

The Wild Dolphin Project, Inc.

Research, Education, Conservation
a non-profit organization

2016 Annual Report

Table of Contents

Letter from the Research Director	page 5	Education & Conservation	page 26-28
Mission & Vision	page 7	Student Internship Opportunities	page 29
Strategies & Principles	page 8	Community Impact & Events	page 31
Letter from the President	page 10	Auditor's Statement	page 33
Our Team	page 11	Finances: Revenue & Expenses	page 34
Our Supporters and Members	page 13-15	Scientific Publications	page 36
Goals & Objectives	page 17	Media	page 37
Baseline Work	page 19	2017 Projections	page 39
Distribution & Habitat	page 21	Support The Wild Dolphin Project	page 40
Dolphin Communication	page 23-24		



Letter from the Research Director

2016 marked our 32nd consecutive year in the Bahamas doing fieldwork. Time on the ocean continues to be critical time for us to be able to observe and track the dolphins in the Bahamas. It's become even more critical the last few years as major shifts in the distribution of our resident community of spotted dolphins became evident. We still work in the field from May through early September during hurricane season. Our trusty boat crew and graduate students lead the way during these trips. Our internship program has been a great success as there is never a lack of interest in training and exposure in marine biology. For the last six years we have been working hard with our colleagues in Atlanta at the Georgia Institute of Technology to develop new computer hardware and software to help in our communication studies. And we continue to monitor dolphins off the SE Florida coast during our fall and winter months when weather allows.

As I reduce my field time and increase my lab time, new graduate students and staff take up the torch for fieldwork with their newfound skills and expertise.

As we look to this new generation of field workers we also note that our fourth generation of dolphins have finally arrived, heralding in another decade or so of "In the World, On Their Terms" with the Wild Dolphin Project.

Dr. Denise L. Herzing, PhD
Research Director / Founder



Mission & Vision

Mission

The Wild Dolphin Project, founded in 1985, is a scientific research organization that studies and reports on a specific pod of free-ranging Atlantic spotted dolphins (*Stenella frontalis*) that live off the coast of the Bahamas in the Atlantic Ocean. 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.



Atlantic spotted dolphins are born without spots and stay with their mothers for 3-4 years

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”



Atlantic spotted dolphins have unique spotting patterns that allow WDP to identify individuals through photos and video

Letter from the President

What a fantastic privilege it is to celebrate, yet another year, of scientific research from the Wild Dolphin Project! For the Project, it's not the case of the older we get the better we were. More like the older we get the better we are. Time and data make for good science.

Each new field season brings with it both opportunities and challenges and 2016 was no different. The CHAT technology, through its real time sound recognition system, moved the two way work forward, while weather and mechanical issues curbed the pace. After decades of research change has been the only constant, and weather (climate change) has proven to be the biggest change factor. It is something that transcends species of both marine and land habitats and the best way of understanding these changes requires long term studies.

Ground zero is a term used to describe the point on the earth's surface that is closest to a detonation of a large explosion. We all remember that term being used 15 years ago for the 9/11 attacks in New York City. Today the scientific world is using the same "ground zero" term to describe climate change. Is it Barrow, Alaska, the Philippines or the Maldives? Perhaps we should concede that ground zero for climate change is the planet earth? Aside from the social and economic impact that we humans face, climate change is having, and will continue to have, a vast impact on the animal kingdom.

So why is a global subject such, as climate change, germane to the continued research of the Wild Dolphin Project, which is myopic in scope? Answer: 32 years of scientific data garnered from the longest underwater ongoing marine mammal study on the planet (ground zero).

In its most recent decade of research, the Wild Dolphin Project has witnessed the most disruptive change in behavior and habitat of the Atlantic Spotted Dolphins. This is ever proving of how critical it is that long-term studies of wild animals remain in tact. I encourage you to support the efforts of organizations like the Wild Dolphin Project so we can address the challenges of tomorrow with good science.

Don Mader

President, Board of Directors



A dolphin breaches near Research Vessel, *Stenella*

Our Team

Project Staff

Denise Herzing, Ph.D.
Research Director

Bradley Ruda
Captain

Melissa Williams
Administrative Assistant

Michelle Green, Ph.D.
Research Associate

Cindy Elliser, Ph.D.
Research Associate

Cassandra Volker
Research Assistant

Board of Directors

Don Mader
President

Axel Stephan
Vice President

Denise Herzing, Ph.D.
Treasurer

Christopher Traugber, M.D.
Chair

Farley Rentschler
Secretary

Ruth Petzold

Ivi Kimmel

Drew Mayer

Community Advisory

Barbara Birdsey

Tanya Burnett

Theresa Carlsen

Katie Deits

C. Wolcott Henry

Susan Lovejoy

Bill O'Donnell

Zita Wright

Scientific Advisory Board

Sir David Attenborough

Randall Brelsford, Ph.D.

Fabienne Delfour, Ph.D.

Christine Johnson, Ph.D.

Marc Lammers, Ph.D.

Adam Pack, Ph.D.

Kenneth Pelletier, Ph.D., M.D.

Thomas I. White, Ph.D.

Emeritus Board

Anne Earhart, Ph.D. (hc)

Diane Ross

Linda Castell, D.V.M.



Our Supporters

Donald Slavik Family
Foundation

Earthshare

Focused on Nature

Frances VR Seebe Charitable
Trust

Fruehauf Foundation

MAH Foundation

Offield Family Foundation

Pacific Life Foundation

The Henry Foundation

The Rorer Foundation

W. Bradford Ingalls
Charitable Foundation

Anonymous Foundations

An Atlantic spotted dolphin shows it's
ventral side, full of spots, to the camera



Our Members

Chat Society Members

Suzanne Johnson

Ruth Petzold

Ambassador Members

Peyton Lee

William O'Donnell Jr

Corporate Members

Southeastern Printing

Anna Nichols

Fused Members

Nancy Alpert

Mr. & Mrs. Harvey Fruehauf

Genevieve Hartman

Ivi Kimmel

Don Mader

Drew & Chanelle Mayer

Christine Rayburn

Farley Rentschler

Linda Rorer

William Rossiter

Axel Stepan

Gail & Chris Traugher

Margery Ziff & Al Snapp

Mottled Members

Chat Chatterton

Garbose Family

John & Stephanie Pew

Diane Ross



Young dolphins form juvenile gangs at the age of 4 after they leave the safety of their mother

Our Members

Speckled Members

Linda Castell, D.V.M.
Diane & Seth Davidson
Donald H Graham
Karen Isaman
Eleanor Nell Kneibler
Gordon & Sandi Little
William & Judith Powers
Donald Sagolla
Katelynn Sprunger
Peter C Sugarman
Keith Twitchell
Gini Kopecky & Marc Wallace
Patricia Leigh

Two-tone Members

Anne Boomer
Marsha Coates
Gary Gelman
Devin & Donald Graham
Olive Lamanna
James Maney
Tanya Melich
Marlene Mendes
Marshall & Elaine Moss
Jay & Gail Nelson
Mitch Prager
Michael Salmon & Jeanne Wyneken
Nancy Showalter
Patrick Traugher
Louise Woodrich
Naomi Zowander

Neonate Members

Ginny Bear
Elle Bojarczyk
Catherine F. Brister
Roger Brown
Wendy Campbell-Holzer
John & Kathryn Casebeer
Judy Dvorak
William Engleby
Walter & Jane Enterline
Wendy & James Maus
Laura & Vince Franco
Patricia Harrison
William Hesss
Kristine Hess
Robert Hunt
Sofia Ernst
Rebecca Pennys
Nicole Principe
Jennifer Saccarelli
Ruth Samuels
William Savino

Neonate Members

Gretchen Shapiro
Tracy & Alfredo Siani
Frances South
Haldi Svanberg
David Tentler
Felicia Vachon
Jacek Voelkel
Thomas I. White, Ph.D.
Cassandra Weith
Carol Woltmann



Dolphins have close bonds that can last a lifetime

Goals and Objectives

Our Non Invasive Approach – “In Their World, On Their Terms”

Wild Dolphin Project uses a unique, non-invasive model to study two communities of free-ranging dolphins in the Bahamas. WDP emphasizes the importance of observing and interacting with these animals in a “hands-off” approach.

This method has gained the trust of the animals, allowing researchers to both observe and document them in their natural environment. These observations are carefully and methodically recorded into a large database, which contains over (30) years (4-generations of dolphins) of data.



Tactile behavior is common between dolphins. Here one dolphin solicits a rub, upside down, from a dolphin at the surface



Dr. Michelle Green processes dolphin fecal material for genetic analysis. Fecal material is collected underwater from individual dolphins by graduate students of WDP.

Baseline Work

Life History, Reproduction, and Genetics

Wild Dolphin Project continues the long-term tracking of a community of Atlantic spotted dolphins and bottlenose dolphins who reside off the coast of the Bahamas. We use surface and underwater photography to identify individual dolphins. Every field season known dolphins are re-identified, new dolphins including calves and immigrants are identified, and the losses of animals are documented as well. Reproductive and health status, and social associations, are also monitored every field season.

We collect fecal samples in the water for our genetic work. Extracting DNA from these samples illuminates paternity, relatedness of the spotted dolphins, and potential hybridization between spotted and bottlenose dolphins. This non-invasive technique has given us enough data to determine paternity, identify grandfathers in the community, and assess sexual maturity in males. This also allows us to verify maternal lines that are initially based on visual observations of mothers with calves.



All ages of Atlantic spotted dolphins socialize and play with each other every day. This helps solidify their bonds.

Distribution and Habitat

In order to identify environmental or climate impacts, WDP continues to monitor habitat and distribution changes of these resident dolphins. Climate change continues to have large implications for the conservation of local communities as well as whole populations of cetaceans. In 2013 a major shift occurred in the communities of dolphins, creating a mass exodus from their former habitat

WDP has committed to monitoring and tracking this community as they live in two different locations. We are also exploring oceanographic features that may have influenced this move, and how they are shaping the environment in the Bahamas. Information about abundance, distribution and residency of the species present will greatly affect and improve the conservation measures that are used on this species.

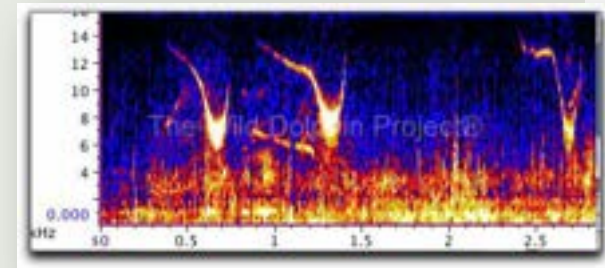


Dolphin Communication Work

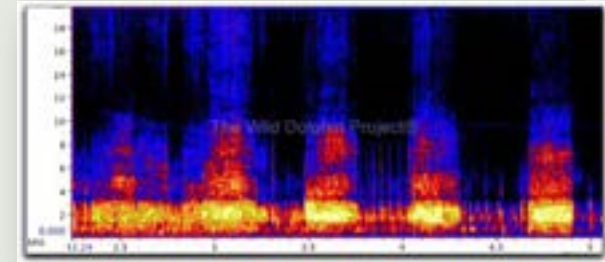
Correlating Underwater Behavior with Vocalizations

Dolphin communication data are obtained during dolphin encounters using audio/video recording devices. The Bahamas was chosen initially because of its clear and safe waters and accessible dolphins, since in most parts of the world, researchers simply cannot see underwater.

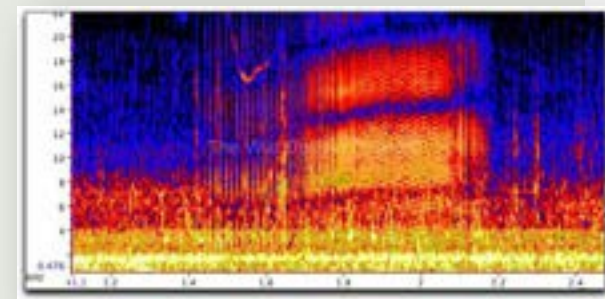
It's important to correlate sounds with behaviors to understand the dynamics of mating and courtship, nursing, juvenile aggression, pectoral fin rubbing, crater feeding, playing and fighting, and interspecies interactions. Regular observations of social interactions between the Atlantic spotted and bottlenose dolphins, two closely related and sympatric species, illuminate how two neighboring cultures live together. In addition, we can correlate sound and behavior with age classes, sexes, and document the process of development of communication in dolphins.



Signature whistles



Burst pulse sounds



Echolocation clicks

Dolphin Communication Work

Decoding and Deciphering

Because of the digital revolution we are now able to record the ultrasonic sounds of dolphins, previously inaccessible with old video units. With our underwater video dataset of acoustic, postural, and visual signals of three generations of dolphins we are situated to crack the code of dolphin communication. WDP continues to collaborate with a team at Georgia Tech to develop pattern recognition software designed for unique pattern discovery in dolphin sounds.

Decoding dolphin vocalizations is also the first step in many to the ultimate goal of two-way communication with another species. Simultaneous with decoding their own vocalizations, we are engaged in an ambitious program to develop an underwater acoustic interface, CHAT, to explore the cognitive capacities, and communication interest level, in a two-way communication system.



Dr. Herzing prepares to enter the water with CHAT, our two-way underwater interface

Education & Conservation

Although WDP is primarily a research organization, we understand the importance of educating the next generation of guardians and scientists on the planet. We mentor graduate students in various studies and WDP publishes its work in peer-reviewed scientific journals. We have also presented our work at national and international scientific conferences over the decades.

Researchers from WDP also present local, national, and international lectures to schools, clubs, and organizations educating the scientific, public, and private sectors with the project's findings regarding the Atlantic spotted and bottlenose dolphins in the wild.

WDP has a permanent display in the education center at John D. MacArthur Beach State Park in North Palm Beach, Florida. Situated between the Atlantic ocean and the Lake Worth Lagoon, this park is 438 acres of natural environments including 22 species of animals designated as endangered or threatened.

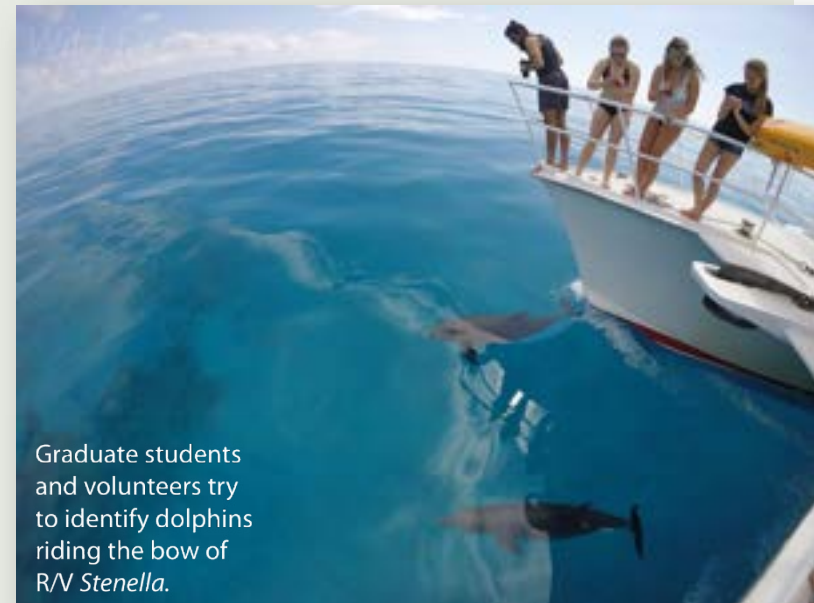


Dr. Herzing lectures to a group of students at Beverly Vista Middle School in Beverly Hills, California

Education & Conservation

WDP continues the advancement of our internship program, which was initiated in the summer of 2011. This program is designed to train young students (upper high school and under graduate level) in the field of marine mammal conservation. Each intern is fully involved in daily activities including: dolphin watches, photography of dorsal fins and body marks, in-water observations, photo matching of individuals, and data entry. In addition, lectures are given throughout the 10-day field course to supplement field observations.

When not in the Bahamas, WDP engages in Florida offshore and intracoastal surveys to help document species diversity of cetaceans along the southeast coast of Florida. Acquiring baseline information about species location and diversity along our Florida coast will contribute to our knowledge about how human impacts may affect dolphins and our coastal environment off Florida.



Graduate students and volunteers try to identify dolphins riding the bow of R/V *Stenella*.

Student Internship Opportunities

During our summer research season (May – September), internship opportunities are available to U.S. undergraduates, recent graduates, and high school juniors and seniors, and to overseas students at the discretion of WDP.

Trips leave on a Tuesday morning and return 10 days later Thursday morning. Students must be currently registered in a relevant university or high school program and have swimming and snorkeling skills. High school students or others under age 18 also need written parental permission as part of their application.

Intern Responsibilities in the Field:

- Conduct daily dolphin watches on the bridge.
- Assist the Research Assistant in logging data into our database.
- Assist with in-the-water underwater photography.
- Assist with processing dolphin photographs for photo identification.
- Review underwater video and assist WDP staff with logging individuals and behavior.

www.wilddolphinproject.org/participate/student-internship-opportunities



Students enter data during dolphin watches and upon encountering dolphins. This information is later entered into our long-term database which helps us track locations, group size, and other observations.



Students prepare to enter the water for another underwater observation. A list of dolphins and their calves is kept on an outside board for quick reminders for the team.

Community Impact & Events

October 2015 Scheller College of Business in Atlanta, Georgia recently hosted an IPAT lecture with Dr. Denise Herzing and Dr. Thad Starner of Georgia Tech. 100 faculty, students, and general public attended this lecture and it is available online.

October 2014 Dr. Herzing and a group of interdisciplinary scientists participate in a SETI colloquium to summarize and discuss a two-way workshop held to explore nonhuman communication research. 12 scientists met for two days. A summary colloquium was given to 100 people and streamed live to a web audience.

May 2014 Bethany Augliere of the Wild Dolphin Project gave a presentation titled "Wild Dolphin Project" at the Lighthouse Arts Center School of Art, which provided 60 to 70 kids and parents information about our project as well as the Atlantic spotted dolphins that we research.

January 2014 Dr. Denise Herzing gave a presentation at the Jupiter Branch Library in Palm Beach County discussing her book, "Dolphin Diaries: My 25 Years with Spotted Dolphins in the Bahamas" as well as research being done to develop a means for two-way communication between researchers and dolphins. 50-60 people attended this presentation

April 2013 The Museum of Science hosts a talk with Dr. Denise Herzing and Rob Shumaker, PhD, vice president of conservation and life sciences, Indianapolis Zoo, former biologist, curator, and exhibit designer, Smithsonian National Zoo

April 2013 Like SETI radio signal searches, dolphin sound analysis includes the detection, recognition, analysis, and interpretation of signals. Dolphins use three main types of acoustic signals and many of these sounds have been a challenge to measure and categorize due to their graded and overlapping nature. The goal of this talk is to provide perspective from dolphin communication studies and lessons learned about signal detection and recognition.

February 2013 Could we speak the language of dolphins? Dr. Denise Herzing speaks at the 2013 TED conference in Long Beach, CA.



Auditor's Statement

FREDERICK DULAS, CPA, LLC
Certified Public Accountant

P.O. Box 1189 • Port Salerno, FL 34982

Tel: (772) 431-5690
Fax: (772) 678-6372
email: fdulascpa@yahoo.com

INDEPENDENT AUDITOR'S REPORT

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

We have audited the accompanying statement of financial position of Wild Dolphin Project, Inc. (a nonprofit organization) as of October 31, 2013, 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.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. 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 from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

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, 2013, 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.

Report on Summarized Comparative Information

We have previously audited the Wild Dolphin Project, Inc. financial statements as of October 31, 2014, and we expressed an unmodified audit opinion on those audited financial statements in our report dated December 13, 2014. In our opinion, the summarized comparative information presented herein as of and for the year ended October 31, 2014, is consistent, in all material respects, with the audited financial statements from which it has been derived.

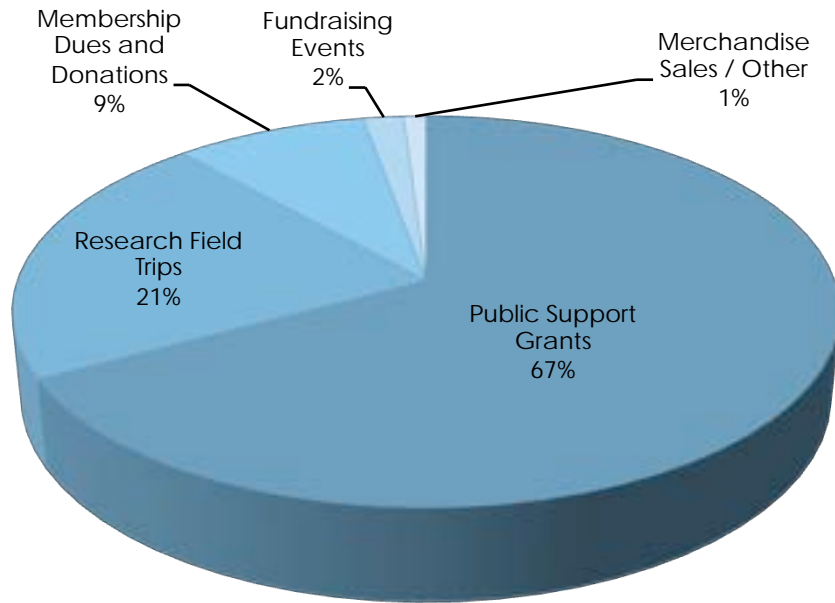

FREDERICK DULAS, CPA, LLC
December 4, 2013



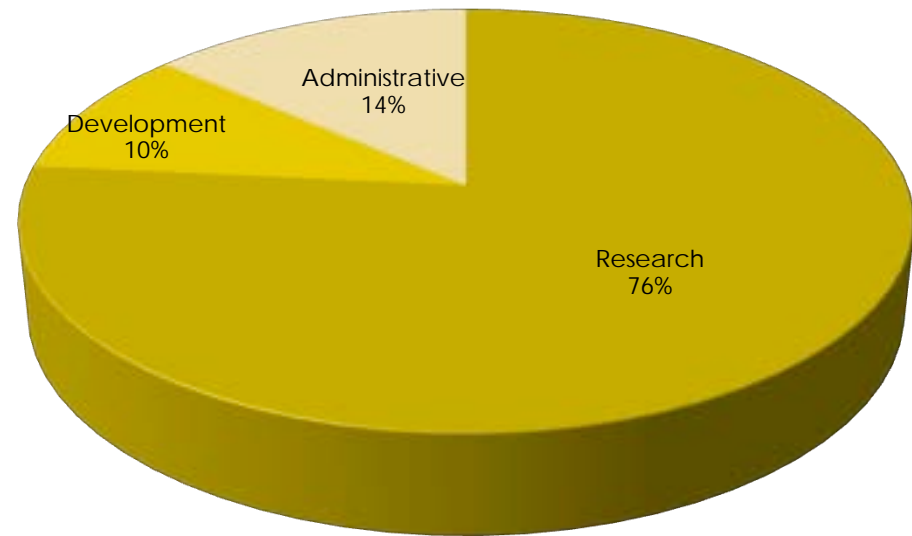
The crystal clear waters of the Bahamas allows us to observe dolphins underwater on a regular basis

Financial Report: Income and Expenses

2015 FY Income



2015 FY Expenses



Wild Dolphin Project

Scientific Publications

Herzing, D. L. (2014). Profiling nonhuman intelligence: An exercise in developing unbiased tools for describing other “types” of intelligence on earth. *Acta Astronautica*, 94(2), 676-680

Herzing, D. L. (2014). Clicks, whistles and pulses: Passive and active signal use in dolphin communication. *Acta Astronautica*, 105(2), 534-537

Herzing, D. L. and C. R. Elliser. (2013). Directionality of sexual activities during mixed species encounters between Atlantic spotted dolphin (*Stenella frontalis*) and bottlenose dolphin (*Tursiops truncatus*). *International Journal of Comparative Psychology*, 26: 124-134

Elliser C. R. and D.L. Herzing. (2013b). Social structure of Atlantic spotted dolphins, *Stenella frontalis*, following environmental disturbance and demographic changes. *Mar. Mamm. Sci.*, DOI: 10.1111/mms.12038

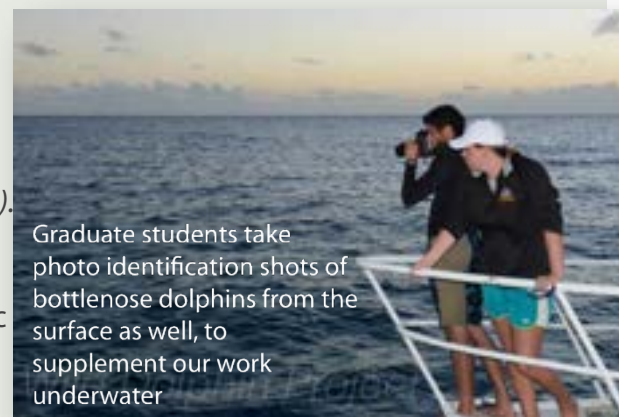
Green, M. L., Herzing, D.L. and Baldwin, J.D. (2007). Noninvasive methodology for the sampling and extraction of DNA from free-ranging Atlantic spotted dolphins (*Stenella frontalis*). *Molecular Ecology News*, 7: 1287-1292.

Lammers, M.O., Au, W.W.L. and Herzing, D.L. (2003). “The broadband social acoustic signaling and behavior of spinner and spotted dolphins.” *J. Acoustical Society of America*, 114 (3): 1629-1639

Herzing, D.L. (1997). The life history of free-ranging Atlantic spotted dolphins (*Stenella frontalis*). Age classes, color phases, and female reproduction. *Marine Mammal Science*, 13 (4): 576-595

Herzing, D.L. (1996). Vocalizations and associated underwater behavior of free-ranging Atlantic spotted dolphins, *Stenella frontalis*, and bottlenose dolphins, *Tursiops truncatus*. *Aquatic Mammals*, 22 (2): 61-79.

Herzing, D.L. (1988). A quantitative description and behavior associations of a burst-pulse sound, the “squawk” in the bottlenose dolphin, *Tursiops truncatus*. *Thesis*. San Francisco State University.



Graduate students take photo identification shots of bottlenose dolphins from the surface as well, to supplement our work underwater

A complete list of all publications available here:
www.wilddolphinproject.org/media/scientific-publications

Media

- National Geographic
- Ted Talk
- Boston Museum of Science, Contemplating Creatures
- BBC Ocean Giants: Deep Thinkers
- ABC Good Morning America
- PBS Learning Media: A dolphin's Return
- Explore.org: Wild Dolphins
- In the Wild with Robin Williams

www.wilddolphinproject.org/media/videos-tv-lectures/



2017 Projections & Goals

WDP is excited to embark on our 33rd year of studying and reporting on the free-ranging Atlantic spotted and bottlenose dolphins.

2017 brings a new generation of scientists to carry the torch, continuing the mission and vision of The Wild Dolphin Project's long term research goals.

This coming season, WDP will increase Florida work, documenting dolphin populations and environmental data off our coast. Meanwhile, our current work in the Bahamas, primarily on Little Bahama Bank and the Great Bahama Bank, will expand to include new field sites.

We welcome intern and field season cook, Ariel Vierheller, to her new role as research assistant.

WDP will launch an educational program aimed at enriching the science and environmental conservation curriculum for local students.

Stay tuned for updates as we venture ever forward by following our blog here: www.wilddolphinproject.org/media/blog and subscribe to our newsletter by becoming a member



Known for their high leaps and acrobatics, Atlantic spotted dolphins can leap and breach high into the air. Leaps can be a communication signal of just plain fun.

Support The Wild Dolphin Project

Become a member As a member of WDP you get a free coffee table book from Dr. Denise Herzing, a newsletter, and first priority when signing up for summer trips

Purchase WDP merchandise WDP offers a variety of t-shirts, mouse pads, books, and more are all available in our ship's store

Donate online Set up recurring donations, Paypal and all major credit cards are accepted, and you can remain anonymous if you prefer

Corporate and Workplace Giving

Planned / Estate Giving & Stock Donations

Get Creative – Goodsearch, eBay Giving Works, and Amazon Smile are creative ways to support WDP

Wishlist – In-kind donations of equipment for WDP Office, Field, and Research Vessel are graciously accepted

View options and get complete details on our website under the “Donate” tab www.wilddolphinproject.org/donate/



Atlantic spotted dolphins can live as long as 50 years and spend their extended childhood years learning social rules and behavior.

A group of dolphins is swimming in clear blue water. The dolphins are of various sizes and are captured in motion, with some showing their dorsal fins and others their heads. The water is a vibrant blue, and the lighting suggests a sunny day. The dolphins are swimming in a loose formation, with some moving towards the camera and others away from it.

2016 Annual Report

Prior annual reports are available upon request.
Please email: info@wilddolphinproject.org