



Texas Parks and Wildlife Department Successfully Eradicated Invasive Zebra Mussels from Lake Waco

Abstract – In the ongoing efforts against invasive species, the Texas Parks and Wildlife Department (TPWD) successfully eradicated invasive zebra mussels from Lake Waco in Central Texas. This victory prevents potential ecological damage, safeguards water supply, and illustrates the significance of early detection and collaborative rapid response. This will case study will showcase the process, challenges, and importance of halting the spread of invasive species.



Problem

Zebra mussels, an invasive species, pose significant threats to aquatic ecosystems, infrastructure, and property. When introduced into Lake Waco in 2014, there was an imminent danger of these mussels establishing a stronghold, leading to a cascade of negative environmental and economic implications. Rapid multiplication and hardiness of these mussels made them especially concerning. Their spread can be inadvertently exacerbated by boaters, marina operators, and others.



Why Was EQO Brought In?

EQO's unique eRNA and eDNA technology offers a unique understanding of population dynamics and trends, making it invaluable for projects like this. Their techniques provide accurate early detection and informed decisions, ensuring an effective response against invasive species.

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Findings

Upon the discovery of zebra mussels at a Lake Waco boat ramp in September 2014, further surveys revealed about 75 adult mussels and some larvae localized around the ramp and adjacent marina. A rapid multi-agency response ensued, covering nearly an acre of the affected shoreline and lake bottom with plastic sheeting, held down with sandbags, aiming to suffocate and eradicate the mussels.

After nearly five months, the effort showed signs of success, with a significant reduction in oxygen levels inhibiting zebra mussel survival.

Conclusions

The combined efforts of TPWD, the City of Waco, and partner agencies resulted in the successful eradication of zebra mussels from Lake Waco, marking a rare victory against this invasive species. Continuous monitoring since 2015 has found no traces of the mussels or their DNA.

This achievement underscores the importance of early detection, prompt action, and collaboration.

Next Steps

Despite the success at Lake Waco, the battle against zebra mussels in Texas is ongoing. It is imperative for boaters to follow the "Clean, Drain, and Dry" protocol to prevent potential reintroductions. Moreover, continued vigilance and regular monitoring are essential to detect and counter any new infestations early.

Public awareness and collaboration across agencies will play a pivotal role in preserving Texas waters from this and other invasive threats.



"The Lake Waco eradication is a unique success story for Texas. However, it's now more important than ever for boaters to take action to protect the lake."

– Monica McGarrity, TPWD Senior Scientist for Aquatic Invasive Species Management



Who is EQO?

We are an Austin-based biotechnology company tackling challenges in aquatic ecosystems including: lakes, reservoirs, rivers, wetlands, estuaries, and intercoastal waterways.



Our Tech

Field and lab innovations in eRNA and eDNA to diagnose, detect, and monitor invasive species, native and endangered species, and biosecurity risks.



Our Vision

Forge partnerships with synergistic technologies, engineering firms, and conservation groups.

