



Zebra Mussel Mitigation Update

Stephanie Sue, P.E., Water Treatment Operations Manager

Water & Wastewater Commission | June 8, 2022



Last Update: September 9, 2020

[W&WW Commission 09.09.2020 - ZM Briefing Update](#)



Agenda

- ◆ Zebra Mussel Activity and Public Outreach
- ◆ Ongoing Treatment of Zebra Mussels (Copper Sulfate)
- ◆ Water Treatment Plant Intake Cleaning and Inspection
- ◆ Copper Ion Generation Treatment and Next Steps



Zebra Mussel Activity



July 2018



September 2018

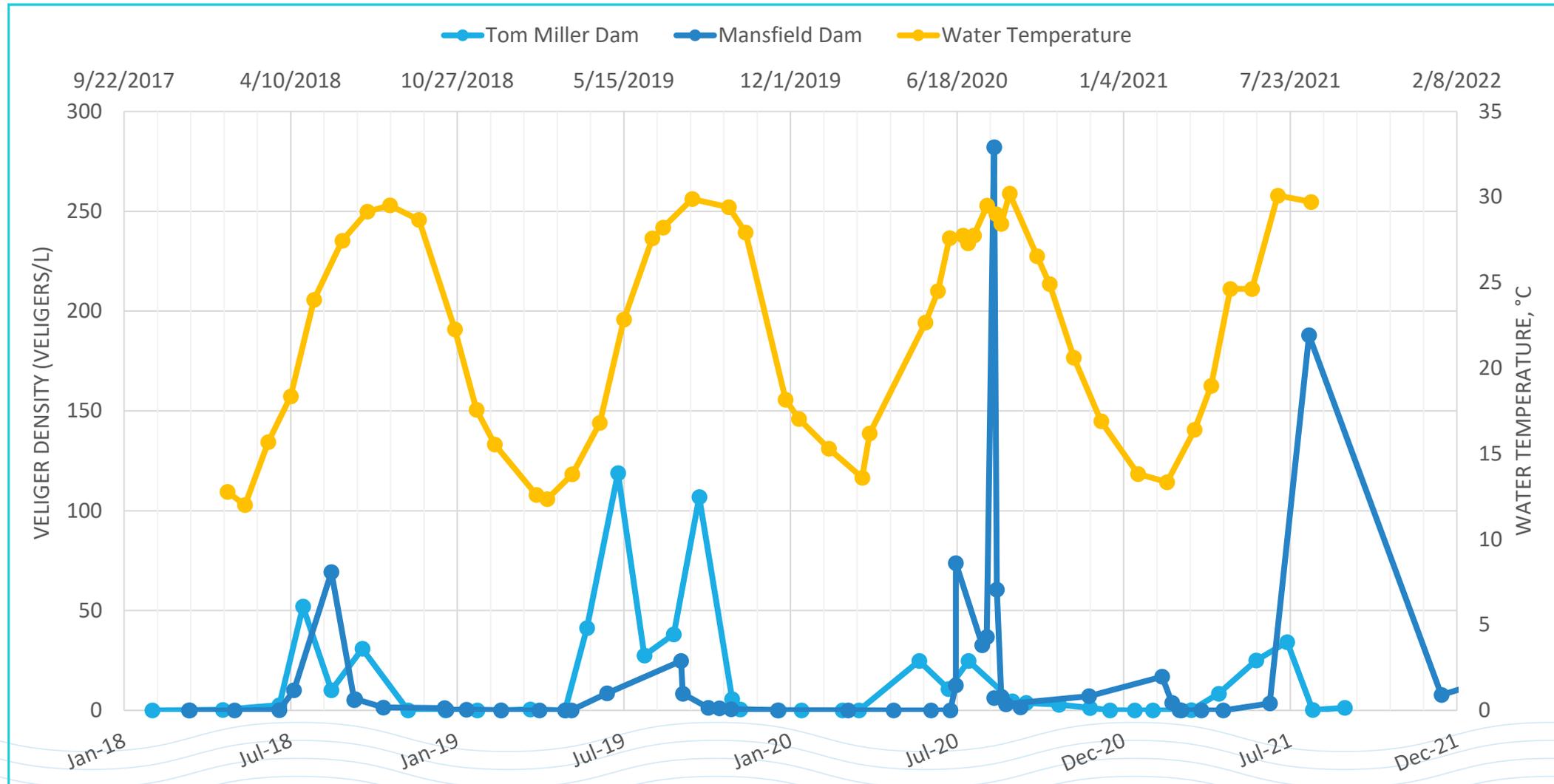


January 2019

Zebra Mussel Activity



Zebra Mussel Activity



Zebra Mussel Public Outreach



 **CITY OF AUSTIN**
FOR IMMEDIATE RELEASE
Release Date: Oct. 26, 2020
Contact: Emlea Chanlor [512-972-0145](tel:512-972-0145) [Email](#)



The newly implemented system prevents zebra mussels from attaching and infesting the pipes that take water from the lakes to the treatment plants.

AUSTIN, TX – Austin Water has achieved a significant milestone in its efforts to manage Zebra Mussels at its three water treatment plants. The utility has completed inspection and cleaning of the raw water intakes at all three treatment plants and commissioned new systems to deter future infestations this month.

Zebra Mussels were first detected in Lake Travis in 2017 and have since infested Lake Travis and Lake Austin, which are the source of Austin’s drinking water. The invasive species attaches to surfaces such as grates, screens, pipes and valves, interferes with operations and increases energy required to pump water through the process. Their presence also can affect taste and odor of drinking water.

In response, Austin Water has established a multipronged approach to managing its raw (lake) water infrastructure, including:

- Routine cleaning and removal of Zebra Mussel shells on screens and other

Press Release issued
October 26, 2020



Copper Sulfate Treatment



Copper Sulfate Treatment

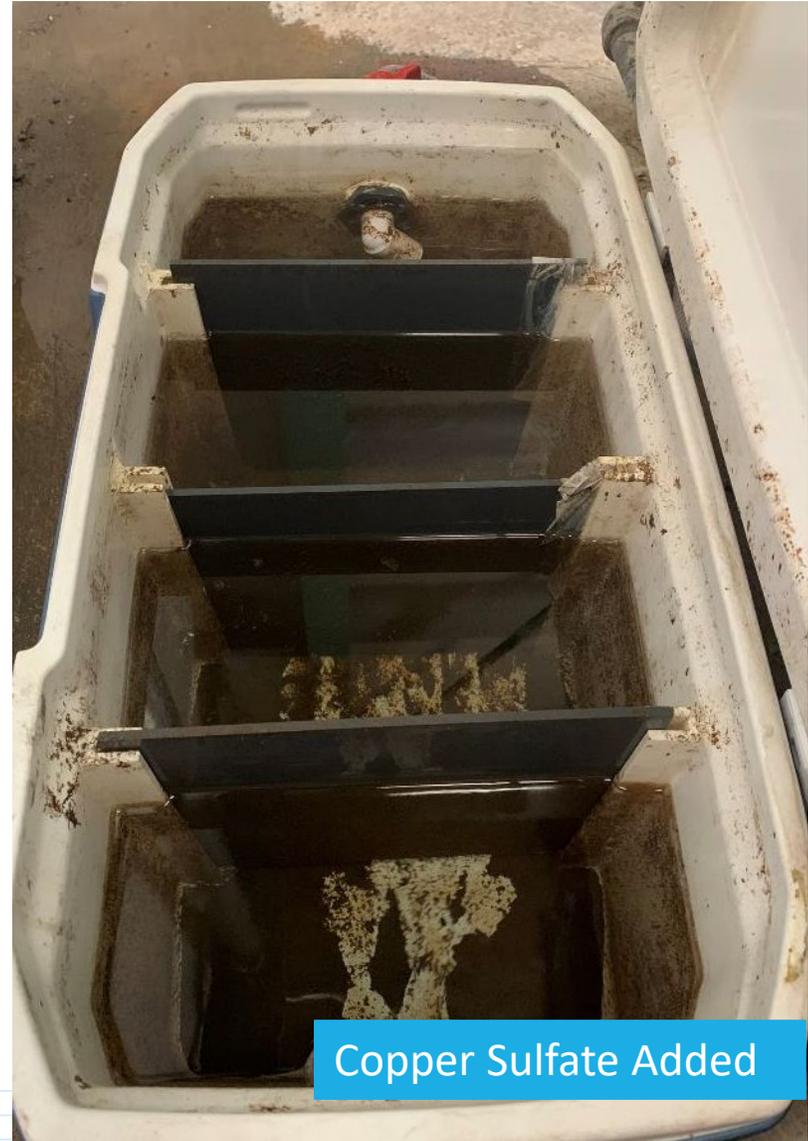
- Remove growth and accumulation within treatment plant infrastructure without impacting water source
- Handcox Copper Sulfate System operational since summer 2019
- Ullrich and Davis Copper Sulfate System operational since summer 2020
- Copper sulfate systems are located outdoors (Ullrich and Davis) and reliant on chemical deliveries



Validation of Effectiveness



Control (No Copper Sulfate)



Copper Sulfate Added

Intake Cleaning and Inspection

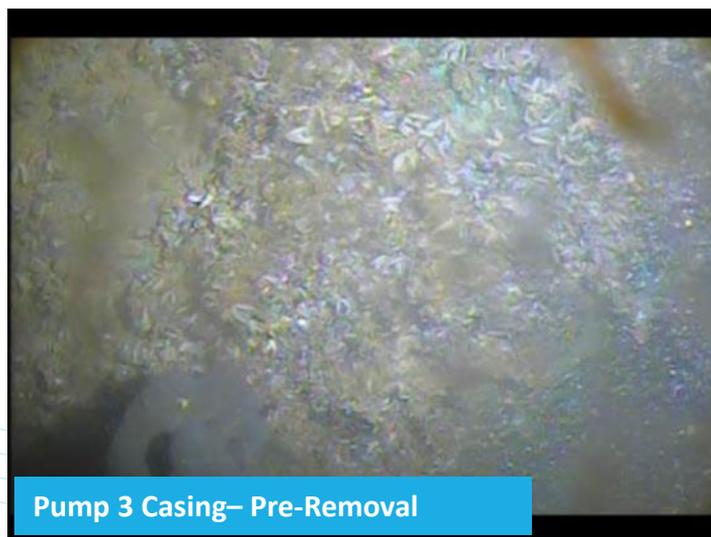
- ◆ Water treatment plant cleanings and inspections have occurred annually since 2019
- ◆ Cleaning occurs within intake structures, pump casings, pump pits, etc.
- ◆ Inspections have shown that cleanings are effective in reducing the accumulation of zebra mussels



Ullrich WTP – Bay 1 Sluice Gate



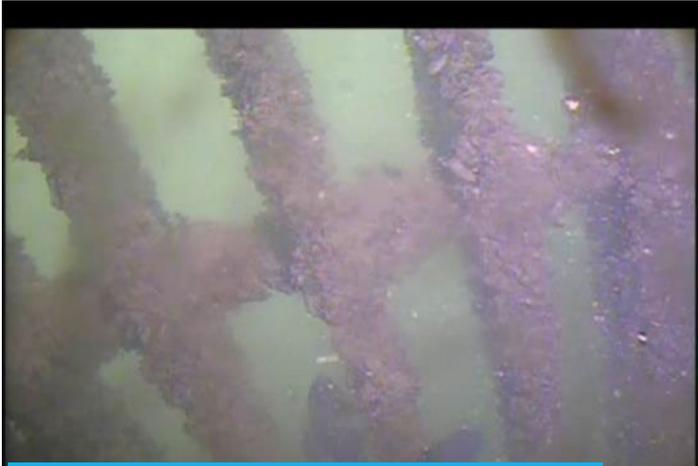
Ullrich WTP – Pump 2 and 3



Ullrich WTP – Bay 1



Bay 1 Trash Rack– Pre-Removal 2019



Bay 1 Trash Rack– Pre-Removal 2020



Bay 1 Trash Rack– Pre-Removal Apr 2021



Bay 1 Trash Rack– Pre-Removal Oct 2021



Bay 1 Trash Rack– Post-Removal Oct 2021



Davis WTP – Sluice Gate Stem

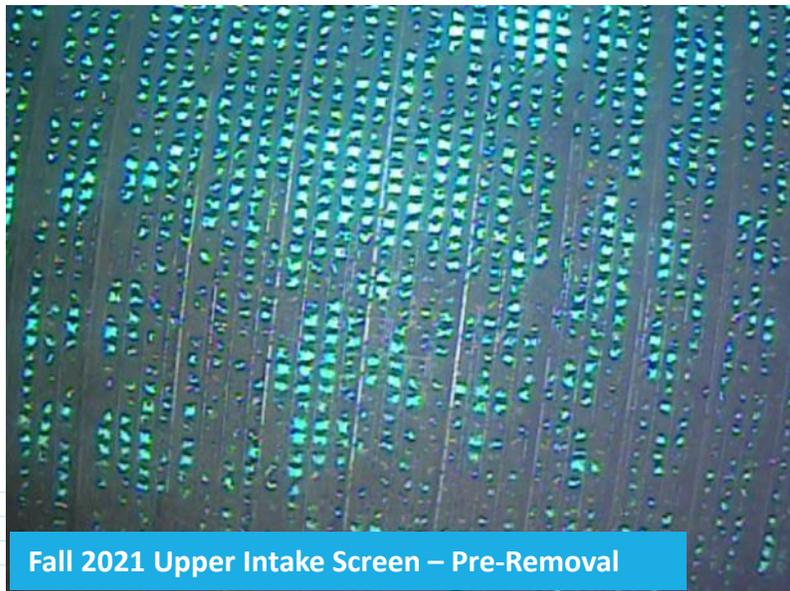
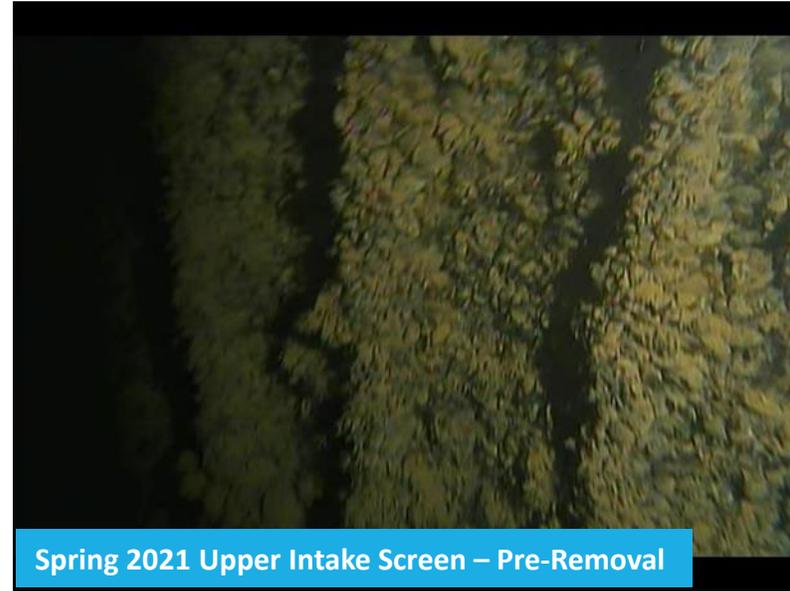


Sluice Gate Stem – Pre-Removal



Sluice Gate Stem – Post-Removal

Handcox WTP – Upper Intake Screen



Copper Ion Generation (CIG)

- Electrolysis of copper rods
- Brine tank solution
- Located within Low Service PS
- Construction:
Fall 2022 – Winter 2023
- Modify copper sulfate systems
for sodium permanganate feed



Questions?

