Steele Creek Lodge Where Are You in the Watershed?

What is an Estuary?

An estuary *(es-choo-er-ee)* is where freshwater from the land is mixed with saltwater from the sea. Estuaries provide some of the most sensitive and ecologically important habitat 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. Steele Creek 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, Georgia, and Tennessee flow into Mobile Bay through the Mobile-Tensaw Delta and mix with saltwater pushed in by tides and wind from the Gulf of Mexico. This makes the Mobile Bay Watershed the sixth largest in area and the fourth largest by freshwater flow volume in the continental U.S. Due to changing weather conditions and the shallow nature of Mobile Bay the salinity or "saltiness" of the brackish 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

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)*

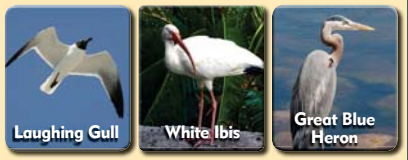
Understory Plants found under the trees:

- **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



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)*

Cattails

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.