



“In Their World...On Their Terms”

HURRICANE MATTHEW

WDP runs hurricane relief trips to West End, Bahamas

On October 6, 2016 Hurricane Matthew went through the northern Bahamas as a Category 4 storm (winds 145 mph). After pummeling Haiti, the storm raged through the Bahamas including Nassau, Andros Island, and finally made a direct hit on West End, Grand Bahama Island. In 2004, Hurricane Frances, a Category 2 storm, took a direct path over our study site 40 miles offshore Grand Bahama Island. During that storm, we lost 30% of our spotted dolphins and bottlenose dolphins.

As I watched from Florida I thought about the dolphins on Little Bahama Bank. Would we lose more dolphins? Did they know to go elsewhere? If so, where do you go when a 900-mile wide storm approaches? These are all the unanswered questions we have, and might never know.

It was clear as Hurricane Matthew moved north, that West End got the worst of the worst. A small town of about 2000 people, their houses were directly in the path of the storm surge, estimated at 10-15 feet. The Bahamas is low lying ground with no elevation to speak of. As soon as things settled down in Florida, planes started flying over to West End to deliver much needed food and water. We decided to try to get over there in our boat and deliver supplies, but the seas decided to stay large and dangerous for the next two weeks. As we waited for a weather window, a few of our WDP donors stepped up with donations to help us buy much needed supplies. Because there was no power in West End, and likely 3 months before power was to be restored, we ordered and bought 14 large generators, extension cords, gas cans,

food, water, pet food, and gathered clothing and other donations.

Finally on October 21, the seas came down, and at 6am we left the dock, loaded to the brim with large 250 pound boxes of generators. We arrived at the dock and began, with the help of the locals, unloading

our supplies. Power lines and poles down everywhere, boats smashed into houses, houses completely gutted, houses pushed off their stilts from the storm surge and pushed inland. The gas station was gone, the bakery was gone, the temporary medical clinic was gone, *continued on page 2*

www.wilddolphinproject.org/hurricane-matthew/



Inside R/V Stenella: A pile of generators, cooking stoves, pet food, kids clothes, and cleaning supplies.

Hurricane Matthew (from page 1)

trees were down, the hotel was gone, the grocery stores all gone. Storm surge ripped through houses shoulder high.

The people of West End are amazing and kind, and we watched as neighbor helped neighbor, an ice truck drove through town distributing ice, and the local churches (left standing mostly) housed and fed the locals. Stray dogs ran through the streets (we brought dog and cat food in our boat supplies too), and children played.

We were also curious how the dolphins fared so we pounded through the high seas to look. We only saw a few bottlenose dolphins near the island and none of our resident spotted

dolphins were seen.

UPDATE: As I write this we are just back from our second hurricane relief effort. On Nov 11 we crossed the Gulf Stream again with another small weather window. After meeting up with the West End Social service team, we delivered another load of generators, cooking stoves, pet food, kids toys and clothes, and cleaning items to the community. We took the next day to look for dolphins and once again we sighted a few bottlenose dolphins but no spotted dolphins yet. We hope to return next spring and find them all healthy and home.

Thanks to all our sponsors and friends of WDP who cleaned out their closets!!!

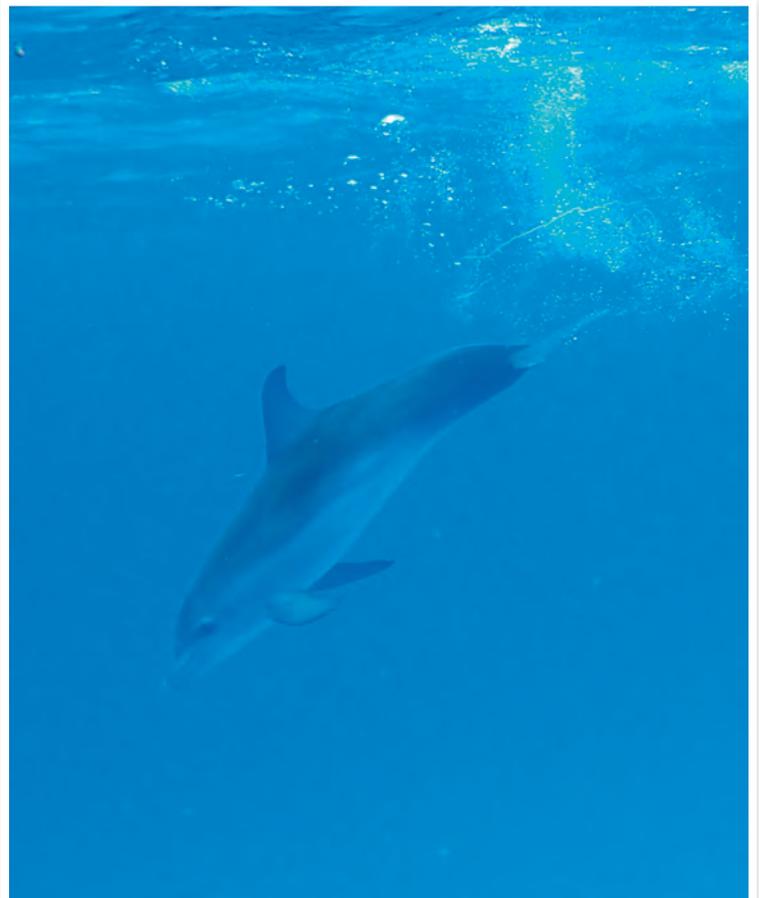
MEET BUENO

A FOURTH GENERATION OF SPOTTED DOLPHINS!



Our first fourth generation spotted dolphin, little Bueno swims beside mother Burgundy.

Finally, we have a fourth generation of spotted dolphins. We have been anxiously awaiting the birth of our first fourth generation, and now it has happened. We had one major sighting this season that we had been waiting for since 2014. Burgundy, one of our northern female dolphins, and offspring to Brush, has given birth to our first 4th generation dolphin! Named Bueno, this truly shows our age as an organization, and we are proud to have tracked this family throughout our decades including Great Grandmother Paint, Grandmother Brush, Mother Burgundy, and now Bueno, through their lives. We are still not sure whether Bueno is a boy or girl, so stay tuned. We will let you know next year!



Top: Social Service personnel from the island, two of the recipients of a much needed generator, and Dr. Herzing on the dock at West End. **Bottom:** Captain Brad and First Mate RJ with our local customs officer, David, at the dock in West End.

CHAT WORK and CRACKING THE CODE OF COMMUNICATION

Part of our major ongoing work, in addition to tracking individuals, life history, genetics, and behaviors, is to “Crack the Code” of the dolphin’s communication. We do this in two ways: 1) By recording sounds and behavior simultaneously on our underwater video and sound equipment, we can start to correlate which sounds are associated with various behaviors or specific individuals. 2) By using an underwater acoustic interface CHAT (Cetacean Hearing Augmented Telemetry) we are exploring the dolphin’s

abilities to mimic sounds in the wild, and understand the potential functional use of these sounds while interacting with humans.

This summer, as part of our regular fieldwork, we again hosted our colleagues from Georgia Institute of Technology in Atlanta. On board were Thad Starner, our master guru and wearable computer expert, Chad Ramsey, Celeste Mason, and Scott Gilliland, all part of the hardware and software team. In addition to these computer scientists, I also hosted my long-term colleagues Dr. Adam Pack from Hawaii and Dr. Matthias

Hoffmann-Kuhnt from Singapore. Both Adam and Matthias have been instrumental in various aspects of this work.

Matthias has been working on a very special piece of underwater technology the last few years. Our resident “toy man” when he is here, Matthias knew our need for an underwater system, that would record both video and high frequency sounds, while also tracking “WHO” was vocalizing. Believe it or not, this is still a large problem in dolphin communication work; it’s simply hard to track who is vocalizing underwater. Although we have general

correlations of sound and behavior, studying dolphin-to-dolphin communication is hampered by the lack of this information. So Matthias has designed a system with three hydrophones to localize sound and some cool post processing software that tracks the vocalizer on the video image. Now we hope to spend some focused time in the field collecting more data and working through the details to help understand dolphin communication in a new light. Thanks Matthias, you’re the man!



Dr. Matthias Hoffmann-Kuhnt tests the underwater video unit designed to “localize” a vocalizing dolphin nearby two bottlenose dolphins.

INTERNS IN THE FIELD

ANOTHER FIELD SEASON, AND SOME GREAT INTERNS!



Interns of the 2016 field season on the back deck of R/V Stenella, with her crew.

The Wild Dolphin Project welcomes students aboard R/V Stenella every field season to experience field research and life at sea. Joining us from Canada, Florida, Tennessee, and Illinois, 7 interns climbed

aboard and had the opportunity to learn about our specific pod of dolphins, participate in daily dolphin watches, take underwater photographs for identification, collect and record data, and then

log their data, along with some field notes. They also tried their hand at photo identification, matching spot patterns and other identification marks to our catalogues of dolphin individuals.

It was a bit of a rough trip due to some poor weather, but such is life in the field! On the crossing over to the Bahamas, we saw a group of pilot whales leaping through the waves! We snapped some photos, relished in the moment, and continued on. In the Bahamas, we got a great encounter with eight bottlenose dolphins and observed them crater feeding. Later in the trip, we came across a group of curious and playful Atlantic

spotted dolphins. Venus, one of our friendly female dolphins, quickly became an intern favorite!

The interns also became fast friends, and still keep in touch. When asked what their favorite part of the trip was, (besides the dolphins, of course!) the answer was their fellow interns. It was wonderful to have such a positive group working together, and establishing a great network of like-minded friends and young scientists!

One intern said, "The trip was all I expected and more! The dolphins, scenery, and fellow interns and crew were all awesome!"

We hope that all of the interns learned a great deal from this experience, and can put their new knowledge towards their future goals.

Remember to check our website for updates regarding both our internship program and our summer field schedule for 2017!

SPECIAL WORKSHOPS ON COMMUNICATION

SOCIETY FOR MARINE MAMMALOLOGY CONFERENCE

Organized every two years, this year's Society for Marine Mammalogy conference was held in my old stomping ground of San Francisco. The weekend before the conference and the workshops are held, and my long-term colleague Chris Johnson and I organized and executed a workshop on "Dolphin Communication and Cognition". Attended by over 100 students and colleagues, we had a great day of speakers and discussions. Animal Behavior and Cognition, a new journal online, has just published a Special Issue this fall based on the workshop <http://animalbehaviorandcognition.org/current-issue.html>. Chris and I always remark on how our special workshops on communication and cognition are well attended and received, yet the conference has a very small number of papers and posters on this kind of research. A sad statement of the field, this is one of the major reasons Chris and I organized the workshop, to keep the interest and excitement going, for future students and researchers. So much to do, so little time. Wild Dolphin Project also presented a poster (in the Climate Change section) on the mass exodus of our dolphins from their resident home. The poster was well

received and we heard many a great suggestion and comment. We are happy to be in the position to have such long-term baseline information to recognize

these significant habitat and environmental changes. Our peer reviewed article is well on its way to publication so check in on our website to get a copy soon.

Left to right: Dr. Adam Pack, Dr. Cindy Elliser, and Dr. Denise Herzing stand proudly in front of their poster at the 2016 Marine Mammal Conference in San Francisco.



Left to right: Dr. Adam Pack, Dr. Cindy Elliser, and Dr. Denise Herzing stand proudly in front of their poster at the 2016 Marine Mammal Conference in San Francisco.

UPDATES

WILD DOLPHIN PROJECT CREW AND STAFF

BYE BYE to a few of our graduate students. May the force be with you!

Cassie Volker leaves the Wild Dolphin Project this year to return home to Cincinnati Ohio, where she will pursue working with large cats, her dream. Cassie finished her masters degree with us, analyzing the aggressive behavior of spotted and bottlenose dolphins. She then worked as Research Assistant through the year. Good luck Cassie, we will miss you!

Nate Skrzypczak also finished his Masters thesis on dolphin personalities in our wild spotted dolphins through video analysis. Nate returns

to his homeland of California and will do great things no doubt.

NEW STAFF

In between teaching her self-defense classes, **Melissa Williams** holds the fort at the Wild Dolphin Project office. Running errands, paying bills, and organizing events, Melissa is a hard working whizz at just about everything. She can occasionally be seen on the boat diving for lobster as well. On odd days, Melissa brings her dog “Chili” into the office, to interact with his human pack and guard the door. Happy One -Year Anniversary Melissa!

A long term project field member, **Ariel Vierheller**, finally packed her bags, her boyfriend, and her dogs and cats, and left Ohio to start a new life in Florida. A lover of warm weather, diving, and the Bahamas, Ariel has been our intern and cook onboard Stenella for many years. She continues as our new Research Assistant at the office and will continue to join us on the boat with our fieldwork. Welcome Ariel.

WELCOME TEAM “STENELLA” OUR BOAT CREW

Captain Brad Ruda, our second captain from 2015,

stepped up to the captain’s position this summer. Along side him is **Richard Cisson** (RJ as we call him) a second captain and seasoned mariner. What a team! All summer they trouble-shot the usual issues at sea. “Brad, one of the heads is down”. “Brad, my fan doesn’t work”. “RJ can you fix the refrigerator door?” With patience and skill, our new FAB boat crew worked through the summer, keeping us safe and sound, and in the water for our research. WELCOME and Thanks guys, you’re a great TEAM STENELLA.



Melissa Williams



Chili



Ariel Vierheller



Captain Brad Ruda



Richard Cisson

PHOCOENA SINUS

THE VAQUITA – ON THE BRINK OF EXTINCTION



Phocoena sinus, the small harbor porpoise found in the Gulf of California is on the brink of extinction.

The small little porpoise (*Phocoena sinus*) that lives in the Gulf of California is on the brink of extinction. With only 56 individuals left of the species, the Vaquita has been decimated in gill net fishing, due to the demand from China for the swim bladder of a fish, the “Totoaba”. Recently a major effort involving the Mexican Navy, fishermen,

and other stakeholders, worked together in an effort to save this species. At the opening of the Marine Mammal conference in San Francisco, these folks got a standing ovation. Their efforts represented some real hope for the species, and many a teary eye was seen at this event. However, like most resources on the planet, as long as there is

a demand for something, there will be someone to go after it. So the story of the demand for the “Totoaba” bladder, like rhino horns and tiger parts, has driven yet another species to the brink. For more information, follow this link. <https://www.marinemammalscience.org/?s=vaquita&submit=>

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TWO TONE – \$75 - WDP Book & T-shirt

SPECKLED – \$250 - WDP Book & T-shirt, invites for Florida work day trips

MOTTLED – \$500 - WDP Book & T-shirt, invites for Florida research trips, meet and greet with project updates

FUSED – \$1,000-WDP Book & T-shirt, invites for Florida research day trips, meet and greet with project updates, intracoastal day trip on R/V Stenella

STEWARD – \$2,500 - WDP Book & T-shirt, meet and greet with project updates, invites for Florida research day trips, intracoastal day trip for 2 on R/V Stenella

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GENERATION – \$10,000 - WDP Book & T-shirt, invites for Florida research trips, meet and greet with project updates, invites for Florida research day trips, intracoastal day trip for up to 6 on R/V Stenella

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The Wild Dolphin PROJECT



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