

MONITORING AND RESEARCH SUBCOMMITTEE GALVESTON BAY COUNCIL

Meeting Minutes
Wednesday, September 13, 2023
9:30 a.m. – 11:30 a.m.

Subcommittee Chair: George Guillen, Environmental Institute of Houston-University of Houston Clear Lake (EIH-UHCL)

Subcommittee Vice Chair: Mike Lee, United States Geological Society (USGS)

GBEP Representative: Lisa Marshall

Call to Order, Introductions (Via Microsoft Teams)

Attendees: Matt Abernathy (GBEP), Anna Armitage (TAMUG), Chris Butler (TAMU), Ellen Creecy (GBEP), Jim Dobberstein (Lee College), Mandi Gordon (EIH-UHCL), George Guillen (EIH-UHCL), Amanda Hackney (TAMUG), David Hala (TAMUG), David Haskins (USGS), Kari Howard (GBEP), Morgan Huette (TIRN), Christine Jensen (TPWD), Natalie Karouna (USGS), Mike Lee (USGS), Lindsey Lippert (GBEP), Yina Liu (TAMU), Lisa Marshall (GBEP), Vanessa Mintzer (GBF), Jenny Oakley (EIH-UHCL), Antonietta Quigg (TAMUG), Christian Rines (GBEP), Michael Shields (TAMU), Matt Tilimon (USCG), Kirsten Vernin (HARC), Huy Vu (USEPA), Robert Wells (TAMU), Jean Wright (H-GAC)

Approval of June 14, 2023 meeting minutes – Motion to approve by Jim Dobberstein, and a second by Antonietta Quigg.

Proposal Presentations:

Monitoring to assess long-term restoration success in Galveston Bay wetlands – Anna Armitage, Texas A&M Galveston – This project will fill a critical information gap by monitoring existing projects to evaluate the provision of ecosystem services in older restoration sites.

*Microplastic and per-/polyfluoroalkyl (PFAS) substance bioaccumulation in Diamondback Terrapin (*Malaclemys terrapin*) from Galveston Bay* – Mandi Gordon, Environmental Institute of Houston, University of Houston Clear Lake – This project will evaluate trophic bioaccumulation of PFAS and microplastic contaminants in a sentinel species and expand education and outreach efforts for wildlife conservation and effects of contaminant accumulation.

*Establishment of an Oyster Sentinel Program for Tracking *Perkinsus marinus* (Dermo) in Oysters of Galveston Bay* – George Guillen, Environmental Institute of Houston, University of Houston Clear Lake – This project aims to reenact the Oyster Sentinel Program. It seeks to confirm Dermo response to adopted flow standards, develop more refined relationship between freshwater inflow and oyster disease and health/condition using univariate and multivariate spatial and time series model. It will also attempt power analysis to guide future sample size and frequency selection.

Ecological Distribution and Associated Biomarkers of Toxicity of Microplastics Exposure in Galveston Bay – David Hala, Texas A&M University Galveston – Propose to use novel pyrolysis – GCMS/MS to measure micro/nano-plastic levels in the surface waters and biota (tissue burdens) of Galveston Bay. Stress biomarker enzyme activities will also be measured to assess likely adverse health effects (an important consideration for environmental risk assessment).

Tracking Perkinsus marinus (Dermo) Infection in Sun-Cured Oysters: Informing Oyster Shell Recycling Programs in Galveston Bay – Jenny Oakley, Environmental Institute of Houston, University of Houston Clear Lake - This project proposes to characterize oyster shell recycling practices, compare background Dermo levels in oysters in recycling pathways, track prevalence and severity of Dermo in sun-cured oysters, support outreach and education related to oyster restoration, and create a best practices publication

Distribution of key emergent pollutants in the aquatic biota (oysters and fish), sediments and surface waters of Galveston Bay – Antonietta Quigg, Texas A&M University Galveston – A meta-analysis is proposed to bring together available data on target Contaminants of Emerging Concern in Galveston Bay as well as measuring their concentrations in collected materials in collaborations with project partners.

Best Practices for Future Restoration of Ground Nester Habitat in Galveston Bay: Partner Interviews and Past Project Database of Completed Nesting Sites – David Retchless, Amanda Hackney, Texas A&M University Galveston – This project will concentrate on black skimmer and American oyster catcher habitats to understand habitat use, to capture knowledge on long term success of site, and establish best practices for cost-effective replication.

Monitoring and Managing the Threatened Eastern Black Rails in the Galveston Bay Area – Chris Butler, Texas A&M University – This project proposes to use ARUs and a FLIR-equipped drone to explore different management techniques of the Eastern Black Rails and collect fecal samples for fecal metagenomics while engaging in mark and recapture.

Presentations available upon request.

Project Updates:

- Effect of Microplastics on the Base of Marine Food Webs – TAMUG: All data has been collected and analysis is being finished. Final report is being prepared.
- Regional Monitoring Database – HARC: Phase Three is complete. Datasets currently online and available are updated. Datasets including the North American Breeding Survey data and TPWD ecological mapping systems data for the lower Galveston Bay watershed are added. New interactive tools including the social vulnerability index from the CDC and the Texas Parks and Wildlife Coastal Creel Survey are added. Phase Three announcement coming soon.
- The Distribution, Fate, and Transport of Emerging Contaminants in Galveston Bay – TAMU: Progress is on track and project extended to March 2024.

September cruise was completed and last cruise scheduled for November 2023.

- The Fate of Emerging Per- and Polyfluoroalkylated Substances (PFAS) Pollutants in Shellfish and Fish of Galveston Bay - TAMUG: Final report in progress.
- Galveston Bay Oyster Microplastics: Baselines and Impacts - TAMUG: Project is complete and final report being published to GBEP website.
- Effects of Erosion Control Structures on Shoreline Marsh Species Populations TAMUG: Final report is complete.
- Long Term Monitoring of Living Shorelines - Lee College: Currently processing sediment samples to analyze microplastics, in addition to ongoing benthic macroinvertebrate and microbiome community characterizations. Additional field work (aerial imaging and nekton sampling) will be conducted over the cooler months.
- Monitoring Ecosystem Indicators for Science-Based Restoration and Enhancement - TAMUG: Waiting on TCEQ approval of the QAPP. Sampling is being conducted.
- The Distribution and Fate of Highly Toxic Tire Rubber-Derived Chemicals in Galveston Bay - TAMUG: QAPP in progress, kickoff meeting to be scheduled.

Announcements/Path Forward Items:

- The Trash Summit Advisory Committee is trying to establish a scholarship fund in Cynthia's name.
- **Next meeting:** December 13, 2023, 9:30 a.m. - 11:30 a.m.

Adjourn