

This e-book is available for download at www.BeachHunter.net for FREE!

BEACH SURVIVAL GUIDE

How to Be Safe From Sharks, Jellyfish, Stingrays, Rip Currents

And other Scary Things
On Florida Beaches and Coastal Waters

Protect Yourself and Your Family



By David McRee

Author of Florida Beaches: Finding Your Paradise on the Lower Gulf Coast

Copyright © 2005 by David B. McRee. All rights reserved. No portions of this book may be reproduced or translated in any form, in whole or in part, without written permission from the author, David McRee. Short passages may be quoted without requesting permission when proper credit is given.

If you downloaded this book for free, you may send a copy to your friends but you may NOT sell it or charge for it in any way. If you have a website and would like to offer this book to your visitors for free you may do so, but you must notify me that you are doing so, and give me credit on the download page as well as provide an active hyperlink to <http://www.beachhunter.net> on the download page.

A note about copyright law: A writer's "expression" or particular arrangement of words or information is copyright protected. Facts are not protected by copyright.

Inquiries should be directed to David McRee by sending email to:
beachhunter@beachhunter.net

Published by David McRee. Revised and updated May 2012.

ISBN 0-9769885-1-8

Photographs were taken by the author unless otherwise credited.

Illustrations and a few photos are from www.clipart.com

Media and press can find more information about the author and the author's work by visiting <http://www.beachhunter.net> and clicking on "media / press."

Disclaimer: Although the author has tried to make the information contained in this book as accurate as possible, he accepts no responsibility for any loss, injury, inconvenience, or death sustained by any person using this book. The reader accepts that nature is uncontrollable and unpredictable and that one hundred percent safety cannot be guaranteed in any situation.

Table of Contents

Awareness...Not Fear.....	1
Sharks	3
Shark bites: Fatal and Non-Fatal	3
Shark Bites: Considering the Risk.....	6
Reducing Your Chance of Being Bitten by a Shark	7
Where in Florida Do Most Shark Bites Occur?.....	9
Can You Fight Off a Shark?	10
How to Help a Shark Bite Victim.....	11
Drowning	12
Drown-Proofing.....	15
Rip Currents.....	16
How to Recognize a Rip Current	18
Other Strong Water Currents	20
High Surf	22
Types of Surf	23
Boats and Personal Watercraft (a.k.a. jet-skis).....	26
Stingrays	27
Treating Stingray Injuries	31
Other Rays	32
Jellyfish.....	34
Cannonball Jellyfish	35
Moon Jellyfish (<i>Aurelia aurita</i>)	36
Sea Nettle Jellyfish (<i>Chrysaora quinquecirrha</i>).....	38
Box Jellyfish	40
Portuguese Man of War (<i>Physalia physalis</i>).....	41
Purple Jellyfish (<i>Pelagia noctiluca</i>)	43
Comb Jellies.....	45
Preventing jellyfish stings.	46
Treating Jellyfish Stings	47
Jellyfish Sting-Related Products.....	49
Sea Lice	51
also known as Sea Bather's Eruption (<i>Pica-Pica</i>)	51
Alligators and Salt-Water Crocodiles	53
Nile Monitor Lizards	55
Insects	56
Other Things that Bite, Pinch or Stab.....	57
Crabs	57
Spiny Fish	59
Birds.....	60
Red Tide.....	60
Water Quality and Harmful Bacteria	66

Hurricanes	67
Lightning.....	69
The Sun	71
Holes on the Beach	75
Fish / Shellfish Poisoning	76
Fish Poisoning (Ciguatera)	77
Crime and Personal Safety.....	79

Awareness...Not Fear

In July 2005, a teenage girl swam out into the Gulf of Mexico with her friend, both on boogie boards. They swam out over 100 yards from shore. She was fatally bitten by a shark. Had she been fearful of sharks she might have stayed on the beach. Had she been aware of certain dangers, but not afraid, she might have just stayed much closer to shore. It might have made a difference to her.

The same week, not far away, a teenage boy was fishing in waist deep water, only a few yards from shore. He was reeling in a fish when he was bitten on the leg by a shark. Had he been fearful of sharks, he might never have gone in the water. Had he been aware of certain dangers, but not afraid, he might have refrained from fishing where he and others were swimming. It might have made a difference to him.

I received an angry email from a man from New Jersey who had just returned from his vacation on Clearwater Beach. It was his first time swimming in the Gulf of Mexico. He walked out of his hotel room onto the beautiful white beach, looking forward to a relaxing vacation. No sooner had he entered the calm green waters than he felt an excruciating pain in his foot. He had stepped on a stingray and had to be taken to the hospital for treatment. He knew nothing of stingrays and was very upset that no one warned him about how to avoid them. He wondered what legal recourse he might have. I completely understand his feelings. Fear might have kept him out of the water. Awareness would have helped him safely avoid stepping on the stingray, which was only reacting to being stepped on. Ignorance was not bliss.

June 8, 2003, a young man was caught in a strong current and was being pulled out to sea. A relative jumped in to save him. Other people on the beach saw the two struggling and jumped in to help. Eight people drowned that day, seven of them were only trying to help rescue one. Fear caused them all to panic and wear themselves out struggling against the current. Awareness would have helped them all understand what was happening and most likely would have resulted in a much happier outcome.

All of the above are events and outcomes that actually happened in Florida in recent years. I am writing this book because I am greatly concerned. I was born on the Florida Gulf Coast and have lived here all my life. I've spent hundreds, if not thousands of hours in the Gulf waters and on the beaches with only a few minor incidents. I know the dangers. I know how to tremendously increase my chances of avoiding those dangers.

Visitors from other parts of the country are not aware of the dangers. How can you avoid something you don't know anything about?

In this book I will talk about many things on the beach or in the Florida coastal waters that have the potential of causing harm to humans. The purpose of this book is NOT to scare you. It is to make you AWARE. Awareness is knowledge. Knowledge is power. This book does not cover every possible danger, just the most common ones that I'm aware of.

Use the information in this book to keep yourself and your family safe while you are enjoying our beautiful Florida beaches and waterways.

But please, enjoy yourself!

Post Script:

During the early summer months, the nation's collective attention turns toward beach vacations. Much is said and written about sharks, jellyfish, stingrays, drowning, etc. No matter where you go, there are dangers. The important thing is to be aware of those dangers and how to avoid them. For instance, if you live in a city like Miami, Atlanta, Chicago, Detroit, New York, Los Angeles, Dallas-Fort Worth, etc., you need to know which neighborhoods are unsafe at night, which neighborhoods are unsafe at any time, which roads have terrible traffic jams, which intersections have a high accident rate and many more things that help you live safely. If you go camping, you need to know how to deal with bears, snakes, scorpions, sudden changes in temperature, snowstorms, getting lost, and many other things.

Florida, like every other place on earth has its own elements of danger. Awareness is your ticket to a safe ride.

Sharks

We really know very little about sharks and shark behavior. Much of what we read in the newspaper and magazines about sharks, and what we hear on television is pure speculation. Dramatic speculation. Sure, during the summer you hear a lot about shark bites because those stories grab your attention. They sell newspapers. They create a diversion from the humdrum of life. In reality, shark bites are quite rare. But, just as there is no guarantee that you will not be involved in an automobile accident on the way to or from the beach, there is no 100% guarantee that you will not be bitten by a shark while swimming at the beach (unless of course you don't go in the water).

When determining how to minimize your chances of encountering a shark, it is best to stick to facts, to learn from the experience of others, and to use common sense.

First, understand that there are sharks in all seas of the world. There are a lot of sharks in Florida waters. If they wanted to eat humans, it would truly be impossible for us to swim. Fishermen catch sharks everyday right off the beaches where people swim. The sharks are out there all the time. Most of the time sharks are only interested in keeping a safe distance from humans. I have seen a large shark swimming 30 feet from shore, directly approaching groups of bathers. When the shark got within 100 feet of the humans, it turned toward deeper water to go around them before coming back to shallow water.

Second, keep in mind that most shark bites are not fatal, and that most shark bites in Florida waters happen when a shark is feeding on fish and mistakes a human foot or hand for a fish. The shark bites and quickly lets go and swims away in search of a fish.



Shark bites: Fatal and Non-Fatal

Take a look at the numbers in the following table:

This table shows that between January 1990 and July 2011, out of 461 reported shark bites, only 5 were fatal. **That's roughly 1 in 100 bites that results in death.**

Since 1882 there have only been **11 recorded shark bite fatalities**. Probably there were a few more back in the late 1800's and early 1900's that were not recorded, but the point is that relative to the millions of people that swim in Florida waters, the rate of fatalities is very small indeed.

The numbers in the table for 1990 through 2011 come from the International Shark Attack File maintained by the Florida Museum of Natural History.

The International Shark Attack File statistical analysis shows the following:

- Since 1900, shark bites have increased in proportion to the population increase in Florida.
- Between 1926 and 2011, more than half of Florida shark bites occurred during the months of July, August, September, and October. More than 85% of Florida shark bites occurred during the months March through October.
- Most shark bites happen between 11am and 7pm, generally corresponding with the most popular times for water activities.
- The feet, legs, and hands of surfers are the most common target of sharks in Florida, followed by swimmers and waders, and finally divers. Swimmers were the most common victim before the 1960's. Surfing became popular beginning in the 1960's and the exponential increase in the presence of surfers in the water contributed to a major increase in shark bites.
- The most bites are inflicted by Spinner, Blacktip, Hammerhead, and Bull sharks.

Florida		
Year	Shark bites	Fatalities
2011	11	
2010	14	1
2009	18	
2008	28	
2007	31	
2006	21	
2005	17	1
2004	12	
2003	29	
2002	29	
2001	34	1
2000	37	1
1999	26	
1998	21	1
1997	25	
1996	13	
1995	29	
1994	23	
1993	10	
1992	11	
1991	12	
1990	10	
Totals	461	5

From the above information, it is easy to see that there is a direct relationship between the increase in the presence of humans in the water and the increase in shark bites over time. As more and more people come to Florida and play in the water, it seems reasonable to predict that we will continue to see an increase in the number of shark bites over time. However, it is most important to consider the relative risk of being bitten by a shark.

It is very important to understand that the increases in shark bites in the last few decades is **not** because sharks are more aggressive, or because they have developed a taste for humans, or because Fidel Castro has trained schools of sharks to attack us. It is only because there are more people going into the shark's world.



The Hammerhead shark is very common in Florida.

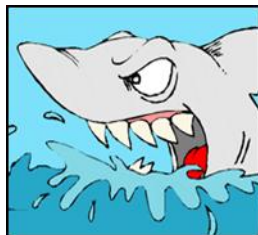
Shark Bites: Considering the Risk

Out of all the people who enter the water every year, what percentage is bitten by a shark? Let's make some rough calculations by looking at the numbers for 2011. According to statistics kept by the United States Lifesaving Association on beach attendance, about 53,000,000 people visited Florida's major public beaches. Florida averages about 16 shark bites per year. **That works out to a chance of less than one in three million that any one person will be bitten by a shark.**

Of course, there were more than 53 million visits to Florida beaches in 2011. The above numbers were recorded at beaches with lifeguards. Many, if not more people swim at unguarded beaches. It's also true that not everyone that goes to the beach actually goes in the water, and that historically, minor shark bites are under-reported. Overall, I think the 1 in three million estimate is reasonably conservative.

2,500 people are killed every year in Florida...in car crashes. **Twenty five hundred.** No kidding. So, be careful driving to the beach.

Now that we've established that our chances of being bitten by a shark are extremely small, let's see what we can do to make that 1 in three million chance even smaller!



Reducing Your Chance of Being Bitten by a Shark

It is important to understand that people frequently encounter sharks without being bitten. Based on what we think we know about sharks, and based on actual experiences and common sense, here are ways generally thought to minimize your chances of encountering a shark in a situation where it may bite you:

- Never enter the water if you are bleeding. This includes menstrual blood. According to the Mote Marine Lab website, sharks are much more interested in fish blood than in human or animal blood, but the long held belief is that you should not be in the water if you are bleeding. Sounds like a no-brainer to me. Needless to say, if you injure yourself while swimming and are bleeding, get out of the water.
- Avoid swimming during early morning and during the sunset hours. Sharks often come into shallow water to feed during those hours. Definitely don't swim at night!
- Avoid swimming in murky waters. Sharks rely on their sense of sight as well as other senses. They can see very well in the dark, but sediment and algae suspended in the water makes it hard for them to see you. They may bite you before they realize you are not a fish. It is also harder for you to see an approaching shark in murky water. Clear shallow waters give you a much better opportunity to see an approaching shark.
- Swim near other people. It seems that sharks are more likely to attack a swimmer that is alone or separated from a group. Some sharks prefer not to confront their prey; they want to sneak up from below or from behind. If they can't do that, they may not bite.
- Don't swim too far from shore. Florida waters usually have a shallow sandbar a short distance from shore. The generally held belief is that going into the deeper water beyond the first sandbar MAY increase a person's chance of encountering a shark. Also, being that far out makes it more difficult for help to reach you if you are in distress, for whatever reason.
- Don't swim in schools of baitfish or mullet. If you see a lot of fish jumping and splashing it means they are trying to get away from a predator. This may mean

that large fish are chasing and feeding on smaller fish, or it may mean the presence of sharks. It surely is a situation that might attract a hungry shark. Get out of the water and wait for the fish to go elsewhere. Flocks of sea birds diving repeatedly in one area are another indication that baitfish are present.

- Avoid fishing where people are swimming, and of course, avoid swimming where people are fishing. When a fish is hooked, its frantic movements to escape may attract sharks. I wouldn't advise standing in the water you are fishing in. If you do, and you catch a fish, get the fish out of the water right away. Whatever you do, don't tie a stringer of fish to your waist.
- Don't jump off a pier, dock, seawall, or boat into dark murky water. You may startle a passing shark. Sharks are territorial and are quick to protect themselves by biting. Unfortunately this type of accident happened not long ago in St. Petersburg, Florida. A man jumped off his boat dock to take his daily swim in the bay and apparently jumped right on top of a shark swimming by in the dark water. The shark bit him and he died.
- Don't wear shiny objects while swimming. The gold or silver flash of a watch, ring, necklace, or bracelet looks just like the sun's reflection off the scales of a fish underwater. Not only can this attract a shark's attention, it can also attract the unwanted attention of a barracuda. Barracudas are notorious for striking at shiny objects. Barracudas can grow quite large and they move like lightning. Below is a photo of a 4 foot barracuda. I wouldn't want it to mistake my watch for a fish!



- Avoid swimming in or near passes, river-mouths, channels, drop-offs, or in deep water past the sand bars. Passes are the waterways between islands that allow water to move between the Gulf and the bays. Water moves swiftly through these passes and carries a lot of shark food with it. Don't be there with the rest of the

shark food. Anywhere there is an abrupt change in currents, salinity, or water depth there is increased food opportunity for fish and therefore sharks.

- Avoid swimming with your dog. Dogs splashing around in the water are great shark attractors.
- If you see sharks in the water, get out of the water as quietly and as quickly as possible. It doesn't seem like I would have to say this, but some folks, especially surfers, tend to want to hang out for "one more wave."
- Sharks move around a lot. During the spring and early summer they move into shallow waters to give birth. Some shark species prey on the young (pups) of other sharks. This means a lot of hungry sharks are coming into shallow water at the same time people are heading to the beaches. You should especially avoid engaging in risky behaviors during those times.

Where in Florida Do Most Shark Bites Occur?

For this information we can, once again, turn to the International Shark Attack File. By far the most shark bites occur on the Atlantic coast of Florida. Specifically, Volusia County [Daytona Beach] has had more than 242 recorded shark bites since 1882. Brevard County [Cape Canaveral] has recorded more than 103, and Palm Beach County more than 60 shark bites. From there the numbers drop off significantly. However, every county on Florida's Atlantic coast has recorded at least 11 shark bites since 1882 except Flagler County, with only 6, and Nassau County with only 3.

Each Gulf coast county has recorded 7 or fewer shark bites since 1882, except for Pinellas County, with 12. In fact, out of 637 shark bites in Florida since 1882, 579 have been on the Florida East Coast's Atlantic waters. It would appear that swimming or surfing in the Gulf of Mexico is generally safer than swimming in the Atlantic Ocean.

Of interest, is that the distribution of shark bite fatalities follows a different pattern. One might expect, from the numbers above, that there would be more shark bite fatalities on the Atlantic Coast. Not so. Out of 11 officially recorded fatal bites, seven were on the Atlantic Coast, and four were on the Gulf Coast. So the rate of fatal bites to total bites on the Atlantic coast is approximately 7 out of 579. On the Gulf coast the ratio is 4 out of 58 bites have resulted in death.

This seems to reflect that the majority of shark bites on the Atlantic coast are from small sharks actively feeding on fish in the rough and murky waters of the Atlantic. They mistake a surfer's or swimmer's hand or foot for a fish. As soon as they realize they are not biting a fish, they let go and swim away.

Shark bites on the Gulf coast of Florida are more likely to come from the large and powerful Bull Shark, which is known to be dangerous to man.

Can You Fight Off a Shark?

This is open to debate. As I mentioned before, some sharks want to sneak up on their victim from below or from behind. Once it is obvious that their prey has seen them, they go away. According to several written sources, Great White Sharks and Tiger sharks may fall into this category. Great White sharks are generally not seen in Florida. Tiger sharks do live in Florida waters. Some individuals that study shark attack behavior suggest that certain sharks may be reluctant to bite a potential victim that is confronting them directly. I don't think this means that facing a shark will make it abandon its target. It may just mean the shark will try to circle around behind, or come up from underneath. I've read of a multiple attack on a large turtle where the shark came up from deep water with such force that it lifted the turtle clear of the water. After losing a flipper the turtle withdrew into its shell. After periods when it seemed the shark was gone, it returned to attack from beneath, trying to catch the turtle off-guard. Sharks know how to hunt.

A shark's skin and tissue is very hard and tough, especially the head. Hitting the shark in the head will hurt your hand more than the shark. Even with a large knife it is unlikely you could even penetrate the sharks head. **It seems that if you are going to hit the shark, you should aim for the eyes or gills. Based on statistics collected, this seems to have the best chance of success.**

There have been several reports from Australia of surfers fighting off a Bronze Whaler shark in separate incidents. Both surfers survived. One shark was fairly small and the surfer escaped without injury. The larger shark ("several meters") was not as easily dealt with and the surfer had some serious injuries. The Bronze Whaler shark is comparable to Florida's Bull shark.



How to Help a Shark Bite Victim

1. Get the victim out of the water and away from the shark as quickly as possible. In more than 90 percent of cases, the shark does not try to bite the rescuers, but may continue to bite the targeted victim.
2. Have someone call 911, of course. Send someone to notify the lifeguards immediately if there are lifeguards nearby. They are trained in what to do.
3. Stop the bleeding. Most shark bite victims die from blood loss. Directly press with the palm of your hand on arteries that are bleeding. Apply pressure to arterial pressure points if you are familiar with them.
4. Slightly elevate the victim's feet and legs if possible so that blood moves toward the head. Cover the victim with dry towels, sheets or blankets, even if the weather is warm, to conserve their body heat.
5. If the victim stops breathing or their heart stops, use cardiopulmonary resuscitation if you know how.

The above measures are general emergency measures and may mean the difference between life and death for the bite victim.



Drowning

Not a pleasant topic is it? In July of 2005 I was interviewed for an article in Forbes Magazine called “Death Beaches.” Dramatic title, no? The reporter was looking for the most common dangers at the beach that could cause someone’s death. I immediately said “drowning” is the number one danger at the beach. She was surprised. I’m sure she was expecting me to say deadly jellyfish or killer sharks. But no, drowning it is. Understand that I am only talking about drownings on Florida Beaches, not in swimming pools, bathtubs, lakes, rivers, at sea, boating accidents, etc. The total number of all drownings in Florida is very high indeed. According to one source it is the leading cause of death for persons under age 15.

According to the US Lifesaving Association’s 2005 Florida Beach Safety Educational Workshop Presentation materials, Florida has about 25 to 40 drownings each year, most of which are on unguarded beaches (beaches without lifeguards). In fact, the Florida panhandle region “has had over 50 rip current drownings since January 1st, 2000 and was given the title “Drowning Capital of America.”



Not all public beaches in Florida have lifeguards. This is a raging debate right now in many communities, particularly in the panhandle region. The Atlantic Coast of Florida has been guarding their public beaches for years, but the guarding of beaches has been slower to develop on the Gulf coast. Sarasota and Manatee Counties generally have guarded public beaches. The Fort Myers/Sanibel area does not have any lifeguards at their beaches.

Even if the public beaches are guarded, the long stretches of beaches in front of hotels and resorts and at State Parks are completely unguarded.

Here are some tips to help you avoid drowning at the beach:

- Swim at beaches with lifeguards. ESPECIALLY if you have children.
- Don't go in the water without wearing a flotation device if you can't swim. A rubber ducky is not a flotation device! Wear one, don't just hold onto it. Don't float out into deep water or into surf.
- Don't drink alcohol and swim. Drunken swimmers tend to drown.
- Don't swim in or near passes. People do this all the time! I can't believe it.
- Don't swim where the signs say NO SWIMMING. Duh!
- Don't swim alone.
- Don't take your eyes off your children and don't let them play in the shallow water during high surf. Even three inches of fast moving water can knock a child off his/her feet and pull them into deeper water very quickly. Storm surf is especially unpredictable. The water can wash up on previously dry sand in seconds and take you with it. We witnessed this on TV during one of the 2004 hurricanes. A young couple almost lost their daughter live on TV.
- Avoid swimming near drop-offs.
- **Learn how to “drown-proof” yourself (see separate section).**
- Don't go out swimming in water over your head.
- If you are surfing, wear a quick-release leash attached to your board.
- Don't fight against a current. See the section on rip currents.
- If someone else is caught in a rip current, be careful about jumping in to save them. You may get caught in it as well. Try to take a flotation device with you, like a raft or an inner tube. Grab something that floats.

If you follow the above suggestions you will be very safe indeed. Remember that you are not in a controlled environment like a swimming pool. You are in nature.

A major cause of drowning is being caught in a rip current. Refer to the section on rip currents for tips on how to avoid them and what to do if you get caught in one.



Use extra caution when swimming at beaches where no lifeguard is on duty. Even on guarded beaches, there may not be a lifeguard on duty before 8am or after 6pm. Winter months in Florida often bring reduced working hours for lifeguards.

Drown-Proofing

The drown-proofing technique is something EVERYONE should know. It is so simple. It is useful for staying alive in the water while using very little energy. In fact, it is restful when done properly.

Drown-proofing uses the fact that the human body will float on the surface of the water when the lungs are full of air. Trying to keep the head above water, especially in rough water, takes a lot of energy. In drown-proofing, the head and face is only lifted out of the water when taking a breath.

Here is how it works:

Once in the water that is too deep for you to stand, allow your body to float vertically in the water with your face in the water and only the back of your head breaking the surface. Most people will have no trouble floating with their lungs full of air. Allow your arms to float up toward the surface. When you need to take a breath, gently push down with your arms and hands while tilting your head back and exhaling. When your mouth is above the water take a deep breath of fresh air, then put your face back into the water and float again. When you push your hands down to help you lift your face out of the water, don't push too hard or you'll come up out of the water too far, then you'll sink back down further than necessary. Use as little force and energy as possible. The idea is to keep the lungs as full as possible between breaths. This makes it easier to float. It is important to float very low in the water with just the back of the head above water.

Just keep doing the actions above and you can float indefinitely. Alternate floating with lifting your face up to breath. Of course, if the water is colder than 75 degrees Fahrenheit, hypothermia will become a problem. You can't survive in very cold water for too long.

If you have heavy shoes and clothing on, take them off to make it easier to float. If the water is cold, you might be better off leaving your clothes on.

Rip Currents

The correct term is indeed “rip current.” It is not a “rip tide” or an “undertow.” This phenomenon is a strong water current moving from the shallow water to deeper water. It has nothing to do with the tides and does not pull a person under the water. A rip current can easily pull you off your feet into deeper water. It may feel like it is pulling you under, but if you don't struggle against it you will float along with the current. Rip currents also move large amounts of sand, so the rip may be deeper than the surrounding water.



Note that in the photo above, I've marked the location of a rip channel. This photo was taken during low tide and during a period of very small surf, so there was no real current in the rip channel at the time the photo was taken. However, when the surf is larger and the tide is higher, a stronger rip would develop.

Rip currents occur during periods of surf. The breaking waves carry huge volumes of water onto the beach. All this water has to return to the sea somehow. So it finds a low spot in the sand bar (rip channel) and rushes back out to the sea. A rip current is like a little river. Most rip currents move at 1 or 2 miles per hour, but some move much faster. The currents only move a short distance, and then they subside. If you are caught in a rip current, it may carry you out past the breaking surf. You cannot and must not swim against the current. It will not take you far out to sea. You must relax and swim parallel to the shore until you are out of the current. Just as you can swim across a river, you can swim across a rip current. Then you can let the surf carry you back to shore. Generally, the bigger the surf is, the stronger the rip current will be and the further from shore it will carry a person.

The following tips on rip current safety are from the United States Lifesaving Association's website:

When at the beach:

- Whenever possible, swim at a lifeguard-protected beach.
- Never swim alone.
- Learn how to swim in the surf. It's not the same as swimming in a pool or lake.
- Be cautious at all times, especially when swimming at unguarded beaches. If in doubt, don't go out.
- Obey all instructions and orders from lifeguards. Lifeguards are trained to identify potential hazards. Ask a lifeguard about the conditions before entering the water. This is part of their job.
- Stay at least 100 feet away from piers and jetties. Permanent rip currents often exist along side these structures.
- Consider using polarized sunglasses when at the beach. They will help you to spot signatures of rip currents by cutting down glare and reflected sunlight off the ocean's surface.
- Pay especially close attention to children and elderly when at the beach. Even in shallow water, wave action can cause loss of footing.

If caught in a rip current:

- Remain calm to conserve energy and think clearly.
- Never fight against the current.
- Think of it like a treadmill that cannot be turned off, which you need to step to the side of.
- Swim out of the current in a direction following the shoreline. When out of the current, swim at an angle—away from the current—towards shore.
- If you are still unable to reach shore, draw attention to yourself by waving your arm and yelling for help.

If you see someone in trouble, don't become a victim too:

- Get help from a lifeguard.
- If a lifeguard is not available, have someone call 9-1-1.
- Throw the rip current victim something that floats—a life jacket, a cooler, an inflatable ball.
- Yell instructions on how to escape.
- Remember, many people drown while trying to save someone else from a rip current.

How to Recognize a Rip Current

When the surf is up, you should expect and look for rip currents. **Rip currents in Florida can often be seen as an area of sandy turbulent water where the normal pattern of the surf seems to be disrupted.** When surfing, I often surf near rip currents, but I avoid paddling into them because waves don't break as nicely in the rip current. Generally they occur at regular intervals along the shoreline. Remember, the bigger the surf, the stronger the rip currents, and the further out they flow. If you do not know how to recognize a rip current BEFORE going into the water, then you should either not swim in surf, or you should only swim at beaches protected by lifeguards. In the Florida panhandle area especially, pay attention to signs on the beach warning of rip currents.



A sign on the lifeguard tower warns of rip currents.

Other Strong Water Currents

Rip currents are not the only strong water currents you may encounter. Water currents in passes tend to be very strong, especially during incoming and outgoing tides. Passes are the waterways between barrier islands that allow water to flow between the bay and the Gulf. Often there is a bridge that connects the islands. The water flowing under the bridge is usually moving quickly because a large volume of water is moving through a narrow opening. The current in the pass often affects the beaches for several hundred feet on either side of the pass, so you will often see “no swimming” signs posted on the beaches near the passes. Please don’t swim in or near passes. Below is a photo of Longboat Pass, between Anna Maria Island and Longboat Key. I’m standing on the jetty on Anna Maria, looking toward Longboat Key. Note the bridge at left. The currents in this pass are very swift and the water goes from shallow to deep VERY quickly.



Another type of current is a [longshore current](#), or what surfers frequently refer to as “[the drift](#).” This is the least dangerous water current in most circumstances. A number of things can cause a longshore current, but mainly surf and wind contribute to its presence and strength. When the wind is blowing parallel to or at a sharp angle to the

shore, it pushes a lot of water along the beach. This creates a water current that carries swimmers and surfers down the beach. If you are playing in the surf, this current often goes unnoticed until you look up and you don't recognize your beach towel and don't see a familiar landmark. It doesn't take much wind to create a "drift." The way to manage a drift is to notice a landmark on shore as soon as you enter the water, then refer to it frequently to make sure you haven't drifted up the beach too far. If you've drifted too far away from your stuff, just exit the water and walk back to where you want to be.

The only time a drift could become dangerous, in my experience, is if it carries you into a pier or other structure that could injure you, or if it carries you into a pass. So just be aware of water currents and their relation to nearby piers, jetties, and passes. If you are standing in a foot of water and notice yourself being pulled off balance by the current, you shouldn't go in the water.

How to avoid problems with strong currents:

- Don't swim in high surf, or during strong winds.
- Don't swim in or near passes or channels.
- Don't swim in front of a sea wall or near rocks or a pier that you might be washed into.

It's quite simple. If you follow the above three suggestions I cannot imagine that you would ever encounter strong water currents in Florida, particularly on the Gulf coast.

High Surf

If you've never been swimming in surf, don't underestimate its power. Even small waves can easily knock you over. Experienced swimmers and surfers learned gradually how to handle themselves in the surf. Don't think you can learn in one hour.

If you are learning to surf, start out in very, very small waves. Don't surf too close to piers or jetties. Get a book or video on learning how to surf. Or better yet, find a local surfing instructor. They usually charge an hourly rate and provide a surfboard that is appropriate for beginners. There are some excellent instructors, even on the Gulf coast which isn't exactly famous for big waves. Check the internet or call a surf shop located near the beaches where you'll be surfing and inquire about local surfing instruction.

If you venture out into the surf, keep the following things in mind.

- Don't fight the water; it will only tire you out. You don't have to let the waves pound you. If a wave is about to break over you, duck under it by going under water. You don't have to go deep. Let the wave pass OVER you, then come up on the other side.
- Avoid swimming in front of surfers, you might get run over by a surfboard. If the surf is high enough to attract a lot of surfers, reconsider whether you should be swimming at all. Rip currents increase in strength as the surf increases in size.
- Don't swim in the surf alone, please!
- Keep your young children away from the water's edge when the surf is high.



Types of Surf

Breaking surf is heavily influenced by the wind, the currents, and the tides, but most of all it is influenced by the sea floor and the depth of the water. Waves break and become “surf” when they hit shallow water. The more quickly the water depth goes from deep to shallow, the steeper the wave faces become, and the harder they “break.”

The tops of breaking waves can either spill over, or pitch forward with great force. In Florida, most surf is of the more gentle “spill-over” type because the sea floor slopes gently. However, sometimes the wind, tide, current, and bottom conditions are just right to create the more powerful pitching or “tubular” surf. Surfers will almost always look for the tubes. Even spill-over or “mushy” waves can pack a mean punch when large.

Here is a pitching or tubular wave:



Here is a surfer riding a more gentle “spilling” wave, commonly called “mushy”:

One of the most dangerous types of surf is what we call “shore pound.” Shore pound happens when the wave doesn't break until it is practically on dry sand, then rises up and slams onto very shallow water with crushing force. Small children should not play

in shore pound surf. Shore pound occurs when there is a very steep drop-off close to shore.



Playing in the shore pound on Vero Beach. Note how close the wave is breaking to dry sand. It's fun, but use caution. Even a three foot wave packs a punch when it breaks.

It is possible to have all three types of surf breaking on one beach. Out on the far sand bar, the swells break as spill-over surf; with not all of their energy fully spent on the first sandbar, the swells reform before hitting the shallow water, where they may break again with tremendous force as steep and fast-breaking pitching surf. Some waves may not break until they are nearly on dry sand, creating shore-pound conditions.

Steep waves breaking in shallow water can be very dangerous. They can also create a strong backwash, which is not the same as a rip current. The backwash is created by water being pushed up onto the beach from the breaking waves. It rushes back toward the sea. The steeper the beach and the bigger the waves, the stronger the backwash. It

can pull you off your feet, but won't drag you out more than a few feet. Between the strong currents and the pounding waves, it can be easy to panic if you are not experienced in dealing with such a situation.

If you find yourself in powerfully breaking surf, don't let the waves break on top of you. As a wave is about to break over you, duck under the wave and come up on the other side. You don't have to go deep, just two or three feet down, to let the wave's force pass over you. To get back to shore, catch a wave AFTER it breaks, and body surf the broken wave toward shore. Keep doing that until you get to water that is only a foot or two deep, then stand up and head for dry sand. Be patient, be persistent, don't fight the water. You will get back to shore. Once you are on land, looking back at the surf, it doesn't look so big and scary. It looks a lot bigger when you are in it.



Surfer enjoying some Hurricane Katrina surf at Sunset Beach on Treasure Island.



Boats and Personal Watercraft (a.k.a. jet-skis)

On designated public beaches, boats and watercraft are not allowed to approach the beach too closely. However, many people swim on beaches that are not designated public beaches and boats will pull right up to the beach. This sometimes creates a dangerous situation when there are swimmers nearby. What some boaters consider a “safe” distance from shore, and what swimmers consider a safe distance are frequently different. This is another good reason for swimmers not to venture out past the first sandbar. It is very difficult for the operator of a boat going 50 mph to see the back of your head as you swim among the waves. Most boaters operate with great care if they think that swimmers may be present. Some don’t.

Jet-skis (personal watercraft) are notorious for being reckless and annoying. Avoid swimming in areas where people are riding them. If you decide to rent and ride one, please use extreme caution, especially around swimmers, other jet-skiers, and boats. People die on those things every year in senseless accidents.

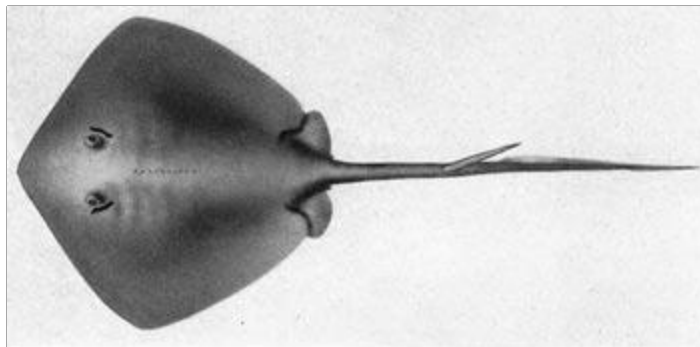
The bottom line: boats and swimmers don’t mix. On most beaches this is not a problem that you will have to deal with. Just be aware.



Stingrays



Here is a photo of an Atlantic Stingray resting on the bottom in a few inches of water. I took this photo on Treasure Island, Florida (Gulf of Mexico) in late summer. This stingray is only about 8 inches long, not including the tail. It was very difficult to see and I had a hard time getting this photo. He kept disappearing in the sand. I was standing in ankle-deep water when I snapped this photo. The ray was perhaps 6 to 8 feet away. The Atlantic stingray can grow to be nearly 20 inches wide. The Southern stingray can grow to nearly 5 feet wide. In the illustration below you can see the location of the tail barb.



Stingray injuries are very commonly seen in Florida during the summer months. This is because they like to rest on the bottom in shallow water, exactly where people like to play. Stingray injuries are extremely painful. The stingray has a sharp barb on top of his

tail, a few inches from the body. The tail in the above photo may look stiff, but it is very flexible. When stepped on, the stingray whips the tail over his back like a scorpion and jabs the offending creature. It is purely a defensive maneuver. Stingrays do not “attack” people.

As I mentioned, an injury from a stingray is very painful because the barb is covered with a venom-containing sheath that releases venom into the wound. Wearing shoes is not enough to protect against a stingray—the ray’s sharp barb will easily penetrate a shoe. A larger ray may have a long enough tail to reach your ankle or calf. A very large ray could effortlessly drive a barb right through your leg.

Make no mistake, a stingray wound is serious and should receive medical attention. A very minor stingray injury may be okay without medical attention. Once I received a very minor barb from a very young stingray on my toe. It was a shallow wound, it bled only briefly, and the pain went away after half an hour. No medical attention needed. I felt very lucky. If an average sized stingray barbs you, you should see a doctor as soon as possible. Here are some reasons why:

- Stingrays have venom on their barb that can cause a **“drastic decrease in blood pressure, increased pulse, dizziness and possible shock.”** If the victim loses consciousness, you need to call 911.
- The barb may break off in the wound. In this case, it must be removed by a doctor. In any case, the wound will need to be cleaned to avoid infection and gangrene. The victim may also need a tetanus shot.
- If the wound is bleeding profusely, an artery may have been severed. This is an emergency.
- **Any stingray injury to a part of the body other than arms and legs is a very serious injury and requires immediate medical attention. This would include a puncture of the abdomen or chest. This type of injury could easily result in death.**

The best way to avoid being barbed by a stingray is to shuffle your feet as you walk along the bottom, and to be on the lookout for rays when you are walking in the water. If you are walking in the water and feel a flutter under your foot, chances are very good that you stepped on the wings of a stingray that swam away without stabbing you. I have felt this quite a few times.

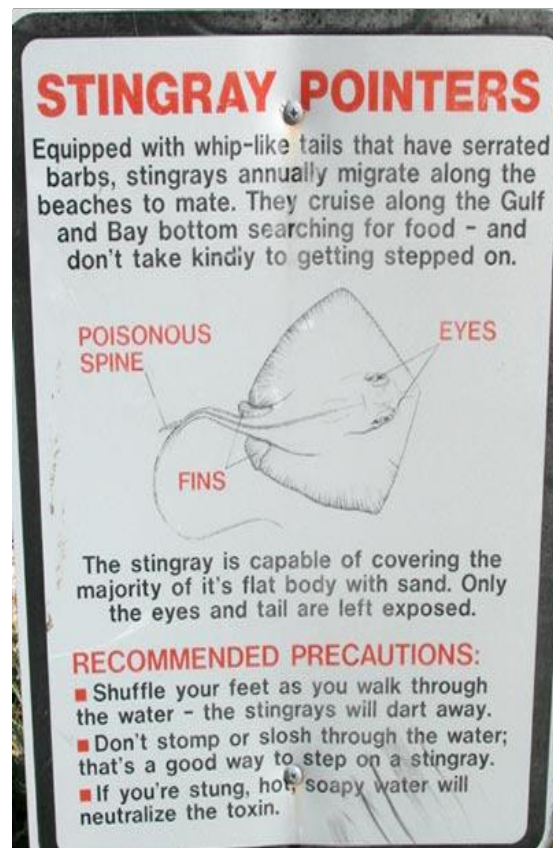
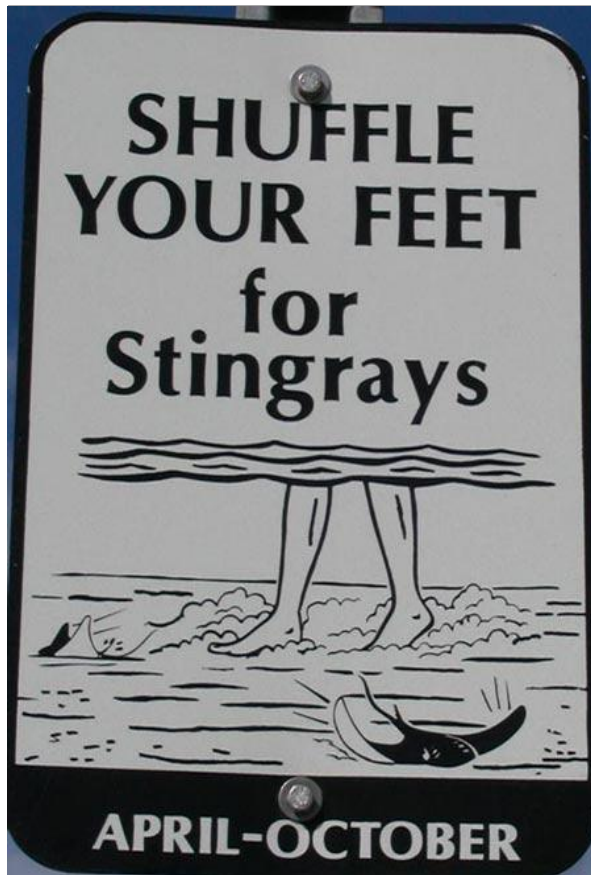
Stingrays are sometimes very difficult to see, even in clear water. They have the ability to change color to match the bottom, and they usually bury themselves partially in the sand with only their eyes showing. Normally if they hear you approaching they will swim away. It is not unusual during the summer months to walk out into the water and see one or two stingrays swimming away to get out of your way. To make sure they know you are coming, shuffle your feet. They don't want to be stepped on, so they'll get out of the way.

Stingrays are provoked to sting by the sudden pressure of a foot, pinning the ray against the bottom. Shuffling the feet can prevent this situation. One can also probe the ground with a stick to chase the rays away. Foot shuffling is NOT GUARANTEED protection, but it is very helpful.

Sometimes a ray's response is to get out of your way and then circle around behind you and settle in, thinking you will keep moving. If you carelessly retrace your steps, you may run into the stingray.

If you enjoyed my chapter on sharks, you will be happy to know that the favorite food of several Florida sharks is stingrays. Without a healthy population of sharks, stingrays could become even more of a problem.

On most beaches maintained by the city, county, or state, you will find signs warning of the presence of stingrays in the water, and that remind you to shuffle your feet from April to October. However, beaches in front of hotels and resorts do not generally warn their guests of the presence of stingrays or other dangers.



These are the types of warning signs typically posted to warn of stingray dangers.

If you are fishing and you catch a stingray, **DO NOT PUT YOUR FOOT ON THE STINGRAY TO REMOVE THE HOOK!!!** This is exactly what will get you barbed by the angry ray. Do not handle the stingray. Gloves will not protect you. Cut the line as close to the stingray as you can and release it back into the water. Don't try to hold or handle the stingray. And please, do not leave the stingray laying on the dock, pier or beach until it dies. Treat living things with respect.

Treating Stingray Injuries

What to do if you are barbed by a stingray:

- Get out of the water and onto the beach. Have someone notify a lifeguard if there is one nearby.
- Determine the seriousness of the wound. If it is spurting blood, apply pressure to control the bleeding and have someone call 911.
- If the victim is feeling dizzy or faint, call 911. Stingray venom can cause a sudden drop in blood pressure that can make a person lose consciousness. This is serious and requires emergency medical care.
- To relieve the pain, soak the victims feet in water as hot as can be tolerated for 30 to 60 minutes, or wrap hot towels around the wound. Heat helps break down the venom and relieve the pain. See a doctor as soon as possible.
- There is a significant chance that a stingray wound could result in an infection. This is true of any wound caused by an animal. This is why you should see a doctor after being barbed by a sting ray.



Stingray injury first-aid kit available from OceanCareSolutions.com

Other Rays

Florida has several types of rays. Unless you are an expert in identification of rays, treat them all with respect. One very common type of ray in Florida waters is the Cow-nosed ray. These rays swim in large schools and don't have the habit of resting quietly on the bottom in shallow water like stingrays do. I once waded into a school of about 200 cow-nosed rays off St. Pete Beach. I was in waist-deep water. I stood very still, directly in their path. They treated me like a post in the water and only altered their path just enough to keep from crashing into me. Several of the beautiful rays brushed against me with their soft wings. These rays also have a tail but are less likely to injure you because (1) their tail barb is closer to their body, not near the end of their tail, and (2) they don't lay on the bottom half covered with sand like sting rays, so you are not likely to step on them.



Above: A peaceful school of cow-nosed rays glides by Madeira Beach.



Above photo: Here's a close-up of a Cow-nosed ray.

Jellyfish

Jellyfish are common in Florida, but they are not everywhere all of the time. I have been swimming in the Gulf of Mexico for my whole life and I've never been stung by a jellyfish. If you keep your eyes open they are easy to avoid. Sometimes, in some locations, a large mass of jellyfish will "invade" the beach. Some jellyfish are harmless, others have a relatively mild sting. Some creatures look like jellyfish but really are not. Two jellyfish in particular, the Portuguese Man of War, and the Box jellyfish can give a very painful sting. Another type, comb jellies, are not true jellyfish and do not sting.

Generally speaking, you will encounter more jellyfish on the Florida panhandle beaches and on the Atlantic coast beaches than you will along the southwest Gulf Coast. From the Tampa Bay area south to Marco Island jellyfish are rarely a problem, though they do occur. Jellyfish are more likely to appear on the beaches after the wind has been blowing onshore for several days.

All jellyfish have some form of tentacles that trail down from their bodies into the water. The tentacles have stinging cells, called nematocysts, which have tiny harpoons and venom. When the tentacles touch something, or are otherwise stimulated, the nematocysts build up pressure until they burst, driving the little harpoons and the venom into the unlucky victim. Some jellyfish have very weak venom, others have extremely potent venom, which upon sufficient exposure, can result in the death of a human. This is not generally a concern in Florida waters.

I am not a jellyfish identification expert and I'm sure you aren't either. So I would advise that you observe jellyfish from a safe distance and don't touch them or step on them. There are many different types of jellyfish in Florida waters, including some exotic invasive species with an unpredictable distribution. Following are several of the more common types.

Cannonball Jellyfish

The **cannonball jellyfish** [*Stomolophus meleagris*], also known as the **cabbage head jellyfish**, is a harmless (it's edible if you know how to prepare it) variety that sometimes washes up on beaches in large numbers. It is shaped like half an egg and may be up to 7 inches in diameter. It may be bluish or yellowish with a brown border. It is a good swimmer. The venom of the cannonball is too weak to harm a person, but it does have secretions that can be irritating to the skin and eyes.



Cannonball Jellyfish, also known as the Cabbagehead Jellyfish.

Moon Jellyfish (Aurelia aurita)

The **Moon jellyfish** [*Aurelia aurita*] also can occur in very large numbers in one place. It can give a painful sting that usually subsides after an hour or so. Below is a photo of a moon jelly washed up on the beach. It is about 12 inches in diameter, but they do vary in size. The four horse-shoe shaped markings at the center of the jelly is an identifying characteristic of the Moon jelly.



Above photo: A Moon jelly has just washed up on the beach. Note the purple fringing around the edges that indicates this is a healthy specimen. The purple fringing is not usually present in Moon jellies that have started to decompose.



Above photo: Moon jellies as they appear in the water.

Sea Nettle Jellyfish (*Chrysaora quinquecirrha*)

A jellyfish called a **Sea Nettle** [*Chrysaora quinquecirrha*] can also give a very bad sting. It is a beautiful jelly in the classic shape and may measure more than a foot in diameter. Below is a photo of sea nettle as you might encounter it on the beach. The radiating orange/brown stripes are typical of a sea nettle. Sometimes the stripes are large and prominent; sometimes they are smaller, as in the jelly pictured.



Above photo: This is what a Sea Nettle jellyfish typically looks like when it is washed up onto the beach. This one I found on the beach at Lighthouse Park on Sanibel Island.



Above photo: This is the graceful and ghostly form of a Sea Nettle jellyfish as it appears in the water in Pine Island Sound, near Cayo Costa Island and Cabbage Key.

Box Jellyfish

Various species of **box jellies** may be found in Florida waters. They can give a very painful sting. Below is a photo of a small box jelly sent to me by George Goatley from the Atlantic coast of Florida. These jellies have a somewhat cube-shaped bell with a clump of tentacles attached to each of the four “corners.”



Portuguese Man of War (Physalia physalis)



Probably the most common dangerous jellyfish in Florida is the **Portuguese Man of War** [Physalia]. It is unmistakable, even if you've never seen a jellyfish before. It has a clear inflatable float that stays on top of the water like a little balloon. The rest of the animal is purple, and the purple tentacles can dangle underneath and behind the jellyfish for up to 200 feet, depending on the size of the jellyfish. Actually the Portuguese Man-of-War is not a true jellyfish. It is a siphonophore and is a colony of four kinds of polyps suspended beneath the nitrogen filled balloon-like float that is the identifying characteristic of Physalia. The float may be only a few inches long or it may be up to a foot long and six inches above the water. The float acts like a sail. The sting of a Portuguese Man of War is very painful and sometimes dangerous. It could be fatal if a person received enough stings. Even after the jellyfish has washed up on the beach dead and has dried up, the tentacles can still sting you. **Above is a photo of a man-of-war.** The float is clear, and the tentacles are various shades of purple. It is

unmistakable. They can be very small sometimes. Don't let the small size of some specimens catch you off guard. I've read estimates of as many as 500,000 man-of-war stings each summer along the eastern coast of the United States. I'm not sure of the origin of that number.



The Portuguese Man of War often washes ashore in large numbers during onshore winds and may be mixed in with clumps of sea grasses on the beach. Some of them can be as small as a dime, but the little clear blue/purple float gives them away.

The Man of War jellies you find that have just washed up on the beach are still very much alive. If you stoop down and examine them closely, you can see that they are moving. They inflate and deflate their balloon float and can change its shape and size. You may also see their purple tentacles relax or contract. They have very good control over their tentacles. They will live for hours on the beach until the sun dehydrates them.

Purple Jellyfish (*Pelagia noctiluca*)

The Purple Jellyfish, also known as the Mauve Stinger, is occasionally encountered on Atlantic coast beaches and in the Florida panhandle. It has a fairly irritating sting, but not dangerous as long as you are not allergic to it. This jelly became fairly well-known in Florida after it invaded Cocoa Beach during a popular holiday weekend and made newspaper headlines for several weeks. It is a small and beautiful jelly that is most often found in the open ocean.



Above photo: Five small Purple jellyfish on Cocoa Beach, Florida. Once washed up on the beach like this, they will only survive for a few hours until the sun dries them up.

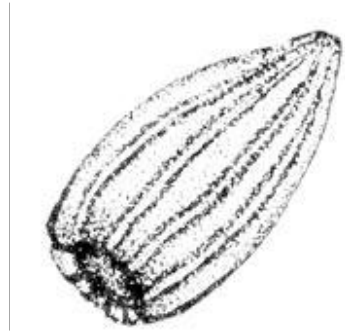


Chris Kiely

Above photo: Here's a photo of a Purple jellyfish sent to me by Chris Kiely. It was taken in the Miami area. As you can see, it appears more graceful and elegant in the water than on the beach.

Comb Jellies

Comb jellies are not true jellyfish (although they look like jellies). They do not sting. They are quite common and are often difficult to see because they are quite transparent. They do have some lines of iridescent coloring that can sometimes be seen. They are small, only an inch or two long usually and are very slow moving. As you can see from the image below, they have no stinging tentacles.



Preventing jellyfish stings.

The best way to prevent jellyfish stings of course is to avoid coming into contact with jellyfish. Before swimming in the Gulf of Mexico, Atlantic, or Caribbean, look for flags on the lifeguard tower or signs warning of jellyfish or sea lice in the water. When approaching the water, look for signs of jellyfish on the sand (don't step on them). Scan the water and look for jellyfish floating on the surface, then as you enter the water, pay attention to the water around you. If you see a jellyfish, look around to see if it is part of a larger gathering of jellies. If so, I would strongly consider looking for a different place to swim. If there is only one, just avoid it. You can move a lot faster than a jellyfish can. If it has an inflatable float and purple tentacles, get far away from it and warn other bathers that a Portuguese Man-of-War jellyfish is in the area. Don't approach too closely as their tentacles may extend some distance from the visible float.

Please also consider that in rough water, or when predators like sea-turtles are feeding on them, the tentacles of jellyfish may break apart and float around in the water and in the surf. These pieces of tentacles can still give you a sting.

Avoid touching dead jellyfish lying on the beach.

Treating Jellyfish Stings

What to do if you are stung by a jellyfish:

Mild Stings

Rinse off any remaining tentacles from the affected area with seawater. Do NOT rinse with fresh water. Apply vinegar. Lifeguards often have vinegar on hand for jellyfish sting treatment. Remove any tentacles still clinging to your body. If it is not too painful you may not have to do anything else. The pain should subside after an hour or less. You can apply heat (113 degrees Fahrenheit for 15 minutes).

If the pain is intense or if you experience other symptoms like faintness, difficulty breathing, swelling, etc. , seek medical attention immediately.

Portuguese Man of War Stings:

- Get away from it and get out of the water. Try to get out of the water on your own so you will not expose others who may try to help you. Tentacles stick to your body and can easily rub off on someone else.
- Notify the lifeguards right away if the beach has lifeguards, they are trained in what to do. Have someone else notify the lifeguard if you are unable to.
- The use of vinegar for Man of War stings is still controversial. However the application of heat (113 degrees for at least 15 minutes is agreed to be effective in reducing pain. There have been reports that the application of vinegar may increase the pain from Man of War stings. However, proponents of the use of vinegar argue that the increase in pain is short-lived and overall the use of vinegar reduces pain and injury. Testing continues.
- Remove any remaining tentacles from your body with tweezers if possible. If you must, you can use your fingertips. Don't rub with a towel or shirt! Rinse with sea water (fresh water will cause the remaining nematocysts to fire and sting you even more). It is reported that it may help to scrape the affected area with a shaving razor (not electric) to completely remove the stinging tentacles, or you can use the edge of a credit card or anything with a firm edge.

- Seek medical attention for severe stings.
- If the victim is experiencing severe symptoms, call 911.
- The application of heat (113 degrees Fahrenheit for 15 minutes) is proven to reduce the pain of Man of War stings.

Note: Most jellyfish stings are painful for half-an-hour or an hour, then the pain subsides with no lasting effects. Under some conditions a sting can be more serious and may create medical complications. The following circumstances can turn a jellyfish sting into a medical emergency:

- The person may have an allergic reaction.
- The person may be a young child.
- The person may be elderly and frail.
- The person may already suffer from serious medical conditions before the sting.
- The person may have been stung many times over a large portion of his or her body or may have received multiple stings from one of the more potent jellies.
- The person may have received stings to the mouth or eyes.

You do not have to be able to identify the exact type of jellyfish that stung you to get proper treatment. However, it would be helpful if you have a general description and if you can determine if it was a Portuguese Man-of-War. Sometimes a person never sees the jellyfish at all. If you are swimming in salt water and feel a sudden burning or strong stinging on your skin, you should get out of the water. It is probably a jellyfish, but there are other organisms in the water and in floating bits of seaweed that can sting. Some people are more sensitive than others.

Any breathing difficulty or altered level of consciousness is a medical emergency. Call 911 immediately.

There are many home remedies for jellyfish stings. However, vinegar is currently recognized by the research and medical community as being the most effective.

Jellyfish Sting-Related Products

The faster you can treat a jellyfish sting, the better the results will be. That means getting away from the jellyfish, removing any tentacles that may remain on the victim's skin, applying vinegar, and/or heat, as recommended. The fastest way to accomplish all of those things is with a first-aid kit that has the necessary supplies. Ocean Care Solutions (OceanCareSolutions.com) offers several marine sting treatment first-aid kits that are worthy of consideration. They have a family of products for Man of War stings, Stingray injuries, Fire Coral, Sea Urchin injuries, and a spray gel for regular jellyfish stings.



You can visit the Ocean Care Solutions web site at:

www.OceanCareSolutions.com



Above: Contents of the Man of War sting first-aid kit.

Note: This is general information on jellyfish stings for educational purposes and general awareness. It is not intended to be medical advice. Medical professionals have the latest details available to them on how to treat jellyfish stings. Disclosure: Ocean Care Solutions is an advertiser on my web site. I do not earn a commission for product sales.

Some people are more sensitive to jellyfish toxins than others. It is not uncommon to have raised welts that burn and itch for days. Sometimes the sting injury will get better, then after several weeks it will come back. After the initial treatment with vinegar and heat, the most common treatments for symptoms are ibuprofen, Benadryl (antihistamine), and hydrocortisone cream. It would probably not be wise to use hydrocortisone cream on large areas of skin without consulting a doctor.

If you have areas of skin that do not heal or that look infected or that turn dark, seek medical care immediately. Do not wait.

Sea Lice

also known as Sea Bather's Eruption (Pica-Pica)

Sea lice generally occur on the lower Atlantic coast of Florida from March through August, with the highest incidence in May and June. I have not heard of them being a problem on the Gulf coast at all. Sea lice create an itchy red rash on areas of the body covered by a bathing suit. But, sea lice are really not lice at all. They are the larvae of the Thimble Jellyfish. The nearly microscopic larvae become trapped between the bathing suit fabric and the skin. The resulting friction activates the larvae's stinging mechanism. The stinging mechanisms are called nematocysts, like those of a jellyfish.

Symptoms

- On first exposure, while still in the water, a bather may experience a tingling sensation on areas of the body covered by the fabric of a swimsuit or shirt. Hairy underarms and hairy chests are also affected.
- During the next few hours an itchy red rash develops. The itch can last for several weeks. The rash is the body's reaction to the venom, or toxin injected by the nematocysts.
- Some people may develop a fever or feel unwell and tired. Children are more likely to develop systemic effects like fever, nausea, abdominal pain, and diarrhea.

Treatment

After showering, applying diluted vinegar or rubbing alcohol to the skin may help neutralize any remaining toxin. Hydrocortisone lotion or cream and antihistamines may also help.

Prevention

- The best prevention is to avoid going swimming along the lower southeast coast of Florida during the early summer months, particularly May and June.
- Pay attention to signs posted on the lifeguard towers warning of sea lice in the water.
- Wear as little clothing as possible while swimming in water that may have sea lice.
- Use a sunscreen called Seasafe that helps prevent the nematocysts from stinging.
- When swimming in water with sea lice it is most important to remove the bathing suit as quickly as possible. As the fabric dries and the skin rubs against

it, more stings will occur. Do not shower with the “contaminated” suit on. The fresh water will cause the nematocysts to sting even more.

- Remove the suit and shower under forceful water to rinse off any larvae that may be clinging to the skin. Rinsing in salt water that is free of larvae is the best way to rinse, but it doesn't seem likely that such could be easily found.
- The contaminated suit should be machine-washed in hot soapy water, and dried in a hot drier. A hand rinsed and air dried suit may still contain active larvae.

Different people are affected to different degrees. I went swimming off Miami Beach a few years ago with some friends during the last week in May. One of them developed a significant rash. I only had a few stings. Another friend had no effects at all. A person's immune system seems to have an important role in the severity of the reaction an individual may experience.

Alligators and Salt-Water Crocodiles



In Florida you can bet that an alligator is present in any body of fresh water, whether it is in a remote wilderness, a golf course, or someone's back yard in a populated subdivision. Alligators will also venture into brackish water (fresh and salt-water mix), and sometimes into salt water as well. I have never seen an alligator in salt water, but I've heard reports of sightings. Recently I visited Cayo Costa State Park near Port Charlotte and encountered this sign on the shore of a salt water lagoon just behind the beach.

Swimming in fresh water lakes and rivers in Florida is not a good idea. Too many alligators. I could tell you some stories of a few of my close calls ...

Never feed alligators. It makes them lose their fear of humans. They associate food with humans, but they don't distinguish between Kentucky Fried Chicken extra crispy and your leg. Also, don't let your pets run around and

play near fresh water. Snoopy makes good gator food. Alligators were once an endangered species in Florida, but they are now quite plentiful. You can order alligator meat at many restaurants. Tastes like chicken. (Just kidding!).

O.K., I'll tell you one of my 'gator stories. One muggy July in 1995 I took my parents and my 12 year old son to Pine Island for the weekend. We stayed in my favorite waterfront guesthouse, the BeachHouse Motel, in Bokeelia, overlooking Charlotte Harbor. After a great weekend of relaxing, exploring, and canoeing, I reluctantly hoisted the canoe back onto the car and tied it down. Everyone was in the car patiently waiting while I tied the canoe on and swatted mosquitoes. Just as I finished I heard a loud hissing sound, as though one of the car tires suddenly lost all its air. I looked and saw nothing. Then I heard it again, only louder. I got down on all fours and peeked under the car...and was

face-to-face with a very unhappy 6-foot alligator. I quickly got in the car and started the engine and the alligator ambled off to the nearest ditch.

This is my point: in Florida, if you are near water, you are near an alligator. Normally, this does not apply to the Atlantic Ocean beaches or to the Gulf beaches. But, **never say never**.

Salt water crocodiles do occupy certain habitats in Florida. Specifically the Miami area, the Ten Thousand Islands, the Everglades, and I've heard reports that there have been sightings in the Pine Island area. But I've yet to hear of any deadly encounters with salt-water crocs.

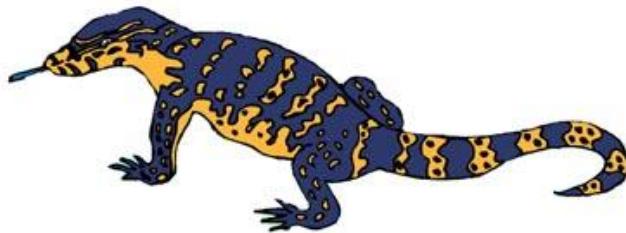
Alligators have a rounded snout. Crocs have a longer, pointier snout. However, I won't pretend that this detail matters to you, particularly.



Alligator on left, crocodile on right.

Nile Monitor Lizards

The Nile Monitor Lizard has been living wild in the Cape Coral area for a number of years. They have recently been discovered on Sanibel Island. This lizard can grow to be seven feet long. They will eat just about anything and they could pose a danger to a small child. They are strong swimmers, and it is suspected that they have finally managed to swim to Sanibel. The concern is that they may be establishing a breeding population on Sanibel. They are very intelligent and once they are well established in the thick mangroves it will be impossible to eradicate them without weapons of mass destruction. These lizards are not as heavy as alligators and will normally run from humans. If they are cornered they can be vicious with their sharp claws and teeth. Nile monitor lizards are good climbers and they can stay underwater for an hour or more. They can run at speeds of up to 18 miles per hour.



If you are in the Cape Coral, Pine Island, and Sanibel Island area and you see a really large brownish lizard, it is probably a Nile Monitor Lizard. You should call the police to report it (I'm not kidding). They have an ongoing eradication program. There is great fear that these lizards will destroy local breeding populations of water birds. The authorities are very serious about getting rid of them. It seems that exotic pet owners released some Nile Monitors a few years ago and they made themselves right at home.

Don't confuse the Nile Monitors with the iguanas that live in some areas of the Gulf Coast, mostly on Gasparilla Island (Boca Grande). Iguanas are smaller, but are still a threat to the native bird population. Iguanas are not dangerous to humans. Iguana pictured below. You'll find lots of them at Lighthouse Park on Boca Grande Pass.



Insects

There are mainly two kinds of insects that could trouble you on Florida beaches, mosquitoes and sand flies (also called no-see-ums). Generally, the less developed islands are more likely to have mosquitoes and sand flies. Both of these insects are most active during the early morning and around sunset. Most of the time neither will be a significant problem. On some still, hot, steamy evenings, some beaches can have swarms of sand flies. The only thing you can do is wear long pants, long sleeves, and a heavy coating of insect repellent. They have a very sharp bite.

A sand fly looks like a very small gnat. It is so small that it can fly right through a screen. A good breeze will keep them at bay.

If you are going on a fishing trip, in addition to taking sunscreen, I would strongly advise taking a good insect repellent. Sand flies will follow you right out onto the water in your boat. Sand flies are unpredictable. Some nights they are voracious, other nights they are nowhere to be seen. It has to do with their life cycle.



You should avoid being bitten by mosquitoes. There have been a number of reported cases of West Nile virus in Florida, which is transmitted by the bite of the mosquito. I'm quite sure the incidence of West Nile is underreported, since most people have either no symptoms, or mild symptoms.

Other Things that Bite, Pinch or Stab

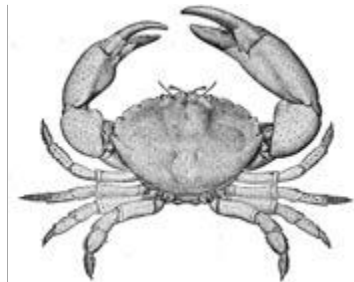
Crabs

There are many kinds of crabs that live in Florida waters. The most common types are the blue crab, the stone crab, the horseshoe crab, and the spider crab.

The **blue crab** and the stone crab have sharp and powerful claws that can inflict significant pain and can draw blood. You may see a blue crab scurrying along the bottom sideways, displaying its claws in a threatening manner while running away from you. They can move very quickly. Just don't try to catch them with your bare hands and don't offer them your toe. They certainly won't attack you.



Blue crab



Stone Crab

Stone crabs live among submerged rocks and seagrass. Anywhere you find rocks under water, you will find stone crabs. Their claws are a delicacy and can be found in seafood restaurants during the season [October 15 – May 15]. Fishermen break off one claw and toss the crab back into the water. It will live (usually) and grow a new claw. Stone crabs have very powerful claws. Don't play with them, and if you are snorkeling around rocks, don't stick your fingers into crevices in the rocks. This could also result in a nasty bite from a moray eel. Below is a mighty stone crab claw, a local delicacy. It's about 5 inches long.

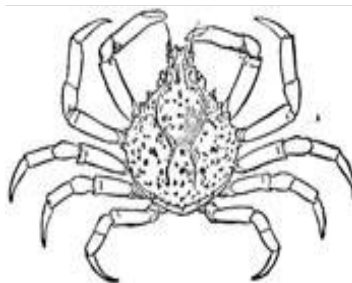


Stone crab claw

The **horseshoe crab** has a long spike for a tail, but they are so slow-moving that the only way they could injure you is if you clumsily impaled yourself on their tail. This would be very hard to do. Horseshoe crabs can sometimes be seen in large numbers, particularly in the sheltered waters of the bays during mating season. They look fearsome, but are quite harmless. Below are two views of a horseshoe crab, from above and from below the shell. They live in the water. This one has died and washed up onto the beach.



The **spider crab** below looks like a rock with legs. They don't look like something that would be alive. They move extremely slowly and have small claws. Usually they are so covered with algae and are so still that they do not appear to be alive.



Spiny Fish

I probably don't need to tell most people that fish have sharp spines on their fins. Some fish have virtual daggers on their fins. In particular, the salt-water catfish has very long, sharp spines. Once when paddling my surfboard I felt an excruciating pain in my right hand. I pulled it out of the water to find a small catfish dangling from my finger. It impaled my middle finger, probably as it was passing underneath my surfboard. I shook it off, but was in a lot of pain for the rest of the day. Needless to say, that was the end of surfing for the day.

Another thing to be aware of is dead fish on the beach. Especially during times of red tide when large numbers of fish wash up on the beach, fish spines are present in the sand on the beach. I've never stepped on one, but I've found plenty. You should wear shoes on the beach when there are dead fish on the beach, or if you are running on the beach, especially after dark. Below is a photo of a catfish spine I found while walking on the beach.



Birds

One of the things you will notice about many of the water birds along the Florida coast is that many of them have long sharp beaks. If you are trying to help a sick or injured bird, watch out for the bird's beak. Herons in particular are quite skilled at stabbing with their beaks. They know to go for the eyes. Anytime you are dealing with an injured bird you should try to place a towel or shirt over its head so it cannot see you. This also helps to calm the bird. Below is a snowy egret, one of our smaller egrets. It still has a long, sharp bill and a long neck, which this bird has curved into such a tight s-shape that it looks like it has no neck at all.



Red Tide

What is it?

Red tide is a condition in the water caused by a sudden increase in the concentration of a particular type of algae known as *Karenia brevis*. This condition called “red tide” can discolor the water, kill fish, and can release a toxin into the air that causes coughing, a burning irritation in the nasal passages, and watering eyes. **People with respiratory ailments like asthma and emphysema should not expose themselves to red tide vapors.**

You are probably most familiar with the algae that get out of control in swimming pools. If the pool is not properly treated with chemicals the water turns a disgusting green color and left untreated, you can no longer see the bottom of the pool. This is called an “algal bloom.” A bloom is a sudden increase in the algae organisms to levels far above normal.



In nature, many types of algae are always present in the water. It is only when a bloom occurs that humans take notice because of the water discoloration, the odor, or the dead fish. This type of bloom we label a “Harmful Algal Bloom,” or HAB.

Red tide in the Gulf of Mexico refers to a bloom of the algae *Karenia brevis*. When red tide occurs, it is usually during the fall months. However, it can occur during any time of year. Red tide is an infrequent event and usually only affects certain locations. For instance, red tide could affect the north end of an island but not the south end, or the bay waters but not the Gulf. It can also be blown to other areas by the wind, or carried by water currents. This is why it is so unpredictable.

Current knowledge says that a red tide bloom first occurs offshore, then slowly drifts toward the coast of Florida as it gradually increases in concentration. Many thousands of dead fish begin washing up on beaches and the smell of the red tide toxin mixes with the smell of dead fish, driving people from the beaches.

What is the toxin released by the red tide organism?

Not a lot is known about the toxin or its effects on humans. Essentially it is a nerve toxin called Brevetoxin. While it is generally not considered dangerous to people unless they have a respiratory ailment like asthma or emphysema, some scientists and public officials, and many ordinary people are beginning to question this idea. Some people report that they or their children become sick or suffer skin irritations after swimming in red tide affected waters. Others report that their pets have become extremely ill after being on a red tide affected beach. Some research is now being done on Brevetoxin's effects on humans and how people might even be immunized against the toxin.

Is swimming in red tide affected waters safe?

The answer to that question depends on who you ask. If you ask most people in the tourism industry they'll tell you that it is not harmful to healthy people, and in most cases they are probably correct. However, if you talk to anyone that has experienced long-lasting symptoms from exposure, you will get a very different answer.

I can tell you that I've been swimming and surfing in red tide affected waters quite a few times and I never experienced any long-lasting symptoms (that I'm aware of). It seems like common sense that some people will be more sensitive to the toxin than others. The rule I follow is that if conditions are bad enough to be uncomfortable, I stay off the beach, and I definitely stay out of the water.

Another thing that I think people don't take into account is that having a lot of dead fish in the water and on the beach is a very unhealthy situation. High concentrations of bacteria from the decaying fish could also be responsible for the illnesses reported by some people. I don't swim with dead fish.

How does a person find out if red tide is present before going to the beach?

Red tide is monitored by the Florida Fish and Wildlife Research Institute. You can check their website at <http://myfwc.com/research/>. Click on Red Tide Current Status for the area of the State you are interested in. You will see a chart showing the locations tested and the results. Unfortunately the results posted are usually one or two weeks old and things change fairly quickly. But it is a place to start. Another good website, which has links to the aforementioned site is www.redtideonline.com. It is an excellent resource.

Red tide severity is measured by the number of red tide organism cells found in a liter of water (cells per liter). Normal, healthy concentrations of *Karenia brevis* are below 1,000 cells per liter. Respiratory irritation may begin to occur when concentrations reach 5,000 cells/liter. Above 5,000 cells/liter, shellfish harvesting may be closed. Above

50,000 cells/liter, some fish kills may occur. A severe red tide will have concentrations above one million cells per liter and will kill just about anything in the water.



If you are coming to the Florida Gulf Coast for a vacation, I would suggest checking the websites mentioned above for the results of the latest water tests. If there appears to be red tide present in the area you are planning to visit, make a few phone calls. Call the hotel or resort and ask them if there is any respiratory irritation or dead fish on the beaches. Try to find a phone number to the local public beaches and ask the lifeguards or maintenance people. Call the island's chamber of commerce and ask them. Don't just take your hotel's word for it. Make several calls.

Can fish be eaten during red tide?

I would not eat fish caught in red tide affected waters. Absolutely not. A severe bloom will kill fish quickly, supposedly before the toxin can build up in their tissues. So, theoretically a fish killed by red tide is “safe” to eat. But how long has it been dead? Never eat a dead fish you found in the water or on the beach. Fish from restaurants I would assume are safe to eat, since they come from other areas or from further offshore from unaffected waters.

What about fish caught live from red tide affected waters? Well, here is a quote from the Mote Marine Laboratory website: “Fish exposed to lower (sub lethal) concentrations [of *Karenia brevis*] ...may accumulate these toxins in their body. New evidence from current research suggests that such bioaccumulation in fish eaten by dolphins may have been a major factor in the deaths of more than 700 of these marine mammals in 1987.”

According to Mote Marine Laboratory:

The meat of shrimp, crabs, scallops, and lobsters are safe to eat since they do not accumulate the toxins in the meaty part that we eat. Any other body parts such as organs or soft tissue should not be eaten.

Do not eat oysters, clams, mussels, mollusks, or whelks taken from red tide affected waters since they accumulate the red tide toxins in their flesh.

In the 2005 red tide along Florida's Gulf Coast, many sea turtles and manatees died. Sea turtles eat fish, jellyfish, and other marine creatures, but manatees are vegetarian mammals. This to me is evidence that long term exposure to high concentrations of the brevetoxin may be harmful to mammals (including humans).

What is causing the red tide blooms?

The earliest reports of red tide along the Florida Gulf Coast that I'm aware of were in 1844. So it has been around a long time--probably for thousands of years. It is considered a natural event, just like wildfire in the forest. One of the worst red tides in Florida occurred in 1947. Other red tides since then have had devastating but temporary effects on tourism and on the fishing industry along the Gulf coast. Written observations tell of dead fish being piled up "knee-deep" on some beaches. In earlier times red tide was referred to as "poison water." Some even speculated during the 1947 red tide that it was caused by poison gas bombs disposed of in the Gulf by the Army.

Now many people suggest that manmade pollution in the form of run-off from industry and agriculture is either causing or aggravating red tide events. The truth is that no one really knows for sure. However, we do know that *Karenia brevis* needs phosphate and nitrogen to multiply. We know that run-off contains both, in high concentrations. We also know that nitrogen-containing run-off does cause algal blooms of various kinds. It seems logical that there would be a connection with the red tide blooms. Right now studies are being done to see if there is a connection. There is considerable controversy over the regular releases of high-nitrogen water from Lake Okeechobee down the Caloosahatchee River into Charlotte Harbor. There is also controversy over the release of high phosphate and nitrogen water into Tampa Bay from the phosphate industry. Big business versus the environment with the government stuck in between. Where have we heard this before?

Isn't there anything that can be done to stop red tide?

Currently, no. But they are working on it. In some parts of the world clay particles are spread on the surface of the water where there is an algal bloom. The algae seem to attach to the clay and sink to the bottom, where it dies. Florida is currently researching this as an option but there is a concern about covering the sea floor with clay sediment.

How might this affect organisms that live on the sea floor? We don't want the cure to be worse than the disease.

There is a teacher at Venice, Florida High School who has apparently come up with a substance that kills red tide without harming other organisms. Apparently one of the ingredients is Chlorine. That's right, bleach. The degree of politics involved in and delaying the development, testing and possible adoption of that "cure" is comical.

Another plan under consideration is to use a machine that was designed to clean up oil spills, to pick up the floating dead fish before they can wash up on the beaches. The fish would then be chopped up and returned to the Gulf waters far from shore. This is being studied as well.

Certainly none of the plans is as drastic as the recommendation by a public official during the 1947 red tide that the masses of floating fish in the Gulf be "fire-bombed."

Here are some general suggestions for dealing with red tide if you must be on or near the beach during an episode. I don't know who to attribute these suggestions to, since they are published all over the web and are basically common sense anyway:

1. Pay attention to the weather forecast. Offshore winds (wind blowing from the land out to sea) help to reduce the amount of toxins in the air. This means that on the Gulf coast, an easterly, northeasterly, or southeasterly breeze would be helpful. An onshore wind increases the toxins in the air along the coast. So a southwesterly, westerly, or northwesterly breeze would not be conducive to a good day at the beach.
2. You can wear a mask, like a painter's mask that covers your nose and mouth to filter out airborne particles that contain the red tide toxin. I've seen lots of people do this.
3. If you have asthma or chronic lung disease, don't expose yourself to red tide toxins. In other words, stay off the beach during red tide episodes. If you insist on exposing yourself, be sure to take your medications, and leave at the first sign of trouble.
4. Seek medical care if your symptoms worsen.
5. From your home or hotel room, keep the windows closed and run the A/C or heat and keep the filter clean.

Water Quality and Harmful Bacteria

The State of Florida monitors levels of harmful bacteria in coastal waters. Generally the sources of harmful bacteria are from intentional or accidental discharges of untreated or partially treated human sewage into bays and rivers, which flow into the Gulf of Mexico. Also, rains wash farm animal wastes into rivers, which flow into the bays and the Gulf. Another major source is from pets. Rains wash bacteria from dog and cat feces into the waterways, contributing a significant source of pollution. Needless to say, it is during periods of heavy rains that harmful bacteria levels may become a problem on some beaches. Although I've not heard it elsewhere, my thinking is that whenever there is a major fish kill, there would be high levels of bacteria in the water from all the decaying fish.

We cannot see bacteria in the water, so there is no way for us to know if bacteria populations are at unsafe levels. We depend on water testing. You can find out the water test results on the internet by visiting the www.myflorida.com website. Sometimes they change the site structure, but generally if you click on "Floridian," then "Nature and Environment," then under the Beaches and Coastal heading, click on "Beach Water Quality." Click on the map for the areas you are visiting. Test results are shown for Enterococcus and Fecal Coliform Bacteria.

Note: I would not recommend swimming in waters that show high levels of either bacteria. Also, if a beach is closed to swimming, DO NOT SWIM! Especially do not take children and babies in the water. Normally, signs will be posted on beaches that are closed to swimming. Notices will often be printed in local newspapers as well. Usually beaches are only closed for a day or two at a time. Then bacteria levels return to normal levels. Beaches that are frequently closed due to harmful bacteria levels are a cause for concern. At the myflorida website you can see how often a beach has been closed.

Another slightly different source for beach water quality information is the National Resource Defense Council's website at www.nrdc.org. Their web site has become so complicated and busy that the easiest way to find the beach water testing results is to just go to www.google.com and search for "nrdc testing the water". The correct page should show up on the first page of the Google search results.

Another useful website called National Healthy Beaches Campaign is hosted by the Laboratory for Coastal Research at Florida International University. The site is located at <http://www.ihrc.fiu.edu/nhbc/> . Here you can find a list of beaches “certified” by independent analysts as meeting their criteria for cleanliness. The beach communities do not pay anything for this analysis of their beach. It was founded by Dr. Stephen Leatherman, also known as “Dr. Beach,” famous for his annual list of the Nation’s top ten beaches that is announced publicly every Memorial Day weekend.

On some beaches you will see signs that designate the beach as a “Blue Wave Beach”, (see below photo). The Blue Wave Beach designation is from the now defunct Clean Beaches Council, which charged quite a lot of money to award this designation. This is clearly a conflict of interest. The fees for certification as a “Blue Wave Beach” were thousands of dollars and involved filling out an extensive checklist.

The Clean Beaches Council, formerly a 501(c) (3) organization, had gradually decreasing revenues until it went out of business in 2008. Its bare bones web site still maintains a list of beaches that paid for their designation, but it is clearly meaningless and is at least 5 years out of date. Nevertheless, signs remain on some beaches advertising the Blue Wave Beach designation.



Hurricanes

Every resident of the United States should have a Phd. in hurricanes by now, with the 2004 and 2005 seasons bringing more hurricane damage than I've seen in my 50 years of living on the Gulf Coast.

Here are some facts you can take to the bank:

Hurricanes are VERY unpredictable. On Tuesday it is a puff of breeze out in the Carribean, but by Saturday it is a hurricane and it is IN YOUR FACE. Actually, if you are retired and read the newspapers and watch TV, the process seems much slower. But if you work and don't always have time to keep up with the weather, it happens before you can prepare. (In fact, when I first wrote these words, newly formed Hurricane Wilma was forecast to affect the Florida west coast in about 5 days. But where exactly will it hit?)

Your biggest chance of having your vacation spoiled by a hurricane in Florida is during July, August, and September, and perhaps the first week or so in October. It's hot as hell here during those months and there is rain and lightning every day, so those are not the best months to be here anyway (my apologies to the Chambers of Commerce and the various Visitors and Convention Bureaus).

When you are told to evacuate, pack up and GO! If you wait, the roads will be clogged, there will be no gas at the pumps, hotels along the evacuation route will be full, airports will close, grocery store shelves will be empty, and your life will suck.

For most people, the hurricane damage will be far less than they had anticipated. For a few people, the damage will be far worse than they could have ever imagined. Even a category 1 storm should cause you to evacuate if you are in its path.

Lightning

More people are killed by lightning in Florida every year than in any other state in the country. This has earned Florida the distinction of being “the lightning capital of the country.” Actually, Florida ranks #5 out of all the states in the lightning death rate per million people. National Weather Service records show that, from 1959 to 2010, lightning killed 3,948 people in the United States. 461 of those killed were in Florida. Next in line is Texas, with 212 deaths. Where Florida really earns its title is the number of cloud to ground lightning flashes. The average number of flashes per year between 1997 and 2010 was 1,438,322. The closest competitor is Oklahoma, with 1,054,602 flashes on average per year.

Many people believe that they will not be struck by lightning if it is not raining, or if the lightning seems to be in the distance. Three times in my life I've seen lightning strike from a clear blue sky with clouds far in the distance. In fact, lightning can strike out for many miles in front of or behind an approaching thunderstorm. Lightning can strike you even when the storm is too far away for you to hear thunder! This type of lightning is referred to as a “bolt from the blue” and has been observed to reach out as far as 25 miles away from the cloud that generated it.

The beach is not the place to be when thunderstorms are approaching, or when the sky is unsettled and thunder is heard rumbling, however far away it may seem. Don't just stay because no one else is leaving. A general rule is that you are in danger of a lightning strike 30 minutes before a thunderstorm reaches you, and 30 minutes or more after it passes. Half of all lightning deaths occur either before the storm or after it has passed and people think it is safe to go back outside.

If you are on the beach or anywhere outdoors when a lightning storm approaches, get to a sheltered location. Generally, the best place will either be your car, or a sturdy building. A picnic shelter is not a safe place to be during a lightning storm. Sit in your car and don't touch any metal in the car. Avoid driving during a heavy lightning storm. A close strike could temporarily blind you. A lightning strike can melt metal, splinter wood, destroy concrete, and send projectiles flying through the air like missiles. It can travel quite a distance over wires, metal pipes (plumbing), fences, etc. Salt water is also a very good conductor of electricity. Get out of the water immediately when a storm approaches. You most certainly don't want to be on a surfboard, a boat, a jet-ski or out on a pier or bridge.

If you are caught outside by a lightning storm do not seek shelter under an isolated tall tree or small group of tall trees. Generally, stay away from tall isolated objects since lightning will often hit the tallest object. If you are out on the beach, YOU are the tallest object!

It's better not to take shelter in an unenclosed building like a picnic shelter. A building with enclosed walls offers more protection from lightning.

If you are caught in the open in a fierce lightning storm and absolutely cannot get to any type of shelter, get to the lowest area if possible, and assume the position that gives you the most protection: squat on the ground with your feet together. You will be in the fetal position. Cover your ears and the sides of your head with your palms. In this position you have the least contact (grounding) with the ground and are as low as possible. Only your feet are touching the ground. You might also say a prayer if you think that will help.

I've lived in Florida all my life, and lightning and thunder do not generally scare me at all. But I will admit I've been through some lightning storms that made me quite nervous and I've experienced many strikes within a few hundred feet or less.

Of course you should take all the normal precautions as well during a lightning storm: stay out of the shower and the sink (lightning loves water pipes). Stay away from the phone, the TV, the computer, and other electrical appliances. Stay away from the windows. Don't pick that time to walk out to the mailbox.

The Sun



Of course, the sun is part of the reason we all love Florida (The Sunshine State). We all like to enjoy the benefits the sun offers, but we have to be careful because the sun in Florida is fierce. Too much sun can turn a wonderful vacation into a nightmare. I know personally of the effects of too much sun and heat. Take some precautions, and you'll be fine and have a wonderful vacation, and maybe get a tan as well.

1. Understand that when you are on the beach you are getting solar radiation from all directions: from the sun above, from the reflection off the water, and from the reflection off the white beach sand. You are in a toaster oven. If you do not have fairly dark skin, you can get a nasty sunburn in as little as 20 minutes.
2. Avoid lying out under the sun between 11am and 3pm during the spring, summer, and fall (April through October). Use a large beach umbrella, wear a t-shirt, and use sunscreen **EVEN IF YOU ARE UNDER THE UMBRELLA!!!**
3. If you are out in the sun, a light t-shirt or other loose-weave cotton is poor protection from the sun. The sun's rays easily penetrate a t-shirt. If you are really spending a lot of time in the sun, like fishermen do, invest in a shirt with special sun-protective fabric.
4. Use a sunscreen with a protection factor of at least 50 during the above hours. You will still get a tan, just much slower. This is really important. Please don't use baby oil as sun protection. It is no protection at all and it does not help you tan anyway. I spent the first 30 years of my life in the sun with little or no sunscreen (when I was a kid there was no such thing as SPF anything in sunscreen). I've had 6 basal cell carcinomas cut out of my back and face. Enough said?
5. Children burn much more easily than adults. Protect them with sunscreen, no matter how much they wiggle and squirm and protest! Reapply every hour.

6. Have plenty of cold water to drink and drink it constantly to keep from getting dehydrated. I once went to the beach with a good friend and I took lots of cold water and juices to drink. I drank a lot but my friend said she just wasn't thirsty. By the time she got home she was feeling very ill. She was dehydrated. Water doesn't help you if it is in the cooler. DRINK!!! (note: beer is not the best form of hydration and is illegal on some beaches).
7. Go in the water frequently to get wet and cool off. Don't let your body temperature get too high.

It is very easy to get out onto the beach on a beautiful day in May with a slightly cool breeze off the water and violate every suggestion I just mentioned above. Perhaps you didn't plan to stay so long so you didn't use sunscreen and you didn't bring much to drink and you left your umbrella in the car... I know, I've done it and there is hell to pay.



Aloe Vera plant: nature's sunburn relief

How to Treat a Sunburn

1. As soon as you notice a burn starting (red, hot skin) cover up and get out of the sun. (By the way, light, loose-weave cotton does not provide good protection). You don't often feel the pain until after the burn is well developed (up to 24 hours later), so don't use pain to signal the fact that you are burning.
2. Take a cool shower and wash the sunscreen and sand off your body. Do not put oil on the burned area, it needs air to heal.
3. Do not put butter or toothpaste on the burn!
4. Take Motrin (ibuprofen) for the pain if necessary.

5. If the burn is painful, you can use a hydrocortisone cream, but you shouldn't cover a large area of your body with it. Current wisdom says don't use products that contain benzocaine or other 'caine' anaesthetic ingredients because they can cause you to develop sensitivities to other chemicals.
6. If you have access to aloe vera leaves, put one in the refrigerator for an hour or so, then slice the leaf open and rub it gently on the burned areas. It feels great. It's what I've always done and is my favorite remedy.
7. If you develop blisters, you have quite a bad burn (second degree burn). If the blisters cover a large are of your body you need to seek medical attention. It may take 24 hours for the burn to fully develop and the true damage and pain to reveal itself.
8. Anytime you develop a headache, fever, or chills with a sunburn, seek medical attention right away.
9. Do not go in the sun anymore until your burn has peeled and healed. The burned skin will peel off after a few days (the sun actually killed that layer of skin). It can take more than a week to recover from a bad sunburn.
10. If your child gets a sunburn, follow the same advice as above. You can also gently apply cold compresses to the burned areas.
11. The following symptoms occurring with a sunburn in a child require a visit to the doctor: Blisters, facial swelling, fever, chills, headache, confusion, light-headedness, sunburn over a large area of the body, dehydration (dry eyes, mouth, increased thirst), signs of infection (swelling, pain, warmth, increased redness, pus).

Suppose you are out on the beach and start to feel ill because of the heat? There are some things you can do and some signs to watch out for. Heat exhaustion is one of the first signs that you are seriously dehydrated and are becoming overheated. Generally, if you feel slightly ill, and perhaps a bit nauseous (but are otherwise healthy), get into the shade and drink lots of cool water. Wipe yourself down with a wet towel or a wet shirt. Anything to cool yourself down. Going into an air conditioned building (like your hotel room) would be the next course of action. Drink lots of fluids, take a nap, and don't go back into the sun that day. You should be fine in a few hours.

There are two types of conditions caused by overheating. One is heat exhaustion; the other is heat stroke (life-threatening).

Heat exhaustion

Heat exhaustion occurs when a person loses too many body fluids through sweating, either from being in a very hot place, or from exerting themselves. Without sufficient body fluids, the person overheats. A person suffering from heat exhaustion might appear pale and have cool, moist and sweaty skin. Probably the person will feel like they are going to faint, or they might even collapse. They might have a headache, feel thirsty, and may feel nauseous and weak. They may have a fast pulse and a temperature higher than normal.

A person should be taken to the hospital if the person loses consciousness or becomes delirious, has chest or abdominal pains, is unable to drink fluids, vomits continuously, develops a temperature of more than 104 F, or if the person does not cool down despite taking actions to cool them. A person with other serious medical conditions who is also suffering from heat exhaustion should be taken to the hospital.

Heat stroke

A person with heat exhaustion that was not treated may progress to the condition of heat stroke, which means their life is in immediate danger. Heat stroke results because a person's natural cooling system has stopped working and the person's body temperature has risen to the point where internal organs and the brain are being damaged. A person suffering from heat stroke might be delirious and become unconscious. They may have a body temperature of 105 degrees or more. They may be very hot, flushed, dizzy, confused, develop high blood pressure that later falls, and they may hyperventilate. Call 911 immediately or otherwise get the person to a hospital right away.

When I was in high school, each spring various school bands from around the country would come to town for the annual Hernando Desoto parade. They would arrive on buses, which would head straight for the beach. The student musicians would lay out in the sun with their pale skin, swim in the Gulf, play volleyball, walk the beach, and get thoroughly sunburned and dehydrated. Then that evening they would put on their long pants and long sleeves and march in the parade with their band. Many would collapse and have to be taken to the hospital with severe heat exhaustion.

It doesn't have to be that way for you. Now you know how to avoid it.

Holes on the Beach

Here's one I'll bet you never thought of: People who walk, run, or ride their bike on the beach after dark have to watch out for holes dug on the beach by kids during the day. It's always better to walk close to the water, since most holes are dug a bit higher up where the sand isn't so wet. It doesn't take a very deep hole to sprain an ankle or knee, or even break a leg (I've seen it happen).

So when your kids dig holes to build sandcastles on the beach, be sure they cover up the holes before leaving. They are very difficult to see in the dark.

Below is a photo of a hole we encountered on the beach during an evening stroll.



Fish / Shellfish Poisoning

or

You Are What You Ate!

Eating contaminated shellfish (clams, scallops, oyster, mussels, cockles) can be hazardous to your health. In short, if you are harvesting shellfish yourself from the water, pay attention to any shellfishing bans issued by local authorities. If you are eating shellfish in a restaurant, you can normally trust that the seafood is safe, especially in a well-known restaurant. Nevertheless, you should acquaint yourself with the symptoms of shellfish poisoning. Prompt treatment is important to your recovery.



Shellfish poisoning is classified into 4 types: **paralytic**, **neurotoxic**, **diarrheic**, and **amnesic**. If you feel ill after eating shellfish, the type of poisoning you have is diagnosed by what type of shellfish you ate and what your symptoms are. After eating shellfish (either fully cooked or raw), if you experience any of the following symptoms, you should seek medical attention. The following descriptions are from the US Food & Drug Administration Center for Food Safety & Applied Nutrition's Foodborne Pathogenic Microorganisms and Natural Toxins Handbook:

Paralytic shellfish poisoning (PSP) produces mainly neurological symptoms including tingling, burning, numbness, drowsiness, incoherent speech, and respiratory paralysis (resulting in death unless respiratory support is provided). Symptoms usually develop within one-half hour to two hours after eating the shellfish. Sometimes the victim's heart stops despite treatment. This poisoning is clearly the most dangerous to most people.

Neurotoxic shellfish poisoning (NSP) symptoms are tingling and numbness of lips, tongue, and throat, muscular aches, dizziness, reversal of the sensations of hot and cold, diarrhea, and vomiting. Symptoms appear within a few minutes or a few hours and may last a few hours or several days. The person normally recovers completely. No fatalities have been reported.

Diarrheic shellfish poisoning (DSP) symptoms appear within 30 minutes to a few hours with effects possibly lasting several days. It manifests as a gastrointestinal disorder with nausea, vomiting, diarrhea, and abdominal pain. The victim may also have chills, headache and fever.

Amnesic shellfish poisoning (ASP) begins with gastrointestinal symptoms within 24 hours, followed by neurological symptoms within 48 hours. This poisoning is very serious in the elderly and may include symptoms similar to Alzheimer's disease. Fatalities generally involve the elderly.

Fish Poisoning (Ciguatera)

Ciguatera is caused by consuming fin fish that have eaten a diet that makes them toxic to humans. It generally occurs in warm-water fish. Cooking does not neutralize the toxin. The toxins occur naturally and some are known to originate from a type of algae. The information presented here on ciguatera comes from the Fish and Wildlife Research Institute website and the previously mentioned Foodborne Pathogenic Microorganisms and Natural Toxins Handbook.

Many different types of fish are known to carry ciguatera. Some of the more likely ones may include barracuda, snapper, amberjack, kingfish, mahi mahi, and grouper. Ciguatera cases in the USA have been recorded in California, Florida, Guam, Hawaii, and Puerto Rico, and the Virgin Islands. Other states have had cases caused by fish harvested elsewhere.

The first symptoms usually appear within 3 to 24 hours. Some symptoms may recur for months or years.

How do you know if you have ciguatera? If you've had a meal of fish and experience vomiting, abdominal cramps, diarrhea, and nausea within 3 to 5 hours you should consider that you MAY have ciguatera. You can be much more certain that you have it if, after 12 to 18 hours you experience some of the following symptoms:

- Headaches
- Itching of the skin
- Hot objects feel cold, cold objects feel hot

- Tingling in arms and legs
- Joint pain
- Muscular pain
- Convulsions/muscular paralysis
- Hallucinations
- Loss of equilibrium
- Irregular heartbeat
- Decreased blood pressure

There is no test to see if a person is suffering from ciguatera fish poisoning. A diagnosis is made by documenting the patient's symptoms. The condition is rarely fatal, and it is suspected that cases are underreported. If you think you may be suffering from ciguatera, see a doctor, especially if your symptoms are severe.

Crime and Personal Safety

When people are on vacation, they often forget to bring with them their normal sense of care and self-protection that they use every day when at home. Add some white sand, clear water, hot sun, good food, Calypso music, and perhaps some alcohol, and judgment can be impaired.

On the islands and beaches, life can sometimes seem so relaxed and laid-back, and so wonderfully different than where you came from, it's hard to imagine that there is crime here. But there is. Remember this, and repeat after me:

EVERYONE HERE IS NOT ON VACATION!
EVERYONE HERE IS NOT ON VACATION!
EVERYONE HERE IS NOT ON VACATION!

The truth is that on the islands and beach communities, crime is generally lower than on mainland Florida, and tends toward property theft. Everyone knows that “tourists” have expensive cameras, video cameras, watches, and wallets with lots of vacation cash.

Even when you are out on the beach during the daylight hours, you can be a victim. Here are some rules not to break:

When you go swimming or go for a walk, NEVER leave anything on your beach towel or chair that would upset you if it were stolen. It only takes a few seconds for a thief to walk casually by your towel and help him or herself to your purse, wallet, radio, camera, etc. No one else will even notice. Leave your valuables in your car, locked in the trunk.

If you are going to be on the beach after dark, park your car near a lighted area. If parking is scarce when you arrive and you have to park far away, remember to move your car closer to your location before dark and leave it in a lighted area.

Ladies should NEVER walk the beach alone after dark, even in the most upscale areas.

Ladies should avoid being alone in an isolated location even during the daytime. Sexual crimes against women on the beach are not common, but they do occur. As you can imagine, when they happen, local authorities may keep it quiet so as not to create fear among visitors.

Avoid heavily crowded beaches on weekends and holidays. On days when huge crowds go to the beach, crowd control can be a problem. Like everyone else, certain undesirable elements come to the beach on big beach weekends and holiday weekends like the Fourth of July and Labor Day. Alcohol is consumed, fights break out. There are plenty of beach accesses away from the crowds. Use them.

Be mindful of cars and traffic. Especially hold onto your children when crossing streets. Traffic along the beaches can be bumper-to-bumper on weekends and holidays. Drivers are hot, tired, and frustrated with the long lines of cars. Some islands have four-lane highways between the beach and the ice-cream shops. Remember, not everyone here is on a happy vacation. Some people are just trying to get to their job on time. **YOU ARE IN THEIR WAY!** Many drivers in Florida are elderly and do not see or hear well, especially after sunset. Keep that in mind when you are crossing the street.

Use common sense in your hotel room as well. Be alert for suspicious persons. Keep your room door locked. When you go out at night and return to your room late, be aware of your surroundings.

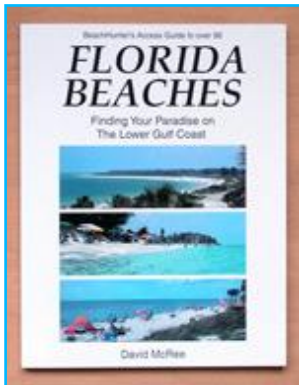


Florida Beaches

Ask anyone who has ever visited the Florida Gulf Coast what his or her favorite beach is, and you'll get as many different answers as there are people. There are so many different beaches on the Florida Gulf Coast that it can be difficult to know which is best for you and your family. Finding a place to park your car and access the beach is another challenge. My book, "Florida Beaches—Finding Your Paradise on the Lower Gulf Coast" provides you with all the information you'll need to find your perfect beach.

I'm a third-generation Florida native, and I've visited EVERY Gulf beach from Dunedin to Marco Island. In this 176 page book, I've written detailed descriptions of 96 named beaches and have located and identified many hard-to-find beach access points. The book is filled with details on beach access locations and fees, hours of operation, descriptions of facilities, types of sand and other natural and manmade features, where to swim and where not to swim, where to find a quiet secluded beach, and which beaches have free parking. Even lifelong Florida residents are surprised at the great variety of beaches on the Gulf Coast as they discover new beaches to enjoy.

I also give my opinion on the best beaches for swimming, walking, shelling, birding, camping, finding solitude, people-watching, and snorkeling. **48 black-and-white photographs and 25 maps** make locating new beaches simple and easy.



The book is available online at <http://www.beachhunter.net> . Ordering only takes a few clicks of the mouse and credit cards are accepted. There is also a list on the website of retail establishments that have my book in stock. The price is \$19.95.

This is the most detailed and up-to-date beach guide available for the central and southwest Gulf Coast of Florida. You can view color photos of the beaches and islands by visiting www.BeachHunter.net.

Be sure to visit my blog at www.BlogTheBeach.com



The screenshot shows the homepage of the 'Blog The Beach' website. The header features a large banner image of a beach with colorful umbrellas and a 'BEACH ACCESS' sign with an arrow pointing left. Below the banner is a navigation menu with links: HOME, ABOUT DAVID MCREE, FTC DISCLOSURE, CONTACT DAVID MCREE, BIRDING FESTIVAL, and a SUBSCRIBE button. The main content area displays a post titled 'Captiva vs. Palm Island' by BEACHHUNTER on APRIL 21, 2009. The post includes a photo of a man and a woman on a beach. To the right of the post is a search bar and a list of 'POPULAR SEARCHES' including 'anna maria beach', 'clothing optional adults', 'only sarr topless thongs on', 'the beach adults only sari', 'kayaking best keys beaches', 'ocquina beach park fishing plays', 'linda box jellyfish in...', 'casperen', 'beach guest post indian rods', 'naples sting by jellyfish beaches', and 'north of... booa grande bradenton'. At the bottom of the page is a social media sharing bar with buttons for Share, Tweet (0), Like (0), YouTube, Videos, Photos, and Facebook.

And, stop by and “Like” my Facebook page: www.Facebook.com/FloridaBeachhunter



The screenshot shows the Facebook profile page for 'Florida BeachHunter'. The profile picture is a photo of a man wearing a cap and sunglasses. The cover photo is a wide shot of a beach with a wooden walkway leading through dunes. The page shows 453 likes and 72 people talking about this. The 'About' section includes a bio: 'I go to the beach and I write about it. I take photos and shoot video. I've visited EVERY beach access from Dunedin to Marco Island many others all over Florida. I wrote a book called "Florida Beaches: Finding Your Paradise on the Lower Gulf"'. The page also has tabs for Photos, Likes (453), and Notes.

If you're going to be visiting Orlando or Central Florida and you're trying to decide which beach is the closest and which is the best for a day trip, you'll definitely want to grab a copy of my e-book, [Best Beach Day Trips from Orlando and Central Florida](http://beachhunter.net/book-orlando-beaches.html):



Get your copy at [www. http://beachhunter.net/book-orlando-beaches.html](http://beachhunter.net/book-orlando-beaches.html)