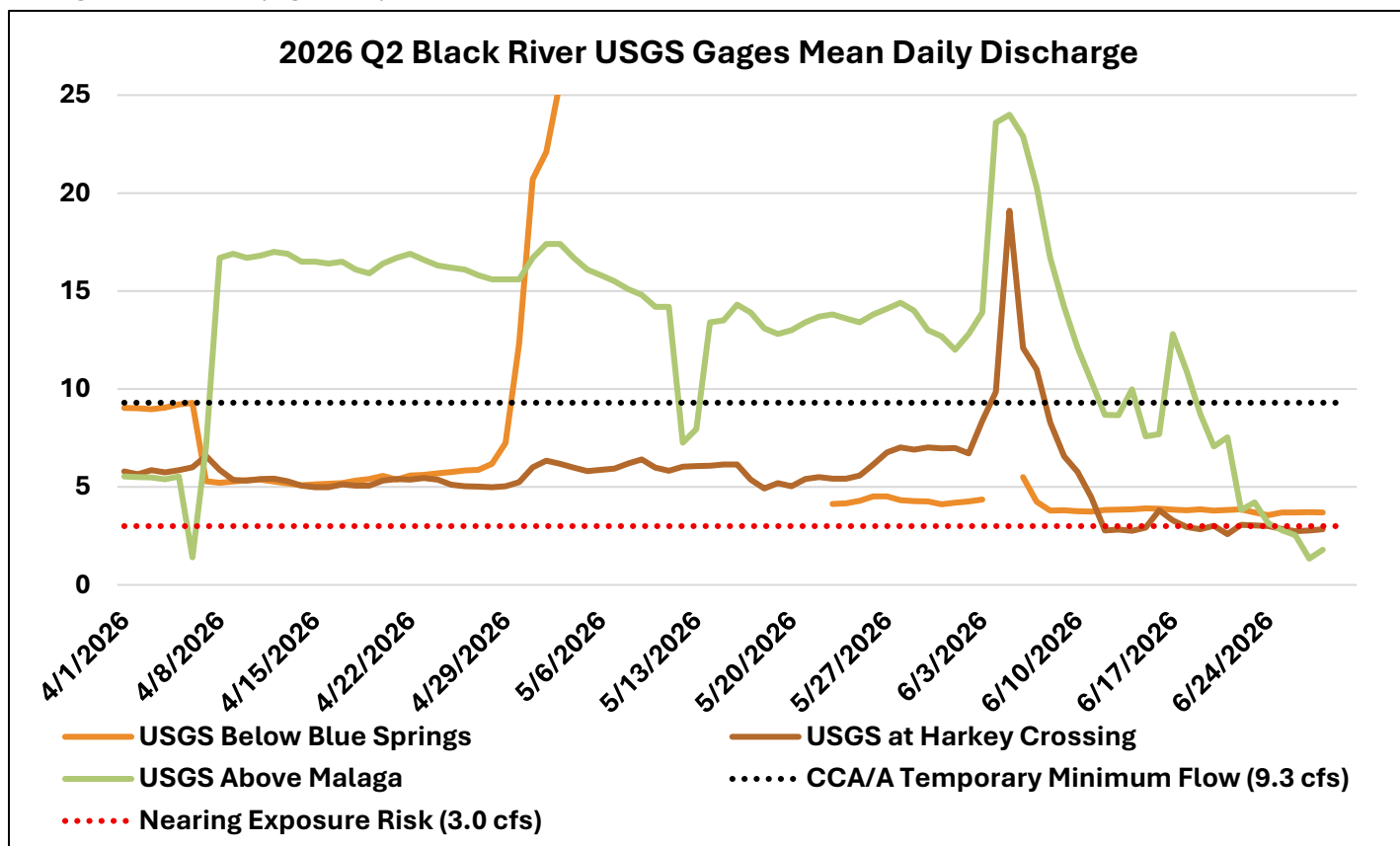
In 2019, the Implementation and Executive Committees agreed to install two new USGS gages in the Black River: one at Harkey Crossing and a second below Blue Springs (Figure 13). CEHMM uses CCA/A funds to operate and maintain the Harkey Crossing gage.





**Figure 13.** 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 (Arm et. Al. 2014). 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. During the second quarter of 2026, curtailment notices were issued three times in response to low-flow conditions. Field verification confirmed that flows were below the Texas Hornshell CCA/A low-flow threshold during these events (Figure 14).



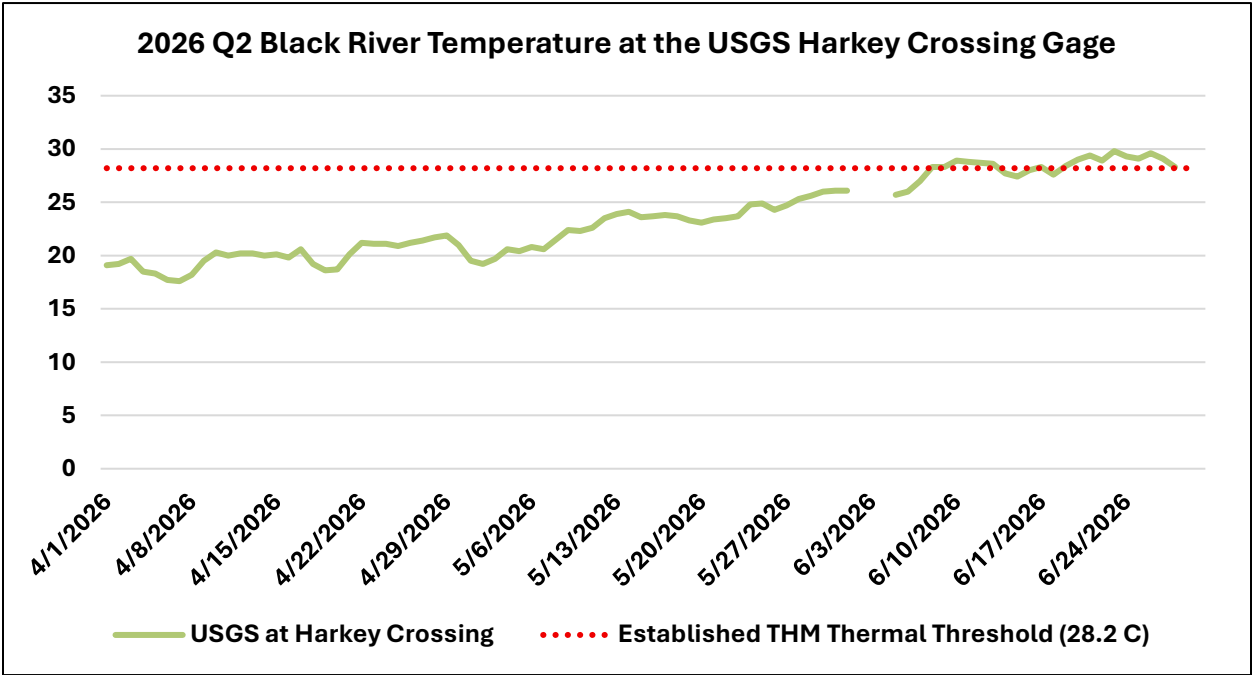
**Figure 14.** Mean daily discharge of the Black River at USGS Below Blue Springs gage (orange line), USGS at Harkey Crossing gage (brown line), USGS Above Malaga gage (green line) from April 1, 2026, to June 30, 2026, NMDGF's identified exposure risk for THM of 3.0.

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.

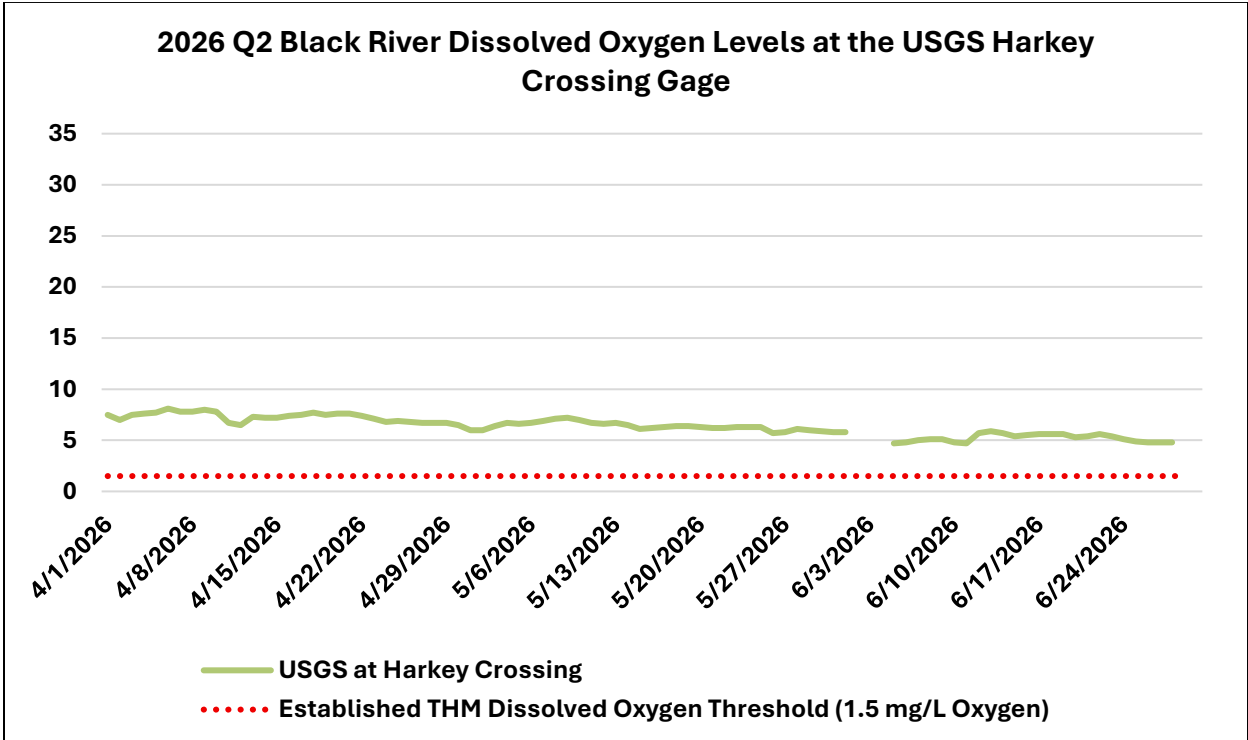
CEHMM previously funded a detailed study to establish water quality thresholds necessary to support the survival and health of THM populations. This study evaluated mussel behavior and physiological responses under varying environmental conditions, providing science-based criteria for adaptive management. 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 (X. Rangaswami, 2023).

Continuous water quality monitoring at Harkey Crossing allows CEHMM to detect when conditions approach or exceed critical thresholds. During the reporting period, daily average conditions exceeded temperature thresholds on 19 days, as recorded by the Harkey Crossing gage. Dissolved oxygen thresholds were not exceeded during Q2.

Figures 15 and 16 summarize observed temperature and dissolved oxygen relative to recommended limits, highlighting periods near or above these thresholds.



**Figure 15.** Mean daily temperature of the Black River at the USGS Harkey Crossing Gage (green line) from April 1, 2026, to June 30, 2026, and the established thermal tolerance threshold for THM of 28.2 degrees Celcius.



**Figure 16.** Mean daily dissolved oxygen levels of the Black River at the USGS Harkey Crossing Gage (green line) from April 1, 2026, to June 30, 2026, and the established minimum dissolved oxygen threshold for THM of 1.5 mg/L oxygen.

In addition to continuous monitoring using USGS gages, CEHMM conducts monthly spot checks at six sites along the Black River: two upstream of the occupied reach, three within the reach, and one downstream. At each site, water quality data are collected with a YSI multiparameter sonde, and monitoring photos are taken to document conditions. These spot checks allow for cross-validation of sensor data and help identify any spatial variations or anomalies in water quality. All measurements and associated observations from these monthly spot checks are summarized in Tables 3-5.

**Table 3. Water Quality Measurements by Site on 4/22/2026.**

| Parameter               | Site 1 (Above occupied) | Site 2 (Above occupied) | Site 3 (Within occupied) | Site 4 (Within occupied) | Site 5 (Within occupied) | Site 6 (Below occupied) |
|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| Air Temperature (°C)    | 29.7                    | 31.1                    | 31.9                     | 33.1                     | 31.9                     | 32.6                    |
| Observed Flow           | Moderate                | Moderate                | Moderate                 | Moderate                 | Moderate                 | Moderate                |
| Water Temperature (°C)  | 16.9                    | 17.8                    | 19.7                     | 19.7                     | 19.8                     | 21.6                    |
| Dissolved Oxygen (mg/L) | 6.40                    | 5.62                    | 8.04                     | 7.00                     | 7.95                     | 9.47                    |
| Conductivity (µS/cm)    | 1900                    | 1740                    | 1620                     | 1620                     | 1650                     | 6390                    |
| Salinity (ppt)          | 0.97                    | 0.89                    | 0.82                     | 0.82                     | 0.83                     | 3.49                    |

**Table 4. Water Quality Measurements by Site on 5/11/2026.**

| Parameter               | Site 1 (Above occupied) | Site 2 (Above occupied) | Site 3 (Within occupied) | Site 4 (Within occupied) | Site 5 (Within occupied) | Site 6 (Below occupied) |
|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| Air Temperature (°C)    | 24.4                    | 24.8                    | 25.9                     | 28.2                     | 28.5                     | 24.5                    |
| Observed Flow           | Moderate                | Moderate                | Moderate                 | Moderate                 | Moderate                 | Moderate                |
| Water Temperature (°C)  | 17.9                    | 19.5                    | 21.5                     | 22.1                     | 21.7                     | 21.0                    |
| Dissolved Oxygen (mg/L) | 7.40                    | 7.51                    | 6.41                     | 6.48                     | 7.19                     | 6.53                    |
| Conductivity (µS/cm)    | 1293                    | 1040                    | 1047                     | 1053                     | 1053                     | 3822                    |
| Salinity (ppt)          | 1.02                    | 0.81                    | 0.81                     | 0.82                     | 0.82                     | 3.21                    |

**Table 5. Water Quality Measurements by Site on 6/12/2026.**

| Parameter               | Site 1 (Above occupied) | Site 2 (Above occupied) | Site 3 (Within occupied) | Site 4 (Within occupied) | Site 5 (Within occupied) | Site 6 (Below occupied) |
|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| Air Temperature (°C)    | 26.7                    | N/A                     | 31.2                     | 32.8                     | 34.8                     | 33.9                    |
| Observed Flow           | Moderate                | N/A                     | Low                      | Low                      | Low                      | Low                     |
| Water Temperature (°C)  | 22.4                    | N/A                     | 26.9                     | 27.4                     | 27.4                     | 26.4                    |
| Dissolved Oxygen (mg/L) | 4.47                    | N/A                     | 5.22                     | 4.48                     | 4.64                     | 6.62                    |
| Conductivity (µS/cm)    | 1830                    | N/A                     | 1650                     | 1580                     | 1600                     | 4580                    |
| Salinity (ppt)          | 0.93                    | N/A                     | 0.83                     | 0.79                     | 0.80                     | 2.44                    |





**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 and spot measurements with a YSI sonde to document flow conditions and habitat status. At the primary monitoring location (32.011727, -104.105712), the river maintained continuous flow through early June 2026; however, flow ceased around June 11 and has not yet resumed. During the second quarter of 2026, there have been roughly 19 days without a measurable discharge.

Throughout the second quarter of 2026, CEHMM staff conducted two site visits to assess the presence of water. During these visits, water quality data was collected with the YSI, and habitat conditions were documented with photographs and field notes (Table 6 and Figure 17).

By maintaining consistent monitoring and spot checks, CEHMM is able to track changes in flow patterns over time, detect 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.

**Table 6. Water Quality Measurements at the Delaware River During Q2 2026.**

| Parameter               | 4/22/2026 | 5/11/2026 | 6/12/2026 |
|-------------------------|-----------|-----------|-----------|
| Air Temperature (°C)    | 33.2      | 22.3      | N/A       |
| Observed Flow           | Moderate  | Moderate  | Zero Flow |
| Water Temperature (°C)  | 18.5      | 20.5      | N/A       |
| Dissolved Oxygen (mg/L) | 8.73      | 6.74      | N/A       |
| Conductivity (µS/cm)    | 2770      | 1931      | N/A       |
| Salinity (ppt)          | 1.44      | 1.55      | N/A       |





**Figure 17.** Photographic timeline of the Delaware River flow during the second quarter of 2026.

## Species Monitoring

### Host Fish Surveys

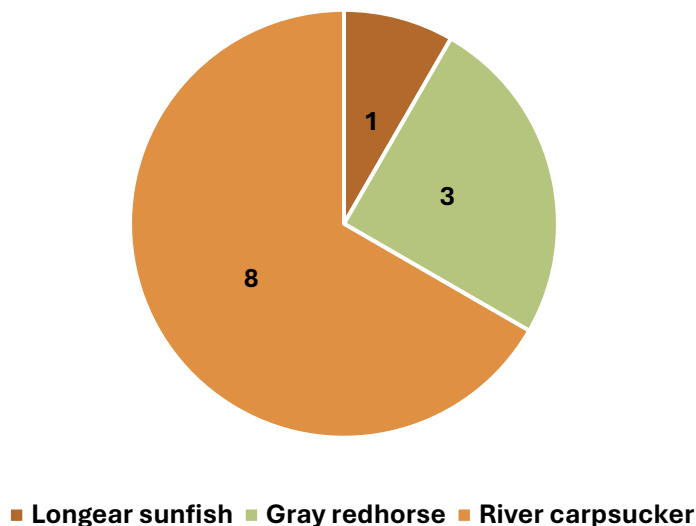
In June, CEHMM assisted the NMDOW with annual summer host fish surveys in both the Black River and Delaware River to document the presence, distribution, and relative abundance of THM host fish species, as well as to evaluate glochidia infestation on captured individuals. These surveys support ongoing conservation and research efforts aimed at understanding host availability within occupied THM reaches and informing future management actions.

Sampling was conducted using a combination of electroshocking, trammel netting, and seining to effectively target multiple habitat types within each river system. In the Black River, four sections of riffle habitats were electroshocked (site lengths varied by habitat conditions), targeting shallow, fast-water environments where host fish species are most likely to occur; 11 trammel nets were deployed for standardized 2-hour minimum sets to assess fish presence in deeper, slower-moving reaches; and one pool habitat was electroshocked via raft. In the Black River, survey efforts documented 68 gray redhorse, 33 river carpsucker, 189 longear sunfish, and zero blue sucker across sampled reaches (Figure 19). Glochidia presence was observed on 12 individuals in the Black River (Figure 18), providing further information on host fish utilization and reproductive connectivity within the THM's occupied reach.

In the Delaware River, two trammel nets were deployed for standardized 2-hour minimum sets, and nine seine hauls were conducted in wadeable pool and run habitats. This multi-method approach provided a comprehensive assessment of host fish occupancy across both systems. In the Delaware River, survey efforts documented one gray redhorse, zero river carpsucker, one longear sunfish, and zero blue sucker across sampled reaches (Figure 19). Glochidia presence was not observed on any individuals in the Delaware River.

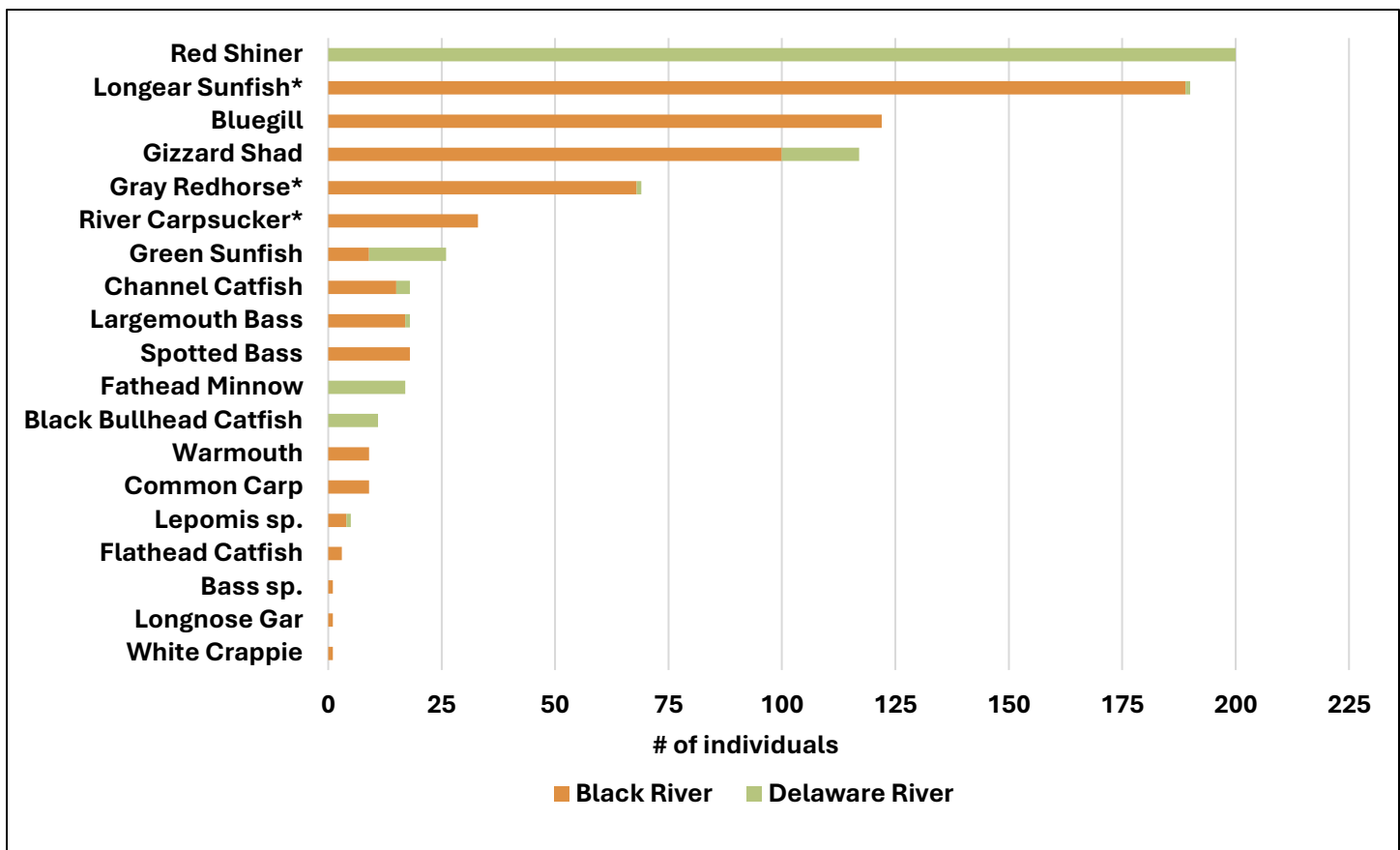
Collectively, these results provide a comparative snapshot of host fish community composition and THM glochidia infestation across two occupied river systems. The data helps inform spatial priorities for habitat protection, evaluates host availability relative to known THM distributions, and supports ongoing coordination with NMDOW to refine survey design and future monitoring efforts.

**# of Host Fish Observed with Glochidia**



**Figure 18.** Number of glochidia observations by species in the Black River during June host fish surveys.





**Figure 19.** June 2026 Texas hornshell (THM) host fish survey results from the Black and Delaware rivers, southeastern New Mexico. An asterisk (\*) indicates species confirmed as host fish for the Texas hornshell.

### Pecos Springsnail Surveys

In June, CEHMM conducted annual Pecos springsnail population and recruitment surveys (Figure 20) in partnership with the NMDOW. These surveys evaluate population condition, annual recruitment, and habitat stability at established monitoring sites using standardized tile sampling and benthic sediment sampling. During the 2026 annual surveys, a total of eight monitoring tiles were examined, and six benthic grab samples were collected to assess springsnail occupancy within surrounding substrates.

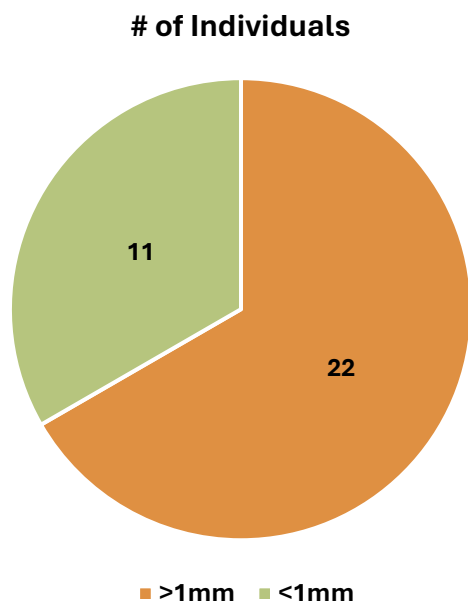
Size-class measurements were used to assess recruitment success and overall population structure, with individuals >1 mm

classified as established snails and individuals <1 mm representing newly recruited juveniles. This size-based approach provides an index of reproductive output and early survival, allowing for meaningful comparisons among annual monitoring events.



**Figure 20.** CEHMM staff counting Pecos springsnail under a magnifying glass.





**Figure 21.** June 2026 Pecos springsnail survey results.

A total of 33 individuals were documented during the survey, including 22 established individuals (>1 mm) and 11 newly recruited juveniles (<1 mm) (Figure 21). Several monitoring tiles were missing during this year's survey, likely because of recent rain and flooding events in the days prior to surveys that displaced tiles or buried them beneath accumulated sediment. Because of the missing tiles, a population estimate could not be generated; however, the presence of both established adults and newly recruited juveniles confirms that reproduction is occurring and that the population remains active within the monitored habitat.

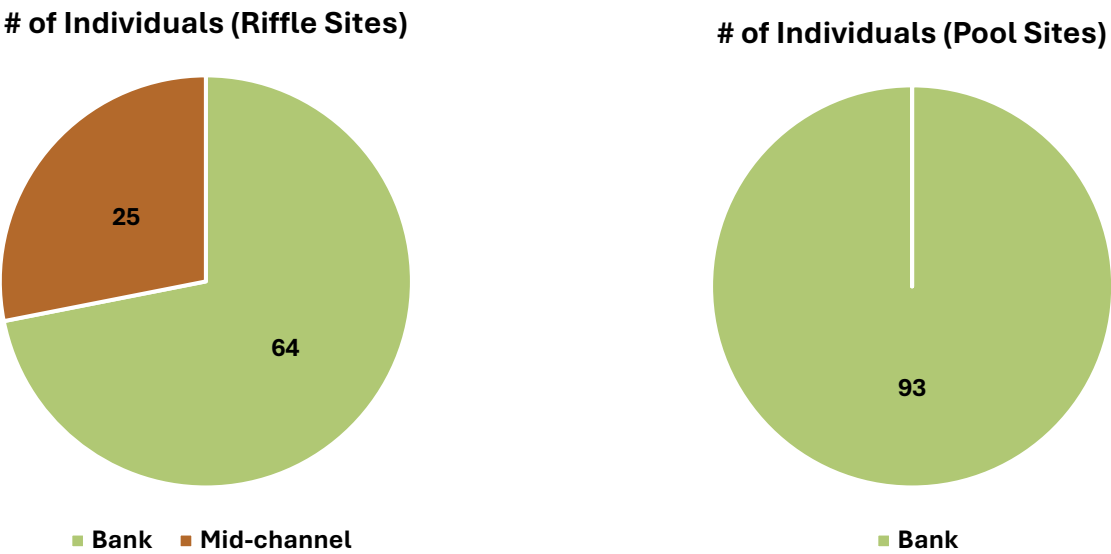
Ongoing monitoring provides valuable information on long-term population trends, recruitment success, and habitat conditions. These surveys also help document the effects of hydrologic events and sedimentation on the species and continue to inform conservation planning and management efforts for the Pecos springsnail.

### **THM Population Estimate Surveys**

Also in June, CEHMM, in partnership with NMDOW, conducted THM annual population estimate surveys in the Black River. Surveys were conducted at 27 sites over a 5-day period in June, following a long-established methodology in which two divers performed tactile searches along three transects deployed perpendicular to the river channel at each site (Figure 22). Because physical habitat structure is known to influence mussel occupancy, sites were stratified by macrohabitat type (12 pool sites and 15 riffle sites). Within each site, divers located mussels within the substrate and recorded individual size and life stage for each encounter. For efficient sampling and recognition of the known low occurrence of individuals in mid-channel pool habitats, only banks were surveyed in pools, while both bank and mid-channel habitats were searched within riffles; this approach was determined not to introduce a statistically significant difference in detection outcomes between habitat types.

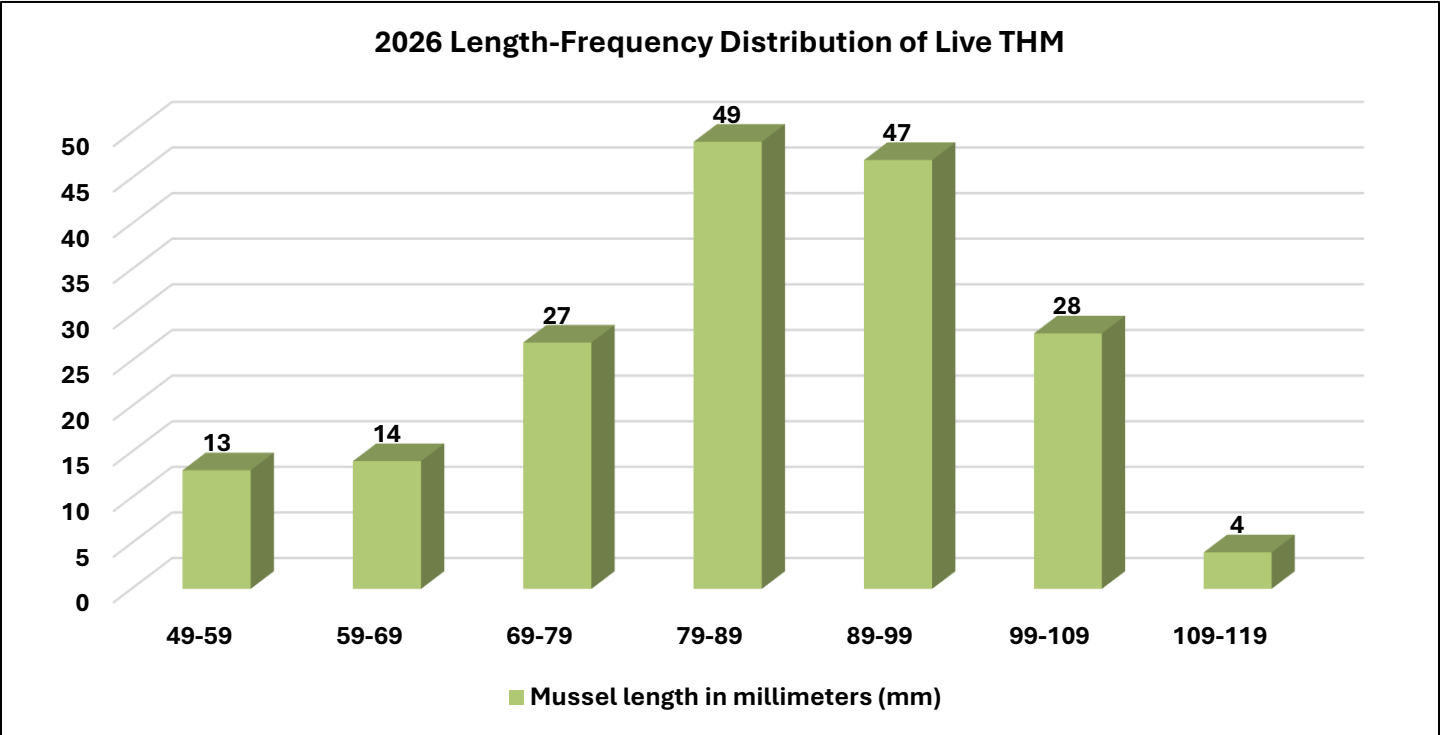


**Figure 22.** CEHMM staff conducting annual population estimate surveys for THM in the Black River in SE, New Mexico.



**Figure 23.** June 2026 THM population estimate survey data broken down by riffle and pool habitat observations.

A total of 182 live mussels were identified, with 89 occurring in riffle sites and 93 in pool sites. Within the riffle macrohabitat, mussels were more likely to inhabit the banks ( $n = 64$ ) than the midchannel ( $n = 25$ ) (Figure 22). Total shell lengths were measured to characterize the population’s age structure (Figure 24). Tactile surveys typically preclude the detection of sub-adult life stages, which was true during this year’s monitoring efforts, as the smallest mussel observed was 49 mm. However, 26 mussels (14% of all live individuals) measured between 50 and 70 mm, corresponding approximately to ages of 3–4 years, indicating that some level of recruitment has occurred within the last several years (Hein and Berg 2021). To estimate the total population size and population growth rates, this dataset will be incorporated into population models in the coming quarter.



**Figure 24.** Length-frequency distribution of live THM individuals observed during the June 2026 population estimate surveys.

## Outreach and Education

### New Mexico Energy and Natural Resources Pathway Program Teachers Presentation

On April 8, 2026, CEHMM staff delivered a virtual presentation to teachers participating in the New Mexico Energy and Natural Resources Pathway Program across southeast New Mexico. The presentation provided an overview of key natural resource considerations associated with planning right-of-way (ROW) routes for oil and gas development, including 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 information was intended to support classroom instruction by providing educators with current, locally relevant examples that could be incorporated into their curriculum.

The presentation also served as an opportunity to strengthen collaboration between CEHMM and regional educators by highlighting the organization's conservation programs, staff expertise, and career pathways in natural resource management. By equipping teachers with real-world examples and educational resources, CEHMM helps enhance student understanding of environmental management, conservation, and regulatory compliance while increasing awareness of career opportunities within the natural resources field.

### Whiteface Elementary School Presentation

On April 29, 2026, CEHMM staff presented to fifth-grade students from Whiteface Elementary School at the Black River Learning Center (Figure 25). The presentation highlighted conservation efforts for the THM and other species of concern in southeastern New Mexico. Students also learned about the role of habitat conservation, responsible land stewardship, and collaborative management efforts in protecting New Mexico's native wildlife. The presentation served as an opportunity to engage students with locally relevant conservation topics and increase awareness of the work being conducted by CEHMM to conserve imperiled species and their habitats. By connecting classroom learning with real-world conservation efforts, the program helped foster an appreciation for New Mexico's natural resources while encouraging curiosity about careers in environmental science, wildlife biology, and natural resource management.



**Figure 25.** CEHMM staff presenting to 5th graders from Whiteface Elementary School at the Black River Learning Center.

### NFWF Partners Meeting, Alpine, TX

On May 5–6, 2026, CEHMM staff attended the NFWF Partners Meeting in Alpine, Texas. The meeting provided updates on upcoming NFWF funding opportunities, program priorities, and ongoing regional conservation initiatives. Presentations and discussions highlighted current project progress across the region, as well as emerging priorities for habitat conservation, species management, and collaborative implementation strategies among partners.

The meeting also provided an opportunity to engage with project partners and funding representatives to discuss coordination of existing efforts and potential alignment with future funding cycles. Attendance supported

CEHMM’s continued participation in regional conservation planning and helped inform the development and implementation of current and future NFWF-funded projects.

Committees and Meetings

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, Texas Parks and Wildlife Department (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.

Q2 2026 Implementation Committee Discussion Topics

|                        |                                   |                                    |
|------------------------|-----------------------------------|------------------------------------|
| CCA/A Updates          | Monitoring and Surveys            | Conservation Projects and Research |
| Education and Outreach | Habitat Conservation Plan Updates | Future Planning                    |



## 2026 Q2 in Review

The second quarter of 2026 was a busy field season for CEHMM, with field crews spending much of the spring and early summer monitoring the rivers, surveying covered species, and advancing conservation projects. In partnership with the NMDOW, CEHMM completed annual Texas hornshell population estimate surveys, host fish surveys, and Pecos springsnail monitoring, collecting valuable data on population health, recruitment, and habitat conditions. At the same time, continuous water quality and streamflow monitoring throughout the Black and Delaware rivers allowed staff to track changing environmental conditions, document persistent low-flow conditions, and coordinate with CCA/A Participants to support adaptive management efforts.

While field work kept crews on the river, significant progress was also made behind the scenes. CEHMM advanced development of the new multi-species Habitat Conservation Plan, moved forward with watershed and habitat modeling projects that will guide future conservation efforts, and secured funding for a new THM habitat assessment project. Staff also continued reviewing development projects, ensuring conservation measures were implemented, and sharing conservation with the community through classroom presentations, regional partner meetings, and the annual Black River Spring Trash Cleanup, where more than 700 pounds of illegally dumped debris were removed from the watershed. Together, these accomplishments demonstrate another successful quarter of combining sound science, strong partnerships, and proactive conservation to protect the covered species and the aquatic ecosystems on which they depend.



Signature

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

Signed by:  
*Emily K Wirth*  
C3CAB72B851746E

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

Date: 8/2/2026  
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