



UNIVERSITY OF
FLORIDA

EXTENSION

Institute of Food and Agricultural Sciences



AT THE WATERS EDGE

Miami-Dade County
Florida Sea Grant



VOLUME 4, ISSUE 4

April 2005– May 2005

Upcoming Events to Dive Into

April 13
Biscayne National
Park's Discovery
Series: Return of the
Native. Biscayne
National Park
7:30pm
www.nps.gov/bisc/



April 16
Bayanza Biscayne Bay Cleanup
9am-12 noon
www.miamidade.gov/derm/bayanza

April 23
Little Haiti Earth Day
12 noon– 5pm, www.oglhaiti.com

April 23-24
Earth Day weekend at Miami
Seaquarium 305-361-5705

May 7
4th Annual Water Fest at Crandon
Park Visitors and Nature Center 305-
361-6767 1pm– 5pm

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Before Setting Out...



Weather can be our friend or foe. Before we make our trip out on the water it is best to be prepared for anything.

The day you set sail on your boat may be a beautiful sunny morning. But, a few hours later dark clouds form off in the distance bringing in gusty winds and torrential down-pours with dangerous lightning. Are you prepared?

Here are just a few tips to keep you safe while on the water.

Plan several days ahead of your trip. Listen to the weather on the NOAA Weather Radio, AM/FM radio, and TV to hear the 5-day forecast outlook. Take note of small craft advisories, gale or storm warnings in the forecasts.

Bring extra equipment onboard, such as a flashlight, batteries, first aid kit, a map of where you are, and matches.

Remember to tell someone where your going, who is with you, and when you'll be back.

While on the water, watch for signs of dark, thunderous clouds, lightning flashes, or a constant increase of wind which may signify a thunderstorm.

If the storm does approach while on the water, head to shore if possible. Get out of the boat and away from the water and find a safe sheltered place.

If a thunderstorm catches you while still on the water you should put on your life jacket and prepare from some rough waves. Try to stay below the deck if possible.

Important radio frequencies to remember are the U.S. Coast Guard Channel 16, 156.80MHz., and NOAA Weather Radio 162.550 MHz. You can call the National Weather Service in South Florida at **305-229-4528** for a 24-hour service.

Nautical Weather Proverb:

Red sky in morning, Sailors take warning. Red sky at night, Sailors' delight.



Miami's Treasure Island



Barrier islands are a unique geological feature among the coastal environment. They are continuously changing in shape by the forces of winds, tides, and currents. Barrier islands typically develop parallel to a landmass shoreline. Can you name a Barrier Island in Miami?

Virginia Key is one example of several barrier islands located in Biscayne Bay. This island home to many plant and animal communities, some even endangered.

Virginia Key is a significant historic site to Miami-Dade. In 1945, it was established as the only public beach for African Americans and people of Afro-Caribbean descent to enjoy. It served as a historic cultural local for the South Florida community until the land was bought by the City of Miami and closed the park in 1982.

Now, Virginia Key Beach is a place for everyone to share and appreciate regardless of their ethnicity. It is a place that has unique culture, history, and natural diversity.

Vegetation on the island includes one of the oldest surviving coastal strands of mangroves in the county, notably the red mangrove. In addition, natural wetland vegetation remains along the shoreline with native and exotic species. Beds of seagrass, shoals, manatees and sea turtles can be found near the shores of Virginia Key. The park also contains a tropical marine hammock of coconut palms, seagrapes, and seaside mahoe.

Virginia Key Park remains the only site within the City of Miami to see such a unique, naturally diverse environment.

Virginia Key Word Scramble.

The words below are all mixed up! Unscramble the words to reveal animals and plants you will see at Virginia Key Beach Park. Answers are on page 4.

a e s r u t l t e

e n t m a e a

d r e g v a n r o e m

o r c i o l e c d

i P g i p n o e v p l r

g p e r s a e a

d a s e i s e o h a e m

t o a e s a o b s n i l o p

e n e g r l n r e p a o f n l c

t y r i n a s g



Answers on page 4

Fishing Line Recycling at Deering Estate

On February 21, volunteers from Citizens for a Better South Florida and students from Citrus Grove Elementary installed additional monofilament fishing line recycling bins at Deering Estate Marina.

Fishing line can last up to 600 years in the environment. Hundreds of birds, fish, and marine mammals are injured or die from entanglements with or ingestion of fishing line.



Photo by: Alex Montalvo

Currently, Florida Sea Grant and Tropical Audubon Society have worked with more than 150 volunteers to install over 60 outdoor recycling bins at marinas, fishing piers, and parks. Since 2003, four boy scouts have earned their Eagle Scout badge for their dedicated work to the program. To recycle your line at a bin near you, call the Sea Grant office (305) 421-4017 or visit www.fishinglinerecycling.org

Dead Zones in the Oceans

Can you guess how many dead zones exist in the world? Maybe 25 or 50? Let's first define the term "dead zone". Dead zone is an area that is depleted with oxygen in the water, which is also known as hypoxia. Fish and invertebrates try to move out of the area, leaving it lifeless.

Approximately **150** dead zones exist in the world's oceans, some covering 70,000 square kilometers. Typically dead zones appear during the summer months and end in the fall.



Gulf of Mexico

Dead zones around the globe include Chesapeake Bay, Scandinavia's Kattegat Strait, Baltic Sea, Black Sea, and the northern Adriatic Sea. Others have been seen in South America, Japan, China, southern Austria and New Zealand.

What causes these areas to be devoid of oxygen? There are numerous complex events to blame, but it is mostly caused by people. Specifically, people allowing too much nitrogen and phosphorous to enter the

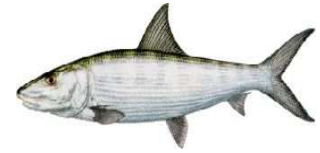
waters. These excess nutrients travel downstream filling our seas with run-off pollution. The over-use of fertilizer, inadequate waste treatment, burning of fossil fuels, and the destruction of forests and wetlands for urban development are sources of nutrient run-off.

How can we help reduce the flow of excess nutrients into the sea to reduce these "dead zones"?

- Cut back on the amount of fertilizer on your lawn. Instead, use compost and mulch grass clippings.
- Preserve or restore wetlands that help "buffer" the environment and keep our watershed healthy.
- Choose plants that are native to Florida. They need minimum amount of fertilizer.
- Look for environmentally-safe alternatives to pesticides. (contact your local extension office for suggestions.)
- Walk, ride your bike, or carpool to reduce the amount of nitrogen produced by cars and trucks.

The Gulf of Mexico supports our nations most productive shrimp fishery. It could all be lost if something is not done to limit the amount of excess nutrients. We must think downstream. Our actions on land can ultimately effect our bays, estuaries, and the oceans.

Did You Catch a Bonefish?



Biscayne Bay's backcountry shallow waters create a great place for catching some "grey ghost" of the sea.

Bonefish, noted for their torpedo-shape and silver grey color, are sought after by sport fishermen in South Florida.

These fast swimming fish tend to inhabit near mangroves, shallow flats, seagrass beds, sandy bottoms, and sometimes hard bottom habitats.

Bonefish biology and life history still remains a mystery to scientists. For instance, their spawning grounds have not been determined. However, it is known that male bonefish are smaller in size than females.

Bonefish tend to consume a variety of different types of food, including crabs, snails, worms, shrimp, and other crustaceans, and even a toadfish!

Since bonefish are not considered "tasty" for eating, they were once considered trash fish until sport fishing for fun became popular.

Bonefishing is a catch and release fishery. The number of bonefish caught each year and their degree of economic value is not well known. Although, it is estimated that at least half of the 400 or so charter guides in South Florida offer bonefishing which probably generates several million dollars to the economy.



Hitchhikers Invade Florida

Thousands of coastal and marine organisms are introduced into new, non-native areas around the world, mostly from human-related activities. Species that have entered an area that is not of their natural range, is known as an alien, non-native, or introduced species. If they cause harm to the environment, economy, or human health, they are related to as invasive species.

Several vectors allow for non-native species to travel. Ballast water and ship fouling organisms can transfer a variety of marine life at extremely high rates. Sea squirts, mussels, hydroids, and algae are examples usually attached to a ship's hull.

Hitchhikers can be introduced into Florida from dry docks and drilling platforms. These structures provide a great space for fouling communities to attach and proliferate.

Fishing offers a wide range of vectors for non-natives to invade. Dispersal can occur from intentional releases (legal or illegal) and accidental releases. When fishing, it's best not to discard any left over bait or seaweed, which may contain a number of live organisms that can become invasive.

Fish, algae and seagrass made available from the aquarium industry for "pets" or "displays" can be an introduced source. Also, the subtropical and tropical fish represent an abundant

contribution to this situation, either from accidental or intentional releases.

Other vectors to mention as sources come from beach renourishment, transfer of beach equipment, and the disposal of dredge spoil. In addition, floating marine debris can introduce non-natives ashore to Florida. Always remember to pick up garbage at the beach or in your neighborhood and remind others kindly to do the same.

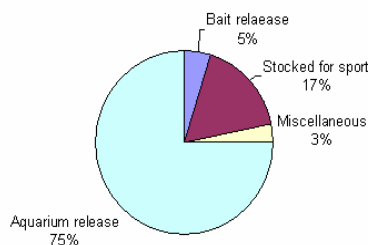


Figure 1. Sources of introduction in Florida. Source: USGS, 2001

Source: A primer on Invasive Species in Coastal and Marine Waters by Charles Jacoby, Linda Walters, Shirley Baker, Karen Blyer.

ANSWERS from Page 2:

1. Sea Turtle
2. Manatee
3. Crocodile
4. Pigin Plover
5. Seagrape
6. Seaside Mahoe
7. Roseate Spoonbill
8. Peregrine Falcon
9. Stingray



<http://miami-dade.ifas.ufl.edu/programs/seagrant.html>

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