DOLPHIN RESEARCH CENTER
58901 Overseas Highway
Grassy Key, FL 33050
www.dolphins.org
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Dolphin Research Center is a not-for-profit corporation specializing in education and research. DRC is a tax-exempt organization, and as such, all donations, monetary or otherwise, are tax deductible to the extent permitted by law.

Researching Manatees, cont'd from page three

effect on these animals. Avoiding grass beds may not leave them enough time to feed and meet their nutritional requirements. Calves and nursing mothers can become malnourished if they do not receive enough calories to sustain a healthy diet, thus reducing their health and even, possibly, leading to death.

So, what can you do to help? Obeying speed regulations and no wake zones, educating others, and leaving any manatee you see room to maneuver are always good ways to start! Check out current local marine regulations at MyFWC.com/Manatee or contact the FWC at 850-922-4330. By following these safety precautions and educating others, you can be a part of putting what we've learned from this important research into action.

By Cecilia O'Leary and Jessica Beal

(Ed note: Cecilia and Jessica completed internships in DRC's Research Department in the Fall of 2011. They were interested in writing this article as one of their goals.)

THANK YOU!

The Florida Keys are beautiful, but the salt water and hot sun are tough on equipment Thank you for all you do to make sure that we have what we need to help the endangered Florida Manatee.

Wish List Items Needed

- Hoop Net - $450
- Foam Pads (2) - $520
- Waterproof Gear Bags (2) - $200
- CPR Course (5 staff) - $250
- Strap fins (2 pair) - $150.00
- Net Bucket—$1500.00
- Protective bladders to waterproof radios (6) - $250.00
- Rash Guard Shirts—$1250.00

Animal rescue requires specialized equipment to not only increase our chances for success, but also to help us operate with the utmost safety for the team as well as the manatees.

We could not do these rescue missions without the generous assistance you provide.

You may donate money for these specific items, or make a general donation to the Dolphin Research Center Manatee Rescue Team.

For more information, contact the Membership Department at 305-289-1121, ext. 229, or email drc-mbr@dolphins.org!

The Gray Cross

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A New Team Member's First Impressions

It was with much excitement that I first learned that my position as a Medical Technician at Dolphin Research Center included being a part of the Manatee Rescue Team. I have always had a passion for rescue and rehabilitation of animals, particularly wild animals, and have worked with countless dogs and cats, horses, birds, opossums, raccoons and even iguanas. Also, having grown up in and lived the majority of my life in the Florida Keys, I am well acquainted with and sympathetic to the dire situation faced by manatees. Given their slow moving, gentle nature and the sheer number of unaware boaters speeding through their home waters, it is easy to see their vulnerability.

DRC keeps records on all manatee assessments or rescues that we take part in and I'd had access to and studied much of the information. So, armed with the historical data and many years experience as a veterinary technician, a few as an EMT and background in Wildlife Biology, I eagerly awaited an opportunity to participate in a rescue. That opportunity came earlier this year in April when a manatee named Luigi was struck by a boat propeller. I soon realized that reading the reports and being in the action are vastly different. I was overwhelmed by the tremendous logistics involved. There are so many aspects that we have little to no control over, such as the sheer size and power of the manatees themselves and the

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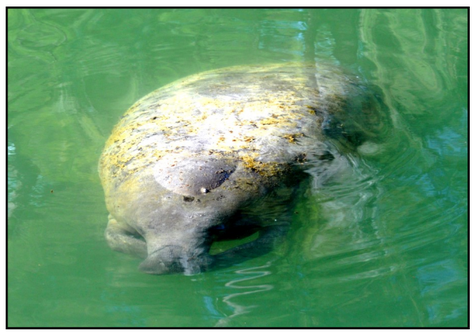
Poor Luigi's lung stuck up out of his body when he exhaled. The team had to consider the delicate tissue when planning how to rescue the manatee. (Photo by Kit Curtin.)

Researching Manatees



This manatee was spotted foraging and feeding itself in Lower Matecumbe in the Florida Keys. Thankfully, nothing disrupted the behavior. (Photo by Susan Sorensen)

Current manatee research involves both wild and human-care Florida manatees (*Trichechus manatus latirostris*). The Florida manatee is a federally endangered species and thus requires protection that is made possible by means of this research. While the basic physiology and behavioral ecology of this species is understood, there is still much to learn. Scientists aim to contribute to the knowledge that already exists by using specific projects that determine the number of wild manatees, whether the population is increasing or decreasing, and how many manatees can be lost without being driven too close to extinction. Research conducted on wild manatees includes aerial surveys, telemetry, necropsies, and ecological surveys. This all contributes to our working knowledge of these animals. The ample quality data that's collected allows us to understand what is required to maintain the manatee population and helps us work toward the conservational goals outlined in the Florida Manatee Recovery Plan (FMRP) by the U.S. Fish and Wildlife Service in 2001.

A wide variety of institutions and scientists are involved in the studies of wild manatees. In the early 1980s, the U.S. Marine Mammal Commission used aerial surveys and mathematical models in a series of studies to investigate manatee population biology in order to create a more substantial database of manatee information. There are now many government agencies, individual scientists, and organizations involved in manatee research, data collection, and education including: The U.S. Fish and Wildlife Service; U.S. Marine Mammal Commission; John

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THE GRAY CROSS

Dolphin Research Center is a not-for-profit organization dedicated to a better understanding of marine mammals and the environment we share. DRC is home to a colony of dolphins and sea lions where we conduct innovative research and offer many interactive, educational programs. Beyond our lagoons, we are the only private organization in the Florida Keys licensed to respond to manatees in distress. We are actively involved in our community providing outreach presentations on a variety of conservation subjects.

The Gray Cross evolved from our work with stranded marine mammals. DRC's critical care program is world renowned. Our experience with dolphins, whales and sea lions is used to help the endangered Florida Manatee. DRC has also participated in rescue and release of endangered sea turtles.

As a not-for-profit organization, contributions to DRC are welcomed and tax deductible to the extent permitted by law. For more information, visit our website at www.dolphins.org, call (305) 289 -1121 extension 229 or send an email to drc-mbr@dolphins.org.

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vast multitude of environmental factors that must be overcome. At any given point the manatees can give a few pumps of their tail and be off in any direction or dive so deep they are out of our reach.

Normally, the crew attempts to surround the injured manatee by encircling it with a net from a specially adapted open-ended boat. However, the wounds sustained by Luigi when he was struck left one of his lungs completely exposed outside his body. We were concerned that any attempt to net him would further damage the delicate lung tissues. I paddled one of two kayaks as we attempted to push Luigi into shallower water where he would be more accessible to the rescue team. Once in shallower water, the crew hoped to get Luigi into a stretcher where he could be assessed. However, Luigi had other ideas. With such a severe injury, it had to be difficult and extremely painful for him to move, but he was headed for deeper waters. The crew was desperately searching for a way to assist this animal. Despite many attempts, hours in the water and much deliberation it seemed there just wasn't any way to safely contain the animal given the tools and conditions at hand. Long after dark, it was decided to postpone the rescue effort until the next day. Unfortunately, Luigi did not survive the night.

My next rescue experience introduced me to DRC's old friend Bonnie, a well-known serial entangler. Bonnie's flippers are once more entangled in monofilament fishing line and we set out in hopes of removing it. This time, a determined male suitor complicated matters. It had been difficult enough to catch one large adult manatee and seemed nearly impossible to do so with another adult so close. We tried several net sets but Bonnie and her suitor repeatedly eluded us. We managed to encircle them both, but needed to exclude him from the net before Bonnie could be safely hauled in for assessment of her flippers. I joined other staff in the water and we attempted to separate the

Back in 2010, Bonnie's flippers were already entangled again and swollen, but this savvy manatee is unpredictable and a challenge to rescue! (Photo by Kit Curtin.)

two manatees. He was docile and would let us push him away. Then, just when we thought we were getting somewhere, with a few pumps of his powerful paddle he would leave us in his wake on his way back to Bonnie. Despite our most earnest attempts, it was futile and almost laughable. Bonnie is currently traveling other parts of Florida. The plan is to try another rescue attempt when she returns to the Keys.

These experiences introduced me to rescue methods and emphasized the importance of teamwork. There's definitely a coordinated effort between all of the participants and organizations involved. More experienced team members guided those of us with less experience, with a safety first approach for people as well as animals. Everyone was so determined to do whatever necessary to help these animals, it was truly impressive.

The challenges we face can be huge, particularly considering the environment in which the manatees live. Preventing injuries in the first place is a key factor. If I could talk to everyone who lives where manatees frequent, I'd remind them to slow down and pay attention. After all, the manatees' lives depend on it!

By Tanya Manchester

MANATEE IN DISTRESS
1-888-404-FWCC
DOLPHIN RESEARCH CENTER
www.dolphins.org
Licensed Manatee Rescue Team for the Florida Keys

Researching Manatees, from page one

Reynolds; Gordon Bauer; different Florida state agencies and others. All data collected will help reveal important life-history information such as the locations of manatees' high-use areas, reproductive status, and basic life-history events. These details will help managers determine where the best protected areas are located and what regulations at what time of year will protect more manatees.

In addition to wild manatee surveys, there is also a research program with manatees in human-care at Mote Marine Laboratory in Sarasota, FL. Investigations include topics such as blood chemistry, immune function, stress-related physiology, respiration, thermoregulation, and behavioral ecology. This project is ongoing and reveals more specifics on manatee physiology and behavior.

Another current area of interest in manatee research aims to understand how humans may impact wild manatee populations. Manatees inhabit coastal regions to feed on the aquatic vegetation that grows in shallow waters, an environment now shared closely with humans. In addition to the dangers posed by potential ship strikes, encounters with boat propellers, and material pollution from trash and waste, researchers are now investigating another threat: noise pollution. Noise produced by boats and shoreline construction has the potential to affect the behavior and health of these animals. Like dolphins, manatees rely on sound to navigate their world and react to stimuli in their environment. Therefore, additional sounds produced from human sources could have a harmful effect on manatees' ability to perceive their surroundings.

A study conducted by Jennifer Miksis-Olds and Tyler Wagner (2011) examined the relationship between Florida manatees' behavior patterns and sound levels in their environment. Using focal animal sampling the researchers recorded individual manatee feeding behavior

The things that we learn from observing manatees and their behavior can help us better protect this precious, endangered species! (Photo by Susan Sorensen)

while simultaneously recording sound levels in the manatee's environment using an underwater microphone called a hydrophone. The researchers found that during high noise conditions in grass beds, manatees spent more time engaged in goal directed behaviors, such as feeding, aimed at enhancing survival and less time engaging in superfluous behaviors like milling or socializing. In addition, they noticed that groups of manatees with calves were not observed as frequently in grass beds when noise levels were high. This suggests that manatees with calves may avoid grass beds during high noise activity.

Unfortunately, attempting to avoid elevated sound levels in grass beds could ultimately have a detrimental

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Yes! I would like to make a contribution to Dolphin Research Center's Manatee Rescue Team and their efforts to save an endangered species.
_____$10 _____$15 ____$25 ___$35 ____$50 Other $_____
Donations can be mailed to DRC, 58901 Overseas Hwy, Grassy Key, FL 33050, made online at **www.dolphins.org** or faxed to (305) 743-7627. Thank you!

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For more information about the Gray Cross and Dolphin Research Center, call 305-289-1121 extension 229.

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