



# PASCAGOULA RIVER - JACKSON COUNTY BLUEWAY CONNECTION

## CONCEPT DEVELOPMENT REPORT

### **SUBMITTED TO:**

JACKSON COUNTY BOARD OF SUPERVISORS

### **PREPARED BY:**

ALLEN ENGINEERING & SCIENCE, INC.

JULY 2022



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## 1.0 BACKGROUND

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Jackson County, Mississippi is proposing to complete the connection between two existing blueways including the George County Blueway and the Pascagoula River Jackson County Blueway. The Pascagoula River extends approximately 46 miles through Jackson County, and when combined with other branches, creates approximately 80 miles of navigable waterway. The proposed Pascagoula River – Jackson County Blueway Connection project would establish 65-miles of mapped and signed navigable waters by connecting the established Pascagoula River George County Blueway and Pascagoula River Jackson County Blueway and connecting paddlers to businesses and other recreational opportunities throughout the County.

The proposed Pascagoula River - Jackson County Blueway Connection Project includes:

- 65 miles of fully mapped and signed Blueway
- 22 Points of Interest
- Kayak Launches/Landings
- Interpretive signage
- Restrooms
- Parking
- Picnic areas
- Camping grounds
- Mile Markers

Allen Engineering and Science, Inc. (AllenES) was retained to assist the County in developing a conceptual design for the project and an opinion of probable cost that can be utilized to assist the county in applying for project funding.



Photo 1 – Pascagoula River



# BLUEWAY CONNECTION JACKSON COUNTY, MISSISSIPPI

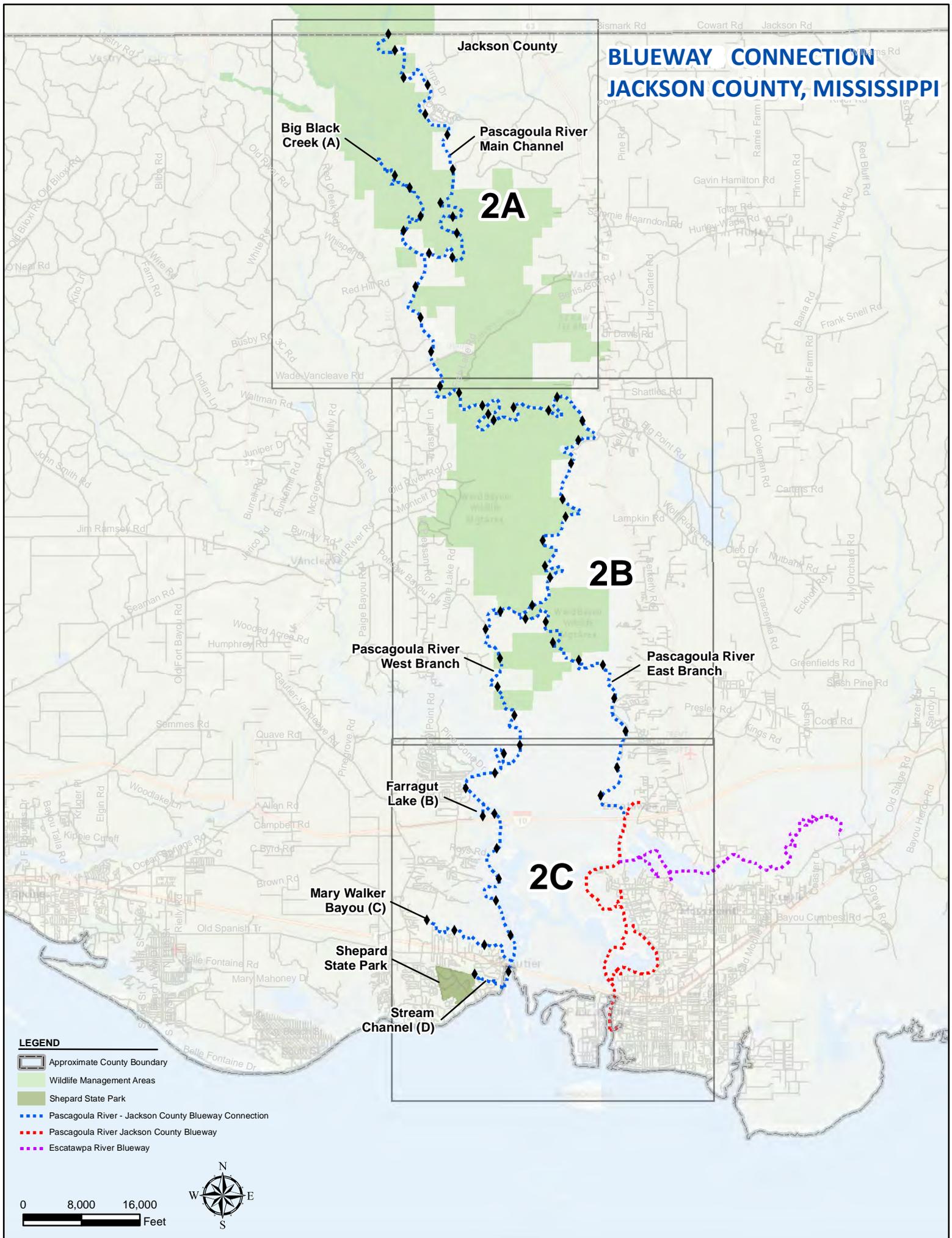


Figure 2. Blueway Connection Map

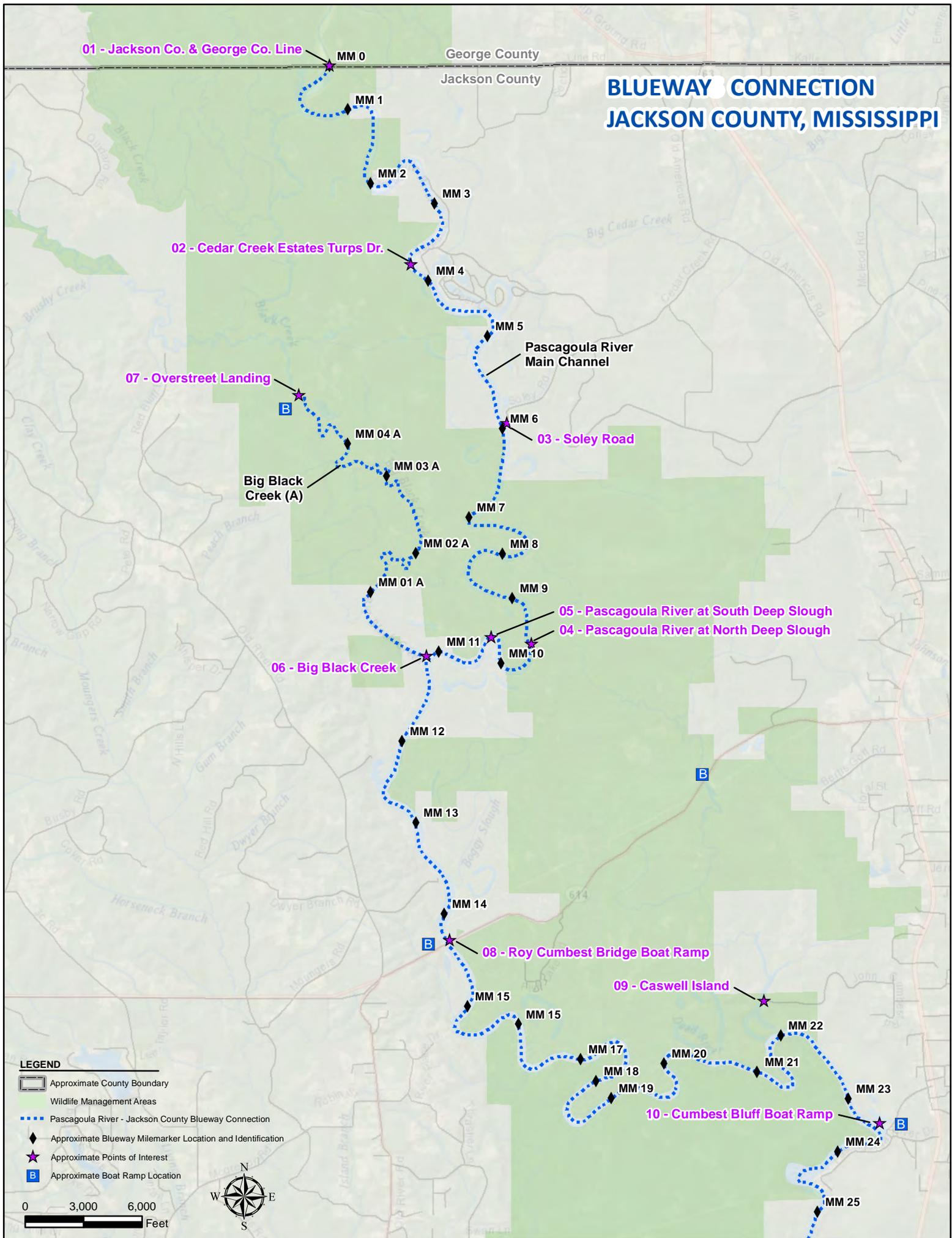


Figure 2A. Blueway Connection Map - Segment A

# BLUEWAY CONNECTION JACKSON COUNTY, MISSISSIPPI

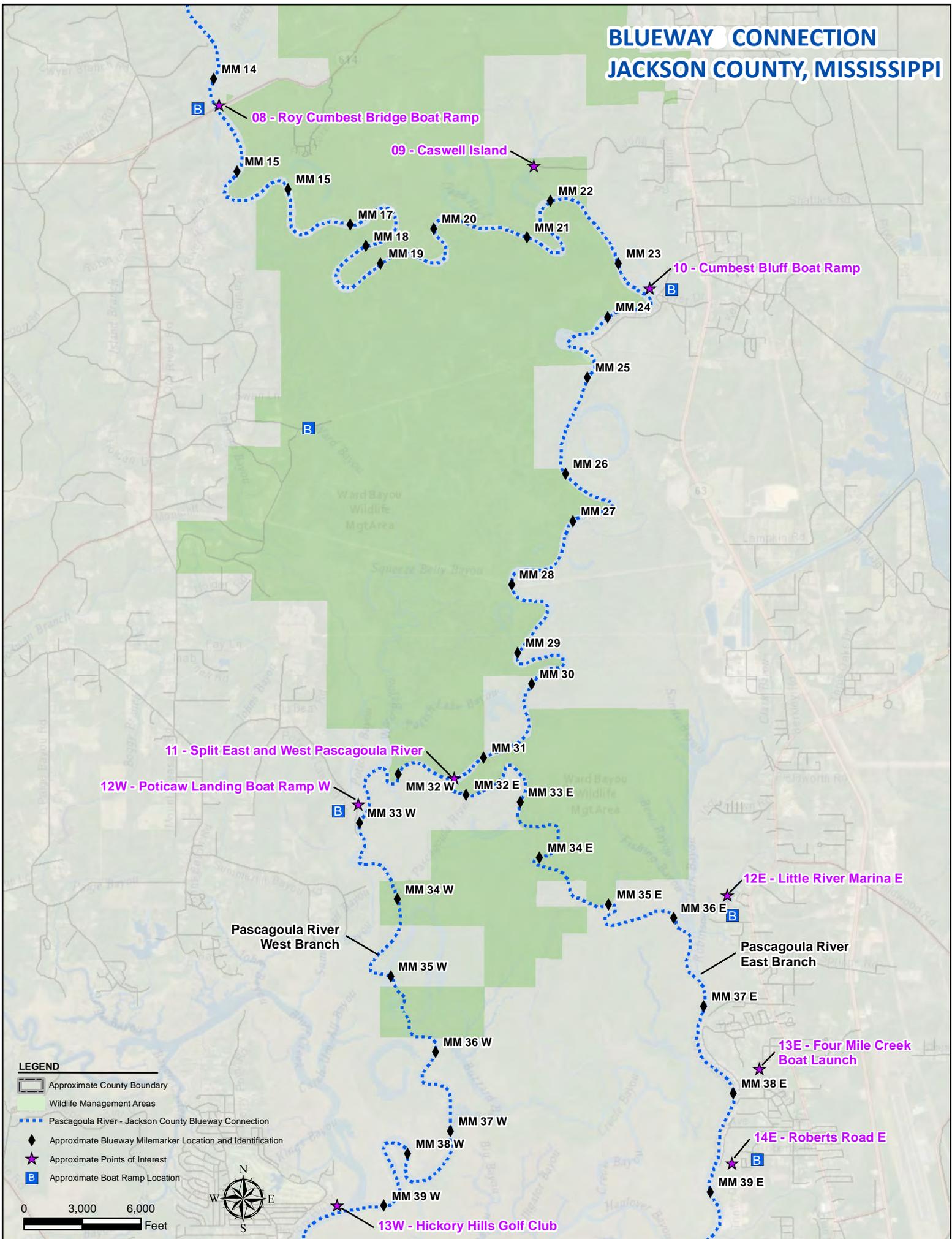


Figure 2B. Blueway Connection Map - Segment B

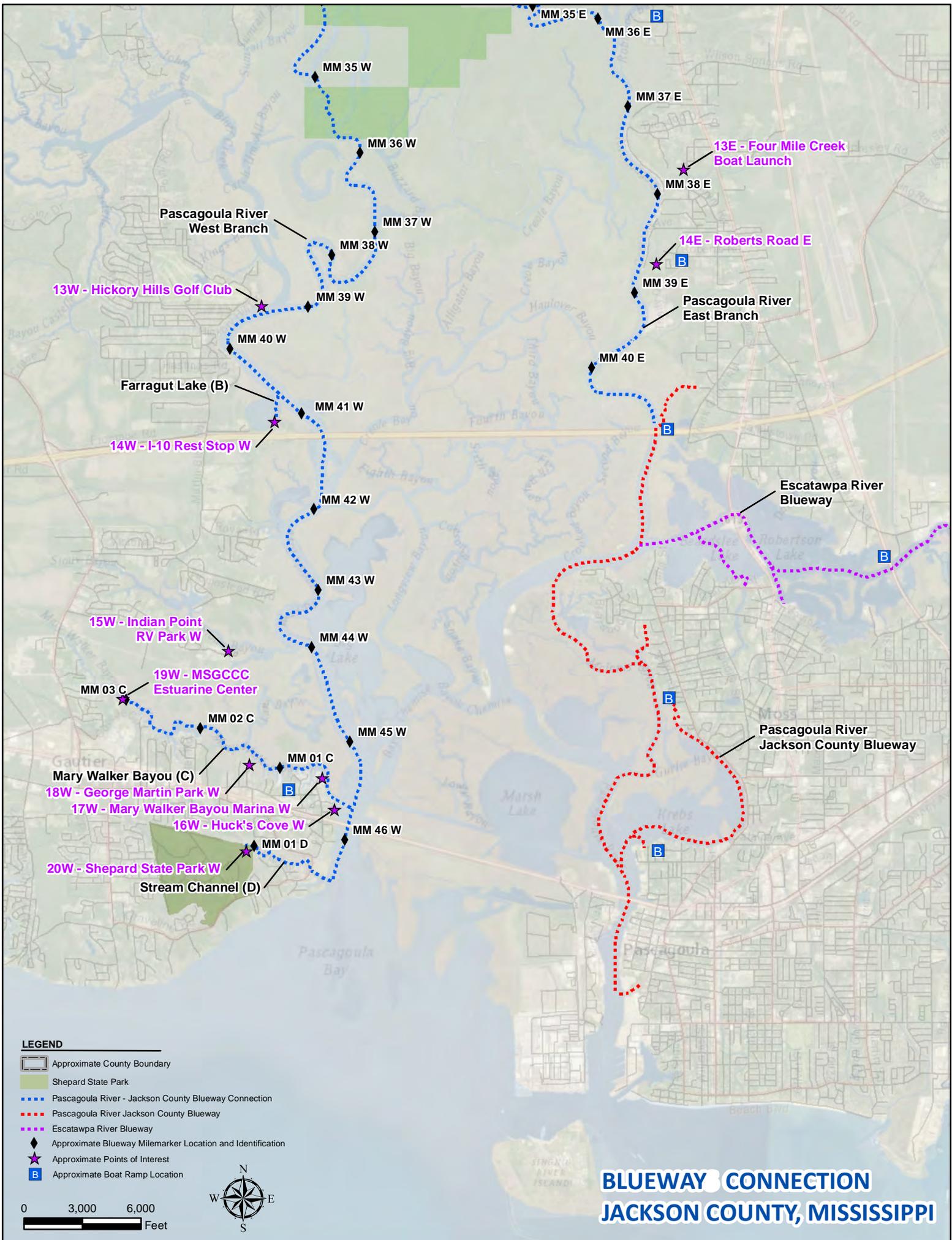


Figure 2C. Blueway Connection Map - Segment C



The goal of the Pascagoula River – Jackson County Blueway Connection project is to make the Pascagoula River a paddler friendly environment. This includes wayfinding signage, mile markers, educational signage, and signage identifying each point of interest and associated amenities. AllenES recommended improvements based on the existing conditions of the points of interest and their location along the Blueway, but recommended improvements were not dependent on land ownership. Each point of interest, their existing facilities and potential improvements are described below.

### **1 - JACKSON COUNTY GEORGE COUNTY LINE – MILE 0.0**

The Jackson/George County Line is the potential starting point of the Pascagoula River – Jackson County Blueway Connection. There are currently no known improvements or vehicle access points to this site. Although, the County Line may not serve as a stop along the Blueway, signage should be placed at this point to alert travelers that they have entered the Pascagoula River Jackson County Blueway. This may also be an appropriate location for educational signage and a stand containing maps of the Blueway. For the purposes of the Opinion of Probable Cost, these are all the improvements that were included for this site.

The County Line would serve as a good beginning point for the trail in the future. It would be possible to provide access to this point through the Pascagoula Wildlife Management Area (WMA) via Section Line Road through coordination with the Mississippi Department of Wildlife Fisheries and Parks (MDWFP). If future access were provided, this would be an excellent place for a kayak landing, campground, parking, and other amenities that would be utilized at the trailhead.



Photo 2 – Pascagoula River at County Line



## **2 - CEDAR CREEK ESTATES – TURPS DRIVE LANDING – MILE 3.6**

The Cedar Creek Estates – Turps Drive Landing is a privately owned boat launch and the northern-most vehicle accessible stop along the Pascagoula River – Jackson County Blueway Connection. This site includes a large sandbar and is accessible from an approximate 500 ft dirt road of Pascagoula River Drive. This landing is likely only available to be used as an emergency take-out point. No improvements are recommended to this Point of Interest other than signage to identify the stop and alert travelers of the “Emergency Use Only” status of the area. Any improvements will be minimal to avoid disruption to the private boat launch.



Photo 3 - Sandbar at Cedar Creek Estates – Turps Drive Landing



### **3 - SOLEY ROAD – MILE 6.0**

Much like the Cedar Creek Estates, the Soley Road Landing is a privately owned boat launch along the Pascagoula River – Jackson County Blueway Connection. The site includes a paved boat ramp and is frequently used by local fishermen. This landing is likely only available to be used as an emergency take-out point. No improvements are recommended to this Point of Interest other than signage to identify the stop and alert travelers of the “Emergency Use Only” status of the area. As previously mentioned, due to the private land ownership, there is the opportunity for Jackson County to enter a Public/Private Partnership to accomplish the improvements.



Photo 4 - Soley Road Landing



#### **4 - PASCAGOULA RIVER AT NORTH DEEP SLOUGH – MILE 9.7**

The North Deep Slough Point of Interest is located inside the Pascagoula WMA. The MDWFP website lists the area as a camp site. Historic imagery shows a sandbar at this site which makes it an ideal launch when water levels make it accessible. The area floods frequently, so any improvements would need to be resilient. The area is accessible by a vehicle road when the Pascagoula River is below 12' on the Graham Ferry gauge.

The North Deep Slough area is at mile marker 9.7 on the trail which makes it the first stop as a camp site for novice paddlers or a good spot for a picnic for those who would like to continue down river. The site has vehicle access and a campground, so it is an ideal place to develop as the “Trailhead” of the Blueway. This would include a kayak landing, campground improvements, parking improvements, potential restrooms, and picnic area.



Photo 5 – North Deep Slough

#### **5 - PASCAGOULA RIVER AT SOUTH DEEP SLOUGH – MILE 10.5**

Just downstream from the North Deep Slough stop is the South Deep Slough POI. The site includes a sandbar which makes it an ideal launch or stop when water levels make it accessible. This area is also located in the Pascagoula WMA and has vehicle access and a campground according to the MDWFP website.

Due to its proximity to North Deep Slough, developing both sites may not be necessary, but any amenities that are possible at the North Deep Slough site are also possible here. This site may best be used as a more primitive campground for those paddlers looking for a different experience and an additional picnic stop for those heading further down-river.



Photo 6 – South Deep Slough



## 6 - BIG BLACK CREEK – MILE 11.2



Photo 7 – Pascagoula River and Big Black Creek confluence

The area at the confluence of the Pascagoula River and Big Black Creek is another point of interest. This site has no vehicle access, but historic imagery does show a large sandbar at this curve in the river.

No improvements were included in the opinion of cost at this site; however, the sandbar is a great stopping point, and there is the potential to make improvements including restrooms, picnic areas, or campgrounds.

## 7 - OVERSTREET LANDING – MILE 11.2 + 5.0

Overstreet Landing is an existing boat launch on Big Black Creek that has been developed by the MDWFP. The Landing is approximately 5 miles upstream of the confluence with the main channel of the Pascagoula River. The site includes a paved boat ramp and primitive campground area.

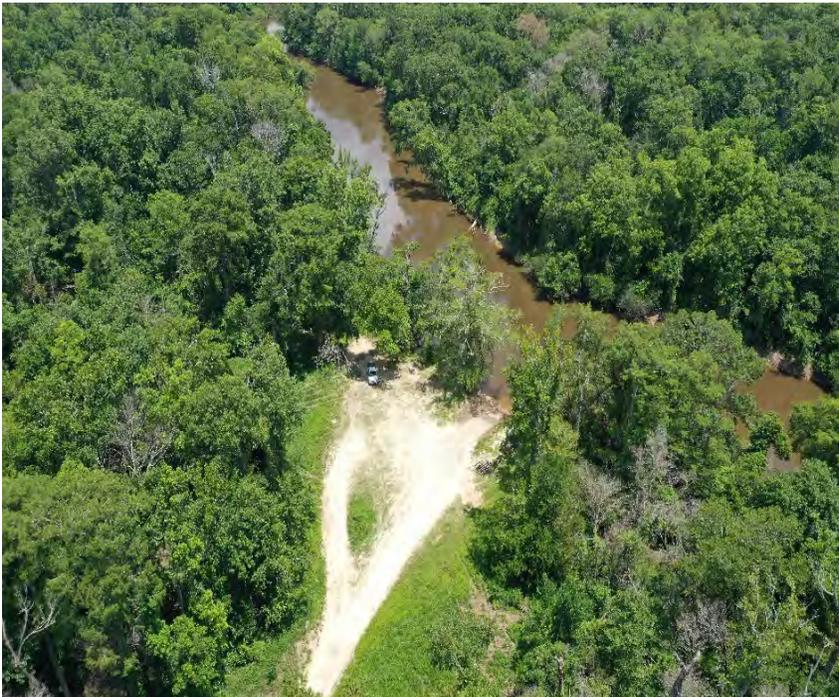


Photo 8 – Overstreet Landing

Overstreet Landing also has great potential to be turned into a “Trailhead” since it provides vehicle access further north than any other site on the Blueway. The existing campground, parking, and boat ramp could be improved as needed. We would also recommend educational signage and maps be located at this location. Improvements recommended include a kayak landing and the addition of restrooms. A partnership could be made between Jackson County and MDWFP to accomplish these improvements.



### **8 - ROY CUMBEST BRIDGE BOAT RAMP – MILE 14.4**

The boat ramp at Roy Cumbest Bridge currently provides access to the Pascagoula River from Wade-Vancleave Road. This site is approximately 10-miles downstream of Overstreet Landing and 5-miles from North Deep Slough making it an ideal take-out or rest area. The site currently has a boat ramp and parking, but no amenities specific to paddlers.

The recommended site improvements include a dedicated kayak landing, parking improvements, restrooms, and a picnic area.



Photo 9 – Roy Cumbest Boat Ramp

### **9 - CASWELL ISLAND – MILE 22.0 + 0.3**

Caswell Island is a Point of Interest in Caswell Lake. The lake is part of the Pascagoula WMA but has private land bordering much of its eastern side. There is a potential for vehicle access via John Cumbest Road, but at the time of the site visit the area was inaccessible due to the river level.

Due to the private land along the eastern side, improvements at Caswell Island may be limited. The area is a potential emergency access point and may also provide a picnic area on the publicly owned western side of the lake. As previously mentioned, due to the private land ownership, there is the potential for Jackson County to enter a Public/Private Partnership to accomplish the improvements. The area has ecological significance with the Cypress Swamp in the area. It may also be possible to develop a campground within the adjacent WMA to provide an overnight spot near the 20-mile point along the trail. The next potential campground is approximately 14 miles south of Caswell Island at the Little River Marina, so it is recommended that camping amenities be provided near the Caswell Island area.



### **10 - CUMBEST BLUFF BOAT RAMP – MILE 23.4**

The Cumbest Bluff Boat Ramp is located adjacent to a bait shop and several private residences. The land near the ramp is privately owned. A Public/Private Partnership would be necessary to make significant improvements to the Boat Ramp area. The property across the River from the Cumbest Bluff Boat Ramp is part of the Ward Bayou WMA, so it may be possible to develop a campground in this area.

The bait shop is the northernmost point along the Blueway that provides an opportunity to purchase food or drinks. Due to the public nature of the site, this area is not recommended for camping but would make an ideal take-out for a single day paddle or launch point for a trip through the southern section of the Blueway. The recommended improvements at the Cumbest Bluff Boat Ramp include a kayak landing, parking improvements, public restroom facilities, and a picnic area. These improvements may be accomplished through a Public-Private partnership. The property across the River from the Cumbest Bluff Boat Ramp is part of the Ward Bayou WMA, so it may be a possibility to develop a campground in this area.



Photo 10 – Cumbest Bluff Ramp in High Water

### **11 - EAST- WEST PASCAGOULA RIVER SPLIT – MILE 31.7**

The area at the East-West Pascagoula River Split is a Point of Interest and decision point for paddlers. This site has no vehicle access, but historic imagery shows a small sandbar on the northern shore of the eastern channel just beyond the split. The area was inaccessible due to high water levels and lack of vehicle access at the time of our site visit.

Signage at this area will be important to inform paddlers of the split in the River and provide directions regarding the Points of Interest downstream. No other improvements were included in the Opinion of Probable Cost at this site; however, the sandbar is a great stopping point. The potential exists to make improvements at the sandbar including restrooms, picnic areas, or campgrounds.



## PASCAGOULA RIVER – WEST BRANCH

### 12W -POTICAW LANDING BOAT RAMP – MILE 32.8 W + 0.1

The Poticaw Landing Boat Ramp is a fish camp on Poticaw Bayou located approximately 1.5 miles west from the East-West Split in the River. The area has multiple private residences and house boats. Much of the land near the ramp is privately owned. The site has good vehicle access via Poticaw Landing Road and there is adequate space for parking near the boat ramp. At the time of the site visit there were no stores open at the site, but it appeared a small store was there in the past.

The Poticaw Landing Boat Ramp is well positioned to be a highly trafficked launch for trips down the Western Split and a take-out point for trips along the northern or middle sections of the Blueway. The site would provide a good opportunity for a Public/Private Partnership with private entities to provide guide services, equipment rental and sales, and food and beverage sales. The recommended improvements at the site include a dedicated kayak landing, parking improvements, restroom facilities, and a picnic area.



Photo 11 - Poticaw Landing



### 13W - HICKORY HILLS COUNTRY CLUB – MILE 39.3 W



The Hickory Hills Country Club is located within a neighborhood in northern Gautier and has an existing restaurant and a boat ramp with associated parking behind the clubhouse. The area is well situated for day paddlers to stop for lunch or for leisure paddlers to launch for a daytrip through Gautier's Points of Interest. The existing facilities could provide opportunities for partnerships for equipment sales and rentals as well.

Hickory Hills existing parking area and boat ramp are deteriorated and need rehabilitation. There is also ample space to provide a picnic area, campground and dedicated kayak landing area. The site also needs appropriate signage to indicate the location of both parking and landing facilities. A Public/Private Partnership between the Club and Jackson County would be required to make improvements at this site.

Photo 12 - Hickory Hills Boat Ramp



Photo 13 - Hickory Hills Boat Ramp Parking Area



### 14W - I-10W REST STOP – MILE 40.7 W + .3



The I-10W Rest Stop is located adjacent to Farragut Lake which provides direct access to the Western Split of the Pascagoula River. The Rest Stop has existing restroom and picnic facilities along with ample parking and limited concession options. With improvements, this site could be utilized as a launching point for short trips down the Western Split or a take-out point for longer trips from upstream.

Photo 14 – I-10W Trail to Farragut Lake

The I-10 Rest Stop has most of the amenities desired already in place, but it will require a kayak landing, to allow easy access to the water. Additional wayfinding signage should also be placed at the mouth to Farragut Lake directing paddlers to the site. As this is a rest stop, coordination and consultation with the Mississippi Department of Transportation (MDOT) will be required prior to any improvements.



Photo 15 – I-10W Rest Stop Picnic Area near Farragut Lake



### **15W - INDIAN POINT RV PARK – MILE 43.7 W + 0.8**

The Indian Point RV Park is located on Sioux Bayou approximately 0.8 miles from the main channel of the Western Split of the Pascagoula River. The park has an existing boat launch, restaurant, parking, restrooms, campground, picnic area, and other amenities. The site is a good place for visitors to the Blueway to set up camp and to explore several segments of the trail during their stay.

Indian Point RV Park would need a dedicated kayak landing to help separate the paddlers from the boat traffic. Depending on the location of the kayak landing additional parking may be required to accommodate the Blueway traffic. Indian Point RV Park is actively looking at enhancing nature-based tourism opportunities by adding or enhancing nature-based amenities including bird and wildlife watching hides, hiking and biking trails, and adding a dedicated kayak landing. These additions would make Indian Point RV Park a great Point of Interest with a focus on nature. A Public/Private Partnership between the Park and Jackson County would be required to make improvements at this site.



Photo 16 – Indian Point Boat Ramp



### 16W - HUCK'S COVE – MILE 45.5 W

Huck's Cove is a marina, bar, and grill located in Gautier just off the Western Split of the Pascagoula River. Huck's Cove would provide a great rest stop and entertainment destination for leisure paddlers. Huck's currently has a back deck with a small sand beach/river access point. Huck's serves food and beverages, has plenty of space for dining and leisure, and has restroom facilities. Huck's is a great destination along the Blueway but is not ideal for launching or take out.



The river access needs to be upgraded to accommodate canoe and kayak traffic and provide a safe landing separate from boat traffic. This could be accomplished with a floating launch from the existing pier or the addition of a natural landing near the existing water access. A Public/Private Partnership between Huck's Cove and Jackson County would be required to make improvements at this site.

Photo 17 – Huck's Cove Parking Area



Photo 18 – Huck's Cove Pier



### **17W - MARY WALKER BAYOU MARINA – MILE 45.5 W +0.7**

The Mary Walker Bayou Marina is located approximately 0.7 miles up Mary Walker Bayou from the Western Split of the Pascagoula River. The marina currently houses many boats and is in the process of expanding and rehabilitating several more slips. The marina currently has a store selling fishing supplies and snacks, so the addition of kayak equipment and rentals would be an easy addition. The Marina also has restrooms and parking available.

The Marina would require a dedicated kayak landing and paddling area to promote separation between paddlers and boaters. The addition of a picnic area and parking improvements would also add to the amenities at the Marina. A Public/Private Partnership between the Marina and Jackson County would be required to make improvements at this site.



Photo 19 – Mary Walker Bayou Marina Store



Photo 20 – Mary Walker Bayou Marina Boat Ramp



Photo 21 – Horn Island Grill (*Facebook*)

Horn Island Grill is located approximately 500 feet south of Mary Walker Bayou Marina and has quickly become a local favorite. Horn Island Grill is on the water, has great food, offers live music 2 or 3 times a week and is easily accessible from the Marina. Horn Island Grill would make a great added amenity to the Mary Walker Bayou Marina Point of Interest experience.



**18W - GEORGE MARTIN PARK – MILE 45.5 W + 1.2**

The George Martin Park is a Gautier City Park located approximately 0.5 miles upstream of the Mary Walker Bayou Marina and 1.2 miles from the main channel of the Western Split of the Pascagoula River. The park has many improvements including a boat ramp, fishing pier, restrooms, picnic areas, trails, a playground, and a dedicated kayak launch with a handicap accessible launch. The only improvement that the park would need is signage identifying the Blueway.



Photo 22 – George Martin Park Kayak Launch

**19W - MGCCC ESTUARINE CENTER – MILE 45.5 W + 3.0**

The Mississippi Gulf Coast Community College (MGCCC) Estuarine Center is an ideal Point of Interest along the Blueway. It is an educational center situated on Mary Walker Bayou approximately 3 miles upstream of the confluence with the Western Split of the Pascagoula River. The MGCCC Estuarine Center has an existing boat ramp, parking, restrooms, and a large deck that can be used to picnic or relax. The site is a great launching point for a leisurely paddle around Gautier.



Photo 23 – MGCCC Estuarine Center

The MGCCC Estuarine Center includes an existing floating launch for kayaks with access from the existing deck. The addition of tables and chairs or benches on the existing deck could also provide additional space for paddlers to gather.



Photo 24 - MGCCC Estuarine Center Deck



### **20W - SHEPARD STATE PARK – MILE 46.2 W+1**

The 400-acre Shepard State Park in Gautier is a location for RV, camper, or tent camping with modern amenities and activities including hiking, birding, disc golf, a dog park, boat launch, and competition-level archery range. The boat launch is located approximately 1 mile up a small bayou off the Western Split of the Pascagoula River. The area adjacent to the boat launch has a picnic area and a dedicated tent campground. The Park's many amenities make it a great base camp and landing spot for Blueway expeditions.

The area near the boat launch would benefit from a dedicated kayak landing to improve safety. The addition of a graveled parking area near the ramp would also add to the amenities the park offers paddlers. The area near the boat launch could also benefit from the addition of restrooms, but restrooms are available in other areas of the park.



Photo 25 – Shepard State Park Boat Ramp



Photo 26 – Shepard State Park Boat Ramp



## PASCAGOULA RIVER – EAST BRANCH

### 12E - LITTLE RIVER MARINA – MILE 36.5 E + 0.6

The Little River Marina is located approximately 0.6 miles up Robinson Bayou from the Eastern Split of the Pascagoula River. The Marina has a restaurant and bar, and it also has an RV park and campground. This site is a great launching point for a trip down the Eastern Split or a take-out point after a long paddle through the upper segment of the River.

The area has frequent boat traffic so the addition of a dedicated kayak landing and additional signage would improve safety. The area near the boat launch would also benefit from parking improvements and some outdoor seating. A Public/Private Partnership between the Marina and Jackson County would be required to make improvements at this site.



Photo 27 – Little River Marina Boat Ramp and Pier



Photo 28 – Little River Marina Restaurant



### 13E – FOUR MILE CREEK BOAT LAUNCH – MILE 37.5 E

The Four Mile Creek Boat Launch is located approximately 0.4 miles east of the main East Pascagoula River. The boat launch is located on Four Mile Creek, a small tributary of the Pascagoula River, and includes a paved boat ramp and camping areas. The site is a great launching point for a leisurely paddle down the Eastern Split of the Pascagoula River.

The site includes appropriate signage and has good access. Recommended improvements would include outdoor seating or a picnic area and a dedicated kayak landing.



Photo 29 – Four Mile Creek Boat Ramp



Photo 30 – Four Mile Creek Boat Ramp



## 14E - ROBERTS ROAD – MILE 39.2 E + 0.3



Photo 31 – Roberts Road Landing Boat Ramp

The Roberts Road Landing is located approximately 0.3 miles up Smear Bayou from the Eastern Split of the Pascagoula River. The landing is a private boat ramp with a small shop and boat slips adjacent to the parking area. There are no public amenities at the site. This area could be an ideal take-out spot for the paddlers coming down the Eastern Split but requires improvements to promote paddler safety. The recommended improvements include parking improvements, a picnic/seating area, and a dedicated kayak landing. Additional signage is also recommended to warn boaters of the presence of paddlers in the area. As previously mentioned, due to the private land ownership, there is the potential for Jackson County to enter a Public/Private Partnership to accomplish the improvements.



### 3.0 CONCEPT DEVELOPMENT

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At approximately 80 miles long, the Pascagoula River is the largest free flowing (unaltered by dams, channelization, levees, or similar human impact.) river in the contiguous US. The Pascagoula Watershed drains approximately 8,800 square miles (5,632,000-acres) and includes a diverse range of habitats including cypress-tupelo swamps, marshes, wetlands, oxbow lakes and pine ridges. The Pascagoula River itself is wide and slow and in high water spreads out over its banks into the woods, creating a network of species diverse lakes and bayous. Periods of low water exposes countless sandbars and bayous. The Pascagoula Watershed is home to a diverse range of animal species including minks, muskrats, snakes, beavers, raccoons, possums, armadillos, mice, wild hogs, squirrels, coyotes, deer, herons, nutrias, bobcats, and alligators. According to the Nature Conservancy, the Pascagoula Watershed is also home to over 320 species of birds including a variety of wading birds and several rare species such as the Mississippi sandhill crane and swallow-tailed kites.

The Pascagoula River – Jackson County Blueway Connection project provides paddlers with an amazing natural experience through bottomland hardwood forests, cypress swamps, and coastal marshes. The planned route has many Points of Interest and access points in place that create a solid foundation for the establishment of the Blueway Connection. The project will drive economic growth in Jackson County through nature-based tourism and create recreational opportunities for the residents of the Gulf Coast. The Pascagoula River – Jackson County Blueway Connection will be the longest Blueway on the Mississippi Gulf Coast and its addition to the existing Pascagoula River George County Blueway and the existing Pascagoula River Jackson County Blueway will create over 100-miles of recreational opportunities for paddlers of varying levels of experience.

The existing infrastructure (including boat launches, parks, restaurants, and campgrounds) is the foundation on which the Blueway Connection can be built. With minimal improvements the Pascagoula River – Jackson County Blueway Connection can become a reality. The majority of the route is surrounded by publicly owned lands including the Pascagoula River WMA, the Ward Bayou WMA, and other state-owned lands. This will limit the need for property acquisition. The use of public-private partnerships can further reduce the need for required acquisitions. Business owners in the community have shown great support for the project and willingness to work with the County to create a special experience for paddlers.

The Pascagoula River – Jackson County Blueway Connection would create an corridor through various ecosystems that make up the Mississippi Gulf Coast. The Blueway would begin in the hardwood forests and oxbow lakes of northern Jackson County, then continue south into the cypress swamps, and finally through coastal marsh near the mouth of the Pascagoula River; thus, creating a diverse ecological experience for visitors.

With over 65 miles of River planned to be included in the Blueway, the scope of the project does present some challenges. Due to the length of the route passing through the natural areas of the Pascagoula River floodplain there are three segments along the trail that do not have emergency access within the recommended five-mile interval. These segments exist between Roy Cumbest Bridge and Caswell Island, between Cumbest Bluff Boat Ramp and Poticaw Landing Boat Ramp, and between Poticaw Landing Boat Ramp and Hickory Hills Country Club. With coordination with the MDWFP, access could be developed through the WMAs to create emergency take-out points in these areas. It would also be beneficial to develop additional camping areas between the Cumbest Bluff Boat Ramp and the East-West Pascagoula River Split.



The project will also help drive economic growth in the region. Connecting the existing Pascagoula River George County Blueway and the existing Pascagoula River Jackson County Blueway would create a destination for paddlers and an opportunity to spend multiple days on the River and in the region. The overall Blueway created would provide over 100 miles of marked waterway, providing numerous opportunities for paddlers ranging from an afternoon of bar/restaurant hopping in Gautier to a week-long overnight nature adventure beginning in Merrill, George County, and ending at Shepard State Park, Gautier or connecting to the existing Pascagoula River Jackson County Blueway. The Blueway Connection will create opportunities for lodging, equipment rental and sales, guide services, license sales, restaurant and store sales, and events such as races, triathlons, fishing rodeos, etc.

Nature-based tourism is continuing to grow in Coastal Mississippi, and the Pascagoula River – Jackson County Blueway Connection will be a valuable addition to the offerings of Jackson County. Recent studies suggest that water-based trails provide economic benefits and help diversify local economies by supporting a greater mix of businesses in local communities. These economic benefits can be significantly increased by expanding camping and lodging opportunities, developing guide training and promotion incentives, holding organized events such as kayak races, and participating in collaborative marketing efforts. While the economic impact of blueways on local economies is fairly modest, it is recommended that blueway developers and operators work with existing businesses to provide additional food, lodging, and outfitting services designed to encourage longer and more frequent stays. The availability of data related to the economic impacts of nature-based tourism has increased as these types of tourism amenities have become more common. Coastal Mississippi accounts for one-third of the state’s tourism employees, expenditures, and taxes. This fact alone places Coastal Mississippi as one of the highest-performing tourism destinations in the nation. The following provides some interesting information about people participating in nature-based tourism activities.

<b>Who is an Ecotourist?</b>	
Age	Ranges from 35-54 years old, although age varied with activity and other factors such as cost.
Gender	Generally, 50% are female and 50% are male, although differences by activity exist.
Education	82% are college graduates. However, a shift in interest was found in those with less education, indicating the expansion of ecotourism into mainstream markets.
Party Composition	60% of experienced ecotourists prefer to travel as a couple, 15% travel with families, and 13% travel alone.
Trip Duration	The majority of experienced ecotourists preferred trips lasting 8-14 days.
Expenditure	Experienced ecotourists are generally willing to spend more than general tourists, the largest group was willing to spend over \$1,500 per trip on average.
Important Elements of the Trip	Experienced ecotourists indicate that they seek experiences that include: 1) a wilderness setting, 2) wildlife viewing, and 3) hiking and trekking.

EBSCO Sustainability Watch: Ecotourism



The State of Mississippi's 2021 Economic Contribution Report indicates that 23 million visitors spent \$6.727 billion on all tourism categories, resulting in \$407.4 million for the State's general fund. Other statistics relative to nature-based tourism in Mississippi include:

- Direct payroll for outdoor recreation is \$7.8 million (2021)
- Coastal Mississippi is the largest tourism market in the State and in 2021 accounted for \$2.2 billion in total tourism expenditures, 17% of total tourism employment, and generated over \$240 million in taxes and fees for state and local public entities.

A report from the Outdoor Industry Association provides the following insight into outdoor recreation in Mississippi.



Figure 3. Outdoor Industry Association Graphic



Additionally, a 2020 report from Coastal Mississippi provides the following insight into coastal residents' sentiments toward tourism:

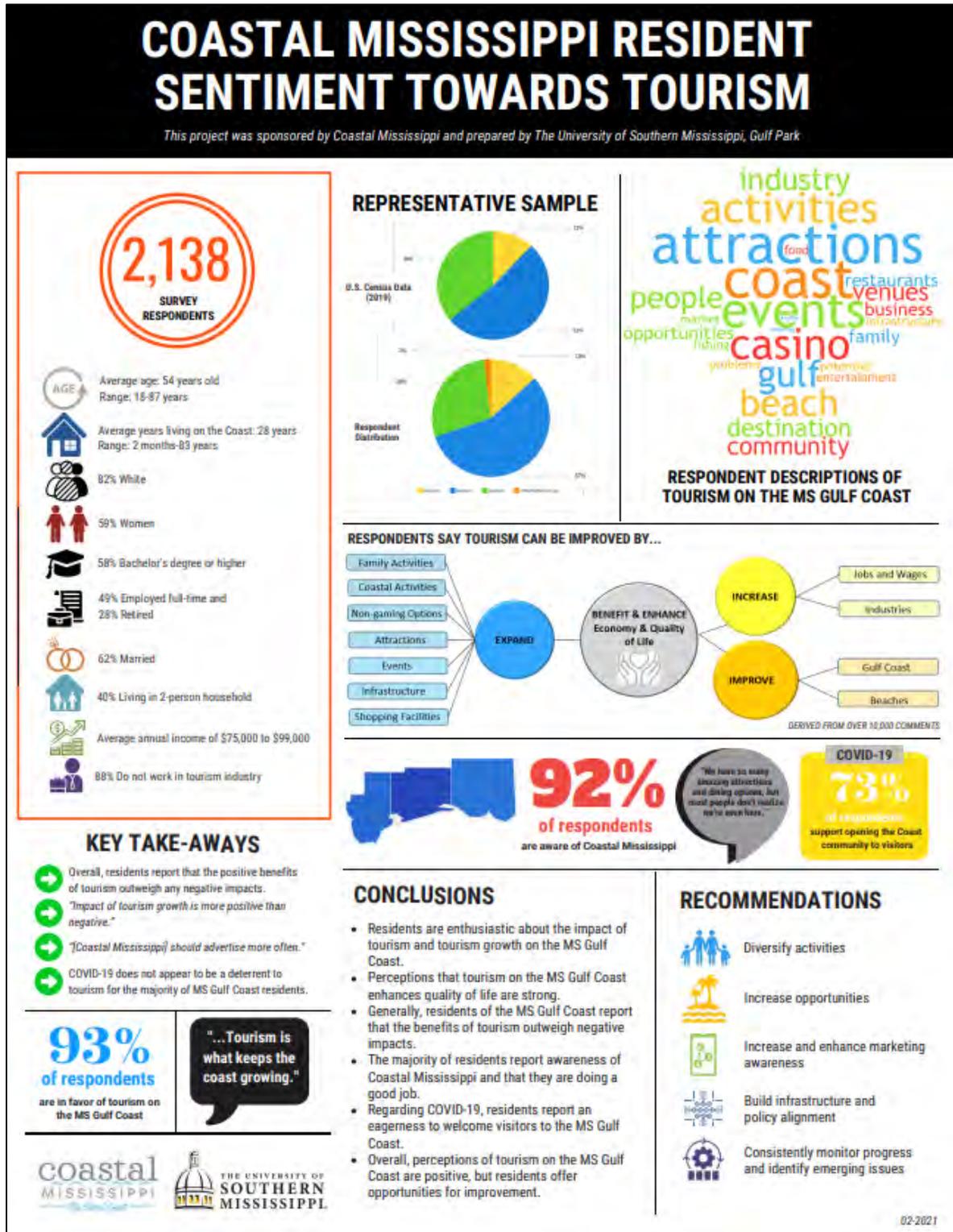


Figure 4. Coastal Mississippi Report Results



Implementation of the Pascagoula River – Jackson County Blueway Connection will enhance Coastal Mississippi's nature-based tourism industry by expanding trip options, creating new job opportunities, and contributing to the local tax base. Current data indicates a growing demand for nature-based tourism options, likely driven in part by the emphasis on “social distancing” during the COVID pandemic from 2020-2022. It is expected that this growth trend will continue and the Blueway Connection project will contribute to the infrastructure necessary to meet the growing demand.

One of the most important components of a successful Blueway is clear communication to paddlers for planning and wayfinding. This is most effectively done through clear wayfinding signage and maps. The Pascagoula River - Jackson County Blueway Connection will require extensive wayfinding signage along the River to keep paddlers in the main channel. Development and distribution of high-quality trail maps will be vital to the success of the Blueway and safety of the paddlers. Maps will assist paddlers in planning trips and navigating the River. Access to the Blueway information will also be very important. It is recommended that a website and mobile app be developed to assist in publicizing the Blueway, its points of interest, and its partners. The mobile app could also include real-time digital mapping and wayfinding to assist paddlers while navigating the Blueway. Several of the location and points of interest identified in this report have the potential to become inaccessible during high water. River levels can be viewed on the National Oceanic and Atmospheric Administration's (NOAAs) National Weather Service Website. The proposed mobile app could incorporate river level data and weather conditions to inform paddlers of the current paddling conditions.

It is recommended that Jackson County gather additional support from local groups such as the Mississippi Gulf Coast National Heritage Area, Mississippi Department of Wildlife, Fisheries, and Parks, Pascagoula River Basin Alliance, The Nature Conservancy, The Land Trust for the Mississippi Coastal Plain, the Pascagoula River Audubon Center, Wildlife MS, and others. The Pascagoula River – Jackson County Blueway Connection is referenced in the *Jackson County Bicycle, Pedestrian, and Trails Master Plan*. It is also recommended that the County requests inclusion of the project in the Mississippi Gulf Coast National Heritage Area's *Blueways Design Guide* as a potential project and promoted through the Nature-based Tourism Plan for Coastal Mississippi.



## 4.0 OPINION OF PROBABLE COST

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Based on the recommendations described in **Section 2**, AllenES developed a concept level Opinion of Probable Cost (OPC). These recommendations are summarized in the table shown in **Appendix A**. The OPC was based on Q1 2022 pricing. Costs assumed no price escalation. The OPC may also be found in **Appendix A**.

Each of the proposed improvements and the items used to build costs for each are provided below.

### **KAYAK LANDING/LAUNCH**

A kayak landing refers to a structure/feature used to assist in navigation of a kayaker from the shore into or out of a waterbody. These features will be utilized at the sites that lack natural parking and shoring for kayakers. The landing is conceptually understood to be a sandy sloped shorefront that can accommodate multiple kayaks and allow pedestrians to park, store kayaks, and enter the water safely and separate from boat traffic. A general kayak landing is assumed to be approximately 20-foot-wide sandy shorefront. Costs assume that heavy equipment will excavate the shorefront and install sand sloping into the water. The total cost for a kayak landing includes the following components:

- Mobilization,
- Equipment Rentals,
- Excavation, and
- Sand Installation.

In some areas a floating kayak launch may be attached to existing docks but all sites were assumed to have the kayak landing described above. A launch may be substituted during final design if it is determined to be more economical or site appropriate.

### **PARKING AREA**

As many of the sites are accessible by roadway, parking areas are essential for incoming boaters, kayakers, campers, and visitors. Some sites do not have any parking, while others need improvements to their existing parking areas. Generally, the parking area design (13,000 square feet) will accommodate ten (10) passenger vehicles with 1 ADA compliant space, two-way traffic in/out, and additionally provides parking space for a truck and 20-foot-long trailer. Parking areas also assume they will require connection to other features within the site utilizing an outdoor recreation access route. Costs assume that heavy equipment will mobilize, clear, and grub the designated area. A woven geotextile fabric will be installed over the area, and gravel may then be installed. The total cost for a parking area includes the following components:

- Mobilization,
- Clearing and Grubbing,
- Woven Geotextile Separation Fabric (US 200),
- 8" Gravel,
- Parking Blocks, and
- 300' of Outdoor Recreation Access Route



### **PRIMITIVE CAMPGROUND AREA**

Primitive campground areas are recommended at some of the larger sites. A primitive campground area would allow these sites to accommodate a small family and make the sites more attractive to visitors. Generally, the campground area would consist of a graveled tent area and picnic area, connected by a small walkway. The graveled area would be contained by treated perimeter timbers. Costing assumes the campground area to have a picnic table and a stationary firepit with grill. The estimated total cost for a primitive campground area includes the following components:

- Perimeter Timbers,
- Geotextile Separation Fabric,
- Light Gravel,
- Picnic Table, and
- Fire Pit with Grill.

Conceptually, the primitive campground area may look like the following photograph.



Photo 32 – Example Campground



### **PICNIC AREA**

One of the more prevalent and desired features of the Points of Interest will be a picnic area. Conceptually, the picnic area would accommodate four small families and would include four (4) picnic tables and two (2) stationary grills. The picnic area would be located in a rectangular graveled area with treated perimeter timbers. The estimated total cost for a picnic area includes the following components:

- Perimeter Timbers,
- Geotextile Separation Fabric,
- Gravel,
- Picnic Tables, and
- Stationary Grills.

### **PERMANENT RESTROOMS**

Permanent restrooms are possible at sites that are publicly owned and are positioned in areas that are less susceptible to frequent flooding. Due to the proximity to the river these facilities would need to be resilient to flood waters. The facilities utilized in the conceptual opinion of probable cost consist of masonry block buildings with two separate restroom facilities in each. The building is assumed to be a 16-foot by 9-foot with 2 single stall restroom facilities attached to a septic system. In some areas the building may require a raised foundation to rise above the FEMA flood plain. The opinion of cost for each facility includes the following components:

- Mobilization
- Concrete Slab
- Elevated Masonry Block Building
- Septic System Installation
- Fixtures and Plumbing



Photo 33 – Permanent Restroom Building



## COMFORT STATIONS

Comfort Stations are desired at many of the Points of Interest that are susceptible to seasonal flooding. AllenES assumed that these sites have one unisex portable restroom. As there are many options for portable restroom facilities, AllenES assumed cost for a 6-foot by 6-foot by 8-foot-high portable wooden restroom structure. The comfort station is designed to have a dry composting toilet with subsurface disposal bed for liquids; a solar panel on the roof with battery and controller for positive draft of air through composteer to control odors and provide power for lights; and a solar LED light with motion sensor. These facilities are portable and can be moved in and out of the area based on river levels. The estimated total cost for a restroom includes the following components:

- Construction of Structure,
- Composting Toilet,
- Solar Power Setup, and
- Mobilization to Site.

The following photos illustrate one of the restroom units.



Photo 34 – Comfort Station



Photo 35 – Comfort Station Fill Line



## SIGNAGE

The Blueway Connection will require mile markers, Point of Interest identifiers, and educational signage to assist kayakers along the travel route and to also identify campground and launch areas.



Photo 36 – Example of Mississippi Gulf Coast Blueways Signage (*MS Gulf Coast, Blueways Design Guide, 2018*)

AllenES assumed the installation of one barge-driven marine pile for each mile of the selected route (approximately 65 miles) that will include mile marker signs. The estimated total cost for a signage includes the following components:

- Mobilization
- Barge-Driven Marine Pile Sign Base, and
- Sign

## KAYAK RACK WITH WASH STATION

A recommended amenity at the more popular takeout spots is a kayak rack with a built-in wash station. A rack and wash allows paddlers to clean their equipment prior to loading it and prevents the potential spread of invasive species. The wash stations are likely only feasible at locations that have water service already. The estimated total cost for a kayak rack with a wash station includes the following components:

- Mobilization,
- Concrete Foundation
- Water Service Line
- Kayak Rack with Wash Station



Photo 37 – Kayak Rack



## 5.0 APPENDICES

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**APPENDIX A**

**POINT OF INTEREST EVALUATION  
AND  
CONCEPTUAL OPINION OF PROBABLE COST**



**Point of Interest Evaluation  
Jackson County - Pascagoula River Blueway Connection**

No.	Landing	Existing Boat Ramp	Kayak Landing	New Parking	Parking Improvements	Permanent Restrooms	Comfort Stations	Food	Picnic Area	Kayak Rack	Signage	Campground
1	Jackson Co. George Co. Line										N	
2	Cedar Creek Estates Turps Dr.		P								N	
3	Soley Rd.	X	P								N	
4	Pascagoula River at North Deep Slough		N		N		N		N	N	N	X
5	Pascagoula River at South Deep Slough								N		N	X
6	Big Black Creek										N	
7	Overstreet Landing	X	N		N	N			N	N	N	
8	Roy Cumbest Bridge Boat Ramp	X	N	N		N			N	N	N	P
9	Caswell Island								N		N	N
10	Cumbest Bluff Boat Ramp	X	N		N	N		X	P		N	
11	Split E & W Pascagoula River										N	
12 W	Poticaw Landing Boat Ramp W	X	P		N	P		P	P	N	N	
13 W	Hickory Hills Country Club	X	N		N	X		X	N	N	N	
14 W	I-10 Rest Stop W		N		X	X		X	X	N	N	
15 W	Indian Point RV Park W	X	N	P	N	X		X	X	N	N	
16 W	Huck's Cove W		N		X	X		X	X		N	
17 W	Mary Walker Bayou Marina W	X	N		P	X		X	P	N	N	
18 W	George Martin Park W	X	X		X	X			X	N	N	
19 W	MGCCC Estuarine Center	X	X		X	X			N	N	N	
20 W	Shepard State Park W	X	N	N	X		P		X	N	N	X
12 E	Little River Marina E	X	N		N	X		X	P	N	N	RV Parking
13 E	Four Mile Boat Creek Boat Launch	X	P		X	P			N	N	X	X
14 E	Roberts Road E	X	N		P				P	N	N	RV Parking

Note: X=Existing N=Need P=Possible  
Blank options were not accessible, not possible, or not recommended

**APPENDIX A.1 – POINT OF INTEREST EVALUATION**



## Conceptual Opinion Of Probable Cost Jackson County - Pascagoula River Blueway Connection

No.	Landing	Kayak Landing	New Parking	Parking Improvements	Permanent Restrooms	Comfort Stations	Picnic Area	Kayak Rack	Signage	Campground	Total
1	Jackson Co. George Co. Line	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,200	\$ -	\$ 8,200
2	Cedar Creek Estates Turps Dr.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,100	\$ -	\$ 4,100
3	Soley Rd.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,100	\$ -	\$ 4,100
4	Pascagoula River at North Deep Slough	\$ 17,300	\$ -	\$ 35,000	\$ -	\$ 12,800	\$ 14,300	\$ 11,300	\$ 4,100	\$ -	\$ 94,800
5	Pascagoula River at South Deep Slough	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,300	\$ -	\$ 4,100	\$ -	\$ 18,400
6	Big Black Creek	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,100	\$ -	\$ 4,100
7	Overstreet Landing	\$ 17,300	\$ -	\$ 35,000	\$ 75,600	\$ -	\$ 14,300	\$ 11,300	\$ 8,200	\$ -	\$ 161,700
8	Roy Cumbest Bridge Boat Ramp	\$ 17,300	\$ 68,000	\$ -	\$ 75,600	\$ -	\$ 14,300	\$ 11,300	\$ 8,200	\$ -	\$ 194,700
9	Caswell Island	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,300	\$ -	\$ 4,100	\$ 29,000	\$ 47,400
10	Cumbest Bluff Boat Ramp	\$ 17,300	\$ -	\$ 35,000	\$ 75,600	\$ -	\$ -	\$ -	\$ 4,100	\$ -	\$ 132,000
11	Split E & W Pascagoula River	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,100	\$ -	\$ 4,100
12 W	Poticaw Landing Boat Ramp W	\$ -	\$ -	\$ 35,000	\$ -	\$ -	\$ -	\$ 11,300	\$ 8,200	\$ -	\$ 54,500
13 W	Hickory Hills Country Club	\$ 17,300	\$ -	\$ 35,000	\$ -	\$ -	\$ 14,300	\$ 11,300	\$ 4,100	\$ -	\$ 82,000
14 W	I-10 Rest Stop W	\$ 17,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,100	\$ -	\$ 21,400
15 W	Indian Point RV Park W	\$ 17,300	\$ -	\$ 35,000	\$ -	\$ -	\$ -	\$ 11,300	\$ 4,100	\$ -	\$ 67,700
16 W	Huck's Cove W	\$ 17,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,300	\$ 4,100	\$ -	\$ 32,700
17 W	Mary Walker Bayou Marina W	\$ 17,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,100	\$ -	\$ 21,400
18 W	George Martin Park W	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,300	\$ 4,100	\$ -	\$ 15,400
19 W	MGCCC Estuarine Center	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,300	\$ 11,300	\$ 4,100	\$ -	\$ 29,700
20 W	Shepard State Park W	\$ 17,300	\$ 68,000	\$ -	\$ -	\$ -	\$ -	\$ 11,300	\$ 8,200	\$ -	\$ 104,800
12 E	Little River Marina E	\$ 17,300	\$ -	\$ 35,000	\$ -	\$ -	\$ -	\$ 11,300	\$ 4,100	\$ -	\$ 67,700
13 E	Four Mile Boat Creek Boat Launch	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,300	\$ 11,300	\$ -	\$ -	\$ 25,600
14 E	Roberts Road E	\$ 17,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,300	\$ 4,100	\$ -	\$ 32,700
--	New Campgrounds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 29,000	\$ 29,000
--	Wayfinding Signs - 50 Each	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 205,000	\$ -	\$ 205,000
--	Mile Marker Signs - 65 Each	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 266,500	\$ -	\$ 266,500
<b>Project Subtotal Total</b>											<b>\$ 1,729,700</b>
<b>Maps, Website, and App Development</b>											<b>\$ 100,000</b>
<b>Professional Services (15%)</b>											<b>\$ 274,500</b>
<b>Contingency (20%)</b>											<b>\$ 420,900</b>
<b>Project Total</b>											<b>\$ 2,150,600</b>
Note: X=Existing N=Need P=Possible Blank options were not accessible, not possible, or not recommended											

### APPENDIX A.2 – CONCEPTUAL OPINION OF PROBABLE COST



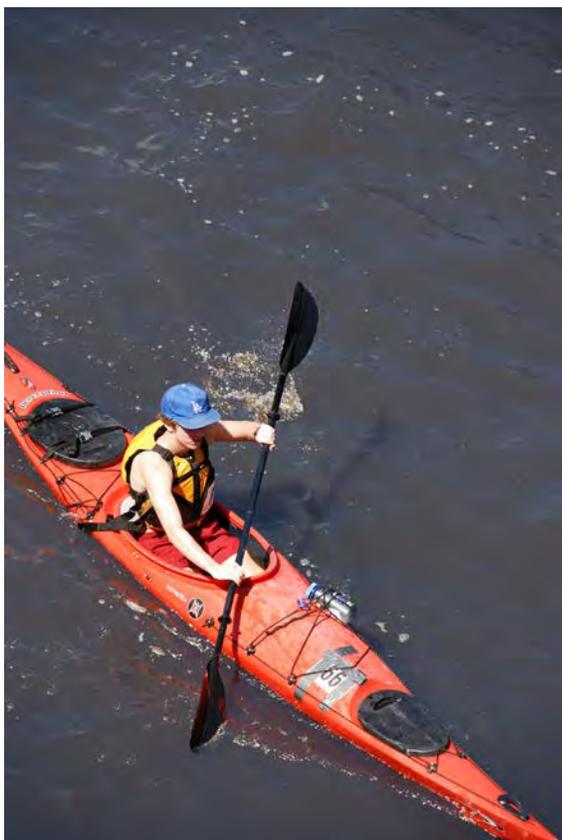
## **APPENDIX B**

### **MISSISSIPPI GULF COAST BLUEWAY DESIGN GUIDE**



# BLUEWAYS DESIGN GUIDE

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The Mississippi Gulf Coast National Heritage Area (MGCNHA) seeks to celebrate the individuality of each designated Blueway, while providing tools to further promote and enhance usage by locals and visitors. Mississippi Gulf Coast National Heritage Area Blueways is a program to provide a unified marketing effort along with financial and design assistance to existing and future Blueways. This overarching theme provides cohesiveness that will encourage the adventurer to explore designated trails in South Mississippi with pertinent, consistent information that is readily accessible.

#### **WHAT IS A BLUEWAY?**

The National Park Service defines blueway, or water trail, as “a stretch of river, a shoreline, or an ocean that has been mapped out with intent to create an educational, scenic, and challenging experience for recreational canoers and kayakers. The trails are organized by local volunteers with the help of public officials and private landowners, all of whom promote its proper use and maintenance.” (Source: Water Trail Planning 101, National Park Service)

#### **WHAT IS THE DIFFERENCE BETWEEN A BLUEWAY AND A WATER TRAIL?**

American Rivers describes blue trails, water trails, and blueways, one and the same, as “...the water equivalent to hiking trails. They are created to facilitate recreation in and along rivers, coastal areas and other water bodies. They are found in urban settings and remote environments. Blue trails come in all shapes and sizes and are used by paddlers, anglers, hikers, picnickers, and those just seeking a bit of solitude.” (Source: americanrivers.org)

#### **WHY IS A BLUEWAY OR WATER TRAIL IMPORTANT TO THE LOCAL ECONOMY?**

Water trail programs contribute to the health of the outdoor recreation industry, which includes 140 million Americans who spent \$646 billion on outdoor recreation, and created \$80 billion per year in national, state, and local tax revenues. They have the potential to diversify and improve the economy of connecting communities. (Source: The Outdoor Recreation Economy, 2012)

#### **WHY ARE BLUEWAYS IMPORTANT TO A NATIONAL HERITAGE AREA?**

National Heritage Areas are places where historic, cultural, and natural resources combine to form cohesive, nationally important landscapes. Unlike national parks, National Heritage Areas are large, lived-in landscapes. Therefore, the celebration and promotion of blueways are a component to the management plan for the Mississippi Gulf Coast National Heritage Area.

#### **WHY SHOULD ESTABLISHED BLUEWAYS CONSIDER INCORPORATING MGCNHA BLUEWAYS BRAND IN THE EXISTING MATERIALS?**

There are ten (10) established blueways, with others currently in planning stages, and many additional opportunities. By adopting an overarching theme for marketing purposes, each blueway or water trail keeps its own identity, but is part of a larger network of trails that can be promoted locally, state-wide, and nation-wide in a unified way. Most importantly, this program provides for the replacement of missing signage along blueway trails and at trail-heads.

Contact the MGCNHA to incorporate planned blueways into the network.

# Creating a Blueway in 5 Steps

1

## The why, the where, and the who

Is there a special waterway in your area?

- Identify the intended blueway.

What are your reasons for creating a blueway? (Examples: tourism, preservation of natural areas, etc.)

Who will be involved as potential partners?

- Establish a presentation outlining the vision that can be used to present in person and draw support and commitment from the necessary public agencies, private land owners, and public interest groups.
- You will need both public and private support on state and county levels. Government agencies that tend to be involved are: EPA, Mississippi Department of Wildlife, Fisheries and Parks, Mississippi Department of Environmental Quality, the Secretary of State, and the Mississippi Department of Marine Resources. Other partners might include: local Chambers of Commerce, Police Department, Watershed Planning Committee, First Responders, and hospitals with health initiatives. For private land owners with properties surrounding the intended blueway, a land ownership and use agreement will need to be established to make the blueway possible. Interest groups such as: kayak/canoe clubs, local enthusiasts, kayak rental companies, local recreation-based businesses and restaurants along the waterway. Interested citizens should also be engaged.

Hold a preliminary committee meeting involving all necessary groups. Plan to meet at least monthly until implementation is successful.

- Create a vision statement that clearly articulates what the group is intending to accomplish.
- Identify and establish the projected blueway including name, length, existing boat ramps and launches
- Identify existing features of the projected blueway including signage needed, security necessary, who will maintain the blueway, types of habitat, etc.
- Outline step-by-step process and assign deadlines for completion
- Assign specific roles and responsibilities to delegated representatives
- Determine costs and budget: Cost of proposed waterway and continued maintenance, primary sources of funding, and whether there is a need to have outside consultant assistance?

Plan next public meeting with key stakeholders to further discuss the blueway and instill a public buy-in for stewardship.

# Creating a Blueway in 5 Steps

2

## Preliminary Physical Inventory and Assessment

Collect mapping and background reports on the waterway area.

- Utilize a software program (i.e. Google Earth) to create a virtual tour of the blueway and establish GPS coordinates, and create a general design of the map.
- Identify public access points to the water that may be suitable as launch sites.

Take a field trip with involved representatives of the proposed blueway.

- Verify software maps with physical location, including mileage.
- Verify launch sites and handicap accessibility.
- Establish correct and proper names of areas (ask local population to verify).
- Utilize local knowledge to identify and take note of points of interest such as: wildlife areas, birding spots, fishing areas, land trail access.
- Establish water conditions using scale of Easy, Intermediate, and Difficult.
- Identify potential hazards.

Record the location of the Blueways component including making connections to points of interest: land-based trails and other recreation, natural, and cultural resources.

---

3

## Feasibility and Blueway Design

Devise goals and objectives to define the character of the proposed Blueway including provisions for protecting the resource that is also responsive to the needs of the landowners, the community, and the users. Draft land use permissions and agreements if necessary.

Prepare a Design Plan for all the Blueway components including signage and interpretive strategies.

- Establish stewardship and maintenance programs:
  - Blueways Management Action Plan
  - Volunteer programs
  - Outreach programs
- Promote strategies that have minimum-impact practices such as “Leave No Trace”.
- Promote species awareness to prevent transferring of invasive species.
- Follow and sign best practices for public safety.
- As part of the goals and objectives, prepare an Implementation Plan outlining timeline, costs, roles and responsibilities.

Review risk management issues for both development and operations, including provision of insurance.

# Creating a Blueway in 5 Steps

4

## Marketing and Public Engagement

Develop a Blueway Brochure:

- Implement consistent text with the Blueway design such as “Leave No Trace”.
- List requirements and rules for Blueway such as permits needed for Wildlife Management Areas or camping.
- List important information such as numbers to contact in the event of an emergency or violation.
- Implement Blueways map with all points of interest: List all names of focus points, for example: Mississippi Gulf Coast National Heritage Area.
- List all government agency sponsorships and partnerships .

Design a website:

- Website needs to have consistent information with design and brochure.
- Create a PDF to download trail map and information.
- Verify safety information is up to date, and provide information regarding trail maintenance, issues or hazards, volunteer opportunities and community events.

Conduct public engagement sessions throughout the process:

- Initially collect information about the resources and gauge level of interest in Blueway.
- Present the development scheme for feedback and for public buy-in.

Host special promotional events.

Conduct clean-up campaigns.

Recruit volunteers to undertake the day-to-day stewardship tasks.

Establish outreach programs to recruit new Blueway users and volunteers such as high schools, colleges, universities, and military.

5

## Implementation

Finalize the design with documents of infrastructure elements like access roads, parking, trails, launches, and amenities such as benches and trash cans.

- Record the design conditions with GPS coordinates.
- Begin permitting process; a completed design will be necessary.
- Monitor to ensure the resource is being protected and that user regulations are being followed.
- Ensure safety information is effectively warning users of the risks, and that seasonal variations in the water conditions are accurately presented.



## Elements of a Successful Blueway Trail

- Trail Name
- Trailhead Location(s)
- Latitude/Longitude
- Length of Trail
- Level of Difficulty
- Description
- Trail Amenities:
  - parking
  - restrooms
  - drinking water
  - trash disposal
  - signage
  - launch/pull-out
  - camping area
  - available cell phone signal
- Points of Interest:
  - scenic vistas
  - bayous/creeks/springs
  - wetlands
  - forests
  - cultural landmarks
  - historic landmarks
- Level of Accessibility
- Security:
  - lighted area
  - law enforcement patrols
- Natural Resources:
  - ecological classification
  - vegetation types
  - water resources
  - fisheries
  - wildlife
  - threatened or endangered species
  - habitat stewardship
- Cultural Resources:
  - archaeological or historical features
  - socioeconomic features

# Trail Types

The Mississippi Gulf Coast offers two types of blueway trails: those in streams, rivers, and bayous; and tidal estuaries, bays, and coastal trails. In most cases, streams and bayous are characterized as having slower travel speeds, and many resting points. Large rivers, along with tidal estuaries, bays, and coastal areas, may have faster traveling speeds and motorized vessels.

## Streams, Rivers, and Bayous

These are primarily used by non-motorized vehicles such as canoes and kayaks. Paddling routes should be designed to offer safe and reliable passage of a canoe or kayak, with trips of varying length to accommodate people with different levels of endurance. The primary consideration in the designation of paddling routes includes adequate signage, amenities, and support facilities.

- Access points should be located at maximum intervals of 5 miles.
- Camping and sanitary facilities should be located at maximum intervals of 20 miles.
- Portages should be kept to a minimum, but if required, should consist of established landings and a well-maintained natural surface trail without steep slopes.
- Accurate information about the route should be available at the trailhead and online, including a map of the river, mileage, points of interest, level of difficulty, etc.
- Uniform signage should include directional signage, wayfinding, points of interest, support facilities, and mileage.
- Hazards along the trail should be clearly marked.

## Tidal Estuaries and Coastal Trails

Boating trails at bays, estuaries, and the barrier islands are another way to explore the coastal area waterways. Most of these areas permit motorized vessels, so paddlers should be aware of the potential for conflicts, and learn the standard navigation rules. Boaters should strive to know all the expected requirements, including what to do in an encounter with commercial vessels, vessels engaged in fishing and diving and law enforcement personnel. At an absolute minimum, paddlers should know when to yield or give-way to another vessel.

Unlike roads and highways, waterways do not have road signs and many handheld maps do not accurately represent waterway information. Instead, the waterways have Aids To Navigation, all of those man-made objects used by mariners to determine position or a safe course. Aids To Navigation include buoys, day beacons, lights, lightships, lighthouses, radio beacons, fog signals, marks and other devices used to provide “street” signs on the water. Aids To Navigation include all the visible, audible and electronic symbols that are established by government and private authorities for piloting purposes. A clear, illustrated guide to navigation rules and Aids To Navigation may be found at: <https://www.boatus.org/navigation-rules/>

# Launch Points

Paddlers of all abilities want to launch and land smoothly without capsizing or damaging their boats. They need firm surfaces that support movement, and sufficient space to accommodate the length of their boat during put-in and take-out. Climbing in and out of boats can be especially challenging when there is significant height difference between seat levels and the shoreline. Additionally, federal law requires that all boating facilities provide access to paddlers with disabilities whenever possible. (Source: National Park Service, The ABCs of Logical, Lasting Launches)

## Beaches + Natural Slopes:

The simplest and most cost-effective launches require little or no construction. Paddlers may use natural features (e.g., riverbanks, rock outcrops, banks adjacent to bridges) or existing shorelines with decks, bulkheads or boardwalks. Any of these can suffice as long as currents in the area are not too strong, water depth allows for stable launching without damage to boats, and the vertical space between the shore and surface of the water is not excessive. Paddlers must also have enough space to place their boats in the water and easily step in or out of them. Native soil, sand, gravel, or vegetation may be added to improve drainage and control erosion; fist-sized rip-rap can be added to trap sediment and fill in over time.

- Natural materials unique to a particular area may blend with the natural landscape and be most easily accessible, such as crushed oyster shells.
- Flat rocks can provide excellent firm surfaces. Pointed or jagged rocks are not recommended, as they create unstable surfaces that can damage boats or injure paddlers.
- Matting can be used to temporarily stabilize a sandy beach with a firm substrate.
- Gravel can be used to form simple ramps, preferably in areas with minimal wave action or water level fluctuation.
- Braided rope, tied to a tree or other shoreline anchor, can serve as a makeshift handrail.
- Existing shoreline configurations (e.g., bulkheads, boardwalks, uneven rocks) can be converted into beach areas by adding firm sand substrates and/or gravel; these are called “implanted” beaches.



Source: River Management Society, National Park Service, Prepare to Launch  
Images: Allison Anderson

# Launch Points

## Boat Ramps, Docks + Piers:

Concrete ramps may be used as launches by themselves or in combination with floating launches, piers, bridges, dock abutments, bulkheads, and rock cribs. If the ramp connects to a floating launch using a bridge, a hinged metal transfer plate will allow an easier transition. Concrete must be installed in dry conditions. The area must be totally clear of water when any portion of the ramp extends beneath the surface of the water. The underwater area may need to be dried out with a cofferdam, a watertight enclosure that is temporarily used to pump water out of an area during construction. If lime is used in this process, it must be managed carefully so it does not enter the water where it can pose a danger to riparian species. Pre-cast concrete planks and panels should only be used in bodies of water with little to no current. Reinforced concrete is used for underwater sections of the ramp, and is typically 6-8" thick with reinforcing steel, and must be designed for its specific location by a professional engineer. Surface finish, including corrugated concrete, rock salt, or exposed aggregate may be applied to concrete to increase traction or improve its appearance. One popular finish uses 1" by 1" V-grooves formed at a 60-degree angle to the centerline. V-grooves should not be used on launches that serve wheelchair use as they are difficult to travel over/on when operating a wheelchair.

Pier structures can span marshes or shallow areas to enable launching in water of sufficient depth. In some cases, "approach pads" or walkway structures are designed to enable access to the launch itself. Structures are composed of a deck and frame, which stand above water level at all times, and are supported by piers. Decking is frequently made of wood, concrete, or composite wood materials. Piles are usually made of treated timber, steel pipes, or concrete.

Floating launches are structures that are not built into the bottom of the water body. Typically composed of a deck, frame, and floats, they are anchored to the shore. Paddlers launch from the deck, which is supported by the frame, while the floats beneath the frame provide buoyancy. Anchoring devices help to stabilize the launch and protect it from the elements. Pile guides are often used, allowing launches to adjust to changing water levels while keeping their decks horizontal and steady. When floating launches attach to connecting structures with varying heights (e.g., gangways), pile guides can help to maintain a relatively small cross slope, making launches more likely to be accessible to paddlers with disabilities. Floating launches are most effective when used on water with little debris and minimal exposure to strong currents or waves. In general, they can withstand flow rates up to 0.25 feet per second. Floating launches should be removed and secured during flooding or high flow events, and unless they are specifically designed to endure ice formation, they should be removed before freezing occurs.

A variety of materials can be used for the decks, frames, and floats that make up a floating launch:



- Plastics are regularly used for this launch design and have various levels of durability.
- Treated wood is another material that is commonly used for this type of design. Treated wood must be used with caution in regard to the environment and to the health of those involved in construction. While treated wood can last up to five times as long as untreated wood, there are risks involved with their preservatives and chemical treatments.
- Metal decking, such as aluminum, is used mainly for heavy-use launches that also serve motorized boats. Metal grating provides effective drainage and traction.

Source: River Management Society, National Park Service, Prepare to Launch  
Image: Bayou Bogue Homa, Allison Anderson

# Launch Points

## Stairs, Bulkheads + Seawalls:

Staircases composed of timber steps may be cost effective alternatives to concrete when working with a launch site along a steep shoreline. Timber may be built into a steep shoreline in a variety of manners, depending on a site's needs. For example, timber should be installed from the bottom of a slope upwards, stacked one upon another, in order to reinforce an eroding slope. Materials are pressure-treated timber, anchored with 1/2" rebar stakes, typically 24" long (4 at each step, minimum).

Bulkheads and the coastal seawall may present challenges for launching kayaks and canoes, but commercial ladders and lifts can be mounted on private bulkheads to make launching easier. Nothing may be mounted on public seawalls, levees, or other coastal infrastructure. The concrete seawall may offer some risk for launching, as adjacent water depths are unknown, steps may be slippery and footing compromised, and currents may threaten paddlers with overturning.



Source: River Management Society, National Park Service, Prepare to Launch

# Accessibility

The Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines, dated July 23, 2004 and enforced since March 2012, states:

Advisory 1001.1 Scope: Unless otherwise modified or specially addressed in Chapter 10, all other ADAAG provisions apply to the design and construction of recreational facilities and elements.

This section addresses recreational boating facilities, boarding piers, fishing piers and platforms, water play components, and sloped entries to water areas.

Accessible routes: Floors and ground surfaces shall be stable, firm, and slip resistant. The clear width shall be 36" minimum. The running slope shall be not steeper than 1:20. Cross slopes shall not be steeper than 1:48. Ramps provided with compliant handrails may be 1:12 maximum rise, with landings every 30" of vertical rise.

See specific requirements defined in the code: <https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/background/adaag>



*St Clair, MI: ADA canoe/kayak launch*

# Signage

Creating a trail network requires consistent, recognizable signage that guides visitors to recreational areas, explains trail conditions, highlights, and safety information, and provides information that will make their experience more enjoyable. Blueway trails are no different from land-based trails in this respect, even though they may present different challenges to visitors.

Trail users must have access to information, and it can be shared through a wide variety of formats including trailhead kiosks, brochures, websites, guidebooks, and trail signs. If trail users are uncertain about trail locations or directions, they may become disoriented, or follow waterways that leave them stranded or damage the environment. Signs handled in a consistent manner allow visitors to trust the information they are presented with, and better predict where the next piece of information is located.

The objectives of trail signage are to:

- Improve the trail user experience
- Enhance the safety of people, vehicles, and property
- Improve travel within and between trail systems
- Increase comfort and confidence in navigating the trail network
- Promote recreational trail use
- Protect the environment by directing visitors onto designated trails

A standardized signage system enhances the overall appearance of a trail network. These simple guidelines and templates are an attempt to create a personality or image that visitors are consistently drawn to explore. The signage elements included in this document use consistency in all signage elements. We encourage trail operators to be consistent with nomenclature; blueways should be named for the commonly known name of the waterway. Blueways should always be labelled with a consistent name, font, and colors.

This signage program provides a template for written directions, information, graphic maps, and precautionary messages in a clear and concise graphic manner. The MGCNHA is cognizant of the potential for sign pollution and wishes to eliminate extraneous or redundant signage, allowing visitors to self-navigate to their preferred destinations. Trail operators should ensure the signs are easy to read while moving, either from an automobile (guide signs) or a boat (directional signs and mile markers). In-depth information signage should be reserved for trailheads and other waiting/gathering areas.

There are several sign types included in the catalog:

- Guide Signs provide wayfinding to trailheads, parking areas, and pull-out points
- Directional Signs, Mile Markers, and Cautionary Signs follow the trail to identify launch locations, points of interest, hazards, and identify progress along the trail, which is useful in an emergency
- Trailhead Signage include the trail map, legend, and rules of the trail
- Interpretive Signage provide information to enhance the experience, on ecological, historic, scenic, and cultural amenities along the trail
- Points of Interest Signage identify places to rest, get supplies, have a meal, or explore a publicly accessible feature

Signs should be placed where they are clearly visible to trail users. Eye level will be different depending on the type of trail user; this means that automobile signs are oriented to passengers seated in moving vehicles, and on-trail signs are oriented to paddlers. They should be well out of the path of travel, and a safe distance from the edge of the roadway, waterway, or parking area. If multiple signs are mounted on the same post, the primary message should be in the top position on the post.

# Signage



**Sign Maintenance:** Providing trail signage comes with a responsibility for long-term management. Trail operators, including volunteer organizations, should ensure that trail signs are maintained in good order, and that the signs continue to reflect the nature of the trail. It should also be noted that signage to be installed within a highway right-of-way must be approved by the Mississippi Department of Transportation; on city or county roads, the responsibility for placement and mounting details is typically determined by the local authority. Be sure to keep vegetation pruned from in front of signs at all times, especially in periods of high summer growth.

Viewing Distance (feet)	Capital Letter Height (inches)
0-20'	0.75"
21-27'	1"
28-41'	1.5"
42-55'	2"
56-83'	3"
84-111'	4"

**Sign Materials:** The preferred material for all signs is 5mm di-bond aluminum signage with vinyl graphics and a laminate layer for exterior use. Reflective material may be desirable for sign surfaces for high visibility in the dark.

**Mounting and Installation:** Signs should be installed with locking fasteners to make removal difficult. Aluminum nails should be used to attach signs. While vandalism is a possibility, MGCNHA recommends enlisting neighbors, users, and/or outfitters to monitor the trail and report any incidents.

**Accessories:** MGCNHA recommends trail operators do not incorporate space for printed map distribution at trailside locations, as most paddlers will use a website or photograph of the trailhead map. Brochure holders are fragile, subject to vandalism, and the maps need constant replenishing. Instead, use QR codes or web addresses to direct paddlers to online maps and information, which can be more easily updated. QR codes for each of the existing blueways are included in the blueway templates.

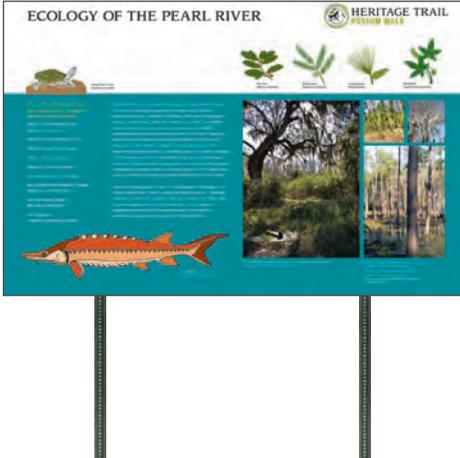
*(Source: New York State Parks Trails Technical Signage Guidelines)*

# Catalog of Signage

## Directional Signs: Federal and State Highways + Local Roads



## Trailheads, Maps + Interpretive Signs



## On the Water: Mile Markers, Directions + Points of Interest



## Directional Signs: Federal + State Highways

18"



Canoeing - RS 079

18"



Kayaking - RS 118

On federal highways, a standard set of icons provide directional information to blueway destinations. They are square format in the standard color used for guidance to sites of public recreation or cultural interest. The Federal Highway Administration Manual on Uniform Traffic Control Devices has established a guide for appropriate ink colors, and recreational signs use Pantone 469.

## Directional Signs: Local Roads



Local roads allow greater personalization of signage. The blueways community has agreed that consistency is desirable, so the attached directional signs should be used to point visitors to trailheads and launch points. The signs may be 4-color or monochrome using the standard Pantone 469 Brown. Fonts include Mosk and Aquatico.



## Trailhead Signs

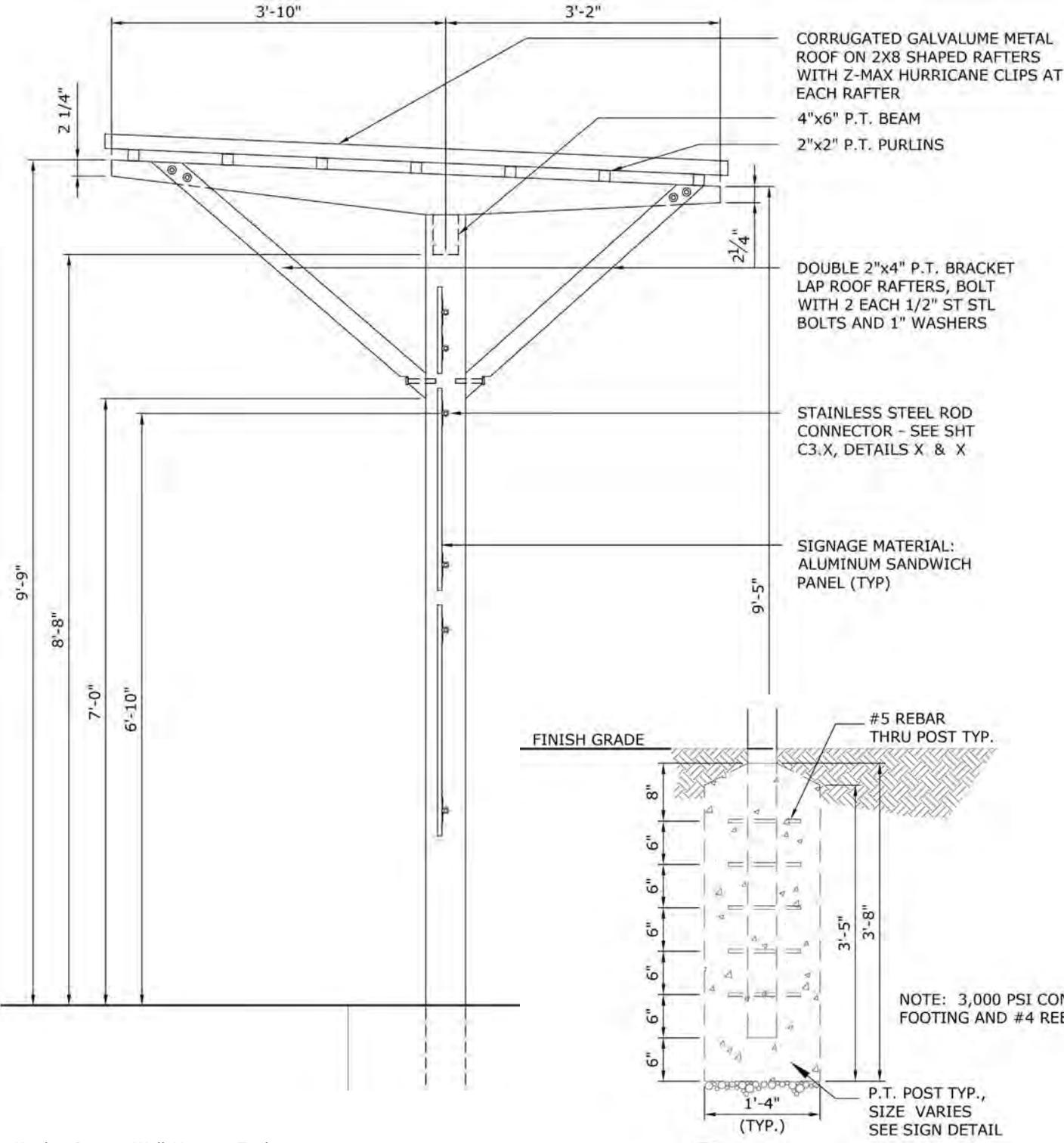
Upon arrival at the trailhead, signs should show additional information, such as a blueway map, known hazards, trail rules and access, and points of interest along the way. Signage may be mounted on standard posts or on a kiosk for greater visibility and durability.



*Kiosk at Possum Walk Heritage Trail  
Image: Allison Anderson*



# Trailhead Signs



Kiosk at Possum Walk Heritage Trail  
 Courtesy of Compton Engineering and unabridged Architecture



# Interpretive Signs

Interpretive signs guide people to immerse themselves in rich cultural history and natural scenery. Before researching, drafting the text, or designing a sign, the need for the interpretive sign must be determined. Answer the following questions:

- Is there something that needs explaining?
- Will something be missed without interpretation?
- Is a sign the appropriate form of interpretation?
- Will the sign help prevent damage to the site?
- Will enough visitors see the sign to make it cost effective?
- Who is the target audience of the sign?
- Will the signs damage the site?

There are different types of interpretive signs. Ask yourself if you want your sign to inform, educate, or entertain the audience. What are your objectives?

- What do you want the audience to know and learn?
- What do you want the audience to do?
- How do you want the audience to feel?

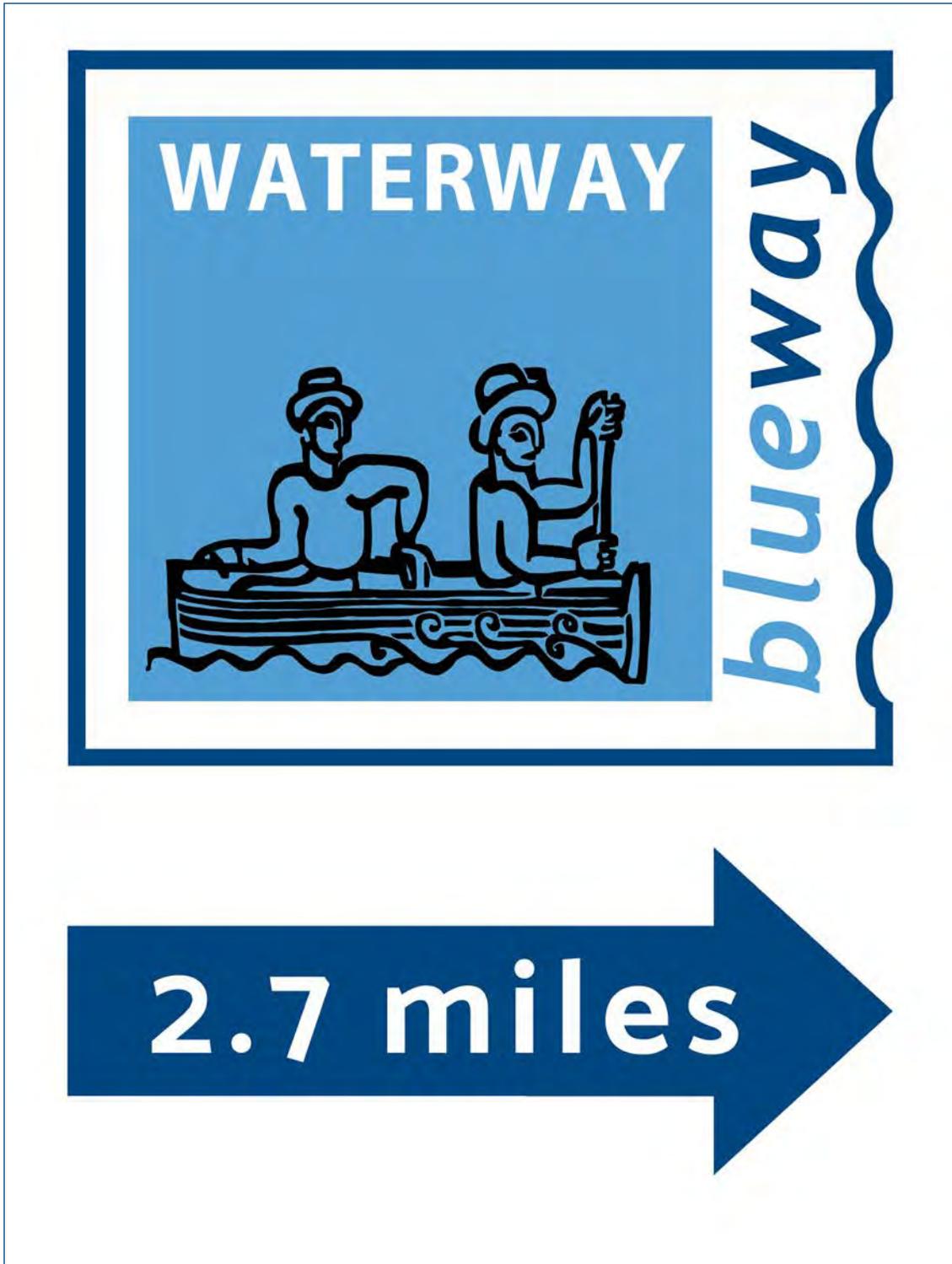
1. Interpretive signs illuminate the power of place. Clear educational messages and content inform the public of each site's historic significance.
2. Interpretive panels do more than provide just dates and facts. They also inspire a feeling of stewardship in site visitors, strengthening awareness of cultural and natural resources.
3. Thoughtful and well designed signage programs demonstrate community pride in local heritage.
4. Interpretive signage is self-sufficient: it provides a high-quality interpretive experience without the requirements of staff or facilities to maintain.
5. Interpretive signs provide a consistent message available to many visitors at one time, can be viewed at the visitors' convenience, and are available 24 hours a day.
6. Interpretive signage enhances visitor perceptions of a site, city, or region. By drawing attention to an area's unique history and identity, tourists better appreciate the story of a new place. Captivating interpretive signs and exhibits can become destinations in their own right.



# Guide Signs on the Water: Directions

*(Use where blueway has adopted the Walter Anderson logo)*

18"

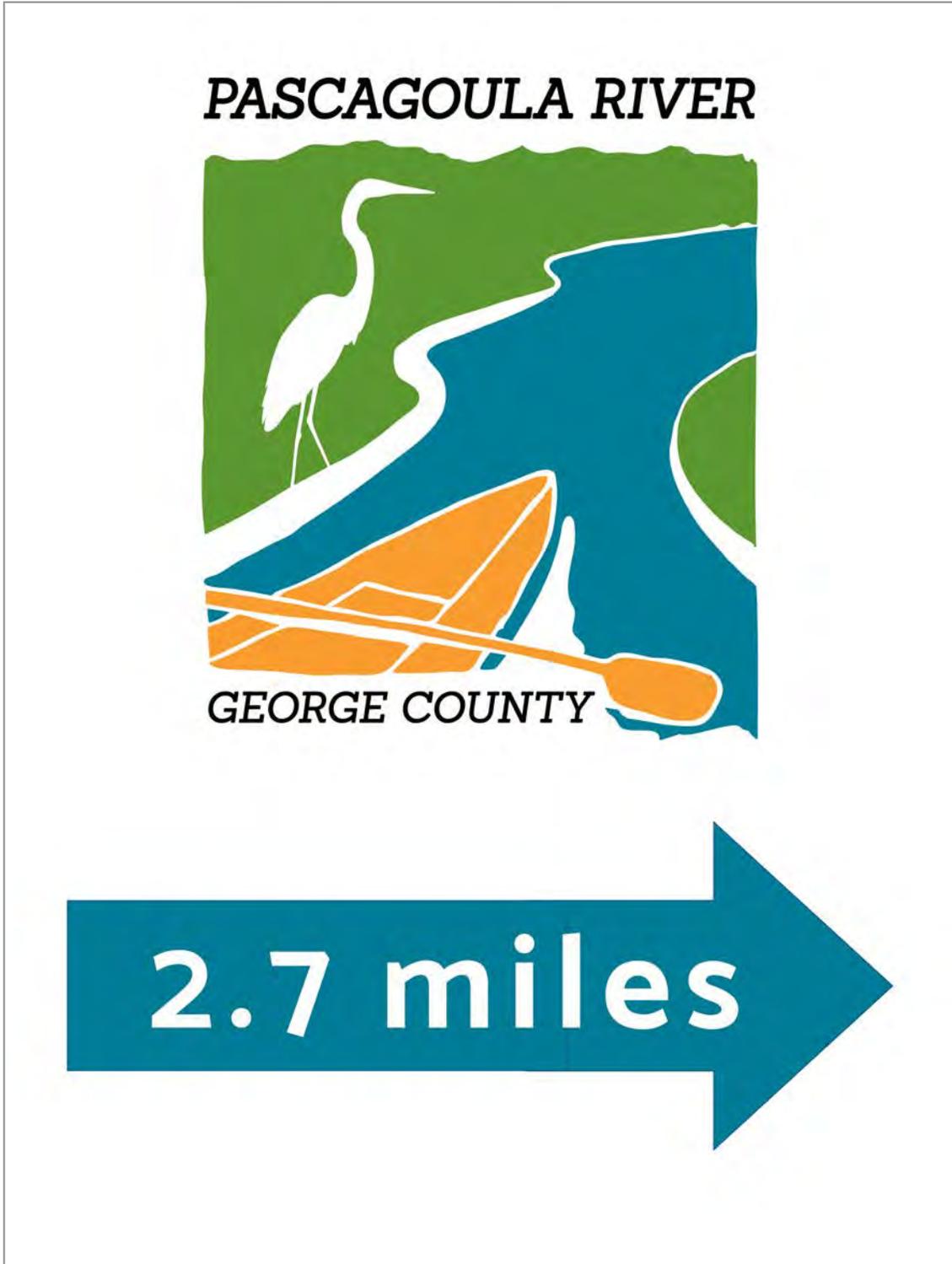


24"

# Guide Signs on the Water: Directions

*(Use where blueway has adopted their own logo)*

18"



24"

# Guide Signs on the Water: Directions

*(Use where blueway has not adopted a logo)*

18"



24"

# Mile Marker Signs

*(Use where blueway has adopted the Walter Anderson logo)*

24" wide

30" high



# JOURDAN RIVER



# Mile Marker Signs

*(Use where blueway has adopted their own logo)*

24" wide

30" high



**PASCAGOULA RIVER**  
*George County*



# Mile Marker Signs

*(Use where blueway has not adopted a logo)*

24" wide

30" high



Points of Interest Signs

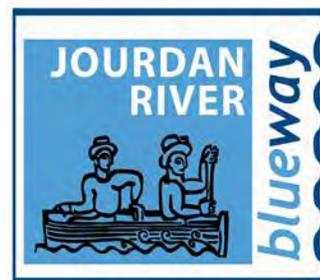
OPTION A

24"

30"



# Highway 26 Birding Spot



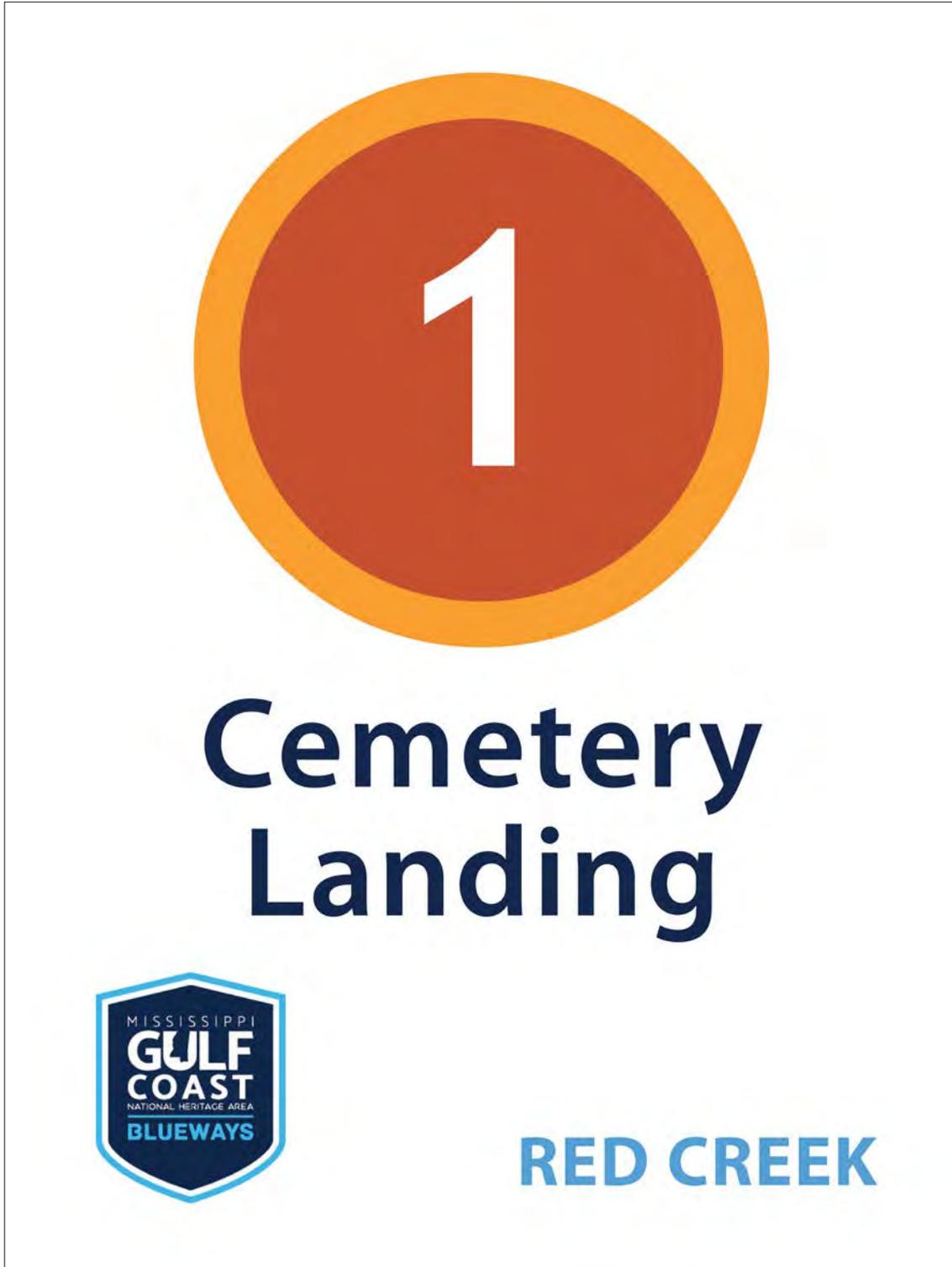
24"

30"

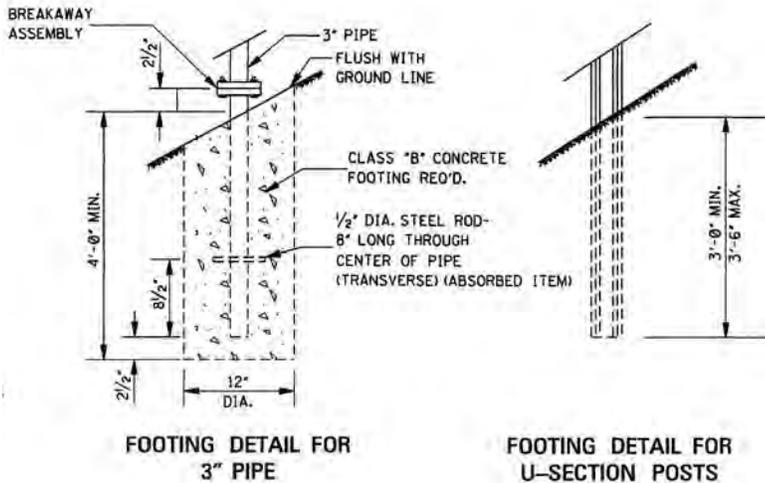


24"

30"

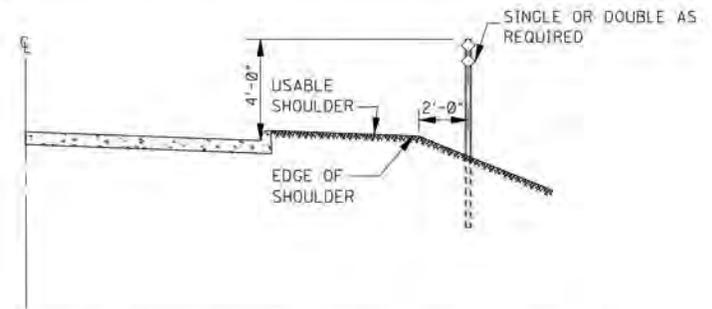


# Sign Mounting

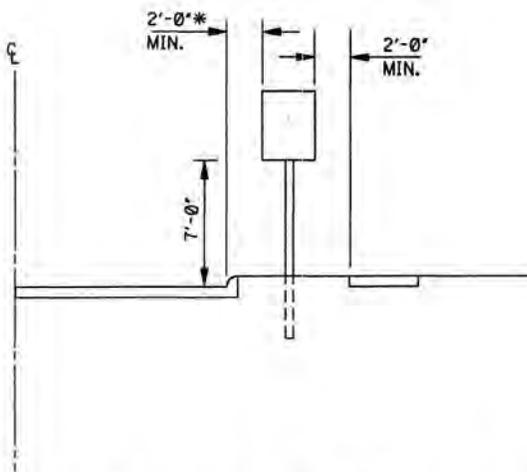


**GENERAL NOTES:**

1. UNLESS OTHERWISE SPECIFIED, HORIZONTAL BRACES ARE  $\frac{7}{16}$ " X  $\frac{1}{2}$ " X VARIABLE LENGTH FLAT STEEL BARS. BARS ARE WELDED TO PIPE AS SHOWN. WHEN FABRICATION IS COMPLETE, POST SHALL BE GALVANIZED AS PER SECTION 630 OF THE STANDARD SPECIFICATION.
2. HOLES IN FLAT BARS ARE  $\frac{3}{8}$ " DIAMETER.
3. SIGNS ARE FASTENED TO FLAT BARS AND U-SECTION POST WITH  $\frac{3}{16}$ " BOLTS, WITH FLAT WASHER AND LOCK-NUTS.
4. GROUND PLATE NOT REQUIRED ON U-SECTION POST.



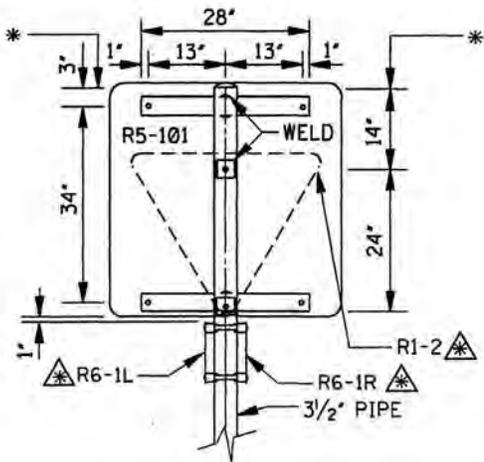
**DELINEATOR MOUNTING ON OUTSIDE SHOULDER MOUNTABLE CURB ALONG MAIN FACILITY OR RAMP**



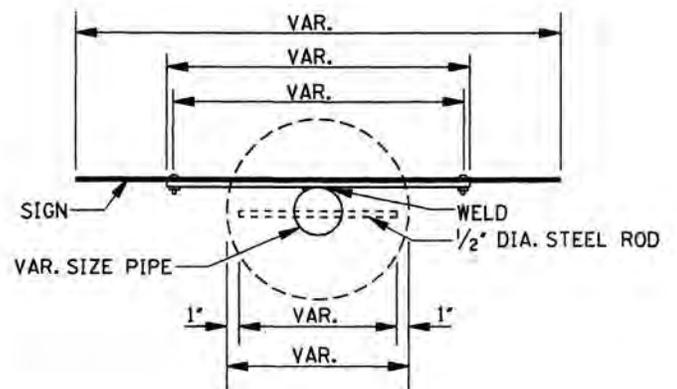
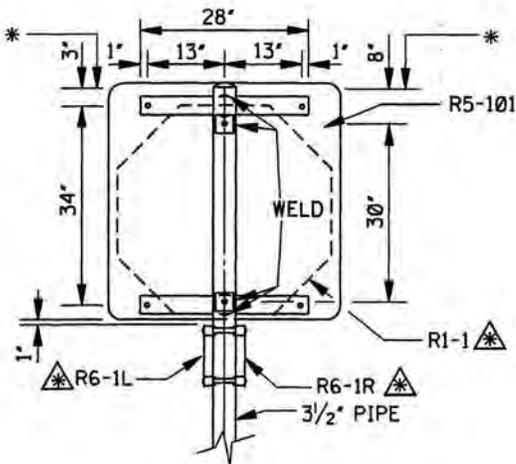
**TYPICAL INSTALLATION ALONG FRONTAGE ROAD, RAMP OR STREET WHERE THERE IS NOT A USABLE SHOULDER**

\* NOTE: THE 2'-0" MINIMUM OFFSET APPLIES ONLY TO STANDARD SIGNS MOUNTED ON U-SECTION POSTS. ALL STANDARD SIGNS MOUNTED ON PIPE WILL BE OFFSET A MINIMUM OF 4'-0". RAMP DESTINATION SIGNS WILL BE OFFSET 4'-0" FROM SHOULDERS.

# Sign Mounting



SEE PLAN VIEW BELOW  
 WHERE REQUIRED



TYPICAL PLAN VIEW

1. **FOOTING**  
 ALL FOOTINGS SHALL BE CLASS "B" CONCRETE. POST STUBS SHALL BE SET IN CONCRETE FOOTING AT REQUIRED GRADE AND ALIGNMENT WITH CARE SO THAT MINIMUM SHIMMING WILL BE REQUIRED.
2. **BASE CONNECTION PROCEDURE**  
 ASSEMBLE POST TO STUB WITH BOLTS AND WITH A FLAT WASHER ON EACH BOLT BETWEEN PLATES. SHIM AS REQUIRED TO PLUMB POST. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" TO 15" WRENCH TO BED WASHERS AND SHIMS AND TO CLEAN BOLT THREADS. THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE AS SHOWN BY TABLE. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH. HIGH STRENGTH BOLTS IN BASE CONNECTIONS SHALL BE TIGHTENED TO TORQUE AS SHOWN BY TABLE ON SN-6A. DO NOT OVER TIGHTEN!
3. **POST LENGTH**  
 ALL POST LENGTHS SHALL BE VERIFIED AND APPROVED BY THE ENGINEER PRIOR TO FABRICATION. WHERE FIELD CONDITIONS REQUIRE THE POST LENGTH TO VARY MORE THAN 12", IT MAY BE NECESSARY TO CHANGE THE SIZE OR NUMBER OF POSTS. SUCH DETERMINATION WILL BE MADE BY THE ROADWAY DESIGN ENGINEER. ANY CHANGE OF SIZE OR NUMBER OF POSTS SHALL NOT BE JUSTIFICATION FOR ANY CONTRACT PRICE ADJUSTMENTS.
4. **FABRICATOR NOTE**  
 IMPORTANT- ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN SHOP BY A METHOD APPROVED BY THE BRIDGE DESIGN ENGINEER. TIGHTENING SHALL BE TO SUCH A DEGREE AS TO PROVIDE THE MINIMUM TENSION IN EACH BOLT WHEN ALL BOLTS ARE TIGHT, AS SHOWN BY TABLE SN-6A.
5. ALL HOLES IN FUSE PLATES AND HINGE PLATES SHALL BE DRILLED.
6. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE ACCEPTABLE.
7. **WELDING FOR STEEL SIGN SUPPORTS**  
 WELDING SHALL BE PERFORMED IN SHOP BY ELECTRIC ARC PROCESS.
8. **MATERIAL SPECIFICATIONS**  
 THE MATERIALS USED IN THE CONSTRUCTION OF THE GROUND MOUNTED SIGN SUPPORT STRUCTURES, AS LISTED BELOW, SHALL CONFORM WITH THE REQUIREMENTS OF THE DESIGNATED ASTM SPECIFICATION. ALL OTHER MATERIALS, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS, EXCEPT AS OTHERWISE NOTED ON THE PLANS.

# Amenities

Recreational Trail amenities provide comfort and convenience for visitors and trail users. These include:

- Parking
- Restrooms
- Camping
- Concessions
- Trash/Recycling
- Benches

Recommendations for each of these subjects are outlined in the following pages.



## Amenities: Parking

Parking areas for blueway launch sites include rural areas where improved roads are rare, and urban areas in the midst of commercial and residential uses. As the first and last impression for blueway users, parking areas should be environmentally-friendly and inspire a connection between people and nature. Pervious solutions are recommended at parking areas to allow stormwater to infiltrate the ground, filter out contaminants, and intercept potential marine debris.

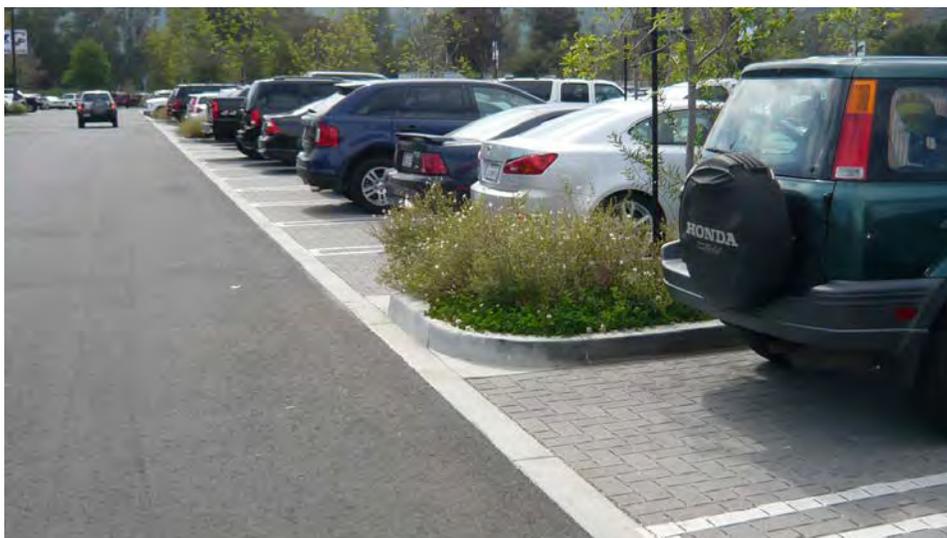
In undeveloped areas, the lowest-initial cost and lowest-maintenance solution will be a gravel or recycled concrete surface. Generally, the following materials provide firmer surfaces that are more stable than the alternative:

- Crushed rock (rather than uncrushed gravel)
- Rocks with broken faces (rather than rounded rocks)
- A rock mixture containing a full spectrum of sieve sizes, including fine material (rather than a single size)
- Hard rock (rather than soft rock that breaks down easily)
- Rock that passes through a 1/4-inch screen (rather than larger rocks)
- Rock material that is compacted in 3- to 4-inch layers (rather than thicker layers)

Pervious pavement effectively treats, detains, and infiltrates stormwater runoff where landscape-based strategies are insufficient. Pervious pavements must be designed to account for the native subsoil infiltration rate. The depth of the pervious layer, void space, and the infiltration rate of the underlying soils result in the desired storage volume and intended drain time of the facility. Acceptable materials in Mississippi should be based on engineering constraints and the surrounding street context, but typically include:

- Interlocking pavers
- Permeable concrete
- Permeable asphalt

ADA standards require a minimum number of accessible parking spaces [ADAAG §208.2]: a lot with with 1-25 spaces requires 1 van-accessible space. To maintain handicap access, aggregate must meet the ADA requirements: stable, firm, and slip resistant. Most loose materials, including gravel, will not meet these requirements unless properly treated to provide sufficient surface integrity and resilience. Binders, consolidants, compaction, and grid forms may enable some of these materials to perform satisfactorily but require repeated maintenance.



*interlocking pavers*



*compacted, crushed rock with fines*

## Amenities: Restrooms

The expansion of blueways along the Gulf Coast means providing comfort for novice paddlers, which often requires comfort stations. Although primitive facilities may be acceptable - even expected - by seasoned paddlers, children and others unfamiliar with day-long outdoor excursions may prefer portable or permanent restrooms. However, restrooms require maintenance, either daily or weekly, depending on use and standards; this should be the primary factor in determining whether or not to provide restrooms. Restrooms may be available at adjacent public parks and facilities. Working with the organization in charge of trail maintenance will determine the best option.

In many of the gulf area coastal plains, permanently plumbed restrooms are prohibited due to floodplain regulations. In these locations, restrooms must be elevated or on mobile chassis capable of being trailered away in advance of flooding or storms.



*mobile multi-stall unit*



*RR on mobile chassis*



*elevated above base flood elevation*

## Amenities: Camping

Many of the blueway trails flow through communities with overnight lodging, especially around the coastal towns, but several sections are currently available only as day use trails. Due to land ownership and wildlife management issues, there is limited potential for ground camping. Elevated camping platforms have been suggested as a solution that would allow uninterrupted, multi-day paddling trips, especially along the proposed Gulf Coast Saltwater Paddling Trail and the barrier islands of the National Seashore.

The factors that will determine the suitability of constructing a public camping platform include:

- ease of access by blueway trail users
- potential for use or abuse by non-blueway trail users
- environmental impact
- contribution to the blueway experience
- ability to work with partners (adjacent landowners, trail stewards, etc)

Recommendations include:

1. Create structures that are 20' x 20' or smaller.
2. Locate structures over non-vegetated land.
3. Floating platforms must have redundant, permanent anchors that are designed for anticipated flood levels.
4. Locate platforms in areas that do not conflict with existing or planned aquaculture areas, or prime fishing areas.
5. Restrooms are not encouraged unless they are portable units with a regular replacement schedule.
6. Waste management should be addressed.
7. Signage indicating rules, fees, hazards, and environmental impact should be posted at each structure.
8. Seasonal closure may be indicated where paddling users may encounter hunting preserves.
9. An agency or organization must be designated to maintain the structures in good condition, hold liability insurance, patrol the sites regularly and regulate conflicts.



*Hell's Bay Chickee, Florida*



*Dead Lake Bartram Canoe Trail, Alabama*

In situations where the trail and infrastructure crosses properties owned by multiple stakeholders, a non-profit trail management organization set up as a 501 c(3) entity is the predominant model. For example, the Maine Island Trail stretches 350 miles along the coast and includes 150 properties belonging to a variety of landowners. The non-profit maintains ownership of all trail infrastructure, and use of the platforms and land-based sites is regulated by the organization. Fees are charged to users of the facilities, and the organization is responsible for the upkeep and maintenance of the camping facilities. Liability insurance on camping platforms is maintained by the organization. Land sites are leased to the trail organization, which creates management contracts with property owners.



## Amenities: Concessions

To take full advantage of the opportunities the blueway creates for outdoor activity—for fun, fitness, and for the enjoyment of the natural environment—watershed residents will want access to equipment such as canoes and kayaks, life jackets, and provisions. They also will need access to information and programming that encourages trying out new activities, at little or no cost and in settings that feel comfortable and safe. People’s experience of the blueway will also be enhanced by amenities along and near by the water. There is potential for food and drink sales from convenience stores to sit-down restaurants. Consider the following opportunities for concessions along the blueways:

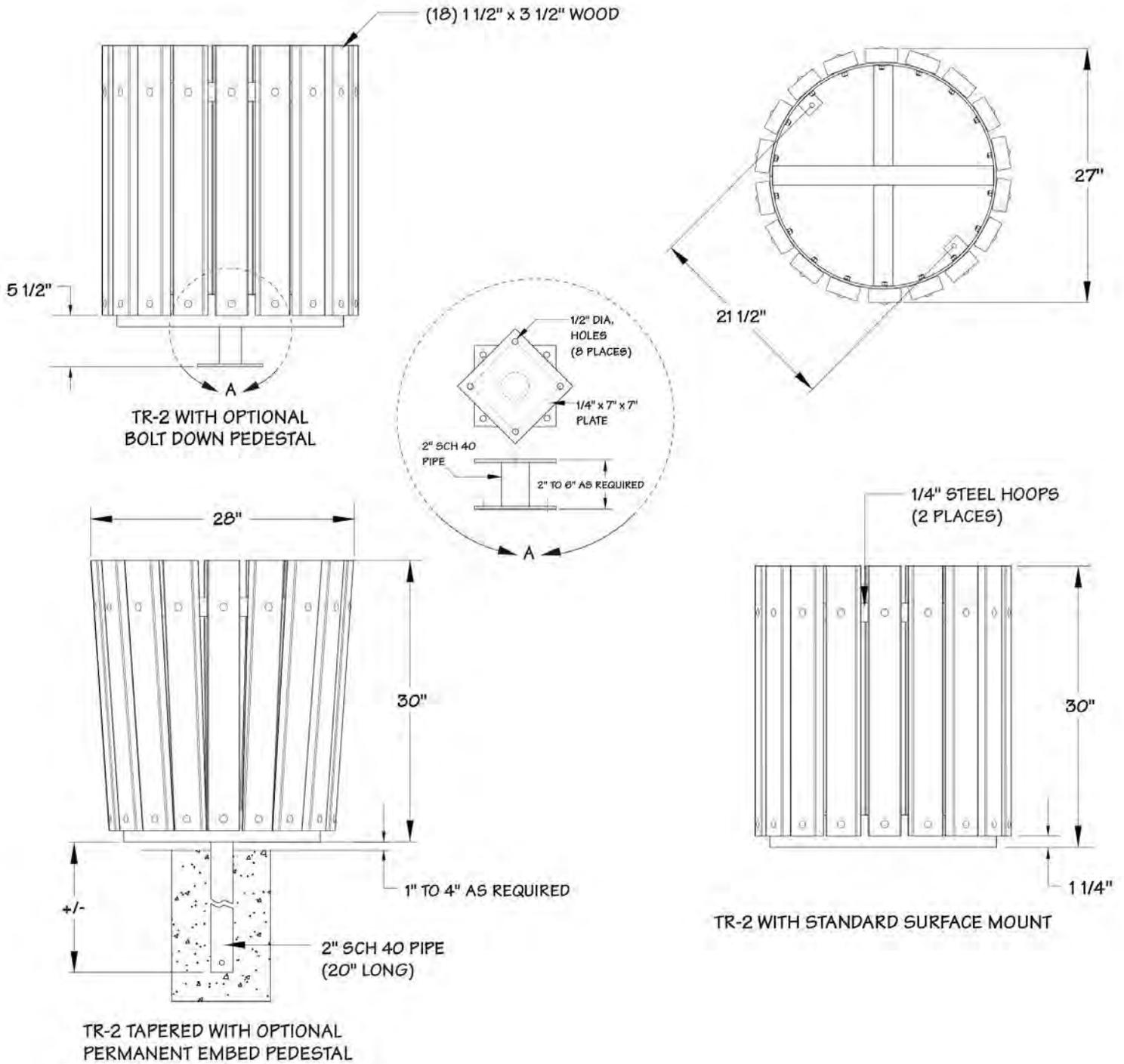
- Canoe/kayak/standup paddleboard rentals + instruction
- Boats/equipment/gear sales
- Personal comfort: clothing, sunscreen, insect repellent + souvenirs
- Guided blueway tours + shuttle services
- Dive tours
- Fishing license sales
- Campsites + lodging
- Picnic lunches/convenience stores/waterside restaurants
- Agritourism - aquaculture tours, oyster tonging demonstrations, vineyards, farms, shrimping trip
- Land-based activities: bike rentals, skateboards, roller skates + running gear
- Blueway Events: paddling clubs, races, triathlons, scavenger hunts, etc

Gulf Coast Outpost is a voluntary program that recognizes nature-based tourism businesses who are knowledgeable about the natural product, prioritize customer safety and protect the natural environment. The target audience for nature-based business recognition includes businesses whose primary purpose is contributing to the enjoyment of South Mississippi’s natural heritage. This includes tour guides, charter boat operators, eco-fitness guides, outfitters, eco-lodges, agritourism and other businesses where nature-based activities are 50 percent or more of the primary business line. Look for the Gulf Coast Outpost seal and consider incorporating businesses as a Point of Interest along blueways.



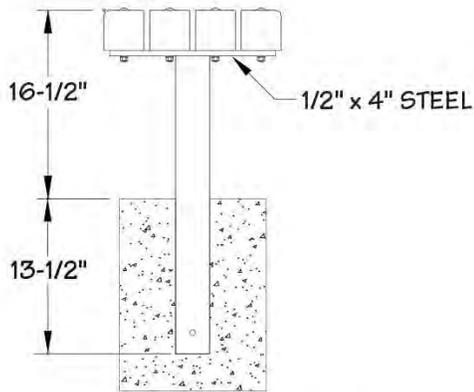
*Standup paddleboard race on Mallini Bayou. Photos by Allison Anderson*

# Amenities: Trash/Recycling



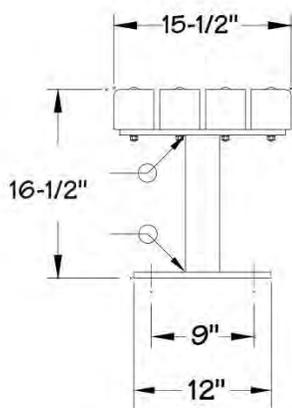
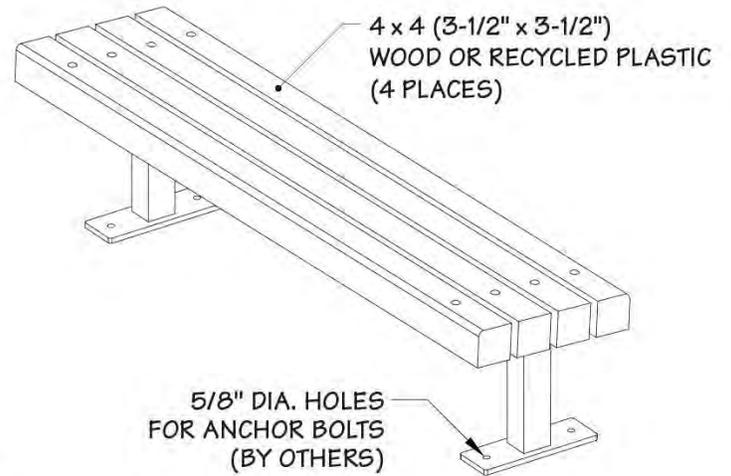
Source: FairWeather Site Furnishings Receptacles

## Amenities: Benches

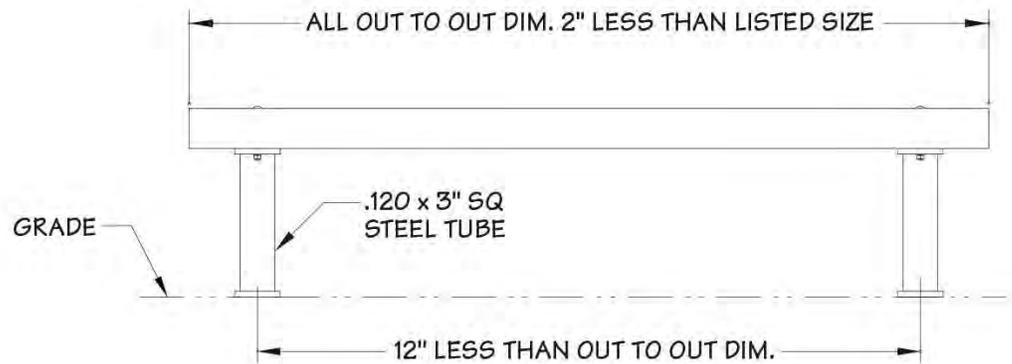


### EMBED MOUNT

**Please Note:** For embed mount, depth and diameter of installation hole may vary with soil conditions. Consult project engineer for correct dimensions.



### SURFACE MOUNT



Source: FairWeather Site Furnishings, Transit bench Model T-1



## Nature-Based Tourism Amenities

The Mississippi Gulf Coast National Heritage Area is a federally designated National Heritage Area along the gulf coast of Mississippi. The designated area comprises six counties recognized for their unique cultural and scenic qualities, which encourage nature-based tourism throughout Mississippi's coastal region. More information may be found at: <http://msgulfcoastheritage.ms.gov/>

### Water Activities



**PADDLING**



**FISHING**



**SWIMMING**



**CRABBING**



**CASTNET**

### Land-Based Activities



**HIKING**



**PICNIC**



**BIKING**



**CAMPING**



**HORSEBACK RIDING**



**BIRDING**



**TOUR**



**CORN MAZE**



**FARM**



**U-PICK**

# Permitting

Permits for Blueways will vary depending on if waterways are tidally influenced and if they travel across federal or state lands.

Once a stream is selected and determined to be tidal, contact the Secretary of State to request confirmation of permit requirements. If permitting is needed by the Secretary of State, an Application for Standard Lease of Public Trust Tidelands, available on the Secretary of State's website, will need to be submitted.

Within the three coastal counties of Mississippi, the Joint Application and Notification Form on the Mississippi Department of Marine Resources (MDMR) website will need to be completed and filed with the MDMR for any wetland activities. MDMR will then file any necessary information with the U.S. Army Corps of Engineers. When filing the Joint Application and Notification Form, be prepared to supply an accurate sample drawing, adjacent property owner authorization for any construction within 10 feet of their property, clear and concise directions to the project site including a map, and payment for any applicable fees.

If the stream flows over federal lands, contact the federal agency managing the lands. Typically the federal agency in the coastal counties will be the Desoto National Forest branch of the US Forestry Service. Standard Form 299 Prescribed by DOI/USDA/DOT will need to be filled out for Application for Transportation and Utility Systems and Facilities on Federal Lands. Form FS-2700-3b will need to be filled out for the US Forestry Service.

MS Department of Wildlife Fisheries & Parks requirements must be met for Blueways through Wildlife Management areas. Contact the Wildlife Management Area (WMA) South East Region Biologist regarding necessary permit applications.

Structures such as docks, launches, buildings for camping and/or protection from weather will need to be permitted by city, county, state, or government agencies that control the land.

Samples of the above mentioned permits and contact information are available in the Appendix.



Old Fort Bayou. Photo by Allison Anderson

## Security

Knowing where you are is essential in an emergency - this is why mile markers are recommended along blueways. Paddlers should remember the last marker passed, file a float plan with someone they trust, go with a friend, bring a first aid kit, and recognize that cell phone coverage may be interrupted.

There may be conflicts between users: motorized/nonmotorized boaters, scheduled athletic events/individual paddlers, and weary paddlers and property owners. Hunting season may limit access to blueway trails at designated periods during the year.

The following general recommendations apply:

- Alcohol is not recommended on blueway trails, and is prohibited in several counties (Stone, George, Pearl River).
- Alcohol is prohibited in Wildlife Management Areas.
- Always wear a life jacket and carry a whistle or other sound-producing device, preferably attached to your life jacket.
- Wildlife may be present in natural areas.
- Paddlers should check water level and tides, weather, and waterway conditions prior to every trip.
- Remove what you bring, and clean up more if you can.
- Avoid trespassing on private lands.
- Be aware of your surroundings.
- Always respect wildlife.
- Report any problems you encounter to the local authorities if appropriate.
- Be aware of hunting activities that may be present near blueway trails, and take appropriate precautions. Mississippi's Wildlife Management Areas allow hunting from October 1 to May 1.

River stages and flood-stage forecasts for most rivers in Mississippi can be found by visiting the website: <http://www.weather.gov/lmrfc/>. NOAA provides information for the Pascagoula and Escatawpa Rivers via telephone at 228-769-6508.



## Habitat Types



### Wet Pine Savanna

With only 3-5% of the original acreage remaining, wet pine savannas are one of South Mississippi's most endangered ecosystems. These communities once extended along the coast from the western edge of Florida to Louisiana in a band approximately 62 miles wide. The Grand Bay Reserve and Weeks Bay Reserve contain some of the best remaining examples of this habitat type along the northern Gulf of Mexico. Pine savannas are fire-maintained grasslands with scattered pines and shrubs and sun loving, species-rich ground cover. These wetland habitats support as many as 40 species per square meter of grass, sedge and wildflower species. Carnivorous plants in the savannas, including pitcher plants, sundews, bladderworts and butterworts, attract, capture and digest prey such as insects and other small animals. Grass Pink and Ladies' Tresses orchids mingle with native grasses. Raccoons, Gulf Fritillary Butterflies, Bluebirds, Blue Grosbeaks, Blue Darner Dragonflies, Red Foxes and Rainbow Snakes regularly visit or live in these habitats. The endangered Mississippi Sandhill Crane is the most notable inhabitant of the wet pine savannas of south Mississippi.



### Swamps and Bottomland Hardwoods

Freshwater wetlands are characterized by the presence of standing water during part of the year and the presence of woody vegetation. It is the coastal swamp that many visitors to our area associate with the Deep South. The most common trees found in these habitats include the Tupelo Gum and two species of cypress – Pond and Bald. These trees have special adaptations that allow them to live in standing water. Both have what is called a buttress (swollen) base. Additionally, the cypress trees have “knees,” structures that arise from the ground and are thought to help the trees deal with the variable conditions that occur in wet soils. Many coastal species of wildlife, such as waterfowl and warblers, utilize these habitats for water, food and protective cover. The swamps and bottomland hardwoods may serve as important breeding sites for many of our coastal species of amphibians and reptiles such as sirens (large, aquatic salamanders), frogs, toads, turtles and alligators.

# Habitat Types



## Salt and Brackish Marshes

Estuaries occur where freshwater from rivers and streams mixes with the saltwater of the sea to form brackish water influenced by the rise and fall of the tides. The Smooth Cordgrass of the lower marsh is found where the brackish tidal waters regularly sweep in, bringing small animals to feed in and among the vegetation. As the tides flush out of the area, they take tiny bits of food called detritus on which many important species of small coastal finfish and shellfish feed. Scattered within the mid-marsh are salty areas of sparse vegetation known as salt pannes. Plants and animals living in these salt pannes must be extremely salt and heat tolerant.

Salt marshes provide nursery, feeding and shelter habitats for many coastal species of fish, shellfish and other animals, buffer the mainland from powerful storm surges, filter pollutants flowing off the adjacent land, and provide recreational opportunities for fishermen, hunters and birdwatchers. Diamondback Terrapins, Raccoons, American Alligators, Oyster Catchers, Brown and White Pelicans (migratory), and Clapper Rails are just a few of the animals that live here.



## Freshwater Marshes

Vegetation in freshwater marshes is generally grass-like, although it can be home to a few water-tolerant species of trees like pond and bald cypress. Dense stands of Sawgrass provide habitat for nesting birds, alligators, frogs, otters, and snakes. Ospreys, fish-eating birds of prey, nest in trees or tall structures on the edges of freshwater marshes. Tidal freshwater marshes are found upstream from brackish waterways. The ebb and flow of the tide still moves the water levels up and down in these streams, but there is very little movement of salt into these systems except during periods of extreme drought or tidal surge. Common plants include Arrowhead, Pickerelweed, Cattail and submerged American Eelgrass. Freshwater marshes filter polluted runoff from adjacent uplands, store floodwaters, recharge groundwater aquifers and provide nesting and over-wintering sites for recreationally important species of fish and waterfowl. Mammals such as beavers, muskrats and the invasive nutria also utilize these habitats throughout the year.

## Habitat Types



### Woodland Habitats

Woodland habitats are dominated by Slash Pines and Wiregrass and are often referred to as wet pine flatwoods; however, there are a few habitats located on higher ridges or relic American Indian shell middens (refuse piles) that support upland (non-wetland) hardwood species such as the evergreen Live Oak. The wooded areas located close enough to the saltwater bayous and bays to be periodically impacted by saltwater flooding or the salt spray are called maritime forests. During the early spring and fall months, these woodland habitats serve as critical “refueling” and resting stopover sites for birds migrating to and from Central and South America across the open water of the Gulf of Mexico. In the spring, it is not unusual to find Redstarts, Black and White Warblers, Wood Thrushes and other birds as they pass through this area on their way to their nesting habitats in the north. Woodland habitats include dry, sandy longleaf pine/scrub oak ridges, frequently flooded tupelo/bald cypress swamps, upland hardwood forests, and pitcher plant savannas.

## Stewardship and Maintenance

Once a blueway is established, stewardship and maintenance is required to maintain the public's level of enjoyment and use. Without a plan to take care of the water trail, the waterway can become littered, or impassable, and assets such as piers, launches and benches can fall into disrepair. Because the habitat types near the blueways can vary with the needs and goals of the surrounding communities, the stewardship and maintenance of each blueway must be unique to each individual area. Proper stewardship and maintenance of a blueway requires 3 steps. First, a management plan should be created to detail the proper goals for the blueway. Second, the plan should be implemented and documented. Last, the plan needs to be reviewed on a periodic basis and updated according to current needs and goals for the community.



# Stewardship and Maintenance

## Management Plan

It is important to work with sponsors and partners, making sure to maximize experience and strengths, as well as incorporating the data gathered from public engagement to guide the development, thus creating a better management plan. By taking the time to solicit this input, a stronger sense of ownership of the blueway will be developed creating a better partnership for executing the management plan.

Take a moment to review the planning strategies and site inventory gathered while creating the blueway, and then identify which areas of emphasis are most important to the community. Using this information, with the help of your community partners, develop a vision statement for the management plan. This should be an overreaching idea for what the community plans to achieve. For example, the Mississippi Coastal Preserves developed the following vision statement for their management plan:

“The long-term vision of this program is the management of Mississippi’s Coastal Preserves sites to provide long-term benefits to the natural resources and economic value of the region. Management goals will enhance and perpetuate approximately 83,000 acres of important coastal wetland resources, provide compatible human recreational use, provide research and data applicable to coastal resource management both on-site and off-site, and protect specific habitat necessary for native, threatened, or endangered species. State trust lands within the Coastal Preserve sites will be effectively managed to perpetuate their natural characteristics, features, ecological integrity, social, economic, and aesthetic values so that future generations may enjoy the benefits of viable wetland ecosystems.” (<http://www.dmr.ms.gov/index.php/wildlife-a-plants/coastal-preserves/60-coastal-preserves-mission-vision-and-goals>)

Once a vision statement is created, areas of emphasis should be defined and prioritized along with clear goals, objectives, and actions for each focus area. Examples of areas of emphasis include recreation, conservation, wildlife and habitat, and education and outreach. If one of the areas of emphasis for the blueway includes outreach and education, a goal may be to provide readily accessible information on the flora and fauna encountered on the blueway. Then one objective could be to create interesting and engaging signage at points of interest along the waterway. Actions for this objective could include plant sampling along the river and collecting data from local bird watching organizations.



# Stewardship and Maintenance

## Implementation and Documentation

Once a management plan is developed, it is useless unless it is put into practice. Activities must be documented and progress monitored in order to ensure not only that plan is being used, but also that the plan is working. Monitoring will also help to assess the impact that human use has on the environment, give early warning for any changes that may occur, and provide insight into the cause of problems. For example, if one action to improve recreation along a blueway is to install a launch, but the launch site rapidly deteriorates due to unseasonal flooding then the monitoring of the launch will provide an early warning that the construction of the launch needs to be modified in order to achieve the goal of increasing recreation.

It is important to develop a monitoring plan and solicit assistance to collect the needed information. When developing a monitoring plan, the following information needs to be defined:

- What type of information should be collected?
- What factors will determine the success or challenges associated with each action?
- How and where will data be collected?
- When and how often will data be collected?

The following items should be monitored:

- Condition of parking lot. Is it overgrown, is there litter, are signs in good condition?
- Signage and Kiosk. Are the signs legible/faded, is there any sign of vandalism, and are sign posts in good condition?
- Is all of the information up to date?
- Is there any outdoor lighting that needs repair?
- Is there a trail to the launch? What condition is it in? Is it overgrown? Are there signs of litter? Are there any invasive species growing along the trail?
- Condition of the launch. Are there any broken boards, signs of erosion, or signs of vandalism?
- Are there benches at the launch or take out sites? What is their condition?
- On the blueway, are all of the trail markers present and in good condition? Are there any signs of tampering? Are sign posts in good condition?
- Is there any sign of invasive species growing along the blueway? What about signs of camp fires or litter? Mark the coordinates with GPS if possible.
- Are there any safety concerns along the blueway like broken trees or branches? Are there signs of erosion along the banks? Is there any storm or wind damage?
- Are there changes in the blueway? Has the current gotten stronger or weaker in any particular location? Is the cause of the change identifiable? What is the color of the water? Is there an odor, oily sheen, algae, foam?

A sample checklist is provided in the Appendix.



## Stewardship and Maintenance

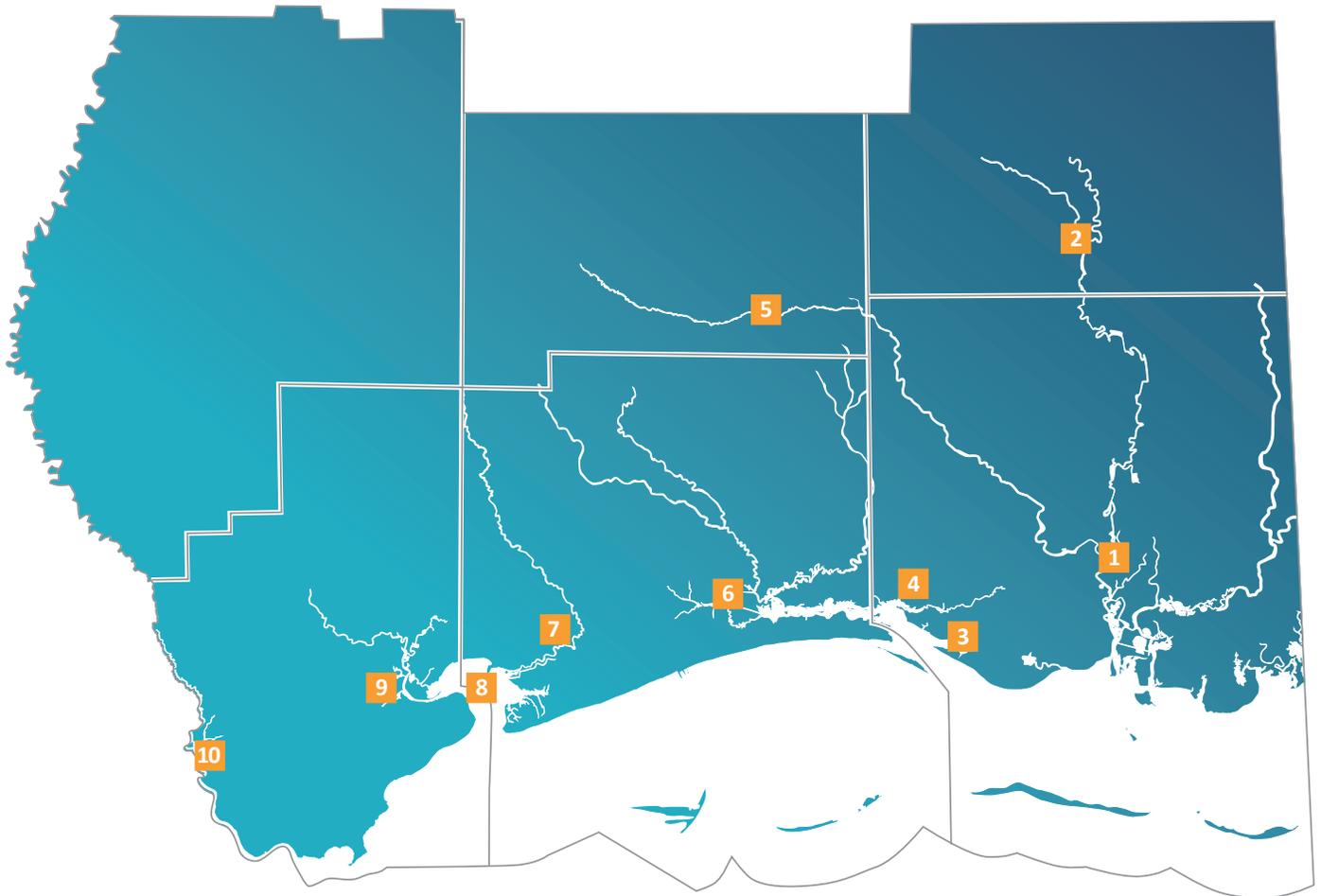
Once a monitoring plan is created, someone needs to carry out the monitoring. Participants could include those who helped with the development of the management plan. Outside help could be requested from organizations such as local non-profits, land management agencies, adopt-a-trail programs, or civic youth organizations. Signage should be developed to properly identify who maintains which segment of the blueway so the public can report any problems to the correct management group. Regular periodic maintenance events such as river clean-ups should be scheduled and publicized. Maintain a website with contact information and list the site on signage along the trail. Site surveys for the public are also useful for identifying issues along the trail.

### Review of Stewardship Plan

Periodically, the management plan should be reviewed to make sure the goals are being met and see if the focus needs to be modified. Allow enough time between reviews to see what impact has been made on the area, usually 5 to 7 years. It would be ideal to gather the same group of people who helped develop the original plan and include some newcomers to the area along with some of the people who have been frequently using the blueway and showing an interest in its maintenance. Evaluate if the Areas of Emphasis are still the same as they were when the plan was developed. Perhaps initially the focus was on education, but the surrounding area has been developed so the focus needs to shift to conservation. Replace strategies that aren't working with new ideas.



## Existing Blueways



### EXISTING BLUEWAYS

- 1 Pascagoula River Jackson County
- 2 Pascagoula River - George County
- 3 Davis Bayou
- 4 Old Fort Bayou
- 5 Red Creek
- 6 Turkey Creek
- 7 Wolf River
- 8 Grassy Point Trail
- 9 Jourdan River
- 10 Bayou Bogue Homa

# PASCAGOULA RIVER JACKSON COUNTY

**THE PASCAGOULA RIVER** is the longest free-flowing waterway in the lower 48 states, and the last unimpeded major river system in the continental U.S.

The Pascagoula River serves as the heart for all who claim this area as home. As a natural estuary, the river hosts abundant animal life including over 22 threatened and endangered species, in addition to over 300 plant species. Two-thirds of the Eastern breeding migratory birds use the Pascagoula River and its marshes as a resting point. It is a haven for abundant life, and its banks hold many notable historic locations and economic treasures.

Travel the ten mile Pascagoula River Blueway to discover everything from boat launches and piers to historical landmarks and natural wonders. The trail can be reversed or start or end at any one of the launches. If not round trip, plan for transportation at the end.

## Points of Interest

**1. The Magnolia Birding Pier** is accessible from Magnolia Street and Dupont Avenue and is home to many native birds including brown pelicans, blue herons and white egrets.

N30° 21' 42.96" W88° 33' 36.22"

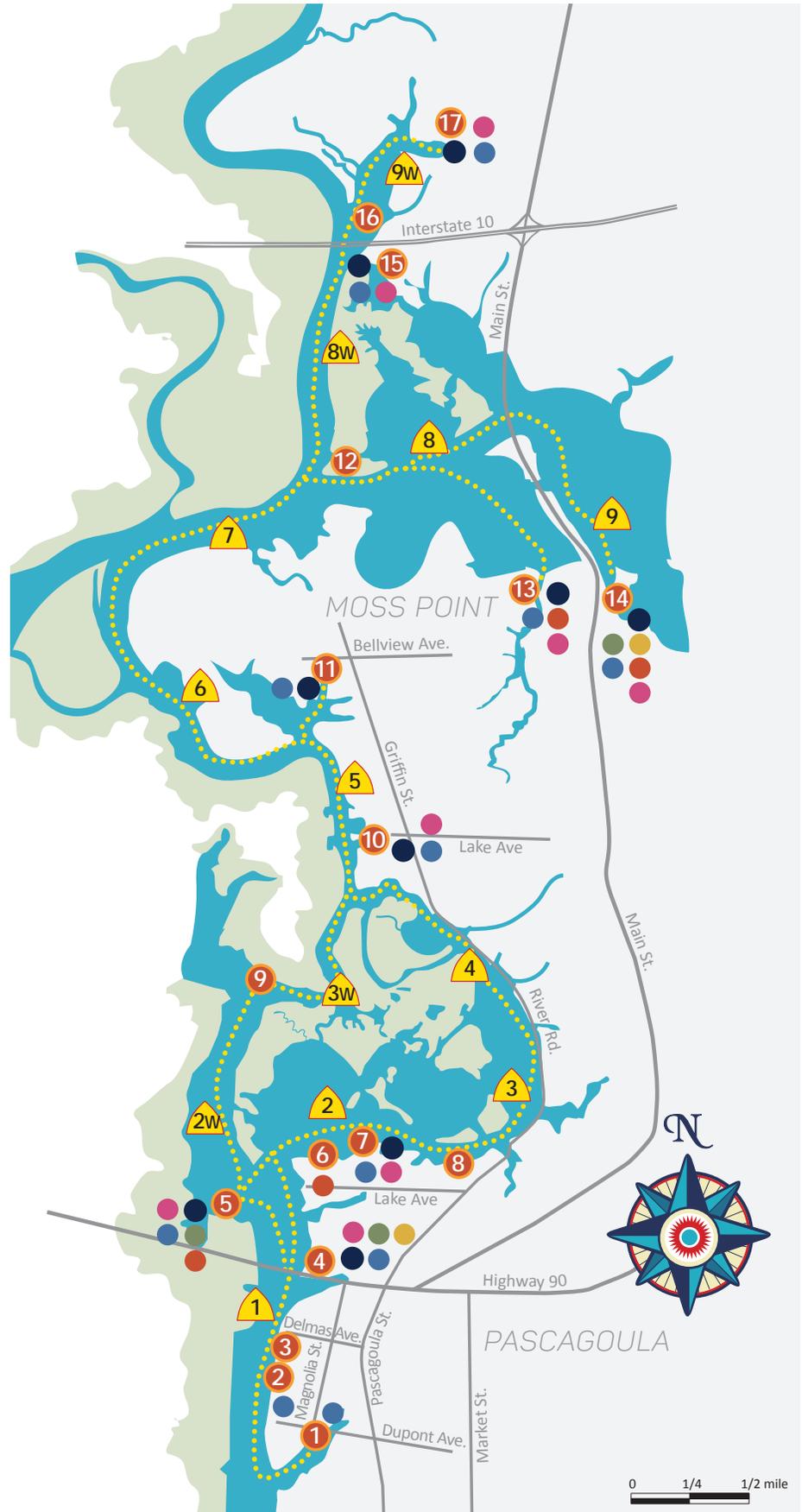
**2. The Pascagoula Riverfront** is a mixed-use economic hub with retail, restaurant, and residential space.

N30° 21' 53.68" W88° 33' 49.51"

## MAP LEGEND

Mile Marker			Parking
Canoe/Kayak Launch			Facilities
Blueway Trail			Piers
Point of Interest			Picnicking
			Food & Drink

<b>LEVEL</b>	Intermediate to Experienced
<b>START/END</b>	Dupont Avenue/Bennett Bayou
<b>TRAIL MILES</b>	10 miles (12 miles if east loop is included)
<b>PADDLING TIME</b>	6 hours one way for a complete trip including east loop at Moss Point
<b>DESCRIPTION</b>	River currents and deep water
<b>SCENERY</b>	Salt/brackish marshes
<b>ACCESS</b>	Several Public Boat Launches





## Points of Interest (cont.)

**3. The National Oceanic and Atmospheric Administration's (NOAA) Gulf Marine Support Facility and Mississippi Laboratory** is the home port of the NOAA ships Gordon Gunter and Pisces. [N30° 21' 58.69" W88° 33' 47.81"](#)

**4. The Lighthouse Park** is home to the 1859 Round Island Lighthouse, the Pascagoula Environmental Education Trail, an outdoor classroom, playground, pavilion, fishing pier, and a fish cleaning station. The Park also serves as the trailhead for the Pascagoula River Jackson County Blueway Trail, Historic Pascagoula Bike Trail, and the Pascagoula Historic Pathway. [N30° 22' 17.15" W88° 33' 39.93"](#)

**5. River Park** is home to the Scranton Museum, a 70' Shrimp Boat, fishing piers, a boat launch, an ADA accessible floating kayak launch, restrooms, a pavilion, and a dog park. Future plans for the site include boat storage, a fuel dock, and a restaurant. [N30° 22' 26.75" W88° 33' 50.74"](#)

**6.** As the oldest structure in the Mississippi Valley, the **LaPointe-Krebs House** is an example of French Colonial architecture dating to 1757 and is the earliest settlement in Pascagoula. While the house is under restoration efforts, the interpretive museum is open for tours. [N30° 22' 49.80" W88° 33' 29.27"](#)

**7. Krebs Cemetery** lies next to the La Pointe-Krebs House, where many of the first settlers of the area are buried. [N30° 22' 50.60" W88° 33' 27.10"](#)

**8. Mariners Cove** offers boat slips and is accessible from Lake Avenue near the Lake Avenue Fire Station. [N30° 22' 45.27" W88° 32' 56.67"](#)

**9. The Mouth of McInnis Bayou** provides access to the lower end of McInnis Bayou for fishing and exploring marshes. [N30° 23' 24.45" W88° 33' 51.82"](#)

**10. McInnis Boat Launch** is located on Hemlock Avenue near Griffin Street and accesses McInnis Bayou. [N30° 23' 59.08" W88° 33' 20.34"](#)

**11. Bellview Street** is a small neighborhood boat launch with paved parking. [N30° 24' 38.02" W88° 33' 35.14"](#)

**12. The Gateway to the Escatawpa River** provides access to the Escatawpa River for fishing and exploring marshes. [N30°25'23.73" W88°33'33.19"](#)

**13. The Pascagoula River Audubon Center** is one of several gateways to exploring the rich natural history of the River. From interpretive boat tours, kayak adventures, on-site trails and exhibits, and programs designed to provide hands-on experiences in nature, the Center promotes Audubon's mission of promoting birds, wildlife and the habitats that support them. [N30° 24' 55.34" W88° 32' 36.28"](#)

**14. Downtown Moss Point** is home to a river walk, shopping, dining, and the **Riverfront Welcome Center** which provides kayak rentals, an EZ-Dock Kayak Launch, concessions, and space for rentals, meetings, and special events. [N30° 24' 57" W88° 32' 17"](#)

**15. I-10 Launch** offers easy access and a boat launch. [N30° 26' 14.60" W88° 33' 27.26"](#)

**16. The Mouth of Bennett Bayou** covers five acres and is a direct tributary to the Pascagoula River. [N30° 26' 21.93" W88° 33' 25.71"](#)

**17. Bennett Bayou, Land Trust Conservation Preserve** is an excellent location to experience the rich river environment. Natural area suitable for launching a kayak. [N30° 26' 37.78" W88° 33' 3.31"](#)



AVOID PADDLING UNDER THE INFLUENCE OF DRUGS OR ALCOHOL. ALWAYS WEAR YOUR LIFE JACKET AND CARRY A WHISTLE OR OTHER SOUND PRODUCING DEVICE, PREFERABLY ATTACHED TO YOUR LIFE JACKET. PADDLERS SHOULD CHECK WATER LEVEL AND TIDES, WEATHER, AND WATERWAY CONDITIONS PRIOR TO EVERY TRIP. REMOVE WHAT YOU BRING, CLEAN UP MORE IF YOU CAN. AVOID TRESPASSING ON PRIVATE LANDS. PLEASE BE AWARE OF YOUR SURROUNDINGS AND ALWAYS RESPECT THE WILDLIFE. REPORT ANY PROBLEMS YOU ENCOUNTER TO THE LOCAL AUTHORITIES IF APPROPRIATE.



# PASCAGOULA RIVER GEORGE COUNTY

## THE PASCAGOULA RIVER BLUEWAY

is almost 22 miles in length and is best for experienced and intermediate paddlers because of distance between access points and strong currents. Those hoping to enjoy fish and wildlife in the slower backwaters should visit Points of Interest accessible by road just off the main river. The Pascagoula River is formed where the Leaf and Chickasawhay Rivers join. It is allowed to move naturally (no dams) over 80 miles where it empties into the Mississippi Sound. Over 50,000 acres are now protected for conservation along the stunning landscapes of the free-flowing river.

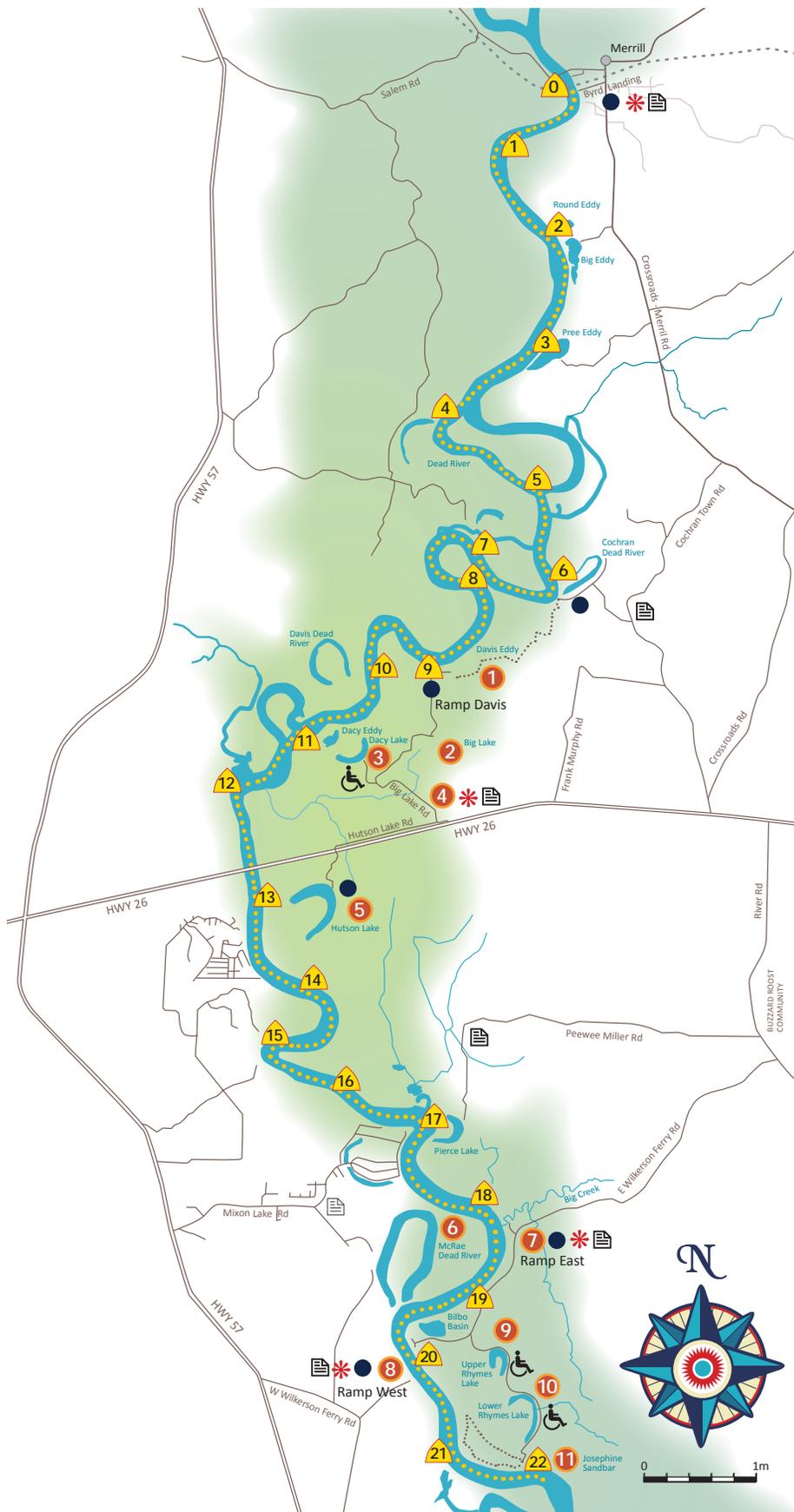
### Wildlife Management Areas (WMAs)

are lands set aside to conserve Mississippi's wildlife resources. Within the Pascagoula River WMA hunting, fishing, camping, hiking, wildlife watching, and boating are all acceptable activities. Aside from the river, visitors may see oxbow lakes and other backwater sloughs, cypress-tupelo swamps, small creeks, pine savanna and longleaf pine forests within the 37,000 acres of the Pascagoula River WMA. Within this fascinating landscape of habitats, over 327 species of birds live or migrate each year to feed, nest and roost. Deer are plentiful; fox, river otters, beaver, skunks, bobcat, alligators, snakes and even black bear can be found within the river habitats.

### MAP LEGEND

- Mile Marker   Information Kiosk
- Canoe/Kayak Launch   Permit Station
- Blueway Trail   Handicap Pier
- Point of Interest   Hiking Trail

<b>LEVEL</b>	Intermediate to Experienced
<b>START/END</b>	Merrill
<b>TRAIL MILES</b>	22 miles in length
<b>PADDLING TIME</b>	8 hours
<b>DESCRIPTION</b>	River currents and deep water
<b>SCENERY</b>	Bottomland Hardwoods, Oxbow Lakes, Cypress Ponds
<b>ACCESS</b>	Several Public Boat Launches





## Points of Interest

Often called “Bird Lake”, **1** Davis Eddy Lake is a must-see for nesting herons and egrets in the spring. For additional scenic views, hike the 2 mile nature trail to Cochran Dead River.

Big Lake **2** is a long, narrow lake that was most likely a “drowned” stream dammed naturally over time.

Dacy Lake **3**, a former river channel often called a “dead river” or oxbow, is a scenic locale ideal for nature and wildlife photography.

Just north of HWY 26 **4**, this area showcases many migratory songbirds in spring and fall as well as ducks and other waterfowl in winter and early spring.

Another former river channel now isolated from the main river, Hutson Lake **5** is a bird sanctuary easily accessible by road or boat launch.

McRae Dead River **6** is a former river channel of the Pascagoula River. From the water, paddlers can get a sense of how the river changes course over time. During high water events, the oxbow may be accessible to the main river channel. Access the area from Mixon Lake Road off Hwy 57.

Formerly the site of Wilkerson Ferry **7, 8**, a historic ferry carrying passengers across the river, the locations host primitive camping, port-a-lets, and running water (Artesian well).

Upper Rhymes **9** is home to large cypress and tupelo gum trees. Watch for alligators and wading birds amid the cypress knees and buttressed (swollen) trunks.

Lower Rhymes Lake **10** is another large oxbow that provides great opportunity for intrepid paddlers to get close to giant cypress and tupelo gum trees. Many wading birds and waterfowl use these areas for feeding and nesting.

Josephine Sandbar **11** is currently the largest accessible sandbar on the Pascagoula River. The site boasts an artesian well, a continuous source of freshwater.

All visitors must purchase and carry a WMA User Permit (purchased wherever licenses are sold). Permit use is strictly enforced. Additionally, visitors must complete a daily use permit card before entering the WMA. These permit cards are available at permit stations located at major entrances to the WMA. For questions about the Pascagoula River WMA, visit the website at [www.mdwfp.com/wma](http://www.mdwfp.com/wma) or call 228-588-3878.

### The Land Trust for the Mississippi Coastal Plain

works with landowners to conserve special places in perpetuity. With local, state and federal agencies, the Land Trust protects natural areas that benefit residents and visitors to south Mississippi: abundant seafood, rich timberlands, pristine water, and unsurpassed recreational activities. [www.ltmcp.org](http://www.ltmcp.org)

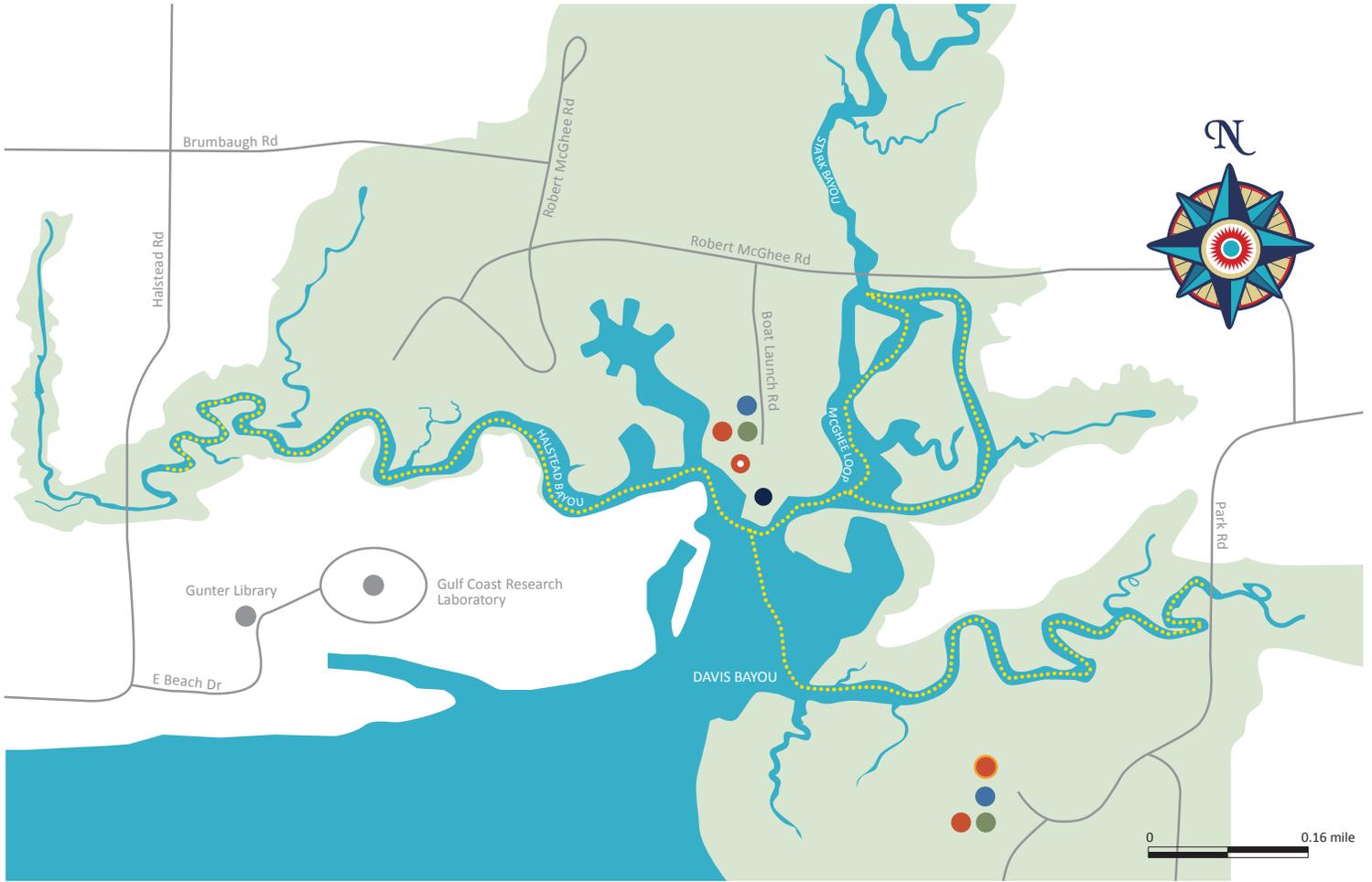
**The National Park Service** is collaborating with state and local agencies and organizations to promote the conservation, stewardship, and public use of the Pascagoula River, the last large unimpeded river system in the lower 48 states. The Pascagoula River Blueway is part of America’s Great Outdoors Rivers Program to conserve and restore key rivers across the nation, expand recreational opportunities and support jobs in local communities.



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# DAVIS BAYOU



## MAP LEGEND

- Mile Marker   Parking
- Canoe/Kayak Launch   Facilities
- Blueway Trail   Pickniking
- Visitor Center   Interpretive Sign

- LEVEL** Beginner to Intermediate
- START/END** Boat Launch
- DESCRIPTION** Bayou and Maritime Forest
- SCENERY** Coastal marsh, views to open sound and tree lined banks
- ACCESS** Accessible Kayak/canoe launch

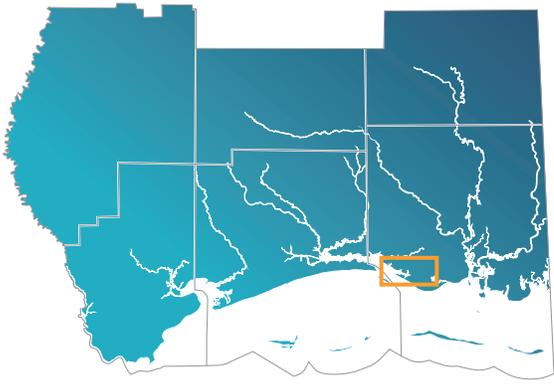
**The Davis Bayou Blueway** connects Davis, Stark and Halstead Bayous. The winding marshes are rich in plant and animal diversity, but also demonstrate the extremes of the salt marsh environment.

Developed by the National Park Service, National Park Foundation and Heritage Trails Partnership and made possible in part by a grant from the National Park Foundation through the generous support of the Coca-Cola Foundation, the Davis Bayou Blueway offers an excellent example of a unique and productive ecosystem.

**Bayou** - A brackish tidal water environment with large areas of saltwater tolerant grasses. Dolphins, alligators, and osprey are often visible.

**Maritime Forest** - Found beyond the bayou grasses, this type of forest is made up of bush and tree species adapted to salt spray, occasional flooding, and endurance to strong prevailing winds. Loblolly pine, magnolia, live oak, and yaupon holly make up some of these species.

Approximate	distances:	times:
Halstead Leg	1.4 Miles	70 Minues
McGhee Leg	.6 Miles	40 Minues
Visitor Center Leg	1.3 Miles	60 Minutes



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# OLD FORT BAYOU



## MAP LEGEND

- Mile Marker 
- Canoe/Kayak Launch 
- Blueway Trail 
- Point of Interest 

<b>LEVEL</b>	Beginner to Intermediate
<b>START/END</b>	Hwy 609 (Washington avenue) under bridge or Bristol avenue public boat launch/The Shed, Vancleave, Ms
<b>TRAIL MILES</b>	13 miles one way
<b>PADDLING TIME</b>	6 hours
<b>DESCRIPTION</b>	Subtidal estuarine marsh to slash pine savanna
<b>SCENERY</b>	Small tidal creeks with a variety of marsh grasses
<b>ACCESS</b>	Public Boat Launch

Old Fort Bayou is a beautiful meandering waterway in Jackson County, Mississippi. Its origins (headwaters) begin in the longleaf pine savannas south of Vancleave. The bayou continues through many important natural areas including the Mississippi Sandhill Crane National Wildlife Refuge, The Nature Conservancy's Old Fort Bayou mitigation property, Land Trust's Twelve Oaks Conservation Park and Mississippi's Old Fort Bayou Coastal Preserve deepening and widening towards its mouth at Biloxi Bay in Ocean Springs.

A variety of habitats exist along Old Fort Bayou. The mouth of the bayou is considered an estuary, a place where the river meets the sea. This area hosts ecological communities of submerged aquatic vegetation such as widgeon grass or tape grass beds; its presence is vital in the developmental stages of many estuarine wildlife species such as native juvenile blue crabs, fish and other species that spend early developmental stages in shallow estuaries where they can hide from large predators. These grasses also help to stabilize sediments to prevent erosion.

This is typically a one-way trip and the direction may be reversed for convenience.

Fly fishing on the Old Ft. Bayou Blueway is a great experience for all ages. The bayou is like a neonatal unit for shrimp and many types of gulf fish. Fishing from a boat or kayak, being able to float up into the winding grass paths of the bayou's inlets, is a beautiful experience that highlights the natural resources of the gulf.



## Points of Interest

	Piers	Parking	Camping	Facilities	Picnicking	Boat Ramps	Food and Drinks	Points of Interest
Gulf Hills	1	●	●	●	●	●	●	●
McElroy's on the Bayou	2	●	●	●	●	●	●	●
Aunt Jenny's	3	●	●	●	●	●	●	●
Hwy 609 (Washington Avenue)	4	●	●	●	●	●	●	●
Anthony's	5	●	●	●	●	●	●	●
Mikey's on the Bayou	6	●	●	●	●	●	●	●
Ocean Springs Cemetery	7	●	●	●	●	●	●	●
Twelve Oaks	8	●	●	●	●	●	●	●
Bristol Ave. Public Boat Launch	9	●	●	●	●	●	●	●
The Shed / Camp Journeys End	10	●	●	●	●	●	●	●
The Preserve Golf Course	11	●	●	●	●	●	●	●



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# RED CREEK



## MAP LEGEND

- Mile Marker
- Canoe/Kayak Launch
- Blueway Trail
- Point of Interest

**LEVEL** Beginner to Intermediate

**START/END** Starts in Lamar County and Ends at the headwaters of Black Creek. Segments can be done within that range as well

**TRAIL MILES** 29.9 miles in length

**PADDLING TIME** 22 hours one-way

**DESCRIPTION** Black water, flowing through DeSoto National Forest, some times of the year water level in some sections is low

**SCENERY** Natural Springs, sand bars, bluffs and some small Rapids

**ACCESS** Public Boat Launch

**Red Creek** is a coastal blackwater stream that forms near Lumberton in Lamar County and ends when it meets Black Creek near the Pascagoula River in Jackson County. It gets its name from the reddish stain that naturally occurring tannins impart to the water. In 2004, the watershed was documented as 66% forested with a 100 foot, well-forested riparian zone extending from Highway 26 (west of Wiggins) to its confluence with Black Creek. This section of Red Creek is a public waterway and according to Ernest Herndon's Canoeing Mississippi, is a beautiful float trip.

The Mississippi Museum of Natural Science has documented 61 species of freshwater and diadromous fish with a recreational fishery for at least 5 species. Red Creek has been designated as one of Mississippi's Scenic Streams. Red Creek is in the East Gulf Coastal Plain Ecoregion and is a major tributary in the Pascagoula River watershed.

The entire drainage area of Red Creek is over 400 square miles. Red Creek flows through Lamar, Stone, George, and Jackson Counties. It also touches Pearl River and Forrest Counties. It is an important sub-basin of the Pascagoula River Watershed, a nationally significant eco-system with the largest unimpeded river in the continental United States.

Red Creek Blueway covers mile markers 29 - 59. Mile marker 0 is at the junction with Black Creek in Jackson County.

### **Clay Shelves Segment**

A 9.7 mile float from Highway 26 to Highway 49. To float a flat bottom boat plan for 9.5 hours. Canoes and kayaks plan for 7.5 hours. While floating this upper reach segment you'll discover first hand how Red Creek got its name. As you traverse along the red clay shelves, you'll also encounter several small rapids.



**GPS Coordinates for Launch Locations:**

- Hwy 26 at mile marker 59** – 30° 51' 06" N, 89° 12' 52" W
- Old Hwy 26 at mile marker 58** – 30° 50' 45" N, 89° 12' 18" W
- Hwy 49 at mile marker 49** – 30° 47' 32" N, 89° 08' 09" W
- City Bridge Road at mile marker 43** – 30° 46' 14" N, 89° 03' 27" W
- Cable Bridge Road at mile marker 34** (approach from the south)  
30° 46' 31" N, 88° 57' 03" W
- Hwy 15 at mile marker 29** – 30° 46' 24" N, 88° 54' 46" W



**49 Railroad Trestle Segment**

A 6.2 mile float from Highway 49 to City Bridge. To float a flat bottom boat plan for 6 hours. Canoes and Kayaks plan for 5 hours. Discover large white sandbars and Red Creek meanders its way through the sandy soils of mid Stone County. You'll also pass beneath the high railroad trestle still in service today.

**43 Red Bluff Segment**

A 9.6 mile float from City Bridge to Cable Bridge. To float a flat bottom boat plan for 8.5 hours. Canoes and Kayaks plan for 6.5 hours. You will navigate through the remains of several old rail dummy lines bearing witness to the vast timber harvest of the early 1900's. If you're lucky, you'll see glimpses through the trees of the famous "Red Bluff."

**34 Natural Springs Segment**

A 4.4 mile float from Cable Bridge to Highway 15. To float a flat bottom boat plan for 4 hours. Canoes and kayaks plan for 3 hours. Enjoy a short but picturesque float through the Desoto National Forest. Floaters will discover the natural springs feeding the creek as they get closer to the historical site of the Ramsey Springs Hotel.

**29 Hwy 15**

Situated just below the hill from the historic Ramsey Springs Hotel, this refurbished boat/kayak launch is the take out point for several float segments. If putting in at this launch, be prepared for an overnight trip. Careful planning is recommended before enjoying this segment of the creek. As Red Creek winds toward the Pascagoula River, you will see why it is classified as a 'black water river' as the waters slow down and get deep.

**Points of Interest**

1 Kirby Creek	30°49'20" N	89°10'50" W
2 Four Mile Creek	30°48'43" N	89°09'28" W
3 KCS Railroad Trestle	30°47'32" N	89°07'57" W
4 Old Hwy 49	30°47'21" N	89°07'51" W
5 Ten Mile Creek	30°46'57" N	89°07'16" W
6 Flint Creek	30°46'19" N	89°03'48" W
7 Old City Bridge	30°46'13" N	89°03'23" W
8 Long Branch Island	30°45'17" N	89°00'40" W
9 Old Creek Island	30°46'13" N	88°57'51" W
10 Cypress creek	30°46'30" N	88°57'07" W
11 Little Sandy creek	30°46'22" N	88°56'38" W
12 Ramsey Spring Hotel	30°46'16" N	88°54'55" W



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# TURKEY CREEK



## MAP LEGEND

Mile Marker



Canoe/Kayak Launch



Blueway Trail



Point of Interest



**LEVEL** Beginner to Intermediate

**START/END** Gulfport Lake Boat Launch

**TRAIL MILES** 5 miles round-trip

**PADDLING TIME** 3 hours round-trip

**DESCRIPTION** Light chop in Bernard Bayou to flat water with light current in Turkey Creek

**SCENERY** Wet Pine Savanna, Marsh Coastline, Historic

**ACCESS** Public Boat Launch

## Turkey Creek

is an historic black community settled in 1866 by emancipated men and women emboldened by slavery and the Civil War, who dared to sow the seeds of freedom, faith, and self-reliance which still flourish in this place.

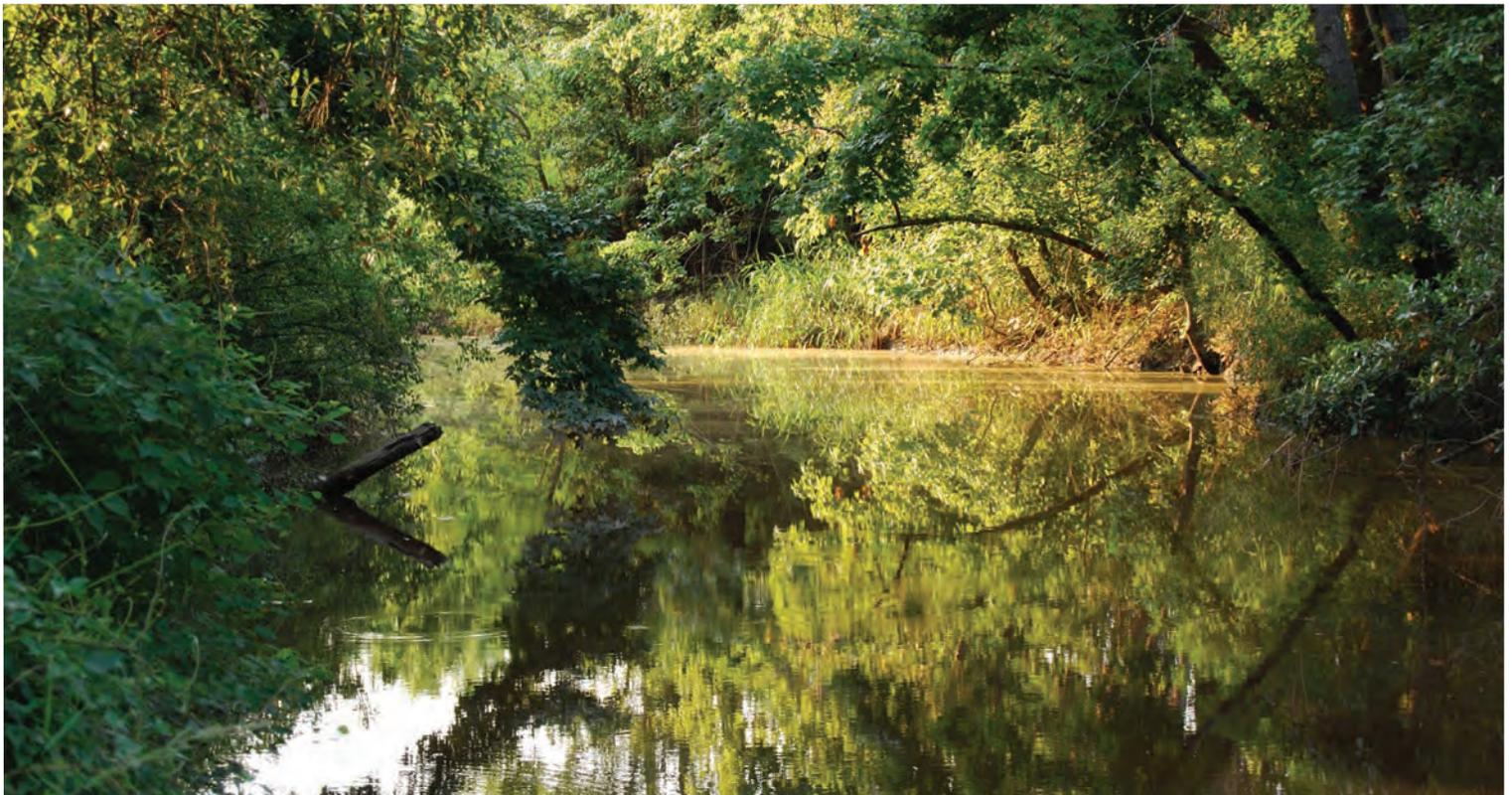
Turkey Creek begins in central, rural Harrison County and flows toward its confluence with Bayou Bernard, just north of the Gulfport-Biloxi International Airport. **The creek is popular for fishing, swimming, and canoeing and is a historic and present contributor to the local culture and quality of life.** Turkey Creek watershed drains just over 17 square miles of land that has relatively flat topography, creating a slow-moving coastal stream with tidally influenced areas near the coast. The upper watershed is composed mostly of rural lands covered by wet-pine savannas and forests whereas the lower portion of watershed has a lot of developed lands. This more developed area includes Gulfport-Biloxi International Airport, Gulfport and Long Beach, and the Interstate-10 business corridor.

The Gulfport Lake Boat Launch is located behind Bayou Vista Golf Course on Washington Avenue, in Harrison County, MS at N30.42419° W89.06040°. Local fishing boats use the ramp year round, with pleasure boats and jet skis in warmer months, especially on weekends. There is an asphalt parking area, and a sandbeach to the side of the boat ramp for kayak and canoe launching. The usual tidal range is less than 2' between high tide and low tide, influenced by the Mississippi Sound. The water in Bayou Bernard is brackish, and Turkey Creek is mostly freshwater in the upper reaches. There may be times in the year when the upper reaches (generally past mile marker 2) are too shallow for paddling.

## Points of Interest

- 1 Mouth of Turkey Creek
- 2 Rippy Road Bridge
- 3 Island Loop
- 4 Bait Pond
- 5 Sloping Bend
- 6 Historic African American Cemetery
- 7 Ashton Park Apartments
- 8 Inlet
- 9 Airport Road Bridge

Bernard Bayou is part of the Biloxi River Marshes Preserve. The oligohaline marshes in this area are dominated by needle rush (*Juncus roemerianus*) with duck-potato (*Sagittaria latifolia*). Narrow disjunct bands of smooth cordgrass (*Spartina alterniflora*) occur along the creeks with bands of high-level salt-meadow grass (*Spartina patens*) occurring along the upland borders. This unique location provides excellent feeding, resting, and wintering habitat for numerous types of migratory bird species, such as the Brown Pelican, White Pelican, Ospreys and cormorants, and this area is known to be an Osprey rookery.



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# WOLF RIVER

**Wolf River Canoe Trail** is a 15.2 mile, one-way trek from Cemetery Landing **5** to Tucker Road **3**. Privately owned, Wolf River Canoe & Kayak provides shuttle service and several trips depending on your schedule and interests. For more information about the canoe trail and outfitter services, call Wolf River Canoes, 228-452-7666.

**Little Bay Loop** leaves and ends at Necaise Public Boat Launch **30° 21' 25.3" N, 89° 16' 23.3" W** **1**

The 5 mile loop circles Little Bay just west of Wittman Avenue. From the boat launch, paddle northeast/north to DeLisle Bayou. See beautiful, large, historic oak trees and a few homes and piers along the northern shore of DeLisle Bayou. Once into St. Louis Bay, the trail turns south, following the western extent of the Wolf River marshes to the mouth of the Wolf River. From there, it's a short paddle eastward back to the boat launch. Little Bay Loop provides a leisurely paddle and offers several short cuts and side adventures to fit your schedule and fitness level. Usually, kayakers will see a few fishermen along the banks and in small boats. Weekends bring heavier motor boat traffic which can be avoided by paddling close in to the marsh where you may see or hear shore birds such as marsh hens or clapper rails.



## MAP LEGEND

- Mile Marker
- Canoe/Kayak Launch
- Wolf River Blueway Trail
- Little Bay Blueway trail
- Point of Interest
- Bells Ferry Blueway Trail

<b>LEVEL</b>	Intermediate to Experienced
<b>TRAIL MILES</b>	22 miles overall
<b>DESCRIPTION</b>	Shallow black water, sand bars, salt marsh and bottomland hardwoods
<b>SCENERY</b>	First designated scenic stream in Mississippi. Spring offers native azaleas and flowering dogwoods
<b>ACCESS</b>	Several Public Boat Launches



Bells Ferry Trail is a 9.8 mile round trip from Necaie Boat Launch **1** up the Wolf River 4.9 miles to Bells Ferry Preserve **2**, a natural area managed by Mississippi Department of Marine Resources. There is no loop but plenty of marsh to keep you interested on the way back to Necaie Boat Launch. At the DeLisle Coastal Preserve, there is a nature trailhead on Bells Ferry Road (accessible by car) that provides a nice half hour walk to the river's edge. Currently there is no ramp or take out, but the trail may be accessible from the water in the future.



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# GRASSY POINT TRAIL



## MAP LEGEND

Mile Marker



Canoe/Kayak Launch



Blueway Trail



Point of Interest



**LEVEL** Intermediate

**START/END** Necaize Boat Launch on the Wolf River/ Diamondhead Marina

**TRAIL MILES** 10.2 miles one way

**PADDLING TIME** 3 hours

**DESCRIPTION** Open Water in the Bay of St Louis surrounded by Saltwater marsh

**SCENERY** Saltwater Marsh, Pines and Ancient Oaks - Landscape view of the Bay of Saint Louis and the beautiful Hwy 90 bridge

**ACCESS** Public Boat Launch

**Grassy Point Trail** is a 10.2 mile trip, one way to Diamondhead. Leaving from Necaize Boat Launch on the Wolf River, travel northeast/north to DeLisle Bayou and out to St. Louis Bay. Once in the bay, this trail meanders along the marshes of northern St. Louis Bay. End the long paddle at the Marina restaurant in Diamondhead where you may enjoy refreshments, lunch or dinner and see the beautiful view of St. Louis Bay from the decks. Kayak rentals are available at this site

## Points of Interest

**1** Merlin Necaize Public Boat Launch 30° 55' 69" N, 89° 27' 31" W

**2** Diamondhead Marina



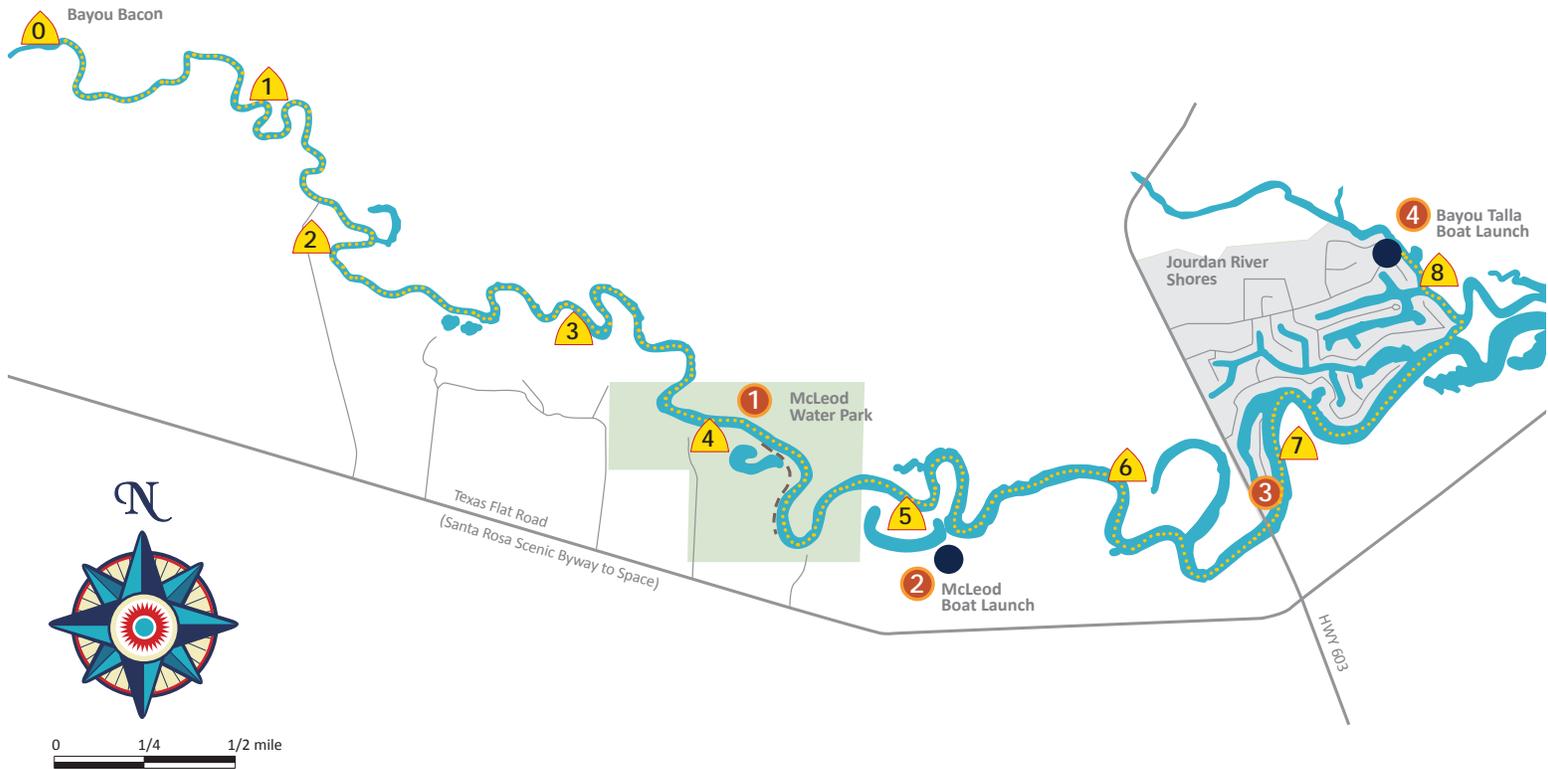
**The Wolf River** was named for the red wolf, once found throughout the southeastern US. Although you won't see any red wolves along the river today, the area is teeming with other wildlife including fox, coyotes, deer, turkey, rabbits, and many songbirds. In the swamp areas along the river, ducks, geese and other wading birds coexist with mink, muskrats, nutria, otter, beaver, opossum, and turtles. If you're lucky, you may spot an alligator sunning on the riverbank or the shadow of a black bear slipping through the trees.



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# JOURDAN RIVER



## MAP LEGEND

- Mile Marker
- Canoe/Kayak Launch
- Blueway Trail
- Point of Interest
- Hiking Trail

<b>LEVEL</b>	Beginner to Intermediate
<b>START/END</b>	Bayou Talla Boat Launch
<b>TRAIL MILES</b>	8.5 miles in length
<b>PADDLING TIME</b>	5 hours one-way
<b>DESCRIPTION</b>	Shallow river upstream with light river currents. Smooth waters
<b>SCENERY</b>	Spring-fed river with Oxbow lakes. Woodland habitats downstream and white sandy beaches upstream
<b>ACCESS</b>	Private access at Bayou Bacon and Public Boat Launch

The Jourdan River Blueway Trail invites canoers and kayakers to explore a 8.5 mile trail through coastal floodplains and a riverine ecological system. The river trail links the McLeod Park canoe launch to the Bayou Talla boat launch.

The tranquil waters of the upper Jourdan River offer a haven for birds, wildlife... and paddlers! From Bayou Bacon to Bayou Talla, the blueway trail guides kayakers and canoe enthusiasts past artesian springs, hardwood forests, and through the natural beauty of Hancock County.

From the boat launch at McLeod Park, paddlers may go upriver past oxbow lakes and bluffs to Bayou Bacon. The trail continues downriver past sandbars, the Highway 603 bridge, and houses and restaurants of Jourdan River Shores to the Bayou Talla boat launch. The Jourdan River below McLeod Park is a popular area for high-speed water sports, so remain aware!

### Bayou Bacon

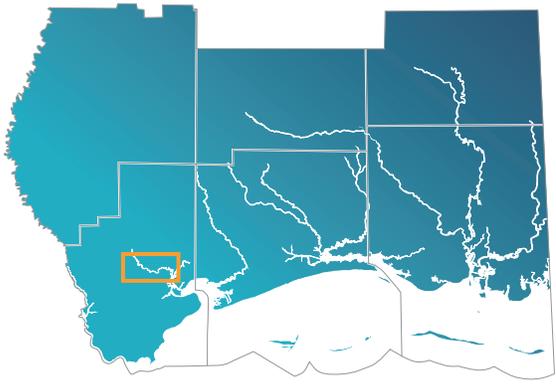
The Jourdan River is one of the major coastal streams that bring water to the Gulf of Mexico. It is a tidally-influenced freshwater river, with cypress/gum swamp scattered along the river. All year, fishermen will find largemouth bass, freshwater catfish, striped bass... and alligator gar the size of your kayak.

### Sandbars

These deposits are ever-changing formations that shift with winds and tides, but often form at the curve of the river. Sandbars are popular spots to picnic and play. No motorized vehicles are allowed, so paddlers can enjoy a quiet resting spot. Please respect the privacy of adjacent landowners.

### Birds

This area has excellent feeding, resting, and wintering habitat for migrating birds such as brown pelicans, white pelicans, and cormorants. Throughout the year hawks, osprey, eagles and other species make their homes in the tall trees.



#### Directions:

From Interstate 10 take Exit #13 north toward Kiln, Mississippi. At Texas Flat Road which has been recently designated the Santa Rosa Scenic Byway to Space, go left to reach McLeod Park, which will be on your right.

#### Accommodations:

McLeod has RV campsites and primitive camping. If camping is not your thing, there are a number of hotels on Highway 90 in Waveland and Bay St Louis, less than five miles from McLeod Park.

**3** **Oxbow Lakes** are formed when rivers meander and the main stream of a river is cut off to form a lake. In low coastal plains, the river meanders widely, curving across marshes and floodplains. Oxbow lakes were once a part of the river, but now hold water in the channels remaining from when they once flowed to the sea.

**The McLeod Nature Trail 1** provides a beautiful 1.25 mile walk, winding through a pine and hardwood forest parallel to the Jourdan River. Many trees are identified with botanical names, and birds and animals will probably cross your path!

#### **5** **McLeod Park**

The park includes 328 acres with a park store, RV campsites, primitive campsites, bathhouses, pavilions, play areas, two boat launches, and fishing piers. **The McLeod Boat Launch 2** provides canoers and kayakers a safe spot to put in, with a no wake zone. The river is lined with smooth cordgrass and wild rice along the Upper Jourdan River, with floating leafed cow-lily along the shoreline. The Kiln is named for the charcoal kilns which provided fuel for cooking and heating in this area, made from the forests of pine trees.

**3 Highway 603** is the main thoroughfare through the Kiln, and great restaurants are nearby. Choctaw and Creek native americans were once residents of this area. Shell middens are reminders of their lives – and their love of shellfish. A shell midden is a type of archaeological site made up almost entirely of shells. Over time, plants and then trees cover some of the shells, eventually forming an island of maritime forest.

#### **7** **Artesian Springs**

When the groundwater beneath the earth's crust is stored in a confined area, it bubbles up to form an artesian spring. Near this mile marker is an artesian spring that bubbles up through the river! Look for it on the south side of the river – it is especially easy to spot at low tide. The Jourdan is a spring-fed river.

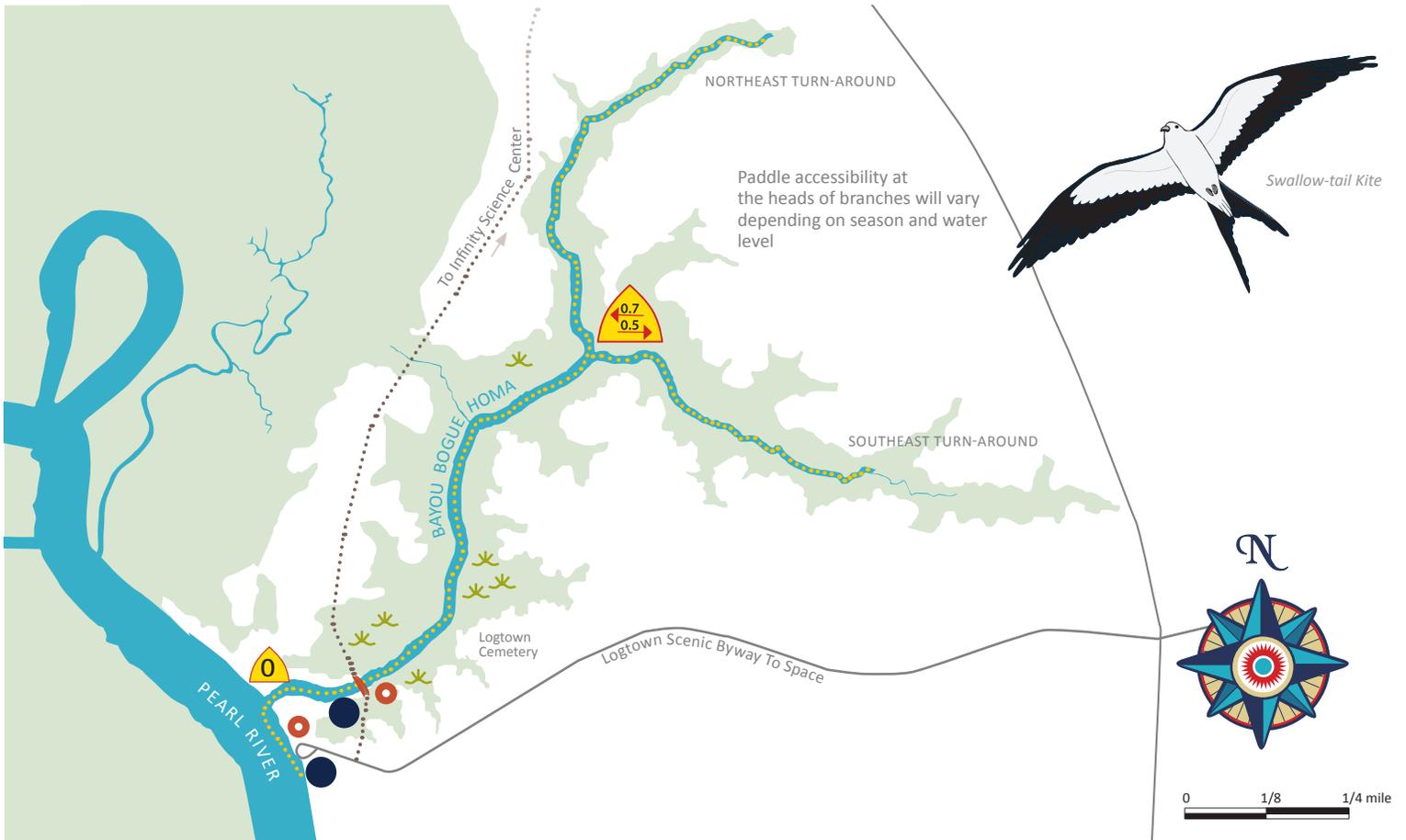
**The Bayou Talla Boat Launch 4** is located at the end of Comanche Street in Kiln, Mississippi. There is no charge to launch, and parking is available. A rollicking trade in homemade liquor once flourished in this area. Moonshine such as "Jourdan River Dew" had the reputation for high alcoholic content. Raids often found copper stills, but it was difficult to catch the smugglers... they might have used this launch to spirit their white lightning to New Orleans and across the country!



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# BOGUE HOMA BAYOU



## MAP LEGEND

- Mile Marker
- Canoe/Kayak Launch
- Blueway Trail
- Swamp
- Interpretive Sign
- Possum Walk Trail

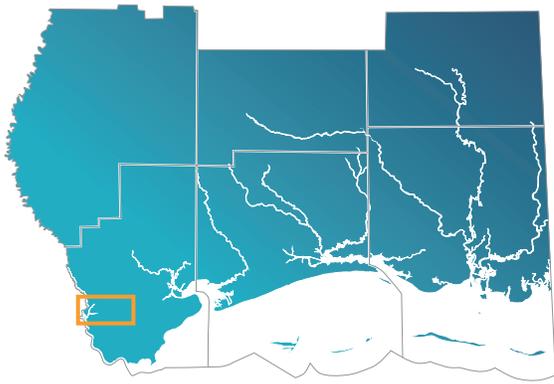
<b>LEVEL</b>	Beginner to Intermediate
<b>START/END</b>	East Pearl River Boat Launch
<b>TRAIL MILES</b>	2.25 miles
<b>PADDLING TIME</b>	2-1/2 hours round-trip
<b>DESCRIPTION</b>	Freshwater Swamp
<b>SCENERY</b>	Cypress along the bank with hanging Spanish Moss, native flowering vegetation, very calm and relaxing
<b>ACCESS</b>	Accessible Kayak/canoe launch

The East Pearl River watershed has been home to people of many backgrounds: tribal cultures, explorers, pioneers, logging employees, traders, slaves and freedmen, and settlers from across the globe. Possum Walk was a traditional African-American community along the banks of Bayou Bogue Homa. In these waters people from Possum Walk and Logtown fished, drew water, washed clothing, and met their everyday needs.

The Possum Walk Heritage Trail opened on August 14, 2013 to hiking, off-road bicycling, and kayaking. The bayhead swamp offers unparalleled wildlife due to the thousands of acres of buffer zone that surround the site.



The Bayou Bogue Homa meets the marshes of the East Pearl River, hosting bald cypress (*Taxodium distichum*) and blackgum (*Nyssa sylvatica*). The banks contain scattered patches of southern wild-rice (*Zizaniopsis*), pickerelweed (*Pontederia cordata*) and occasionally wild-rice (*Zizania aquatica*). Keep an eye out for alligators, as they have been spotted regularly in these waters! Birds of the area include: Anhinga, Osprey, Cooper's Hawk and other raptors, Bald Eagle, Kingfisher, Vulture species, Woodpecker species (although no evidence of the Ivory-Billed variety... yet.) Species of particular interest include: Brown-headed Nuthatch, Swallow-tailed Kite and Mississippi Kite (summer residents), Prothonotary Warbler, Swainson's Warbler, and Cerulean Warbler (an annual visitor), Painted Bunting, and Rusty Blackbird (a winter resident).



After the Weston mill closed in 1930, Logtown's population decreased steadily. A rich community life continued, however, in Logtown and in the Point, the mostly African-American community north across the Bogue Homa from Logtown. According to local lore and some former residents, the making of homemade whiskey, or moonshine, became common until the end of Prohibition in Hancock County after the closing of area timber mills.



Lumberjacks at Logtown, circa 1890.

Following the Depression, life went on in Logtown and the Point, and area residents enjoyed Sunday church picnics, bought supplies at Forest and Eldora Summers' general store, fished, hunted turkey and wild boar, went to Moultrie's tavern in the Point, and had parties, or "come-overs." The Point had its own cemetery, which still lies northeast of Logtown cemetery, between the forks of the Bogue Homa. In 1961, NASA announced plans to build Stennis Space Center, and the process of relocating residents of the acoustic buffer zone began



AVOID PADDLING UNDER THE INFLUENCE OF DRUGS OR ALCOHOL. ALWAYS WEAR YOUR LIFE JACKET AND CARRY A WHISTLE OR OTHER SOUND PRODUCING DEVICE, PREFERABLY ATTACHED TO YOUR LIFE JACKET. PADDLERS SHOULD CHECK WATER LEVEL AND TIDES, WEATHER, AND WATERWAY CONDITIONS PRIOR TO EVERY TRIP. REMOVE WHAT YOU BRING, CLEAN UP MORE IF YOU CAN. AVOID TRESPASSING ON PRIVATE LANDS. PLEASE BE AWARE OF YOUR SURROUNDINGS AND ALWAYS RESPECT THE WILDLIFE. REPORT ANY PROBLEMS YOU ENCOUNTER TO THE LOCAL AUTHORITIES IF APPROPRIATE.



## Proposed Blueways

The following blueways along the Mississippi Gulf Coast National Heritage Area have been proposed:

- Bartram Trail
- Bernard Bayou Blueway
- Boley Creek
- Buccaneer Blueway
- Deer Island Blueway
- Escatawpa Blueway
- Grand Bay National Estuarine Research Reserve
- Graveline Bayou Blueway
- Gulf Coast Saltwater Paddling Trail

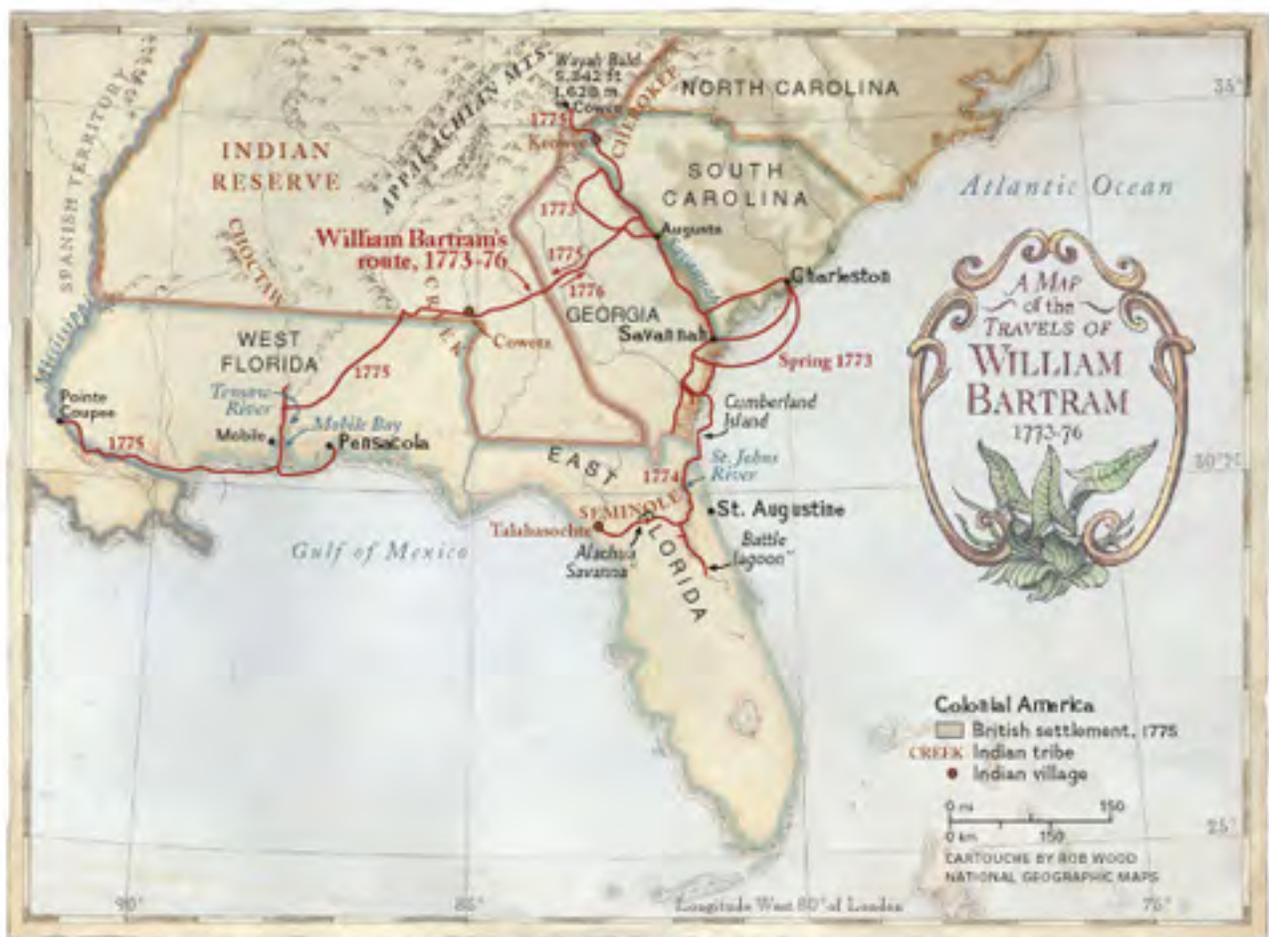
See following pages for the current information available on the proposed blueways.

# Bartram Trail

It was mid summer of 1775, “..hot as pitch and sticky as tar,” when the American naturalist William Bartram crossed into the present state of Louisiana on his epic journey along the Gulf Coast from Pensacola to the Mississippi River. Since 1773, he had already explored other southeastern states of Tennessee, North and South Carolina, Georgia, Florida, Alabama and Mississippi; carefully describing, drawing, and recording the native trees, plants, and flowers; and observing the native Cherokee, Creek, Choctaw, and Seminoles of the region.

William was the son of John Bartram, who through the intercession of close friend, Benjamin Franklin, was appointed colonial Royal Botanist for North America by Britain’s King George III. John Bartram is credited with being the first American naturalist to perform successful experiments in plant hybridization. As a young man, William accompanied his renowned father on numerous trips around the colonies; discovering and collecting botanical specimens for shipment to the Royal Society in England and other European collectors. The William Bartram Trail is conceived as an eight-state Bartram Heritage Corridor that will become a Lakes & Rivers National Heritage Area across fourteen Florida & River Parishes.

The development of a Bartram Heritage Trail revolves around: (1) a sense of William Bartram, the man; (2) a sense of the places he visited; (3) a sense of the historical times in which he lived. As only the physical places remain today, they must be sensitively developed to evoke the feelings of the other two categories: “the man” and “the times.” In many cases, the literal tracing of Bartram’s footsteps is not the most appropriate way to commemorate his travels. Where the environment of the actual trail has been irrevocably altered, for example, the development of the trail in its historical location would fail to properly evoke the spirit of Bartram, his times, or even the land as he knew it.



# Bernard Bayou

## Bernard Bayou Blueway

Is a meandering tidal waterway located in Gulfport, MS that offers a diversity of wildlife, natural beauty and a variety of dining and recreational opportunities. The bayou connects Gulfport Lake to Big Lake running to the south of the industrial canal. This Blueway is a looped route that begins and ends at the Gulfport Lake Boat Launch. The main route is a 9.2 mile loop with an optional routes south into Brickyard Bayou and East to Big Lake Area.



- Map Key**
- Mile Marker
  - Points of Interest
  - Paddle Launch
  - Restroom

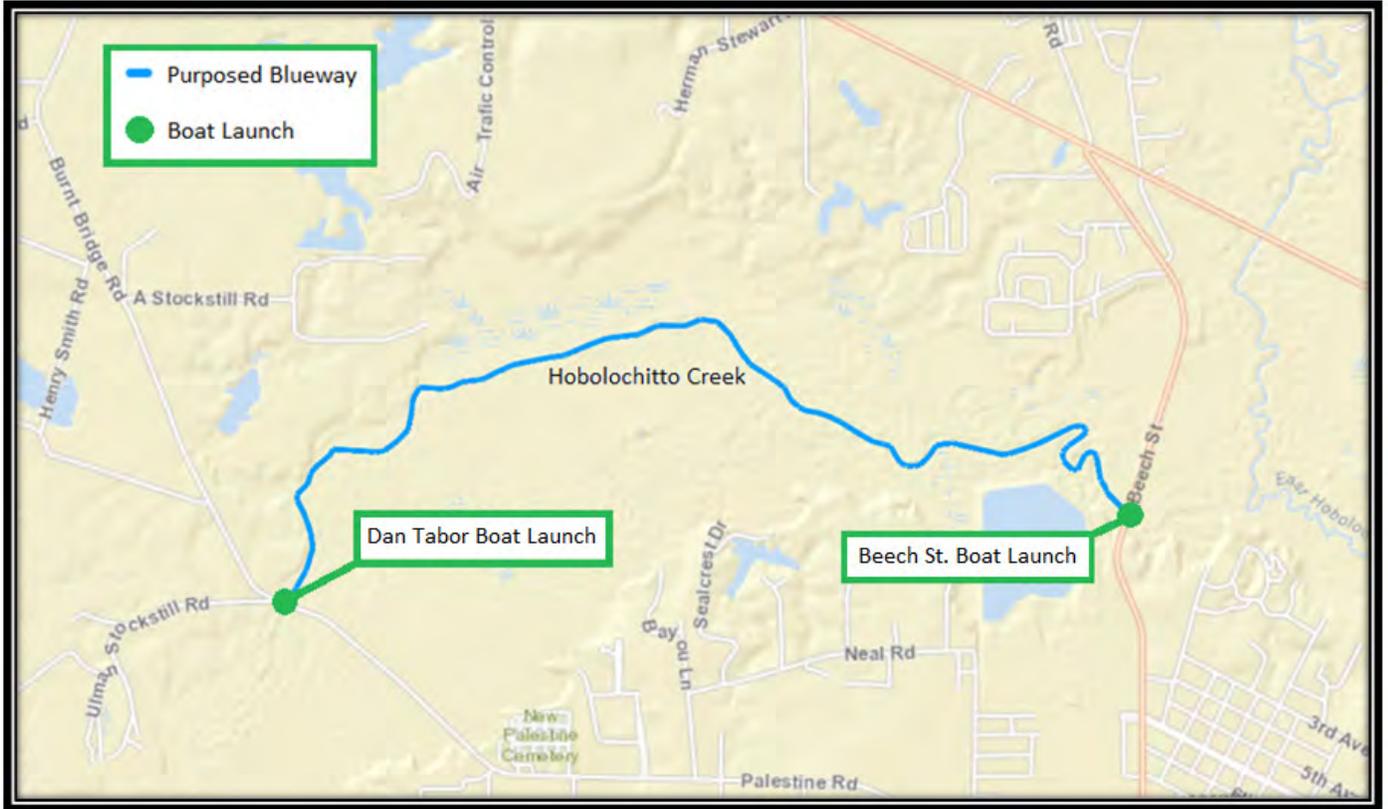
- Points of Interest**
1. Gulfport Lake Boat Launch
  2. Bayou Bluff Tennis Resort
  3. Competition Marine
  4. Brickyard Bayou
  5. Blowfly Inn Restaurant
  6. Bridge St. / Magnolia on the Bayou Bungalows
  7. Kremer's Landing
  8. Bird Rookery
  9. Historic Handsboro Community Center
  10. James Hill Park
  11. To Biloxi Back Bay
  12. Institute for Marine Mammal Studies
  13. DMR Artificial Reef Program Site
  14. Ship Yards & Industry
  15. The Dock Bar & Grill
  16. 'WatsUP' Paddle Company
  17. To Turkey Creek

### Historic Handsboro / Bernard Bayou

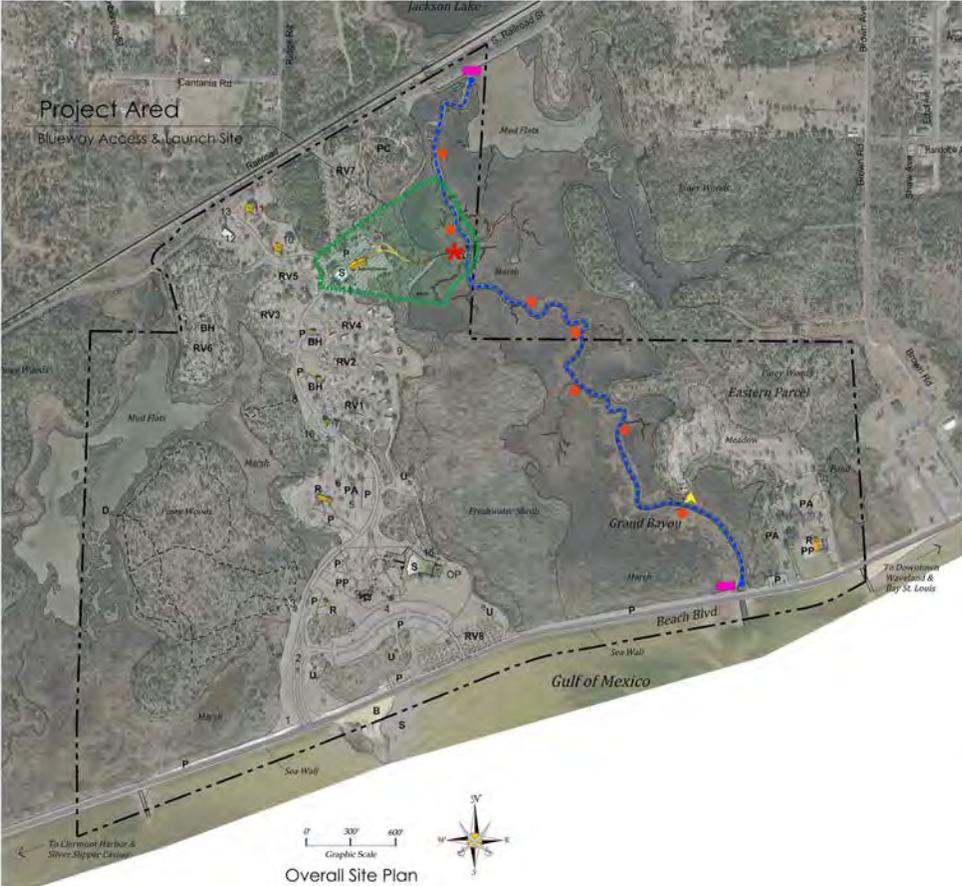
English and Scots-Irish pioneers settled the Buena Vista community (now Handsboro, MS) on Bayou Bernard, the latter named for a former blacksmith and shepherd, who lived on the north shore of the bayou. In 1840, New York brothers Miles and Shelton Hand arrived and built a foundry that in a short few years was supplying the Coast's growing timber and fishing industries with machines. In honor of the Hand brothers, Buena Vista changed its name in 1856 to Handsborough, now Handsboro.



# Boley Creek



# Buccaneer Blueway



- BLUEWAY SYMBOL KEY:**
- Blueway Route
  - ★ Public Launch Site - Start/Finish
  - ★ Non-Public Launch Site - Emergency Access
  - Blueway Marker Signage (2-sided)
  - Blueway Turnaround Signage

- RV CAMPSITE KEY**
- RV1 - Jean Lafitte (1-25)
  - RV2 - Baretaria Bay (26-47)
  - RV3 - Long John Silver (48-68)
  - RV4 - Pirates Cove (69-93)
  - RV5 - Blackbeard (94-104)
  - RV6 - Treasure Cove (105-149)
  - RV7 - Royal Cay (150-200)
  - RV8 - Beach Overflow (207-276)

**MAP KEY**

1. Park Entrance
2. Fee Gate
3. Trailhead
4. Waterpark Entrance
5. Playground
6. Disc Golf Course
7. Office / Gate
8. Trailhead
9. Multi-Use Field
10. Asst. Park Managers Res.
11. Park Managers Residence
12. Maintenance Building
13. Maint. / Employee Entrance
14. Wading Pool
15. Wave Pool
16. RV Dump Station

**LEGEND**

- B - Beach
- BH - Bath House
- D - Dock
- GC - Group Camping
- GP - Group Picnic
- P - Parking
- PA - Picnic Area
- PC - Primitive Camping
- PP - Picnic Pavilion
- R - Restroom
- RVC - RV Camping
- S - Swimming
- U - Utility Platform

**Sheet Index:**

- Blueway Route - 1
- Existing Site Conditions & Site Analysis - 2
- Concept Diagram & Program Objectives - 3
- Concept Plan & Details - 4



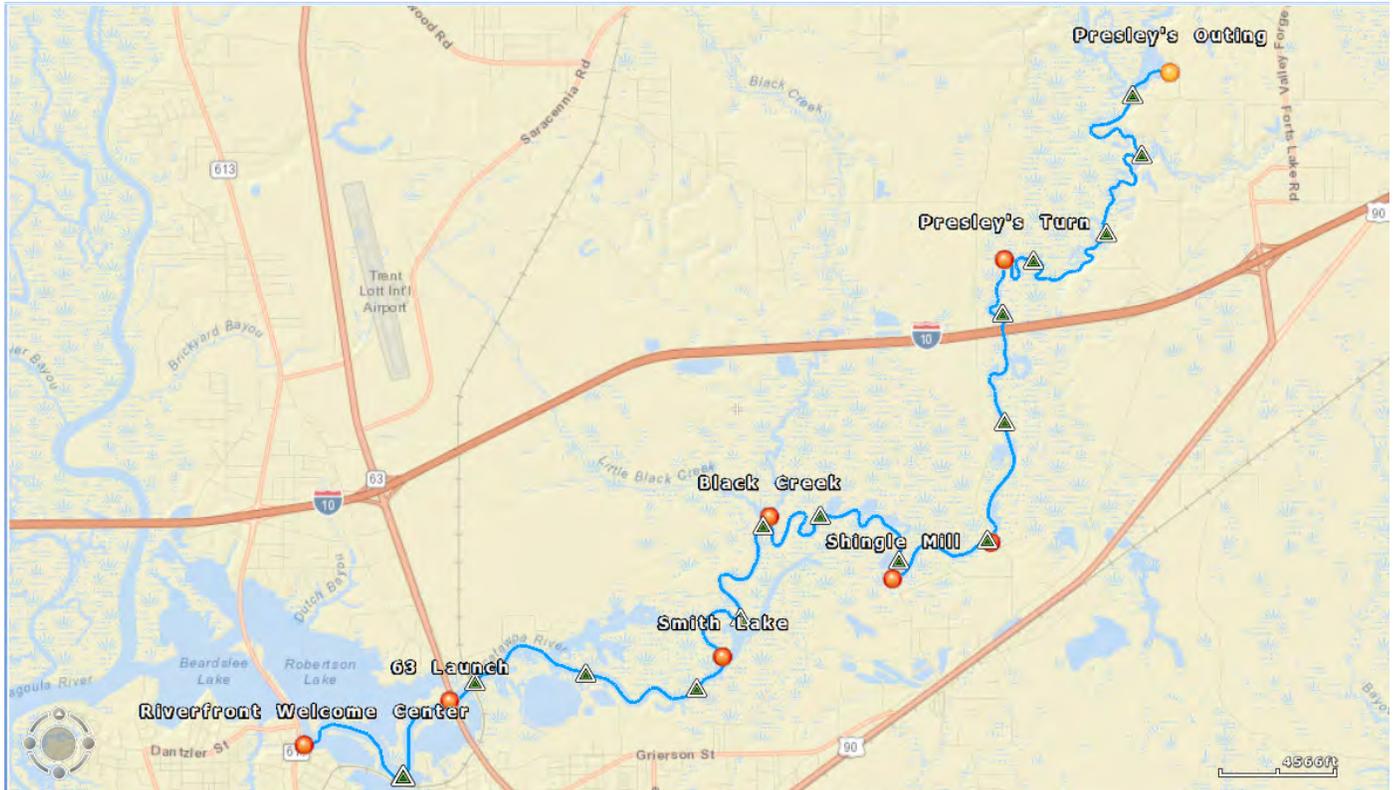
Buccaneer State Park  
**Blueway Access & Launch**  
 Schematic Drawings  
 January 4, 2017



# Deer Island Blueway



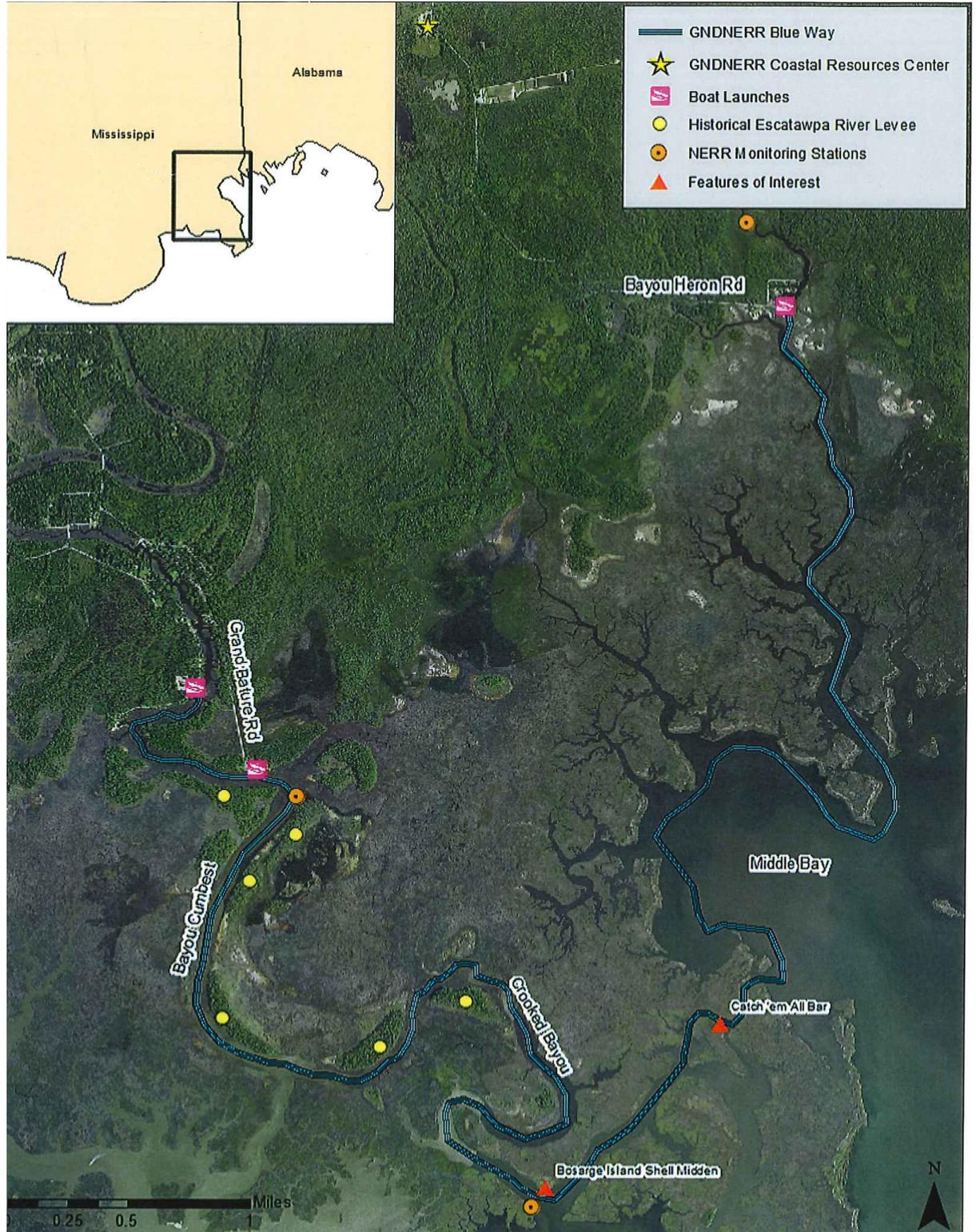
# Escatawpa River



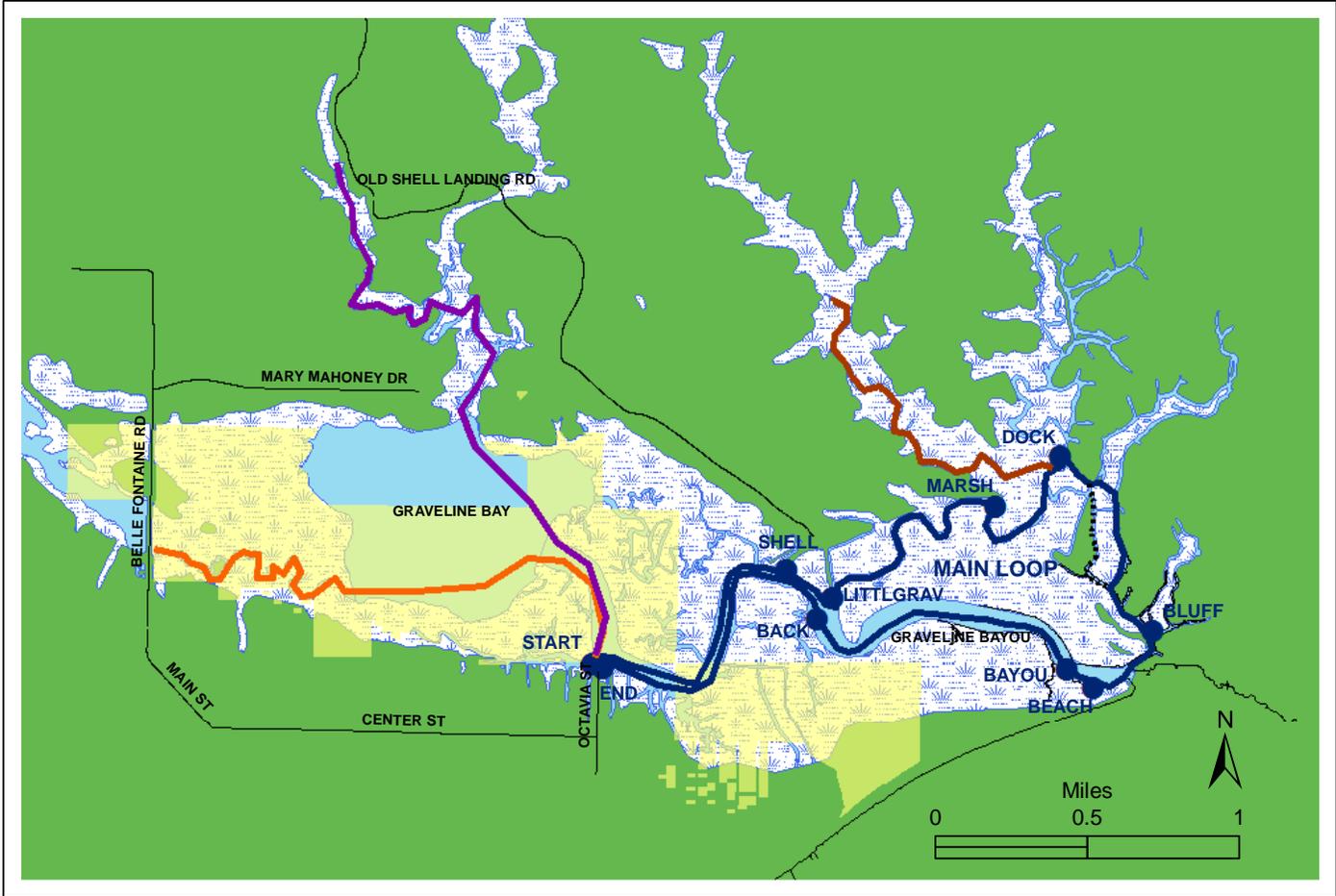
GPS coordinances for Waypoints on the Escatawpa River Blueway:

- 63 Launch:  
30 25'9" N 88 31'12" W
- Smith Lake:  
30 25'26" N 88 29'10" W
- Black Creek:  
30 26'20" N 88 28'49" W
- Shingle Mill:  
30 25' 56" N 88 27'54" W
- Presley's Turn:  
30 27'59" N 88 27'4" W
- Presley's Outing:  
30 29'11" N 88 25' 50" W
- Riverfront Welcome Center:  
30 24'52" N 88 32'17" W
- Pollock's Ferry Rd Launch:  
30 26'10" N 88 27'10" W

# Grand Bay National Estuarine Research Reserve



# Graveline Bayou



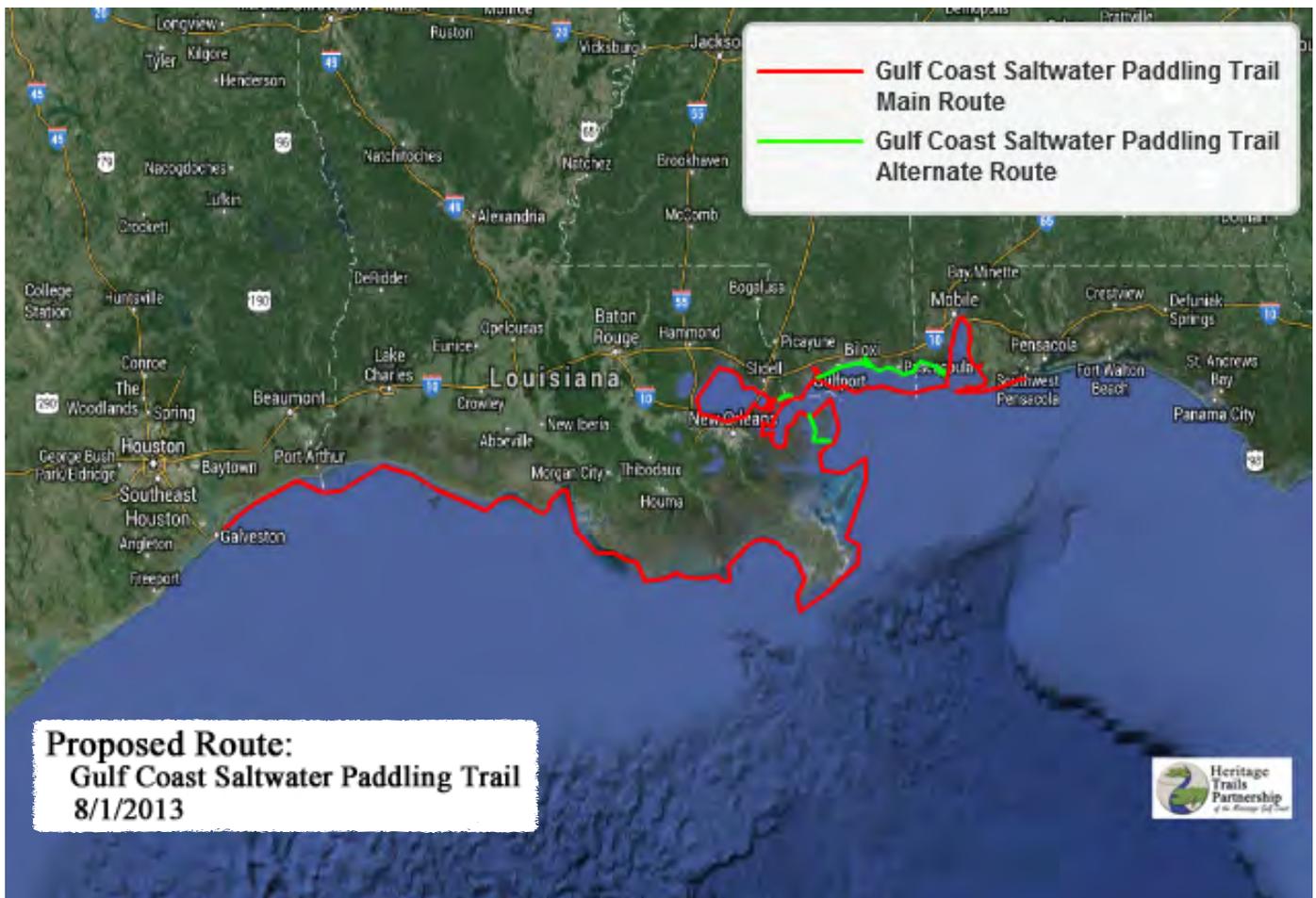
## Graveline Bayou Blueway Kayak & Canoe Trail

- Main Loop
- Xplore\_LG\_Ext
- Xplore\_CarlooseBayou
- Xplore\_CrosswayBayou
- WAYPOINT
- Public\_Land
- ⋯ Island\_shortcut

Graveline Bay and Bayou Coastal Preserve  
 Jackson County, Mississippi  
 Mississippi Department of Marine Resources  
 Feb, 2012

# Gulf Coast Saltwater Paddling Trail

Gulf Coast Saltwater Paddling Trail (GCSPT): The vision provides an educational, recreation and tourism opportunity for paddlers planning a trip to see the natural beauty of the entire Gulf Coast Region including Florida, Alabama, Mississippi, Louisiana and Texas. The GCSPT will have a network of launch and landing sites, or “trail heads,” that allows people in human-powered boats and beachable sail craft to enjoy the historic, scenic and environmental richness of Gulf Coastal communities through continuous, multiple-day and single-day trips. This trail is part of a larger initiative called the Southeast Coast Saltwater Paddle Trail which has identified a blueway corridor that stretches from the Captain John Smith Chesapeake National Historic Trail in Virginia, through the coasts of North Carolina, South Carolina, and Georgia, and connects with the Florida Circumnavigational Saltwater Paddling Trail.



# Appendix

- Contact Information
- MGCNHA Surveys
- Blueway Trail Inspection Checklist
- Points of Interest Permission (sample)
- Mile Markers Permission Letter (sample)
- Standard Lease of Public Trust Tidelands (sample)
- Joint Application and Notification (sample)
- USDA/Forest Service Permit (sample)
- Application for use of Federal Lands (sample)



## Contact Information



Mississippi Secretary of State (Coast Office)  
1701 24th Avenue  
Gulfport, MS 39501  
(228) 864-0254

Mississippi Department of Marine Resources  
1141 Bayview Avenue  
Suite 101  
Biloxi, MS 39530  
(228) 374-5000

Mississippi Gulf Coast National Heritage Area  
1141 Bayview Avenue  
Biloxi, MS 39530  
(228) 523-4150

United States Army Corps of Engineers  
109 St. Joseph Street  
Mobile, AL 36602  
(251) 690-2511

Mississippi Forestry Commission  
Southeast District Office  
1528 S. Azalea Drive  
Wiggins, MS 39577  
(601) 928-5261

Mississippi Department of Wildlife Fisheries and Parks  
1505 Eastover Drive  
Jackson, MS 39211  
(601) 432-2400

Mississippi Department of Transportation  
401 North West Street  
Jackson, MS 39201  
(601) 359-7001

ABC Board/Mississippi Department of Revenue  
1286 Gluckstadt Road  
Madison, MS 39110  
(601) 923-7700

Land Trust for the Mississippi Coastal Plain  
955-A Howard Ave.  
Biloxi, MS 39533  
228-435-9191



## We would like to meet you! VISITOR SURVEY

Please take a moment to fill out BOTH SIDES of the survey, and return it in the completed survey box. This will help us to assess nature-based tourism priorities.

**THANK YOU!**

1. Date of Visit:

2. City and State of Residence:

3. Number of people in your party:

4. Purpose of visit:  Visit Friends/Family  Leisure  
 Business  Vacation  Event If so, What event?

5. If visiting, length of stay: Days \_\_\_\_\_ Nights \_\_\_\_\_

6. Accommodations (Check One):  Hotel/Motel  Casino  
 Campground/RV Park  Bed & Breakfast  Condo  
 Staying with Friends or Family  Resident

7. During this visit, how much money did you spend per day on the following:

\_\_\_\_\_ Lodging \_\_\_\_\_ Food \_\_\_\_\_ Transportation  
\_\_\_\_\_ Events/Attractions \_\_\_\_\_ Shopping  
\_\_\_\_\_ Nature-related Experience \_\_\_\_\_ Misc.

8. Education (Check one): \_\_\_\_\_ High School Graduate  
\_\_\_\_\_ College Degree \_\_\_\_\_ Graduate School

9. Your age(s):

10. Gender:  Male  Female

11. Occupation:

12. Which category is closest to your family income:

- Less than \$29,999  \$30,000 - \$59,000  
 \$60,000 - \$89,999  \$90,000 - \$129,999  
 \$130,000 - \$159,999  \$160,000+

13. How many nature-based locations did you visit on this trip?

14. Do you prefer guided tours or independent trips to nature sites?

15. What are your nature-based interests (Check all that apply):  Leisure  Fishing  Nature/Exploration  
 Wildlife Observation  Other

16. Please rate your experience at this location on a scale from 1 to 5: \_\_\_\_\_ 1 - Poor - 3 - It was okay - 5 - Excellent!

17. How did you find this destination?

- Word of Mouth  Website \_\_\_\_\_  
 Web Search (List search words) \_\_\_\_\_  
 Advertisement \_\_\_\_\_  
 Other \_\_\_\_\_

18. Have you been to this location before?  Y  N

19. Do you plan to return to this destination?  Y  N

20. Please let us know any comments you may have!

Finally, please sign up to receive more information about nature-based opportunities on the MS Gulf Coast:

Name \_\_\_\_\_

Email \_\_\_\_\_

**Visit our website: [MSGulfCoastHeritage.ms.gov](http://MSGulfCoastHeritage.ms.gov)**

# BLUEWAY TRAIL INSPECTION CHECKLIST

Date of Inspection: \_\_\_\_\_ Weather Condition: \_\_\_\_\_

Location / Address: \_\_\_\_\_ Inspector: \_\_\_\_\_

CONCERNS / OBSERVATIONS	No Defect Found	Needs Service	Concerns/Observations	Recommendation(s) Action Required	Completed Date
Parking Lot	<input type="checkbox"/>	<input type="checkbox"/>			
Signage/Kiosk	<input type="checkbox"/>	<input type="checkbox"/>			
Broken Glass and Garbage	<input type="checkbox"/>	<input type="checkbox"/>			
Exterior Lighting	<input type="checkbox"/>	<input type="checkbox"/>			
Garbage Containers	<input type="checkbox"/>	<input type="checkbox"/>			
Signs of Vandalism	<input type="checkbox"/>	<input type="checkbox"/>			
Trail Markers	<input type="checkbox"/>	<input type="checkbox"/>			
Launch Site	<input type="checkbox"/>	<input type="checkbox"/>			
Invasive Species	<input type="checkbox"/>	<input type="checkbox"/>			
Unauthorized Camp Fires	<input type="checkbox"/>	<input type="checkbox"/>			
Benches	<input type="checkbox"/>	<input type="checkbox"/>			
Broken Trees and Branches	<input type="checkbox"/>	<input type="checkbox"/>			
Signs of Erosion	<input type="checkbox"/>	<input type="checkbox"/>			
Any Storm/Wind Damage	<input type="checkbox"/>	<input type="checkbox"/>			
Condition of Water	<input type="checkbox"/>	<input type="checkbox"/>			





**Land Trust for the Mississippi Coastal Plain**  
**PO Box 245**  
**Biloxi, MS 39533**  
**228-435-9191 228-435-5749 fax**

The Land Trust for the Mississippi Coastal Plain, a nonprofit organization, has my permission to install a sign measuring 18" x 24" on my property within the Old Fort Bayou waterway for purposes of marking our site as a Point of Interest along the blueway trail.

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Name (print)** \_\_\_\_\_

**Address** \_\_\_\_\_

**Phone** \_\_\_\_\_ **E-mail** \_\_\_\_\_

**Point of Interest #** \_\_\_\_\_

**Name of location** \_\_\_\_\_



**Land Trust for the Mississippi Coastal Plain  
PO Box 245  
Biloxi, MS 39533  
228-435-9191 228-435-5749 fax**

The Land Trust for the Mississippi Coastal Plain, a nonprofit organization, has my permission to install a sign measuring 18” x 24” on the bank of my property along the Red Creek waterway for purposes of marking the blueway trail.

It is my understanding that LTMCP knowingly assumes all risks involved with installing the Red Creek Blueway signs and agrees to hold the undersigned landowner harmless. That LTMCP, does hereby release, discharge, indemnify and hold harmless the undersigned landowner, myself, my spouse, legal representatives, heirs, next of kin and assigns from and against any liability or responsibility for injury or damages resulting from the installation of the Blueway signs LTMCP proposes to install on my property.

**Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Name (print)** \_\_\_\_\_

**Address** \_\_\_\_\_

**Phone** \_\_\_\_\_ **E-mail** \_\_\_\_\_

**Mile Marker #**

**Name of location** \_\_\_\_\_



DELBERT HOSEMANN  
Secretary of State

FOR OFFICE USE ONLY: No. _____ Date: _____
--

## APPLICATION FOR STANDARD LEASE OF PUBLIC TRUST TIDELANDS

1. APPLICATION BY: (Please check ONE)

\_\_\_\_\_ Individual      \_\_\_\_\_ Partnership      \_\_\_\_\_ Corporation      \_\_\_\_\_ Public Agency

Applicant's Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: (\_\_\_\_) \_\_\_\_\_ Business      (\_\_\_\_) \_\_\_\_\_ Other

Email: \_\_\_\_\_

Preferred Communication: (Check One)
<input type="checkbox"/> Email
<input type="checkbox"/> Mail (USPS)

2. APPLICANT'S ATTORNEY AND/OR AUTHORIZED AGENT (IF APPLICABLE)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: (\_\_\_\_) \_\_\_\_\_ Email: \_\_\_\_\_

3. GEOGRAPHIC LOCATION OF SUBMERGED LAND: (Attach vicinity map - preferably a reproduction of appropriate portion of current United States Geological Survey Quadrangle Map)

\_\_\_\_\_ Section      \_\_\_\_\_ Township      \_\_\_\_\_ Range      \_\_\_\_\_ County

Nearest City/Community: \_\_\_\_\_

Name of Waterbody (if any): \_\_\_\_\_

Estimated area of project (square feet): \_\_\_\_\_

4. PLANNED USE OF TIDELANDS: (Check All that Apply)

<input type="checkbox"/>	Commercial
<input type="checkbox"/>	Industrial
<input type="checkbox"/>	Residential
<input type="checkbox"/>	Recreational

<input type="checkbox"/>	Private
<input type="checkbox"/>	Public
<input type="checkbox"/>	Other (Please Explain):



9. **DESCRIBE ALL ACTIVITIES TO BE CONDUCTED ON THE LEASED PROPERTY:**

Please describe:

**If the property to be leased is to be used for any purpose other than single family residential property, attach two (2) prints of a survey prepared, signed and sealed by a person properly registered as a land surveyor by the Mississippi State Board of Registration for Professional Engineers and Land Surveyors with the following requirements:**

- (1) Utilizing an appropriate scale on 8½" x 11" size paper, unless a larger size is necessary to provide sufficient clarity and detail;
- (2) Showing the line of mean high tide, if any;
- (3) Showing the location of shoreline and submerged vegetation, if any;
- (4) Showing the location of any proposed structures and all existing structures, if any;
- (5) Showing the applicant's or assignor's upland parcel property lines, if property to be leased abuts on property which is outside the public trust;
- (6) Showing the primary navigation channels or direction to the center of the affected waterbody; and
- (7) Including a legal description of area to be leased with State Plane coordinates of reference point.

**If the property to be leased is to be used as a single family residential property, attach two (2) copies of dimensioned site plan drawing(s) with the following requirements:**

- (1) Utilizing an appropriate scale on 8½" x 11" size paper;
- (2) Showing the approximate water's edge;
- (3) Showing the location of shoreline vegetation, if any;
- (4) Showing the location of the existing structures and proposed structures, if any;
- (5) Showing the applicant's upland parcel property lines, if property to be leased abuts on property which is outside the public trust;
- (6) Showing the primary navigation channels or direction to the center of the affected waterbody; and
- (7) Including a legal description of area to be leased.

10. LIST ALL APPROVALS OR CERTIFICATIONS RECEIVED OR APPLIED FOR FROM FEDERAL, STATE OR LOCAL AGENCIES FOR ANY STRUCTURES, CONSTRUCTION, OR OTHER ACTIVITIES DESCRIBED IN THIS APPLICATION.

<u>AGENCY</u>	<u>Approval Type</u>	<u>Application No.</u>	<u>Approval Date</u>
U.S. Army Corps of Engineers	_____	_____	_____
Dept. of Marine Resources	_____	_____	_____
MDEQ, Office of Pollution Control	_____	_____	_____
City/County	_____	_____	_____
Other	_____	_____	_____

Explanation, if applicable:  
Explanation:

*NOTE: ANY OF THE APPROVALS OBTAINED MUST BE SUBMITTED AS AN ATTACHMENT TO THIS APPLICATION ALONG WITH DETAILED PLAN OR PLOT OF LEASED AREAS, VICINITY MAPS, OWNERSHIP MAPS, STRUCTURAL PLANS OR CONSTRUCTION BLUEPRINTS.*

11. ATTACH SATISFACTORY EVIDENCE OF OCCUPANCY AND PAYMENT OF TAXES BY THE APPLICANT AND/OR HIS PREDECESSOR IN INTEREST PRIOR TO JULY 1, 1973, IF APPLICABLE, OR A STATEMENT ACKNOWLEDGING OCCUPANCY OF THE PROPERTY COMMENCED ON OR AFTER JULY 1, 1973.

12. TERM OF LEASE:

Request the lease be granted for \_\_\_\_\_ years with the option to renew for \_\_\_\_\_ years upon expiration of the primary term.

*NOTE: MAXIMUM TERM IS FORTY (40) YEARS AND MAXIMUM RENEWAL TERM IS TWENTY-FIVE (25) YEARS.*

13. PUBLIC ACCESS: (Please circle ONE)                      ALLOWED                      NOT ALLOWED

If public access is allowed, please describe extent of available public access and all barriers or hindrances thereto.

Describe:

If public access is not allowed, please state reasons for restriction.

Describe:

If the facility includes a marina, will at least 50% of berths be available for use by members of the general public at the same rates charged other customers and/or members? (Please circle ONE)

YES  NO

14. **SIGNATURE AND CERTIFICATION:**

All statements contained above and attached exhibits are true and correct to the best of my knowledge and belief. I agree to provide any additional data or information which may be required or requested by the Secretary of State's Office.

I enclose a non-refundable application processing fee in the amount of:

- \$50.00 for single family residential use
- \$150.00 for all other uses

---

Signature of Applicant or Agent

Date

---

Title

# JOINT APPLICATION AND NOTIFICATION

U.S. ARMY CORPS OF ENGINEERS  
MISSISSIPPI DEPARTMENT OF MARINE RESOURCES  
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY/OFFICE OF POLLUTION CONTROL

This form is to be used for proposed activities in waters of the United States in Mississippi and for the erection of structures on suitable sites for water dependent industry. Note that some items, as indicated, apply only to projects located in the coastal area of Hancock, Harrison and Jackson Counties.

**1. Date**

\_\_\_\_\_ month day year

**2. Applicant name, mailing address, phone number and email address:**

**Agent name, mailing address, phone number and email address:**

**3. Official use only**

COE \_\_\_\_\_  
DMR \_\_\_\_\_  
DEQ \_\_\_\_\_  
A95 \_\_\_\_\_  
DATE RECEIVED \_\_\_\_\_

**4. Project location**

Street Address \_\_\_\_\_ City/Community \_\_\_\_\_  
Name of Waterway \_\_\_\_\_ Latitude \_\_\_\_\_ Longitude (if known) \_\_\_\_\_  
Geographic location: Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ County \_\_\_\_\_

**5. Project description**

New work \_\_\_ Maintenance work \_\_\_

**Dredging**

___ Channel	length _____	width _____	existing depth _____	proposed depth _____
___ Canal	length _____	width _____	existing depth _____	proposed depth _____
___ Boat Slip	length _____	width _____	existing depth _____	proposed depth _____
___ Marina	length _____	width _____	existing depth _____	proposed depth _____
___ Other-Mooring Basin	length _____	width _____	existing depth _____	proposed depth _____

Cubic yards of material to be removed \_\_\_\_\_ Type of material \_\_\_\_\_  
Location of spoil disposal area \_\_\_\_\_  
Dimensions of spoil area \_\_\_\_\_ Method of excavation \_\_\_\_\_  
How will excavated material be contained? \_\_\_\_\_

**Construction of structures**

___ Bulkhead	Total length _____	Height above water _____
___ Pier	length _____	width _____ height _____
___ Boat Ramp	length _____	width _____ slope _____
___ Boat House	length _____	width _____ height _____

\_\_\_ Structures on designed sites for water dependent industry (Coastal area only). Explain in item 11 or include as attachment.

\_\_\_ Other (explain) \_\_\_\_\_

**Filling**

Dimensions of fill area \_\_\_\_\_  
Cubic yards of fill \_\_\_\_\_ Type of fill \_\_\_\_\_

**Other regulated activities (i.e. Seismic exploration, burning or clearing of marsh) Explain.**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

**6. Additional information relating to the proposed activity**

Does project area contain any marsh vegetation? Yes \_\_\_\_\_ No \_\_\_\_\_

(If yes, explain) \_\_\_\_\_

Is any portion of the activity for which authorization is sought now complete? Yes \_\_\_\_\_ No \_\_\_\_\_

(If yes, explain) \_\_\_\_\_

Month and year activity took place \_\_\_\_\_

If project is for maintenance work on existing structures or existing channels, describe legal authorization for the existing work. Provide permit number, dates or other form(s) of authorization. \_\_\_\_\_

Has any agency denied approval for the activity described herein or for any activity that is directly related to the activity described herein?

Yes \_\_\_\_\_ No \_\_\_\_\_ (If yes, explain) \_\_\_\_\_

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**7. Project schedule**

Proposed start date \_\_\_\_\_ Proposed completion date \_\_\_\_\_

Expected completion date (or development timetable) for any projects dependent on the activity described herein. \_\_\_\_\_

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**8. Estimated cost of the project** \_\_\_\_\_

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**9. Describe the purpose of this project. Describe the relationship between this project and any secondary or future development the project is designed to support.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Intended use: Private \_\_\_\_\_ Commercial \_\_\_\_\_ Public \_\_\_\_\_ Other (Explain) \_\_\_\_\_

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**10. Describe the public benefits of the proposed activity and of the projects dependent on the proposed activity. Also describe the extent of public use of the proposed project.**

\_\_\_\_\_

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**11. Narrative Project Description:**

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12. Provide the names and addresses of the adjacent property owners. Also identify the property owners on the plan view of the drawing described in Attachment "A". (Attach additional sheets if necessary.)

1.

2.

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13. List all approvals or certifications received or applied for from Federal, State and Local agencies for any structures, construction, discharges, deposits or other activities described in this application. Note that the signature in Item 14 certifies that application has been made to or that permits are not required from the following agencies. If permits are not required, place N/A in the space for Type Approval.

<u>Agency</u>	<u>Type Approval</u>	<u>Application Date</u>	<u>Approval Date</u>
Dept. of Environmental Quality			
Dept. of Marine Resources			
Army Corps of Engineers			
City/County_____			
Other_____			

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**14. Certification and signatures**

Application is hereby made for authorization to conduct the activities described herein. I agree to provide any additional information/data that may be necessary to provide reasonable assurance or evidence to show that the proposed project will comply with the applicable state water quality standards or other environmental protection standards both during construction and after the project is completed. I also agree to provide entry to the project site for inspectors from the environmental protection agencies for the purpose of making preliminary analyses of the site and monitoring permitted works. I certify that I am familiar with and responsible for the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I am the owner of the property where the proposed project is located or that I have a legal interest in the property and that I have full legal authority to seek this permit.

U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willingly falsifies, conceals, or covers up by any trick, scheme or device a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

**Mississippi Coastal Program (Coastal area only)**

I certify that the proposed project for which authorization is sought complies with the approved Mississippi Coastal Program and will be conducted in a manner consistent with the program.

\_\_\_\_\_  
Signature of Applicant or Agent

\_\_\_\_\_  
Date

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**15. Fees**

Payable to MS Dept. of Marine Resources  
\$50.00 Single-family residential application fee  
\$500.00 Commercial application fee  
Public notice fee may be required

Please include appropriate fees for all projects proposed in coastal areas of Hancock, Harrison and Jackson Counties.

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**16. If project is in Hancock, Harrison or Jackson Counties, send one completed copy of this application form and appropriate fees listed in Item 15 to:**

Department of Marine Resources  
Bureau of Wetlands Permitting  
1141 Bayview Avenue  
Biloxi, MS 39530  
(228) 374-5000

**If project IS NOT in Hancock, Harrison or Jackson Counties, send one completed copy of this application form to each agency listed below:**

District Engineer  
Mobile District  
Attn: CESAM-RD  
P.O. Box 2288  
Mobile, AL 36628-0001

District Engineer  
Vicksburg District  
Regulatory Branch  
Attn: CEMVK-OD-F  
4155 Clay Street  
Vicksburg, MS 39183-3435

Director  
Mississippi Dept. of Environmental Quality  
Office of Pollution Control  
P.O. Box 10385  
Jackson, MS 39289

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**17. In addition to the completed application form, the following attachments are required:**

***Attachment "A" Drawings***

Provide a vicinity map showing the location of the proposed site along with a written description of how to reach the site from major highways or landmarks. Provide accurate drawings of the project site with proposed activities shown in detail. All drawings must be to scale or with dimensions noted on drawings and must show a plan view and cross section or elevation. Use 8 1/2 x 11" white paper or drawing sheet attached.

***Attachment "B" Authorized Agent***

If applicant desires to have an agent or consultant act in his behalf for permit coordination, a signed authorization designating said agent must be provided with the application forms. The authorized agent named may sign the application forms and the consistency statement.

***Attachment "C" Environmental Assessment (Coastal Area Only)***

Provide an appropriate report or statement assessing environmental impacts of the proposed activity and the final project dependent on it. The project's effects on the wetlands and the effects on the life dependent on them should be addressed. Also provide a complete description of any measures to be taken to reduce detrimental offsite effects to the coastal wetlands during and after the proposed activity. Alternative analysis, minimization and mitigation information may be required to complete project evaluation.

***Attachment "D" Variance or Revisions to Mississippi Coastal Program (Coastal area only)***

If the applicant is requesting a variance to the guidelines in Section 2, Part III or a revision to the Coastal Wetlands Use Plan in Section 2, Part IV of the Rules, Regulations, Guidelines and Procedures of the Mississippi Coastal Program, a request and justification must be provided.

**Attachment "A" Drawings**

Auth ID: #AUTH\_ID#  
Use Code: #USE\_CODE#  
Expiration Date: #EXPIRATION\_DATE#

**U.S. DEPARTMENT OF AGRICULTURE  
Forest Service  
SPECIAL-USE PERMIT FOR  
NONCOMMERCIAL GROUP USE  
(Ref.: 36 CFR 251.54)  
Authority: Organic Act of 1897, 16 U.S.C. 551  
PART I - APPLICATION**

**1. APPLICANT INFORMATION:**

Name of Group or Event: \_\_\_\_\_ Address of Group or Contact: \_\_\_\_\_  
(whichever is applicable)

Name of Contact: \_\_\_\_\_  
**The contact shall be available to the Forest Service from the date this application is signed until it is accepted, rejected, or denied.**  
Day Phone: ( ) - \_\_\_\_\_ Evening Phone: ( ) - \_\_\_\_\_

**2. DESCRIPTION OF PROPOSED ACTIVITY:**

**3. LOCATION & DESCRIPTION OF NATIONAL FOREST SYSTEM LANDS & FACILITIES APPLICANT WOULD LIKE TO USE:**

**4. ESTIMATED NUMBER OF PARTICIPANTS & SPECTATORS FOR PROPOSED ACTIVITY:**

Participants: \_\_\_\_\_ Spectators: \_\_\_\_\_

**5. STARTING & ENDING DATE & TIME OF PROPOSED ACTIVITY:**

Start \_\_\_\_\_ End: \_\_\_\_\_  
Date Time Date Time

**6. NAME OF PERSONS WHO WILL SIGN A SPECIAL USE PERMIT ON BEHALF OF THE GROUP (May be same as contact listed in item 1.):**

Name: \_\_\_\_\_ Name: \_\_\_\_\_  
Address: \_\_\_\_\_ Address: \_\_\_\_\_  
Day & Evening Phone: ( ) - / ( ) - Day & Evening Phone: ( ) - / ( ) -  
Signature: \_\_\_\_\_ Signature: \_\_\_\_\_  
Date: \_\_\_\_\_ Date: \_\_\_\_\_

**APPLICATION NOT VALID UNLESS SIGNED BY CONTACT**

\_\_\_\_\_  
Signature of Contact Date

18 U.S.C. § 1001 makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction. Anyone who knowingly or willfully makes or uses any false writing shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

**<User Note: Case File: Attach part II "Permit" to part I "Application" >**

**PART II – PERMIT**

Purpose:

Noncommercial group use permits do not grant or deny freedom of assembly or freedom of speech. The rights to freedom of assembly and freedom of speech are guaranteed by the United States Constitution. These rights are fully respected by the Forest Service. When noncommercial group use permits are issued, they regulate time, place, and manner with respect to the exercise of these rights by groups of 75 or more people on National Forest System lands. Noncommercial group use permits authorize the holder to use and occupy the National Forest System lands covered by the permit, subject to rights retained by the United States, including continuing rights of access, a continuing right of physical entry for inspection, monitoring, or for any other purposes consistent with any right or obligation of the United States, and the right to require common use of the land or to authorize use by others in any way that is not inconsistent with the privileges granted by the permit. The use and occupancy authorized by a noncommercial group use permit would not be allowed without the permit. The primary purposes of noncommercial group use permits include protection of National Forest System lands and resources, promotion of public health and safety, and allocation of space among competing uses of National Forest System lands.

1. Use under this permit shall begin on <ENTER TIME AND DATE> and end on <ENTER TIME AND DATE> .  
The permit shall not be extended.
2. \_\_\_\_\_ (Holder Name) (the holder) is hereby authorized to use, subject to the terms of this permit, National Forest System lands described as \_\_\_\_\_, as shown in attached Exhibit(s) \_\_\_\_\_. This permit covers approximately \_\_ acres and/or \_\_\_\_\_ miles.
3. The holder is authorized to conduct the following activities and install the following improvements in the permitted area:  
  
#PURPOSE#
4. The holder shall conduct the authorized activities according to the attached approved plans and specifications, Exhibit(s) \_\_\_\_\_. The holder shall not install any improvements not specifically identified and approved in clause 3, in exhibits attached to this permit, or by the authorized officer during the activity authorized by this permit.
5. No soil, trees, or other vegetation may be destroyed or removed from National Forest System lands without specific prior written permission from the authorized officer.
6. The holder shall comply with all federal, state, county, and municipal laws, ordinances, and regulations which are applicable to the area or operations covered by this permit.
7. The holder shall maintain the improvements and premises to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the authorized officer. The holder shall fully repair and bear the expense for all damages, other than ordinary wear and tear, to National Forest System lands, roads and trails caused by the holder's activities.
8. The holder has the responsibility of inspecting the use area and adjoining areas for dangerous trees, hanging limbs, and other evidence of hazardous conditions which would pose a risk of injury to individuals. After securing permission from the authorized officer, the holder shall remove such hazards.
9. The holder shall be liable for any injury, loss, or damage, including fire suppression costs and environmental harm or injury to natural resources, that arises in connection with the use and occupancy authorized by this permit.
10. The holder shall indemnify and hold harmless the United States for any injury, loss, or damage, including third-party claims, damage to federal property, fire suppression costs, and environmental harm or injury to natural resources, that arises in connection with the use and occupancy authorized by this permit.
11. The persons who sign this permit are not subject to any individual liability under this permit as a result of that signature. They provide their name solely to allow notice of actions pertaining to the permit to be communicated to the holder and to give the permit legal effect. At least one of the persons who sign this permit shall be available to the Forest Service from the date this permit is issued until the use authorized by this permit has concluded.

- 12. The holder agrees to permit free and unrestricted access to and upon the premises at all times for all lawful and proper purposes not inconsistent with the intent of the permit or with the reasonable exercise and enjoyment by the holder of the privileges thereof.
- 13. This permit is subject to all valid existing rights and claims outstanding in third parties.
- 14. This authorization may be revoked or suspended only in accordance with 36 CFR 251.60(a)(1)(i). Upon expiration or revocation of this permit, the holder shall immediately remove all improvements except those owned by the United States, and shall restore the site within \_\_\_\_\_ days, unless otherwise agreed upon in writing. If the holder fails to remove the improvements, they shall become the property of the United States, but that will not relieve the holder of liability for the cost of their removal and the restoration of the site.
- 15. This permit is a license for the use of federally owned land. It does not grant any interest in real property. This permit is not transferable. The holder shall not enter into any agreements with third parties for occupancy of the authorized premises and improvements.
- 16. Any decision concerning this permit, including but not limited to suspension or revocation and modification of permit terms and conditions, is not subject to administrative appeal and is immediately subject to judicial review.
- 17. This permit is accepted subject to the conditions set forth herein, including any conditions in any exhibits attached to and made a part of this permit.
- 18. The above clauses shall control if they conflict with additional clauses or provisions.

#INSERT TERM HERE#

I have read and understand the terms and conditions and agree to abide by them.

U.S. DEPARTMENT OF AGRICULTURE  
Forest Service

HOLDER:

Authorization is granted:

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**HOLDER MUST HAVE THIS PERMIT (OR A LEGIBLE COPY) IN POSSESSION DURING THE AUTHORIZED ACTIVITY**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082.

This information is needed by the Forest Service to evaluate requests to use National Forest System lands and manage those lands to protect natural resources, administer the use, and ensure public health and safety. This information is required to obtain or retain a benefit. The authority for that requirement is provided by the Organic Act of 1897 and the Federal Land Policy and management Act of 1976, which authorizes the Secretary of Agriculture to promulgate rules and regulations for authorizing and managing National Forest System lands. These statutes, along with the Term Permit Act, National Forest Ski Area Permit Act, Granger-Thye Act, Mineral Leasing Act, Alaska Term Permit Act, Act of September 3, 1954, Wilderness Act, National Forest Roads and Trails Act, Act of November 16, 1973, Archeological Resources Protection Act, and the Alaska National Interest Lands Conservation Act, authorize the Secretary of Agriculture to issue authorizations for the use and occupancy of National Forest System lands. The Secretary of Agriculture's regulations at 36 CFR Part 251, Subpart B, establish procedures for those authorizations.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service. Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

**APPLICATION FOR TRANSPORTATION AND  
UTILITY SYSTEMS AND FACILITIES  
ON FEDERAL LANDS**

FOR AGENCY USE ONLY

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

Application Number

Date Filed

1. Name and address of applicant (*include zip code*)

2. Name, title, and address of authorized agent if different from item 1 (*include zip code*)

3. Telephone (*with area code*)

Applicant

Authorized Agent

4. As applicant are you? (*check one*)

- a.  Individual
- b.  Corporation\*
- c.  Partnership/Association\*
- d.  State Government/State Agency
- e.  Local Government
- f.  Federal Agency

\* If checked, complete supplemental page

5. Specify what application is for: (*check one*)

- a.  New authorization
- b.  Renewing existing authorization number
- c.  Amend existing authorization number
- d.  Assign existing authorization number
- e.  Existing use for which no authorization has been received \*
- f.  Other\*

\* If checked, provide details under item 7

6. If an individual, or partnership, are you a citizen(s) of the United States?  Yes  No

7. Project description (describe in detail): (a) Type of system or facility, (*e.g., canal, pipeline, road*); (b) related structures and facilities; (c) physical specifications (*Length, width, grading, etc.*); (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (*Attach additional sheets, if additional space is needed.*)

8. Attach a map covering area and show location of project proposal

9. State or Local government approval:  Attached  Applied for  Not Required

10. Nonreturnable application fee:  Attached  Not required

11. Does project cross international boundary or affect international waterways?  Yes  No (*if "yes," indicate on map*)

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

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13a. Describe other reasonable alternative routes and modes considered.

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b. Why were these alternatives not selected?

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c. Give explanation as to why it is necessary to cross Federal Lands.

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14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. *(Specify number, date, code, or name)*

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15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

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16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

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17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

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18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

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19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

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20. Name all the Department(s)/Agency(ies) where this application is being filed.

---

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

---

Signature of Applicant

Date

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Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

GENERAL INFORMATION  
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved right-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

Department of Agriculture  
Regional Forester, Forest Service (USFS)  
P.O. Box 21628  
Juneau, Alaska 99802-1628  
Telephone: (907) 586-7847 (or a local Forest Service Office)

Department of the Interior  
Bureau of Indian Affairs (BIA)  
Alaska Regional Office  
709 West 9th Street  
Juneau, Alaska 99802  
Telephone: (907) 586-7177

Department of the Interior  
Alaska State Office  
Bureau of Land Management  
222 West 7th Avenue #13  
Anchorage, Alaska 99513  
Public Room: 907-271-5960  
FAX: 907-271-3684  
(or a local BLM Office)

U.S. Fish & Wildlife Service (FWS)      National Park Service (NPS)  
Office of the Regional Director      Alaska Regional Office  
1011 East Tudor Road                      240 West 5th Avenue  
Anchorage, Alaska 99503                  Anchorage, Alaska 99501  
Telephone: (907) 786-3440                  Telephone: (907) 644-3510

Note - Filings with any Interior agency may be filed with any office noted above or with the Office of the Secretary of the Interior, Regional Environmental Officer, P.O. Box 120, 1675 C Street, Anchorage, Alaska 99513.

Department of Transportation  
Federal Aviation Administration  
Alaska Region AAL-4, 222 West 7th Ave., Box 14  
Anchorage, Alaska 99513-7587  
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS  
(Items not listed are self-explanatory)

- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8 Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 9, 10, and 12 The responsible agency will provide additional instructions.
- 13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
- 14 The responsible agency will provide instructions.
- 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- 16 through 19 Providing this information with as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certification for the use of Federal lands. The Federal agencies use this information to evaluate the applicant's proposal. The public is obligated to submit this form if they wish to obtain permission to use Federal lands.

**SUPPLEMENTAL**

NOTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
<b>I - PRIVATE CORPORATIONS</b>	ATTACHED	FILED*
a. Articles of Incorporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.	<input type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input type="checkbox"/>	<input type="checkbox"/>
<b>II - PUBLIC CORPORATIONS</b>		
a. Copy of law forming corporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Proof of organization	<input type="checkbox"/>	<input type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input type="checkbox"/>	<input type="checkbox"/>
<b>III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY</b>		
a. Articles of association, if any	<input type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	<input type="checkbox"/>	<input type="checkbox"/>

\*If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

## NOTICES

Note: This applies to the Department of Agriculture/Forest Service (FS)

This information is needed by the Forest Service to evaluate the requests to use National Forest System lands and manage those lands to protect natural resources, administer the use, and ensure public health and safety. This information is required to obtain or retain a benefit. The authority for that requirement is provided by the Organic Act of 1897 and the Federal Land Policy and Management Act of 1976, which authorize the secretary of Agriculture to promulgate rules and regulations for authorizing and managing National Forest System lands. These statutes, along with the Term Permit Act, National Forest Ski Area Permit Act, Granger-Thye Act, Mineral Leasing Act, Alaska Term Permit Act, Act of September 3, 1954, Wilderness Act, National Forest Roads and Trails Act, Act of November 16, 1973, Archeological Resources Protection Act, and Alaska National Interest Lands Conservation Act, authorize the Secretary of Agriculture to issue authorizations or the use and occupancy of National Forest System lands. The Secretary of Agriculture's regulations at 36 CFR Part 251, Subpart B, establish procedures for issuing those authorizations.

### **BURDEN AND NONDISCRIMINATION STATEMENTS**

*According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. The time required to complete this information collection is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.*

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## **APPENDIX C**

### **PASCAGOULA RIVER GEORGE COUNTY BLUEWAY MAP**

# PASCAGOULA RIVER GEORGE COUNTY

**THE PASCAGOULA RIVER BLUEWAY** is almost 22 miles in length and is best for experienced and intermediate paddlers because of distance between access points and strong currents. Those hoping to enjoy fish and wildlife in the slower backwaters should visit Points of Interest accessible by road just off the main river. The Pascagoula River is formed where the Leaf and Chickasawhay Rivers join. It is allowed to move naturally (no dams) over 80 miles where it empties into the Mississippi Sound. Over 50,000 acres are now protected for conservation along the stunning landscapes of the free-flowing river.

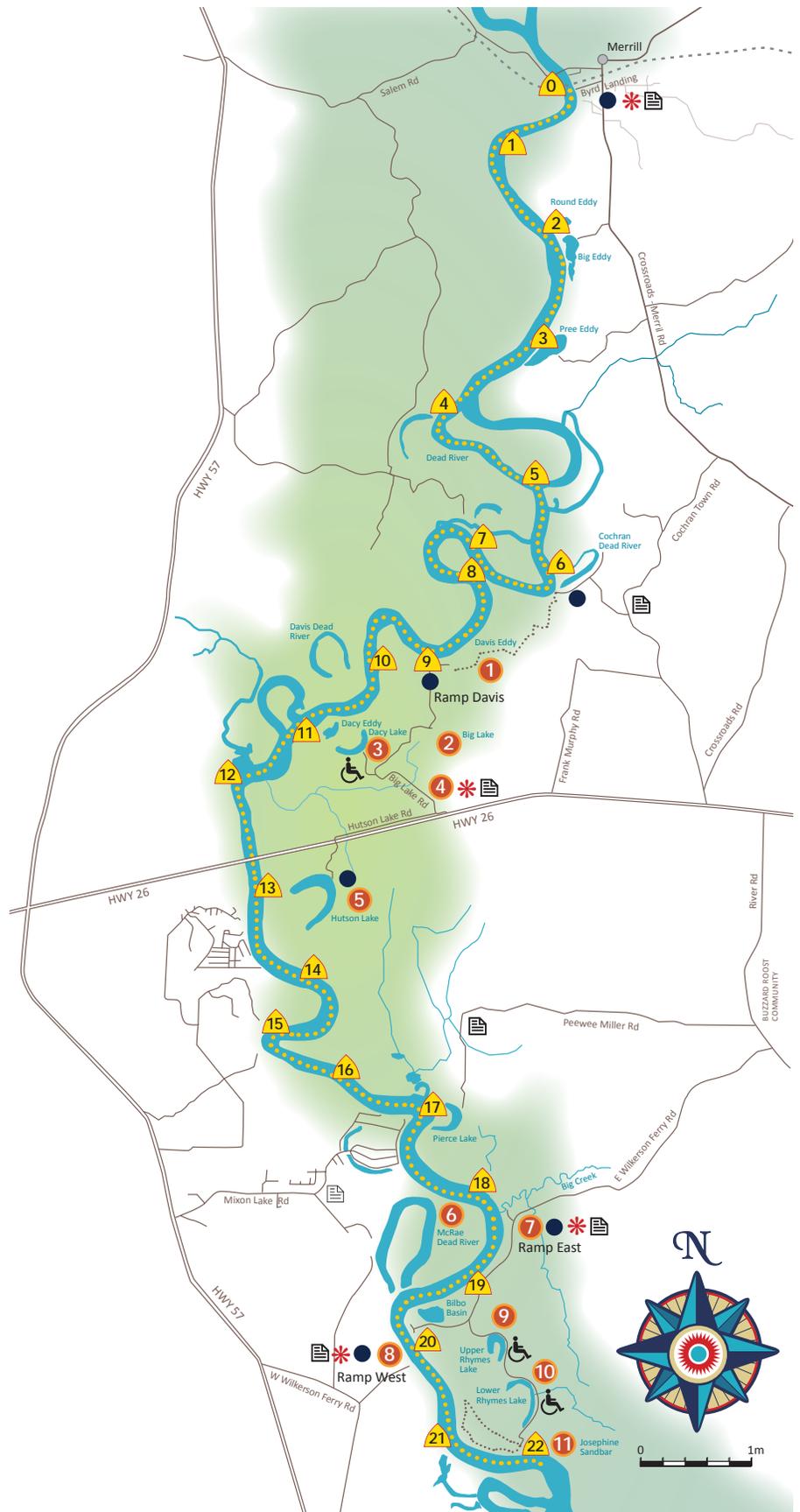
**Wildlife Management Areas (WMAs)** are lands set aside to conserve Mississippi's wildlife resources. Within the Pascagoula River WMA hunting, fishing, camping, hiking, wildlife watching, and boating are all acceptable activities. Aside from the river, visitors may see oxbow lakes and other backwater sloughs, cypress-tupelo swamps, small creeks, pine savanna and longleaf pine forests within the 37,000 acres of the Pascagoula River WMA. Within this fascinating landscape of habitats, over 327 species of birds live or migrate each year to feed, nest and roost. Deer are plentiful; fox, river otters, beaver, skunks, bobcat, alligators, snakes and even black bear can be found within the river habitats.

**MAP LEGEND**

Mile Marker			Information Kiosk
Canoe/Kayak Launch			Permit Station
Blueway Trail			Handicap Pier
Point of Interest			Hiking Trail

<b>LEVEL</b>	Intermediate to Experienced
<b>START/END</b>	Merrill
<b>TRAIL MILES</b>	22 miles in length
<b>PADDLING TIME</b>	8 hours
<b>DESCRIPTION</b>	River currents and deep water
<b>SCENERY</b>	Bottomland Hardwoods, Oxbow Lakes, Cypress Ponds
<b>ACCESS</b>	Several Public Boat Launches





## Points of Interest

Often called "Bird Lake", **1** Davis Eddy Lake is a must-see for nesting herons and egrets in the spring. For additional scenic views, hike the 2 mile nature trail to Cochran Dead River.

Big Lake **2** is a long, narrow lake that was most likely a "drowned" stream dammed naturally over time.

Dacy Lake **3**, a former river channel often called a "dead river" or oxbow, is a scenic locale ideal for nature and wildlife photography.

Just north of HWY 26 **4**, this area showcases many migratory songbirds in spring and fall as well as ducks and other waterfowl in winter and early spring.

Another former river channel now isolated from the main river, Hutson Lake **5** is a bird sanctuary easily accessible by road or boat launch.

McRae Dead River **6** is a former river channel of the Pascagoula River. From the water, paddlers can get a sense of how the river changes course over time. During high water events, the oxbow may be accessible to the main river channel. Access the area from Mixon Lake Road off Hwy 57.

Formerly the site of Wilkerson Ferry **7, 8**, a historic ferry carrying passengers across the river, the locations host primitive camping, port-a-lets, and running water (Artesian well).

Upper Rhymes **9** is home to large cypress and tupelo gum trees. Watch for alligators and wading birds amid the cypress knees and buttressed (swollen) trunks.

Lower Rhymes Lake **10** is another large oxbow that provides great opportunity for intrepid paddlers to get close to giant cypress and tupelo gum trees. Many wading birds and waterfowl use these areas for feeding and nesting.

Josephine Sandbar **11** is currently the largest accessible sandbar on the Pascagoula River. The site boasts an artesian well, a continuous source of freshwater.

All visitors must purchase and carry a WMA User Permit (purchased wherever licenses are sold). Permit use is strictly enforced. Additionally, visitors must complete a daily use permit card before entering the WMA. These permit cards are available at permit stations located at major entrances to the WMA. For questions about the Pascagoula River WMA, visit the website at [www.mdwfp.com/wma](http://www.mdwfp.com/wma) or call 228-588-3878.

### The Land Trust for the Mississippi Coastal Plain

works with landowners to conserve special places in perpetuity. With local, state and federal agencies, the Land Trust protects natural areas that benefit residents and visitors to south Mississippi: abundant seafood, rich timberlands, pristine water, and unsurpassed recreational activities. [www.ltmcp.org](http://www.ltmcp.org)

**The National Park Service** is collaborating with state and local agencies and organizations to promote the conservation, stewardship, and public use of the Pascagoula River, the last large unimpeded river system in the lower 48 states. The Pascagoula River Blueway is part of America's Great Outdoors Rivers Program to conserve and restore key rivers across the nation, expand recreational opportunities and support jobs in local communities.



AVOID PADDLING UNDER THE INFLUENCE OF DRUGS OR ALCOHOL. ALWAYS WEAR YOUR LIFE JACKET AND CARRY A WHISTLE OR OTHER SOUND PRODUCING DEVICE, PREFERABLY ATTACHED TO YOUR LIFE JACKET. PADDLERS SHOULD CHECK WATER LEVEL AND TIDES, WEATHER, AND WATERWAY CONDITIONS PRIOR TO EVERY TRIP. REMOVE WHAT YOU BRING, CLEAN UP MORE IF YOU CAN. AVOID TRESPASSING ON PRIVATE LANDS. PLEASE BE AWARE OF YOUR SURROUNDINGS AND ALWAYS RESPECT THE WILDLIFE. REPORT ANY PROBLEMS YOU ENCOUNTER TO THE LOCAL AUTHORITIES IF APPROPRIATE.





**APPENDIX D**

**PASCAGOULA RIVER JACKSON COUNTY BLUEWAY MAP**

# PASCAGOULA RIVER JACKSON COUNTY

**THE PASCAGOULA RIVER** is the longest free-flowing waterway in the lower 48 states, and the last unimpeded major river system in the continental U.S.

The Pascagoula River serves as the heart for all who claim this area as home. As a natural estuary, the river hosts abundant animal life including over 22 threatened and endangered species, in addition to over 300 plant species. Two-thirds of the Eastern breeding migratory birds use the Pascagoula River and its marshes as a resting point. It is a haven for abundant life, and its banks hold many notable historic locations and economic treasures.

Travel the ten mile Pascagoula River Blueway to discover everything from boat launches and piers to historical landmarks and natural wonders. The trail can be reversed or start or end at any one of the launches. If not round trip, plan for transportation at the end.

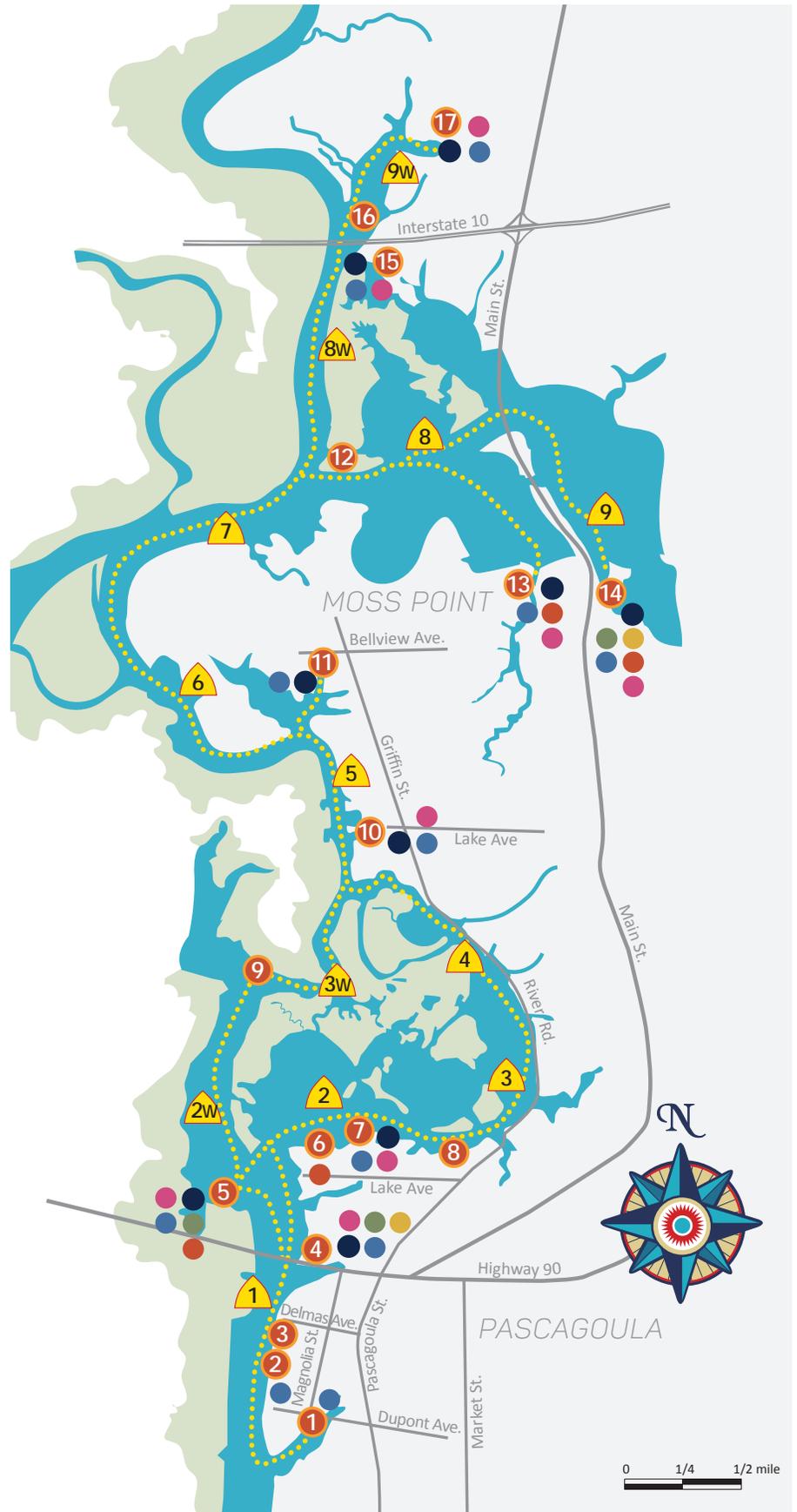
## Points of Interest

**1. The Magnolia Birding Pier** is accessible from Magnolia Street and Dupont Avenue and is home to many native birds including brown pelicans, blue herons and white egrets.

N30° 21' 42.96" W88° 33' 36.22"

**2. The Pascagoula Riverfront** is a mixed-use economic hub with retail, restaurant, and residential space.

N30° 21' 53.68" W88° 33' 49.51"



## MAP LEGEND

Mile Marker			Parking
Canoe/Kayak Launch			Facilities
Blueway Trail			Piers
Point of Interest			Picnicking
			Food & Drink

**LEVEL** Intermediate to Experienced

**START/END** Dupont Avenue/Bennett Bayou

**TRAIL MILES** 10 miles (12 miles if east loop is included)

**PADDLING TIME** 6 hours one way for a complete trip including east loop at Moss Point

**DESCRIPTION** River currents and deep water

**SCENERY** Salt/brackish marshes

**ACCESS** Several Public Boat Launches

## Points of Interest (cont.)

**3. The National Oceanic and Atmospheric Administration's (NOAA) Gulf Marine Support Facility and Mississippi Laboratory** is the home port of the NOAA ships Gordon Gunter and Pisces. [N30° 21' 58.69" W88° 33' 47.81"](#)

**4. The Lighthouse Park** is home to the 1859 Round Island Lighthouse, the Pascagoula Environmental Education Trail, an outdoor classroom, playground, pavilion, fishing pier, and a fish cleaning station. The Park also serves as the trailhead for the Pascagoula River Jackson County Blueway Trail, Historic Pascagoula Bike Trail, and the Pascagoula Historic Pathway. [N30° 22' 17.15" W88° 33' 39.93"](#)

**5. River Park** is home to the Scranton Museum, a 70' Shrimp Boat, fishing piers, a boat launch, an ADA accessible floating kayak launch, restrooms, a pavilion, and a dog park. Future plans for the site include boat storage, a fuel dock, and a restaurant. [N30° 22' 26.75" W88° 33' 50.74"](#)

**6.** As the oldest structure in the Mississippi Valley, the **LaPointe-Krebs House** is an example of French Colonial architecture dating to 1757 and is the earliest settlement in Pascagoula. While the house is under restoration efforts, the interpretive museum is open for tours. [N30° 22' 49.80" W88° 33' 29.27"](#)

**7. Krebs Cemetery** lies next to the La Pointe-Krebs House, where many of the first settlers of the area are buried. [N30° 22' 50.60" W88° 33' 27.10"](#)

**8. Mariners Cove** offers boat slips and is accessible from Lake Avenue near the Lake Avenue Fire Station. [N30° 22' 45.27" W88° 32' 56.67"](#)

**9. The Mouth of McInnis Bayou** provides access to the lower end of McInnis Bayou for fishing and exploring marshes. [N30° 23' 24.45" W88° 33' 51.82"](#)

**10. McInnis Boat Launch** is located on Hemlock Avenue near Griffin Street and accesses McInnis Bayou. [N30° 23' 59.08" W88° 33' 20.34"](#)

**11. Bellview Street** is a small neighborhood boat launch with paved parking. [N30° 24' 38.02" W88° 33' 35.14"](#)

**12. The Gateway to the Escatawpa River** provides access to the Escatawpa River for fishing and exploring marshes. [N30°25'23.73" W88°33'33.19"](#)

**13. The Pascagoula River Audubon Center** is one of several gateways to exploring the rich natural history of the River. From interpretive boat tours, kayak adventures, on-site trails and exhibits, and programs designed to provide hands-on experiences in nature, the Center promotes Audubon's mission of promoting birds, wildlife and the habitats that support them. [N30° 24' 55.34" W88° 32' 36.28"](#)

**14. Downtown Moss Point** is home to a river walk, shopping, dining, and the **Riverfront Welcome Center** which provides kayak rentals, an EZ-Dock Kayak Launch, concessions, and space for rentals, meetings, and special events. [N30° 24' 57" W88° 32' 17"](#)

**15. I-10 Launch** offers easy access and a boat launch. [N30° 26' 14.60" W88° 33' 27.26"](#)

**16. The Mouth of Bennett Bayou** covers five acres and is a direct tributary to the Pascagoula River. [N30° 26' 21.93" W88° 33' 25.71"](#)

**17. Bennett Bayou, Land Trust Conservation Preserve** is an excellent location to experience the rich river environment. Natural area suitable for launching a kayak. [N30° 26' 37.78" W88° 33' 3.31"](#)



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