Helen Wood Park Where Are You In The Watershed?

Can You Say Estuary?

An estuary *(es-choo-er-ee)* is where freshwater from inland is mixed with saltwater from the sea. Estuaries are home to some of the most sensitive and ecologically important habitats on earth. They provide sanctuary for many species of birds and serve as breeding grounds for many ocean fish, including shrimp, crabs, red fish and mullet. Helen Wood Park is located within the Mobile Bay estuary.

Did You Know... That Mobile Bay is Where Five Major Rivers Meet the Gulf of Mexico

Rivers, creeks and streams from over 65 percent of the state of Alabama and portions of Mississippi, Geogia, and Tennessee flow into Mobile Bay and mix with saltwater from the Gulf of Mexico. This makes Mobile Bay watershed the sixth largest in the nation by area and the fourth largest in North America by freshwater flow. Wind and tides deliver salty water into the bay from the Gulf of Mexico. Due to the shallow nature of Mobile Bay the "saltiness" or salinity of the water changes constantly.

Mobile Bay By the Numbers

Drains: 43,662 square miles
Receives: 62,000 cubic feet of freshwater per second
Average Depth: 10 feet
Length, North to South: 32 miles
Widest Point: 23 miles
Width at City of Mobile: 10 miles

The Dog River Watershed

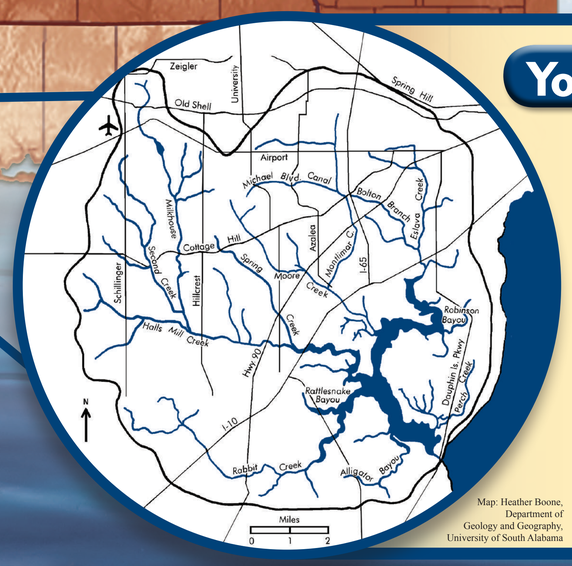
Dog River and its tributaries drain most of Mobile, Alabama and is a "sub-watershed" of the greater Mobile Bay watershed.

Dog River Watershed By the Numbers

Area: 95 square miles
Location: 56 percent City of Mobile, 44 percent Mobile County
Waterways include: pristine streams, concrete lined drainage ditches, and tidal channels

No Dumping

These markers are placed throughout the Dog River Watershed to remind citizens that storm drains flow directly into the creeks and streams that feed Dog River. Any trash, chemicals, motor oil, yard clippings, or other things that are allowed to reach a storm drain will end up in a tributary or Dog River and affect the fish and wildlife that depend upon the river for life.



Map: Heather Boone, Department of Geology and Geography, University of South Alabama

You Are Here – Where Dog River Meets Mobile Bay

Helen Wood Park is located on the margin of two even smaller watersheds included in the Mobile Bay Watershed. Some of the water that runs off the park flows downhill directly into the bay. The remaining runoff flows towards the west into marshes adjacent and contributing to Dog River, which flow into the bay directly south of the park.

Helen Wood Park

The Big Picture: The Ecosystem

Did You Know... you are now looking at a tidal marsh?

Marshes are transition zones between bodies of water, like Mobile Bay, and uplands, like pine or hardwood forests. A tidal marsh is one kind of wetland. Wetlands are formed by three different things: water, soil, and plants. The plants and animals that live in this marsh must be able to handle the unique conditions created by the always-changing water and tides of Mobile Bay.

An ecosystem includes plants and animals that depend on each other for food, shelter, and survival. The marsh you see around you is an example of one of the most productive and beneficial ecosystems on the planet.

Great Blue Heron

Birds of Helen Wood Park

345 species of birds make their home in and around Mobile Bay. Some of these birds are migratory.


Snowy Egret


Green Heron


White Ibis

Can you spot these marsh birds?

- **Great Blue Heron** *(Ardea herodias)*
- **Green Heron** *(Butorides virescens)*
- **Snowy Egret** *(Egretta thula)*
- **White Ibis** *(Eudocimus albus)*

What's in the water?

The richness of salt marsh habitat makes it a nursery for fish and other aquatic species.

Here are some of the fish and shellfish you might find at the marsh's edge:

- **White trout** *(Cynoscion arenarius)*
- **Redfish** *(Sciaenops ocellatus)*
- **Ground mullet** *(Mentiairrhus americanus)*
- **Speckled trout** *(Cynoscion nebulosus)*
- **Brown and white shrimp** *(Farfantepenaeus aztecus), (Penaeus setiferus)*
- **Oysters** *(Crassostrea virginica)*
- **Blue crab** *(Callinectes sapidus)*

Animals in the Marsh

Look a little closer, and you will see that the marsh is teeming with animal life, both in and out of the water.

Look for...

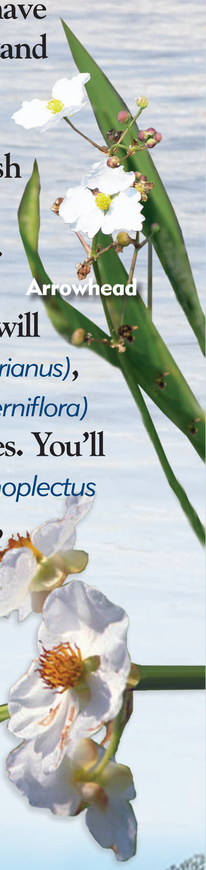
Fiddler crabs *(Uca pugnax and pugilator)* live in burrows they dig along the edge of the marsh. They get their common name from the shape of the one extremely large front claw of the male fiddler crabs.

Periwinkle snails *(Littoraria irrorata)* graze on the algae living on the grass leaves, and they climb up its stalks to avoid both high tidal waters and **blue crabs** *(Callinectes sapidus)*, who like to eat them.

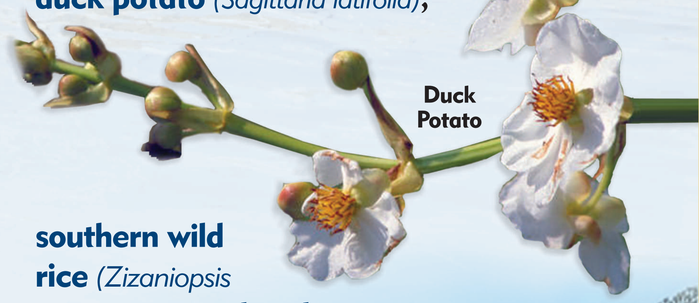
Grasshoppers *(Orchelium fidicinum)* graze on the upper portion of marsh grass leaves.

Plants of Helen Wood Park

All plants that live in salt marshes have developed special abilities to withstand constant flooding and to keep salt out of their tissues. However, more plant species can live in the brackish water of Helen Wood Park than in the saltier marshes further south.


Arrowhead

As you walk through the park, you will find **black needlerush** *(Juncus roemerianus)*, and **smooth cordgrass** *(Spartina alterniflora)* that are typical of Gulf Coast marshes. You'll see a large stand of **bulrush** *(Schoenoplectus robustus and Schoenoplectus pungens)*, **duck potato** *(Sagittaria latifolia)*, **southern wild rice** *(Zizaniopsis miliacea)*, **arrowhead** *(Sagittaria lancifolia)*, **pickerel weed** *(Pontederia cordata)*, and **marsh hibiscus** *(Hibiscus moscheutos)*. All these different plants provide food and habitat for the marsh's many animals.


Duck Potato

Black Needlerush


Blue Crab


Speckled Trout

Redfish

Shrimp

Helen Wood Park

Restoring The Marsh

The Helen Wood Park restoration project was completed by the City of Mobile, the State of Alabama and the Mobile Bay National Estuary Program to provide public access and recreation along Mobile Bay.

The improvements included three steps:

1. Restore the marsh located between Dog River Bridge and the Bay.
2. Replace "impervious pavement" with pervious parking material that allows water to soak into the ground.
3. Construct a waterfront boardwalk with safety rails for fishing and observation.

Hydrology and Invasive Species

When Dog River Bridge was built in 1990-92, much of the material removed during construction was cast into the wetlands of today's Helen Wood Park, in effect "filling" them. This reduced water flow into the area and created conditions favorable for infestation of the common reed *(Phragmites australis)*.

Phragmites occurs in areas that have been disturbed by humans, where it crowds out more beneficial native marsh plants by spreading its roots up to 16 feet each year *Phragmites* roots also release chemicals that poison native plants and seedlings that are important to fish, invertebrates, birds, and other wildlife found in healthy native salt marshes.

Marsh Restoration

In 2008 the Mobile Bay National Estuary Program received a Community Restoration Partnership Grant from the National Oceanic and Atmospheric Administration and Gulf of Mexico Foundation to restore wetlands by removing *Phragmites*, excavation of six inches of fill from the marsh floor, and replanting the area with native marsh plants.

In November 2009, volunteers planted almost 13,400 native plants across the marsh site. This project was successful in restoring normal water flow and native plant species, allowing the marsh to once again become a healthy, diverse coastal ecosystem.

Impervious vs. Pervious

"Impervious surfaces" like concrete, roads, roofs, or the asphalt used to create parking lots; prevent water from soaking into the soil and recharging underground aquifers. Instead, they cause water to runoff, erode creek banks, and carry sediments, pollutants, excess nutrients, animal waste, and other harmful materials into receiving waters like the Bay. In 2005, the parking area's impervious pavement was replaced with pervious material to allow water to soak in, preventing runoff.

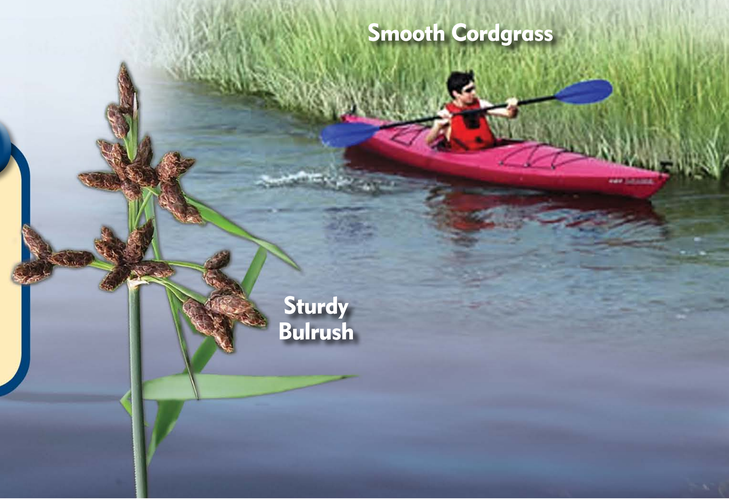
Look for these plants:

Three plant species that will contribute to the restoration of this ecosystem:

Sturdy bulrush *(Schoenoplectus robustus)*
Native bulrush *(Schoenoplectus sp.)*
Smooth cordgrass *(Spartina alterniflora)*

Access to Bay Water

Public access along Mobile Bay is very limited. In fact, only Arlington Park, McNally Park, and Helen Wood Park in Mobile and Bayfront Park in Mobile County provide public access to the Bay's western shore. To encourage wise stewardship of our precious coastal resources this park provides a way for the public to connect to the waters that so enhance our quality of life. A wooden boardwalk along the waterfront and a gazebo along the north side of the parking area allow visitors to enjoy the beauty surrounding Mobile Bay.



William Brooks Park Chickasaw: Gateway to the Delta

What is an Estuary?

An estuary *(es-choo-er-ee)* is where freshwater from inland is mixed with saltwater from the sea. Estuaries provide some of the most sensitive and ecologically important habitats on earth. They offer sanctuary and food for abundant bird species and breeding grounds for many ocean animals including shrimp, crabs, red fish and mullet. Brooks Park is located in the Mobile Bay Estuary.

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About the Mobile-Tensaw Delta

Just north of Mobile Bay lies the country's second largest delta, the Mobile-Tensaw. Designated a National Natural Landmark it stretches over 30 miles long and 12 miles wide and is home to more than 200,000 acres of swamps, marshes and rivers bottomlands that support the lives of some 337 different fish, 126 reptiles and amphibians, 370 birds, and 49 mammals.

Chickasaw Creek Watershed By the Numbers

Area: 250 square miles
Location: Northern Mobile County from Citronelle south and east to the Mobile River
Waterways include: Eight Mile, Log, Meekers, Seabury, and Chickasaw Creeks

Chickasaw Creek Watershed...

is where five sub-watersheds drain into the Chickasabogue. Anglicized from the Indian words, "Chickasa Bok," this massive watershed includes lands utilized by both heavy and light industry, retail and commercial uses, farms and forests, as well as, both rural and dense residential. Drainage that has resulted from this diverse development is causing more erosion along with bacterial contamination and trash to flow into the waterway.

You Are Here –

Williams Brooks Park is located in the Chickasaw Creek Watershed. It provides access to Chickasaw Creek; boating, fishing and paddling opportunities; boardwalks for bird watching and eco-tourism; and a place to picnic and celebrate holidays with friends and family.

William Brooks Park

The Ecosystem

Photo by John Dindo

Birds of Brooks Park

Look for these birds in the sky, trees, and shallows:

- **Osprey** *(Pandion haliaetus)*
- **White Ibis** *(Eudocimus albus)*
- **Great Blue Heron** *(Ardea herodias)*
- **Red-wing Blackbird** *(Agelaius phoneiceus)*
- **Laughing Gull** *(Leucophaeus atricilla)*
- **Snowy Egret** *(Egretta thula)*
- **Mockingbird** *(Mimus polyglottos)*

Did You Know...

Marshes are places where plants can thrive in wet conditions like those found around Chickasaw Creek. The plants and animals that live in marshes must be able to handle the unique conditions created by the always-changing water and tides of Mobile Bay and its tributaries.

An ecosystem includes plants and animals that depend on each other for food, shelter, and survival. The marshes of Brooks Park are examples of one of the most productive and beneficial ecosystems on the planet.

What's in the water?

The land near Brooks Park is mostly silty sand. The water, while almost fresh, undergoes changes in salinity that make it more brackish, especially close to the bottom. This richness of tidal marsh habitat makes it a great nursery for fish and other aquatic species like:

- **Alligator** *(Alligator mississippiensis)*
- **Grass and glass shrimp** *(Palaemonetes spp.)*
- **Largemouth bass** *(Micropterus salmoides)*
- **Bream/Sunfish** *(Lepomis spp.)*
- **Crappie** *(Pomoxis spp.)*
- **Blue crab** *(Callinectes sapidus)*
- **Mullet** *(Mugil cephalus)*

Plants of Brooks Park

The land area around Brooks Park is distinguished by forested wetlands along stream banks. Look for these plants as you walk along the wooded platforms:

Canopy Trees provide the shade:

- **Swamp Tupelo** *(Nyssa sylvatica)*
- **Red Maple** *(Acer rubrum)*
- **Sweet Gum** *(Liquidambar styraciflua)*
- **Bald Cypress** *(Taxodium distichlum)*

Understory Plants found under the trees:

- **Wax Myrtle** *(Myrica cerifera)*
- **Yaupon** *(Ilex vomitoria)*
- **Groundsel Tree** *(Baccharus halimifolia)*
- **Marsh Elder** *(Iva frutescens)*

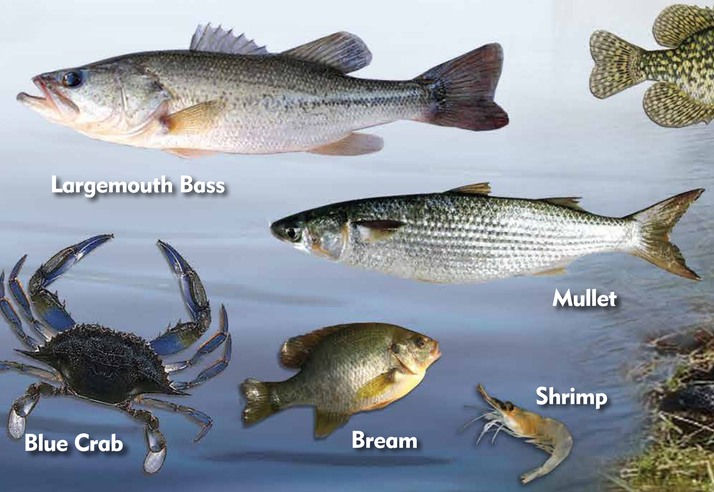
Look for...

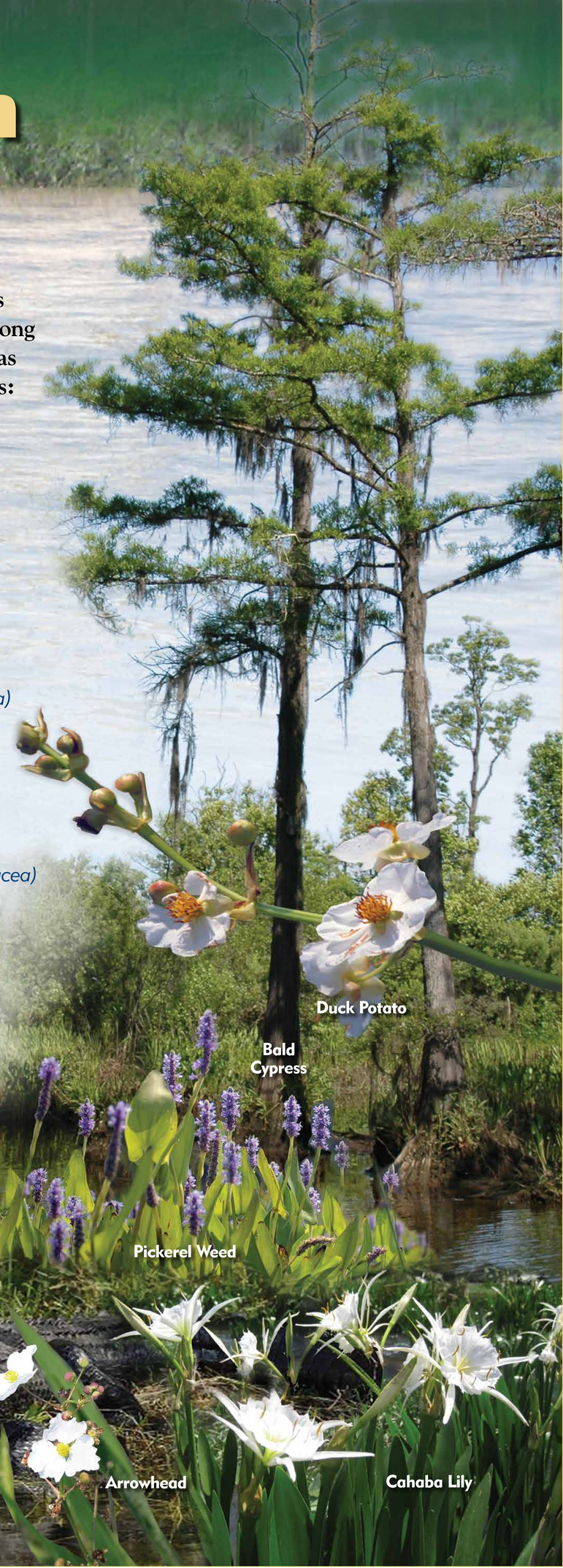
These tall marsh plants grow in the shallow water:

- **Southern Wild Rice** *(Zizaniopsis miliacea)*
- **Bulrush** *(Schoenoplectus spp.)*
- **Cattails** *(Typha latifolia)*

These wetland plants produce beautiful flowers:

- **Cahaba Lily** *(Hymenocallis coronaria)*
- **Pickerel Weed** *(Pontederia cordata)*
- **Duck Potato** *(Sagittaria latifolia)*
- **Arrowhead** *(Sagittaria lancifolia)*





William Brooks Park Wetland Trails

Wetland trails at Brooks Park allow visitors to experience Alabama wetlands up close. The trails are named based upon historical, geographical, and natural references:


Birdie Tower Trail

Birdie Tower Trail

Many species of birds call this area home, including raptors like ospreys, owls and hawks.


Magnolia Trail

Magnolia Walking Trail

This one half mile wooded trail begins at a board walk and continues on to a gravel trail leading to the uplands.


Ferry Boat Landing Trail

Ferry Boat Landing Trail

The original ferry landing site was also used by barges and ships carrying goods between Chickasaw and Mobile.


Wooden Bridge Trail

Wooden Bridge Trail

Records show that the first wooden bridge over Chickasaw Creek was built near this site in the early 1900s.


Basket Factory and Magnolia Trails

Basket Factory Trail

The trail ends at the site of a German immigrant family-owned factory, that once employed up to 20 people who manufactured and shipped baskets downstream to Mobile.


Boat Dock

Boat Dock

The boat dock offers a launch site where paddlers can access unique canoe and kayak trails.

History of Chickasaw

Like many communities, Chickasaw was originally settled because of its access to waterways. Apalachee Indians are said to be among the earliest settlers though the area had always been a crossroad for bands of Indians who seasonally migrated to other areas.

Records indicate the French Explorer, Sieur de Bienville (1680-1768) deeded a large tract of land containing what is now Chickasaw to his friend, D'Arraguette.

Later, legends describe "lawless elements" that engaged in piracy and used the backwater coves and bayous along the creek for hiding places.

The large tract of land that is now Chickasaw, was a planned community of attractive, well-built homes with neighborhood amenities for shipyard workers prior to WWI. Following the war some workers moved away, but a vibrant community remained where, in 1946, townspeople voted to incorporate and the Town of Chickasaw was formally born.

Do your part – keep Brooks Park Clean!

Steele Creek Lodge Where Are You in the Watershed?

What is an Estuary?

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About the Mobile-Tensaw Delta

North of Mobile Bay at the confluence of the Alabama and Tombigbee rivers is the country's second largest delta, the Mobile-Tensaw. This National Natural Landmark has more than 200,000 acres of gum swamps, flood plains, tidal and brackish-water marshes, bottomland forests, and submerged aquatic vegetation supporting some 337 different fish, 126 reptiles and amphibians, 370 birds, and 49 mammals. Steele Creek is located in the Gunnison Creek Watershed part of the Mobile-Tensaw Delta.

Mobile-Tensaw By the Numbers

Area: 30 miles long by 12 miles wide, 260,000 acres
Location: 30° 45' 15" N, 87° 56' 32" W
Included within its boundaries are portions of Baldwin, Clarke, Mobile, Monroe and Washington counties of Alabama.
Major rivers include: Apalachee, Blakeley, Middle, Spanish and Tensaw

Gunnison Creek Watershed...

in north Mobile County drains 11 square miles of mainly forest and coastal marsh with increasing residential use. It is among the least-disturbed watersheds in the region. ADEM's use classifications for the Creek include swimming, fishing and wildlife.

You Are Here –

Steele Creek Lodge is a City of Satsuma Park located on a Bayou Sara embayment. Facilities include boat ramps, a boardwalk, a small playground area, picnic tables and grills. It is secluded, yet easily accessible from Hwy. 43 and I-65. Boat wakes have caused erosion of the bay's western shore, damaging the natural shoreline and the ecosystem it provided.

Steele Creek Lodge

The Ecosystem

Did You Know...

The plants and animals that live along the stream banks, freshwater wetlands, and marshes around Steele Creek together with their physical environment form their own ecosystem. Adapted to the moist conditions created by the always-changing water and tides of Mobile Bay, these organisms depend on each other for food, shelter, and survival. The unique ecosystem around Steele Creek is an example of one of the most productive and beneficial ecosystem types on the planet.

What's in the water?

The bottom near Steele Creek is mostly silty sand. The water is *almost* fresh but slightly acidic, like many coastal plain streams. But it frequently undergoes changes in salinity that makes it more brackish, especially close to the bottom.

The richness of this tidal marsh habitat makes it a great nursery for fish and aquatic species like:

- **Blue crab** *(Callinectes sapidus)*
- **Grass and glass shrimp** *(Paleomonetes spp.)*
- **Bream/Sunfish** *(Lepomis spp.)*
- **Mullet** *(Mugil cephalus)*
- **Alligator** *(Alligator mississippiensis)*
- **Largemouth bass** *(Micropterus salmoides)*
- **Crappie** *(Pomoxis spp.)*

Plants of Steele Creek

Forested wetlands line the banks of Steele Creek near the lodge. Look for these plants:

Canopy Trees providing shade:

- **Swamp Tupelo** *(Nyssa sylvatica)*
- **Red Maple** *(Acer rubrum)*
- **Sweet Gum** *(Liquidambar styraciflua)*
- **Bald Cypress** *(Taxodium distichlum)*

Understory Plants found under the trees:

- **Wax Myrtle** *(Myrica cerifera)*
- **Yaupon** *(Ilex vomitoria)*
- **Groundsel Tree** *(Baccharus halimifolia)*
- **Marsh Elder** *(Iva frutuescens)*

Tall marsh plants in the shallow water:

- **Soft or Common Rush** *(Juncus effusus)*
- **Southern Wild Rice** *(Zizaniopsis miliacea)*
- **Cattails** *(Typha latifolia)*

Birds of Steele Creek


Laughing Gull


White Ibis


Great Blue Heron

Look for these birds in the sky, trees, and shallows:

- **Osprey** *(Pandion haliaetus)*
- **White Ibis** *(Eudocimus albus)*
- **Great Blue Heron** *(Ardea herodias)*
- **Red-wing Blackbird** *(Agelaius phoneiceus)*
- **Laughing Gull** *(Leucophaeus atricilla)*
- **Snowy Egret** *(Egretta thula)*
- **Mockingbird** *(Mimus polyglottos)*


Mullet


Crappie


Largemouth Bass


Blue Crab


Bream

Cattails

Alligator

Steele Creek Lodge

Stabilizing the Shoreline

The Steele Creek Lodge Shoreline Stabilization Project was completed by the City of Satsuma and the Mobile Bay National Estuary Program with guidance by USA Engineering Professor Bret Webb to showcase environmentally-friendly ways to control erosion and restore aquatic and shoreline habitat.

Steps taken to control erosion and restore aquatic and shoreline habitat:

- **Installation of a perched terrace consisting of a rock sill and clean sand fill.**
- **Restoration of shore and stream bank habitat by planting native emergent plants similar to those found nearby.**
- **Creation of a "No Wake Zone" to reduce wave energy near boat ramps.**

Improvements to Resource Management

Since wakes produced by recreational boats have been the primary source of erosion, and to protect the newly restored shoreline terrace at Steele Creek Lodge, a "No Wake Zone" has been established that will be enforced by the Alabama Marine Police.

Re-establishment of Shore and Stream Bank Habitats

Following construction of the perched terrace, Satsuma High School students planted emergent native vegetation on the flat, stable banks creating a natural wetland border that included: southern wild rice, cattails, pickerel weed, duck potato, and arrowhead. These plants provide many important services, like buffering the shoreline from boat wakes and wind waves, slowing and absorbing runoff before it reaches the creek, and providing fish and wildlife habitat.

Erosion Control

In 2010, rock/riprap and clean sand were installed to prevent erosion from reflected boat wakes and to create habitat for fish, crustaceans, and other aquatic life. A rock sill with a six foot crest was installed parallel to the 150-foot shoreline. Sand was placed on geofabric behind the sill just below mean high water levels.

High tide covers the area of clean sand placed atop geofabric creating the perched terrace.

A City of Satsuma employee installs a rock sill along the western shoreline at Steele Creek Lodge – the first step in constructing a vegetated, perched terrace.

Satsuma High School volunteers help restore the shore and stream bank habitat by planting native emergent plants similar to those found nearby.

You are in the

Three Mile Creek Watershed

Discharges to Mobile Bay

You are in the Eightmile Creek Watershed

Discharges to Mobile Bay

You are in the

D'Olive Creek Watershed

Discharges to Mobile Bay