Hernando County FL Reefs: A Hidden Gem

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Introduction

Located on the Gulf Coast of Florida, Hernando County is known for its natural beauty and diverse wildlife. One of the county's best-kept secrets is its snorkeling reef, a vibrant ecosystem teeming with marine life. This paper will explore the Hernando County reefs, its history, ecology, importance, and depths, with a focus on the Reef Ball Reef. This is one of the area's I have surveyed the most. My research on the Weeki Wachee Water Quality and The Macro Algae of the Weeki Wachee Estuary started in the 80's. Followed by independent research The Increased Turbidity of the Gulf of Mexico. I was in the water as the Hernando Reef Balls were deployed, and did many follow up surveys. I also served as a board member of the Hernando County Port Authority.

History

The Hernando County snorkeling reef was created in the 1990s as part of a coastal restoration project. The reef was built using limestone and concrete materials, and was designed to provide a habitat for marine life and a recreational spot for snorkelers and divers. In 2005, 185 Reef Balls were deployed on the Reef Ball Reef, enhancing the reef's structure and biodiversity.

Ecology

The reef is home to a diverse array of marine life, including:

- Sea Turtles: Three species of sea turtles (loggerhead, green, and Kemp's ridley) can be found on the reef.
- Fish: Over 100 species of fish, including parrotfish, angelfish, and butterflyfish.
- Corals: Several species of hard and soft corals, including brain coral and fan coral.

- Invertebrates: Starfish, sea urchins, and conchs are abundant on the reef.

Depths

The Hernando County reef spans across various depths, making it accessible to snorkelers and divers of all levels:

- Shallow Areas: 5-15 feet deep, perfect for snorkeling and spotting sea turtles and small fish.
- Middle Reef: 15-30 feet deep, featuring a variety of corals and fish species.
- Deep Reef: 30-50 feet deep, home to larger fish and more diverse marine life.

Reefs of Hernando County Florida

Natural Reefs

Hernando County has very few natural reefs, and they tend to be over-fished.

- Natural reefs develop over hard, rocky bottoms.
- The areas between natural reefs are often loose sand that supports marine grasses, such as eelgrass or turtle grass.
- The seagrass beds support many species and are important in the ecology of adjacent reef systems, providing foraging and breeding sites for reef fish.
- Hernando County seafloor has no natural reefs, it is flat and sandy with seagrass interspersed between hard bottom areas, and it has occasional holes.

Artificial Reefs

- Hernando County currently has seven permitted reef projects.
- The reef projects began in 1995 with the Bendickson Reef, when ten Vietnam-era army tanks were placed about 20 miles offshore in less than 40 feet of water.
- Since the Bendickson Reef, the reef string has been expanded with concrete culverts, reef balls, and sunken boats.
- In 2019, a decommissioned concrete sailboat was deployed as part of Bendickson Reef, located 20 nautical miles west of Hernando Beach.
- Hernando County has taken the initial steps to expand its reef system, courtesy of $2 million in grant funding from the BP oil spill settlement.
- A dozen artificial reef balls are set to be placed inshore and offshore along Hernando County, with final design plans looking at probably mid-to-late 2024.

Rock Piles

Here are the rock piles off Hernando County, Florida, with their historic value:

- Gomez Rocks: Named after the Gomez family, early settlers of Hernando County. These rocks were a navigational hazard for ships and sailboats, and many wrecks have occurred in the area. Location Gomez Rocks S: Located at 28.4963° N, 82.7292° W (N) and 28.4964° N, 82.7294° W (S)
- Cutter Rock: Named after the US Coast Guard Cutter that surveyed the area in the early 20th century. This rock was a significant landmark for mariners and fishermen. Located at 28.4983° N, 82.8333° W It is suggested that the rocks were ballast for Spanish ships exploring the area. From my diving on the rocks west of the bird nest I have observed some large flat layers. I wonder if this area with a shallow depth is actually a unique lime rock outcropping.
- Middle Rock: A significant navigational aid for sailors and fishermen, marking the midpoint between the Gulf of Mexico and the Hernando County coastline. Located at 28.5257° N, 82.7767° W
- Billy Steele South Rack: Named after Billy Steele, a local fisherman and entrepreneur who established a fishing camp in the area. This rock pile was a popular spot for fishing and boating. Located at 28.5047° N, 82.7800° W
- Bayport North Rack: Located near the historic town of Bayport, this rock pile was a significant landmark for ships and boats entering the Bayport Channel. Located at 28.5047° N, 82.7800° W

These rock piles have historical significance as they:

- Provided navigational aids for mariners and fishermen
- Were the site of numerous shipwrecks and maritime accidents
- Were important landmarks for early settlers and fishermen
- Are a testament to the region's rich maritime history and culture
- There is evidence of visitors Early Spanish Contact on the Florida Gulf Coast at The Weeki Wachee and Ruth Smith Mounds [11]

Many of my marine biology students enjoyed surveying these rock piles in the 1980s. At that time there was a vast array of species. *Please note that the historic value of these rock piles may vary, and more research would be needed to fully understand their significance.*

Oyster Bars and Macro Algae

The waters from Chasawiska south consist of shallow depts and many natural oyster reefs. The estuary waters from the Weeki Wachee, Chassawiska and Aripeka contribute to the diversity along the coast. Each of these contributors in a major freshwater spring. The shallow oyster reefs are interesting to snorkel around. The flats outside the oysters are often sandy as you get deeper you will find many macro algae. My first research studies on the Macro Algae of the Weeki Wachee was published in 1985.

Seagrass Beds

Hernando County has a rich seagrass bed of 190,000 acres, which supports many species and is important for the ecology of adjacent reef systems The seagrass beds occur in protected bays, lagoons, and deeper waters along the continental shelf in the Gulf of Mexico. The depth at which seagrasses occur is limited by water clarity because most species require high levels of light. Historically Hernando County has had an abundant supply of scallops that I have enjoyed since the 1970s. While specific depth ranges may vary, waters where bay scallops (which inhabit seagrass beds) hang out a few miles offshore typically range from five to ten feet deep2. The Florida Bay Scallop, found in these seagrass beds, lives in relatively shallow water, usually at depths of 4 to 10 feet 3 [7] My favorite depth for scalloping is the water 10 ft deep and five miles off the mouth of the Weeki Wachee River.

Factors and Observations

The artificial reefs provide shelter, food, and resting areas for fish species such as albacore, king fish, spanish mackerel, hog snapper and cobia. Stone crabs have been harvested from these waters for years. In the 90's I was on one Reef Ball survey that I found hundreds of small stone crabs covering the Reef Balls. Shrimping is still a business in Hernando County. On dives after a shrimp boat has recently been in the area you will find a great deal of turbidity. On most dives I find incredible visibility at 35' dives. As the Gulf warms plankton will multiply and a green hue reduces your visibility. Currents can catch you off guard; they often shift from north to south, partly associated with a reverse current in this region of the gulf. That same current brings clear water up from the deeper Gulf. The distance you are offshore makes watching the weather important. The Gulf can go from calm flat waters 15 miles offshore to unexpected wind driven waves from any direction.

Reef Balls in Hernando County

- The Reef Ball Reef is a unique feature reef, consisting of 185 Reef Balls deployed in 1995. These artificial reef structures provide a habitat for marine life, enhance water quality, and offer a fascinating diving experience.
- The Reef Ball Trail connecting the Tanks. An expansion to the Tank is a trail that includes Reef Balls. This helps in underwater travel between the Tanks and provides a more diverse habitat.
- Reef Ball Snorkeling Reef
- Reef Balls anchoring concrete sailboats. When shifting was discovered on the sailboat reef, Reef Balls were added to keep it in place.

SCUBAnauts

In 2014 and 2018, SNI secured funding from a new artificial reef project in the shallow waters of the Gulf of Mexico, off the coast of Hernando County. The Nauts helped build these reef balls in late 2017 and have monitored them since for changes in coral, sponge, fish and algal recruitment on the new reefs. Despite the colder temperatures of the Gulf waters in the winter, the Nauts will continue to collect data all winter long. So far, the Nauts have been happily surprised to find hardy growth in a very short time. This dive continues to be one of the favorite local dive sites for our SCUBAnauts.[9]

- In 2017, SCUBAnauts volunteers, aged 12 to 18, participated in creating **reef balls**. These man-made concrete structures are used to repair ailing reefs and promote healthy habitats for fish.
- The reef balls were placed in the Gulf of Mexico off the Hernando County coast.
- These structures enhance recreational activities like fishing, snorkeling, and diving, aligning with the county's "Adventure Coast" slogan.
- Data shows an $8 return on every dollar spent on artificial reefs, benefiting both residents and tourists.[10]

Partnership with Hernando County:

- SCUBAnauts collaborated with the county by conducting standardized underwater surveys of proposed reef sites.

    - Their involvement saved time and revenue, as the county would otherwise have needed to hire scientists for survey work. [10]

Long-Lasting Impact:

    - SCUBAnauts' hands-on experience contributes to lasting improvements in waterways and marine ecosystems.
    - Their ongoing monitoring of the reef balls helps track changes in coral, sponge, fish, and algal recruitment. [9]

Overall, SCUBAnauts play a crucial role in environmental conservation and education, benefiting both the community and marine ecosystems

Importance

The Hernando County reefs are important for several reasons:

- Habitat: The reef provides a vital habitat for marine life, many of which are threatened or endangered.
- Recreation: The reef offers a unique snorkeling and diving experience for visitors, promoting tourism and economic growth.
- Education: The reef serves as an outdoor classroom for marine education and research.
- Local Economic Impact: Data from the state indicates an $8 return on every dollar spent on artificial reefs in Hernando County. This return results from increased commercial and recreational water activities supported by reef expansions.[10]
- IFAS studies have shown excellent contingent value in artificial reefs.[12]

2024

Conclusion

The Hernando County reefs, particularly the Reef Ball sites provide a valuable asset to the community, providing a habitat for marine life and a recreational spot for visitors. Its importance cannot be overstated, and efforts should be made to protect and preserve this natural wonder for future generations.

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