

ABOUT THIS GUIDE

This guide includes a chart of Lake Worth Lagoon that depicts main channels, seagrasses, artificial reefs, state parks, and boat ramps open to the public. Also featured is information on habitats and animals, popular sport fish, boating safety and protocol, and a resource directory. This guide should not be used for navigation.

The Boater's Guide to Lake Worth Lagoon was produced by the Florida Department of Environmental Protection. We welcome your comments and inquiries. Address them to:

Florida Department of Environmental Protection
Florida Marine Research Institute
100 Eighth Avenue S.E.
St. Petersburg, FL 33701

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- U.S. Fish and Wildlife Service Sport Fish Restoration Program
- Palm Beach County Board of County Commissioners
- Palm Beach County Dept. of Environmental Resources Mgmt. IFAS — Saagrants Program
- West Palm Beach Fishing Club
- Marine Industries Association of Palm Beach County
- USCG Auxiliary — Flotilla 54

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BOATER'S GUIDE TO LAKE WORTH LAGOON



WELCOME TO Lake Worth Lagoon

Historically, Lake Worth Lagoon was a freshwater lake with drainage from a swampy area along the western edge. The barrier island to the east separated Lake Worth from the Atlantic Ocean. In the late 1800s, settlers first arrived on the banks of Lake Worth and immediately began the changes known as progress that continue to this day.

Extreme high tides and waves, high lake water levels and storms occasionally caused the formation of temporary inlets. Several early attempts were made to create navigable inlets from the ocean, and in 1877 construction of a stable inlet was achieved. Immediately the lake began to change to a saltwater lagoon system. During the 1890s the completion of a navigation canal from the north end of Lake Worth Lagoon to Jupiter Inlet resulted in increased freshwater discharges to the lagoon. Also during this decade developers began filling the wetland edges of the lagoon, an activity that continued into the 1970s.

In the early 1900s, the Atlantic Intracoastal Waterway was completed from the south end of the lagoon to Biscayne Bay. By 1915, the Port of Palm Beach created a permanent inlet four feet deep at the north end of Lake Worth Lagoon. In 1925, the

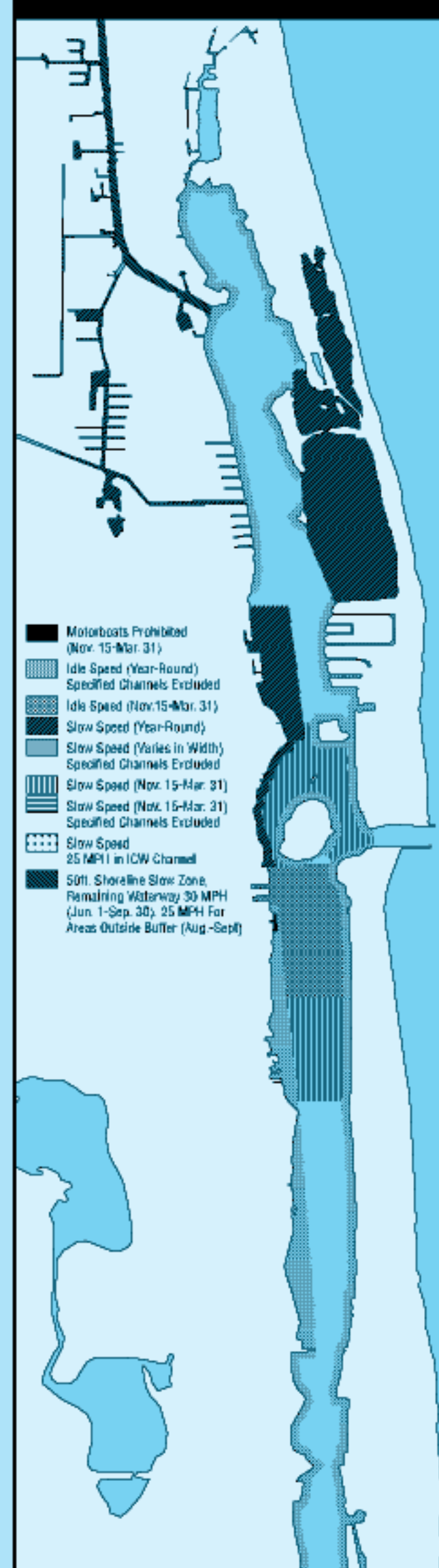
inlet was deepened to 16 feet and dredge spoils deposited in Lake Worth Lagoon resulting in the creation of Peanut Island. In 1917 the South Lake Worth Inlet was created in a failed effort to improve tidal circulation and provide flushing to the south end of the Lagoon. The completion of the West Palm Beach spillway in 1925 resulted in significant freshwater inflow to Lake Worth Lagoon and provided the drainage necessary for the development of the west shore of the lagoon.

Today, Lake Worth Lagoon is connected to the Atlantic Ocean by two permanent inlets. The Lake Worth Inlet is 800 feet wide by 35 feet deep; the South Lake Worth Inlet is 130 feet wide by 6 to 12 feet deep. The Atlantic Intracoastal Waterway runs the entire length of the lagoon. Eight causeways and bridges connect the mainland to the barrier island. Twenty-eight manias and hundreds of private docks are scattered along the shoreline. Approximately 65% of the shoreline is bulkheaded; only 19% of the shoreline remains fringed by mangroves.

Since 1994, there has been heightened awareness and communication among interested parties and local governments concerning the need for water quality improvements and habitat restoration and

enhancement within the LWL. To focus attention on and provide impetus to restoration efforts, the Florida Department of Environmental Protection and Palm Beach County formed the LWL Ecosystem Management Area team in January 1997. Only 18 months later, in August 1998, that team approved a final management plan to guide the restoration and enhancement of the Lake Worth Lagoon. Cooperative efforts among all the team partners will be necessary for funding and implementation of the management plan.

MANATEE SPEED ZONES



UNDERSTANDING SPEED ZONES

The most effective action you can take to minimize manatee deaths is to SLOW DOWN and OBEY the posted speed zones. Some examples of signs you might see are:

- Slow Speed - No Wake
- Slow Speed - Minimum Wake

Idle Speed - No Wake is the minimum speed that will maintain clearance of the vessel while producing no wake.

Slow Speed - Minimum Wake is the speed at which the local is operating at and is added into the water while proceeding with minimum or no wake.

HABITATS

In spite of being highly urbanized, Lake Worth Lagoon is a rich mosaic of fish and wildlife habitats that supplies life-sustaining links in a biologically productive ecosystem. Each interdependent habitat plays a vital role.

Lagoon habitats supply food and shelter for creatures as diverse as the Great Blue Heron and the spiny sea urchin. Seagrasses and mangroves contribute significantly to a dynamic food chain that draws nutrients from the lagoon floor. Decaying seagrass and mangrove leaves provide food for small creatures that are consumed by fish and larger predators.

Seagrasses

Seagrasses are flowering underwater plants found at shallow depths in the lagoon and in patches along the continental shelf of the Atlantic Ocean. Seagrasses support fish, shrimp, and crabs that hide among the blades and feast on decaying leaves. Seagrasses also help stabilize shifting sands on the lagoon bottom and improve water clarity by trapping fine particles.

Seagrass beds now cover less of their original acreage in Lake Worth Lagoon — a loss triggered by dredge-and-fill activity, declines in water quality and damage from motor boats. As boats carve through shallow grass flats, their propellers cut sandy trenches that may stay barren for years.

To help preserve Lake Worth Lagoon's remaining seagrasses, stay within marked channels and avoid shallow grass beds. If you run aground or enter grass flats to fish, stop your motor, tilt it up, and pole or push your boat through.

Mangroves

Mangroves are tropical trees that thrive in salty environments along the water's edge. Like seagrasses, they provide food and cover for a vast array of small fish and animals. Their roots anchor shorelines, and their

branches serve as nesting sites for a wide variety of birds. A lot of the mangrove swamps that once fringed the Lagoon have been replaced by development.

Loss of this important habitat has contributed to a decline in fisheries throughout the lagoon. In order to protect mangroves, state and federal regulations restrict pruning and removal.

Three species of mangroves can be found in the Lagoon. Red mangroves, typically located closest to the water, are easily distinguished by their tangled redbrick roots that branch out over the water. Oysters frequently colonize at their base. Black mangroves feature numerous finger-like projections, called pneumatophores, that surround the base of the tree. White mangroves, which often occupy the highest elevations of the three species, have no visible aerial roots. The leaves of this mangrove are yellow-green.

Mud Flats

Mud flats are shallow water areas exposed during low tide. They lack vegetation, but are far from lifeless. Many small crabs, worms and other animals live in and on mud flats. Wading birds such as herons and egrets feed on this bounty of food, as do the fish that move inshore during high tide.

Oyster bars

Oysters are immobile shellfish that filter water as they feed. Their grayish-white shells are irregular in shape. Live oysters and dead oyster shells form in mounds on the lagoon floor, creating bars or reefs. Most prevalent near sections of the lagoon that receive a steady diet of fresh water, oyster bars attract adult snook and redfish, making them popular fishing spots.

Exercise caution in these areas. Oyster bars may severely damage boat hulls and are treacherous for those on foot.

PEANUT ISLAND

PAST, PRESENT AND FUTURE

Palm Beach County is working cooperatively with the Florida Inland Navigation District (FIND), the Port of Palm Beach and the United States Army Corps of Engineers toward implementation of a \$4 million dollar plan that will enhance and restore Peanut Island to provide environmental benefits and a key water-oriented county park for residents and visitors.

Peanut Island is located in the north-central Lake Worth Lagoon estuary. It is bordered on the east by the Lake Worth Inlet and to the west by the Atlantic Intracoastal Waterway. Originally, the area that occupies Peanut Island was a submerged shallow-water habitat; however, as a result of fill placement from numerous dredging projects, including the Lake Worth Inlet, the entire 79-acre island has become an impacted upland dominated by the exotic species known as Australian pine. Thick pine litter in most locations reduces ground cover, provides no subcanopy and contains a low diversity of shrubs and groundcover for wildlife habitat. The island includes several isolated mangrove areas that receive minimal tidal flow, creating a biologically non-productive system. Currently, the island provides some limited recreational benefits to the local community.

The planned enhancement project will restore environmental ecosystems of Peanut Island which will

provide a modern historic habitat for fisheries and wildlife. Project modification features include creation of 9.1 acres of maritime hammock; construction of a tidal pond and flushing channels for 3.5 acres of isolated mangroves; creation of a shallow water reef habitat and adjacent shallow water lagoons.

Recreational amenities include restrooms, showers, drinking water fountain, picnic pavilion, boat dock with lighting, fishing pier and park path along the entire perimeter of the island. Primitive camping will be allowed on the island by securing a permit from the Palm Beach County Department of Parks and Recreation (Phone: 561-966-6600). Located at the south end of the island is the historic Coast Guard Station and boat house, built in 1936, and the Kennedy bunker built during the Cuban missile crisis of 1962, which will be open to the public through the Palm Beach Maritime Museum (Phone: 561-659-0800). Portions of the island will continue to be used for spoil disposal from dredging projects.

This joint effort will make Peanut Island an environmental and recreational showpiece for Palm Beach County residents and visitors and will benefit the fish and wildlife within the Lake Worth Lagoon.

ABOUT OUR REEFS

The offshore waters of Palm Beach County offer a rich and diverse population of marine life on or around unique geological formations topped with healthy coral and sponges. Within the Lake Worth Lagoon, limestone outcrops occur in the vicinity of Lake Worth Inlet, near the islands located west of the Town of Palm Beach and North of Hypocrite Island.

In addition to the natural system, Palm Beach County has more than 30 artificial reefs with more being added all the time. Artificial reefs (denoted on the map by red stars) are man-made

habitats built from various materials including rock, old ships, heavy gauge steel structures, concrete and prefabricated modules. They are placed in areas away from natural reefs, creating new marine life communities. Artificial reefs also provide alternate areas for scuba divers and anglers, reducing the user pressures that natural reefs endure. For more information contact Palm Beach County Department of Environmental Resources Management, Artificial Reef Program at (561) 233-2400.

FISHING THE LAGOON

Lake Worth Lagoon and the Atlantic Intracoastal Waterway together comprise the inshore saltwater body that runs the entire length of Palm Beach County. It is protected and usually fishable regardless of weather conditions. This area may be the best kept secret for light tackle enthusiasts who enjoy plug casting, fly fishing, or simply relaxing and fishing "bottom rigs" from small boats and off the sea walls.

The area is dotted with small mangrove islands, sand bars and oyster reefs where fish feed and hide. The bridges, inlets and spillways are home for baitfish which, in turn, attract larger fish. Snook, tarpon, bluefish, flounder, sand perch, sheepshead, ladyfish, pompano and several species of jacks and snappers can be taken all year long. Remember, tide is important; so is bait. And one more note — our West Palm Beach Canal Spillway is famous and has produced many world record snook!



IF YOU CATCH A TAGGED FISH:

Contact the Florida Department of Environmental Protection. Fish tagging programs are initiated, in part, to understand the reproductive cycle and movement patterns of fish to help anglers predict where good fishing will be. Biologists ask anglers to assist in this research by reporting all tagged-fish catches.

Snook may be marked with one of two different types of tags. The internal anchor tag is placed inside the abdomen and is attached to a streamer that protrudes externally between the pelvic fin and vent. The external dart tag is slightly below the dorsal fin and has a streamer that protrudes out the fish's back. The streamer on the tag bears the tag number and a message that encourages anglers to dial 1-800-367-4461 and report the following information: angler's name, address and telephone number; tag number, length of fish; location and date of its capture, and any other information acquired.

Anglers who legally catch a tagged snook and choose to keep the fish also have the option of mailing the information and tags to TAGS, DEP Florida Marine Research Institute, 100 Eighth Ave. SE, St. Petersburg, Florida, 33701-5095.

HELP SAVE MANATEES

The West Indian manatee (*Trichechus manatus*), or sea cow, is a large, plant-eating aquatic mammal which is commonly found in shallow coastal waters, rivers, canals and springs of Florida. They range in color from gray to brown, and are seal-shaped in appearance, with flat, rounded tails. Adult manatees average 10 feet in length and weigh over 1000 pounds! Manatees are most common in Lake Worth Lagoon during winter months, when many migrate to the warm water discharge at the Florida Power and Light Riviera Beach Power Plant. This area, noted on the boater's guide map, is recognized as one of the most important warm water manatee refuges on the east coast of Florida. They are often observed swimming, resting or feeding near submerged seagrass beds. Seagrass appears as beige or dark green patches against white colored sand. In dark colored water, manatees are more difficult to see, but may be identified by their dark, round snouts which break the surface of the water to breathe. Large, circular swirls in the water may also indicate the presence of manatees. High mortality, primarily associated with human activity, as well as a low reproductive rate and loss of habitat continue to keep the number of manatees low and threaten the future of the species.

YOU CAN HELP:

Watch for manatees, especially in winter. Wear polarized glasses to reduce surface glare and to allow better through-water visibility. When a manatee surfaces to breathe, only the tip of its snout is visible.

Obey posted speed and manatee caution signs. Manatees move slowly and can rarely evade approaching boats.

Avoid or travel very slowly across shallow grass beds, where manatees feed and rest. Seagrasses are an important food source for these vegetarians.

Stow trash and properly discard monofilament fishing line. Manatees may swallow or become trapped in lines and other plastic debris that litter our waterways.

Obey state and federal laws that make it illegal to harass, capture, hunt, or kill a manatee. Convictions can result in imprisonment and fines of up to \$20,000.

To report violations, manatee injuries, or deaths, call the Florida Marine Patrol, 1-800-DIAL-FMP.

BOATING REGULATIONS

There are approximately 34,000 registered boats in Palm Beach County and this number increases every year. Due to the high number of boats which use Lake Worth Lagoon, it is necessary to have rules and regulations similar to that of automobile drivers. These rules are designed to ensure the safest boating possible, and to maintain control over the Lagoon's remaining natural resources. These rules are enforced by federal, state and local authorities. How boat operators use and take care of boats affects everyone who uses public waters, whether for boating, swimming, or fishing. Here are some ways you can help ensure a safe and environmentally friendly boating experience:

1. Observe and obey posted speed limits. Most canals and marina basins are idle or slow speed. Channels and adjacent waters may also be regulated. When in doubt, slow down.
2. Watch your wake. Remember, you are responsible for damage caused by your vessel's wake. Large wakes can overturn smaller vessels and damage boats which are moored at the dock.
3. Use nautical charts in unfamiliar waters. Stay within marked channels.
4. Know your navigational rules. Use the boating rules of the road to avoid accidents.
5. Don't mix alcohol and boating. More than 50% of all boating accidents involve alcohol.

BOATER EDUCATION LAW

All persons 16 years old and younger as of October 1, 1996, must be licensed to operate any watercraft in Florida Waters. Each year thereafter for five years an additional year of age is added. This stops at age 21 in the year 2001. The education requirement applies only to this age group operating motorized vessels with 10 HP motors and larger.

REQUIRED SAFETY EQUIPMENT:

MINIMUM REQUIRED SAFETY EQUIPMENT FOR RECREATIONAL BOATERS:

Personal Flotation Devices (PFDs) - One USCG Approved PFD for each person on board, plus one throwable PFD for boats over 16' in length. Children under 6 years old must wear approved and properly fitting PFD whenever vessel is under way.

Fire Extinguisher(s) - Must be USCG approved and in serviceable condition.

Visual Distress Signal - Required on vessels where the distance between shorelines is over two miles.

Bell and/or Whistle - Whistle must be audible for one-half mile. A power whistle, power horn and bell are required on vessels over 12 meters.

* Different class vessels (based on overall length) may have additional safety equipment requirements. In addition, passenger-carrying and other commercial vessels have slightly different requirements. For more information, please contact the Florida Marine Patrol office listed in the Resource Directory of this Boater's Guide.

Reference: US Congress - Navigation Rules

COURTESY MARINE EXAMINATION

Courtesy Marine Examination (CME) is one of the many services provided by the United States Coast Guard Auxiliary, a voluntary organization dedicated to assisting the US Coast Guard in boating safety.

This free examination is a courtesy check of safety equipment carried or installed on a vessel and certain aspects of the vessel's condition. CME requirements parallel and sometimes exceed federal requirements with regard to equipment and vessel condition.

If the vessel meets or exceeds all CME requirements, the examiner will award the owner or operator a Courtesy Marine Examination Decal (Seal of Safety).

It must be emphasized, the CME is NOT a law enforcement action and is not conducted by, or is any information obtained or provided to, any law enforcement organization. It is a FREE public service in the interest of boating safety.

CMEs are available at Phil Foster Park and Boynton Beach Boat Club Park every weekend by US Coast Guard Auxiliary volunteers.

For more information and phone numbers see the Resource Directory which is a part of this guide. The Coast Guard Auxiliary can also be contacted on VHF Channel 16.

RESOURCE DIRECTORY

Boat US Foundation Hotline For information on courses in boating safety skills offered locally.	1-800-326-BOAT
Florida Department of Environmental Protection Southeast District Office Florida Marine Patrol (Ocala/Alafia) Florida Marine Patrol - District 2 To report all manatee injuries, boating accidents, and marine mammal deaths or stragings. For information on satellite fishing and manatee protection speed zones.	(561) 681-6600 1-800-643-5987 (561) 674-6885
Florida Game and Freshwater Fish Commission For information on endangered species, nearest bird rehabilitation center and Florida's environment.	(561) 625-9322
Florida Inland Navigation District	(561) 627-5586
Marine Fish Kill Hotline	1-800-630-0511
Mobile Marine Operator	VHF Ch. 20
National Weather Service (Local forecast 24 hours daily)	(561) 686-5860
Ocean Impact Foundation For information regarding injured birds	(561) 471-3403
Palm Beach County Shore's Office (Emergency) Two emergency pick-up points are noted on our map: 1. Port of Palm Beach and 2. Oceanfront Park (mainland only) Marine Enforcement Unit at Oceanfront Park Department of Environmental Resources Mgmt. Office of Emergency Medical Services Regional Education Agent	911 or VHF Ch. 16 VHF Ch. 16 (561) 732-4715 (561) 233-3400 (561) 233-4840 (561) 233-1745
Palm Beach Power Squadron	(561) 883-9067
St. Mary's Hospital Hypertensive Medicine Dept. For questions regarding diving medical information.	(561) 881-2823
United States Coast Guard Ocala/Medical Emergency (USCGC is primary contact) Non-emergency Boating Safety Hotline Historical Oil Response Center (To report oil & chemical spills)	911 or VHF Ch. 16 (561) 844-4470 1-800-368-5647 1-800-424-8002
USCG Auxiliary Flotilla No. 51 (Riviera Beach) Flotilla No. 54 (Boynton Beach) Flotilla No. 55 (Lantana)	VHF Ch. 16 VHF Ch. 16 VHF Ch. 16
United States Customs Office United States Customs/Small Vessel Visa and Reporting	(561) 684-3880 1-800-432-1216
West Palm Beach Fishing Club For information about fishing and charter services	(561) 837-8700

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