



The Wild Dolphin Project

2011 Annual Report



Letter from the Research Director

Greetings and welcome to our 2011 Annual Report, which will give you a glimpse of the ongoing and future activities of The Wild Dolphin Project (WDP). Going strong for 27 years, we now turn our attention to not only maintaining the long-term field work and database on the life histories of resident dolphins in the Bahamas, but our vision for the next 20 years.

When I first started the project in 1985, I committed to a minimum of a 20-year field project. I reasoned, based on Jane Goodall's work with chimpanzees and Dian Fossey's work with gorillas, that this would be the minimum amount of field time needed to get an adequate view of a wild dolphin society underwater. Twenty-seven years later we continue to expand our knowledge of the Bahamian dolphins. Fieldwork has been critical to observing the dolphins; therefore we continue to gather data four months out of the year, every summer, on our Research Vessel *Stenella* to insure the continuity of our observations. In addition, the last few years has brought an explosion of new technology that has helped advance our work. You can read details in our scientific publications.

Read on to learn more about our current and ongoing projects, as well as some thoughts on the next 20 years!

Thanks to all of you. I hope that you continue to join us in our future adventures!

**The complex society and behaviors of dolphins have been partially illuminated, but still demand further investigation to uncover their world in its entirety.
–Dr. Denise Herzing**

Dr. Denise L. Herzing
Research Director/Founder



Mission

The Wild Dolphin Project is a scientific research organization that studies and reports on a specific pod of free-ranging Atlantic spotted dolphins (*Stenella frontalis*). Objectives of this long-term, non-invasive field research are to gather information on the natural history of these dolphins, including behaviors, social structure, communication, and habitat; and to report what we have learned to the scientific community and the general public.

Vision

To observe, document and report the natural, underwater social lives of wild dolphins by creating a model of work that gives appropriateness to the non-invasive method of research, along with the quality of documented data.

WDP seeks to contribute informed knowledge to create awareness and preserve the natural environment through appreciation of all the biodiversity on our planet; ultimately promoting an educated and informed constituency who can vote and voice their concerns about policy and action-based decisions regarding our native world.

Strategies & Principles

- Non-invasive research builds a trust between the research team and dolphin pod, which allows data to be obtained in the most natural setting
- Underwater observation provides an intimate approach to study behavior, genetics, associations, cognition, and geography; along with a reliable photo-identification tracking system
- Preserving the natural environment gives long-term viability to all life-forms
- Education provides a tool in which all can make informed decisions and appropriate actions
- “In Their World, On Their Terms”

Current Goals & Objectives

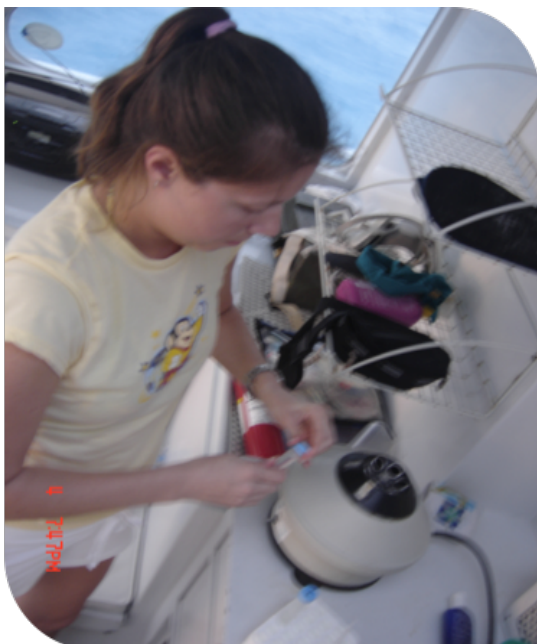
WDP's goals and objectives to maintain a long-term database tracking family units, remains the same for our long-term work. New technology has allowed us to expand our area of exploration, still non-invasively, while maintaining our regular projects. The following is a summary of our main areas of study.

20-Year Framework Phase I: Life History

WDP was founded in 1985, and entails an ambitious, long-term scientific study of a specific pod of Atlantic spotted dolphins that live 40 miles off the coast of the Bahamas in the Atlantic Ocean. For approximately 80 -100 days each year, Phase I research has focused on learning about these dolphins through photography and video/audio recordings. The remaining part of the year is spent in the laboratory in Jupiter, Florida, archiving and analyzing the information gathered during the field season. WDP has now accumulated and continues to accumulate unprecedented amounts of baseline data about these dolphins, their relationships with other dolphins, and their daily lives. In addition, we have grown up with, and intimately know, many of the individuals and are into our third generation of dolphin families.

High-Frequency Sound Recordings

Because of the digital revolution, we are now able to record the ultrasonic sounds of dolphins, previously inaccessible. The use of specialized equipment designed by colleagues at the University of Hawaii now allows us to collect high-frequency sound recordings correlated with underwater behavior.



Genetic Analysis

The non-invasive technique of fecal sample collection aims to revolutionize the way genetic data is collected from marine mammals. WDP collects fecal samples from identifiable individuals every field season. Current successes for WDP's genetic analysis initiative include, 1) the establishment of a primer for the spotted dolphin species, allowing this specific genetic material to be analyzed from fecal samples, and 2) an assessment of population structure, paternity, and mating systems of these resident spotted dolphins, and 3) the identification of fathers and grandfathers in our study group.

Bottlenose and Spotted Interspecies Interactions

Particularly interesting is the regular and intimate interaction between bottlenose and spotted dolphin societies. Regular observations of social interactions between these two closely related, and sympatric species, have illuminated how two different neighboring cultures live together.



Human - Dolphin Communication: Phase II

This project seeks to create a mutual system of communication between dolphins and humans in the water. Pilot work from 1997 – 2000 has laid the groundwork for the full-fledged attempt at human/dolphin communication in the wild. In 2011, collaborating with Dr. Thad Starner at Georgia Tech in Atlanta, we began work with a new system designed expressly for this purpose. In the summer of 2012, we will deploy our new technology.

Education

The scientific data collected are analyzed and made available to scientific and educational communities at large. Protect-A-Pod is an educational package designed to assist teachers (Pre-K through 12) to introduce students to marine life. Over 120 “Protect-A-Pod” kits have been delivered to schools in south Florida and the Bahamas. Research staff has given many presentations to local schools, clubs, and organizations along with presenting findings at international and national scientific conferences.



Digitization of Multi-Media Database

WDP has acquired over 600 hours of underwater video with simultaneous sound. To secure the information, archive it, and make it easier to access for analysis, we are currently undertaking the digitization of all our videotapes into a multi-media database system. This will allow us to search our videotapes by video image, behavioral category, sound category, and other details. In addition, it will ensure the preservation of this database for future analysis.

Website

Our interactive website, www.wilddolphinproject.org, has been a tremendous success. It is updated frequently, not only to disburse information, but also to develop a stronger and involved membership. It includes our most recent scientific publications, activity updates and an educational area for kids.

Building Capacity and Preparing for the Future

As any organization grows, so does its financial support and resources. Over the past year, WDP has formulated a comprehensive Organizational Enhancement and Operating Plan to facilitate the growth of the organization. The continued assessment of infrastructure, complemented by the continued development of the Board of Directors, Community Advisory, and Scientific Board, will ensure succession of the Project into the future and set the stage for future research achievements.

The Future: The Next 20 Years!

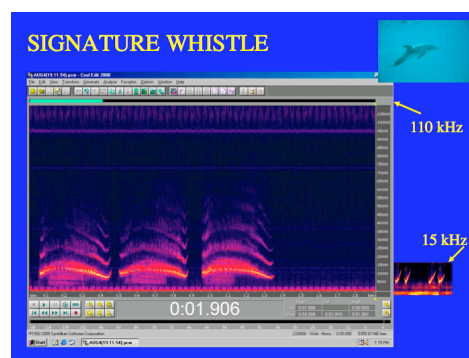
Sound and Behavior Research: Dr. Herzing's work in the field will be focused on specialized acoustic and behavior projects such as high-frequency work with Dr. Marc Lammers and Ph.D. student Michiel Schooten (www.oceanwidescience.org), and the development of a two-way communication system. Graduate students and research assistants will maintain the regular life history and photo identification work that is critical to our long-term study. Ph.D. student Courtney Bender and recently graduated students Dr. Cindy Elliser and Dr. Michelle Green, are addressing interspecies interaction, social learning/teaching analysis and genetics for paternity and hybrid determination.

Field Expansions: To understand possible interactions with surrounding dolphin communities as a survival method during environmental changes (i.e. hurricanes, shipping channel changes) or support the sustainability or through limited genetic exchange, we will expand our current field site to include neighboring Bahamian waters where spotted and bottlenose dolphins reside. In 2010, we began to monitor cetaceans off Florida's southeastern coast. Offshore surveys will document the species diversity of cetaceans along the coast of Florida. Intracoastal surveys explore a geographic study site for multiple comparisons between coastal populations and those found far from shore in the shallow waters of the Bahamas.

Decoding Dolphin Communication - Laboratory Analysis:

With the use of our 27-year underwater behavior and acoustic library we are focusing on decoding the dolphins' communication signals, patterns of behavior and use of acoustic signals. In addition to new field equipment that will facilitate further exploration of individual signal exchange, we now have hardware and software tools to increase our abilities at pattern recognition, to crack the code.

Digital Multi-Media Underwater Library: Critical to the above analysis is the archiving and indexing of our underwater video. The initial steps have been underway for a couple of years including the transfer of videotapes to a digital format while preserving the original tapes. Thanks to the support from members, and specifically The Annenberg Foundation, we have initiated this long-awaited project. Accomplishing our goals with the videotape archive will allow better researcher and student access to video segments for analysis.



Above: Since 2002 WDP has used high frequency (ultrasonic) recording equipment to document and correlate vocalizations about human hearing range.



Sharing the Lives of Wild Dolphins: After 27 years of fieldwork following the lives of more than 200 spotted and 200 bottlenose dolphins, WDP has accumulated unprecedented materials. We share the stories of these dolphins with a wider audience by doing public lectures both nationally and internationally, and developing education materials in a multi-media format for public institutions such as museums and aquariums. We hope to partner with a few large institutions for ongoing exposure and abilities to continue the story of our research with the dolphins into their next generation!



Letter from the President



It is my honor to speak on behalf of The Wild Dolphin Project as the Board of Director's President. In the past 27 years, The Wild Dolphin Project has brought many new and exciting developments to marine sciences. As an avid diver and photographer of the underwater world, I have a deep passion for the oceans, marine life and marine mammals. Dolphins truly are amazing creatures, highly intelligent and quite inquisitive. The past two decades of our work have given us a glimpse into the life histories, communication system, associations and habitat of these individuals. Long-term study is critical to our discoveries—following individuals for three generations and learning the culture and development of a species we share the planet with. The Board of Director is committed to the sustainability of the research and looks forward to the next 20 years. We are excited to uncover new information, which will lead to unprecedented knowledge. We are proud to be part of history in the making and hope you join us in this profound adventure.

Ruth Petzold
President
Board of Directors

SPECIAL THANKS TO THE FOLLOWING CONTRIBUTORS

FOUNDATIONS

Annenberg Foundation
Frances V.R. Seebe Charitable Trust
Help Us Help Them Foundation
MAH Foundation
Pacific Life Foundation
Pegasus Foundation
The Annenberg Foundation
The Donald Slavik Family Foundation
The Henry Foundation
The Offield Foundation
Anonymous Foundation

CORPORATIONS

Earthshare
Green Volunteers
IGive.com
One Percent For The Planet
Shaklee
Southeastern Printing

INDEPENDENT AUDITOR'S REPORT

To the Executive Director and Board of Directors of
Wild Dolphin Project, Inc.
Jupiter, Florida

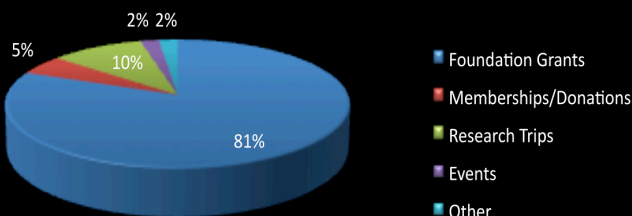
We have audited the accompanying statement of financial position of Wild Dolphin Project, Inc. (a nonprofit organization) as of October 31, 2011, and the related statements of activities and changes in net assets, functional expenses and cash flows for the year then ended. These financial statements are the responsibility of the management of Wild Dolphin Project, Inc. Our responsibility is to express an opinion on these financial statements based on our audit. The prior year comparative information has been derived from the Organization's audited 2010 financial statements, on which we issued an unqualified opinion.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

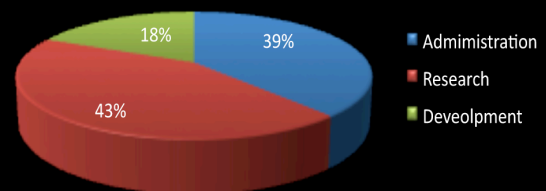
In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Wild Dolphin Project, Inc. as of October 31, 2011, and the changes in its net assets and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

FREDERICK DULAS, CPA, LLC
December 13, 2011

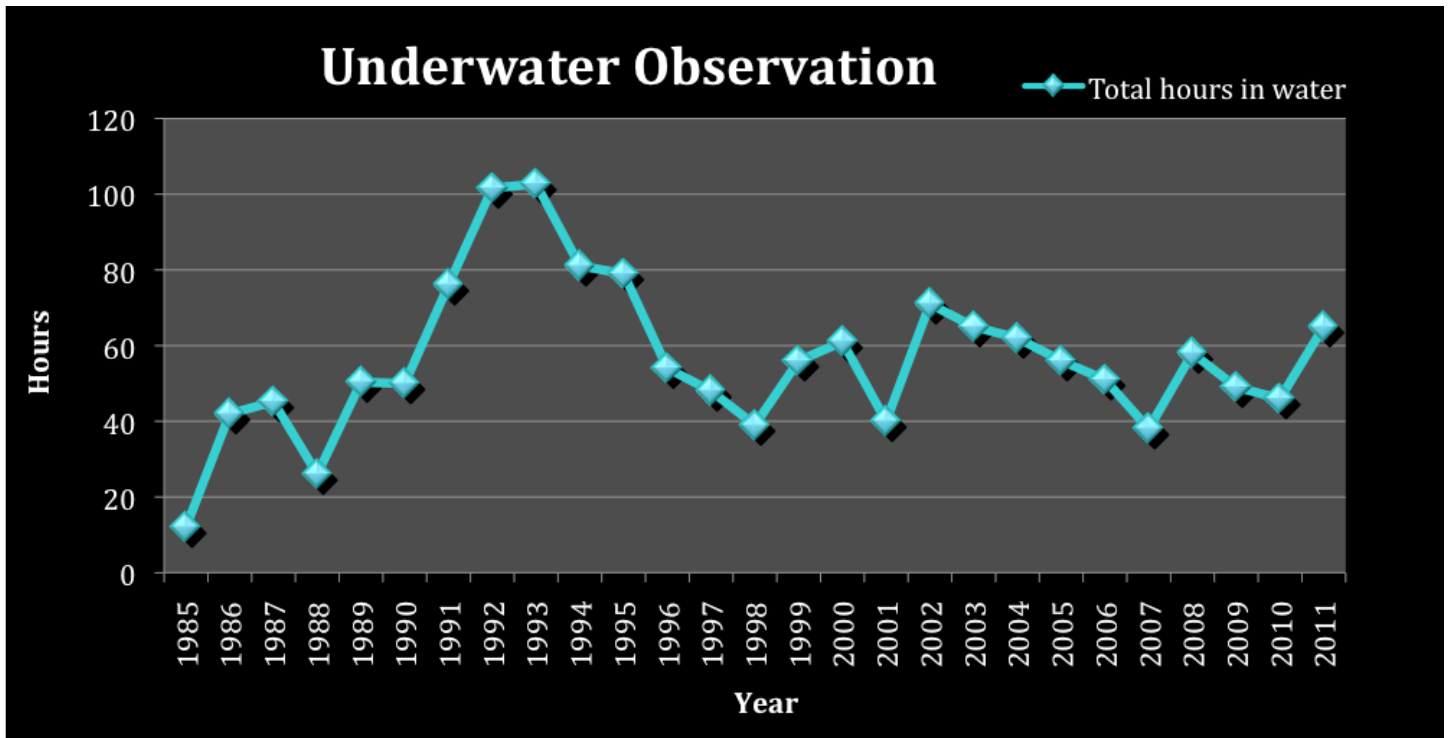
FY 2011 INCOME



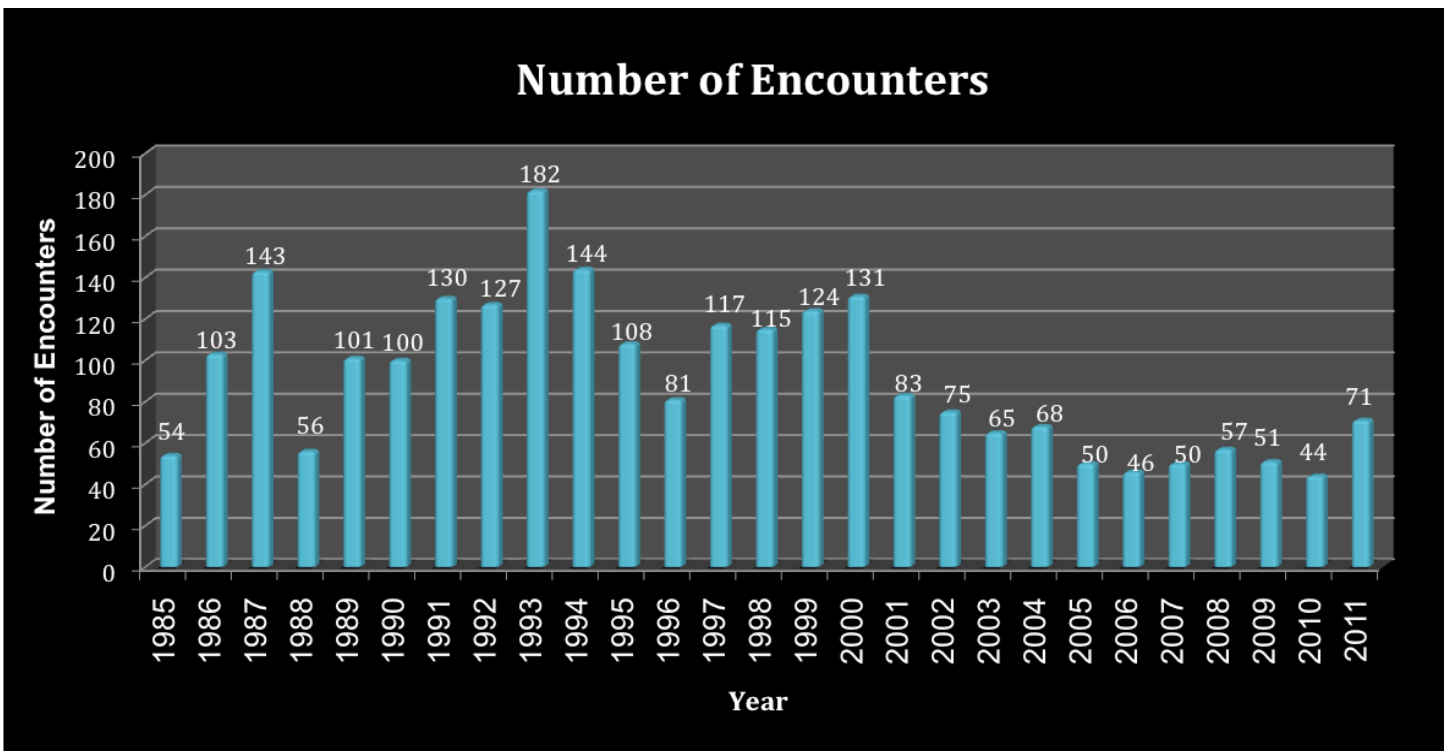
FY 2011 EXPENSES



Research Statistics

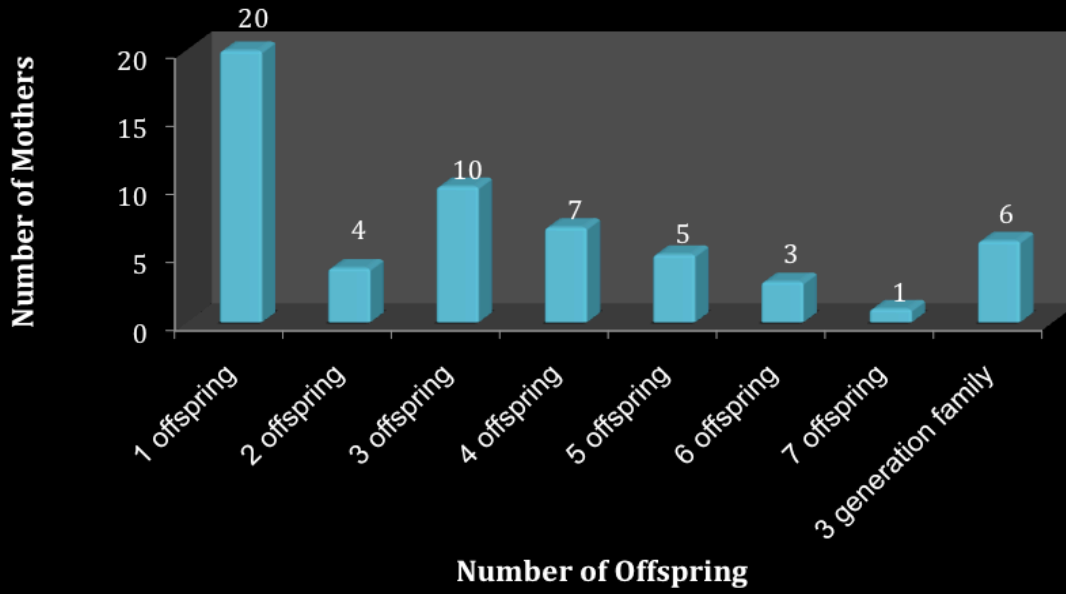


Indicates the number of hours per year in which WDP researchers spent observing the dolphins in the water and collecting data.



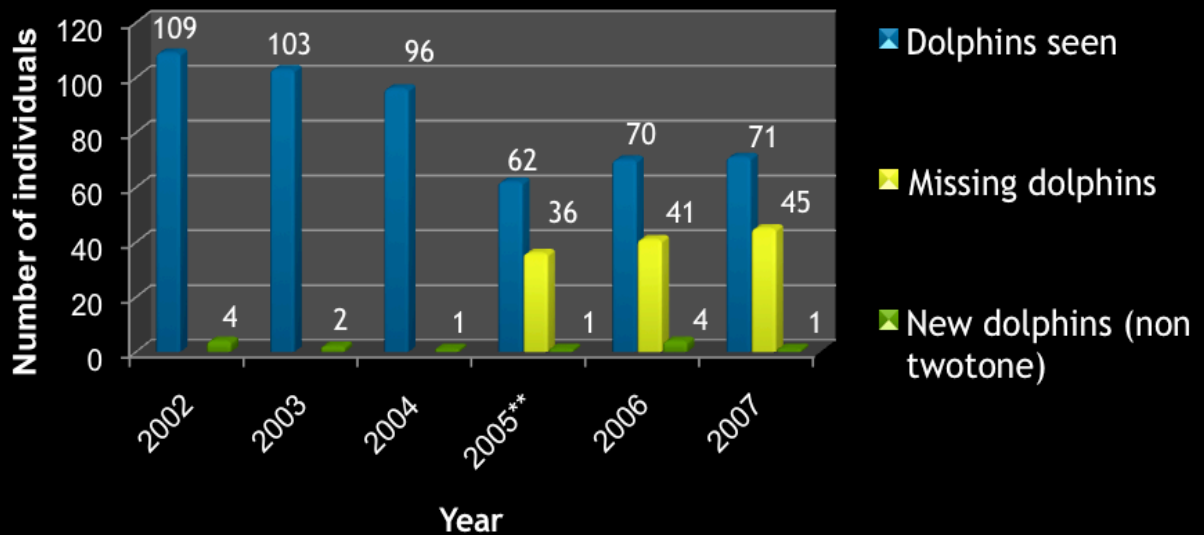
Indicates the number of times WDP encountered dolphins underwater in each given year. *This is sometimes determined by the weather and days at sea.

Female Reproduction



Indicates the number of mothers (in blue) who had the respective number of offspring. Note: 6 mothers are also grandmothers!

Census



Indicates the pre- and post- hurricane data, which quantifies the effects from the hurricanes** on a resident pod. The number of dolphins identified, those not identified and new older dolphins (not new calves) introduced into the pod for each year.

Education



Education is also a goal of The Wild Dolphin Project. WDP presents educational lectures to a variety of individuals and organizations, from elementary school students, to adults of all ages. Education is essential to raising public awareness about the lives and struggles of marine mammals and the health of the oceans. Education enables and empowers people to make changes in their daily lives, community and government to help protect and conserve the environment. What children learn now will help to shape the world in the years to come.

In the summer of 2011, the Wild Dolphin Project created an internship program, which runs during the summer months on board 'R/V Stenella', our 62-foot research vessel for ten days. Each student assists in collection of data in the field, works with photo identification, data entry, and specialized projects. Interns work with the dolphins during the day (weather permitting), and in the evening they review the days footage or listen to lectures. It is important for students who are thinking about possible careers in the marine sciences to see and meet scientists that are working in the field first hand.

As part of Wild Dolphin Project's commitment to education we recently completed a multi-media display about dolphins and their environment in Florida and the Bahamas. This permanent educational display will be completed in early 2012 and featured at the MacArthur Beach State Park's new Educational Center in north Palm Beach County. We hope that our information about dolphins will reach a broader audience through this excellent venue. Click [here](#) to view their website or go to www.macarthurbeach.org.

Also, New York Times correspondent Erik Olsen spent several days in the field with the Wild Dolphin Project during the 2011 field season. His article, "[How Far Will Dolphins Go to Relate to Humans?](#)" appears in the September 2011 New York Times, along with a terrific video. Click on the article link or visit our website at www.wilddolphinproject.org.

We also worked with Schoolyard Films on the production of "A Dolphin's Return", documenting the release of a young spotted dolphin, Cutter, off the Florida Keys after his rehabilitation. This film is available free through [iTunes U](#) and will include a study guide for students. Click on the iTunes U link or visit our website at www.wilddolphinproject.org.

Human vs. Dolphin

If you stop to think about dolphin and human societies, you will discover that they are more similar than you may have thought. Even though dolphins look very different from us physically, they are social mammals like us, and therefore their social structure is in many ways like ours.

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|---|--|
| <p>Babies Baby dolphins (calves) will stay with their mother for 3-4 years, nursing often for the first 1-2 years, and then they begin to eat solid food. They are almost always with their mothers; however babysitters will help out sometimes.</p> | <p>Babies Baby humans stay with their mothers and nurse for 1-2 years average, and then start to eat solid food by 2-3 years. They are also almost always with their mothers, unless a babysitter is called.</p> |
| <p>Juveniles Once they are weaned the young dolphins (4-5 years) start hanging out with other young dolphins along with older dolphins. They learn the rules of the society, practice behaviors and obtain information that they will need for survival. They often still associate with their mothers, though not as highly.</p> | <p>Juveniles Young humans start to go to school or play groups and hang out with others of the same age, and older adults (like teachers). They are learning the rules of the society, what behaviors are acceptable and other information that will help them live in the society. They will also associate with their mothers, but to a lesser degree.</p> |
| <p>Young Adults As dolphins grow up, they continue to associate with others in the same age group, and start courting and mating. Females give birth to their first calves, and will associate highly with other females in the same stage of life. Males tend to roam farther looking for females, and some will have strong associations with another male - these are known as alliances. Male relationships may start as juveniles and last for decades. They will also have many associations of a lower level, from acquaintances to frequent associates. Dolphins do not have life-long partners.</p> | <p>Young Adults Continuing with school, hanging out with friends and starting to have relationships with the opposite sex, humans start their way to adulthood. During this time, couples get married and start having their first babies. They will often have friends that are in the same stage as them, either with or without babies. Many people will also have strong friendships (best friends) with people they have known for years, and will continue to be close for years. In addition, there will be other groups of close and casual friends and many acquaintances.</p> |
| <p>Adults As adults, dolphins continue to have calves and strong friendships. They raise young, baby-sit for each other and teach the younger generation important survival skills and behaviors. They are an important source of knowledge and continue to be an integral part of the society.</p> | <p>Adults Human adults continue to raise the young, baby-sit, and teach the younger generation from their successes, mistakes and work in the society. Adults continue to contribute to the society and in many ways are an important part of its' growth.</p> |



.....Past, Present

Phase II - Interspecies Two-Way Communication

- Baseline data of population: photo ID, sexing, associations, vocalizations
- Underwater sound and behaviors correlations
- Document interspecies relationships and the encounters

Advanced sound work,
pattern recognition and
genetics

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Herzing begins
studying wild dolphins
in the Bahamas

WDP moves
from
California
to Florida

Herzing becomes a
FAU Adjunct Professor
for Master Students,
which begins new
research projects at
WDP

WDP acquires
R/V *Stenella*

Global
lectures

Protect-A-Pod
Educational Package
Implementation



Publications

- Herzing, D.L., Delfour, F. and Pack, A.A. (in press). Responses of Human-habituated wild Atlantic spotted dolphins to play behaviors using a Two-Way Interface. *International Journal of Comparative Psychology*, May 2012.
- Green, M.L., Herzing, D.L. and Baldwin, J.D. (2011). Reproductive success of male Atlantic spotted dolphins (*Stenella frontalis*) revealed by noninvasive genetic analysis of paternity. *Canadian Journal of Zoology*, 89, 239-253.
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Magazine Articles

New York Times – September 2011. “How far will dolphins go to relate to humans?”, story and photography by Erik Olsen. [Click here](#) or visit our website at www.wilddolphinproject.org under the news section.

Yachting Times Magazine – 04 – Spring 2011. “At Home with the Wild Dolphins”, story and photography by Tanya Burnett and Kevin Palmer. Pp. 34-38.

Ocean Realm – June 1995. “Dolphins,” by Denise Herzing, with photographs by Flip Nicklin. Pp. 22-29.

Scientific Computing & Automation – January 1993. “Understanding the Behavioral Biology of Dolphins,” by Denise Herzing with Andrew Davis. Pp. 29-33.

National Geographic – Volume 182, No. 3, September, 1992. “Dolphins in Crisis,” by Kenneth S. Norris, with photographs by Flip Nicklin. Pp. 2-35.

Whale Watcher – Journal of the American Cetacean Society, Volume 26, No. 1, 1992. “Family, Friends, and Neighbors,” by Denise Herzing. Pp. 13-15.

BBC Wildlife – Volume 9, No. 10, October, 1991. “Dances with Dolphins,” by Denise Herzing. Pp. 689-693.

Sonar, Magazine of the Whale and Dolphin Conservation Society – No. 6, Autumn, 1991. “Dolphin Spotting,” by Denise Herzing. Pp. 8-10.

Whale Watcher – Journal of the American Cetacean Society, Volume 24, No. 3, 1990. “Underwater and Close Up with Spotted Dolphins,” by Denise Herzing. Pp. 16-19.

Radio Interviews

“Talking with Animals”, with Duncan Strauss on January 18, 2012. Listen to Denise Herzing as she talks about her new book, “Dolphin Diaries”. [Click Here](#) or visit our website at www.wilddolphinproject.org under the news section.

September 2011 – Podcast with Charlie Dyer at KNews FM. To find the podcast, click the [link](#) and look for Dr. Herzing’s interview on 9/13/11. You can also see it on our website, www.wilddolphinproject.org, under the news section.

Television

"Ocean Giants – Part 2" – airing soon, BBC, Produced by Anuschka Schofield, with underwater cameraman Didier Noirot filming the Atlantic spotted dolphins. Click [here](#) to see more information or visit our website at www.wilddolphinproject.org under the news section.

ABC Good Morning America – July 2011. Excerpt: "Dolphin Dairies", a groundbreaking glimpse into how dolphins communicate and live. Click [here](#) to see the excerpt or visit our website at www.wilddolphinproject.org under the news section.

"A Dolphin's Return"– 2010. Shows the release of the young dolphin known as Cutter in this video from the National Science Foundation's Library. Click the link or visit our website at www.wilddolphinproject.org under the news section.

Diving with Dolphins – 2007, BBC, Hosted by Tanja Streeter, championship free-diver

Tamzin Outhwaite Goes Wild With Dolphins – 2002, BBC, Hosted by Tamzin Outhwaite

Talking with Aliens – 1999. Pioneer Productions. Narrated by Robin Ellis. Written and directed by Richard Burke-Ward. Channel Four Television and TLC.

Touched by a Dolphin & Tribes of Sea – 1998. ABC-Kane Production. Domestic and international versions

Dolphin Diaries – 1996. From the BBC Series Natural World. Narrated by Lord David Attenborough. Aired on U.S. Public Television. Not available for sale, but frequently re-run on local PBS stations.

In The Wild - Dolphins, with Robin Williams – 1995. From the In the Wild Series. Available from PBS, 1-877-PBS-SHOP/1-877-727-7467

Dolphin Dreaming – 1994. From the Natural Neighbors series. Produced by Mark Jacobs.

World of Wonder – 1994. (segment) Hosted by astronaut Mae Jemison. Discovery Channel.

Swimming with Denise – 1993. NHK of Japan, Directed by Seido Hino.

Dolphins: Close Encounters – 1992. From the Nature series on U.S. public television, hosted by George Page. A Wolfgang Bayer Production in association with Thirteen/WNET and Granada Television, Ltd.

Trials of Life – 1991. BBC Series on Wildlife.

Presentation/Conferences

2011 – The 19th Biennial Society for Marine Mammals Conference:

Oral Presentations:

“The dynamic of aggression between Atlantic spotted (*Stenella frontalis*) and bottlenose (*Tursiops truncatus*) dolphins in the Bahamas” by Jessica Cusick and Denise L. Herzing.

“Nutrition and Habitat Driven Foraging of Wild Dolphins in the Bahamas: A Recipe for Prey Use” by Christopher R. Malinowski and Denise L. Herzing.

Poster Presentations:

“Home ranges of Atlantic spotted dolphins (*Stenella frontalis*) in the Bahamas: a preliminary methodology using long-term data to track cetacean movement patterns” by Bethany Augliere and Denise L. Herzing.

“Long-term social structure of a resident community of Atlantic spotted dolphins, *Stenella frontalis*, in the Bahamas” by Cindy R. Elliser and Denise L. Herzing.

“Genetic Lines and Social Boundaries: Genetic population structure coincides with social clustering in *Stenella frontalis*” by Michelle L. Green, Denise L. Herzing, and John D. Baldwin.

“Preliminary methodological approach to examining discipline in Atlantic spotted dolphins (*Stenella frontalis*)” by Meghan R. Weinpress and Denise L. Herzing.

2011 – Explorer’s Club, New York City. Dolphins: An Intimate Glimpse at an Aquatic Society. October 31, 2011, NYC.

2011 – Frontiers of Science: Spring Public Lecture Series. February 4, 2011, Boca Raton Campus.

2009 – The 18th Biennial Society for Marine Mammals Conference: Quebec, Canada

Oral Presentation:

“Replacement dolphins? Immigration and social restructuring of long-term resident bottlenose dolphins in the Bahamas after two hurricanes” by Cindy R. Elliser and Denise L. Herzing.

Poster Presentations:

“The use of long-term data to examine variability in the population structure and habitat use of two nearby populations of Atlantic spotted dolphins in the Northern Bahamas” by Tiffany Adams, Denise Herzing, and Diane Claridge.

“Mirror exposure to free-ranging Atlantic spotted dolphins in the Bahamas” by Fabienne Delfour and Denise Herzing.

2008 – International Astronomical Meeting, Paris France. Searching for Life Signatures: Special Session.

Oral Presentation:

“SETI meets a social intelligence: dolphins as a model for real-time interaction and communication with a sentient species” by Denise L. Herzing.

2008 – Astrobiology Science Conference. April 14-17. Session on Intelligence. Santa Clara, California.

Oral Presentation:

“Recognizing Emergent and Universal Features in Interspecies Interaction: Insights from 20 Years Working with Wild Dolphins” by Denise L. Herzing.

2008 – SEAMAMMS. The impacts of two major hurricanes on the social structure of bottlenose dolphins, *Tursiops truncatus* in the Bahamas. Charleston, NC, March 28-30, 2008.

2007 – European Association of Aquatic Mammals. Invited Plenary speaker. Behavior and Vocalizations of Atlantic spotted dolphin (*Stenella frontalis*): Measuring cognitive abilities utilizing behavioral observations. Nice, France, March 16-18, 2007.

2007 – Video Analysis of Social Cognition in Nonhumans Workshop. Dept. of Cognitive Science, University of California San Diego. Video Analysis of Underwater Behavior: Postures, Sounds, and Synchrony. January 20-21, 2007.

2006 – SEAMAMMS. Invited Plenary Speak. Dolphin Vocalizations and Behaviors: Technology, Tools, and Time. March 23, 2007.

2005 – The 16th Biennial Society for Marine Mammals Conference.
Workshop: Comparative Cognition in Marine Mammals. Co-organized with Dr. Christine Johnson.

2005 – Girls in Science Conference. The Ocean Institute, Dana Point, California. February 4-5, 2004

2004 – American Cetacean Society - Invited Speaker. Los Angeles, California

2003 – The 15th Biennial Society for Marine Mammals Conference:

Oral presentation: “Sound and Behavior of Atlantic spotted dolphins: Do we hear what they hear?” presented in a concurrent symposium on dolphin communication by Denise L. Herzing and Mark Lammers.

Poster presentation: “The Social Structure of Bottlenose Dolphins, *Tursiops truncatus*, in the Bahamas” by Cindy Rogers, Barbara J. Brunnick and Denise L. Herzing

2001 – 14th Biennial Marine Mammal Society Conference Oral presentations:

“Transmission Mechanisms of Social Learning: Underwater Observations of Free-Ranging Dolphins in the Bahamas”: by Denise L. Herzing (will be presented at a special workshop entitled “Culture in Marine Mammals”)

“Male Alliances in Spotted Dolphins (*Stenella frontalis*) of the Bahamas”: by Barbara J. Brunnick and Denise L. Herzing

“Underwater Analysis of the Behavioral Development of Free-Ranging Atlantic Spotted Dolphin Calves (Birth to 4 Years of Age)”: by Jessica Bayer and Denise L. Herzing

“The Social Development of Free-Ranging Atlantic Spotted Dolphins (*Stenella frontalis*) in the Bahamas”: by Kelly Moewe and Denise L. Herzing

2001 – 17th International Congress on Acoustics.

Oral presentation:

“ A Long-Term Look at Strategies of Communication in the Wild: Sounds and Associated Behavior of Free-Ranging Atlantic Spotted Dolphins (*Stenella frontalis*) and Bottlenose Dolphins (*Tursiops truncatus*) in the Bahamas” by Denise L. Herzing

1999 – The 13th Biennial Marine Mammal Society Conference Oral presentations:

“Signature Whistles of Atlantic Spotted Dolphin (*Stenella frontalis*): Measures of Similarity and Biological Significance” by Denise L. Herzing, Volker DeeCke, and Barbara J. Brunnick

“Bandwidth Characteristics of the Social Acoustic Signals of Three Free-ranging Delphinid Species” by Marc Lammers, Whitlow W. L. Au, Denise L. Herzing and Julie Oswald

“Association Patterns Related to Age and Gender in Spotted Dolphins (*Stenella Frontalis*) of the Bahamas, 1986-1997” by Barbara J. Brunnick and Denise L. Herzing

“Minimizing Impact and Maximizing Research during Human/Dolphin Interactions in the Bahamas” by Denise L. Herzing (special workshop entitled Wild Dolphin Swim Program Workshop)

1998 Biological Sonar Conference:

Oral presentation:

“Echolocation Signals of Wild Dolphins” by Whitlow W. L. Au, Denise L. Herzing, Michiel Schotten, Marc Lammers and Roland Aubauer

1998 The World Marine Mammal Science Conference:

Oral presentation:

“Real-Time Measurement of the Echolocation Signals of Wild Dolphins Using a 4-Hydrophone Array” by Whitlow W. L. Au, Denise L. Herzing, and Roland Aubauer

Poster presentations:

“Using Pigmentation, Bridle Marks and Throat Straps for Photo-Identification of Free-Ranging Atlantic Spotted Dolphins (*Stenella frontalis*) in the Bahamas, 1985 to Present” by Barbara J. Brunnick and Denise L. Herzing

“Near and Offshore Bottlenose Dolphin Communities Distinguished by Association Patterns Near Grand Bahama Island, Bahamas” by Kelly A. Rossbach and Denise L. Herzing

1997 Symposium on Information Processing by Aquatic Mammals:

Oral presentation:

“Acoustic and Behavioral Communication Signals of Free-Ranging Atlantic Spotted Dolphins, *Stenella frontalis*: Implications for Social Learning and Cognition in the Wild” by Denise L. Herzing and Barbara J. Brunnick

1997 25th Annual Symposium of the European Association for Aquatic Mammals:

Oral presentations:

“Skin Abnormalities and Scarring Patterns in Free-Ranging Atlantic Spotted Dolphins (*Stenella frontalis*) by Barbara J. Brunnick and Denise L. Herzing

“Interspecific Interactions Between Atlantic Spotted Dolphins (*Stenella frontalis*) and Bottlenose Dolphins (*Tursiops truncatus*) in the Bahamas, 1985-1995” by Denise L. Herzing and Christine M. Johnson

1997 March 10-12 European Cetacean Society 11th Annual Conference:

Oral presentations:

“Skin Abnormalities and Scarring Patterns in Free-Ranging Atlantic Spotted Dolphins (*Stenella frontalis*) by Barbara J. Brunnick and Denise L. Herzing

“Interspecific Interactions Between Atlantic Spotted Dolphins (*Stenella frontalis*) and Bottlenose Dolphins (*Tursiops truncatus*) in the Bahamas, 1985-1995” by Denise L. Herzing and Christine M. Johnson

1995 December 14-18, 11th Biennial Conference on the Biology of Marine Mammals:

Poster presentations:

“Coefficients of Association of Reproductively Active Female Atlantic Spotted Dolphin, *Stenella frontalis*.” by Barbara J. Brunnick and Denise L. Herzing

“A Quantitative Analysis of Vocal and Non-Vocal Signal Use in the Social Communication of Atlantic Spotted Dolphins, *Stenella frontalis*.” by Denise L. Herzing.

“Observations of Nocturnal Feeding by Atlantic Spotted Dolphin, *Stenella frontalis*” by Nicole M. Matlack and Denise L. Herzing.

“Underwater Observations of Benthic Feeding *Tursiops truncatus*” by Kelly A. Rossbach and Denise L. Herzing.

1995 February 9-11, European Cetacean Society 9th Annual Conference:

Oral presentation:

“An Ethogram of Underwater Behavior of the Atlantic Spotted Dolphins, *Stenella frontalis*.” by Denise L. Herzing.

1994 March 4-6, European Cetacean Society 8th Annual Conference:

Oral presentation:

“The Contextual Nature of Underwater Behavior and Vocalizations in Atlantic Spotted Dolphin, *Stenella frontalis*.” by Denise L. Herzing.

Poster presentation:

“Vocal Pattern of Two Captive Male Bottlenose Dolphins, *Tursiops truncatus*.” by Barbara J. Brunnick.

1993 November 11-15, 10th Biennial Conference on the Biology of Marine Mammals:

Poster presentations:

“Vocal Patterns in Two Captive Male Bottlenose Dolphins (*Tursiops truncatus*).” by Barbara J. Brunnick.

“The Function of Behavior and Vocalizations in Male Coalitions of Free-Ranging Atlantic Spotted Dolphins, *Stenella frontalis*.” by Denise L. Herzing.

“A Comparative Study of Mother and Infant Signature Whistles in the Atlantic Spotted Dolphin, *Stenella frontalis*.” By Mindy G. Zuschlag and Denise L. Herzing.

1992 November 6-8, 5th Biennial Conference of the American Cetacean Society:

Poster presentation:

“Vocal Patterns in Two Captive Male Bottlenose Dolphins (*Tursiops truncatus*).” by Barbara J. Brunnick.

1991 December 5-9, 9th Biennial Conference on the Biology of Marine Mammals:

Oral presentation:

“Underwater Behavioral Observations and Sound Correlations of Free-Ranging Atlantic Spotted Dolphin, *Stenella frontalis*, and Bottlenose Dolphin, *Tursiops truncatus*.” by Denise L. Herzing.

1989 December 7-11, 8th Biennial Conference on the Biology of Marine Mammals:

Oral presentation:

“Social Structure and Underwater Behavioral Observations of Atlantic Spotted Dolphins, *Stenella Plagiodon*, in Bahamian Waters: 1986-1989” by Denise L. Herzing.

2011

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