Florida Bay Map & Guide

National Park Service
U.S. Department of the Interior

Everglades National Park
www.nps.gov/ever

Flamingos in eastern Snake Bight. (NPS Photo by Tim Taylor)

By Pole or by Troll: The New Snake Bight

Shhhhh… Snake Bight is now a quieter place. That's because in late 2010, it became Everglades National Park's first pole/troll zone, where boaters can use push poles or trolling motors, but the use of combustible motors is prohibited.

This new zone is the result of careful study by park scientists and considerable input from people who fish, birdwatch, and otherwise enjoy nature in Flamingo. Encouraged by monitoring data from Merritt Island National Wildlife Refuge, where pole/troll zones have successfully reduced new propeller scars, they recommended the method for Florida Bay.

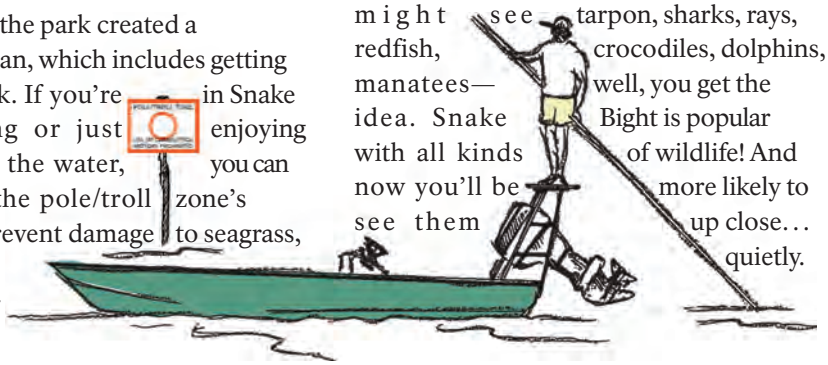
For a bird's-eye view, search for "Snake Bight" on Google Earth!

From the air, it's easy to see the extensive propeller damage in Snake Bight, and easy to understand how boaters drift far into this wildlife-rich paradise before realizing there's no easy exit. The same boat that gracefully skims shallow waters on plane, becomes a relentless anchor when the motor stops. Long white cuts through seagrass beds and blowholes where propellers struggled to push vessels on-plane, document years of "learn by doing" boater education.

Snake Bight is so shallow that wind and tides often leave its large flats exposed, and visitors must be extra vigilant when planning a trip here. It's no fun trying to get your boat out of shoe-sucking mud, which makes up much of the bottom, or poling for what seems like hours once the wind picks up, so be sure to check weather forecasts before you venture out!

To protect seagrass, push poles or trolling motors must be used in Snake Bight's shallower areas; however, boats may still use internal combustion motors and travel on-plane in Tin Can and Snake Bight channels. A slightly deeper area at the southern end of the bight, Jimmy's Lake, is an idle speed-no wake area.

So… is the zone protecting seagrass? Is the fishing better? To help answer these and other questions about the zone's effectiveness, the park created a monitoring plan, which includes getting your feedback. If you're in Snake Bight fishing or just enjoying a day out on the water, you can be a part of the pole/troll zone's success. To prevent damage to seagrass, remember to stay in deeper channels during a falling tide, and look for the pole/troll zone and idle speed signs posted around the bight.



"During low tide, I love to paddle to the west end of Snake Bight. This is my favorite place to watch wildlife in Everglades National Park," says long-time park ranger Bob Showler. "In Snake Bight, you can see sharks cruise lazily across the flats, dolphins charge schools of leaping mullet, and peregrine falcons scare up huge flocks of wintering shorebirds."

Snake Bight is well-known for hosting large numbers of wintering birds, including white pelicans, shorebirds, and raptors. It's one of the best places in the park to see roseate spoonbills; and if you're very lucky, you may even spot an elegant pink flamingo in the wild. But be sure to look in the water where you just might see tarpon, sharks, rays, redfish, crocodiles, dolphins, manatees—well, you get the idea. Snake Bight is popular with all kinds of wildlife! And now you'll be more likely to see them up close… quietly.

Florida Bay Checklist

Don't forget to have all your required safety equipment on-board, as well as other boating essentials...

- **PFDs or life jackets**, and a Type IV throwable PFD
- **Visual distress signals**, such as flares
- **Fire extinguisher**, Marine Type USCG Type B
- **Sound-producing devices**, such as whistles or horns
- **Dive flags**, one on the boat & one in the water
- **Navigation aids**, including charts, compass & GPS, & spotlights/flashlights
- **Charged cell phone &/or radio**
- **Water & snacks**
- **Sun protection**, including a hat, sunblock & polarized sunglasses
- **Dry bags** with a change of clothes
- **Binoculars & camera**

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The *Florida Bay Map & Guide* was made possible in part with generous support from the South Florida National Parks Trust.

Planning Ahead... for a Great Day on Florida Bay

Brown, brown, run aground,
White, white, you may be right!
Green, green, nice and clean,
Blue, blue, sail on through.

If Florida Bay is your destination, you'll want to keep this little ditty in mind. Here, b*rown* refers to the appearance of shallow water, such as a mudbank or seagrass bed; *white* to the sandy bottoms that can be deceiving, as the clear water above them often looks deeper than it really is; and green or *blue* to deeper waters.

Plot Your Course. While you'll find a handy map of the bay on pages 4-5, it's not intended as a navigation aid. International Sailing Supply Waterproof Chart 33E/ NOAA Chart #11451 is indispensable for getting around Florida Bay. When all of those low-profile islands on Florida Bay begin to look alike, when sudden storms pop up, or if you just change your mind about where to go, you'll have a lot more freedom of decision with accurate, detailed charts on board.

Use Your Eyes. A GPS unit is a great piece of technology, and it's easy to focus on that little screen while you're underway. It's a useful tool, but not 100 percent reliable, so remember to look around frequently to read the water. Note the colors and shapes of the underwater scenery. That dark patch ahead—is it a seagrass bed or the shadow of a cloud? Those ripples over there—a puff of wind or a school of fish? If you're not sure, slow down or stop to assess the situation. A moment of caution can save hours of remorse.

Polarized sunglasses are another useful tool to help you read the water. Amber or vermillion lenses are the best colors for bayside boating. The glare reduction they provide allows you to see "through" the water—often to the bay bottom, which not only helps you navigate safely, but also reveals the bay's inhabitants as they go about their day. Whether you spy a school of mangrove snapper checking out the pickings on a limestone shelf or spot an endangered manatee snoozing on the sand, you'll be glad you brought your "super" eyes. Polarized sunglasses are also part of a good sun-block system, with most labels advertising 100% UV protection.

And Speaking of Using Your Eyes . . . The low swing of islands that make up the Upper Keys sport a number of tall communication towers. If you haven't noticed them while driving the Overseas Highway, you probably should when you start driving a boat. Their size and shape can help you quickly orient your position on a nautical chart. **It's also a good idea to note familiar landmarks as you leave the shore, especially if you're launching from a new location. Take a moment to look behind you. Towers and distinctive rooftops are good reference points to help you remember your route**, although navigating by landmarks may be difficult or impossible in times of low visibility or at night. Your chart and compass are still your most essential navigation tools.

Binoculars can be extremely helpful in confirming landmarks, but they can also be a tool of discovery for nature lovers on Florida Bay. Most of the islands in Everglades National Park are off-limits to visitation so that birds may roost and nest in relative peace. Patient observers may be treated to the brilliant colors of roseate spoonbills, gawky young herons still on the nest, or a score of magnificent frigatebirds sunning their ebony wings after a rain.

Protecting Your Stuff. Many of us want to share our experiences, and today's smart phones and cameras have made it easier than ever to take excellent photos and videos. That brings us to another very important piece of equipment—a good dry box or bag. It's amazing how sensitive

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Make Way for Seagrass!

Scientists study it,
Hurricanes muddy it,
Boat props have torn it to shreds.
To hear the sad stories of its former glory
You would think that by now it's all dead!

At over half a million acres, Florida Bay is one of the largest estuaries in the world. Estuaries, where fresh water meets the sea, are famous for their high biological productivity. The Florida Keys' world-class angling and its yield of commercially important species depend on a healthy bay, which provides essential nursery grounds for fish, lobster, crabs, and other species.

Want to learn more? Visit *www.nps.gov/ever/naturescience/sfnrcfactsheets.htm*.

Whether zipping across the bay on a flat-calm summer morning or lazily kayaking through a shady mangrove tunnel, you're bound to notice the life-giving heart of Florida Bay—its seagrass. "Seagrass" is a name shared by more than sixty plant species worldwide, seven of which are found in Florida waters. While not all seagrasses are in the same family, they have several characteristics in common—they live and reproduce underwater, can tolerate changes in salinity, they are highly productive, and they're not true grasses. In fact, they're more closely related to lilies!

Three seagrass species are common in Florida Bay. Shoal grass, with skinny flat leaves, is most likely seen colonizing disturbed areas of bay bottom. It is relatively fast growing and tolerates a wide range of salinities. Scientists have taken advantage of this, using bird stakes, in seagrass restoration projects. These stakes serve as perches at restoration areas for cormorants, gulls, and other seabirds. The birds' nutrient-rich "contributions" fertilize seagrass sprouts, hastening the growing process.

While shoal grass can live in estuarine salinities of 10 to 70 parts per thousand, manatee grass prefers more oceanic salinities—approximately 35 parts per thousand. Its common name comes from its shape, similar to whiskers of the popular marine mammal, but these green "whiskers" may grow up to 20 inches long!

Seagrasses have an internal vascular system and produce tiny underwater flowers. But they also rely on budding in their rhizomes and roots to reproduce. Unfortunately, these root systems don't recover quickly from propeller cuts. Turtle grass, the most abundant and easy to recognize of the seagrasses, with its wide, flat blades, has the hardest time with this type of injury. Its rhizomes grow horizontally, but aren't flexible enough to grow downward into the sediment; therefore, prop scars create a barrier to rhizome growth. Bottom cover removed by prop scarring may take ten years or more to re-grow.

In some parts of the bay, propeller damage may have been intentional. Historical photographs reveal the creation of several popular "wheel ditches" by boat operators traversing the lacy network of mud banks and shallow berms. Not surprisingly, expansion of these unnatural passes has accompanied the doubling of boating use in Everglades over the past 30 years.

Increased boater use is only one challenge facing Florida Bay. Seagrasses also endure environmental challenges, including massive algae blooms that contributed to seagrass die-offs in the past. These events were followed by periods of recovery, renewed algae blooms in 1998, and hurricanes in 2004 and 2005. Repeated prop damage, winds, storms, scouring currents, and obstruction of sunlight by algae blooms may all contribute to the permanent demise of seagrass on a particular patch of bay bottom.

Seagrasses and mangroves are sometimes called "ecosystem engineers," because their growth patterns and photosynthetic processes significantly change the environment in which they grow. In Florida Bay, seagrasses have stabilized the bay bottom with their root systems, enabling the accumulation of sediments that has allowed plants to grow into the familiar low islands that break the horizon. Without the stabilizing effect of seagrass and mangroves, the bay bottom would continually shift due to hurricanes and

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Seagrass provides essential habitat in Florida Bay. Inset: Propeller scar in seagrass bed. (NPS Photos)

Florida Bay Map

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Legend

3-6 feet deep. Recommended for boats 23 feet in length or less.

Less than 3 feet deep. Recommended for boats drafting less than 12 inches. Avoid stopping and starting—even shallow boats can "crater" the bottom when getting up on plane.

Shoal or banktop. These areas can be less than 1 foot deep. Poling or trolling motors recommended.

Wilderness Entry. Paddle-in only. Only boats with motor removed from transom allowed beyond these points.

Wilderness. Only boats with motor removed from transom allowed in these waters.

Wildlife Management Area. Closed to any and all entry. Formerly known as the "Crocodile Sanctuary."

Snake Bight Pole/Troll Zone Boundary. Combustion motors may not be used unless in Tin Can Channel, Snake Bight Channel, or the Jimmy's Lake Idle Speed-No Wake Area.

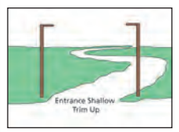
Jimmy's Lake Idle Speed-No Wake Area. Deeper area within Snake Bight Pole/Troll Zone. Combustion motors may be used at idle speed.

Passes & Channels

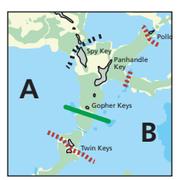
Black. Extremely shallow (16 inches deep or less) and often very hard to read. Use other routes in winter. Only shallow draft boats (1 foot or less) at all times. **Black dotted (•••).** Extremely shallow, narrow and twisty. Not recommended.

Red. Some portions less than two feet deep and require tight turns. Extra care required to avoid damage to the bottom. Only shallow draft boats (1 foot or less).

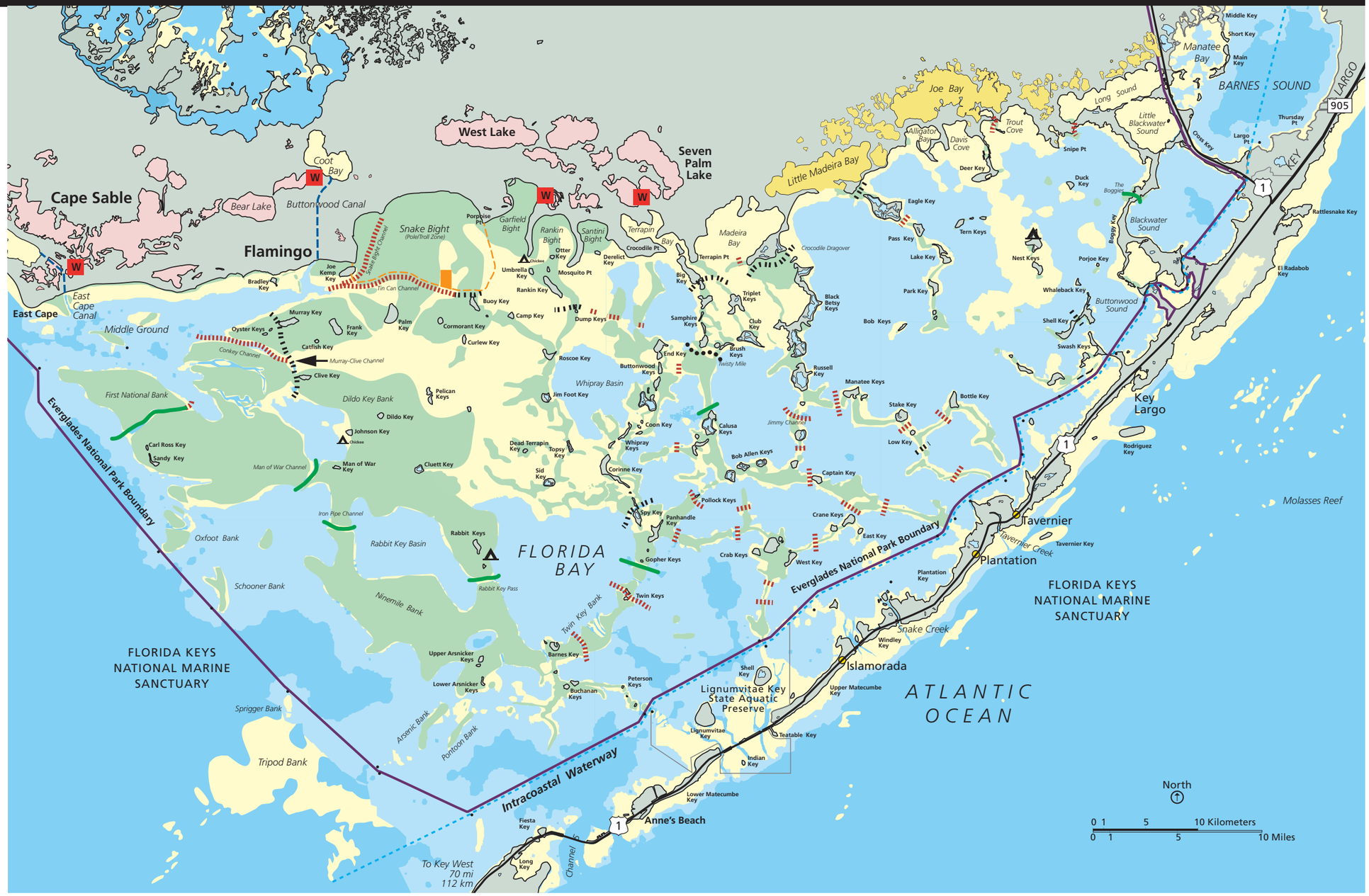
Green. Wide channels that are usually deep and easy to read. Good for beginners. Boats drafting more than 18 inches are not recommended.



Channel Mouth & Markers. Size up the channel from a safe distance. Stay on plane and slow down. Channels are shallowest at their entrances and exits, so trim your motor. Enter the channel. If there are two stakes, stay between them. If there is only one stake, stay as close as possible to it. Arrows on the stakes point towards the channel.



Choosing Routes. Use the deepest routes to get to where you're going. For example, to get from A to B, use the wider, deeper channel just south of Gopher Keys, rather than the shallower channel at Twin Keys. Don't run aground, take the long way around. It might cost you 5 minutes, but it will save you from tearing up the sea bottom.



Not for navigation! • Use International Sailing Supply Waterproof Chart 33E/NOAA Chart #11451 • Not for navigation!

Are Your Safety Essentials Onboard?

When you're in a hurry to get out on the water, you'll probably remember to pack bait and those ice-cold drinks, but what's *really* essential—proper safety equipment—could save your life. It could also save you a disappointing change in plans or a costly ticket.

Everglades National Park rangers working out of the Florida Bay Ranger Station in Key Largo issued more than 1,600 citations and warnings between October 1, 2009 and September 30, 2010. The majority of them were for boating safety violations. "It's the number one reason for terminated voyages," says ranger Dave Fowler, who has patrolled the bay for nearly 20 years out of Flamingo and Key Largo, "and it's a pretty easy situation to avoid."

What are the rangers checking for? Besides having your boat numbers correctly displayed or a registration certificate, the following equipment is required:

Personal Flotation Devices (PFD or Life Jacket). All boats must carry a Type I, II, III, or V wearable PFD for each person on board; children under six years of age *must* wear a PFD at all times on vessels less than 26 feet that are underway. Personal flotation devices must be in good condition and of proper size for the intended wearer, and must be tagged as *US Coast Guard approved*.

The term "life jacket" may evoke memories of hot, encumbering vests, but newer models leave no excuse for the freedom-loving boater. Your best bet for safety in rough or remote waters is still the Type I PFD, designed to turn even an unconscious boater face-up in the water. Some inflatable PFDs must be worn while boating, so be sure to check what type you own and use as directed.

A lighter version, the Type II PFD, is meant for calmer nearshore waters where there is a good chance of quick rescue.

Type III PFDs, called "flotation aids," may contain foam panels that contour closely to the body and are frequently used by people engaging in watersports. The newer, inflatable Type III PFDs are lightweight, smaller than the traditional vest, and easily adjustable. Depending on design, they may employ CO_2 cartridges for hand-activated or automatic inflation, or be inflated with a few breaths of air. When fully inflated, they may have the same buoyancy rating as the Type I PFD, although they will generally not turn an unconscious person face-up in the water.

Type V PFDs, known as special use devices, include hybrid versions of personal flotation devices, and must be used only for their specific intended purpose, such as kayaking, windsurfing, or water skiing. These models may feature additional pockets for comfort items or emergency equipment.

So where is the Type IV PFD? That's a good question! According to ranger Fowler, these PFDs, including cushions, ring or horseshoe buoys, are often absent during a boat check. They are specifically designed to be thrown to a person who has fallen overboard. It's easy for these PFDs to become separated from the boat when they're being used for shoreside activities. They are a required part of boating safety equipment and must be immediately accessible, so remember to bring them back aboard when you return to your boat!

Proper care of PFDs, including drip-drying and storing them in well-ventilated areas away from sunlight will ensure years of use from this important investment. Just remember that even the best PFD can't save you… if you don't wear it.

Fire Extinguishers. Only US Coast Guard-approved fire extinguishers are legal for use on vessels. The label on these hand-portable units should indicate *Marine Type USCG, Type B*. It is recommended that they be mounted in a readily accessible location, away from electrical panels and other areas where a fire may start. Just as you would with your home fire extinguisher, check the unit on a regular basis to ensure that pressure gauges are in the prescribed range, seals are intact, and that no physical damage, such as corrosion, has occurred.

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The Type III PFD, shown at left, is lightweight, and employs a hand-activated CO_2 cartridge for inflation. (NPS Photo)

Planning Ahead

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electronics can be to saltwater. Unless you're armed with waterproof versions of your favorite tech toys, you'll want to care for your investments by keeping them properly stowed when not in use.

Protecting Yourself. Wet weather gear is great for protecting yourself from the bay's surprises, where blowing rain can feel like it's piercing your skin. A dry bag packed with towels and clothes is almost as comforting as a warm fire when the rain lets up, you are chilled to the bone, and still have a long way to go. Florida has some of the warmest year-round temperatures in the country, but a wet, windy boat ride can leave you exhausted, maybe even hypothermic.

Become an *Eco-Mariner*. In 2009, the National Parks Conservation Association (NPCA) launched the online boater education program *Eco-Mariner* to provide boaters with techniques to help them successfully navigate Florida Bay while protecting its habitat and wildlife. This free course also provides an overview of the park's boating and fishing regulations. Becoming an *Eco-Mariner* is as easy as taking the online course at *www.ecomariner.org*. However, becoming an expert on Florida Bay takes much longer, requiring patience, years out on the water and planning ahead.

It doesn't matter if you're a first-timer or an old-timer out on Florida Bay—planning ahead can be the difference between a bad day on the bay and a great one!

For more information on boating and fishing on Florida Bay, make sure to check out the videos posted on the park website at *www.nps.gov/ever/photosmultimedia/waterways-series.htm*.

Safety Essentials

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Visual Distress Signals. Recreational motorboats 16 feet or less are not required to carry day signals, but they must carry at least three night signals if operating between sunset and sunrise. The US Coast Guard requires three day and three night signals for larger vessels. A simple way to fulfill the legal requirements for all vessels in Florida Bay is to have at least three US Coast Guard-approved combination day/night visual distress signals, such as flares, in a readily accessible location. Expired signals may still be serviceable as emergency backup, but won't pass the test as legal boating safety equipment.

Sound-Producing Devices. All vessels are required to carry a sound-producing device, such as a whistle or horn, that's audible for at least one-half mile. For recreational vessels without a built-in system, a hand-held marine air horn packs plenty of audio wallop!

Navigation Lights. Recreational vessels are required to display navigation lights between sunset and sunrise and during periods of restricted visibility, such as fog and rain. The familiar green/starboard and red/port, masthead and stern lights must comply with US Coast Guard requirements and be in working condition. An all-around white light, visible for 360° around the boat, may be used in place of the masthead and stern lights.

Dive Flags. Boaters must stay 300 feet away from a diver-down flag in open water. You may have noticed that two sizes of dive flag are available. The larger size (20 by 24 inches) must be flown from the vessel. The smaller size can only be used as a tethered floating dive flag while snorkeling or diving. For maximum safety, it's a good idea to use both flags. Remember to remove your flag when divers or snorkelers are not in the water.

Ranger Reminders. Park rangers note that one of their most common "stops" in Florida Bay is to remind operators that personal watercraft, also known as jet skis, are not allowed in the park. Likewise, any kind of towing, such as water skiing, wakeboarding, or tubing may not be conducted within park boundaries. The park boundary follows the Intercoastal Waterway (ICW) in Florida Bay.

"Nothing makes us happier than checking boaters who have all of the required safety equipment and the right charts for the area," says ranger Fowler. "Know the laws before you leave the dock and equip your boat accordingly."

Seagrass

(continued from page 3)

other storms. The resulting lack of bottom stabilization leads to more suspended sediments and a murky water column.

However, the greatest challenge to Florida Bay's health is the cumulative effect of years of water diversion and other human influences on the Greater Everglades ecosystem, which stretches from central Florida to the reefs of the Florida Keys.

The hope to restore this ecosystem lies with projects such as CERP—the Comprehensive Everglades Restoration Plan. Approved by Congress in 1999, it's a partnership of state, federal, and local agencies and organizations tasked with implementing changes in water management methods that will eventually provide Everglades and Florida Bay with a more natural flow of fresh water.

In the meantime, the resilient seagrass of Florida Bay continues to provide essential habitat for marine life that sustains south Florida's ecology and economy. Do your part to save the source of the bay's ecological and economic success. Observe safe boating rules—you'll protect your boat—and seagrass!

If (when) you run aground…

In Florida Bay, it's not a matter of if you'll ever run aground, it's when. That's because much of the bay is extremely shallow—in places, less than a foot deep! When in doubt about the depth, slow down and idle. If you run aground or the water is so shallow you're stirring up mud behind your boat, do the following:

1. STOP!
2. Turn your motor OFF! DO NOT attempt to power off the flat as it could damage your boat and cause additional damage to seagrass beds and other sensitive Florida Bay habitats.
3. Trim your motor UP!
4. Wait for high tide to drift free.
5. Walk, pull, or pole your boat to deeper water.
6. If you cannot drift free, contact the US Coast Guard on VHF channel 16.

Park ranger investigating a grounding in Twisty Mile. Note that the water only comes up to the ranger's ankles! To avoid situations like this, make sure you have an up-to-date chart with you and keep your eyes on the water. (NPS Photo)

Bird stakes are often used on seagrass restoration projects. As birds perch on the stakes, their nutrient-rich droppings fertilize the seagrass sprouts. (NPS Photo)