

WHAT DO BAHAMIAN DOLPHINS EAT ON THE SANDBANK?
AND WHY?

Eating is an important part of survival. How and why certain foods are consumed is a fundamental question leading to the outcome of survival. A recent graduate of the Wild Dolphin Project, Chris Malinowski, master's thesis work revealed some major differences in foraging patterns between two resident populations of dolphins, Atlantic spotted and bottlenose dolphins, on Little Bahama Bank. On the sandbank bottlenose dolphins were found to feed more frequently in deeper water, utilize both sand and grass beds in roughly equal proportions, and more actively forage later in the day. Atlantic spotted dolphins, on the other hand, utilized shallower water on the sandbank, fed almost exclusively over sand, and more actively foraged earlier in the day. Prey selection differed for both species by either prey type or frequency. Prey associated with grass beds (e.g. razorfish and eels) were more common in the diet of bottlenose dolphins, while prey associated with sand (e.g. lizardfish) were more common in the diet of Atlantic spotted dolphins. Likewise, certain schooling prey (e.g. jacks) were common in the diet of both predators.



Group size during foraging events, including the number of individuals actively foraging, was found to be much greater for bottlenose dolphins. Larger group size and a narrower range of selected prey, along with utilizing a scarcer bottom type for foraging (i.e. grass beds), is indicative of a more specialized foraging strategy for bottlenose dolphins. Differences in foraging strategies and habitats used for foraging may be the underlying factor that has allowed these 2 sympatric species to coexist with minimal competition for resources.

Taking a closer look at prey selection for Atlantic spotted dolphins, Mr. Malinowski found differences between foraging groups which included individuals with vastly different nutritional needs (pregnant, lactating, non-reproductively active, and calves) and individuals with different foraging abilities (adults vs. calves). Furthermore, the nutritional composition of prey (calories, fats, proteins, and moisture content) was found to be a leading factor driving foraging patterns. This was an important component to his work because previous studies on dolphins have not integrated both nutrition and prey selection into understanding dietary differences and needs. Moreover, there are few wild-based studies that have tested the differences in diet between various life stages and reproductive status. This study has not only helped us to better understand nutritional needs of Atlantic spotted dolphins on Little Bahama Bank, but has enhanced our understanding of dolphin prey selection from oceans and seas in other parts of the world.

Mr. Chris Malinowski, now adjunct professor of Biological Sciences Department at Florida Atlantic University, will be presenting his research findings this December, 2011 at the Society of Marine Mammal conference held in Tampa.

AGGRESSION BETWEEN ATLANTIC SPOTTED AND
BOTTLENOSE DOLPHINS IN THE BAHAMAS

The aggression that has been observed between the Atlantic spotted and bottlenose dolphins is unique not only because it has been consistently observed since the start of the Wild Dolphin Project, but also because many of the same individuals continue to engage in aggression over many years and across generations. Currently, Jessica Cusick, a graduate student at Florida Atlantic University, is working to better understand the dynamic of this aggression, or how the aggression between these two species changes over time and changes in response to the individuals involved. She has developed a new approach to studying behavior based on theories from the field of psychology. With this new approach, Ms. Cusick has measured the dynamic of aggressive behavior and overall trends in aggression. Specifically Ms. Cusick is looking at: a) which species and age class most often initiates aggression, b) which species and age class is most often victim during an aggressive and c) how male spotted coalitions impact these aggressive encounters. Ms. Cusick is also studying a specific event that occurs during aggression in which the roles in aggression change and the original victim becomes the aggressor while the original aggressor becomes the victim. Ms. Cusick has termed this event a "dynamic shift" and since it does not necessarily occur during every aggressive encounter, Ms. Cusick is trying to measure under what conditions a "dynamic shift" is most likely to occur for each species.

Ms. Cusick's research has shown that bottlenose dolphins are victim 56% of the time while spotted dolphins are only victim during aggressive encounters 44% of the time. The presence of male spotted coalitions as well as their participation in aggression does impact how the aggressive encounter changes over time. The presence of male spotted coalitions seems to impact which species initiates aggression, with 88% of all aggressive encounters being initiated by bottlenose dolphins in the absence of these spotted male coalitions. Finally, these male spotted coalitions appear to impact the occurrence and the outcome of these dynamics shifts. Ms. Cusick will present a portion of her thesis work at the Society of Marine Mammalogy conference this winter and will graduate with her master's degree from Florida Atlantic University in May 2012.



NO SHOW HOLIDAY BALL

The Board of Directors of the Wild Dolphin Project requests the honor of your absence at the most important social function not held this season...

The Wild Dolphin Project's 14th Annual No Show Holiday Ball
Friday, the 31st of December, Two Thousand Eleven

You are cordially invited to enjoy an evening however you choose. Whether it is a quite evening at home with family and friends, or a night on the town, just have fun and don't show up at our No Show Ball!

Your contribution will benefit the continuation of long-term research conducted by the Wild Dolphin Project.

Prizes

Each donation to WDP through the No Show Holiday Ball form entitles each guest to a chance to win one prize. You must not be present to win. Contributions are fully tax-deductible as allowed by law.

Grand Prize

Research Trip: Minimum donation \$100

This is our most popular item and a fabulous deal! You will be a passenger on one of our summer research trips on board our research vessel Stenella for a 9-day cruise during our 2012 field season. Assist with the research, learn about these amazing animals, and observe interesting marine life on reefs and shipwrecks in crystal clear water.

First Prize

Printed Photograph by Ruth Petzold

A beautiful colored print of our gorgeous spotted dolphins can be yours! Famous underwater photographer and long-term president of the WDP, Ruth Petzold brings her magic eye to the underwater world for your enjoyment.

Second Prize

Two Autographed Books

Dr. Herzing's new book "Dolphin Diaries" and our 2002 book "The Wild Dolphin Project" will be signed and sent to you. Stroll down memory lane with Dr. Herzing as she takes you through the trials and tribulations of her work over 25 years! And enjoy the beautiful coffee table book of WDP with colored photographs and information!

RSVP/Raffle Ticket

I am very excited to be able to support the Wild Dolphin Project!

This year's theme: Social Media

Please indicate the amount of your donation below:

- ____\$_____ I can enjoy using Facebook without interruption!
____\$500.00 Allows me to Tweet 24 hours/day!
____\$200.00 I can download more funny pictures of myself to Facebook and tag all my friends.
____\$100.00 I can spend time adding people I hardly know to Facebook and then removing them later.
____\$50.00 I can dream of new ways to Tweet for the environment!
____\$25.00 For once I don't have to use make an excuse to stay home!

Name: _____ Return this form along
Address: _____ with your check payable to:
City: _____ Wild Dolphin Project
State/Zip: _____ P.O. Box 8436
Phone: (_____) _____ Jupiter, FL 33468
Email: _____

We wish everyone a very happy, healthy and safe Holiday Season!

Note: Winners will be notified by phone/email in mid January 2012. Grand prizes must be used in 2012; airfare to and from Grand Bahama Island and/or Florida is not included. No exchanges or monetary cash outs allowed.

INTERNSHIP: OPPORTUNITY OF A LIFETIME!
by Kaitlin Marsh

My experience as a student intern aboard the Stenella was one I will never forget. It was everything I could have wanted and so much more. As a curious 16-year old who has always loved the ocean, swimming, sciences and especially dolphins, I couldn't have found a better program to associate with. The Wild Dolphin Project met every expectation of mine and beyond; being given the opportunity to live on a boat in the Bahamas for 10 days researching, studying and swimming with the magnificent Atlantic Spotted Dolphins and getting to work with Dr. Denise Herzing was incredible.



Aboard the Stenella I was surrounded by amazing people and crew, and could not have asked for any better people to spend 10 days at sea with. Along with observing these dolphins closely, I helped photograph and I.D., analyze videos that Dr. Herzing took, log data, do daily watches, and study the behavior of different groups of dolphins. A typical day included; waking up and eating breakfast, doing my allotted watch time for dolphins and waiting for them to show up, then once they arrived we identified them from the bow of the boat. Once Dr. Herzing decided it was OK to enter the water we videotaped and photographed them. Lunch was usually served around 12, but that was also a busy time for dolphins to show up, so food often came after an encounter. After dinner we watched the videos or went through the photos and recorded the behaviors that the dolphins

showed us. The evening dinner was served and eaten on the big wooden picnic table on the back deck with the sun setting and the moon rising, both beautiful sights that end great days.

The internship really helped me to become aware of all the possibilities as a marine biologist, which is the field of study I want to enter in college and I would love to work as closely with the dolphins as Dr. Herzing does. As well as my interest in photography, it can be combined to fit with marine studies and is definitely something I would love to continue to pursue in parallel with biology.

Through my love of dolphins and the ocean, I feel that this opportunity benefitted me more than anything else, especially since, as mentioned before, it is something I want to continue in my future. Through this internship I feel as though I gained a sense of independence, and a feeling that I can set out and do whatever I want to in the future, no matter what it is. I took my own initiative and got into a program that is so relevant to everything I could hope to do when I get older. I remember when I first hopped in the gorgeous blue water with the dolphins, and I was completely in awe. I couldn't believe that I was actually doing what I have wanted to for so long. Without WDP I wouldn't have been able to have such a great encounter with the dolphins, as well as with the other passengers and crew on the boat. This trip was an experience that I will carry with me and be proud of for the rest of my life. I don't know of many other people who can say that they have done what I did, especially at my age. I am so glad to have been a part of such an amazing program, and I hope and plan to keep involved with The Wild Dolphin Project for years to come.

I want to give a huge thank you to the small crew of Dr. Denise Herzing, Captain Pete, Bethany, Marcia and Brian, and thank you to my fellow passengers, Rita, Gini, Leah, Aidan, and Stephanie for making this one of the most incredible adventures. Also thank you to my parents, friends, Toni Wheeler and Mrs. Rodgers for helping me to get into the program and all of their support.

TWO BOOKS AVAILABLE BY DR. HERZING

Purchase both for \$40
for the holidays!!



Books can be signed by Dr. Herzing upon request. Please visit our online shop, or contact our office by phone or email.

SUMMER 2012 FIELD SCHEDULE:
May through September

WDP is now taking reservations for our field season. Both regular trips and internships will be available on a first come first serve basis. Please check our website for information on trips departures and internship details.

Trip fee is \$2,750 per person (\$250 off for returning participants if booked by Feb 1 2012). Internships (\$1250) in May and on a waiting list for other months.

TRIP 1	MAY 8 - 17
TRIP 2	MAY 22 - 31
TRIP 3	JUNE 5-JUNE 14
TRIP 4	JUNE 19-28
TRIP 5	JULY 10 - 19
TRIP 6	JULY 24 - AUG 2
TRIP 7	AUG 7-AUG 16
TRIP 8	AUG 21-30