

# Appendix

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# USACE Environmental Operating Principles

<https://www.usace.army.mil/Missions/Environmental/Environmental-Operating-Principles/>

## Background

The U.S. Army Corps of Engineers (USACE) Environmental Operating Principles (EOPs) were developed to ensure that USACE missions include totally integrated sustainable environmental practices. The EOPs provided corporate direction to ensure the workforce recognizes USACE's role in, and responsibility for, sustainable use, stewardship, and restoration of natural resources across the nation and, through the international reach of its support missions.

Since the Environmental Operating Principles were introduced in 2002 they have instilled environmental stewardship across business practices from recycling and reduced energy use at USACE and customer facilities to a fuller consideration of the environmental impacts of USACE actions and meaningful collaboration within the larger environmental community.

The re-energized Environmental Operating Principles are:

- Foster sustainability as a way of life throughout the organization.
- Proactively consider environmental consequences of all USACE activities and act accordingly.
- Create mutually supporting economic and environmentally sustainable solutions.
- Continue to meet our corporate responsibility and accountability under the law for activities undertaken by USACE, which may impact human and natural environments.
- Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs.
- Leverage scientific, economic and social knowledge to understand the environmental context and effects of USACE actions in a collaborative manner.
- Employ an open, transparent process that respects views of individuals and groups interested in USACE activities.

The concepts embedded in the original EOPs remain vital to the success of USACE and its missions. However, as the nation's resource challenges and priorities have evolved, USACE has responded by close examination and refinement of work processes and operating practices. This self-examination includes how USACE considers environmental issues in all aspects of the corporate enterprise. In particular, the strong emphasis on sustainability must be translated into everyday actions that have an effect on the environmental conditions of today, as well as the uncertainties and risks of the future. These challenges are complex, ranging from global trends such as increasing and competing demands for water and energy, climate and sea level change, and declining biodiversity; to localized manifestations of these issues in extreme weather events, the spread of invasive species, and demographic shifts. Accordingly, USACE is

re-invigorating commitment to the Environmental Operating Principles in light of this changing context.

The Environmental Operating Principles relate to the human environment and apply to all aspects of business and operations. They apply across Military Programs, Civil Works, Research and Development, and across USACE. The EOPs require a recognition and acceptance of individual responsibility from senior leaders to the newest team members. Re-committing to these principles and environmental stewardship will lead to more efficient and effective solutions, and will enable USACE to further leverage resources through collaboration. This is essential for successful integrated resources management, restoration of the environment and sustainable and energy efficient approaches to all USACE mission areas. It is also an essential component of USACE's risk management approach in decision making, allowing the organization to offset uncertainty by building flexibility into the management and construction of infrastructure.

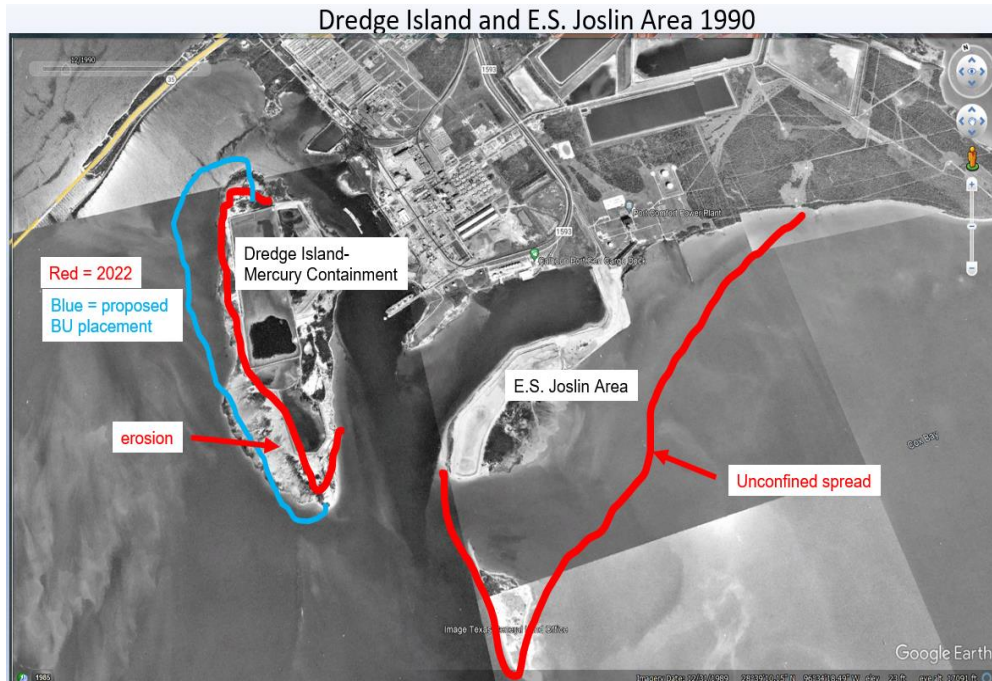
# Presentation to the Port of Calhoun

## Summary of Key Concerns Regarding Matagorda Ship Channel Project:

1. **Dredged Material Placement:** Utilize beneficial use sites and permanent confinement instead of open bay placement, which harms seagrasses and oyster reefs.
2. **Mercury Contamination:** Ensure proper handling and removal of potential mercury contamination for safety of humans and marine life. Consider bioaccumulation risks in nearby harvest areas.
3. **Matagorda Channel Jetty:** Address existing jetty problems before channel expansion to avoid complications.
4. **Landscape and Navigation:** Ship channel changes may impact Pass Cavallo and create new navigation hazards.
5. **Upper Lavaca Bay:** Increased salinity from the project could harm the nursery area for various species.
6. **Need for Local Expertise:** Establish an Interagency Coordination Team (ICT) with local representatives and stakeholders to minimize environmental impacts, and involve the ICT at every stage of the project including maintenance.

These concerns highlight the need for careful planning and mitigation strategies to address potential environmental and navigational issues before proceeding with the Matagorda Ship Channel project

# The problem with unconfined dredge material



## SPREAD OF UNCONFINED DREDGE MATERIAL 1990-2023

COMPARE THIS 2023 PHOTO WITH THE 1990 PHOTO ABOVE.

TYPICAL OF UNCONFINED SUBSURFACE MAINTENANCE DREDGING PLACEMENT AREAS.

SEE UPPER LEFT CORNER. NOTE THE LOSS OF PROTECTIVE BUFFER PROTECTION AROUND MERCURY IMPOUNDMENT SINCE 1990.

# Erosion Example

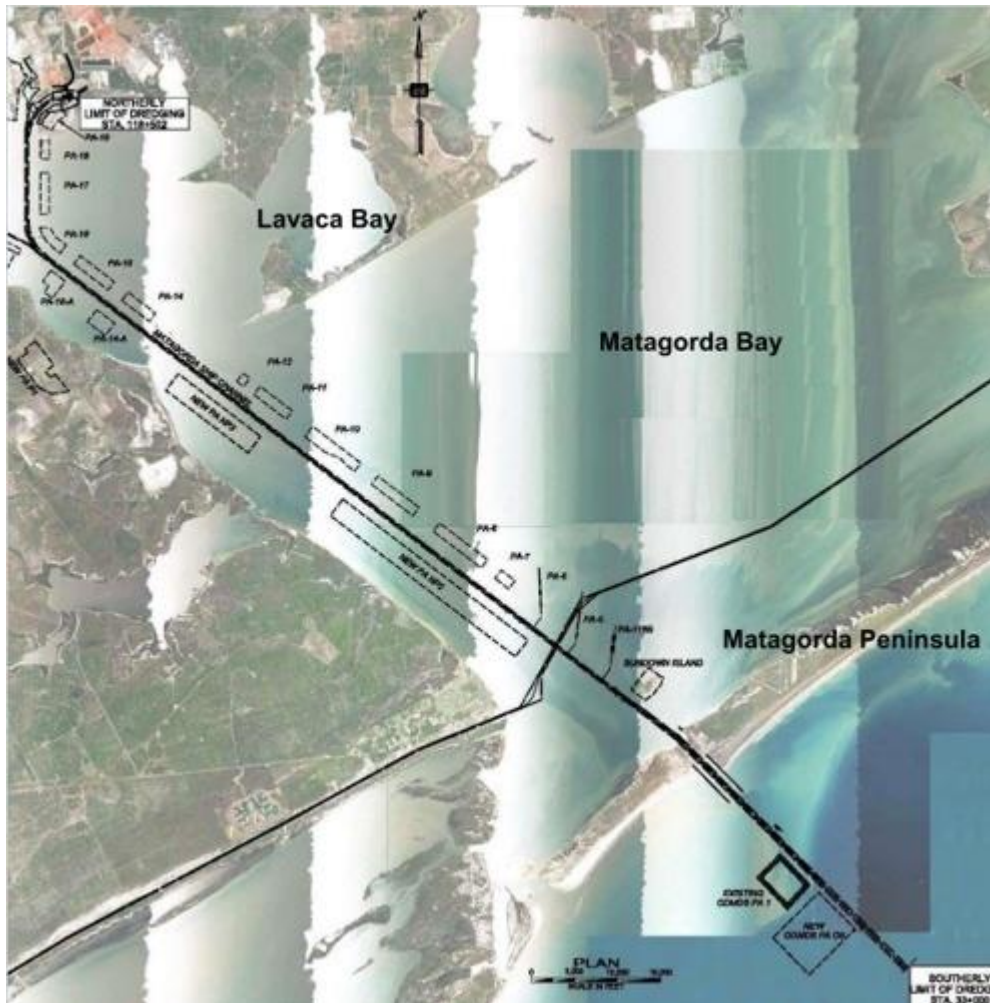




# SUGGESTED BENEFICIAL USE SITES



## CCA-TX Issues Statement On Matagorda Ship Channel Project

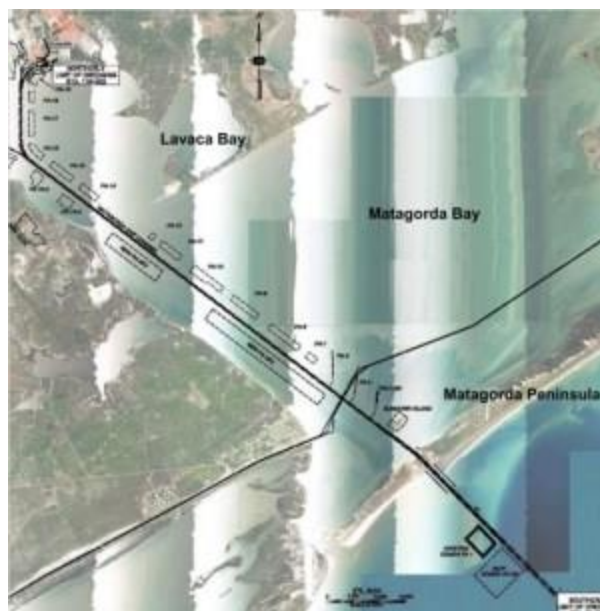


*The following is from the Coastal Conservation Association (CCA Texas) in regards to a major project involving the Matagorda Bay area.*

The Texas Chapter of the Coastal Conservation Association (CCA Texas) understands that the U.S. Army Corps of Engineers (USACE) intends to prepare a Draft Supplemental Environmental Impact Statement (SEIS) for the Matagorda Ship Channel Improvement Project (MSCIP).

In 2021, CCA Texas joined a coalition of stakeholders, with intimate knowledge of the Matagorda Bay System, in a request to the USACE to form an oversight council for the MSCIP. The vision for this coalition was to partner with the USACE, generate ideas for “best-use” of dredge material, and monitor the progress of the project relative to guidelines and specifications.





To our knowledge, this coalition never came to fruition, however, we strongly encourage the USACE to consider this request moving forward, much like they did for the Houston Ship Deepening and Widening Project. CCA Texas will continue to engage with appropriate regulators and stakeholders to illustrate short and long-term impacts on our fisheries and aquatic habitat as well as recreational opportunities in the Matagorda Bay system.

[This project has been under evaluation since 2005](#) and over the past 18 years, many changes have occurred within the area's ecosystem. The extent and distribution of seagrass, wetlands, and oyster reefs have changed throughout that time and the SEIS should be reflective of those changes.

Dredge material from the MSCIP should be used to provide ecosystem benefits on a landscape scale in Matagorda Bay. The USACE should utilize a suite of environmental restoration and creation features including in-bay marshes, beach nourishment, shoreline protection, oyster reef creation, and nesting shorebird habitat that will offset the negative impacts of this project. As the SEIS is being developed, [we expect the USACE to heed the concerns of the Texas Parks and Wildlife Department \(TPWD\)](#), U.S. Fish and Wildlife Service, and numerous other non-governmental organizations advocating for logical solutions to avoid detrimental impacts to aquatic resources.

#### Key Concerns:

- Open bay discharge of dredge material will negatively impact oyster reefs and seagrass beds, smothering them with heavy sedimentation. All dredge material placed in Matagorda Bay should be utilized for beneficial purposes in confined placement areas.
- Placement of dredge material adjacent to and over ecologically important areas such as Indian Point Reef, Gallinipper Reef, Powderhorn Reef, and Powderhorn Lake should be avoided.
- Negative impacts on wetlands and seagrass beds northwest and southeast of the ecologically important Powderhorn Lake should be avoided.

- The SEIS should include the effects of the MSCIP on Powderhorn State Park and Wildlife Management Area.
- Disturbance of mercury contaminants should be avoided at all costs. The SEIS should include a sediment remediation plan that will clearly address the testing and treatment of any dredge material within the areas of the MSCIP and ALCOA Superfund site.
- The SEIS should include an analysis of how altered hydrology will impact aquatic resources and the corresponding landscape. There is a clear lack of understanding of the hydraulic impacts that the MSCIP will have on Pass Cavallo. CCA Texas is concerned that the MSCIP will result in significant sediment transport, ultimately closing the historical pass.
- Multiple future scoping meetings with stakeholders and regulatory agencies are necessary. USACE should make a concerted effort to reach out to local recreational and commercial fishermen regarding the impacts on aquatic resources and siting of potential mitigation areas.



July 3, 2023

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David Yoskowitz, Ph.D.  
Executive Director

Dr. Raven Blakeway  
U.S. Army Corps of Engineers  
P.O. Box 1229  
Galveston, Texas 77553-1229  
MSC\_SEIS@usace.army.mil

Re: Department of the Army, Corps of Engineers  
Notice of Intent to Prepare a Supplemental Environmental Impact  
Statement for the Matagorda Ship Channel Improvement Project, Calhoun  
and Matagorda Counties, TX, Request for Comments, and Notice of Public  
Scoping Meeting

Dear Dr. Blakeway:

Texas Parks and Wildlife Department (TPWD) has reviewed the notice of intent (NOI), issued by U.S. Army Corps of Engineers (USACE) on June 2, 2023, to prepare a Draft Supplemental Environmental Impact Statement (SEIS) for the Matagorda Ship Channel Improvement Project (MSCIP). During the pre-construction engineering and design (PED) phase of the MSCIP, the USACE identified a discrepancy between its PED calculations concerning the quantity of material to be dredged from the Matagorda Ship Channel and the quantity of such material that was evaluated in the Integrated Feasibility Report-Environmental Impact Statement (IFR-EIS). Due to the discrepancy, the USACE determined a SEIS would be prepared, and the Record of Decision (ROD) dated April 22, 2020, was withdrawn for further consideration pending the findings of the SEIS. In accordance with the Council on Environmental Quality regulations, the USACE will prepare a SEIS to document and disclose the impacts of substantial changes to the proposed action and new information that are relevant to environmental concerns.

According to the NOI, expected impacts include short- and long-term impacts to existing aquatic habitats, fish and wildlife including federally protected species and their habitat, water quality, noise, and recreation features. Impacts to aquatic habitats are anticipated to require compensatory mitigation. Additional details related to sediment testing will be described in the SEIS.

TPWD appreciates the opportunity to provide scoping comments for the SEIS. In letters dated June 26, 2007 and June 21, 2018 (enclosed), TPWD expressed concerns that the direct and indirect impacts to fish and wildlife resources from the placement of unconfined dredge material in the bay were not adequately evaluated.

4200 SMITH SCHOOL ROAD  
AUSTIN, TEXAS 78744-3291  
512.389.4800  
www.tpwd.texas.gov

To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

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TPWD continues to have concerns about the placement of unconfined dredge material and urges the USACE to thoroughly consider and address this concern as well as additional concerns outlined below. Dredging and unconfined material placement may result in severe sedimentation on surrounding oyster and seagrass habitats. Smothering with heavy sedimentation results in adult oyster mortality and burial of clean cultch materials, thus preventing spat settlement and oyster recruitment on impacted oyster reefs, as well as compromising habitat provision by filling interstitial spaces and reducing foraging opportunities on the reef (Wilbur and Clark 2010). Once a significant sediment overburden occurs on oyster reefs, reefs often cannot rebound naturally without additional cultch placement or other management actions. Similarly, sedimentation can result in the loss of seagrass habitats through direct burial as well as shading caused by increased turbidity. Seagrass and oyster habitats are both known to occur within the vicinity of the project area. It is imperative to include an assessment in the SEIS of potential downstream impacts (sedimentation) from unconfined material placement.

The SEIS should also assess potential effects to Powderhorn State Park and Wildlife Management Area (Powderhorn). Powderhorn is an important recreational and conservation area totaling over 17,000 acres and including more than 11 miles of tidally influenced shoreline. Acquisition of this state property began in 2014 and was completed in 2021 at a cost of approximately \$35,000,000. Powderhorn was acquired by TPWD to provide opportunities and benefits to the public, such as hunting, birding, habitat management for economically important species like waterfowl, as well as federally endangered species, wildlife habitat and range management research and demonstration, water-dependent recreational activities such as fishing, swimming, kayaking, and beachcombing. Additional stewardship activities include protecting water quality, viewsheds, soundscapes, and vegetation communities for the benefit of fish and wildlife and the use and enjoyment by the public.

One of the most important characteristics of Powderhorn is the clear water and firm bottom of the Matagorda Bay shoreline which makes water-dependent recreational sports such as wade fishing possible. Therefore, the SEIS should evaluate the effects of sediment migration on water quality and the character of the Powderhorn shoreline and marshes within and around Powderhorn Lake as well as the cascading effects on other marine life and avifauna that use these habitats. The placement of unconfined dredged material along the shoreline of one of TPWD's premier bayfront recreational areas will be incompatible with the purposes for which the property was acquired.

TPWD and Texas General Land Office (TGLO) are currently engaged in implementation of a Coastal Erosion Planning & Response Act (CEPRA) project along the Powderhorn Matagorda Bay and Powderhorn Lake shorelines, which was not funded at the time of the last IFR-EIS. In addition, the Coastal Texas Protection and Restoration plan outlines a strategy for protecting this shoreline. Due to the significant volume of dredged material anticipated from this proposed project and

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the negative impacts related to the open water placement of dredged material, TPWD recommends that confined Beneficial Use (BU) be a preferred alternative to further explore during the scoping and subsequently use in the SEIS. The use of confined BU would protect the Powderhorn shoreline and be more consistent with ongoing conservation and restoration strategies if used as an alternative to the placement of unconfined maintenance dredged material adjacent to the Powderhorn shoreline. Further, BU sites can support and benefit avian species if used for rookery island creation or enhancement. For a discussion regarding BU opportunities, including shoreline protection for Powderhorn State Park as well as benefit to avian species, please coordinate with Kendal Keyes (TPWD State Parks Division, Regional Natural Resources Coordinator, [Kendal.Keyes@tpwd.texas.gov](mailto:Kendal.Keyes@tpwd.texas.gov)), Daniel Walker (TPWD Wildlife Division, Ecosystem Project Leader, [Daniel.Walker@tpwd.texas.gov](mailto:Daniel.Walker@tpwd.texas.gov)), Rachel Lange (TPWD Wildlife Division, Environmental Review Biologist, [Rachel.Lange@tpwd.texas.gov](mailto:Rachel.Lange@tpwd.texas.gov)) and Lindsey Savage (TPWD Coastal Fisheries Division, Restoration and Artificial Reef Team Lead, [Lindsey.Savage@tpwd.texas.gov](mailto:Lindsey.Savage@tpwd.texas.gov)). Further, the SEIS should include an assessment of state and federal law regarding placement of unconfined material along state-owned property, and coordinate with TPWD accordingly.

TPWD has concerns that sediments near the ALCOA Superfund site may have elevated levels of contaminants such as aluminum and mercury, which could have deleterious effects of fish and wildlife when suspended in the water column via dredging or dredged material placement. Contamination of edible fish and invertebrates may also pose a risk to human health and safety. TPWD recommends that the SEIS provide a sediment remediation plan that addresses testing and treatment of contaminated dredge material within the areas of MSCIP project footprint that overlap with the ALCOA Superfund site of Matagorda, Lavaca, and Cox Bays. The sediment remediation plan should include an assessment of the potential to re-suspend and redistribute contaminated sediments during the construction process of the project and during vessel operations.

TPWD is concerned that attempts to engage and solicit input from stakeholders, including commercial and recreational fishers, has been inadequate. The public has numerous concerns regarding potential contamination to edible resources, impacts to recreational and commercial fisheries, and the siting of proposed mitigation and BU projects. TPWD encourages USACE to expand opportunities to obtain stakeholder input regarding loss of recreation and commercial opportunities, as well as siting of potential mitigation areas, as a result of the proposed project. Temporary impacts to habitats may have a significant socioeconomic impact to fisheries if the temporary impact occurs during the harvest season; USACE is encouraged to engage with oyster fishers and other commercial and recreational stakeholders to identify ways to avoid, minimize, and mitigate for socioeconomic impacts from temporary and permanent habitat impacts.

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TPWD is concerned that the Draft and Final EIS did not adequately characterize oyster habitats, and the proposed mitigation strategies would not adequately compensate for the loss of function and value of oyster reefs. While an area comprised of predominantly shell material alone (with or without live oysters) serves as a functional oyster reef and should be mitigated for, the magnitude of oyster habitat functions and values are dependent on features such as vertical relief, cultch depth, and live oyster abundance. Therefore, the loss of a rugose, mature, highly functioning oyster reef requires more robust construction techniques to ensure these functions are fully replaced. Avoidance is preferred to mitigation, as the functionality of mature oyster habitats (such as those found on Gallinipper Reef) may take decades to recover. The USACE is encouraged to coordinate with TPWD on the appropriate mitigation strategies and sites to compensate for oyster habitat function and quality in addition to quantity in the project area.

In addition to the points outlined above, TPWD recommends the SEIS include the following:

- A comprehensive habitat assessment to identify the location, extent and quality of all special aquatic sites, and a description of how impacts to these sites have been avoided and minimized. The assessment should include direct as well as indirect impacts, such as downstream effects from sedimentation, as well as both permanent and temporary impacts. Habitat surveys should include any areas being considered as new placement areas and areas in close proximity to a proposed placement area.
- A comprehensive habitat mitigation plan including all unavoidable impacts (direct and indirect; permanent and temporary) to special aquatic sites.
- An assessment of the potential secondary impacts/benefits to all habitats as a result of the proposed project, including:
  - Hydrologic analysis of the alteration of water circulation and currents and the resulting impacts to residency time, sediment transport, salinity gradients, and navigation access into Powderhorn Lake and Pass Cavallo.
  - Analysis of how altered hydrology may impact fish and wildlife resources.
- An assessment of the potential direct and indirect impacts to recreational and commercial activities within the bay (boating, fishing, bay beach access), including opportunities for stakeholder input. The assessment should include impacts to recreational use from the placement of unconfined operational and maintenance dredged material on the shoreline and nearshore area of Powderhorn, including measuring noise and aesthetic value impacts, as well as impacts to the viewshed of the historic Powderhorn Ranch bunkhouse.
- Analysis of the transport and fate of unconfined operational and maintenance dredged material resulting from wind-driven waves, ship wakes, and known water circulation patterns and currents and the associated

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- potential impacts to seagrass and oyster habitats and all life stages of fish and invertebrates.
- A Dredged Material Management Plan (DMMP) for all phases/portions of the project and maintenance material for a minimum of fifty years including the BU of the material that reflects corrected calculations of pre-construction engineering and design (PED) phase dredged material quantities.
    - The DMMP should be developed in coordination with an Interagency Coordination Team, led by the USACE and including TPWD and other resource agencies.
    - The DMMP should include long-term monitoring and maintenance of the BU sites, detailed information on a mechanism to protect and manage the BU areas for the purpose of fish and wildlife habitat during and after construction, a description of target habitat types (i.e. vegetation types and elevations, goals, objectives, performance standards, monitoring methods, and remedial actions), and technical information of the capability of the desired vegetation to grow and survive on dredged material.
    - The DMMP should identify opportunities for stakeholder input in identifying additional BU placement areas as part of the DMMP.
  - A detailed and specific schedule of construction.
  - Justification for proposed benefits and enhancement of habitat or other natural resources.
  - Potential cumulative effects of past, present, and foreseeable future projects in the watershed influencing Lavaca and Matagorda Bays and Powderhorn Lake.
  - The potential for existing facilities to expand (such as dredge and fill activities) and new facility construction as a result of the deepening and widening of the ship channel and additional impacts to fish and wildlife habitat in the foreseeable future.
  - If applicable, a description of how activities affecting TPWD-owned lands are compliant with the goals and policies of the Coastal Management Program and Parks and Wildlife Code Chapter 26.
  - TPWD requests additional scoping meetings with the USACE to discuss concerns related to potential impacts to Powderhorn State Park and Wildlife Management Areas.
  - TPWD requests additional scoping meetings with the USACE to discuss concerns related to oyster habitat impacts and mitigation strategies.

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If you should have any questions, please do not hesitate to contact Ms. Emma Clarkson by email at [emma.clarkson@tpwd.texas.gov](mailto:emma.clarkson@tpwd.texas.gov) or by phone at (361) 431-6003 in the Corpus Christi Field Office.

Sincerely,



Emma Clarkson, Ph.D.  
Program Director, Ecosystem Resources Program  
Coastal Fisheries Division

EC:CI

cc: Mr. Robin Riechers  
Dr. David Yoskowitz  
Mr. Clayton Wolf  
Mr. John Silovsky  
Mr. Rodney Franklin  
Ms. Theda Strickler

Literature Cited

Wilber, Dara, and Douglas Clarke. 2010. "Dredging activities and the potential impacts of sediment resuspension and sedimentation on oyster reefs." *Proceedings of the Western Dredging Association Thirtieth Technical Conference, San Juan, Puerto Rico*. Vol. 6169.

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A community partnership  
fostering preservation of  
our marine ecosystem

President: Paul Bunnell, M.D.  
VP/Treas.: Janet Weaver, Ph.D.  
Secretary: Raymond Butler, P.E.

June 29, 2023

Dr. Raven Blakeway  
U.S. Army Corps of Engineers  
Galveston, TX

RE: Matagorda Ship Channel Improvement Project

The Lavaca Bay Foundation was formed to preserve and protect the natural resources of the Lavaca Bay estuarine system for current users and for future generations. We appreciate the opportunity to comment on the Matagorda Ship Channel project. We are one of three nonprofit organizations formed to protect Lavaca, Matagorda, and San Antonio Bays. This area provides habitat for endangered species including whooping cranes and Kemp's Ridley turtles, as well as being a recreational destination for people who enjoy birding, fishing, and beaches and a commercial location for shrimping, oystering, crabbing, and fishing operations. We are also home to multiple industrial plants, and Lavaca Bay has special challenges due to mercury pollution, plastics pollution, and restriction of fresh water and nutrients flow.

The project to widen and deepen the Matagorda Ship Channel will significantly impact our bay. We submit the following comments for the Supplemental EIS that will be prepared.

- An Interagency Coordination Team (ICT) needs to be formed for this project to include local experts. Local representatives from TPWD and other agencies have knowledge of our bay that non-local representatives do not have, and local stakeholders who have spent their lives on the bay have additional knowledge that would benefit this project and minimize negative environmental impacts. The ICT should be formed now and be involved at each stage of the SEIS and throughout the life of the channel to include maintenance dredging. Lavaca Bay Foundation stands ready to discuss options for potential membership with USACE.
- Open bay placement of dredged material has already caused problems in our bay, and any future open bay placement is likely to cause future problems, as well as increasing the need for maintenance dredging. All future dredged material, including maintenance dredging, should be permanently confined.
- There are beneficial use (BU) sites that could benefit from receiving dredged material, See Figure 1.

- Permanent confinement at suggested BU sites would solve many of the environmental concerns related to sea grasses and oyster reefs. Our letter to USACE of April 2021 which describes these concerns is attached, and these concerns need to be addressed in the SEIS. See Attachment 1.
- The Matagorda Channel Jetty has problems which will likely be exacerbated by this project. The jetty needs to be fixed before widening and deepening the channel.
- Increasing the volume of water changes the landscape and navigation hazards. Pass Cavallo has already changed over time (see Attachment 2), and this project will impact it further. These impacts need to be studied and mitigated.
- Productive oyster reefs are several feet deep and have been formed over many decades. Mitigation which proposes 9 inches of oyster shell is inadequate, so if mitigation is needed for destroying oyster reefs, better methodology should be required.
- Upper Lavaca Bay is a nursery area for several species which have likely suffered from restriction of freshwater and nutrients in the past and will likely be affected by increased salinity from the channel project. The impact of bringing more salt water from the channel project combined with LNRA's proposed new off-channel reservoir should be modeled and addressed.
- Eliminate exposure and threat to humans and marine life from mercury. We understand that if sampling identifies mercury, that sediment will be removed. Bioaccumulation should also be considered, as adjacent areas are harvested for oysters, shrimp, and fish both recreationally and commercially.

We look forward to working with USACE throughout the project. Please contact us for questions for clarification.

Sincerely,

*D. Paul Bunnell*

D. Paul Bunnell, M.D.  
President

Attachment 1: Letter from MBF and LBF to USACE, p.4  
Attachment 2. LBF PowerPoint Presentation July 2023, p.18



Figure 1:



In North to South/ East to West order rather than order of importance:

1. The North Causeway area is eroding and could be protected by confined dredge material.
2. Causeway Cove is a mercury site so is already damaged bay bottom and restricted fishing area. It is next to a productive oyster reef so any disposal here needs to be confined.
3. Dredge Island is a mercury impoundment site which has significantly eroded. (See PowerPoint presentation, Attachment 2). There is room here for additional dredge material which should be confined to further protect the impoundment site.
4. E.S. Joslin area has been used as a disposal site and the material has spread onto virgin bay bottom (See Attachment 2). To avoid such spread, all future material including maintenance dredging should be confined.
5. Potential armored site shows the erosion from original open bay placement. This site could be armored and additional material placed here if needed.
6. Harbor of Refuge is a commercial site for the City of Port Lavaca, and it serves to shelter shrimp boats and oyster boats during storms. This site is in danger of being breached (See Attachment 2), so confining dredged material here would benefit several local stakeholders.
7. Indian Point erosion has been substantial.
8. Keller Bay is in danger of being breached.
9. Chester Island or other bird islands would be a beneficial use of material if confined.

Attachment 1 – Letter from MBF and LBF to USACE

April 20, 2021

Col. Timothy R. Vail  
Galveston District Commander  
USACE Galveston District  
P.O. Box 1229  
Galveston, TX 77553-1229

Dear Colonel Vail:

The Lavaca Bay Foundation (LBF) and Matagorda Bay Foundation (MBF) believe implementation of the 2019 Matagorda Ship Channel Improvement Project's (MSCIP) Tentatively Selected Plan (TSP) and Dredge Material Placement Plan (DMMP) will result in much greater environmental impacts than those disclosed in the associated National Environmental Policy Act compliance documents. In addition, we believe the environmental mitigation proposed for these projects in these documents is insufficient.

Therefore, we respectfully request that you convene an **Interagency Coordination Team (ICT)** to address these problems, similar to that convened for the Houston-Galveston Navigation Channel (HGNC) Expansion Project in the early 1990s. We explicitly request that it include local interests, in addition to government agency staff and subject matter experts.

Furthermore, we request the USACE conduct a **Supplemental Environmental Impact Statement (SEIS)** to study the cumulative effects of the 2019 FREIS and DMMP on water quality, habitats and other natural resources in the project area (Matagorda and Lavaca Bay), and on storm surge risk to our communities. We request that input from the ICT guide the development of this SEIS. Specifically, we request the ICT and SEIS reconsider the following potential impacts of the proposed project:

- Salinity increases (oysters, wetlands)
- Suspended solids increases (oysters, seagrasses)
- Dredged material quality- mercury.
  - Acceptability of dredge material testing
  - Age of test data
  - Detections of mercury in bulk sediment chemistry tests
  - Bioaccumulation testing
  - Mercury in elutriate/Water quality criteria (including chronic)
  - Sample representativeness-Sample collection from proposed dredging sites near superfund site.
- Effects of salinity increases and suspended solids increases on oysters

- Oyster impact assessment and mitigation- Better estimation of oyster habitat distribution, area, quality. Need for more and better proposed mitigation.
- Potential for transport of dredged material into tidal lakes and bayous (Boggy Bayou, Broad Bayou, Powderhorn Lake, Old Town Lake), potentially degrading hydrology
- Potential for dredged material to alter quality of western shorelines (beaches, etc)
- Potential impacts on seagrasses
- Potential impacts on sea turtles in the bays
- Potential impacts on recreational and commercial fisheries
- Potential impacts on tourism
- Potential increase in storm surge risks to people, communities, infrastructure

See Attachment 1 for more details regarding these concerns.

We appreciate the opportunity to provide comments on the Matagorda Ship Channel Improvement Project. We hope to partner with USACE on this proposed ICT, to identify solutions that reduce natural resource impacts, protect public health and interests, and facilitate economic growth in our area.

For additional information or questions please contact William Balboa at [bbalboa@matbay.org](mailto:bbalboa@matbay.org), or 361-781-2171.

Sincerely,

*William Balboa*  
\_\_\_\_\_  
William Balboa  
Executive Director  
Matagorda Bay Foundation

*Dr. Paul Bunnell*  
\_\_\_\_\_  
Dr. Paul Bunnell  
President  
Lavaca Bay Foundation

WB:JW

Attachment



Attachment 1  
Detailed Descriptions of Concerns

2019 Matagorda Ship Channel Improvement Project's (MSCIP) Tentatively Selected Plan (TSP) and  
Dredge Material Placement Plan (DMMP)

**Previous Involvement**

The MSCIP is not new to most of us at LBF and MBF. Most members of both groups were aware of, or participated in, various stages of the preparation of the 2009 FEIS.

**Basis of Comments**

Our comments are based on reviews of project documents that we were able locate online at USACE websites and other internet sources. Our comments regarding concerns about DMMP sites and locations refer to information in 2009 FEIS, 2019 FREIS and a USACE PowerPoint presentation to LBF on March 11, 2020.

**Our Maps and Tables**

Our habitat and resource maps were created using ArcGIS and include oyster data from Texas Parks and Wildlife Department, Coastal Fisheries Division, Fisheries Independent Data collection efforts, and anecdotal information from biologists and residents. Oyster data are X, Y coordinates of all TPWD oyster dredge samples collected from 1986 to 2018 that include shell and/or live oysters. Other habitats are digitized representations and approximate the extent of habitats of concern.

**Possible Future Additional Comments**

Due to the project's expedited timeline we felt compelled to draft a response in an equally expeditious manner. Therefore the comments, questions and concerns listed below represent many of the collective concerns of LBF and MBF but should not be considered an all-inclusive list. We reserve the right to add to our list of concerns as the project moves forward.

**Our Philosophy**

We do not oppose economic growth in our region, but we do feel strongly that organizations who will profit from these projects should compensate for losses and damages to natural resources and the economies that rely upon them. We hope to see the guiding principles of the USACE Engineering with Nature initiative (<https://ewn.el.erdc.dren.mil/about.html>) applied to this project.

**Our Specific Requests**

We request the USACE conduct a Supplemental Environmental Impact Statement to study the cumulative effects of the 2019 FREIS and DMMP on the habitats and other natural resources in the project area (Matagorda and Lavaca Bay). We also request the USACE require the creation of Interagency Coordination Teams for this and all future projects of this scope. If we hope to be effective in the management of our ecosystems, we must include representation of local interests as well as resource agency staff, academics, and subject matter experts.

## Concerns

- Salinity increases (oysters, wetlands)
- Suspended solids increases (oysters, seagrasses)
- Dredged material quality- mercury.
  - Acceptability of dredge material testing
  - Age of test data
  - Detections of mercury in bulk sediment chemistry tests
  - Bioaccumulation testing
  - Mercury in elutriate/Water quality criteria (including chronic)
  - Sample representativeness-Sample collection from proposed dredging sites near superfund site.
- Effects of salinity increases and suspended solids increases on oysters
- Oyster impact assessment and mitigation- Better estimation of oyster habitat distribution, area, quality. Need for more and better proposed mitigation.
- Potential for transport of dredged material into tidal lakes and bayous (Boggy Bayou, Broad Bayou, Powderhorn Lake, Old Town Lake), potentially degrading hydrology
- Potential for dredged material to alter quality of western shorelines (beaches, etc.)
- Potential impacts on seagrasses
- Potential impacts on sea turtles in the bays
- Potential impacts on recreational and commercial fisheries
- Potential impacts on tourism
- Potential increase in storm surge risks to people, communities, infrastructure

### **2019 Dredge Material Management Plan (DMMP)**

The proposed DMMP for the in-bay reaches of the project described in the 2019 FREIS TSP (Figure 1) are a dramatic departure from recommendations made in the 2009 FEIS (Figure 2). The current 2019 “least cost” plan excludes Multi-Use Placement plans (beneficial use) identified in the 2009 FEIS and recommends relocating dredge material placement from existing placement areas east of the channel to new, unconfined open bay disposal areas west of the channel. The rationale for relocating placement to the west side of the channel is to prevent or reduce the migration of material from placement areas into the channel. Section 4.4 of the 2013 USACE Regional Sediment Management Studies of Matagorda Ship Channel and Matagorda Bay System, Texas recommends relocating dredge material placement areas to the west side of the channel to “*reduce shoaling due partly to sediment migrating from existing placement areas into the channel.*” Concerns about the composition and fate of dredge materials is also captured in Section 4.6.6 of the 2018 Draft Engineering Appendix “*Due to the very fluid nature of the material in MSC, the channel side of the PAs are more like 1500 to 2500 feet from the channel toe,*” and Section 4.11.10 of the 2019 FREIS recommends operational placement areas (OP1-OP10) “*located further away from the channel than New Work PAs to avoid maintenance material from shoaling back into channel*”. These statements illustrate USACE concerns about the composition of material, and likelihood of material migrating from either NP or OP sites into the channel, or elsewhere. We could not find references in USACE documents that identified the processes or physical factors responsible for historical shoaling in the channel, but we believe wind and wave energy propagated by prevailing southeasterly



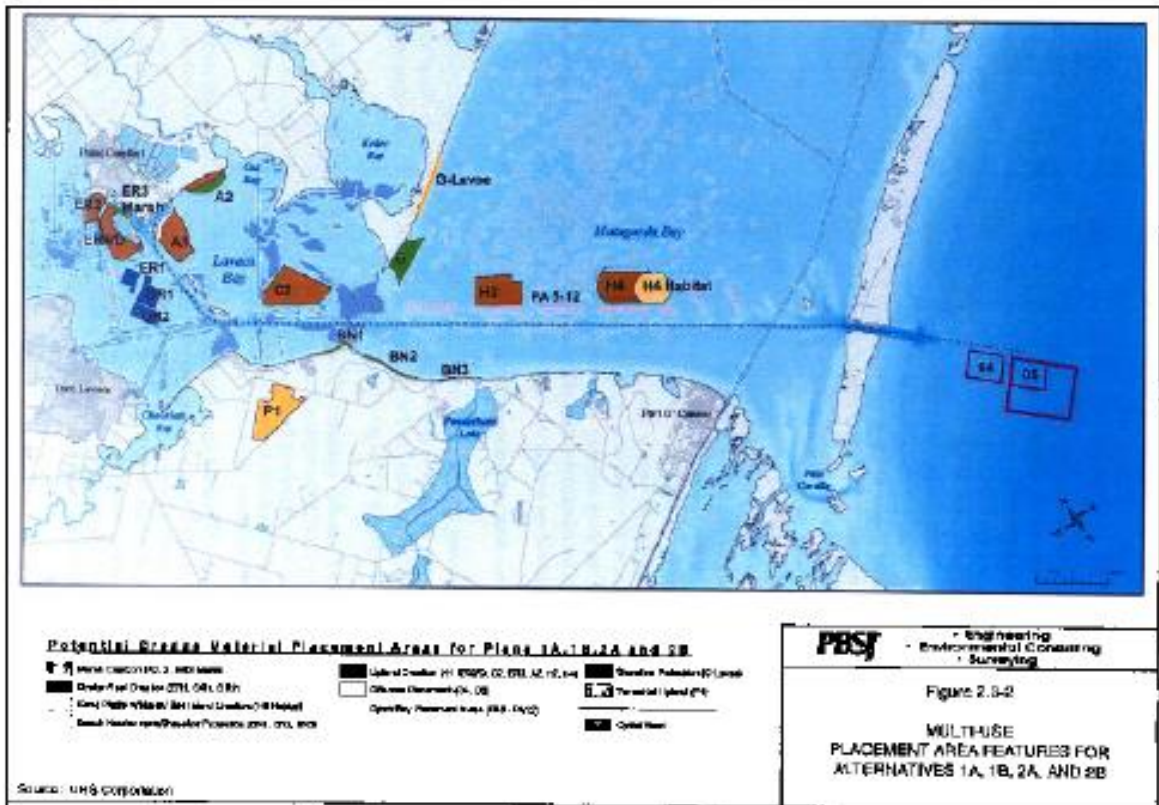


Figure 1. Multi-use Placement Plan 2009 FEIS

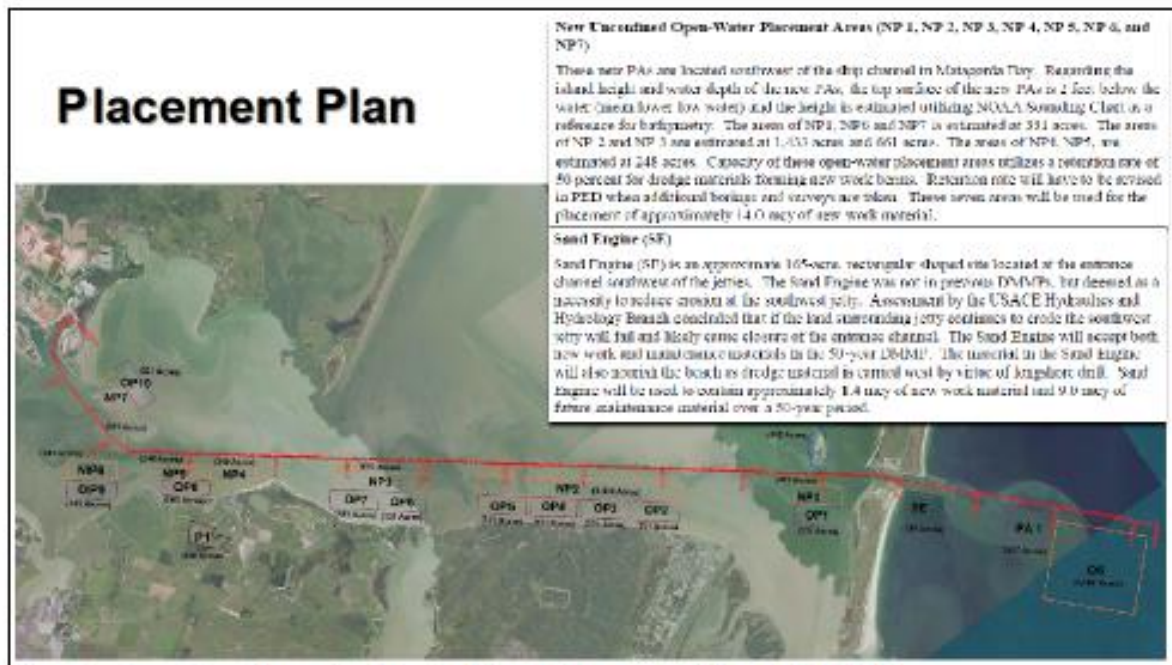


Figure 2. Least Cost Alternative Dredge Material Placement Plan 2019 FREIS

winds are probable factors. We believe these same forces will act on proposed NP and OP dredge materials and transport sediment towards habitats, tidal inlets, and landscapes along the western shoreline of Lavaca and Matagorda Bays

The western shores of Matagorda and Lavaca Bays are ecologically diverse landscapes comprised of more than 8000 acres of combined wetlands, tidal lakes, oyster reef, bars/swales, seagrasses/submerged aquatic vegetation, and shell beach habitats (Figure 3., Table 1.). All of these biologically important features provide vital services as nursery, nesting, and foraging areas for ecologically and economically valuable finfish, invertebrates, migratory and resident avian species, and coastal wildlife. Wetlands, seagrasses, oyster reef and other habitats also provide valuable ecosystem services to bay ecology and society and improve water quality, protect shores, sequester carbon, and provide society with seafood and a place to recreate and recharge.

We believe the current DMMP with proposed placement locations and unconfined open bay dredge disposal will cause permanent harm to important natural resources and landscapes within the project area.

### Oysters

The current DMMP proposes to locate NP areas a minimum of 1500 -2000 feet westward of the new channel, and OP even closer to shore (2019 FREIS Section 4.11.10). The footprint of placement areas NP3-NP6 and operational placement areas OP5-OP9 are located on or in very close proximity to Gallinipper and Indian Point reefs and other oyster resources documented by TPWD oyster sampling (Figure 4), and Google Earth imagery of commercial oyster harvest (Figure 6).

Placement areas NP4, NP5 and OP 8 are located in a narrow section of the bay where the distance between ship channel and Gallinipper Point is approximately 3500 feet. Locating NP4, NP5 and OP 8 areas using USACE proposed 2000 ft channel offset would place the disposal area in an area where oyster reef is abundant, and oyster impacts inevitable if the plan is implemented.

The cumulative effects of routine maintenance activities and proposed OP sites are of particular concern due to the frequency of maintenance dredging, and composition of material produced during maintenance cycles. Damages and impacts from sediment deposition and reduced water quality will likely be an ongoing process as waves erode material from placement areas, re-suspend sediments, increase turbidity, and cover live oysters and oyster cultch material. The 2019 FREIS section 5.3.3.3 states, *“Water column turbidity would increase during project construction and maintenance dredging that could affect survival or growth of oysters. Heavy concentrations of suspended sediment can clog gills and interfere with filter feeding and respiration. Turbidity from the recommended plan should be temporary and local. The location of oyster populations can gradually shift in response to natural and man-made modifications in the bay system. Therefore, it is likely oyster reefs affected by implementation of the recommended plan could adjust to new conditions over time.”* We concur with the USACE assessment of sediment and turbidity effects on oyster health but disagree that these effects are transient in nature. We believe the following statement in section 5.3.3 is misleading – *“The location of oyster populations can gradually shift in response to natural and man-made modifications in the bay system. Therefore, it is likely oyster reefs affected by implementation of the recommended plan could adjust to new conditions over time.”* While it is true that some research suggests oyster reefs may relocate in response to natural or man-made changes, the



# Matagorda Ship Channel DMMP Habitat Concerns

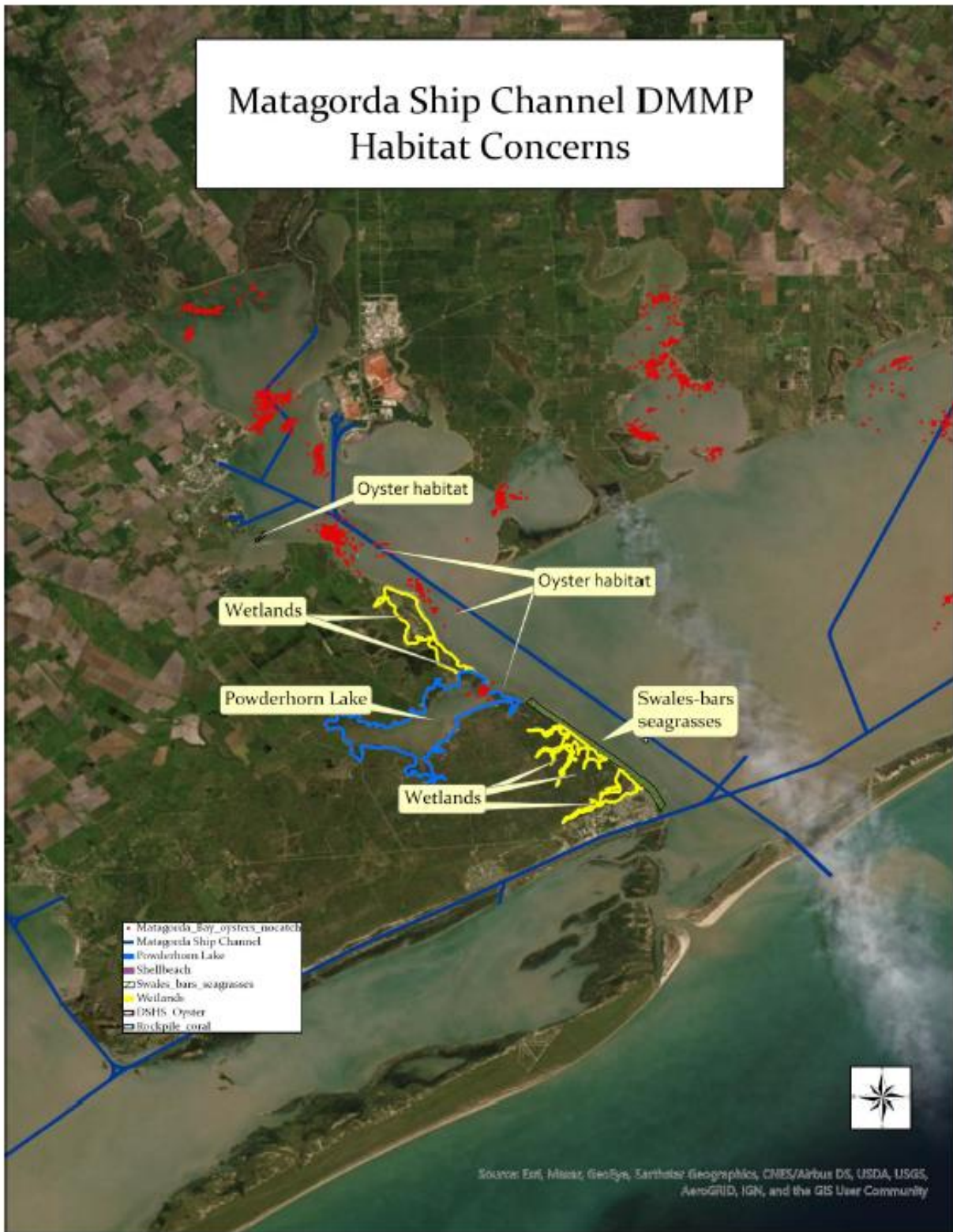


Figure 3. DMMP habitat concerns. Matagorda Bay Foundation

Table 1. Estimated habitat extent\*

	Name	Acres
Estuarine wetland	Boggy Bayou	447
Estuarine wetland	Broad Bayou	99
Estuarine wetland	Huckleberry/Big Dam Bayous	300
Estuarine wetland	Un-named Bayou	47
Estuarine wetland	Blind Bayou	315
Estuarine wetland/oysters	Old Town Lake	898
Tidal Lake/oysters/estuarine wetlands	Powderhorn Lake	4337
Oyster	Gallinipper Reef	815
Oyster	Indian Point Reef	226
Oyster	Powderhorn Lake Reef	136
Swales and Bars/seagrasses*	Powderhorn Ranch shoreline	800

\*TPWD personal communication



rate of change occurs over many, many decades or hundreds of years, not in days months or years.

### **Oyster mitigation**

The 2019 FEIS proposes a mitigation rate for oyster impacts of 1:1 based on oyster restoration/recovery studies. We believe direct and cumulative impacts to oyster resources from construction, sediment transport, and increased salinity will result in significantly more oyster loss than the 130 acres proposed in the mitigation plan. The combined footprint of NP 4-5 and OP 8 placement areas alone will cover between 516 (2019 FREIS) and 744 (COE presentation) acres of bay bottom and are located on or adjacent to two historic reefs. We do not understand how the USACE calculated the estimated 130-acre mitigation amount given the abundance and distribution of oyster resources in the area. We also question the differences in estimated oyster impacts and compensatory mitigation between those in the 2009 FEIS and updated 2019 FREIS. The 2009 FEIS Section 6.1 estimated a total 162 acres of oyster impacts from channel construction and salinity changes. This estimate did not include impacts from the new dredge placement located to the west of the channel. We also question why salinity impacts to oysters were considered in the 2009 FEIS but not the 2019 FEIS.

Oyster resource management in Texas is generally the responsibility of the TPWD Coastal Fisheries Division (TPWD 2012). TPWD oyster sample collection protocol does not include sampling and monitoring oyster resources in water < 1 meter in depth at low tide, therefore the actual extent of oyster resources located in shallow water, along shorelines and in nearby bayous and tidal lakes, is unknown. Intertidal and shallow oyster reef are important sources of larvae, and provide habitat for ecologically and economically important fish, and avian and wildlife species. Shallow reef also functions as natural breakwaters and protect fragile shorelines from erosion.

The USACOE plans to mitigate for oyster loss by constructing a clay pad and placing 6-9 inches of suitable d the cultch material on top for oysters to colonize. Much of the natural reef damaged or be lost as a result of MSIC activities are located in Texas Department of State Health Services (DSHS) approved waters and are harvested by local commercial fishers during oyster season. Mitigation for loss of commercially viable reef will have to occur in approved waters and be accessible for commercial harvest. If successful, commercial harvesters will likely begin dredging the mitigation site when oysters reach legal size, or about 2 years. With each successive harvest effort cultch material will be removed along with oysters attached and the area's value as an oyster resource will be diminished. According to Dr. Sammy Ray, former Professor Emeritus at Texas A&M Galveston, natural reefs are the product of many years of oyster growth and often have accumulations of shell many feet below the mudline on the bay bottom. This "shell bank" provides a source of cultch/shell that extends deeper than the proposed 6-9 inches of compensatory mitigation.

Recommendations- 1) use existing side scan bathymetry data collected by Dr. Tim Dellapenna and TPWD, in combination with recent TPWD side scan and oyster sampling data to estimate current oyster resource coverage and develop accurate estimates of damage and loss from channel construction, maintenance, and salinity change 2) Remove NP 4-5 and OP 8 as placement areas, 3) work with resource agency staff and academics to develop high resolution maps that quantify shallow oyster resources along shorelines, in tidal lakes and bayous, that may be at impacted, and develop appropriate compensatory plans 3) Implement alternative

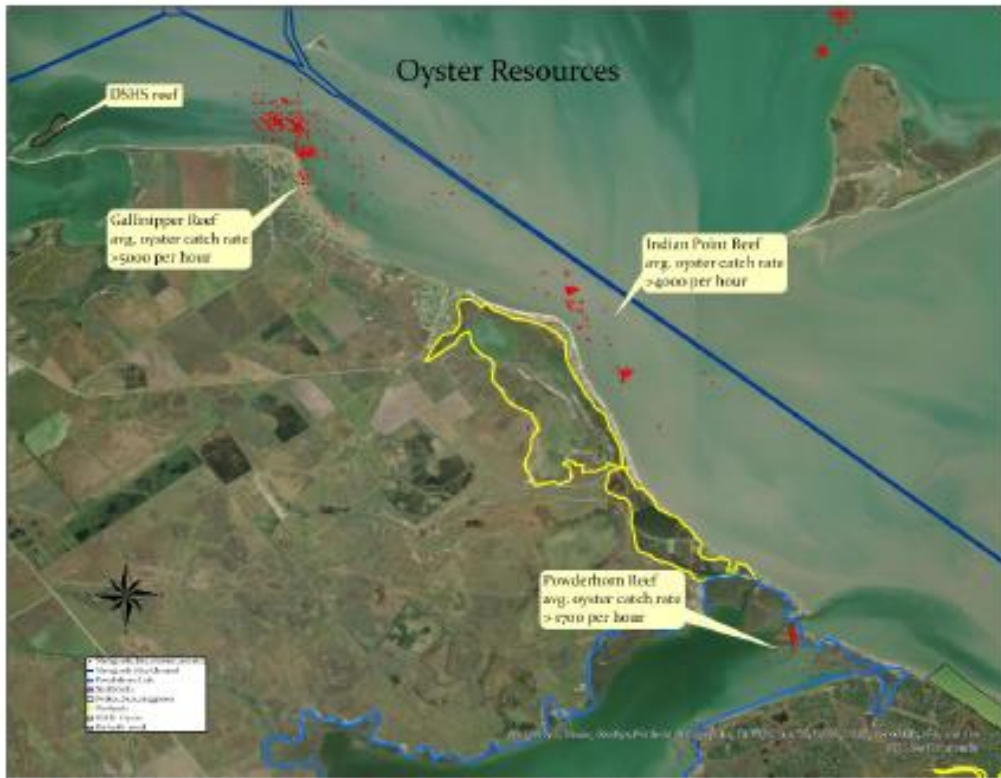


Figure 4. Oyster Resources map. Matagorda Bay Foundation



Figure 5. Powderhorn Ranch shoreline map. Matagorda Bay Foundation



DMMP with beneficial use plans that reduce impacts to oysters and other habitats, similar to those developed by resource agency staff and stakeholder groups in the 2009 FEIS, 4) Re-assess all oyster impacts and revise compensatory mitigation plans.

**Tidal Lakes and Bayous (Powderhorn Lake, Boggy bayou, Broad Bayou, Huckleberry/Big Dam bayou, un-named bayou, Old Town Lake, Bind bayou)**

Several tidally influenced bayous/lakes are located along the western shore of Matagorda and Lavaca Bays (Figure). All are relatively shallow (~ 2 ft. deep) and connected to the bay via tidal inlets along the western shore. The combined surface area of these bayous and lakes is > 6000 acres and include, seagrasses/SAVs, shallow water habitat, oyster resources, and tidal marsh that serve as nursery, refuge, and forage areas for ecologically and economically important fish and wildlife species. (Figures 1 and 5). Their close proximity to the Gulf of Mexico provides access for larval and juvenile fishes and crustaceans like red drum, southern flounder, black drum, blue crab, white shrimp, and brown shrimp. We believe unconfined placement areas adjacent to these areas will jeopardize the health and function of these biologically important areas.

The MBF and LBF believe wind and erosion will move sediment from NP and OP sites into these sensitive areas. Dredge plumes during construction and sediment transported by waves and tides may disrupt historic hydrology and restrict or impede flow at the tidal inlets. Sediments transported farther into these areas may increase turbidity, impact seagrasses and SAV's, and bury oysters and benthic organisms. Deposition of fine sediments would establish conditions that would result in long-term water quality impairments.

We were unable to locate modelling or assessment of potential project impacts to the >6000 acres of important estuarine habitats in these systems in the 2019 FEIS. Estimates of wetland or marsh loss in the 2019 FREIS recommend mitigation of 2.0 acres of wetlands impacts. Section 5.4.4 of the 2019 FEIS suggest wetland and seagrass impacts in the western bay will be offset by anticipated beneficial habitat expansion from other USACE projects located miles away (Colorado River Diversion and spoil placement during GIWW re-route). We believe substituting mitigation damages from this project for "expected" successes and habitat conversions at other project sites is misleading and wrong. We do not believe ecosystem services and benefits from habitats located miles from the project site will compensate for localized resource impacts and habitat losses in the MSCIP project area.

Recommendations- 1) hydrodynamic modelling of the bayous and tidal lakes located along the western shore of Matagorda and Lavaca Bays, 2) Modelling of sediment transport from unconfined placement areas and the fate of sediment dispersal along the western shore of Matagorda and Lavaca Bays, 3) Coordinate with resource agency staff and stakeholders to conduct comprehensive surveys of habitats in the tidal lakes and bayous along the western shore, 4) Re-assess habitat impacts and develop an appropriate compensatory mitigation plans.



## Powderhorn Ranch Shoreline

The Powderhorn Ranch Shoreline is a unique landscape comprised of almost 6 miles of shallow sand bars, swales, and sea grasses. The firm sand bottom and seagrasses make this area a popular destination for wade fishermen. Spotted seatrout, red drum, and sheephead are common targets of anglers fishing the area. During the fall, Southern flounder are common on the Powderhorn Ranch sand bars as they prepare to migrate to the Gulf and spawn. The combination of sand bottom and exceptional water clarity make this area a popular destination for nighttime flounder gigging.

We believe erosion and sediment migration from dredge placement areas NP 2 and OP 2- Op 5 will cover this area with clay and soft sediments that will increase turbidity, impact seagrasses, and eventually overlay the unique sand bars and swales.

We understand this area is a candidate for a TPWD shoreline protection project that would include construction of a confined placement area along the Powderhorn Ranch shoreline that would receive dredge material for wetland creation. A project of this type, with properly constructed containment, would provide long lasting erosion control, enhance habitat, and maintain water quality on the bay side of the control structure.

We recommend USACE coordinate with TPWD and other agencies on possible BU applications near the project.

## Salinity

Expected changes in salinity from the deepening and widening of the Matagorda Ship Channel are noted in the Section 5.4.5 Cumulative Impacts-Conclusion of the 2019 FREIS - *"the most substantial impact would be potential for increased salinity and tidal amplitude in the bay."* The 2018 USACE Draft Feasibility and Environmental Impact Review of Completed Projects, section 5.7.1.2 reported *"One effect of the TSP may be to allow the density current to transport a large volume of higher salinity Gulf water up the bay under certain conditions. The biggest effects are expected to occur following large freshwater inflow events when there is a strong salinity gradient from the upper to the lower bay. In this case, the deeper channel can be expected to reduce the time required for the density current to move higher salinity Gulf water to Lavaca Bay. This can be expected to increase the average salinity in the upper Matagorda and Lavaca Bays."* Estuarine salinity gradients determine the character and distribution of habitats and organisms in an estuary. The salinity and habitat gradient from upper to lower bay are important components of all estuaries and provide important nursery and/or refugium for most estuarine dependent organisms during their life cycles. Increased salinity is also a well-known factor in the distribution and occurrence of the oyster disease *Dermosyctidium* (Dermo). Elevated salinity levels on oyster grounds have been documented as causes of high oyster mortality from bot Dermo and predation by snails (Culbertson 2008). The 2019 FREIS and other USACE documents acknowledge the project's effect on salinity but do not adequately address the impacts to oysters, habitats, or fisheries.

The Lavaca-Navidad River Authority (LNRA) is responsible for managing the freshwater



resources of the Lavaca and Navidad River watersheds. LNRA is currently developing plans to construct an off-channel reservoir to impound freshwater from the Lavaca River. Part of this process will likely include establishing different beneficial freshwater flow release criteria that may influence timing and quantities of freshwater releases to the bay. We do not believe the 2019 FREIS salinity models incorporated the combined effects of MSCIP and LNRA's plans when projecting changes to bay salinity. We recommend the USACE collaborate with LNRA to determine possible changes to water management strategies and incorporate these into salinity projections.

Recommendations – 1) Analysis and modelling of salinity conditions with current LNRA off-channel reservoir and modified water management plans, 2) The effects of reduced residence times on oyster habitats in Lavaca Bay, 3) the economic impacts of reduced salinity on commercial oyster harvest, 4) a compensatory plan to mitigate for oyster impacts, and 5) analysis of the impacts of reduced freshwater residence times on other ecologically and economically important fish, invertebrates and wildlife.

### **Recreation and Tourism**

The shell beaches at Magnolia and Indianola Beaches are popular destinations for locals and tourists. These shell beaches are a unique feature along the Lavaca-Matagorda Bay shoreline and are often crowded with campers and beachgoers throughout the year. The 2019 FREIS DMMP includes two unconfined new placement sites (NP3 and NP4) and three unconfined operational placement areas (OP 6-8) adjacent to Magnolia and Indianola beaches. We believe dredge plumes, and sediment transported by wave energy and tides will affect water quality, change bottom composition, and cover the shell beaches with sediment.

The Indianola Fishing Marina is a multi-purpose bait and tackle/ grocery store and fishing pier located at the tidal inlet to Powderhorn Lake. The store serves tourists, beachgoers, and anglers that fish from the lighted pier at the mouth of Powderhorn Lake or launch vessels at the marina. Current DMMP plans and construction-related water quality issues will likely impact angler success with subsequent reductions in commerce at the marina.

We could not locate assessments or evaluations of project impacts to local tourism and recreational fishing-based businesses/economies.

Recommendations – 1) Modelling of sediment transport from unconfined placement areas and the fate of sediment dispersal along the western shore of Matagorda and Lavaca Bay, 2) Investigate impacts to tourism and recreational fishing, 3) Avoid impacts to unique landscape features and popular tourist destinations.

### **Sea Turtles and Threatened and Endangered Species**

According to Donna Shaver at the Padre Island National Seashore the March 2020 freeze event was the largest sea turtle cold-stunning event in U.S. history. Two hundred thirty-seven cold stunned turtles were collected in the Matagorda-Lavaca-Espiritu Sant-San Antonio Bay area. We believe the extent of this event merits a new Endangered Species Act Section 7 consultation before the project begins.

### **Overarching Concerns and Mercury**

We are concerned that much of the biological and environmental data used for the current 2019 FEIS was collected over a decade ago for development for the 2009 effort. It is common knowledge that storms, floods, drought, and freezes produce varying degrees of change to the structure, function, and biological health of coastal bays and shorelines. Since 2009 the central Texas coast has endured hurricanes, severe local weather events, floods, a drought of record, a recent coastal freeze event, and significant pollution event. We believe it is critical that USACE consider the cumulative impacts of these events on bay landscape and biota.



Of particular concern is the movement and dispersal of mercury laden sediments across the bay during storm events. Hydraulic dredging activities and placement of contaminated sediments in unconfined open bay disposal areas would potentially expose a much greater area of the bay to the effects of methylmercury contamination. The long-term effects on human health, bay health, and expense for government mitigation would be catastrophic.

#### References

- USACE. 2009. Final Environmental Impact Statement for Calhoun Port Authority Proposed Matagorda Ship Channel Improvement Project, Calhoun and Matagorda Counties, Texas. Volume 1. Sect. 1-15. Galveston District COE-TX-090260-Fv.1
- USACE. 2013. Regional Sediment Management Studies of Matagorda Ship Channel and Matagorda Bay System, Texas. ERDC/CHL TR-13-10.
- USACE. 2018. Matagorda Ship Channel, Port Lavaca, Texas, Calhoun and Matagorda Counties, Channel Improvement Project. Draft Engineering Appendix.
- USACE. 2019. Matagorda Ship Channel, Port Lavaca Texas, Feasibility Report and Environmental Impact Statement, Review of Completed Projects, Calhoun, and Matagorda Counties. Final. EIS No. 20190207
- Maglio, Coraggio. 2021. Matagorda Ship Channel Deepening. Presentation Port Lavaca, Texas March 11, 2021.
- TPWD. Unpublished Data.
- TPWD Personal Communication April 2021



July 2, 2023

ATTN: RPEC-MSCIP  
U.S. Army Corps of Engineers  
Galveston District, PO Box 1229  
Galveston, Tx 77553-1229

[MSC\\_SEI@usace.army.mil](mailto:MSC_SEI@usace.army.mil)

Re: MCSIP

Sir,

The San Antonio Bay Partnership thanks you for deciding to conduct a Supplemental Environmental Impact Statement—and for the opportunity to comment regarding its scope.

The **San Antonio Bay Partnership (SABP)** is a regional, non-profit, stakeholder-driven planning and management program for the San Antonio Bay/Guadalupe Estuary. The purpose of the San Antonio Bay Partnership is to create and sustain a working partnership of committed stakeholders in order to *protect, restore and enhance* the natural resources of the San Antonio Bay System for the benefit of the ecosystem and its human uses.

The eastern sections of the San Antonio Bay – Guadalupe Estuary are included in the study area for the Matagorda Ship Channel Improvement Project and are impacted by the MSCIP. We are specifically concerned about additional impacts to Pass Cavallo and the Fish Pond-Mules Slough marsh immediately west of Pass Cavallo. This area is already severely impacted by the MSC and by recent storm events. The SEIS should fully address any additional consequences to the Pass from deepening and widening the MCS and how they might be mitigated.

Additionally, open bay disposal of dredged spoil is a concern – the materials move, increasing maintenance costs and potentially causing environmental harm. There are opportunities for beneficial use (BU) of dredge material resulting from the project. The City of Port Lavaca 's Harbor of Refuge has needs—and those projects are included in the Texas General Land Office 2023 Master Coastal Resiliency Plan. Engineering studies are also under way by the GLO to address high shoreline erosion rates on TPWD's Powderhorn shoreline from Port O'Connor to Indianola. Beneficial use will likely have a role in stabilizing those shorelines. Also, the Matagorda Bay shoreline at Keller Bay needs reinforcement.

We are concerned that the technical maturity of these BU sites is lagging relative to the MSCIP. Please consider how the USACE might assist in advancing these projects consistent with a revised MSCIP schedule so that the benefits are achieved.

Further, the status of the channel jetty is of concern. It is our understanding that the jetty currently has issues. Deepening and widening will only exacerbate those issues. Jetty improvements should be addressed prior to widening and deepening the MSC.



We fully support other recommendations from the Matagorda Bay Foundation and the Lavaca Bay Foundation regarding the scope of the SEIS in their letter to the USACE in April 2021, including the establishment of an Interagency Coordination Team.

The Harte Research Institute also completed a study entitled *Evaluation of the Proposal for Widening and Deepening the Matagorda Ship Channel (September 30, 2021)* that made several suggestions to improve the assessment. We urge the USACE to incorporate those suggestions in the SEIS.

Finally, as you are aware, your technical assessments are only as good as the basic data that feed and validate your models. In the SEIS, please provide comments on where additional data would significantly improve the assessment – and support efforts to implement those basic data programs.

Again, thank you for the opportunity to comment on this pivotal project for our bay systems.

Sincerely,

A handwritten signature in black ink that reads "AR Berger".

Allan R. Berger  
Chairman, Board of Directors  
San Antonio Bay Partnership  
[AllanRBerger@outlook.com](mailto:AllanRBerger@outlook.com)  
713-829-2852





June 26, 2023

ATTN: RPEC-MSCI  
U.S. Army Corps of Engineers  
Galveston District, P.O. Box 1229  
Galveston, TX 77553-1229

The Matagorda Bay Foundation appreciates the opportunity to provide comments to the U.S. Army Corps of Engineers on the preparation of the Supplemental Environmental Impact Statement for the proposed Matagorda Ship Channel Project.

The Matagorda Bay Foundation is one of three conservation non-profit organizations in the region that advocate for the protection, conservation, and restoration of Texas' mid-coast estuaries. The Texas mid-coast is a sparsely populated area that is the winter home of endangered whooping cranes, the location of the first documented Kemp's Ridley turtle nest and hatch inside a Texas bay system. The mid-coast bays are situated in a unique ecological area of the Texas coast where the freshwater estuaries of the upper coast transition to the saltier, hypersaline lagoons of south Texas. The Matagorda, Lavaca, and San Antonio bays are biodiverse, economically, and ecologically important ecosystems with long histories of supporting world class recreational fisheries and producing abundant commercial harvests of oysters, shrimp, blue crab, and flounder. It is the collective desire of our organizations to protect and conserve the natural resources of these distinctive estuaries for the use and enjoyment of future generations of Texans and visiting tourists. The comments and recommendations submitted in this letter and attached supporting documents are submitted in the spirit of ensuring the health of our bays for all who swim, fish, and work in and around them.

Attached to this document is a map of proposed beneficial use dredge material disposal sites (Figures 1-6 and Attachment 1), pages from the Texas General Land Office 2023 Coastal Resilience Master Plan, a page from the 2020 USACE Texas Coastal Study, and a copy of the comment letter submitted to the USACE on April 25, 2021, regarding concerns about the **least cost alternative** plan for dredge material management and placement identified in the 2019 USACE FEIS. effort to deepen and widen the Matagorda Ship Channel.

The attached map (Fig. 1) indicates the locations for beneficial use of dredge material placement. Each of these locations has also been identified as a priority project in state or



federal coastal resilience plans (Figures 2-6). We have included pages extracted from these plans as reference for the suggested BU locations.

The Matagorda Bay Foundation is available to participate in any meetings or discussions about all aspects of the proposed Matagorda Ship Channel project.

1. Establish an oversight **Interagency Coordination Team** that includes representatives from Lavaca Bay Foundation, Matagorda Bay Foundation, and the San Antonio Bay Partnership.
  - Members of these organizations have decades of experience in this bay system and can provide insights and recommendations about the proposed project.
  - **ICT** should be active throughout the life of the ship channel.
2. USACE and project partners should make all possible efforts to **avoid** and **minimize** habitat impacts in Lavaca and Matagorda Bay.
3. The current oyster mitigation methodology is inadequate.
  - The current mitigation of a veneer of 9 inches of shell placed over clay is inadequate, especially in waters open to commercial harvest. Shell will be removed each time harvesters “work” the area and the value of the mitigation site will be reduced or lost.
  - Historic reefs at Gallinipper and Indian Point reef are comprised of layers of shell deposited by hundreds of years of shell growth and extend deep beneath the mud line. The “remnant” shell provides an extensive “shell bank” for larval colonization.
4. Require beneficial use of new and operational dredge material.
  - ICT and stakeholder groups can help identify sites that will address current erosion and resilience issues and reduce impacts to existing habitats e.g., oysters, seagrasses, shallow water embayment’s and bayous.
  - Confined containment of **all** new and operational dredge material.
5. Review measures used to avoid, minimize impacts, and mitigate other ship channel projects.
6. SEIS should address project impacts on the entire ecosystem – not just the immediate area.
  - A project of this magnitude will result in long term changes to the hydrology of Lavaca and West Matagorda Bay ecosystems.
7. Avoid any activities that disturb turtle nesting on Magnolia/Indianola beach.



8. Modeling and Mitigation should include impacts to oysters and other estuarine organisms from **salinity increases** in upper Lavaca Bay and should include modeling the effects of LNRA plans for off channel reservoirs and temporal changes in water demand and use.
  - o Artificial drought and elevated salinities are occurring in the eastern arm of West Matagorda Bay due to reduced flows in the Colorado River. The impacts of the deeper and wider channel bringing large volumes of Gulf-strength saltwater into upper Lavaca need to be studied and addressed.
  
9. Eliminate and minimize exposure and threat to humans and estuarine life from mercury resuspension.
  - o The areas adjacent to the project site experience heavy harvest pressure from oystermen, recreational fishers, and bay shrimpers. The products harvested here are sold for human consumption at markets and restaurants across the USA.

We look forward to working with the USACE throughout the development of the current SEIS, and any future efforts to deepen and widen the Matagorda Ship Channel.

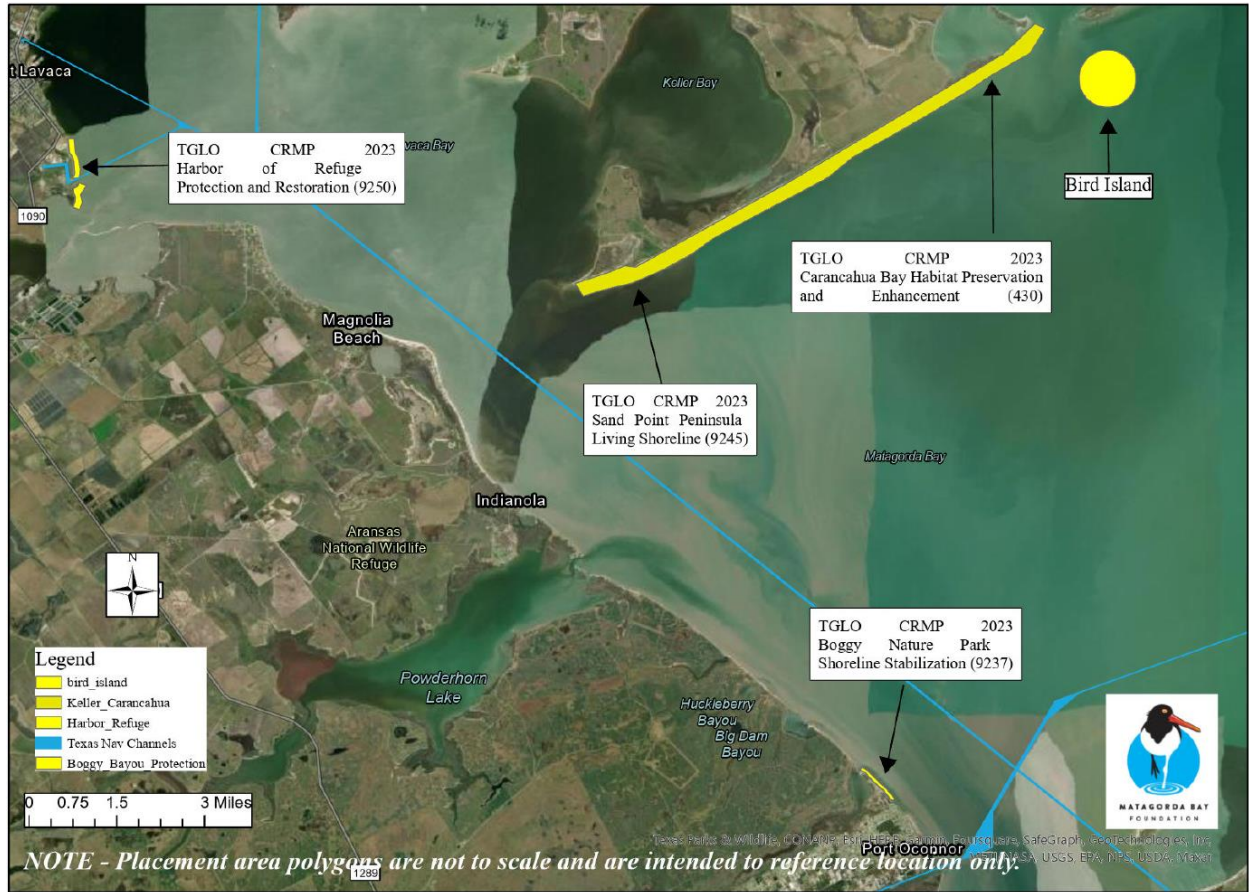
Please contact us with any questions or clarifications regarding this document or any of the attachments.

Sincerely,

---

William Balboa Executive Director  
The Matagorda Bay Foundation







## Carancahua Bay Habitat Preservation and Enhancement (430)

Estimated Project Cost: \$9,000,000

### ABILITY TO ADDRESS VULNERABILITIES



### Project Description

The peninsula separating Redfish Lake from West Matagorda Bay has breached and high-quality wetland and subtidal aquatic habitat is eroding quickly. The breach is also impacting managed shorelines and the Port Alto marina. The construction of approximately 3 miles of living shoreline would prevent further widening of the breach into Redfish Lake, encourage sedimentation, and help reduce erosion throughout Carancahua Bay. Phase 1 of the project is underway through 2024 with funding from a National Fish and Wildlife Foundation-Gulf Environmental Benefit Fund (NFWF-GEBF) grant. Data collection and hydrodynamic modeling of potential solutions were completed in 2022 and project partners are currently developing 30% design and permitting plans for the living shoreline. Access agreements are being negotiated with area landowners. NFWF-GEBF has committed funds for Phase 2 for final design and construction, though additional funds may be needed to complete construction and post-construction monitoring.

### Project Need

The breach of the peninsula separating Redfish Lake and Matagorda Bay is eroding wetlands, seagrasses, oyster reefs and other marine habitats throughout Carancahua Bay. A living shoreline in this area would restore the health of wetlands, seagrasses, and marine habitats in Redfish Lake, Salt Lake, and throughout Carancahua Bay, supporting the local economy.

### LOCATION:

Northern shoreline of West Matagorda Bay, southern shoreline of Carancahua Bay

### STATUS:

Engineering & Design

### STAKEHOLDERS:

- Matagorda Bay Foundation
- Texas General Land Office
- Texas A&M AgriLife Research
- U.S. Fish and Wildlife Service
- National Fish and Wildlife Foundation
- Private Landowners

### ACTIONS:



### PROJECT TYPE(S):

Habitat Creation and Restoration;  
Shoreline Stabilization

### POTENTIAL LOCAL BENEFITS

1

Wetland  
Type

2

Critical  
Facilities

11

Endangered  
Species

Medium

Social Vulnerability

21

Migratory  
Bird Species



Oyster Habitat  
Protected/Created

\*For more information on cost estimates and project benefits calculations, see page 132 of the 2023 Texas Coastal Resiliency Master Plan.

# Harbor of Refuge Protection and Restoration (9250)

Estimated Project Cost: \$6,700,000

## ABILITY TO ADDRESS VULNERABILITIES



### Project Description

This project will include three main elements.

1. The City of Port Lavaca Harbor of Refuge former municipal landfill area shoreline is eroding. The City needs assistance to develop a feasibility study and alternatives analysis to determine between alternatives such as a rock revetment or bulkhead nearly 1,800 feet in length to halt shoreline retreat in the harbor and reduce leakage of contaminated water into the bay.
2. To mitigate impacts from shoreline erosion along the main peninsula and minimize water conveyance issues, the City is proposing a living shoreline or rock revetment nearly 2,200 feet long, with potential marsh creation between the protection structure and natural shoreline. A feasibility study is needed for this conceptual approach.
3. The City is suggesting installation of one structure for marsh mitigation at the Harbor entrance (800 feet long) and a second to protect marsh habitat on the southern shoreline (1,900 feet long) for a total of 2,700 feet of shoreline protection. The project phase will also include at least 11 new acres of estuarine marsh as a beneficial use of dredged material site, potentially using material from dredging of the Matagorda Ship Channel or the Harbor itself.

### Project Need

The erosion of the former landfill area at the Port Lavaca Harbor of Refuge is exposing trash and contaminants to Lavaca Bay, which is now a public hazard. This project should be considered an emergency need to halt active contamination from the landfill. In addition, the project would reduce sediment shoaling in the nearby Corporation Ditch, reducing upstream flood hazards in the City.

### LOCATION:

Harbor of Refuge in Port Lavaca along the western shoreline of Lavaca Bay

### STATUS:

Conceptual

### STAKEHOLDERS:

- City of Port Lavaca

### ACTIONS:



### PROJECT TYPE(S):

Shoreline Stabilization; Flood Risk Reduction; Habitat Creation and Restoration

### POTENTIAL LOCAL BENEFITS



\*For more information on cost estimates and project benefits calculations, see page 132 of the 2023 Texas Coastal Resiliency Master Plan.



# Sand Point Peninsula Living Shoreline (9245)

Estimated Project Cost: \$5,800,000

## ABILITY TO ADDRESS VULNERABILITIES



### Project Description

This project includes implementation and construction costs to support ongoing work protecting the unique estuarine resources of Keller Bay. Early considerations identified during modeling and alternatives analysis include constructing a specific type of living shoreline known as a Sand Engine, a nature-based design for high-energy coastlines that takes advantage of natural wave action, littoral processes, and sedimentary resources to promote long-term resilience of the landform. West Matagorda Bay is the ideal geomorphic environment to expand this concept to a Texas bay because it has a large fetch with relatively large waves, a shoreline composed of relatively coarse material, and the Sand Point Peninsula acts as a barrier spit that depends on overwash processes for its maintenance. This project can take advantage of the sedimentary resources that are becoming available in West Matagorda Bay, including those along the Matagorda Ship Channel and other ongoing maintenance dredging projects. The project will synergize with ongoing work by other entities at Redfish Lake and Schicke Point, two other living shoreline projects immediately upstream in the littoral drift near Carancahua Bay.

### Project Need

The Sand Point Peninsula is at a tipping point; soon, it will fully breach, and Keller Bay will cease to exist as a unit distinct from West Matagorda Bay. Based on historic erosion rates of peninsula (approximately 2 to 3 ft/yr), the shoreline can be considered a critically eroding area. Keller Bay is ecologically unique in terms of water clarity and low wind fetch. Its shoreline includes up to 1,200 acres of wetlands, 250 acres of seagrass, and large oyster mounds and is known for speckled sea trout.

Texas General Land Office

### LOCATION:

Northern shoreline of West Matagorda Bay, southeastern shoreline of Keller Bay

### STATUS:

Engineering & Design

### STAKEHOLDERS:

- Texas A&M AgriLife Research
- Matagorda Bay Foundation
- Matagorda Bay Mitigation Trust
- Private Landowners
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- International Crane Foundation
- Calhoun County

### ACTIONS:



### PROJECT TYPE(S):

Shoreline Stabilization; Studies, Policies, and Programs; Habitat Creation and Restoration

## POTENTIAL LOCAL BENEFITS

1

Wetland Type

12

Endangered Species

25

Migratory Bird Species

*\*For more information on cost estimates and project benefits calculations, see page 132 of the 2023 Texas Coastal Resiliency Master Plan.*

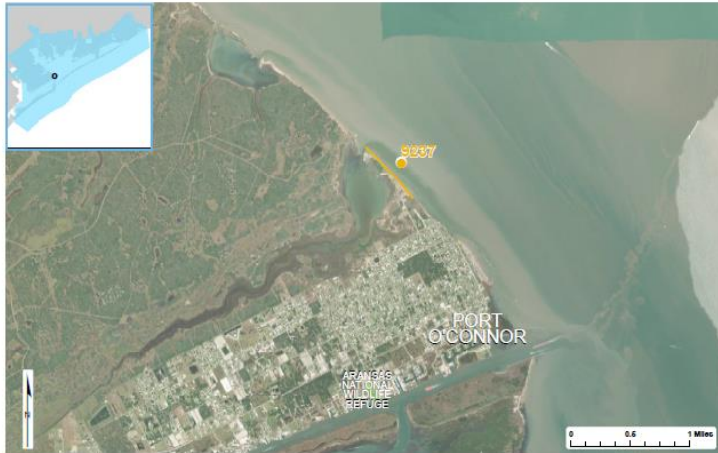
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## Boggy Nature Park Shoreline Stabilization (9237)

Estimated Project Cost: \$5,000,000

### ABILITY TO ADDRESS VULNERABILITIES



### LOCATION:

Boggy Bayou Nature Park on Matagorda Bay

### STATUS:

Engineering & Design

### STAKEHOLDERS:

- San Antonio Bay Partnership
- Texas General Land Office
- Calhoun County

### ACTIONS:



### PROJECT TYPE(S):

Shoreline Stabilization; Habitat Creation and Restoration; Studies, Policies, and Programs

### Project Description

The Boggy Nature Park Shoreline Stabilization project is to be completed in three phases. Phase 1 is scheduled to be completed in 2023 and includes topographic and bathymetric data collection, coastal engineering analysis, and alternatives development and analysis. Phase 2 is currently funded through the Texas General Land Office and includes preliminary design, further data collection, permitting, final design, and bid package development. Funds are being sought for Phase 3, which will include bid procurement, construction, construction oversight and potentially environmental monitoring. The Phase 1 study resulted in the development of feasible alternatives for shoreline protection, feasibility level construction cost estimates, and recommendation of a preferred alternative. Under Phase 1, an engineering analysis was performed to determine shoreline morphology, wave conditions, currents, tides, and sediment transport, and to draw conclusions on processes controlling shoreline morphology. This information will be used in the development and analysis of shoreline protection alternatives.

### Project Need

Protection of approximately 3,500 feet of eroding shoreline which separates Matagorda Bay from Boggy Bayou is critical to maintaining the integrity of Boggy Bayou and the interior marsh habitat. Additionally, Boggy Nature Park is a popular area for kayakers, anglers, school groups, birders, and environmental organizations. Restoring and protecting the shoreline this community resource is important for the local community and for tourism.

### POTENTIAL LOCAL BENEFITS

✓ Decreased Wave Energy	7 Migratory Bird Species	1 Wetland Type
Medium Social Vulnerability	11 Endangered Species	

\*For more information on cost estimates and project benefits calculations, see page 132 of the 2023 Texas Coastal Resiliency Master Plan.

**Project Benefits.** This project will prevent the breaching of the Matagorda and Keller Bays shoreline into Keller Bay. This would reduce erosion to preserve and enhance the intertidal marsh and oysters in Keller Bay.

**Future Without-Project.** If a breach into Keller Bay occurs, erosion will accelerate, and currents will be modified. This will lead to the degradation and loss of oysters and over 250 acres of intertidal marsh in Keller Bay along the Matagorda and Keller Bays shoreline.



**Figure 2-16. ER Measure CA-5: Keller Bay Restoration**

### 2.3.2.2.6 Measure CA-6 – Powderhorn Shoreline Protection and Wetland Restoration

This measure would restore and reduce erosion to approximately 6.7 miles of Matagorda Bay shoreline with breakwaters and marsh restoration. This area fronts the communities of Indianola, Magnolia Beach, and Alamo Beach, and the Powderhorn Lake Estuary (Figure 2-17).

**BLACKBURN & CARTER**

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JAMES B. BLACKBURN, JR.

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Sender's E-Mail: [jbb@blackburncarter.com](mailto:jbb@blackburncarter.com)

April 15, 2021

Col. Timothy R. Vail  
Commander  
Galveston District  
U.S. Army Corps of Engineers  
P.O. Box 1229  
Galveston, TX 77553-1229  
Via Regular Mail and email [swgpao@usace.army.mil](mailto:swgpao@usace.army.mil)

Re: Need for Supplemental EIS for Matagorda Channel Dredging

Dear Col. Vail:

This letter is written to the U.S. Army Corps of Engineers on behalf of the Matagorda Bay Foundation. I am writing in my capacity as chairman of the Matagorda Bay Foundation as well as on behalf of the organization and as their environmental lawyer.

This letter constitutes a formal request to the Galveston District of the U.S. Army Corps of Engineers (Corps) to prepare a Supplemental Draft Environmental Impact Statement (SupDEIS) to provide the public with an analysis of the changes that the Corps has made for the dredging plan for the Matagorda Ship Channel between the original publication in 2009 and the modifications that occurred in the last two years.

It is well-established NEPA jurisprudence that changed conditions generate an obligation on federal agencies to issue supplemental environmental impact statements, particularly where the impacts are significant as they are here relative to mercury contamination impacts and potential suffocation of oyster reefs and seagrass beds. These are among the most sensitive of impacts covered by the 404(b)(1) guidelines issued by the EPA and applicable to Corps projects.



According to the new guidelines issued by the Council on Environmental Quality (CEQ), the duty to supplement an EIS is found at 40 CFR 1502.9. The CEQ discussion of their recent rule change is included below and can be found at 85 Federal Register 43328. Here it states the following.

CEQ makes this change in the final rule. As noted in the NPRM, this revision is consistent with Supreme Court case law holding that a supplemental EIS is required only “[i]f there remains ‘major Federal actio[n]’ to occur, and if the new information is sufficient to show that the remaining action will ‘affect[t] the quality of the human environment’ in a significant manner or to a significant extent not already considered . . . .” Marsh, 490 U.S. at 374 (quoting 42 U.S.C. 4332(2)(C)); see also Norton v. S. Utah Wilderness All., 542 U.S. 55, 73 (2004). . . . See NEPA Task Force Report, supra note 28, at p. 65.[that a supplemental EIS] may be triggered after an agency executes a grant agreement but before construction is complete because the agency has yet to provide all of the funds under that grant agreement.

The situation with regard to the dredging of the Matagorda Ship Channel falls well within this new guidance and certainly as well within the old rules of the CEQ. As is set out in the attached document, the changes to the proposed action raise several potential significant impact issues, any one of which should trigger a supplemental EIS. And major federal action certainly remains to occur.

For example, mercury contaminants exist within Lavaca Bay and Matagorda Bay. The existence of these contaminants is well known, although current data about the distribution, particularly after our recent spate of hurricanes and tropical storms, is not available. Mercury will be picked up by the dredging, particularly the widening activity, and will be redistributed based on the disposal areas selected. By changing the disposal site design and location, the potential for mercury contamination has been increased as well as redistributed, and the effects of more mercury entering the bay ecosystem and into the food chain of fish and humans must be re-evaluated.

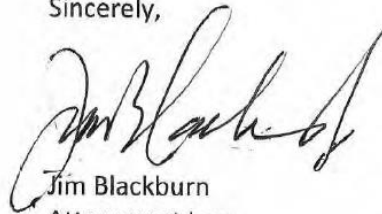
Similarly, it is reasonable to anticipate that the changed disposal locations and design will lead to more sediment being distributed along the western shoreline of Matagorda Bay. In turn, the oyster reefs and sea grass beds that are known to

exist along the western shoreline will be impacted to a much greater extent than indicated in the 2010 FEIS.

These are just two examples of significant impacts potentially resulting from changed conditions and project alterations. A detailed analysis supporting the assertions in this letter is included as attachment A.

Major decisions remain to be made. The Corps should simply do the right thing – the legal thing – and prepare a Draft Supplemental Environmental Impact Statement and send it out to the agencies and to the public for their review. Those of us who use and love Matagorda and Lavaca Bays deserve nothing less.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Blackburn". The signature is fluid and cursive, with a large initial "J" and "B".

Jim Blackburn  
Attorney at Law  
Chair, Matagorda Bay Foundation

Note: did not include Attachment