

Calhoun County Texas Shoreline Access Plan



Atkins Coastal Planning and Restoration Group
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***Front page photo: Seadrift Shoreline Park**

Table of Contents

	Page
Table of Contents	3
1. Introduction	6
2. Methodology	7
3. Benefits of Recreational infrastructure	9
4. Geographical Distribution	11
San Antonio Bay	12
Zone A-San Antonio Bay North and South	12
- North Side-Green Lake and Victoria Channel Shorelines	12
Zone A North: Boat Ramps.....	13
- Potential boat ramps along the Victoria Navigation Channel	13
- Potential boat ramps at Hog Bayou	14
Zone A North: Paddling Trails or Kayaking Sites	14
- Potential paddling trails or kayaking sites along Hog Bayou	14
- Potential paddling trails or kayaking sites along the Victoria Navigation Channel.....	15
- Alternatives to the Victoria Navigation Channel and SH-35	16
Zone A North: Fishing Piers	16
Zone A South: San Antonio Bay	16
- Seadrift to Welder Flats Wildlife Management Area.....	16
Zone A - South: Boat Ramps	16
- Boat Ramps at Seadrift Bayfront Park (City of Seadrift Seawall)	16
- Town of Seadrift Marina Boat Ramp	17
- Bill Sanders Memorial Park Boat Ramp.....	18
Zone A South: Kayaking Sites	19
- Town of Seadrift paddling trails.....	19
- Town of Seadrift-Austwell paddling trail	20
Zone A South: Fishing Piers	21
- Seadrift Seawall	21
- Bill Sanders Park.....	21
Wildlife Areas Beyond Seadrift	21
- Welder Flats Coastal Preserve and the Guadalupe Delta Wildlife Management Area	21
Espiritu Santo Bay.....	23
Zone B: GIWW Shorelines and Adjacent Areas-	23
Zone B: Boat Ramps-	23
- Froggie's boat ramp	23
- Potential boat ramps along the GIWW	24
Zone B: Paddling Trails and/or Kayaking Access Points	24

- Charlie's Baitcamp	24
- Long Island-Shoalwater Bay-Steam Boat Island-South Pass Island-Grass Island paddling trail	24
- Dewberry Island-Shoalwater Bay paddling trail.....	24
- Port O'Connor paddling trail.....	24
Zone B: Fishing Piers	25
South Lavaca-Matagorda Bays	26
Zone C: Port O'Connor to Chocolate Bayou	26
Zone C: Boat Ramps	27
- Indianola Beach & Historic Site boat ramp	27
- Powder Horn RV Park	27
- Magnolia Beach	28
- Alamo Beach	29
Zone C: Paddling Trails and/or Kayaking Access Points	30
- The Port O'Connor paddling trails	30
- Alamo/Magnolia/Indianola Beach paddling trails	31
- La Salle Loop paddling trail.....	32
- Coloma Creek paddling trail (At Powderhorn Lake).....	34
Zone C: Fishing Piers and Observation Decks -	35
- King Fisher Park fishing pier	35
- Boggy Bayou observation deck	36
- Magnolia fishing pier.....	36
- Magnolia Creek observation deck	37
- Coloma Creek Recommended observation deck	38
North Lavaca Bay -	39
Zone D: Chocolate Bayou to Point Comfort -	39
Zone D: Boat Ramps-	39
- Harbor of Refuge boat ramp	39
- Chocolate Bayou boat ramp	39
- Port Lavaca Bayfront Peninsula boat ramp	40
- Lighthouse Beach, Bird Sanctuary and RV Park boat ramp	42
- Bauer Road shoreline access area	42
- Six Mile Road boat ramp	43
- Point Comfort Park boat ramp	44
Zone D: Paddling Trails/Kayaking Sites.....	45
- Chocolate Bay-Bayou paddling trail.....	45
- Lighthouse Beach Park paddling trail.....	45
- Bauer Road paddling trail	46
- Six Mile Road Park paddling trail	47
- Six Mile Road Park-FM 616 paddling trail	48
- Point Comfort Park paddling trail	48

- Point Comfort-Lighthouse Park paddling trail	49
Zone D: Fishing Piers	50
- Bayfront Peninsula Park fishing pier	50
- Lighthouse Beach Park fishing pier	51
- Six Mile Park T-head fishing pier	51
- Point Comfort fishing piers	52
East Calhoun County -	53
Zone E: Keller and Carancahua Bays	53
Zone E: Boat Ramps-	53
- Port Alto County Park boat ramp	53
- Olivia Haterius Park boat ramp	54
Zone E: Paddling Trails and/or Kayaking Access Points	55
- SH-35-Port Alto paddling trail	55
- Port Alto-Salt Lake and Redfish Lake paddling trail	55
- Keller Creek at FM 2143-Olivia Boat Ramp at Keller Bay paddling trail	56
- Olivia to South Keller Bay paddling trail	57
- Short paddling trails from Olivia	58
Zone E: Fishing Piers-	58
- Potential fishing piers and observation decks at Olivia Public Park	58
Calhoun County Shoreline Access Recommendations	59
References	61
Appendix A: Shoreline Access Inventory	
Appendix B: Geologic History, Physical Processes, Habitat Inventories and Environmental Recommendations	
Appendix C: Regional Maps on Boat Ramps, Kayaking Sites, Fishing Piers and Observation Decks	

1. Introduction

Calhoun County is located in one of the best strategic settings for coastal recreation in Texas and the Gulf of Mexico. The County is connected to eight (8) important bays (Figure 1): Guadalupe, San Antonio, Espiritu Santo, Lavaca, Cox, Keller, Carancahua and Matagorda Bays, each having different physical conditions and environmental benefits. These bays provide a large number of diverse coastal natural resources and recreational opportunities for local residents and county visitors. The pressure for good public access to the bays has become a critical issue for Calhoun County and an overall plan to address those pressures was needed.

This document is divided into the following sections:

1. Shoreline Access Master Plan
2. Inventory of Shoreline Access Infrastructure (Presented in Appendix A)
3. General Environmental Conditions (Presented in Appendix B)
4. Thematic Maps with the shoreline access information (Presented in Appendix C)

This master plan was created by Atkins at the request of the Calhoun County Commissioners Court to assist the County in addressing public access issues along bay shorelines. Many thanks are extended to County Judge Michael J. Pfeifer, Commissioner Roger C. Galvan, Commissioner Vern Lyssy, Commissioner Neil E. Fritsch, and Commissioner Kenneth W. Finster for their assistance in this endeavor. Thanks are also extended to Mr. Elmer DeForest, Mayor of Seadrift; Ms. Rhonda Cummins, Texas A&M University Agriculture Extension Program Agent; Mr., Darren Gurley, City of Port Lavaca; Ms. Kathy Smartt, Grant Consultant; and Mr. Keith Schmidt, local historian. Ms. K Smartt helped improving the last version of this report.

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2. Methodology

This project was conducted in two phases. A technical memorandum called “Calhoun County Preliminary Inventory (Update) of Shoreline Access Infrastructure” (presented in Appendix A) was produced in the first phase to identify the current conditions of the basic infrastructure available for shoreline access in Calhoun County. The second phase of the project was to specifically address recommendations for shoreline and infrastructure improvement, and access for recreational opportunity. Local conditions and protection of natural resources present at specific areas, including any environmental concerns associated with access areas, were considered. This document and information presented herein is intended to facilitate the enjoyment of the natural environment, and serve as a planning tool for future improvements to shoreline access infrastructure, water recreation, and protection of habitats located along county shorelines. The four main topics covered by this project included the following:

- a. **Boat Ramps.** Identification of the general conditions of the available boat ramps, analysis of potential areas for future development of new single- or multi-use boat ramps, and any potential improvements to the related infrastructure.
- b. **Paddling Trails or Paddling Areas.** Identification of the general conditions of the available paddling trails and/or kayaking access points and the identification of potential areas for future development of new single- or multi-use paddling trails and kayaking access.
- c. **Fishing Piers and Observation Decks.** Identification of the general conditions of the available fishing piers and potential areas for future development of new single- or multi-use fishing piers. It also includes the identification of potential areas for observation decks as a form of a shoreline access-recreational opportunity.
- d. **Environmental and Recreational Recommendations for Shoreline Access Improvements.** Identification of environmental issues associated with long-term development of shoreline access improvements and the protection of the natural resources visited by the public.

Atkins first analyzed the current inventory of existing public or semi-public bay and estuary shoreline access points and their available infrastructure as presented in the Texas Beach and Bay Access Guide (Guide) developed by the Texas General Land Office (GLO), which is available at: www.glo.state.tx.us/OC/Beach_Access/pdf/04-GoldenCrescent.pdf.

The GLO guide on shoreline access points (Figure 2) and the Atkins Technical Memorandum (see Appendix A) were designed to help coastal visitors locate a variety of public access sites close to specific locations, such as wildlife refuges, marshes, beaches, specific bays or river deltas, areas of interest, etc. The two sources provide a

brief description of primary recreational activities at each point. Specifically, the Atkins memorandum included updated location maps showing available boat ramps, areas with access for kayaking, paddling trails, fishing piers, observation decks, and any other areas of recreational interest. The memorandum also provides information about available activities such as fishing, swimming, wildlife viewing, picnicking, camping, windsurfing, etc., along with the available public infrastructure such as the boat ramps, fishing piers, restrooms, showers, electricity and lighting, fresh water, concessions, fees, access for the mobility impaired, etc.



Figure 1. Bays in contact with Calhoun County.

In the second phase of the project, Atkins recommended new perspectives in the use of the access points and proposed locations for new boat ramps, piers, and paddling trails. Atkins also developed a synopsis of the geologic evolution of the county, geologic and geomorphologic processes affecting the shorelines, the physical process affecting the water circulation in the bays, and the location of natural habitats that include marshes, oyster reefs and seagrasses in the area (presented in Appendix B). This data may be considered when creating the new access points.

Finally, this document provides recommendations that will help with the improvement of recreational opportunities where planned management may bring new or frequent visitors to the county shorelines and potential environmental impacts.

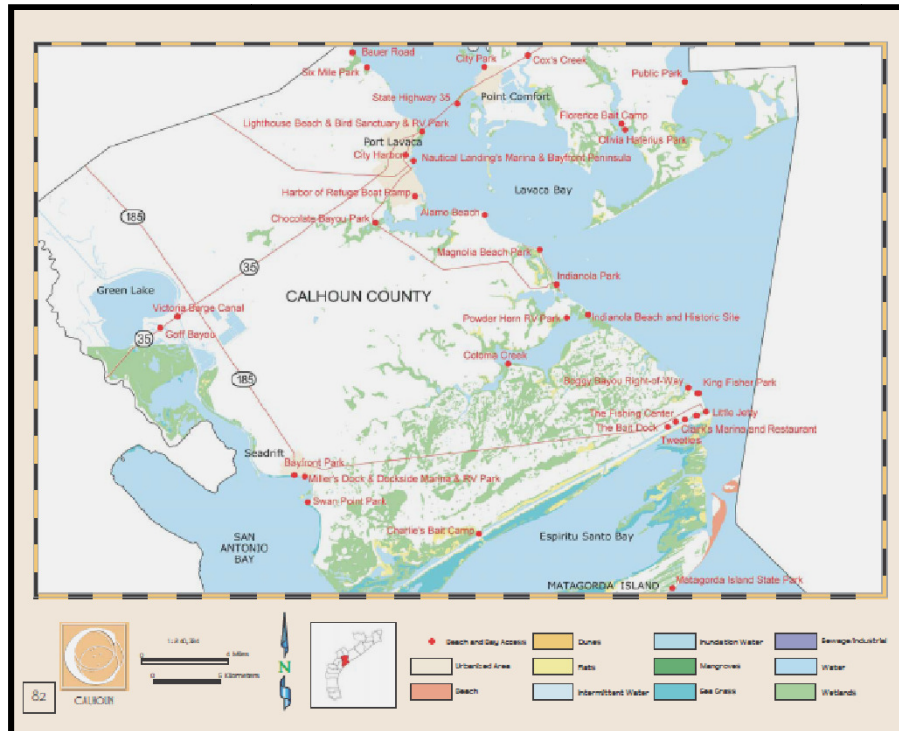


Figure 2. Location of the existing bay access points (Source: TGLO). Source: www.glo.texas.gov/what-we-do/caring-for-the-coast/publications/TexasBeachBayAccessGuide.pdf

The three appendixes were included in this report to support the Master Plan. Appendix A includes the technical memorandum with the updated shoreline access infrastructure. Appendix B presents the physical conditions of the county shorelines in order to understand how to manage visitation while balancing the potential impact to natural and cultural resources along the shorelines. Finally, Appendix C includes the location of the public infrastructure by area.





























3. Benefits of the Recreational Infrastructure

As the population increases along the coastal areas, more environmental pressures from human activities will occur along county shorelines. For that reason, the purpose of this plan is provide the information needed to develop a management approach that facilitates public access while protecting natural resources. Calhoun County understands that by developing controlled access to the natural resources, local residents and visitors will minimize impacts to the shorelines and adjacent habitats.

This shoreline access plan can also be used as a tool to enhance and support different aspects of the quality of life in the county, which include:

1. Community programs goals to improve the quality of life of county residents and visitors, bring economic resources and educational programs to the area, and create a stronger community identity based on the enjoyment of the natural resources.
2. Policies protecting environmentally sensitive areas such as wetlands, marshes, shoreline habitats, oyster reefs, seagrasses, and water courses.
3. Initiatives to increase low-impact visitation, and recreational and ecological management of the natural resources by the local residents and visitors accessing the shorelines and waters of Calhoun County.

To be consistent with readily-available recreational programs, Atkins used the illustrations used by Texas Parks & Wildlife Department for state parks infrastructure (Figure 3). A few illustrations were also created to include unique local conditions. It is important for the reader to note that some infrastructure may change in the future without notice. Infrastructure may be improved with more or better facilities or removed due to new ownership, change in priorities, safety issues, etc.

	Hiking Trails		Picnic Tables
	Nature/Interpretive Trails		Exhibit/Interpretive Center
	Biking Trails		Historic Site/Museum
	Equestrian Trails		Primitive/Walk-in Campsites
	Golf		Tent Campsites
	Fishing		Water and Electric Campsites
	Fishing Pier		Water, Electric and Sewer Sites
	Fish Cleaning Shelters		Motel/Lodging
	Swimming		Playground
	Restaurant		Boat Ramp
	Restrooms		Wildlife Viewing
	Showers		Shoreline Access
	Wheelchair Accessible		Wind Surfing
	Open Beach		Electricity/Lighting





	User's Fee		Fresh Water
	Swimming Pool		Kayaking

Figure 3. List of signs for recreational and shoreline access purposes used in this report.

4. Geographical Distribution

The geographic shoreline access zones used in the project inventory include: Zone A--San Antonio Bay and West Calhoun County; Zone B--Gulf Intracoastal Waterway (GIWW) and Espiritu Santo Bay; Zone C--South Lavaca Bay; Zone D--North Lavaca Bay; and Zone E--East Calhoun County (Figure 4). The general physical conditions for each zone, such as water circulation, shoreline types, and shoreline retreat rates, are described in Appendix B.



Figure 4. Shoreline Access Zones used in this inventory: Zone A--San Antonio Bay and West Calhoun County; Zone B--Gulf Intracoastal Waterway (GIWW and Espiritu Santo Bay); Zone C--South Lavaca Bay; Zone D--North Lavaca Bay; and Zone E--East Calhoun County.

San Antonio Bay

Zone A- San Antonio Bay North and South

North Side-Green Lake and Victoria Channel Shorelines

Zone A-North begins in the northwest corner of Calhoun County, where Mission Lake flows into the San Antonio Bay (Figure 5). This area of the county was formed as part of the San Antonio and Guadalupe River delta systems. Sediments in these deltas consist of unconsolidated mud and sands and are covered with extended wetlands and marshes. Longshore bay circulation appears to be mainly towards the north in this area. Winds from the north-northeast are common during wintertime and can last up to 5 months. Winds from the south-southeast are common during the summertime and can last up to 7 months.



Figure 5. Location of the Northwestern Bays in Calhoun County. The area includes: Green Lake, Mission Lake, Guadalupe Bay, San Antonio Bay, Guadalupe Delta and the Victoria Navigation Channel, Hog Bayou and Goff Bayou.

East of Mission Lake is the Victoria Navigation Channel, and toward the northwest are Hog and Goff Bayous. The channel presents limited environmental concerns associated with shoreline erosion or potential habitat impacts that could be affected by shoreline access activities. Elevated levees at the channel provide protection to adjacent

properties and present good locations for future shoreline access to San Antonio Bay. Hog and Goff Bayous are protected by Hwy 35 on one side and Green Lake on the other. With the acquisition of Green Lake by the county, this corner of Calhoun County will be able to support a wide diversification of recreational opportunities, including fishing, canoeing, kayaking, camping, hiking, bird watching, and wildlife photography.

Zone A North: Boat Ramps

Potential boat ramps along the Victoria Navigation Channel. No boat ramps currently exist along the Victoria Channel. The land west of the channel is protected from water surges by the channel levees. These levees may also provide flood protection to future boat ramps. Based on the analysis of the shoreline physical conditions, new shoreline access points have been recommended, as shown in Figure 6. A levee breach in front of Sonneman Road may facilitate access to San Antonio Bay. If a new boat ramp was created along the Victoria Channel, navigation safety must also be considered due to the barges using the channel.









Figure 6. Location of Green and Mission Lakes and Guadalupe Bay. The yellow dashes are recommended areas for potential boat ramps. The white arrow shows a breached area with access to the bays. The solid white line is the Victoria Navigation Channel.

Potential boat ramps at Hog Bayou. The usability of the existing boat ramp at Hog Bayou, mistakenly identified as Goff Bayou in the GLO Guide, could be increased with some improvements (Figure 7). Current infrastructure consists of a concrete ramp and parking space only. The area needs infrastructure for the mobility impaired, better access to the water and restrooms. A wooded deck may facilitate access to the launched boats in the water.



Figure 7. Location of the Hog Bayou Boat Ramp north of SH35.

 Swimming  Fishing  Shoreline Access	 Wildlife Viewing  Boat Ramp  Kayaking
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Zone A North: Paddling Trails or Kayaking Sites

Since this corner of the county tends to have low wave energy and is semi-protected from strong winds, it offers good opportunities for paddling trails, which may be combined with the boat ramp or new kayaking launching areas.

Potential paddling trails or kayaking sites along Hog Bayou. The boat ramp at Hog Bayou (Figures 7 & 8) has great potential for kayaking activities. The recommended wooded deck at the boat ramp could also facilitate the access for kayakers. Approximately seven miles of paddling trails, which can be enjoyed north and south of SH 35, are available as presented in Figure 8. The ends of the paddling trails are limited by water gates. Kayakers should be aware of the presence of alligators in these waters.



Figure 8. Hog Bayou paddling trails marked with the yellow dashed line. More than 7 miles of paddling trails can be accessed from this boat ramp.

Potential paddling trails or kayaking sites along the Victoria Navigation Channel.

The intersection of the Victoria Navigation Channel and SH35 has an area for a new kayaking site (Figure 9). A kayak ramp, consisting of a wooded deck, may be developed underneath the bridge for access to the water. The existing access road allows for parking and can facilitate the launching site, but the channel shoreline slope is steep and presents a safety concern. The west access to the channel appears to have safer conditions than the east side.

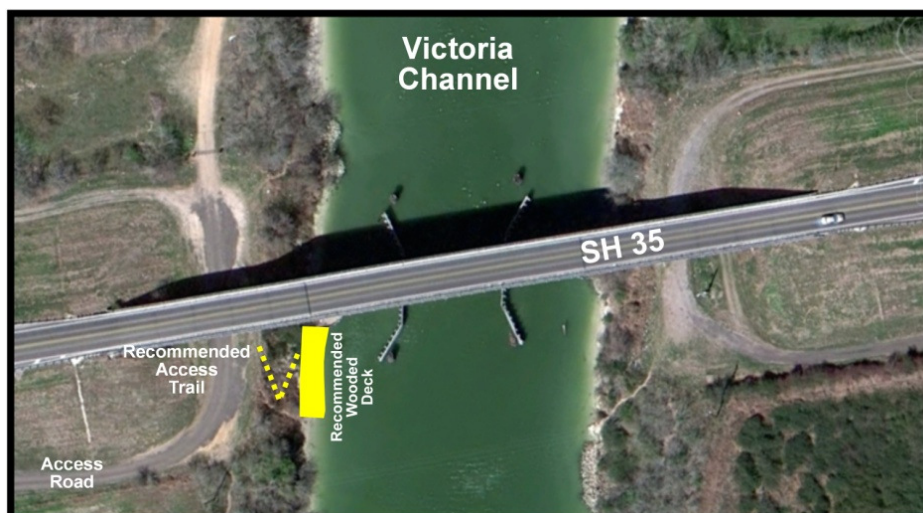


Figure 9. Potential Victoria Channel kayaking launching area at the intersection with SH35. The yellow dashed line represents a potential trail on the west shoreline of the channel; the yellow box represents a proposed wooded deck.

Alternatives to the Victoria Navigation Channel and SH35. As shown in Figure 9, the eastern shorelines of the channel also have the potential for more kayaking launching areas. The access to Mission Lake, the Guadalupe Delta, and Guadalupe and San Antonio Bays make the area a great access for outdoor activities. These shorelines are private properties, but the county might negotiate agreements with the owners to allow for more ecological visitation.

Zone A North: Fishing Piers

Fishing piers are also limited on the northwest side of the county. However, people are already fishing on the shores of the Victoria Channel at Highway 35. The wooded deck recommended in Figure 9 should improve the fishing recreational conditions since the area already has access from the highway. The same deck can be a multi-use structure and used as a fishing pier, kayaking launching area, and bird watching.

Zone A South: San Antonio Bay

Seadrift to Welder Flats Wildlife Management Area

The town of Seadrift is well situated for easy access to San Antonio Bay and diverse shoreline access infrastructure is in place. However, natural bay erosion and sedimentation processes affect this area. The shorelines between Seadrift and Swan Point have shoreline retreat rates in the order of 3 to 4 ft/yr. The access channels that connect with the Victoria Channel require continual dredging as part of general maintenance. Intense sediment shoaling affects the life of these channels and shorelines.

Zone A South: Boat Ramps













Boat ramps at Seadrift Bayfront Park (City of Seadrift Seawall). A boat ramp was re-developed recently on the west side of the Seadrift Seawall by the Texas Parks and Wildlife Department. According to local citizens, the sedimentation is intense and soon after its construction, the access channel started to present shoaling problems. This active zone of sediment accumulation may affect any future boat ramps and fishing piers on the west side of the seawall.

The eastern side of the seawall presents active erosion, expressed by the damage of the seawall, which may require it to be re-built due to the structural damage, scouring

and the impacts from past storm surges. The City of Seadrift has a plan to replace the seawall and maintain the recreation infrastructure at the park (Figure 10).



Figure 10. Location of the Seadrift Public Park with the nearby boat ramps and future fishing pier.

 Fishing	 Electricity/Lighting
 Wind Surfing	 Fresh Water
 Boat Ramp	 Wheelchair Accessible
 Restrooms	 Shoreline Access
 Motel/Lodging	 Wildlife Viewing
 Fishing Pier	 Kayaking

Town of Seadrift Marina Boat Ramp. The public boat ramp at the City of Seadrift Marina is one of the fastest accesses to San Antonio Bay (Figure 11). Since the bulkhead protecting the marina has been recently re-built, the marina offers a great access for bay recreation, including visiting the Guadalupe Delta. Users of the boat ramp tend to leave their trucks and trailers on the street, causing parking limitations on busy days. Since the area is close to hotels and other recreational infrastructure, extra parking areas may be needed in the future.

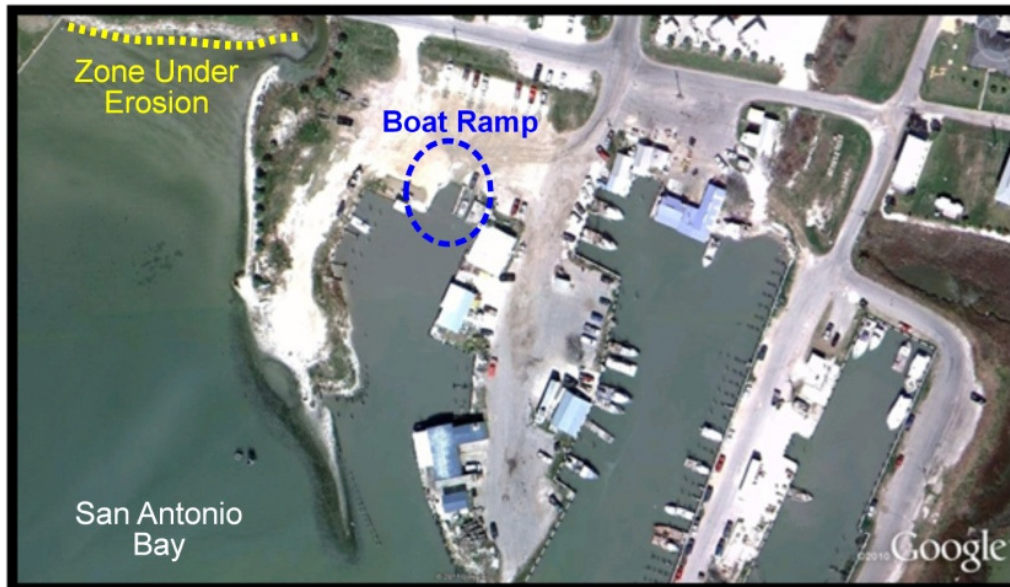
























Figure 11. Location of the City of Seadrift Marina Boat Ramp.

 Fishing	 Wind Surfing
 Boat Ramp	 Electricity/Lighting
 Restrooms	 Fresh Water
 Motel/Lodging	 Wheelchair Accessible
 Fishing Pier	 Wildlife Viewing
 User's Fee	 Shoreline Access

Bill Sanders Memorial Park Boat Ramp. The boat ramp at Bill Sanders Memorial Park (aka Swan Point Park) is in good condition. The main obstacle for the use of the boat ramp is the potential shoaling of the bay access channel. Access to fresh water and restrooms are needed. Although users fish from the park shorelines, a recommended fishing pier (marked with the black dashed line in Figure 12) may allow for a deeper reach for fishing, which may attract more frequent users. The parking space is sufficient for a large number of visitors.



Figure 12. Location of the boat channel at Bill Sanders Park. Also, shown is a recommended location for a fishing pier on the bay shoreline.

 Fishing	 Electricity/Lighting
 Swimming	 Wheelchair Accessible
 Wind Surfing	 Shoreline Access
 Boat Ramp	 Wildlife Viewing
 Picnic Tables	 Kayaking

Zone A South: Kayaking Sites

Town of Seadrift paddling trails. Kayaking is becoming more popular in the Seadrift area since the western shorelines of the county tend to be more protected from the southeastern winds and the public infrastructure available at Seadrift is good. The boat ramp located at the Seadrift seawall is becoming a launching area for kayaking, as well as the City of Seadrift Marina and Bill Sanders Memorial Park boat ramp. The bird islands next to the navigation channels between Seadrift and Swan Point offer scenic and environmental opportunities for the kayakers, including fishing and bird watching. Figure 13 shows the locations of potential paddling trails available near Seadrift.



Figure 13. Paddling trails near Seadrift marked with the yellow dashed lines. Also shown are the three available public kayaking launching sites.

Town of Seadrift-Autswell paddling trail. A well-known paddling trail is being used across San Antonio Bay from Seadrift to Austwell in Hynes Bay (Figure 14). This trail is becoming very popular in different educational and environmental events occurring in the San Antonio Bay area. The trails are about seven miles long and allows for the enjoyment of the shorelines of the Guadalupe Delta. The trail goes from boat ramp to boat ramp on both towns.



Figure 14. Paddling trail from Seadrift to Austwell in San Antonio Bay.

Zone A South: Fishing Piers

Seadrift Seawall. A new public fishing pier will soon be constructed with funding provided by a grant from the Coastal Impact Assistance Program on the shorelines of the Seadrift public park (Figure 10). It will be built at the center of the seawall where lesser shoaling occurs, and may provide long-term support for recreational infrastructure. No other public fishing pier is available in the Seadrift area.

Bill Sanders Park. Good conditions exist for the development of a public fishing pier on the bay shorelines of Bill Sanders Memorial Park (Figure 12). Private fishing piers are already available along the shorelines south of the park. The recommended pier location is a good area for public fishing since the shoreline bend reaches deeper into the waters of San Antonio Bay.

Wildlife Areas Beyond Seadrift

Welder Flats Coastal Preserve and the Guadalupe Delta Wildlife Management Area. The presence of the Welder Flats Coastal Preserve (south of Seadrift) and the Guadalupe Delta Wildlife Management Area (northeast of Seadrift), both managed by the Texas Parks and Wildlife Department (TPWD), offer a great opportunity for recreational opportunities for boaters and kayakers (Figure 15). Details of this area can be found at:

<http://www.tpwd.state.tx.us/landwater/water/conservation/twgems/welderfl/index.phtml>

<http://www.tpwd.state.tx.us/landwater/water/conservation/twgems/guadalup/index.phtml>

Seadrift is strategically located to support access to these habitat areas. More advertisement may be required to make the public aware of these habitat areas, being accessed mainly from this portion of the county. This may increase visitation and revenue for hotels, restaurants, services, etc.



Figure 15. Location of Welder Flats Coastal Reserve and the Guadalupe Delta Wildlife Management Area with respect to Seadrift.

Espiritu Santo Bay

Zone B: GIWW Shorelines and Adjacent Areas

About 19 miles of Gulf Intracoastal Waterway (GIWW) shorelines cover the southern portion of Calhoun County, which includes public and private property on the north and south side of the GIWW. The shoreline access areas are directly in contact with the GIWW. Shoreline access infrastructure is located on the north side of the GIWW and consists almost exclusively of private boat ramps. The south side of the GIWW corresponds to private property and U.S. Army Corps of Engineers' dredge material placement areas. The boat ramps along the GIWW tend to have good infrastructure and are highly utilized. Every year their demand is increased, and parking space and street safety in accessing the boat ramps get compromised. These shorelines tend to be bullheaded as soon as they become developed, making it difficult to estimate shoreline retreat rates.




Zone B: Boat Ramps

Froggie's boat ramp. Froggie's boat ramp is the only public boat ramp along the GIWW (Figure 16). Calhoun County is in the process of expanding the parking space and combining the area with a recreational park with funding provided by a grant from the Coastal Impact Assistance Program. It is expected that the demand for direct access to the GIWW will be increased in the future mainly toward the west of Port O'Connor, which is privately owned.



Figure 16. Location of the Froggie's Boat Ramp on the north side of the GIWW.

 Fishing	 Electricity/Lighting
 Wildlife Viewing	 Wheelchair Accessible
 Wind Surfing	 Shoreline Access

 Restrooms  Boat Ramp	 Fresh Water
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Potential boat ramps along the GIWW. Since the land west of Port O'Connor is mainly private property, if the County is interested in acquiring more areas for boat ramps or shoreline access, the best locations for these potential public boat ramps would be near the Welder Flats Coastal Preserve area. This area has an enormous potential for kayaking and passive recreation.

Zone B: Paddling Trails and/or Kayaking Access Points

Charlie's Baitcamp paddling trail. The private boat ramp called "Charlie's Baitcamp" offers a launching area for extensive paddling trails south of the GIWW. However, the safety of canoeists and kayakers crossing the GIWW should be considered since barge traffic is intense and traffic accidents have occurred in the past.

Long Island-Shoalwater Bay-Steamboat Island-South Pass Island-Grass Island paddling trail. More than 16 miles of paddling trails can be accessed west of Charlie's Baitcamp through the placement cut to Espiritu Santo Bay (Figure 17). The trail includes kayaking trails accessing the Shoalwater Bay and the shorelines of Long Island in Espiritu Santo Bay. The strong wind is an important factor that should be considered when navigating these areas.



Figure 17. Paddling trails near Long Island north Espiritu Santo Bay.

Dewberry Island-Shoalwater Bay paddling trail. Close to 14 miles of paddling trails can be accessed east of Charlie's Baitcamp through the GIWW cut to Espiritu Santo Bay (Figure 18). The paddling trail also includes kayaking in Shoalwater Bay or on the

shorelines of Espiritu Santo Bay, but south of Dewberry Island. The strong wind is an important factor that should be considered when navigating these areas.



Figure 18. Paddling trails around Dewberry Island and Shoalwater Bay, north Espiritu Santo Bay.

Port O'Connor paddling trail. Although the Port O'Connor paddling trail can be accessed from the shorelines or boat ramps along the GIWW, access is recommended from King Fisher Park in Matagorda Bay (Figure 19) or the Little Rock Groin Park on the north side of the GIWW. Other boat ramps may facilitate the launching for kayakers along the GIWW, but as mentioned early, the risk to be impacted by barges or large boats is significant.

Zone B: Fishing Piers

Due to private ownership and safety issues in the GIWW, no fishing piers are available along the GIWW in Calhoun County.

South Lavaca-Matagorda Bays

Zone C: Port O'Connor to Chocolate Bayou

This section covers South Lavaca and Western Matagorda Bays. From the geological point of view, the southern portion of these shorelines (from Port O'Connor to Powderhorn Lake) is sandy, with sandy shell beaches and low-angle shorelines (Figure 19). This section of the county is affected by the highest shoreline rates of retreat and accretion (Appendix B). Erosion rates go from 1 to 32 ft/yr and accretion rates go from 1 to 6 ft/yr on localized areas.



Figure 19. Types of shorelines along South Lavaca and Matagorda Bays.









The shorelines with marshes, such as Boggy, Broad and Big Dam Bayous, and Powderhorn Lake (Figure 19), are comprised of sand and sandy shell; beaches north of Magnolia Beach are comprised of hard clays, with steep shorefaces.

Zone C: Boat Ramps

Indianola Beach & Historic Site boat ramp. Since this is a private boat ramp, county involvement may be limited; however, this area provides access to Matagorda and Lavaca Bays through the Powderhorn Lake inlet (Figure 20). The area offers kayaking and fishing opportunities. The parking space that serves the boat ramp may also allow a launching area for kayakers, but access requires a fee. A dedicated kayak launch site to access the bays and the lake would be helpful to attract more visitors.



Figure 20. Location of the Indianola Boat Ramp.

	Fishing		Fresh Water
	Boat Ramp		Wheelchair Accessible
	Wildlife Viewing		Shoreline Access
	User's Fee		Kayaking

Powder Horn RV Park Boat Ramp. This is also a private boat ramp and county involvement may be limited; however, this area also has safe access to Powderhorn Lake (presented in Figure 27). The parking space is limited and access fees may apply. The construction of parking space for kayakers and kayaking launching decks to access the bay (presented in Figure 21) may attract more visitors.

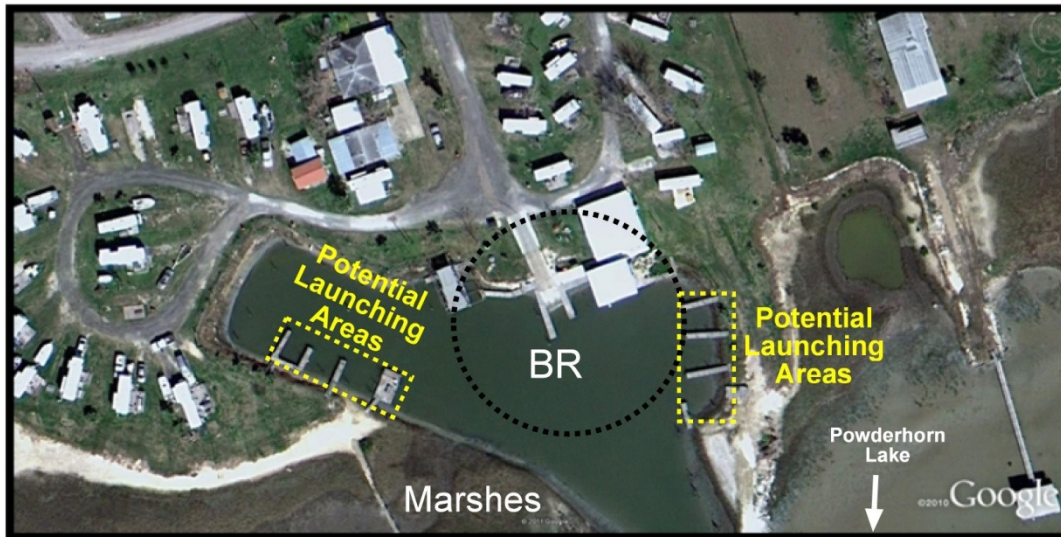

























Figure 21. Location of the Powder Horn RV Park and Boat Ramp showing potential launching areas for kayakers.

	Fishing		Fresh Water
	Boat Ramp		Wheelchair Accessible
	Wildlife Viewing		Shoreline Access
	Fishing Pier		User's Fee
	Electricity/Lighting		Picnic Tables
	Water and Electric Campsites		Restrooms
			Showers

Magnolia Beach Boat Ramp. The Magnolia Beach boat ramp is heavily used in the summertime. Showers and restrooms are being constructed with funding provided by a grant from the Coastal Impact Assistance Program. This area also has opportunities for kayaking to access Old Town Lake and the marshes, and for bird watching (Figures 25, 26 and 27). Texas Parks and Wildlife Department recently built a new groin on the north side of the boat ramp to reduce shoaling problems, so the ramp could be used more extensively (Figure 22). This boat ramp also provides a less-crowded access to Matagorda Bay and South Lavaca Bay. The visit to the Magnolia Beach boat ramp can be combined with a beach day since the area has different amenities and swimmers enjoy the beach on the regular basis.



Figure 22. Location of Magnolia Beach and Boat Ramp.

 Fishing	 Wheelchair Accessible
 Swimming	 Boat Ramp
 Picnic Tables	 Shoreline Access
 Wildlife Viewing	 Restrooms
 Kayaking	 Wind Surfing

Alamo Beach Boat ramp (North). The County has taken pro-active steps to protect this area from intense shoreline erosion rates by installing rock revetments. The existing boat ramp has limited infrastructure (Figure 23), but it provides an easy access to Lavaca and Matagorda Bays. Parking space is limited. Calhoun County maintains this area, but riprap may create safety concerns due to the presence of loose rocks in the revetments. The parking area could be improved with some fill material. Users mentioned that the area is a great spot for fishing, so the construction of a wooden fishing pier is recommended. The area is also good for windsurfing since boat traffic is limited, and winds and water depths are ideal for this activity.

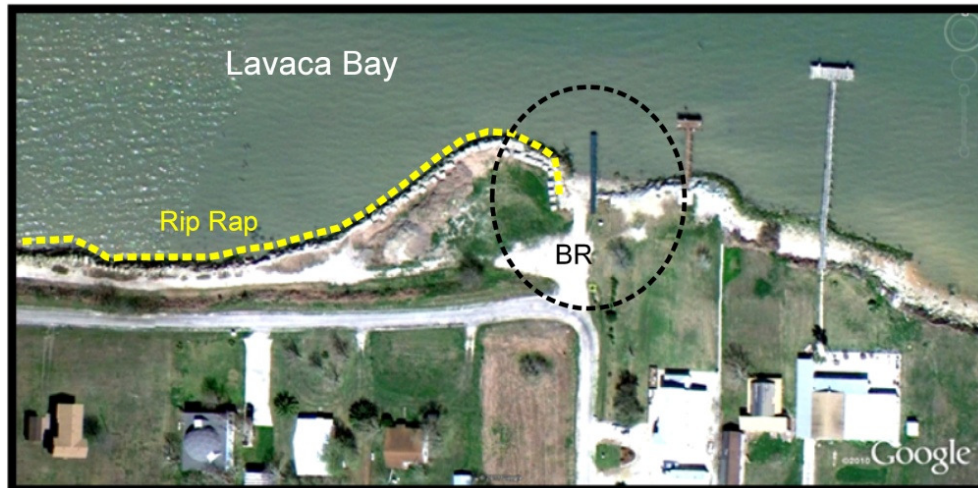









Figure 23. Location of the Alamo Beach (North) Boat Ramp.

 Fishing	 Boat Ramp
 Swimming	 Shoreline Access
 Wildlife Viewing	 Wind Surfing
	 Kayaking

Zone C: Paddling Trails and/or Kayaking Access Points

The Port O'Connor paddling trails. The Port O'Connor Paddling Trail consists of four trails that total more than 25 miles. The trails include: the Fishpond Trail, the South Loop Trail, the Fish Pond and the North Loop Trail (Figure 24). The Fishpond Trail (~12.3 miles) begins in Port O'Connor and travels through a number of bayous and cuts along the edge of Espiritu Santo Bay to Saluria Bayou, where it joins the 8.28-mile South Loop Trail. From Mule Slough, the Fish Pond and North Loop (4.82 miles) trails continue east toward Sunday Beach on the Gulf of Mexico and to Lighthouse Cove, near the historic Matagorda Island Lighthouse. This area has the potential to be one of the longest paddling trails in Texas that run next to shallow waters and shorelines. Strong winds may limit the completion of the entire paddling trail. It is common to observe campers on Matagorda Island, who complete the trails in more than one day.

NOTE: Although launching can be accessed from the boat ramps along the GIWW, launching on the Matagorda side of Port O'Connor is more recommended. Heavy traffic from boats and barges create unsafe conditions for kayakers (See Appendix B).

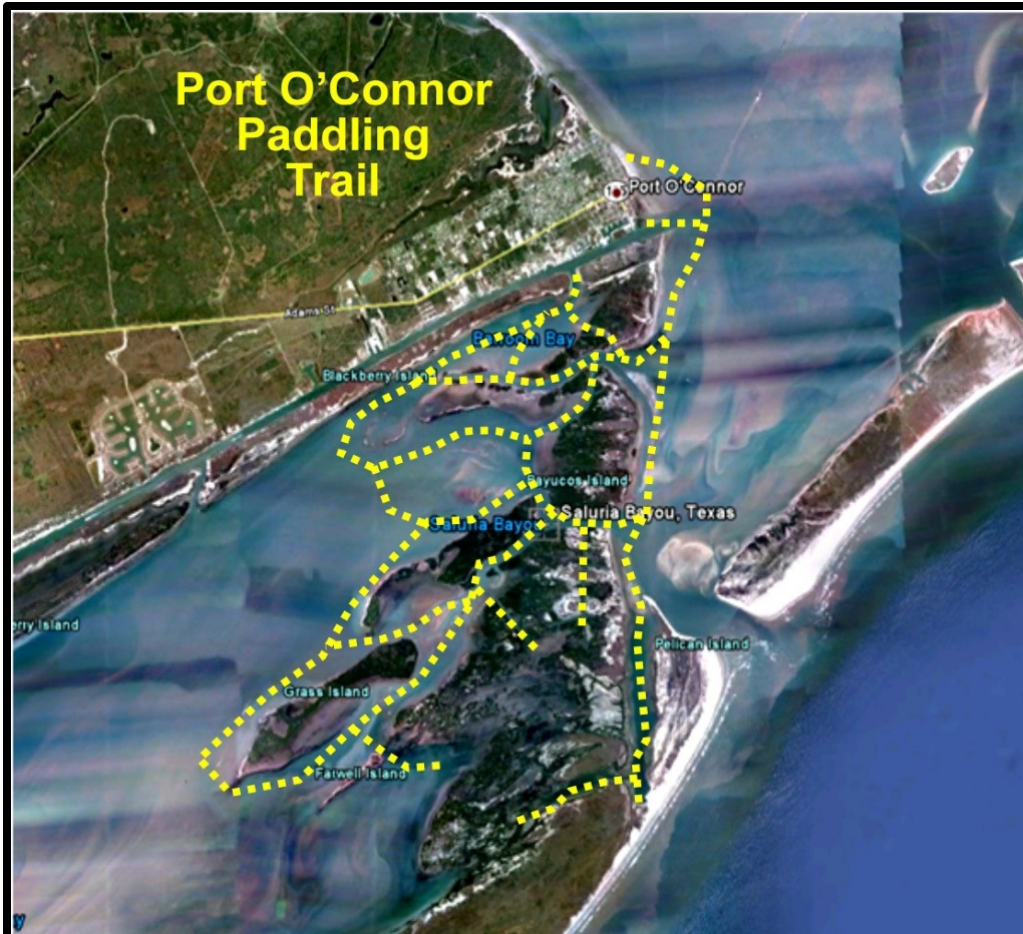


Figure 24. The Port O'Connor Paddling Trail consists of trails, which are interconnected and can be accessed from different sections in Port O'Connor.

Alamo/Indianola/Magnolia Beach paddling trails. The low-lying areas around Indianola contain a number of small saltwater lakes and bayous. These paddling trails are officially recognized by Texas Parks and Wildlife and other recreational organizations because they allow fishermen and nature lovers to explore these areas by kayak in a very safe environment since boat access is limited. In addition to excellent fishing, the area is well-known as a bird watching spot and includes several sites on the Texas Coastal Birding Trail. The area is also known for its historical value. Launching at Magnolia Beach (Figure 25), the well-known Magnolia Loop is about 2.5 miles long and loops around Old Town Lake and the adjacent bayous. Nearby bird watching sites include Magnolia Beach, Magic Ridge and the Indianola Bird Walk. More information on these kayaking trails can be found at:

<http://www.stxmaps.com/go/alamoindianolamagnolia-beach-kayak-trails.html>



Figure 25. Magnolia Kayak Launching Area.

La Salle Loop paddling trail: The La Salle Loop is about 3 miles long and loops around Blind Bayou and then to Powderhorn Lake (Figures 26 and 27). This trail is so named due to the nearby statue of the French explorer, Robert de La Salle. The Powderhorn Loop is about 12 miles long and loops around Powderhorn Lake and through Powderhorn Bayou (Figure 27). Launch sites for this trail can also be found at the Indianola Fishing Marina, the Powderhorn RV Park, and on Coloma Creek. Powderhorn Lake is also a popular birding area. The trails are marked and signage includes the length of a trail, so paddlers can decide just how far they wish to paddle. The specific locations for Blind Bayou kayak launches are presented in Figure 26.



Figure 26. Kayaking paddling trails and launching sites at Blind Bayou.



Figure 27. Location of the paddling trails in Alamo, Indianola and Magnolia Beach.

Coloma Creek paddling trail (at Powderhorn Lake). The shoreline access area consists of four right-of-way concrete access ramps from Highway FM 1289 to Coloma

Creek (Figure 28). The area has limited parking, which tends to be frequently used by anglers. The area needs improvements to access ramps, as well as safety signs for parking along FM 1289. This paddling trail can be used to access Powderhorn Lake and Coloma Creek, as presented in Figures 28 and 29, where more than six miles of kayaking trails are available along the creek shorelines.



Figure 28. Location of the launching access sites at Coloma Creek and FM 1289.





 Fishing	 Shoreline Access
 Wildlife Viewing	 Kayaking



Figure 29. Paddling trails from FM 1208 at Coloma Creek.













Zone C: Fishing Piers and Observation Decks

Several fishing piers and observation decks are located on the shorelines of South Lavaca and Western Matagorda Bays.

King Fisher Park fishing pier. As with other parks and recreational areas in the county, this great beach park is not very well known. However, it has the potential to be one of the best bay beach destinations in Texas. The park has an 800-foot long T-head fishing pier, which offers extra access to the shoreline. The pier is part of King Fisher County Park, which was improved with a Texas Coastal Management Program-NOAA project grant and private sponsorship. The site is an official historical site as designated by Texas Historical Commission. The park features numerous amenities and is one of the best bird watching spots near Port O'Connor (Figure 30). The end of the fishing pier has accreted sandy bars and is now too shallow for effective fishing. Recommended actions to maintain the park include some dredging alternatives that are discussed in Appendix B.



Figure 30. Location of the King Fisher Pier in Port O'Connor.

 Fishing	 Electricity/Lighting
 Wind Surfing	 Fresh Water
 Restrooms	 Wheelchair Accessible
 Motel/Lodging	 Shoreline Access
 Fishing Pier	 Wildlife Viewing
 Picnic Tables	 Swimming

Boggy Bayou observation deck. Boggy Bayou has an observation deck, constructed with Texas Coastal Zone Management Program-NOAA funds (Figure 31). The deck serves as an observation site for more than 100 acres of wildlife areas around the bayou, and consists of a semi-elevated wooden structure close to 630 feet long. Intense visitation and vehicles driving on the perimeter of the bayou tend to damage the sandy flats and marshes, including intertidal areas. It is recommended that Boggy Bayou implement a public access plan to reduce impacts to the marshes, such as restricting traffic to dedicated trails. The area has enough space for the construction of a second observation deck to enjoy the shorelines in Matagorda Bay. A marsh restoration initiative to enhance the marshes could also be implemented to protect adjacent areas, which are affected by shoreline retreat and vehicle traffic.



Figure 31. Location of the Boggy Bayou Observation Deck.

Magnolia Beach fishing pier. The location of the old Magnolia Beach fishing pier is affected by strong wave action. The beach bathymetry in the area is shallow and the area tends to receive frontal southeasterly winds. According to local residents, the fishing pier area is often affected by high tides. The physical conditions for the pier appear to be unfavorable, and relocation to the northwest is recommended (Figure 32). This new recommended area tends to be more protected from the southeasterly winds

and the local bathymetric profile is deeper than the old pier area, making it ideal for fishing.



Figure 32. Area showing the recommended relocation of the fishing pier in Magnolia Beach.

Magnolia Creek observation deck. The Magnolia Beach observation deck can be accessed from North Ocean Drive Road. It is located in front of the Magnolia Beach groins and consists of a 200-foot long wooden structure (Figure 33). The deck allows visitors to enjoy the view of more than 300 acres of marshes, being an excellent area for bird watchers. No improvements to the desk are suggested since the structure is in good conditions. The deck complies with ADA requirements and has parking. Perhaps better signage about the habitat and species in the area may encourage more visitations.



Figure 33. Location of the observation deck on the marshes of the Magnolia Beach Area. The deck can be accessed from North Ocean Drive Road.

Coloma Creek Recommended Observation Deck.

The intersection of FM 1289 and Coloma Creek has a great location for the construction of an observation deck (Figure 34). More than 70 acres of marshes and about one mile of shorelines with marshes and wildlife could be observed from this observation deck. Since the area is on route to and from Port O'Connor, the area may require better parking and safety signs if developed. The four sections of this intersection could be converted into kayak launching areas.



Figure 34. Location of a recommended site for an observation deck in Coloma Creek.

North Lavaca Bay

Zone D: Chocolate Bayou to Point Comfort






On the western side of Lavaca Bay, Port Lavaca offers a large number of boat ramps and shoreline access areas associated with recreation and navigation, as presented in the technical memorandum (See Appendix A).

Zone D: Boat Ramps

Harbor of Refuge boat ramp. This boat ramp was developed by Texas Parks and Wildlife Department and is in very good condition (Figure 35). The boat ramp lacks restrooms and fresh water, and users mentioned these issues as very important for increased use.



Figure 35. Location of the Harbor of Refuge boat ramp.

 Fishing	 Wheelchair Accessible
 Boat Ramp	 Shoreline Access
	 Wildlife Viewing

Chocolate Bayou boat ramp. The Chocolate Bayou boat ramp is in good condition for boat users accessing Lavaca Bay (Figure 36), although the boat ramp tends to have problems with debris. New users trying to access Lavaca Bay tend to get stuck in shallow areas during low tides. If low tides are present, most users prefer to use other ramps to access Lavaca Bay. Debris underneath the bridge is also a common safety concern in the area.



Figure 36. Location of the Chocolate Bayou boat ramp and the boat access channel to Lavaca Bay.

<div data-bbox="191 730 245 779">Fishing</div> <div data-bbox="191 785 245 833">Wildlife Viewing</div> <div data-bbox="191 837 245 886">Kayaking</div>	<div data-bbox="823 730 876 779">Boat Ramp</div> <div data-bbox="823 785 876 833">Shoreline Access</div>
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Port Lavaca Bayfront Peninsula Park boat ramp (aka Port Lavaca Nautical Landing's).

The infrastructure for the Bayfront Peninsula Park was recently improved and the City of Port Lavaca has a plan to revitalize the area by improving this shoreline access area with several public recreational facilities. The City has plans for future expansion on the boat ramp, the construction of two pavilions, an amphitheater, a second boat ramp, more restrooms and a new area for playgrounds (Figure 37). The new infrastructure will be an important asset for shoreline access recreation in the entire county. The Bayfront Peninsula Park is located next to the Port Lavaca Marina, which will allow visitors that come to Port Lavaca to enjoy the park from the water as well as from land. The plan also includes the construction of a new educational boardwalk on the north side of the park, which will expose the public to the marshes, wetlands and submerged shoreline habitats in the area (Figure 38).

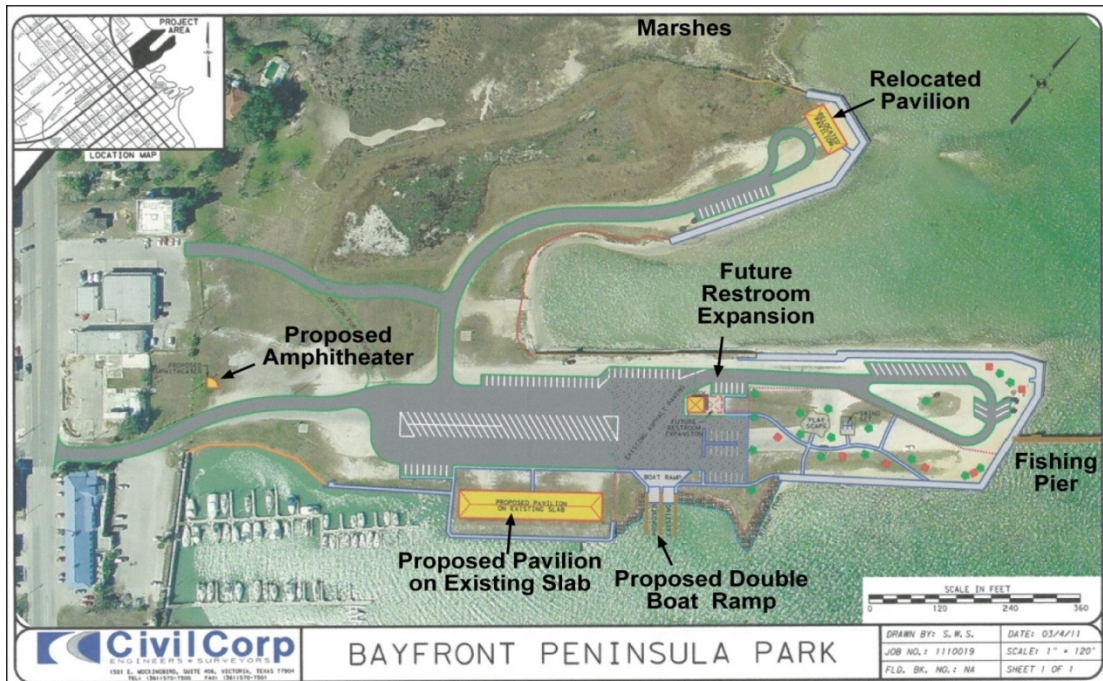


Figure 37. Sketch showing the future plans that the City of Port Lavaca has for the Bayfront Peninsula Park Boat Ramp.

	Fishing		Wheelchair Accessible
	Wildlife Viewing		Boat Ramp
	Fishing Pier		Shoreline Access
	Fresh Water		Restrooms
	Kayaking		Wind Surfing
	Electricity/Lighting		



















Figure 38. Proposed location of a ~1000 ft boardwalk and parking space on the north side of the Bayfront Peninsula Park.

Lighthouse Beach, Bird Sanctuary and RV Park boat ramp. The City of Port Lavaca has a long-term plan for the boat ramp at Lighthouse Beach (Figure 39). The park has RV facilities, water, restrooms, a public beach, an educational boardwalk, a fishing pier, and a large infrastructure for recreational activities. There are no recommendations for this park since it is one of the most diversified coastal county parks in central Texas.



Figure 39. Location of the boat ramp at the Lighthouse Beach and RV Park. Notice the nice beach next to the boat ramp.

 Fishing	 Wheelchair Accessible
 Swimming	 Boat Ramp
 Picnic Tables	 Shoreline Access
 Wildlife Viewing	 Restrooms
 Fishing Pier	 Wind Surfing
 Fresh Water	 Electricity/Lighting
 Showers	 Water and Electric Campsites
 Nature/Interpretive Trails	 User's Fee

Bauer Road shoreline access area. The Bauer Road Park shoreline access site offers a great perspective and view of North Lavaca Bay (Figure 40). There are no plans to develop a boat ramp in this shoreline access area. The marshes on the north side of the road attract birds, which may allow for bird watching. Shoreline signage showing habitat information could educate local residents and visitors on the natural resources available in the area.











Figure 40. Aerial photo of Bauer Road access point.

<div data-bbox="198 766 259 829">Fishing</div> <div data-bbox="198 829 259 892">Swimming</div>	<div data-bbox="824 766 886 829">Wildlife Viewing</div> <div data-bbox="824 829 886 892">Kayaking</div>
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Six Mile Road boat ramp. This park is located close to extraordinary natural-habitat resources and visitation is intense in the summer (Figure 41). The main comment from visitors at the boat ramp is that the area needs restrooms. County Commissioners mentioned that during storms, the area tends to get flooded by storm surges. Since the area needs restrooms, this infrastructure would need to be located on the highest points of the park to prevent impacts during flooding events. For that reason, and for other unsafe factors, swimming should be discouraged in the area. The marshes next to the park tend to have a high population of birds. An elevated observation deck, south of the parking area, would allow visitors to enjoy the marshes and attract more bird watchers and people interested in nature. The area has the potential to increase kayaking opportunities. The park has a large T-head fishing pier.














Figure 41. Location of Six Mile Road boat ramp and general infrastructure.

 Fishing	 Boat Ramp
 Wildlife Viewing	 Shoreline Access
 Kayaking	 Restrooms
 Fishing Pier	 Wind Surfing

Point Comfort Park boat ramp. This park has several amenities, including cleaning tables, lighted piers, and a helipad. The amenities available support other outdoor activities, such as a great swimming pool and a food court available at the concession stand. The park has two fishing piers and courtyards for different sports, as well as restrooms, fresh water and picnic tables with barbeque grills (Figure 42). The bulkheads may require minor repairs at their base. Parking may be needed in the future. A large area exists immediately south of the current parking lot, which might be used for parking expansion. Other areas in the park could also be used for parking space.



Figure 42. Location of the Boat Ramp and other amenities at Point Comfort.

 Fishing	 Wheelchair Accessible
 Picnic Tables	 Boat Ramp
 Wildlife Viewing	 Shoreline Access
 Fishing Pier	 Restrooms
 Fresh Water	 Wind Surfing
 Swimming Pool	

Zone D: Paddling Trails/Kayaking Sites

Chocolate Bay-Bayou paddling trail. The boat ramp at Chocolate Bayou appears to have a great potential to expand recreational opportunities associated with kayaking on the west and east sides. The west side of CR 238 has up to six miles of meandering channels as part of Chocolate Bayou (Figure 43), which may allow visitors to enjoy the habitats in the marshes and fishing areas. This area could be used as a regional kayaking destination. During high tides, kayaks can be launched on Chocolate Bayou next to SH35 and go about six miles to CR 238, as marked in Figure 43 (or vice versa). Signs are needed to inform visitors of the kayaking locations and on the natural resources observed in the area. Another launching area for kayakers could be the Little Chocolate Bayou City Park in Port Lavaca, which has parking space and other amenities. The channel at the city park allows access to the boat ramp on CR238.



Figure 43. Aerial photo of Chocolate Bayou and Chocolate Bay showing potential paddling trails (in yellow). These areas can be used during high tides. Potential launching areas are marked with the red circles.

Lighthouse Beach Park paddling trail. North of Chocolate Bay on Lavaca Bay, the strong winds and currents make it difficult to kayak the shorelines next to Port Lavaca. The urban, commercial and industrial environment in Port Lavaca also prevent more areas for kayaking since these areas tends to have intense boat traffic. In the Port Lavaca area, only Lighthouse Beach Park offers good conditions for safe, short kayaking trips to enjoy the bay view and fishing (Figure 44). These habitats include the marshes next to the park, some depressions in the bay, and shaded areas under the SH35 highway bridge.



Figure 44. Potential paddling trails from the Lighthouse Beach Park.

Bauer Road paddling trail. Bauer Road Park consists of a county road that reaches the Lavaca Bay shorelines (Figure 45). There is no public infrastructure on site. The area is ideal for kayaking a short distance along the bay shorelines and to reach Six Mile Park from the water toward the north. This may allow visitors to enjoy the two marsh areas located between Bauer Road and Six Mile Park.

The marshes between Six Mile Park and Bauer Road have important bird populations that can be also watched from the bay. The distance between the two parks is about one mile (Figure 45). Safety and educational signs placed in the area for educational purposes would allow further enjoyment of the natural resources. Kayaking opportunities would create fewer potential impacts than a boat ramp.



Figure 45. Access to kayaking areas from the shorelines at Bauer Road Park. The yellow dashed line shows the paddling trail that can be used for fishing or bird watching.

Six Mile Road Park paddling trail. This is a very popular site for kayaking in the northern side of Lavaca Bay. Descriptions for specific paddling trails and fishing sites launching from Six Mile Park is available on the website: (http://portlavacamainstreet.com/Kayak_Upper_Lavaca_Bay_1.html) and shown on. Figure 46. The names of the sites are listed in Table I below.

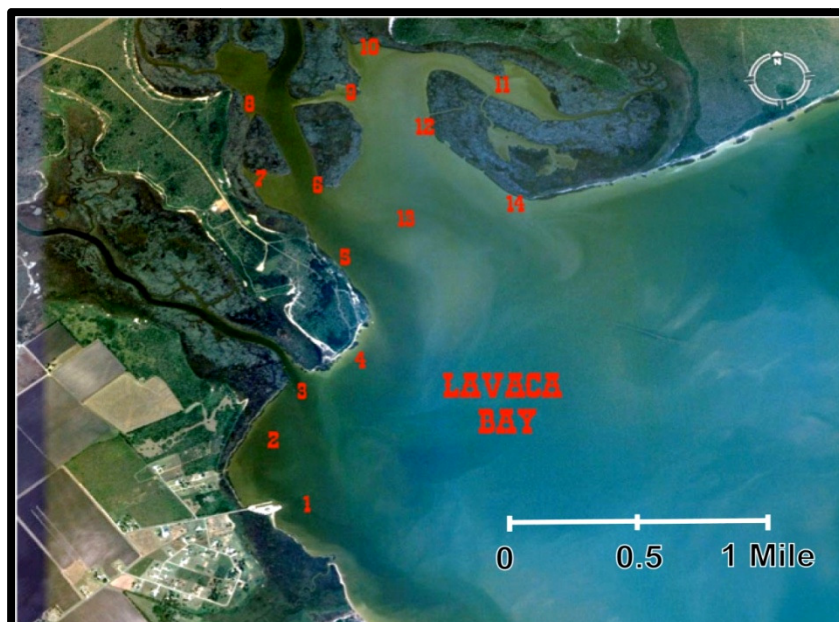


Figure 46. Location of the paddling trails and fishing sites in North Lavaca Bay.

Garcitas and Placedo Creeks can also be visited from the park. The sites need signs in order for visitors to know where they are in the area and to have a better appreciation of the natural resources.

1. Six Mile Park and Boat Ramp	8. Lake
2. Placedo Cove	9. Cut Thru Marsh
3. Placedo Creek	10. Deep Slough
4. Keeran's Point and Flats	11. Mud Lake
5. East Shoreline of Keeran's	12. East Shoreline Garcitas Cove
6. Garcitas Creek	13. Garcita Cove
7. Oyster Lake	14. Bennett's Point

Table I. Paddling trails as presented with the numbers in Figure 49.

Six Mile Road Park-FM 616 paddling trail. Six Mile Park is also the end of a paddling trail coming from Victoria County through Garcitas Creek (Figure 47). About 8 miles of

the paddling trail can be accessed from the boat ramp located at the intersection of FM 616 and Garcitas Creek. The same trail also allows visitors to access Placedo Creek as a protected paddling trail.



Figure 47. Paddling trail from Six Mile Park to the boat ramp at FM 616 and Garcitas Creek. It also shows the access to Placedo Creek.

Point Comfort Park paddling trail. Kayaking from Point Comfort Park has some of the most diverse possibilities in and out of Lavaca Bay. The boat ramp available on Lavaca River at FM 616 in Jackson County can be used as kayaking access to the Point Comfort Park. About 12 miles of meandering paths and estuarine environment can be enjoyed on this paddling trail (Figure 48). Also, more than 20 miles of paddling trails can be enjoyed on the north side of the bay (Figure 49). Swan, Redfish and Venado Lakes, as well as Lavaca River and Smugglers Bayou, can be accessed from Point Comfort Park, as part of this great recreational environment. The paddling trails in these areas are protected from high winds, which make them ideal for kayaking. The fresh water bodies in Lavaca River and the other lakes tend to have a significant population of alligators, so visitors should be aware of the species in the area.



Figure 48. Map showing the kayaking trails with a yellow dashed line between the boat ramp at FM 616 and Point Comfort Park. The path is about 12 miles long.



Figure 49. Map showing the kayaking trails with a yellow dashed line between Point Comfort Park and different lakes and estuarine sites. Swan, Redfish and Venado Lakes, as well as Lavaca River and Smugglers Bayou, can be accessed from this park, which has more than 25 miles of kayaking paths.

Point Comfort-Lighthouse Park paddling trail. There are about 4.3 miles between Point Comfort and Lighthouse Park in Lavaca Bay, which can be enjoyed by going parallel to the SH 35 Park and the piles of the causeway (Figure 50). It is common to see kayakers paddling underneath the causeway. Strong winds can be a factor to cross the bay, but the recreational alternatives for kayaking in this path are extensive.



Figure 50. Potential paddling trail marked with the yellow dashed line between Point Comfort Park and Light House Park in Lavaca Bay.

Zone D: Fishing Piers

The four main public parks in north Lavaca Bay have state-of-the-art fishing piers: Bayfront Peninsula, Light House, Six Mile Road, and Point Comfort.

Bayfront Peninsula Park fishing pier. The City of Port Lavaca has a complete development plan for this park, which includes the fishing pier as one of the strongest assets for recreation and visitation (Figure 51). Facilities at the fishing pier include extensive parking, which makes access very easy for the mobility impaired. The fishing pier is about 250 feet long and has a T-head about 100 feet long. The area has restrooms, freshwater and other recreational infrastructure. Easy access to shopping centers, restaurants and other facilities makes the pier an ideal fishing spot in Lavaca Bay.



Figure 51. General characteristics of the T-Head fishing pier at the Bayfront Peninsula Park.

Lighthouse Beach Park fishing pier. As mentioned previously, this park has one of the most diverse infrastructures for recreation in the county. The fishing pier is close to 800 feet long and has access to other recreational amenities (Figure 52), as well as quick access to SH 35. The entire park has accessible infrastructure for the mobility impaired, and also has water, restrooms and a protected beach.



Figure 52. Location and length of the fishing pier at the Lighthouse Peach Park.

Six Mile Park T-head fishing pier. Six Mile Park has a T-head fishing pier with access for the mobility impaired. The pier is located in an area where visitors can enjoy the view of Lavaca bay (Figure 53) and the marshes located in North Lavaca Bay. In the future, the park may also include an observation deck for viewing marsh habitats and migratory birds that come to the marshes. Since the area can be used a destination for kayakers, the park may need additional parking and fresh water.



Figure 53. Location of the fishing pier at the Six Mile Park. The park has enough space for additional recreational amenities, including restrooms, an observation deck and water.

Point Comfort fishing piers. Point Comfort has two fishing piers: one is a L-shape pier and the other is a single lineal pier. The L-shape pier has access to parking facilities for the mobility impaired (Figure 54). The diverse infrastructure available at the park includes a food concession area, swimming pool, restrooms, picnic tables, grills and water supply-- making these fishing piers a great place to visit in Central Texas.



Figure 54. Point Comfort Park fishing piers.

East Calhoun County

Zone E: Keller and Carancahua Bays

The Zone E includes the eastern shorelines of Calhoun County covering Keller, Matagorda and Carancahua Bays. The eastern portion of Calhoun County has limited infrastructure; however, since these bays have access to Matagorda Bay, the potential exists to expand recreational opportunities in this region in the future.

Zone E: Boat Ramps

Port Alto County Park boat ramp. Port Alto Park now has limited shoreline access infrastructure. A boat ramp used to exist at Port Alto and may require a large investment to restore it. A habitat area with marshes, which is considered a public park, is being affected by erosion (Figure 55). The County will be using Coastal Impact Assistance Program funds to protect these marshes and the shoreline. Different alternatives may be used for the shoreline and marsh protection, which may include rock groins, rock revetments, beach nourishment, or the combination of them, as presented in the sketch in Figure 55. With these alternatives in place, a public boat ramp and the access channel at the end of Seagull Street may support more recreational infrastructure. Parking space may be needed, as well as habitat and safety signs and restrooms.



Figure 55. Location of the Port Alto Shoreline Park showing some potential improvements in the future as well as the marshes in the area.










 Fishing	 Wind Surfing
	 Shoreline Access

 Swimming  Wildlife Viewing	 Kayaking
--	--

Olivia Haterius Park boat ramp. The public boat ramp at Olivia, which is located at the end of the SH 172, has good recreational infrastructure but is not well-known (Figure 56). The users can access Keller, Matagorda and Lavaca Bays from this ramp. The area has parking space, picnic tables and grills, but needs restrooms since there are no public restrooms on the shorelines of Keller and Carancahua Bays.



Figure 56. Location of the Olivia Public Boat Ramp in Keller Bay.

 Fishing  Swimming  Wildlife Viewing  Picnic Tables	 Wheelchair Accessible  Shoreline Access  Wind Surfing  Boat Ramp  Kayaking
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Zone E: Paddling Trails and/or Kayaking Access Points

Several paddling trails and windsurfing sites appear available at Keller and Carancahua Bays.

SH 35-Port Alto paddling trail. There is a boat ramp available on SH 35 on the north side of Carancahua Bay in Jackson County. Jackson County has plans and funding to revitalize the ramp. The access channel of this boat ramp is currently subject to shoaling. However, the site presents a good opportunity for a paddling trail from or to Port Alto (Figure 57). The distance between these two sites is about 5.5 miles. The area is also ideal for windsurfing. Strong winds may help paddlers or windsurfers to launch in Port Alto and end at the SH 35 boat ramp.



Figure 57. Paddling trail from Port Alto to SH 35 in Jackson County.

Port Alto-Salt Lake and Redfish Lake paddling trail. A paddling trail can be used from Port Alto to access Salt and Redfish Lakes. This is also a good site for windsurfers to enjoy the marshes at those lakes (Figure 58). The distance between the two sites is about 3.7 miles. Strong winds may help paddlers and windsurfers access Salt Lake and come back to Port Alto. This paddling trail presents the opportunity to visit marsh areas that are being strongly affected by erosion and which may disappear in a few years.

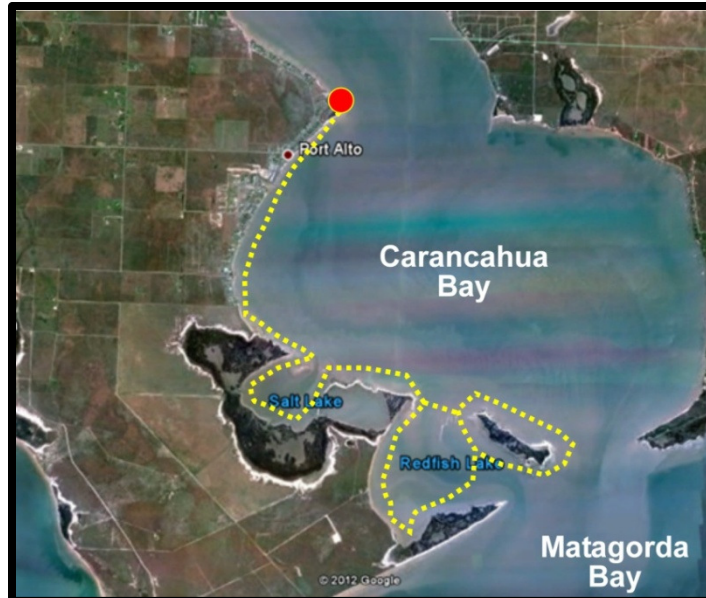


Figure 58. Paddling trail from Port Alto to the Salt and Red Fish Lakes.

Keller Creek at FM 2143-Olivia Boat Ramp paddling trail. There is an ideal area for a paddling trail starting at the intersection of Keller Creek and FM 2143 (Figures 59 and 60). This is a good site to kayak the entire upper portion of Keller Bay, which is surrounded by marshes and wetlands. There are about 4.5 miles of distance between this area at FM 2143 and the Olivia boat ramp (Figure 59). The access from the FM 2143 road is difficult and the potential ramps accessing the water are being affected by erosion. In order to attract more visitors that can take this paddling trail, the launching area at FM 2143 would have to be improved as suggested in Figure 60. The improvements include better access from the road and parking areas, as well as improvements to the ramps to put the kayaks in the water. Stoned ramps are recommended to maneuver the kayaks and prevent slippery conditions.

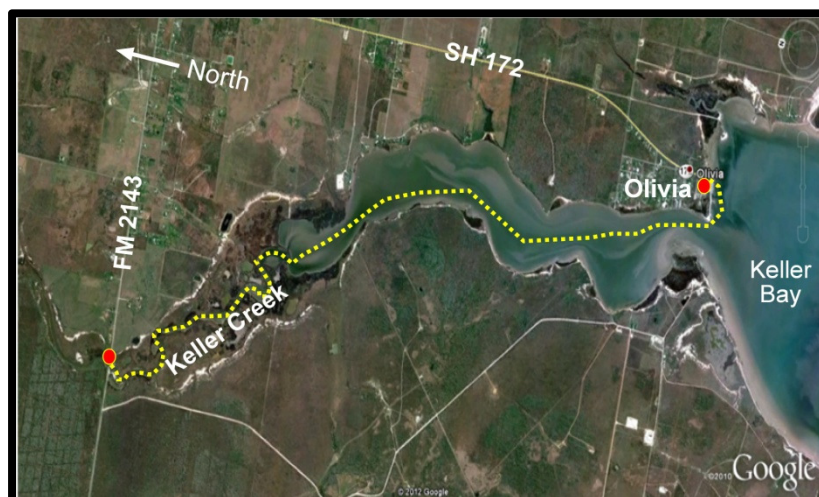


Figure 59. Paddling trail available from FM-2143 to the public boat ramp in Olivia. A distance of about 4.5 miles covers the entire trail.

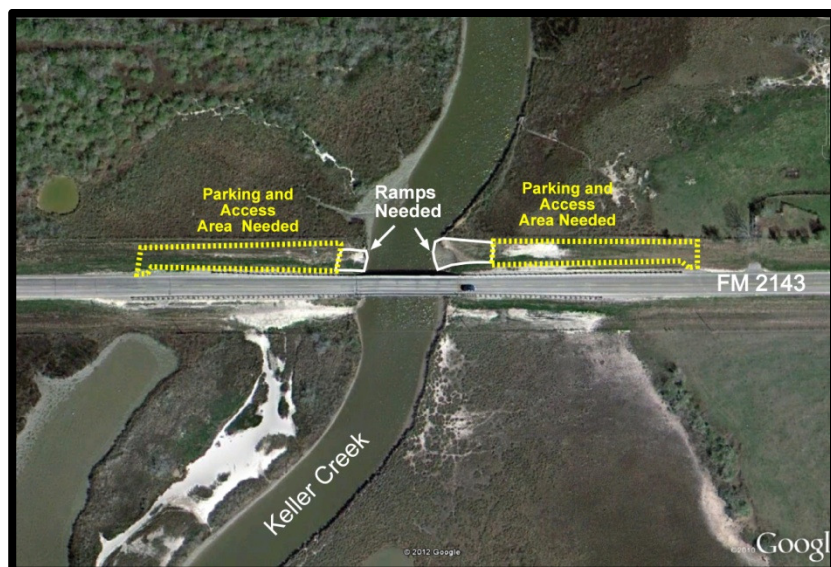


Figure 60. Suggested improvements needed for a paddling trail between Keller Creek-FM 2143 and Olivia boat ramp.

Olivia to South Keller Bay paddling trail. Another paddling trail is available from Olivia to South Keller Bay. This is an easy paddling trail that can access the southern portion of the bay paddling close to shorelines. The area is also ideal for wind surfers. The distance to the marshes is about 4.0 miles (Figure 61). The bay is in average 5 to 6 feet deep, making this a good area for kayaking and fishing. The peninsula between Keller and Matagorda Bay may protect kayakers from strong winds. Also, the southern part of Keller Bay has extensive marshes, ideal for bird watching.



Figure 61. Paddling trail from Olivia to south Keller Bay.

Short paddling trails from Olivia. There are several short paddling trails available from Olivia Park. The park allows for kayaking or windsurfing to the marshes in Keller Bay, less than a mile of distance from this park (Figure 62). One option is to launch from Olivia and at the end of CR 317 or vice versa. The marsh areas on the shorelines are known for being the habitats for waterfowl and sand hill cranes. More than six miles of paddling trails can be accessed in these areas.



Figure 62. Paddling trails from the Olivia boat ramp and CR 317 in Keller Bay.

Zone E: Fishing Piers

Potential fishing pier and observation deck at Olivia Park. There are no public fishing piers in Keller or Carancahua Bays. Olivia Park has great conditions for expanding this type of infrastructure. A fishing pier could be constructed on the west side of the park, where the area is relatively deep for a short distance from the shoreline. Also, an observation deck could be built on the elevated portion of the park for viewing the marshes and Keller and Matagorda Bays. The sketch in Figure 63 shows some suggested improvements to this park, which may attract more visitors.



Figure 63. Recommended infrastructure for the Olivia Public Park. The park could be improved with a fishing pier, an observation deck and restrooms.

Calhoun County Shoreline Access Recommendations

This list of recommendations would improve the shoreline access infrastructure and lessen the natural resources impacts associated with public use. Since visitation is dependent on the quality of the natural resources around Calhoun County, Atkins believes these recommendations would balance public use of shoreline infrastructure while protecting or enhancing natural resources. Calhoun County has taken pro-active steps to improve the recreational infrastructure along the bays shorelines with its constant search for federal and state grants for improvements to the shoreline access areas. Atkins recommends the following additional steps.

Monitor infrastructure. The County should implement a monitoring infrastructure program to reduce the costs of maintenance. Early identification of potential problems in the infrastructure, such as small damage and rotten wood on fishing piers, localized concrete failure in the boat ramps, etc., may save a significant amount of repair costs in the long-term.

Team with natural resources groups to protect the natural habitats. The presence of very diverse natural habitats in Calhoun County makes the area a natural treasure for the Texas Coast and the Gulf of Mexico. The County should consider the protection of these natural habitats as a priority since these resources bring economic benefits and aesthetic assets to the residents and visitors. The County should be involved in all the environmental efforts to restore or protect these natural resources.

Create the Calhoun County Coastal Task Force. It appears that there are different groups and entities interested in the improvement of the coastal environment in the county. Improvements can be managed through coordination and funding. The creation of a Calhoun County Coastal Task Force, consisting of entities representing every single group or community in Calhoun County, would allow the groups to work together to attract different funding opportunities for restoration, recreation and environmental projects.

Create a Beneficial Use of Dredge Material (BUDM) Team. Three major navigation channels are located in Calhoun County. These channels are subject to regular maintenance and dredging. By creating a county BUDM team, partnerships can be developed for the best use of the dredged sediments in restoration projects. Shoreline retreat is a major problem in the county, so the use of dredging sediments for the restoration of the shorelines and habitats would have a great benefit in the county. With the high loss of habitats along the bay shorelines, a pro-active BUDM team could contribute support for environmental and habitat restoration projects in coordination with federal, state and non-profit organizations.

Advertise the shoreline access Infrastructure through a Website. The local shoreline access infrastructure needs to be advertised locally and regionally. More than 200 miles of potential paddling trails are available in Calhoun County. This low-impact activity would allow more visitors to enjoy the coastal natural resources available in the county. Advertisements could be developed on the Calhoun County website, brochures, radio advertisement, flyers, etc.

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