Chicago Zoological Society
Education Plan/Learning Strategy

Informed by Learning Sciences and Conservation Psychology research, CZS recognized the need for moving from the traditional strategy based on “education messages” to a more modern, holistic strategy based on providing “educational experiences.” In 2006, the Chicago Zoological Society developed a Learning Strategy, which is our main approach to develop outcome-based education experiences connecting our activities with our mission. Our Learning Strategy is (1) a framework to put our mission into practice; (2) a core reference to create master plan experiences, programs, and events; (3) a means to make program and exhibit outcomes measurable; (4) a process that empowers people to become important agents for environmental change; and (5) a tool that develops abilities for many kinds of conservation leaders.

Through our internal Conservation Psychology and Audience Research Department, we developed assessment tools based on three fundamental outcome domains to measure the impact of our exhibits and programs in fostering conservation leadership and meeting our mission. These three outcomes are:

- Cognitive: Understanding connections between you, your life, and your environment
- Affective: Empathy for living things
- Behavioral: Taking action that leads to a sustainable relationship with nature

To achieve these outcomes, the Learning Strategy strives to incorporate nine key principles into the design and interpretation of every exhibit and program. These principles are:

1. First-Hand Experience: Providing opportunities for direct exploration with real animals.
2. Learner Centered: Empowering the learner as an active participant.
3. Relevant: Ensuring relevance to people of all cultures and backgrounds.
5. Creative: Providing opportunities for guests’ creative expression about animals and nature.
6. Aesthetic Connections: Connecting to people’s sense of wonder and beauty in our programs, park experiences and facilities.
7. Scientific Excellence: Ensuring scientific excellence and exploration as a foundation for our programs and exhibits.
8. Builds Competence: Builds confidence in the ability to make a difference.
9. Conservation Literacy and Action: Empowers people and communities with knowledge, awareness and skills that encourage taking action on behalf of the environment.
NatureStart is a comprehensive education and training initiative that provides resources, skills, and training in to help build caring relationships between children and the natural world for a lifetime of conservation involvement. The suite of NatureStart programs are designed to engage and empower parents, grandparents, families, and educators of children from birth to age 8 and include:

- **Daily NatureStart Programs** facilitated by members of the Family Play Program team whenever the Brookfield Zoo is open to the public, including select after-hour events. These programs are available at the Hamill Family Play Zoo as well as other areas of the zoo and include child and family centered nature play that change on a daily basis. Over 300,000 zoo visitors per year participate in these programs.

- **NatureStart Family Classes** specifically tailored to jointly engage children and their caregivers. Conducted daily, these classes are based in nature play experiences and sensory exploration that can be repeated by parents and caregivers at home, with additional resources provided through parent education sheets.

- **NatureStart Teacher Training** workshops and classes are designed to help early childhood educators develop an appreciation of how nature play can be used to meet early standards in math, science, and literacy. Teachers also learn how indoor and outdoor early childhood environments can be enriched through incorporating natural material and opportunities for nature play. All Teacher training workshops incorporate goals and benchmarks in math, science, and language development of Illinois Early Learning Standards.

- **NatureStart Internships** experiences are available through select university partnerships. The goal of these programs is to expose early career and pre-service childhood educators to the important role of nature in the lives of young children and to explore how this understanding may be incorporated into their future professional practices.

- **NatureStart Professional Development** programs provide workshops and classes for informal educators in zoos, aquariums, nature centers, and museums.
ADVENTURES IN LEARNING

Adventures in Learning includes all subscription programs, classes, and workshops offered through the CZS Gateways magazine and on the CZS website. The primary goal of these programs is to provide a range of in depth experiences that achieve the society's mission by fostering an appreciation of nature through experiences that directly connect guests with the subject matter in an intimate way.

The goals of these programs are:

- Increase knowledge of the natural world
- Increase awareness of conservation and CZS's role in advancing conservation efforts
- Demonstrate CZS's role as a community resource
- Foster participants' emotional bond with animals and plants at Brookfield Zoo
- Encourage action on behalf or the natural world

These programs include:

- Zoo Tours: These staff led zoo tours for adults and families with children serve approximately 500 people each year.
- Wild Encounters: Personalized and exclusive animal encounter programs highlighting the daily care and training of select animals at Brookfield Zoo.
- Zoo World Patch: A program for Scout groups and other youth groups that encourages appreciation for animals and raises awareness of the conservation efforts of a modern zoo.
- Zoo Camp: Week-long day camp experiences attract more than 700 children from preschool through middle school each summer. The ZooCamp program is certified by the American Camping Association and focuses on developing social-emotional competencies, collaborative learning skills, and creative problem solving abilities through team building experiences and an inquiry based approach to science and conservation.
Outreach Programs focus on improving STEM education for youth and increasing diversity of conservation leaders. The results of this program demonstrate that its sequential design engages diverse local youth, providing a realistic prospect of a professional career linked to science and conservation. The program builds on our strong relationships with the communities we serve to increase science literacy and develop enduring interest in nature and conservation among young people. To increase the diversity of our workforce in the future, we offer paid and unpaid internships, provide need-based support for economically disadvantaged participants, and target diverse communities for recruitment into the program. Youth from all backgrounds who are interested in environmental sciences have the opportunity to pursue their interests despite having potentially limited resources. Our approach provides a progression of opportunities that inspire youth to develop leadership skills, increase confidence in their abilities, and expand professional horizons through direct experiences and scientific exploration. Students gain crucial life skills that transcend cultural barriers and reach beyond traditional academic subjects, such as public speaking skills, professional interviews, public presentations, basic scientific research, all aspects of zoo operations, and how to make a difference in their communities. By leveraging our long-term relationships with some of Chicago’s underserved communities, we are able to bring the program to racially and economically diverse audiences.

The goals of these programs are to:

• offer environmental education opportunities for underserved youth and families that complement school curricula
• expose youth from diverse backgrounds to environmental careers and provide training in a variety of scientific and professional disciplines
• promote the development of both communication and job-related skills
• help participants find connections between their skills and serving the environment
• inspire the next generation of conservationists and conservation-minded citizens

Outreach Programs consists of six sequential steps in a career pipeline designed to take advantage of the personal strengths of the participants and offer rewarding opportunities for scientific exploration. The program design encourages continued scientific interest from early childhood through adulthood by offering engaging programs for each stage of academic development. The program begins with a community-based family outreach program for children and their families in disadvantaged communities. The program, called Zoo Adventure Passport (ZAP!), introduces children to basic science and conservation through fun, family-based activities. In the second step, we invite them to join our community-based Conservation Science Explorers, an after-school program for middle school students that develops key science skills. High school youth can then progress to the third step, our competitive Kings Conservation Scholars Program creates conservation minded college and career ready teens. Fourth, we offer paid positions in a real-world conservation setting at Brookfield Zoo for high school and college students. Fifth, we provide merit-based scholarship support for college education in conservation and science. Sixth, we offer both paid and unpaid internships in animal programs, education, and administration.
INTERPRETIVE PROGRAMS

Interpretive programs include formal and informal oral interpretation in addition to written exhibit interpretation. The primary goal is for all interpretation to foster the Zoo’s mission of building conservation leaders by connecting people with animals and nature, as well as be educational, enjoyable and encompass the elements of our learning strategy. Oral interpretive experiences include formal and informal experiences facilitated by paid and unpaid staff. Paid interpretive staff conducts formal live animal interpretations such as dolphin shows which focus on animal training, care, natural history and/or conservation issues. Informal interpretive experiences conducted by paid interpretive staff promote empathy for animals by highlighting connections between animals and people in addition to dispelling many myths. Paid animal care staff conducts interpretive experiences that promote animal care and well being. Unpaid interpretive staff (volunteers and docents) highlights connections between animals and people and help promote empathy for nature through informal interpretive experiences such as exploration stations; interpretive stations stocked with artifacts for guests to see and touch. All oral interpretive staff goes through interpretive training provided by zoo staff members who are certified interpretive trainers through the National Association for Interpretation. The interpretive trainers also provide coaching, mentoring and modeling of these interpretive practices.

Written interpretation follows all AZA guidelines in addition to being thematic, easy to read and understand, promote empathy, show relevance, discuss conflict and where available reveal achievable conservation steps.. Written interpretation is discussed, developed and evaluated by the interpretive trainers, design department, animal programs department and the education department to assure accuracy of content, sound implementation of interpretive techniques and reflection of the learning strategy.

SCHOOL, GROUP, AND TEACHER PROGRAMS

The School, Group, and Teacher Programs provide educational opportunities for a wide audience – from preschool children through a Masters Degree for teachers of all grade levels, informal science educations, and an increasing number of individuals seeking to become agents of change in their communities. Classes are focused on science as a process, creating experiences in which content is relevant and useful. Teachers learn how to use the scientific inquiry, promoting “hands-on and minds-on learning.” School, Group, and Teacher Programs reflect the principles of conservation and the Learning Strategy established by The Chicago Zoological Society in 2006.

The School, Group, and Teacher Programs are divided into the following major service delivery areas:

- **School Programs** offers classes for students from preschool through high school. The Connections series of classes explores a wide series of topics, including animal survival, critter coverings, wetland wonders, animal behaviors, ecosystems, and primate populations. Classes are age-appropriate, participatory, and inquiry-based, offering meaningful
experiences to students of all learning styles. Brookfield Zoo is used as a living classroom to offer engage students in animals and conservation. Several classes are designed with inclusion students specifically in mind: Every Student is a Scientist series, Good Works, and Bridges are offered to special citizens to have volunteer and work opportunities at the Zoo.

- **Teacher Programs** offers unique learning experiences that enrich educators’ classroom curricula. Workshops, classes, exhibit previews, and Zoo experiences all provide professional development opportunities for teachers. As an approved Illinois State Board of Education provider, continuing education credits are offered. Additionally, graduate and undergraduate credits are offered through an academic partnership with Aurora University, National Louis University, and Triton College.

- **Institute of Science Teaching Excellence** is an inclusive learning process to meet teachers’ self-identified need to improve their competency and confidence in teaching science. The overarching goal of this program is to motivate teachers to become conservation leaders through an improved understanding of scientific principles and participatory pedagogy, inspiring students to become conservation leaders as well. Specific goals are (1) to offer a variety of professional development opportunities to teachers that will promote competency and confidence in teaching science; (2) to offer curriculum units to enhance students’ science learning; (3) to support teacher professional development principles through a collaborative process; and (4) to assess program effectiveness and disseminate the results to the informal learning community.

- **Advanced Inquiry Program (AIP)** is a Master’s degree program implemented in collaboration with the Miami University in Ohio. This groundbreaking graduate degree focuses on inquiry-driven learning and social change. AIP students nationwide join web-based learning communities from Miami University while building collaborative projects and strong local networks through face-to-face interactions at the Brookfield Zoo. AIP Master’s candidates use inquiry not only as a tool for integrated learning, but as a powerful agent for student achievement, public engagement in science, and ecological stewardship. The AIP curriculum provides real-world experiences that also advance district, state, and national educational standards through research-based practices for student achievement in core content areas. AIP Master’s candidates may also choose to integrate professional development experiences abroad by choosing from Earth Expeditions field courses in Africa, Asia, and the Americas (7 credits from Earth Expeditions courses can count toward the AIP Master’s degree). Leveraging resources and relationships developed during more than a decade of collaborations, CZS has developed and implemented Guyana: Local Wisdom and Conservation, with the active participation of Makushi young leaders, former members of the Wildlife Clubs. The AIP is based on the principle that education should extend beyond the classroom, and that students should make a difference—not just after graduation, but now, as a basic function of education itself. AIP Master's students practice the skills of investigation, critical reflection, leadership, and collaboration required to effectively address the vital issues of our time.
INTERNATIONAL CONSERVATION CAPACITY

• Global Species Conservation Toolkit
  Our Global Species Conservation Toolkit program includes the design, development, and maintenance of advanced digital tools for conservation risk assessment and population management that help secure the future of wildlife species in a changing world. We provide for the continued innovation of the science of computer modeling and digital tools to help clarify conservation priorities and options, integrate risk assessments, assess threats, and identify measures of success in wildlife conservation. Further, to ensure access to these tools are used by the conservation community, we provide adequate training and support.

  Dr. Lacy, Senior Conservation Scientist for CZS and CSAW program leader for population biology, is the developer of the most widely used “population viability analysis” software (VORTEX) used to test the genetic and demographic consequences of various conservation management systems for captive or wild populations. To meet the increasing needs to develop species conservation plans that take into consideration various levels of complexity, CZS worked with an international team of collaborators to develop MetaModel Manager, a powerful modeling tool that integrates species viability with various kinds of risk analysis to test the combined impacts of a variety of interacting events and processes (disease, climate change, invasive species, habitat fragmentation, and multi-species interactions) on species survival. MetaModel Manager is being used by USDA and USFWS to examine the impacts of invasive species in Puerto Rico, the Australian government to examine the consequences of climate change on species vulnerability, the South African National Parks to test the effective of bovine tuberculosis on lion populations, and other conservation and management authorities. Dr. Lacy also co-developed the PMx software for pedigree analysis and management. He’s called upon to provide advice on emerging issues also to the leadership of AZA, EAZA, ZAA, JAZA, WAZA, USFWS species recovery teams, USDA, and other organizations.

• Punta San Juan Field Research Program
  Since 2007, CZS researchers have been involved in the study of Humboldt penguins, seabirds, fur seals, sea lions, and marine invertebrates at the Punta San Juan marine protected area in Peru. Our research focuses on understanding baseline population health, infectious disease risks, and environmental contamination/toxicant exposure, and supports our collaborators working on satellite tracking of animals to better understand ocean use and feeding ecology. The Punta San Juan project provides professional training and field experience to international veterinarians, biologists and graduate students. In addition to veterinary research, Punta San Juan staff has received training on NatureStart, as part of our collaborations in Latin America. We developed a ground-breaking early childhood program in the nearby community of San Juan de Marcona and coordinate a number of community outreach initiatives, including educational guided tours, training local youth to become naturalist guides, and hosting community information sessions and children’s activities.
A Zoo For All provides innovative engagement opportunities for people with physical and mental disabilities to build an inclusive conservation movement and cultivate a holistic approach to programming. We serve more than 460,000 guests with some level of disability and strive to provide opportunities that bring meaningful change to the lives of all people. We have four programs in partnerships with Autism Speaks, Misericordia, Best Buddies of Illinois, the LaGrange Area Department of Special Needs, the Special Education Department at Riverside-Brookfield High School, the Special Recreation Associations that serve Brookfield and nearby communities and Southside Occupational Academy.

- **Life and Work Skills** trains young adults for employment and volunteer opportunities.

- **Inclusion in CZS Programs and Customized Programming** are provided within current programs whenever possible. For example Zoo Camp provides extra training in attention deficit and autism learning needs for all camp counselors.

- **Brookfield Zoo Guest Experiences** provides, upon request, noise cancelling headphones, visual schedules, social stories, self-identifying badges, as well as ADA compliant family restrooms, some outfitted with adult changing tables.

- **Community Outreach Events** are attended by our staff and animal ambassadors so people with disabilities can participate in activities and interact with animals and animal care staff.
This is to certify that

CHICAGO ZOOLOGICAL SOCIETY

is a licensed
under the

Animal Welfare Act
(7 U.S.C. 2131 et seq.)

Certificate No. 33-C-0003

Customer No. 2567

Deputy Administrator
Information

Year-Round Attractions

Penguin Encounters Inside The Living Coast Effective March 24, 2018 Daily 11:00 a.m.-2:00 p.m.
Effectice September 17, 2018
Wednesday: 11:00 a.m.
Weekends: 11:00 a.m.-2:00 p.m.
Effectice December 5, 2018
Non Holiday Magic Days: 2:30 p.m.
Holiday Magic Days: 2:00 p.m.-6:00 p.m.
Check CZS.org for additional dates. Subject to change without notice. Ticket sales close 15 minutes prior to encounter.

Feed the Giraffes! Giraffe feedings are $10 per feeding and are offered from 10:30 a.m. to noon and 1:00 to 2:30 p.m. (weather permitting) on the following days in 2018:
May 12-13 and 19-20
May 26 to September 30

Seasonal Attractions

Dolphins in Action Be amazed by Dolphins in Action, featuring some of our most popular animals. Check the sign in front of Seven Seas for a schedule. 
Sponsored by AMITA Health.

Discover the marvels of eight-legged critters and explore human-anarchivist cultural connections, before weaving your way through a gigantic safari maze that features the stories of 16 endangered species at Brookfield Zoo.

Hamill Family Wild Encounters Get up close to a myriad of animals, some of which you can touch and interact with, including goats, and visit America’s largest parakeet aviary. Plus, encounter surprise animal ambassadors as you explore Hamill Family Wild Encounters.

Hamill Family Play Zoo Hamill Family Play Zoo strives to provide a fun and meaningful experience for all our guests—children can participate in hands-on activities, and guests of all abilities can visit our brand new sensory friendly family room and inclusion resource center.

Hamill Family Wild Encounters

Seasonal Attractions

Holiday Magic Days 2:00 p.m., 6:00 p.m.
Weekends 1:00 p.m.-6:00 p.m.
Weekdays 11:00 a.m.-5:00 p.m.

Indiana's largest family shopping event paired with live music—(For guests 21 and over.)

Host your event at the zoo! For more information please call (708) 688-8355 or visit CZS.org!

Dining

Over a dozen quick-serve locations offer something for every taste.

Burgers
Grass-Fed Bison and Beef • Bison Prairie Grill (G4) Angus Beef • BZ Red Hots (F13), Café del Sol (H5), AnimalCafe (F12) Scopos (H8)
Turkey • BZ Red Hots (F13) Veggie • Café del Sol (H5), Scopos (H8)
Black Bean • Castaway Grill (F12)

Chicago-Style Hot Dogs
Bison Prairie Grill (G4), BZ Red Hots (F13), Café del Sol (H5), Scopos (H8)

Pizza (Cheese and Sausage)
BZ Red Hots (F13), Café del Sol (H5)

Quesadillas, Burritos, and Taco Salad • Café del Sol (H5)

BBQ • Café del Sol (H5)

Specialty Sandwiches
Bison Prairie Grill (G4), Castaway Grill (F12), Scopos (H8)

Specialty Coffee Drinks
North Gate Cafe and Snacks (BB), South Gate Coffee and Snacks (H10)

Vegetarian Options
Bison Prairie Grill (G4), Café del Sol (H5), Castaway Grill (F12), Scopos (H8)

Funnel Cakes, Shakes, and Sundaes Scopos (H8)

Craft and Specialty Beers
Various locations throughout the zoo

We are proud to support local farmers. Serving produce from local farmers and offering locally sourced on energy and help local economies.

Healthy and options enhanced by Healthy Food is the best option available. Bison Prairie Grill, BZ Red Hots, and Café del Sol.

Host your event at the zoo! Find out more on CZS.org or call (708) 688-8355.

From 20 to 10,000 guests, we can meet your needs. Company and family picnics, weddings, corporate events, holiday parties, meetings, birthday parties, reunions, formal dinners, quinceañeras, anniversaries, showers, and more.

2018 Special Events

Find additional events at CZS.org!

Enjoy beans and beers, fries and lagers, antitaters and ales—a unique craft beer-tasting event paired with live music—(For guests 21 and over.)

June 23 and 24

Enjoy live bands, roaming entertainment, and delicious food and drinks, plus a new laser light show!

To save endangered species, run or walk the 5k race on a course all inside the zoo. Also featuring a 1-mile KIDS RUN. Bring your friends and family to cheer you on FREE.

Halloween Magic Days 2:00 p.m., 6:00 p.m.
Weekends 1:00 p.m.-6:00 p.m.
Weekdays 11:00 a.m.-5:00 p.m.

Get your community group or company to decorate a holiday tree that will help us save our animal Holiday Magic Festival! Advance registration is required and can be booked at CZS.org/TreeTrim.

November 17 and 18

Enjoy bears and beers, lions and lagers, antitaters and ales—a unique craft beer-tasting event paired with live music—(For guests 21 and over.)

December 1-2, 8-9, 15-16, 22-23 plus December 26 to 31, Open until 9:00 p.m.

For more information please call (708) 688-8355 or visit CZS.org/

Our largest event of the year transforms the zoo into a winter wonderland. Take your friends and family and stroll by over 1,000 twinkling LED lights. Discover lights, music, entertainment, and animals throughout the zoo.

Host your event at the zoo! For more information please call (708) 688-8355 or visit CZS.org!
At Coral World we believe that all organisms on the planet are connected to the ocean. The ocean covers approximately 70% of our globe and is the reason why life on Earth is possible. The ocean controls the Earth’s climate and weather, is a major driver of the water cycle, provides most of the earth’s oxygen, absorbs solar radiation and provides ecological, economic and cultural goods and services to humans and other organisms throughout the world. The ocean affects us and we affect the ocean.

At Coral World, we understand that not all people realize how interconnected they are to the ocean. This is especially true for people who live hundreds to thousands of miles away from any coastline. At Coral World, guests are given the opportunity to explore this incredible world through educational presentations, animal demonstrations, interactions and encounters with various marine organisms. Our exhibits are diverse and include a wide variety of marine and terrestrial animals, plants, communities and ecosystems including but not limited to coral reefs, mangroves, tortoises and birds, sea cucumbers, sea urchins, sea stars, reef fish, sharks and rays, sea turtles, sea lions and in the future dolphins. All of these animals are connected to one another and each serves a fundamental role in the marine environment. We hope that guests leave our facility with an increased appreciation for the ocean and a greater understanding of how connected we are to this amazing world.

To achieve these educational goals Coral World recognizes the diversity of our audience and their learning styles. Coral World is open to the public and hosts education presentations with birds, sea lions, sharks, and stingrays as well as an open water talk about Caribbean fish and invertebrates, our education message is ecosystem based and we focus on the ocean literacy concepts of one world ocean, and that man is inextricably connected to that ocean. Coral world hosts 2700-3500 pre-12 school children annually at no charge. Additionally, Coral World has an in-depth internship program focusing on marine science and marine mammals. Coral World also works with Master’s degree students at the University of the Virgin Islands especially those seeking degrees in the Masters of Marine Science.
This is to certify that

CORAL WORLD INC

is a licensed
under the

CLASS C EXHIBITOR

Animal Welfare Act
(7 U.S.C. 2131 et seq.)

Certificate No. 98-C-0001
Customer No. 37054

Deputy Administrator

United States
Department of
Agriculture
Marketing and
Regulatory
Programs
Animal and
Plant Health
Inspection
Service
Animal Care
No non-compliant items identified during this inspection.
This inspection and exit interview were conducted with the facility representative.

United States Department of Agriculture
Animal and Plant Health Inspection Service

Inspection Report

Coral World Inc
6450 State Smith Bay
Saint Thomas, VI 00802

Customer ID: 37054
Certificate: 98-C-0001
Site: 001
CORAL WORLD INC

Type: ROUTINE INSPECTION
Date: 14-FEB-2019

Prepared By: Luis A. Navarro, DVM
Title: VETERINARY MEDICAL OFFICER 6025
Date: 14-FEB-2019

Received By: LEE KELLAR
Title: SENT BY E MAIL
Date: 14-FEB-2019
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At Coral World Ocean Park, take a journey you will never forget. Experience the beauty and the magic of life under the sea. Get up close and personal your way.

The highlight of your trip.

HOURS
Coral World is open daily from 9 am to 4 pm. The ticket booth closes at 3 pm. Please call to confirm off-season May - October, hours may vary so please call.

ADMISSION
Admission is good for the entire day and includes all exhibits. Additional fees apply for sea lion and other animal encounters, water sports, and boat tours. Visit adjacent Coki Beach and re-enter Coral World as many times as you wish throughout the day. Showers and locker rentals are available for our guests.

FEEDING SCHEDULE
There are interactive talks and feedings throughout the day. Don’t miss the chance to pet a shark, feed a stingray, or ask our staff questions!

RESERVATIONS
No reservations needed to visit Coral World. We do recommend advance reservations for animal encounter programs, Sea Trek®, Snuba®, MV Nautilus, and parasailing as space is limited.

PRIVATE FUNCTIONS
Coral World is a unique setting with breathtaking views for weddings, birthdays, sleepovers and other special occasions. Multiple venue options available and outside caterers welcome. Please contact us for details.

GETTING HERE
Coral World is located on Coki Point, off route 38, a 25-minute scenic drive or taxi ride from downtown Charlotte Amalie and the cruise ship piers. 10 minutes from the east end Red Hook ferry dock.

Get Up Close and Personal

St. Thomas, U.S. Virgin Islands

Copyright © 2010 Coral World/OLG Inc.
I. Animal-Specific:

NOAA Identification No.: NOA0006620

Common Name: Bottlenose Dolphin
Scientific Name: Tursiops truncatus

Sex: FEMALE

Date of birth: 04-01-2010
Birth Date Certainty: ACTUAL

Captive Origin: BIRTH

Date of original captivity: 04-01-2010

Permit No.: —

Geographic Location: —

II. Owner/Facility-Specific:

Owner (Person or other Entity With Custody of the Marine Mammal): Dolphin Quest, Inc.

Facility (if different from Owner): Dolphin Quest - Bermuda

Date assumed custody: 04-01-2010

Date arrived at Facility: 04-01-2010

City/State/Zip of Facility (include Country for foreign facilities): Mangrove Bay, MA BX, BM

Animal Identification No. (assigned by facility): —

Animal Name (assigned by facility): —

Purpose(s): Public Display

III. Disposition:

Death Date: —

Death Cause: —

Death Cause Comment: —

Release Date: Permit No.: — OR □ Unauthorized release/escape (reintroduction)

Geographic Location: Lat: ' ' / Lon: ' '

Tag number or description of other identifying markings: —

IV. Animal Historical Transfer/Transports:
Marine Mammal Data Sheet (MMDS)

NOTES:
The Marine Mammal Protection Act of 1972, as amended (MMPA) (16 U.S.C. 1361 et seq.) requires that persons holding marine mammals submit certain information to the National Marine Fisheries Service (NMFS). The MMPA requires that NMFS maintain an inventory of all marine mammals held for public display purposes and scientific research/enhancement (i.e., all marine mammals held captive except for those in captivity before December 21, 1972). In addition, the MMPA requires that NMFS be given advance notice 15 days prior to the transfer/transport of any marine mammal. To ensure compliance with these and related MMPA requirements, NMFS recommends that persons holding marine mammals in captivity use this Marine Mammal Data Sheet (MMDS) to submit inventory information regarding their captive marine mammals to NMFS. Use of this form will ensure that the MMPA required information is submitted in a consistent manner and that the NMFS marine mammal inventory is accurate and up-to-date.

Marine Mammal Data Sheets should be used when submitting information to NMFS in compliance with MMPA requirements applicable to persons holding marine mammals, including notifications of any additions/changes to your marine mammal inventory due to:
- Birth, Death, Transfer/Transport
- Retention or Transfer of Rehabilitated Beached and Stranded Marine Mammals (Authorization or Permit)
- Wild Capture, Import, Reintroduction to the Wild, including release or escape (Permit)
- Other (Corrections, etc.)

The animal-specific information in Section II will not change, whereas data in Sections I, III and/or IV will change with transfers/transports (changes of custody and/or facility/location). In accordance with MMPA requirements, NMFS requests notification of any change in custody or facility/location, including captive births and deaths. A copy of the Marine Mammal Inventory Report Summary (MMIRS) may be provided periodically and may be requested at any time by contacting the Permits, Conservation and Education Division at the address listed below.

All permit documentation including reports and inventory information required herein, is subject to the Freedom of Information Act (FOIA) with personal or sensitive information that is subject to the Privacy Act redacted when released under FOIA.

Marine Mammal Transfer/Transport Notifications
NMFS recommends that:
1. Owners notify NMFS of proposed transfers/transports by completing a Marine Mammal Transfer/Transport Notification (MMTN) form, forwarding it to the Receiver for signature and submitting it to NMFS. It is not necessary to submit the MMDS for the animals proposed to be transferred/transported, but sufficient information must be included on the MMTTN to identify the animal(s).
2. The MMTTN must be received by NMFS at least 15 days prior to the actual transfer/transport date. Should you need to transfer/transport an animal before the required 15 day notification, please contact NMFS regarding an emergency waiver.
3. NMFS will reply with an acknowledgement letter and MMDS(s) to be updated upon receipt of the animal(s). The transfer/transport should occur within 60 days after initial submission of the MMTTN. If an extension is necessary, please contact NMFS.
4. At any time within 30 days of the transfer/transport, the Owner should forward to NMFS the updated MMDS for each animal actually transferred/transported (i.e. Section I and, as necessary, Section III to verify receipt of the animal(s)).

Beached and Stranded Marine Mammals - Retention or Transport
The retention or transport/retention of rehabilitated beached and stranded marine mammals requires a permit or written authorization under the MMPA. A permit is required to obtain such marine mammals for purposes of scientific research or enhancing the survival or recovery of species or stocks, or to retain or obtain such marine mammals for public display purposes where such animals have been determined releasable. Where such marine mammals have been determined non-releasable, NMFS authorization is required to retain or obtain them for public display purposes. Please contact the Permits, Conservation and Education Division at the number or address below for information on submitting such a permit application or authorization request.

QUESTIONS? If you need assistance completing this form please contact the Permits Division at (301-427-8401) or write to us at:
Permits, Conservation and Education Division - F/PR1 Office of Protected Resources Or by facsimile National Marine Fisheries Service at (301) 713-0376 1315 East West Highway, Room 13705 Silver Spring, MD 20910

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information to complete this form. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden, to the Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless the collection of information displays a currently valid Office of Management and Budget (OMB) Control Number.
**I. Animal-Specific:**

- **NOAA Identification No.:** NOA0010155
- **Common Name:** Bottlenose Dolphin
- **Scientific Name:** Tursiops truncatus
- **Sex:** FEMALE
- **Date of birth:** 03-31-2014
- **Birth Date Certainty:** ACTUAL
- **Captive Origin:** BIRTH
- **Date of original captivity:** 03-31-2014
- **Permit No.:**
- **Geographic Location:** Lat: / Lon: Geographic Name:

**II. Owner/Facility-Specific:**

- **Owner (Person or other Entity With Custody of the Marine Mammal):** Chicago Zoological Society
- **Facility (if different from Owner):** Dolphin Quest - Bermuda
- **Date assumed custody:** 03-31-2014
- **Date arrived at Facility:** 03-31-2014
- **City/State/Zip of Facility (include Country for foreign facilities):** Mangrove Bay, MA BX, BM
- **Animal Identification No. (assigned by facility):**
- **Animal Name (assigned by facility):**
- **Purpose(s):** Public Display

**III. Disposition:**

- **Death Date:**
- **Death Cause:**
- **Death Cause Comment:**
- **Release Date:**
- **Permit No.:** OR Unauthorized release/escape (reintroduction)
- **Geographic Location:** Lat: / Lon: Geographic Name:

**IV. Animal Historical Transfer/Transports:**
Marine Mammal Data Sheet (MMDS):

NOTES:
The Marine Mammal Protection Act of 1972, as amended (MMPA) (16 U.S.C. 1361 et seq.) requires that persons holding marine mammals submit certain information to the National Marine Fisheries Service (NMFS). The MMPA requires that NMFS maintain an inventory of all marine mammals held for public display purposes and scientific research/enhancement (i.e., all marine mammals held captive except for those in captivity before December 21, 1972). In addition, the MMPA requires that NMFS be given advance notice 15 days prior to the transfer/transport of any marine mammal. To ensure compliance with these and related MMPA requirements, NMFS recommends that persons holding marine mammals in captivity use this Marine Mammal Data Sheet (MMDS) to submit inventory information regarding their captive marine mammals to NMFS. Use of this form will ensure that the MMPA required information is submitted in a consistent manner and that the NMFS marine mammal inventory is accurate and up-to-date.

Marine Mammal Data Sheets should be used when submitting information to NMFS in compliance with MMPA requirements applicable to persons holding marine mammals, including notifications of any additions/changes to your marine mammal inventory due to:
- Birth, Death, Transfer/Transport
- Retention or Transfer of Rehabilitated Beached and Stranded Marine Mammals (Authorization or Permit)
- Wild Capture, Import, Reintroduction to the Wild, including release or escape (Permit)
- Other (Corrections, etc.)

The animal-specific information in Section II will not change, whereas data in Sections I, III and/or IV will change with transfers/transportes (changes of custody and/or facility/location). In accordance with MMPA requirements, NMFS requests notification of any change in custody or facility/location, including captive births and deaths. A copy of the Marine Mammal Inventory Report Summary (MMIRS) may be provided periodically and may be requested at any time by contacting the Permits, Conservation and Education Division at the address listed below.

All permit documentation including reports and inventory information required herein, is subject to the Freedom of Information Act (FOIA) with personal or sensitive information that is subject to the Privacy Act redacted when released under FOIA.

Marine Mammal Transfer/Transport Notifications
NMFS recommends that:
1. Owners notify NMFS of proposed transfers/transportes by completing a Marine Mammal Transfer/Transport Notification (MMTTN) form, forwarding it to the Receiver for signature and submitting it to NMFS. It is not necessary to submit the MMDS for the animals proposed to be transferred/transported, but sufficient information must be included on the MMTTN to identify the animal(s).
2. The MMTTN must be received by NMFS at least 15 days prior to the actual transfer/transport date. Should you need to transfer/transport an animal before the required 15 day notification, please contact NMFS regarding an emergency waiver.
3. NMFS will reply with an acknowledgement letter and MMDS(s) to be updated upon receipt of the animal(s). The transfer/transport should occur within 60 days after initial submission of the MMTTN. If an extension is necessary, please contact NMFS.
4. At any time within 30 days of the transfer/transport, the Owner should forward to NMFS the updated MMDS for each animal actually transferred/transported (i.e. Section I and, as necessary, Section III to verify receipt of the animal(s)).

Beached and Stranded Marine Mammals - Retention or Transport
The retention or transport/retention of rehabilitated beached and stranded marine mammals requires a permit or written authorization under the MMPA. A permit is required to obtain such marine mammals for purposes of scientific research or enhancing the survival or recovery of species or stocks, or to retain or obtain such marine mammals for public display purposes where such animals have been determined releasable. Where such marine mammals have been determined non-releasable, NMFS authorization is required to retain or obtain them for public display purposes. Please contact the Permits, Conservation and Education Division at the number or address below for information on submitting such a permit application or authorization request.

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# Marine Mammal Data Sheet

**NOAA Animal ID:** NOA0010213

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## I. Animal-Specific:

<table>
<thead>
<tr>
<th><strong>NOAA Identification No.:</strong></th>
<th>NOA0010213</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Name:</strong></td>
<td>Bottlenose Dolphin</td>
</tr>
<tr>
<td><strong>Scientific Name:</strong></td>
<td>Tursiops truncatus</td>
</tr>
<tr>
<td><strong>Sex:</strong></td>
<td>FEMALE</td>
</tr>
<tr>
<td><strong>Date of birth:</strong></td>
<td>03-30-2015</td>
</tr>
<tr>
<td><strong>Birth Date Certainty:</strong></td>
<td>ACTUAL</td>
</tr>
<tr>
<td><strong>Captive Origin:</strong></td>
<td>BIRTH</td>
</tr>
<tr>
<td><strong>Date of original captivity:</strong></td>
<td>03-30-2015</td>
</tr>
<tr>
<td><strong>Permit No.:</strong></td>
<td>Collector:</td>
</tr>
<tr>
<td><strong>Geographic Location:</strong></td>
<td>Lat: ' ' ' ' / Lon: ' ' ' '</td>
</tr>
</tbody>
</table>

---

## II. Owner/Facility-Specific:

<table>
<thead>
<tr>
<th><strong>Owner (Person or other Entity With Custody of the Marine Mammal):</strong></th>
<th>Chicago Zoological Society</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facility (if different from Owner):</strong></td>
<td>Dolphin Quest - Bermuda</td>
</tr>
<tr>
<td><strong>Date assumed custody:</strong></td>
<td>03-30-2015</td>
</tr>
<tr>
<td><strong>Date arrived at Facility:</strong></td>
<td>03-30-2015</td>
</tr>
<tr>
<td><strong>City/State/Zip of Facility (include Country for foreign facilities):</strong></td>
<td>Mangrove Bay, MA BX, BM</td>
</tr>
<tr>
<td><strong>Animal Identification No. (assigned by facility):</strong></td>
<td>Animal Name (assigned by facility):</td>
</tr>
<tr>
<td><strong>Purpose(s):</strong></td>
<td>Public Display</td>
</tr>
</tbody>
</table>

---

## III. Disposition:

| **Death Date:** |  |
| **Death Cause:** |  |
| **Death Cause Comment:** |  |
| **Release Date:** | Permit No.: |
| **Geographic Location:** | Lat: ' ' ' ' / Lon: ' ' ' ' |

---

## IV. Animal Historical Transfer/Transports:

---

---
Marine Mammal Data Sheet (MMDS)

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To Whom It May Concern:

The animals in the possession of Dolphin Quest Bermuda are protected under the Care and Protection of Animals Act 1975. However, this Act does not contain specific objective standards for the care of any species, and so we refer to Title 9 Code of Federal Regulations (9CFR) of the United States for guidance.

Dolphin Quest Bermuda is subjected to recurrent inspections by the Veterinary Officer of the Department of Environment and Natural Resources, Government of Bermuda. Dolphin Quest Bermuda continues to be found to be in compliance with the provisions of the Care and Protection of Animals Act 1975 and Title 9 CFR of the United States Department of Agriculture. The most recent inspections (in 2017 and this month) revealed no deficiencies or concerns.

Dolphin Quest Bermuda is a member of the Alliance of Marine Mammal Parks and Aquariums, and continues to follow the standards of that organization. The animals' health and wellbeing are monitored and recorded daily. The animals and records reflect good health, a high standard of care and good contingency planning in the event of an emergency.

Sincerely,

[Signature]
J. Nisbett, DVM
Government Veterinary Officer

Botanical Gardens, 169 South Road, Paget, Bermuda DV-04
P.O. Box HM-834, Hamilton, Bermuda HM-CX
Phone: (441) 236-4201 Fax: (441) 232-0046 Email: animals@gov.bm Website: www.gov.bm
Certifying statement:

Dolphin Quest Bermuda has a breeding program for common bottlenose dolphins. The breeding program, undertaken in large part through an educational breeding loan with the Chicago Zoological Society – Brookfield Zoo, is highly successful. Dolphin Quest Bermuda’s propagation strategy for population sustainability is managed through onsite breeding to honor genetic diversity within the collective groups. Population growth at the Dolphin Quest Bermuda location is acquired through this breeding program. As such, the requested import (File No. 22686) will not likely result in the taking of marine mammals beyond those proposed. Specifically, there are no plans to collect animals from the wild as a replacement for animals exported from Bermuda, due to the success of the breeding program.

Veterinarian/Owner signature/date

Jay Sweeney, V.M.D.
Scale 2cm = 1 ft. (12'')

10' x 3'

Che.st plate

1/4" Aluminum Plate &
fork lift channels

Weight bearing element
pectoral flipper well

top

bottom
To Whom It May Concern:

This letter is to serve as a written certification from the attending veterinary staff responsible for Chicago Zoological Society’s (0.3) bottlenose dolphins, *Tursiops truncates* (NOA0010155 (DOB 31 Mar 2014), NOA0010213 (DOB 30 MAR 2015) and NOA0006620 (DOB 1 April 2010)) being imported from Bermuda to St. Thomas, United States Virgin Islands that the methods of import, transport and post import care will meet all health requirements to ensure the best practice and maintain health and wellbeing of these animals.

Coral World’s Management and Veterinary staff have a cumulative 38 years of experience providing training, progressive medicine and maintaining the health of bottlenose dolphins. The Veterinary and Management staff have coordinated and overseen numerous moves transporting *Tursiops* species, including military transports that lasted over 40 hours in duration.

Extensive planning, preparation and best practices will be incorporated for all dolphin transports to ensure the well-being of the animals. Coral World’s current Preventative Medicine Program and Standard Operational Protocols which include regularly scheduled physical exams, hematological and serum biochemical and organ profile analysis, biological sample analysis such as gastric, respiratory, fecal and urine samples, full body ultrasound, animal weights and nutritional diet analysis, monitoring water quality and husbandry training will be extended to the dolphins coming under our care.

If there are any questions, concerns or more information is required, please don’t hesitate to contact me.

Sincerely,

Natalie E. Noll DVM
Consulting Director Veterinarian Coral World Ocean Park
nollnatalie@yahoo.com
Ph-561-628-3756
Coral World VI Inc.,
6450 Coki Point,
St. Thomas VI 00802
September 26, 2018

Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Permits, Conservation and Education Division, F/PR1
Office of Protected Resources
1315 East-West Highway, Room 13705
Silver Spring, Maryland 20910-3226

To Whom It May Concern:

This letter is to serve as a written certification from the attending veterinary staff responsible for Chicago Zoological Society’s (0.3) bottlenose dolphins, *Tursiops truncates* [NOA0010155, CZS ID 5559 (DOB 31 Mar 2014)], [NOA0010213, CZS ID 6739 (DOB 30 MAR 2015)] and [NOA0006620, CZS ID 8554, DC ID 410F1 (DOB 1 April 2010)] being imported from Bermuda to Chicago, Illinois, USA, that the methods of import and post import care will meet all requirements to ensure the wellbeing of these animals.

Chicago Zoological Society has many years if experience providing cutting edge husbandry and veterinary care to bottlenose dolphins. The Veterinary staff has over 20 years of collective experience providing ground breaking medical care to species and has coordinated and overseen numerous moves transporting *Tursiops* species.

Extensive preplanning preparation is incorporated for all transports to ensure the well-being of our animals. Once at Brookfield Zoo, animals are incorporated into our Preventative Medicine Program which includes regular physical examinations, hematomical and serum biochemical analysis, fecal analysis, weight evaluation, ultrasound, nutritional diet analysis, monitoring water quality and husbandry training. Should you have any questions, please feel free to contact me via phone or email.

Sincerely,

Jennifer N. Langan, DVM, Dipl. ACZM, Dipl. ECZM
Chicago Zoological Society – Brookfield Zoo
Senior Staff Veterinarian

Enclosures
CC: Dr. Adkesson, R. Stacey
RITA STACEY VONDRA  
Curriculum Vitae  
Chicago Zoological Society  
Brookfield Zoo  
3300 Golf Rd. Brookfield, IL 60513  
(708) 688-8442  
Rita.stacey@czs.org

SUMMARY
A dedicated, responsible professional with more than 27 years of progressive experience in a world-class conservation center. Major strengths in operant conditioning, high quality animal care and welfare, animal transport, communication, team building, and time management. Additional skills in staff development, problem solving, budget management, and strategic planning. A flexible, team player that achieves goals by building and developing the team and communicating effectively while focusing on achieving institutional goals.

PROFESSIONAL EXPERIENCE

Chicago Zoological Society - Brookfield Zoo, Brookfield, Illinois  
1990-Present

Curator of Marine Mammals  
2009-Present

• Oversaw the renovation of the dolphinarium, relocation of staff, and the transport and care of the resident dolphin collection offsite
• Development of an on-going research program for the marine mammal department
• Chair of the Dive Safety Board until 2013; member of the Dive Safety Board to present
• Participated in Chicago Zoological Society’s PRIDE 2 day workshop
• Member of the Steering Committee of AZA’s Marine Mammal TAG 2009
• Appointed AZA’s Marine Mammal TAG Secretary 2012; reelected in 2016
• Appointed Vice-Coordinator of the Bottlenose Dolphin Breeding Consortium Feb 2013-Sept 2014; Communication Liaison of the new Dolphin Consortium 2015
• Oversaw the hand-rearing of a newborn bottlenose dolphin calf in 2014
• Alliance of Marine Mammal Parks & Aquariums (AMMP A) Accreditation Inspector 2015 to present
• Facilitated the process for the creation of Welfaretrak for Dolphins (a Bottlenose Dolphin Welfare Tool) through collaboration with internal staff and outside cetacean experts
• On-going development of an optimum welfare program for marine mammal species using an integrated and holistic approach
• AZA Accreditation Inspector 2016 – in training
• Appointed Bottlenose Dolphin Consortium Studbook Keeper 2018
Associate Curator of Seven Seas and Living Coast 2006-2009
Responsibilities: Oversee and manage staff, animal welfare, and building operations in 2 aquatic departments within Brookfield Zoo. Act as decision maker and daily conduit for communication between the animal care staff, senior management, veterinary and nutrition services, and park operations.

Acting Assistant Curator of Birds and Swamp (Temporary)

Seven Seas Lead Keeper 1999-2006
Responsibilities: Supervise 8 full-time and 5 seasonal keepers while performing experienced husbandry, training, and presentation skills for the Seven Seas’ marine mammal and bird collections.

Senior Keeper / Keeper / Seasonal Keeper / Attendant 1990-1999
Provided daily care and training for the Seven Seas animal collection and educated visitors through formal public presentations and demonstrations.

ADDITIONAL EXPERIENCE
Live Animal Transport Experience 1999 – present
Professional Coordinator/Attendant
- Primary logistics coordinator for 40 marine mammal transports (16 cetacean and 24 pinniped). One cetacean transport was international.
- Participated in 10 cetacean transports (6 on board aircraft & 4 via ground) as the marine mammal attendant/specialist under the direction of the attending veterinarian
- Participated in 6 pinniped transports (2 on board aircraft & 4 via ground) as the marine mammal attendant/specialist under the direction of the attending veterinarian

OTHER PROFESSIONAL EXPERIENCE

ADJUNCT INSTRUCTOR, Western Illinois University 2014-present
Graduate Course in Zoo & Aquarium Management
Graduate Course in Animal Training
Graduate Course in Biological Studies in Zoos & Aquariums

INTERNATIONAL MARINE ANIMAL TRAINERS ASSOCIATION (IMATA)
Board member and treasurer 2014-2017

ASSOCIATION ZOOS AND AQUARIUMS (AZA)
Red SSP Grey Seal Studbook Keeper and Population Management Planner 2007-present
Marine Mammal TAG Steering Committee Member 2009-present
Marine Mammal TAG Secretary 2012-present

Field Assistant

A COMPREHENSIVE HEALTH ASSESSMENT OF THE SOUTH AMERICAN FUR SEAL (Arctocephalus australis) POPULATION AT
Rita Stacey Vondra

PUNTA SAN JUAN, Punta San Juan, Peru
Field Assistant

IMATA'S SOUNDINGS MAGAZINE, Chicago, Illinois
Midwest Regional Reporter

JOHN G. SHEDD AQUARIUM, Chicago, Illinois
Volunteer – Fish and Marine Mammal Departments

EDUCATION

Master of Science Degree in Biology
Western Illinois University
“Airborne and Underwater Vocalizations of the Antarctic Ross Seal (Ommatophoca rossii)”

Bachelor of Science Degree in Biology with an Environmental Emphasis
Northeastern Illinois University

PROFESSIONAL TRAINING

Association of Zoos and Aquariums Animal Welfare: Evidence based Management
Apr 2017

VORTEX 10 Population Modeling Course
May 2014

VORTEX Population Modeling Course
Jan 2013

Association of Zoos and Aquariums Population Management II
Nov 2011

Association of Zoos and Aquariums Population Management I
Nov 2009

Association of Zoos and Aquariums Management School
Feb 2000

PRESENTATIONS & POSTERS AT PROFESSIONAL MEETINGS

“A Collaborative Effort: Breeding the Pacific Walrus (Odobenus rosmarus divergens)” Lisa Triggs, Amanda Shaffer, Sheiriden Stangohr*, Dave DeNardo, Chris Bellows, Rita Stacey Vondra, and Karen Goodrowe Beck. IMATA Annual Conference 2017

“An Analysis of Nursing Behaviors to Improve Dolphin (Tursiops truncatus) Calf Management” Johanna F. Sholar*, Lance J. Miller, Rita Stacey, and Brian D. Peer. IMATA Annual Conference 2017

“Small Tags Have Big Potential for Monitoring Welfare of Cetaceans in Professionally-Managed Care” Melinda Conners*, Alex Shorter, Ding Zhang, Joaquin Gabledon, Rita Stacey, and Lance Miller. Poster presentation at Zoo Animal Welfare Symposium 2017


“Comparing Dietary Components of Bottlenose Dolphins’ (Tursiops truncatus) Native and Non-native Diets. Consumption of iron & tannins and its possible effects on iron absorption “. Melissa Zabojnik* and Rita Stacey*. Poster IMATA Annual Conference 2015

“Neonatal Critical Care and Hand-rearing of a Bottlenose Dolphin Calf (Tursiops truncatus)” Jennifer E Flower, DVM*, Rita Stacey, MS*, Jennifer N. Langan, DVM, Dipl ACZM, Sathya Chinnadurai, DVM, MS, Dipl ACZM, Dipl ACVAA, Benjamin N. Nevitt, DVM and Michael J. Adkesson, DVM, Dipl ACVM. IAAAM Annual Conference 2015

“Successful Pregnancy and Parturition in a Bottlenose Dolphin (Tursiops truncatus) with Subnormal Progesterone Levels” Vera C. Kazaniwsky, DVM*, Jennifer N. Langan, DVM, Dipl ACZM, Dipl ECZM (Zoo Health Management), Rita Stacey, MS, Sathya K. Chinnadurai, DVM, MS, Dipl ACZM, Dipl ACVAA, Benjamin N. Nevitt, DVM, and Michael J. Adkesson, DVM, Dipl ACZM. Poster IAAAM Annual Conference 2015


“TAG – YOU’RE IT! The Marine Mammal TAG Doesn’t Have To Do with Me, Or Does It?” Rita Stacey*, IMATA Annual Conference 2013 and IMATA Midwest Regional Workshop 2014

“Comparing Dietary Consumption of Iron in Wild Versus Captive Bottlenose Dolphins” Melissa Zabojnik* and Rita Stacey*, IMATA Annual Conference 2013


“Collaboration and Critical Care: Harley’s Story” Shelley Ballmann* and Rita Stacey*, IMATA Annual Conference 2011

“Can Dolphins Be Seen Where There Is No Sea? A History of Brookfield Zoo’s Seven Seas Panorama” Rita Stacey*, IMATA Annual Conference 2010


“Passive Restraint Training in Tursiops truncatus” Rita Stacey* IMATA Annual Conference 1997

“Inca Tern Training” Rita Stacey* Informal Presentation IAATE Conference 1996

“Monitoring Bottlenose Dolphin Calves Born at Brookfield Zoo” Rita Stacey* IMATA Annual Conference 1994

PROFESSIONAL PUBLICATIONS


Rita Stacey Vondra


MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

Association of Zoos and Aquariums Professional Member since 1995

International Marine Animal Trainers Association Professional Member since 1989

CERTIFICATION

PADI Open Water SCUBA certified

HONORS AND AWARDS

2017 IMATA Annual Conference 1st Place Poster. “Advancing the Use of Morphometric Data for Estimating Bottlenose Dolphin (*Tursiops truncatus*) Weights”

2016 IMATA Service Award for Treasurer 2014 - 2016

2014 Chicago Zoological Society’s PRIDE Award, Seven Seas Department in recognition of hand-rearing a dolphin calf

2013 Chicago Zoological Society’s PRIDE Award, Seven Seas Department recognition of CZS’ Institutional Values

2006 President’s Award, Chicago Zoological Society Marine Mammal and Veterinary staff for Kaylee dolphin care team
2006 President’s Award Honorable Mention, Chicago Zoological Society Reptile Decommissioning Team

2005 President’s Award, Chicago Zoological Society Strategic Planning Secretariat Phase 1&2

RESEARCH GRANTS

IMATA Research Grant Jan 1, 2017
“Comparison of fecal adrenal hormone levels between wild and professionally-managed bottlenose dolphins”

Texas State Aquarium’s Wildlife Care, Conservation, and Research Fund Grant June 2016
“Chicago Zoological Society – Brookfield Zoo’s Bottlenose Dolphin Welfare Research Initiatives.”

Chicago Board Of Trade Endangered Species Fund Grant May 29, 2014
“Addition of Native Fish to the Diet of Captive Bottlenose Dolphins to Study the Effect of Decreasing Iron Absorption”

IMATA Research Grant Jan 1, 2014
“Dietary Consumption of Tannins in Common Bottlenose Dolphins’ (Tursiops truncatus) Native and Non-Native Diets and its Possible Effects on Iron Absorption”

Chicago Board Of Trade Endangered Species Fund Grant Jan 1, 2013
“Assessing the effect of health assessments on maternal care in South American fur seals at Punta San Juan Marine Protected Area, Punta San Juan, Peru”

IMATA Research Grant Jan 1, 2012
“Comparing Dietary Consumption of Iron in Wild versus Captive Dolphins.”
Michael J. Adkesson,  
DVM, Dipl. ACZM, Dipl. ECZM (ZHM)  
CURRICULUM VITAE

Work Address:  
Chicago Zoological Society / Brookfield Zoo  
3300 Golf Rd. Brookfield, IL 60513  
(708) 688-8503  
michael.adkesson@czs.org

EDUCATION  
University of Illinois, College of Veterinary Medicine, 2000-2004  
Doctor of Veterinary Medicine - Highest Honors  
Bachelor of Science in Veterinary Medicine

University of Illinois, 1997-2000  
Biology Major - Highest Honors

BOARD CERTIFICATION  
Diplomate of the American College of Zoological Medicine  
Diplomate of the European College of Zoological Medicine (Zoo Health Management)

EMPLOYMENT  
Vice President, Clinical Medicine  
Chicago Zoological Society / Brookfield Zoo  
2012 – present  
Brookfield, IL

Associate Veterinarian  
Chicago Zoological Society / Brookfield Zoo  
2008 – 2012  
Brookfield, IL

Residency in Zoological Medicine  
Saint Louis Zoo & University of Missouri  
2005 – 2008  
St. Louis, MO

Internship in Small Animal Medicine and Surgery  
University of Illinois  
2004 – 2005  
Urbana, IL

Zookeeper  
Scovill Zoo  
1995 – 2001  
Decatur, IL
PROFESSIONAL AFFILIATIONS

Adjunct Clinical Assistant Professor
University of Illinois, College of Veterinary Medicine
2008 – present

Associate Senior Researcher
Cayetano Heredia University, Center for Environmental Sustainability
Universidad Peruana Cayetano Heredia, Centro para la Sostenibilidad Ambiental
2011 – present

PROFESSIONAL ACTIVITIES

American Association of Zoo Veterinarians
- President (2017-present)
- President-elect (2016-2017), Vice President (2015-2016), Secretary (2014-2015)
- Audit committee (2014-2016)
- Education committee: Chair (2013-2015), vice-chair (2011-12), member (2004-present),
- Student and post-graduate manuscript competitions coordinator (2010-2015)
- Scientific program committee: Chair (2014), vice-chair (2013), conference program chair
  (2012), member (2010-2015)
- Conference session chair: Advanced topics lectures (2013), Future of our profession
  (2012), Pharmacology and diagnostic techniques (2011), Herptile conservation medicine
  (2010)
- Roundtable / panel discussion participant: New approaches to quarantine (2017)

Association of Zoos and Aquariums
- Veterinary advisor: Humboldt penguin SSP (2009-present)
- Veterinary advisor: Penguin TAG (2009-present)
- Accreditation inspector (2010-present)

European Association of Zoo and Wildlife Veterinarians
- Conference session chair: Diagnostics (2017)

International Association of Aquatic Animal Medicine
- Conference session chair: Clinical pathology and pharmacology (2012)

Species 360
- Research committee member (3 year appointment, 2017-2020)

Peer Reviewer
- Zoo Biology (2009-2011)
- Clinician’s Brief Journal (2013)
Professional Memberships:

- American Association of Zoo Veterinarians (2001-present)
- American College of Zoological Medicine (2009-present)
- Association of Exotic Mammal Veterinarians (2008-2014)
- Association of Reptile and Amphibian Veterinarians (2008-present)
- American Veterinary Medical Association (2001-present)
- Association of Zoos and Aquariums, Professional Fellow (2008-present)
- European Association of Zoo and Wildlife Veterinarians (2008-present)
- Illinois State Veterinary Medical Association (2004-present)
- International Association of Aquatic Animal Medicine (2008-present)
- Wildlife Disease Association (2008-present)

AWARDS AND HONORS RECEIVED

Chicago Zoological Society

- PRIDE award (highest organization honor) – Pangolin conservation team (2017)
  - Awarded for serving as a shining example of the organization's values
- PRIDE award (highest organization honor) – Veterinary Department (2015)
- PRIDE award (highest organization honor) – Veterinary Department (2014)
- PRIDE award honorable mention – Veterinary Department (2013)

American Association of Zoo Veterinarians

- Presidential Service Award (2014)
  - Awarded for extraordinary effort in the advancement of the scientific program
- Presidential Service Award (2013)
  - Awarded for establishing a standard of excellence for the AAZV’s scientific program committee

Wildlife Pharmaceuticals Veterinary Student Manuscript Competition – First place (2003)

Decatur Public Schools Foundation

- Outstanding Young Alumni Award (2006)

University of Illinois

- College of Veterinary Medicine Class of 2004 Commencement Address (2004)
- College of Veterinary Medicine White Coat Ceremony Address (2003)
- Dean's List (2001 and 2003)
- Dr. Erwin Small Scholarship (2002 and 2003)
- Dr. H. Preston Hoskins Scholarship (2003)
- Illinois Reptile and Amphibian Medicine Award (2003)
- James Scholar Honors Program (1997-2000)
- Dean’s List (1997-2000)
- Golden Key Honor Society
- Phi Kappa Phi Honor Society
- Alpha Lambda Delta Honor Society
- Phi Eta Sigma Honor Society
- National Association of Collegiate Scholars
PUBLICATIONS

**Book Chapters:**


**Refereed Journal Publications:**


7. Flower JE, JN Langan, BN Nevitt, SK Chinnadurai, R Stacey, M Ivančić, and **MJ Adkesson.** Neonatal critical care and hand-rearing of a bottlenose dolphin calf (*Tursiops truncatus*). *Aquatic Mam.* *Accepted.*


Michael J. Adkesson, DVM, DACZM, DECZM


Non-Refereed Publications


CURRENT RESEARCH PROJECTS

1. Atoxoplasmosis in passerine birds

   JA Landolfi, MJ Adkesson, T Snyder, and KA Terio. Development of a qPCR for Atoxoplasma diagnosis in passerine birds. Assay developed, awaiting clinical trials.

2. Use of a pressure sensitive walkway to evaluate lameness in penguins and domestic waterfowl: Applications for evaluation of analgesic efficacy.
   Bailey RS, JD Sheldon, MC Allender, MJ Adkesson, and SK Chinnadurai. Pharmacokinetics of oral tramadol in ducks (Cairina moschata domestica). Lab analysis in process.


   Sheldon J, RS Bailey, SK Chinnadurai, MC Allender, JN Langan, MJ Adkesson. Comparison of blinded observer evaluation and a pressure-sensitive walkway for diagnosing lameness in ducks (Cairina moschata domestica). Data collection complete.

3. Ecosystem health evaluation of marine wildlife in Peru


   Adkesson MJ, MC Allender, A Fascetti, E Dierenfeld, and S Cárdenas Alayza. Evaluation of vitamin, mineral, fatty acid, and amino acid levels in free-ranging Peruvian pelicans (Pelecanus thagus) and Guanay cormorants (Phalacrocorax bougainvillii). Data collection complete.

   Adkesson MJ, MC Allender, GR Jankowski, JM Meegan, KM Colegrove, and S Cárdenas Alayza. Evaluation of infectious disease in the Peruvian fur seal (Arctocephalus australis) and South American sea lion (Otaria byronia) populations at Punta San Juan, Peru. Data collection complete.

Michael J. Adkesson, DVM, DACZM, DECZM
Colchao P, S Deem, MC Allender, A Fasceetti, E Dierenfeld, S Cárdenas Alayza, and Adkesson MJ. Evaluation of vitamin, mineral, fatty acid, and amino acid levels in free-ranging Humboldt penguins (*Spheniscus humboldti*), Peruvian pelicans (*Pelecanus thagus*), and Guanay cormorants (*Phalacrocorax bougainvillii*) at Punta San Juan, Peru. Manuscript near submission.

Dubach JM and MJ Adkesson. Genetic assessment of the Humboldt penguin population at Punta San Juan, Peru over a 17 year period. Data collection complete.


4. Pinniped anesthesia


**PRESENTATIONS & PUBLISHED ABSTRACTS**


treatment in a Schmidt's red-tailed guenon (*Cercopithecus ascanius schmidti*). *Proceedings: American Association Zoo Veterinarians Conference*


**GRANTS AWARDED**


2. Adkesson MJ. 2017. Assessment of Peruvian Fur Seal and South American Sea Lion Health and Disease in Punta San Juan, Peru. Waitt Foundation - Rapid Ocean Conservation grant. $15,000.


10. Adkesson MJ. 2015. Continued development of Punta San Juan as model to assess Peru’s Marine Protected Area network. Chicago Board of Trade Endangered Species Fund. $15,000.


17. Adkesson MJ. 2014. Punta San Juan: A tool to assess the upper trophic level ecological efficacy of Peru’s marine protected area network. Chicago Board of Trade Endangered Species Fund. $10,000.


38. Adkesson MJ and JN Langan. 2007. Continued health assessment of the Humboldt penguin (Spheniscus humboldti) population at Punta San Juan, Peru. Chicago Board of Trade Endangered Species Fund. $5,000.


42. Adkesson MJ and JN Langan. 2007. A population health assessment of the Humboldt penguin (Spheniscus humboldti) at Punta San Juan, Peru. Chicago Board of Trade Endangered Species Fund. $5,000.
43. **Adkesson MJ.** 2006. A comprehensive health assessment of the Humboldt penguin (*Spheniscus humboldti*) population at Punta San Juan, Peru. Saint Louis Zoo Field Research for Conservation Program. $10,000.

44. **Adkesson MJ.** 2006. Determination of the pharmacokinetics of a long-acting ceftiofur product in the ball python (*Python regius*). University of Missouri College of Veterinary Medicine Committee on Research Awards. $2,975.


### TEACHING EXPERIENCE

**University of Illinois**
- CB/VB 540: Conservation and ecosystem health. “From penguins to pinnipeds: marine ecosystem conservation projects at PSJ, Peru” (2010-present).

**University of Missouri**

**University of Tennessee.**

### Residents Trained
- Dr. Lisa Naples, 2008-2009
- Dr. Trevor Zachariah, 2008-2010
- Dr. Kim Wojick, 2008-2011
- Dr. Gwen Jankowski, 2009-2012
- Dr. Rebecca Dallwig, 2010
- Dr. Benjamin Nevitt, 2011-2014
- Dr. Jennifer Flower, 2012-2015
- Dr. Jimmy Johnson, 2013-2016
- Dr. Megan Watson, 2014-2017
- Dr. Dana Lindemann, 2015-present
- Dr. Karisa Tang, 2016-present
- Dr. Julie Sheldon, 2017-present

### Fellows Trained
- Dr. Julie Balko, 2016-2017

### Graduate Students Trained
- Dr. Gwen Jankowski, 2009-2014, MS degree, committee member, University of Illinois
Wendy Flores, 2009-unfinished, committee member, Autonomous University of Barcelona
Mick Edwards, 2016-present, MS degree, committee member, Nova Southeastern University
Dr. Karisa Tang, 2017-present, MS degree, committee member, University of Illinois
Dr. Julie Sheldon, 2017-present, MS degree, committee member, University of Illinois

PROFESSIONAL DEVELOPMENT

Continuing Education / Conferences:
- Association of Reptile and Amphibian Veterinarians (2003, 2010)
- European Association of Zoo and Wildlife Veterinarians (2017)
- Student American Veterinary Medical Association Symposium (2001-2004)
- Western Veterinary Conference (2013)

Courses and Specialized Training:
- American College of Zoological Medicine Board Review Course (2006, 2007)
- Exotic Animal Endoscopy Course, University of Georgia College of Veterinary Medicine (2005)
- Zoo Medicine Short Course, University of Tennessee College of Veterinary Medicine (2001)

PRESS & MEDIA EXPERIENCE — Partial List

1. WGN-TV (rebroadcast to 40+ states, CNN, Inside Edition, USAtoday, MSN, foreign outlets). Veterinarians take first ever CT scan of live rhino as part of lifesaving treatment. 4/23/18. 5 minute feature story on WGN.

2. 60 Minutes. Population management in zoos. Interview. Spring release, date TBD.

3. Journal of the American Veterinary Medical Association — “Zoo veterinarians, behind the scenes and in the field”, “Role of zoos in conservation”, and “Brookfield Zoo invests in imaging with full-time radiologist. 7/15/17 issue — Featured profile interview for one article, interviewed for two other two articles.

4. Chicago Tribune (57 AP wire pick-ups nationally). Brookfield Zoo radiologist’s patients are feathered, finned, and fanged. 8/15/17. Feature story.

5. WGN Evening news. “Surgery fit for a human, helps a gorilla feel more in his prime”. 6/29/17. 4 minute feature segment.

6. WTTW (PBS) Chicago Tonight. “Lion sized toothache – behind the scenes at Brookfield Zoo’s animal hospital. 11/21/16. 5 minute television segment.


8. Chicago Tribune, Chicago Sun Times, 10+ television affiliates - Brookfield Zoo installs new CT scanner to provide advanced care for animals. 7/1/16.


Michael J. Adkesson, DVM, DACZM, DECZM
10. WTTW (PBS) Chicago Tonight. 12 minute interview on Punta San Juan conservation program. 3/24/2016.


12. Chicago Tribune. “River otter is back in Cook County and scientists are tracking him”. Featured in story on CZS involvement in local wildlife conservation. 11/13/2015.

13. Chicago Zoological Society website and social media channels - “Dr. Mike’s video blog” and other print blogs featuring an average of one story/video per month since 2015.


16. Multiple Chicago print, social, and television media channels. “Misericordia visit, adults with developmental disabilities get an up close look at a lion under anesthesia at the zoo”. Featured spokesperson for zoo. 2015.


18. WLS 7 ABC Chicago, 2 minute segment on 6 and 10PM nightly news on porcupine dental case at Brookfield Zoo. Featured spokesperson. 5/13/2014.


**LICENSURES**
State veterinary licensure: Illinois, Missouri (inactive status)
USDA APHIS accredited veterinarian (category I and II)
DEA controlled substance registration (drug schedules II-V, carfentanil endorsement)
Jennifer N. Langan, DVM, Dipl. ACZM

Clinical Professor
University of Illinois
College of Veterinary Medicine
Department of Veterinary Clinical Medicine
1008 West Hazelwood Drive
Urbana, IL 61802
jelangan@illinois.edu

Senior Staff Veterinarian
Chicago Zoological Society
Brookfield Zoo
3300 Golf Road
Brookfield, IL 60513
Office 708.688.8504
Wk Cell 630.865.6338
Jennifer.Langan@CZS.org

Education

1989-1992 University of Illinois, College of Agriculture, Animal Science Major
1992-1996 Doctor of Veterinary Medicine with honors, University of Illinois
1993 Bachelor of Science in Veterinary Medicine, University of Illinois
1996-1997 Internship in Small Animal Medicine and Surgery, Angell Memorial Animal Hospital, Boston, MA
1997-1999 Residency in Zoological Medicine, University of Tennessee
1999-2001 Fellowship in Zoological Medicine, Conservation Medicine Center of Chicago (Chicago Zoological Society’s Brookfield Zoo – University of Illinois – Loyola University)

Specialty Certification 2001 Diplomate American College of Zoological Medicine
2014 Diplomate European College of Zoological Medicine (Zoo Health Management)

State Veterinary Licensure Illinois - USDA Accredited, USDA Accreditation for Cervid Tuberculosis Testing

Honors

Undergraduate
R & H Sweet Scholarship
Provides Award
Jonathan Baldwin Turner Scholarship
American Society of Animal Sciences Scholarship Award
Dean’s List - College of Agriculture
Edwin and Katherine Ehler Off-campus Scholarship
Mortar Board Honorary
Gamma Sigma Delta Honor Society
Alpha Lambda Delta Honor Society
Golden Key Honor Society

Graduate
Erwin Small Scholarship 1994, 1995
Phi Zeta Manuscript Award 1999
Dean’s List - College of Veterinary Medicine
Professional

2002  Chicago Zoological Society’s Director’s Award. Black Rhino Nutrition Study
2005  Chicago Zoological Society’s President’s Award. Panther Chameleon Reproduction and Health at Brookfield Zoo
2006  Brookfield Zoo Director’s Award. Clinical Excellence in Treating Kaylee Dolphin with Pulmonary Abscessation through Extraordinary Measures
2007  CVM Service Award – for 5 years of outstanding service for contributing to the tradition of excellence at the University of Illinois, College of Veterinary Medicine
2008  Association of Zoos & Aquariums - Edward H. Bean Award - Chicago Zoological Society and staff involved with outstanding long-term work and success in management of Callimico monkeys (Callimico goeldii). Exceptional recognition for work in the role of Callimico Species Survival Plan Veterinary Advisor and collaborative work with husbandry and animal care staff.
2009  Ranked in Excellent Teachers, University of Illinois, College of Veterinary Medicine
2009  President’s Award, Chicago Zoological Society, Excellence in Veterinary Medical Services
2012  Presidential Award for exemplary service to the American College of Zoological Medicine (ACZM), a decade of service to the College and ACZM Examination Committee.
2013  PRIDE Award, Chicago Zoological Society. Recognition for advancing the standard of medical care through expertise with advanced imaging and success in the areas of innovation and results.
2014  Chicago Zoological Society – PRIDE Award to the Veterinary Services and Marine Mammal Departments for their extraordinary efforts and success with bottlenose dolphin prenatal and neonate intensive care.
2014  Notable Accolade – Image from our manuscript, Comparison of air sac volume, lung volume, and lung densities determined by use of computed tomography in conscious and
anesthetized Humboldt penguins (*Spheniscus humboldti*) positioned in ventral, dorsal, and right lateral recumbency was featured on the cover of the American Journal of Veterinary Research.

2015 Chicago Zoological Society – PRIDE Award. Veterinary Services Department, in recognition of your shining example of the Chicago Zoological Society's institutional values.


2017 Chicago Zoological Society – PRIDE Awards. Pangolin Conservation and Care Initiative Honorable Mention – Contributions to the Hamill Family Play Zoo Team

**Work Experience**

**2004-present**

- **University of Illinois College of Veterinary Medicine**
  - Clinical Assistant Professor 2004-2010
  - Clinical Associate Professor 2010-2016
  - Clinical Professor 2016-present

- **Chicago Zoological Society’s Brookfield Zoo**
  - Associate Veterinarian 2001-2014
  - Senior Staff Veterinarian 2015-present

- **Shared position between the College of Veterinary Medicine and the Brookfield Zoo.**

- **Director for Chicago Zoological & Aquatic Animal Residency (CZAAR) Program**
  - Manage selection process, orientation, mentoring, review and oversight of research projects of residents.
  - Develop, teach and manage didactic graduate level education.

- **Veterinary Education Program Administrator**
  - Coordinate & teach Zoological Medicine Rotation while providing veterinary care to the animals at the Brookfield Zoo, including preventive medicine, surgery, anesthesia on mammals, birds, reptiles, amphibians and fish.
  - Oversee Veterinary Education Programs at the zoo for graduate, veterinary, and undergraduate students during clinical rotations at Brookfield Zoo.

- **Participate in College professional academic responsibilities and support the UIUC veterinary education program by teaching didactic lectures and students while on clinical duty. Perform and foster clinical research in the field of Zoological Medicine.**

**Fall 2001**

- **University of Illinois College of Veterinary Medicine – Chicago Zoological Society**
  - Visiting Clinical Assistant Professor – Associate Veterinarian

  - Shared position between the College of Veterinary Medicine and the Brookfield Zoo. Teach veterinary students during clinical rotations, give didactic lectures, provide veterinary care to the animals at the Brookfield Zoo, including
preventive medicine, surgery, anesthesia on mammals, birds, reptiles, amphibians
and fish.

Spring 1999
White Oak Conservation Center – Yulee, Florida
Residency externship: participated in immobilization, medical management and
collecting diagnostic samples with emphasis on hoofstock species. Performed
physical examinations, preventative medicine and necropsy procedures.

Fall 1998
Columbus Zoo – Columbus, Ohio
Relief Veterinarian

Spring 1996
Woodland Park Zoo – Seattle, Washington
Veterinary Externship in Zoological Medicine
Assisted with medical management, diagnostics, and treatment of animals.
Completed paper and project related to risks involving canine distemper virus
transmission from raccoons to large cats in Woodland Park Zoo’s collection.
Information was presented at the 1996 American Association of Zoo
Veterinarian’s Conference.

Fall 1995
Brookfield Zoo – Chicago Zoological Society
Veterinary Preceptorship Program in Zoological Medicine
Assisted with clinical and preventative medicine, restraint, physical examination,
surgery, anesthesia, evaluation of laboratory data, and necropsies.

Spring 94 - Spring 96
University of Illinois, at Urbana-Champaign
College of Veterinary Medicine
Clinical Pathology Laboratory Emergency Technician
Performed diagnostic tests including; hematology, serology, cytology and
clotting profiles.

Fall 93 - Spring 95
University of Illinois, at Urbana-Champaign
College of Veterinary Medicine
Wildlife Medical Clinic Manager
Coordinated clinic activities, supervised case care, performed surgeries, and
oversaw post release studies.

Summer 1993
Justus-Liebig University in Giessen, Germany
Participated in classes at the College of Veterinary Medicine and worked as an
intern in the Obstetrics and Gynecology Department.

Fall 1992
University of Illinois, at Urbana-Champaign
College of Veterinary Medicine Teaching Hospital
Wildlife Ward Member/Volunteer
Admitted, diagnosed, and rehabilitated Illinois wildlife.

Summer 1992
International Work-Study Program
Conducted large animal reproduction research at a government veterinary station
in Osaka, Japan. Performed superovulation, in vitro fertilization, and embryo
transfer experiments.

Spring 1992
University of Illinois, at Urbana-Champaign

4
College of Veterinary Medicine Teaching Hospital  
Supervised the Admissions Department in the Small Animal Clinic.

Summer 1991  Park Wise Animal Hospital, Streamwood, Illinois  
Assisted in surgical and clinical treatment of animals. Conducted tests, vaccinated, and administered medication.

Spring 1991  University of Illinois, at Urbana-Champaign  
Department of Animal Sciences  
Explored thermodynamics of Holstein cattle in relation to their milk production as a Research Committee Member.

Summer 1990  Work Abroad Program - Hamburg, Germany  

Fall 1990  University of Illinois, at Urbana-Champaign  
Department of Ruminant Nutrition  
Conducted experiments and collected research data in a nutrition laboratory.

Spring 1988  Wise Road Animal Hospital, Schaumburg, Illinois  
Volunteered as a technician. Subsequently hired.

Professional Membership
1995-present  American Association of Zoo Veterinarians (AAZZV)
1997-present  European Association of Zoo and Wildlife Veterinarians (EAZWV)
1995-present  Association of Avian Veterinarians (AAV)
1996-present  American Veterinary Medical Association (AVMA)
1999-present  International Association for Aquatic Animal Medicine (IAAAM)
1996-present  Association of Reptile and Amphibian Veterinarians (ARAV)
2003-present  American Zoo & Aquarium Association (AZA)
1997-present  Wildlife Disease Association (WDA)
2001-present  American College of Zoological Medicine (ACZM)
2003-present  Illinois State Veterinary Medical Association (ISVMA)
2014-present  European College of Zoological Medicine (ECZM)

Professional Activities

Brookfield Zoological Society
Biological Resources Steering Committee – (2004-2008), Chair (2005)
Institutional Animal Care & Use Committee (IACUC) (2005-2007)
Species Survival Plan (SSP) – Callimico goeldii species veterinary advisor (2004-current)
Strategic Planning – Animal Collection Committee Member (2003-2004)
Keeper Education Committee – Member (2001-2004)
AZA Reaccreditation Team (2006-2007)
Dolphin Consortium Institutional Representative (2006-2014)
Quarantine, Preshipment, Animal Transfer Administrator (2006-2008)
Enrichment and Training Committee (Large Carnivores) (2010-2013)
Dolphin Consortium Chair (2014-2015)

University of Illinois College of Veterinary Medicine
Faculty Search Committee
- Wildlife, Exotic, Zoo Veterinarian, College of Veterinary Medicine (2005-2006 Mitchell)
- Avian, Exotics Veterinarian, College of Veterinary (2015 Welle)
- Zoological Pathology Clinical Instructor (2017)
Colloquium Committee (2012-current)
Resident & Intern Committee (2012-current)
Admissions Advisory Committee (2012-2014)
College Strategic Planning Committee – Engagement, Service, Outreach Subcommittee (2015)
Promotion and Tenure Committee (2016-present)

American College of Zoological Medicine (ACZM)
Chair, Examination Committee (2009-2012)
Chair, General Zoo Section (1 of 5 subsections) (2006-2009)
Examination Committee Member (2002-2006)
Public Relations Committee Member (2003-2008)
Executive Committee – Secretary (2015-2017)
Vice President (2018-present)

European College of Zoological Medicine (ECZM)
Examination Committee Member (2014-present)

American Association of Zoo Veterinarians (AAZV)
Ethics Committee Member (2010-2013)

Morris Animal Foundation’s Veterinary Clinical Advisory Board
Named to board, (2016-present)

Presentations

International
2. Seabird Necropsy Technique and Sample Collection, Punta San Juan, Peru, 2008
4. Introduction to Marine Mammal Medicine, Ross University St. Kitts, 2012
5. What is Zoological Medicine, Ross University St. Kitts, 2012
6. Retrospective review of the global prevalence of myelolipomas in Goeldi's monkeys \((Callimico goeldii)\) and implications for future study, International Conference on Diseases of Zoo and Wild Animals, Warsaw, Poland, 2014
National
2. Oncology in Non-Domestic Species, American College of Veterinary Internal Medicine Annual Conference, Charlotte, NC, 2003
5. Marine Mammal Health, American College of Zoological Medicine Review Course, Madison, WI, 2005
6. Viral Diseases of Marine Mammals, American College of Zoological Medicine Review Course, Madison, WI, 2005
7. Bacterial Diseases of Marine Mammals, American College of Zoological Medicine Review Course, Madison, WI, 2005
8. West Nile Virus Review & Update in Zoological Species, 4th Annual Exotics Symposium, University of Tennessee, College of Veterinary Medicine 2006
9. Exotic Animal Anesthesia, 4th Annual Exotics Symposium, University of Tennessee, College of Veterinary Medicine, 2006
10. Anatomical Considerations for Remote Injection, Pneu-Dart Immobilization Webinar Series, 2007
15. Tracking Fish – Radiotransmitters and Conservation in Cook County Forest Preserves, ESPN Radio, 2008
17. Introduction to Exotic Animal Radiology, Exotic Animal Medicine Conference for the Practitioner, American Association of Zoo Veterinarians Conference, South Padre, TX, October, 2010
19. Understanding risks to Humboldt penguins: A health assessment of the Guanay cormorant (Phalacrocorax bougainvillii) and Peruvian pelican (Pelecanus thagus) populations in the Punta San Juan ecosystem, International Association of Aquatic Animal Veterinarians (IAAAM), Sausalito, CA, April 2013
20. Anesthesia and Analgesia in Reptiles, American Veterinary Medical Association (AVMA), Chicago, IL, July 2013
21. Anesthesia and Analgesia in Amphibians, American Veterinary Medical Association (AVMA), Chicago, IL, July 2013
22. Exotic Animal Anesthesia, Exotic Animal Medicine Conference for Practitioners (EAMCP), Salt Lake City, UT, September 2013
23. Radiographic Positioning and Interpretation in Exotic Animals, Exotic Animal Medicine Conference for Practitioners (EAMCP), Salt Lake City, UT, September 2013

24. Fungal rhinitis in a ring-tailed lemur, CL Davis Zoo Pathology Workshop, American Association of Zoo Veterinarians Conference (AAZV), Portland, OR, September 2015.


State

1. Introduction to Reptile Medicine, Virginia-Maryland Region College of Veterinary Medicine Clinical Applications in Companion Avian & Exotics Course, 2001

2. Physical Examination & Handling of Exotic Pets (Lecture), Physical Examination and Handling of Exotic Pets (Lab), Virginia-Maryland Region College of Veterinary Medicine, Clinical Applications in Companion Avian & Exotics Course, 2001

3. Careers in Zoological Medicine, Comparative Medicine Department, University of Illinois at Chicago, 2002

4. Where the Wild Things Are, Zoological Medicine, Chicago Anti-Cruelty Society Lecture Series, 2004

5. Caring for Zoo Animals, Bellwood Retirement Home, Bellwood, IL, 2005

6. Rhino with Glue-On Shoes, La Grange Library Lecture Series, La Grange, IL, 2008


8. Monitoring the Health of Dolphins in Sarasota Bay – Four decades of research and conservation. Invited speaker, Chicago Branch of the American Association of Laboratory Animal Science (CBAALAS), Loyola University, Maywood, IL, March 2015.


10. Anesthesia & Analgesia in Reptile, University of Illinois, Fall Conference, Urbana, IL, September 2015.


University of Illinois

1. Preparation for a Career in Zoological Development, Student Evening Presentation, 2001

2. Preventive Medicine in a Zoological Setting, Student Lecture, 2001

3. Grand Rounds: Marsupial Medicine & Toxoplasmosis (Fall 2005), Polar Bear Hernia Repair (Spring 2005)


5. Fluid Therapy, Wildlife Medical Clinic Rounds, 2003

6. Anesthesia in Non-Domestic Species, Wildlife Medical Clinic Rounds, 2005

7. Anesthesia in Non-Domestic Species, Fall Conference 2006

8. Introduction to Zoological Medicine, Anti-Cruelty Society, Chicago, IL, 2013-present

9. Importance of Zoological Medicine in Zoos & Aquaria, Western Illinois University, Biology 583, 2014-present

Chicago Zoological Society

1. Emerging Infectious Diseases of Elephants, Brookfield Zoo Keeper Continuing Education, 2001


3. Zoonoses Training, Continuing Education Committee Brookfield Zoo, 2002
5. Where the Wild Things Are – Zoological Medicine, Chicago Anti-Cruelty Society 2004
6. Building the Next Generation of Zoo Vets, Animal Programs Division, 2004
7. ACZM & Post Graduate Training Program in Zoological Medicine – Brookfield Zoo Staff, Administration & Development, 2005
8. Conservation & Education an Institutional Insight, CZS Women’s Board, 2006
9. Education Programs at Brookfield Zoo, Chicago Zoological Society’s Board of Trustees, Education & Conservation Committee, 2006
11. Health Assessment of the Humboldt Penguin at Punta San Juan, Continuing Education Conference for Teachers, Brookfield Zoo, 2009
12. Field Research and Conservation in Punta San Juan, Peru, Chicago Zoological Society’s Board of Trustees (Conservation and Education Committee), 2009
13. Veterinary collaboration in support of Cook County Forest Preserve Programs, Forest Preserve District of Cook County Science and Research Symposium, 2012

Teaching

The University of Tennessee, College of Veterinary Medicine

1997-1999
VM 867: Multispecies Medicine, Ferret Biology, Medicine and Surgery
VM 867-89017: Seminars in Zoological Animal Medicine, Nutrition Series, Amphibian Nutritional Concerns
VM 846: Multispecies Medicine Laboratory, Reptile Medicine, Poultry Medicine
Physical Exam & Diagnostic Sampling in Birds, Reptiles, Small Mammals, Veterinary Continuing Education Conference
The Use of External Fixation for Orthopedic Repair in Wildlife, Avian, Exotic & Wildlife Club
Faculty Rounds: Adrenal Disease in Ferrets, Patent Urachus in a Southern White Rhino Calf
Journal Club
- Camellid Biology and Medicine
- Elephant and Rhinoceros Medicine
- Zoo and Wildlife Toxicology
- Protozoal and Parasitic Diseases of Birds
- Avian & Reptile Hematology and Cytology
- Great Ape Reproduction

University of Illinois, College of Veterinary Medicine

2001
2002
Fall
Spring
VP 340: Conservation Medicine, Conservation Medicine Center of Chicago (BFZ, Loyola, UIUC), Emerging Diseases of Proboscidae
VCM 321: Senior Zoological Medicine Rotation (Brookfield Zoo),
Course coordinator
VCM 394: Your Veterinary Future, Zoological Medicine Faculty Participant

Fall
VCM 321: Senior Zoological Medicine Rotation, Course Coordinator
VCM 333: Veterinary Parasitology, Zoo Medicine Student Project Coordinator
VP 340: Conservation Medicine, Conservation Medicine Center of Chicago (BFZ, Loyola, UIUC), West Nile Virus – An Emerging Disease in North America

2003 Spring
VCM 321: Senior Zoological Medicine Rotation, Course Coordinator
VCM 394: Your Veterinary Future, Zoological Medicine Faculty Participant

Fall
VCM 321: Senior Zoological Medicine Rotation, Course Coordinator
VCM 325/625: Exotic Animal Medicine, Co-Course Coordinator,
  - Chinchilla Biology & Medicine (1 hour)
  - Rabbit Biology & Medicine (1 hour)
  - Reptile Biology & Medicine (2 hours)
  - Amphibian Biology & Medicine (2 hours)
  - Emergency Medicine / Diagnostic Testing (2 hours)
  - Introduction to Zoological Medicine (2 hours)
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia
VCM 333: Veterinary Parasitology, Zoo Medicine Student Project Coordinator
VP 360: Biology of Emerging Infectious Diseases, Zoonotic Diseases in Birds, Reptiles and Exotic Hoof stock
VP 340: Conservation Medicine, Conservation Medicine Center of Chicago (BFZ, Loyola, UIUC), West Nile Virus – An Emerging Disease in North America
Zoological Medicine Resident Seminar Series, Course Coordinator (BFZ, Shedd, LPZ)

2004 Spring
VCM 321: Senior Zoological Medicine Rotation, Course Coordinator
Fall
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia

2005 Spring
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator

Fall
VCM 501: Zoological Medicine Seminar, Course Coordinator for Chicago Zoological and Aquatic Animal Residents, reviews significant literature and relevant topics
VCM 333: Veterinary Parasitology, Zoo Medicine Student Project Coordinator
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia
VP 340: Conservation Medicine, Conservation Medicine Center of Chicago (BFZ, Loyola, UIUC), West Nile Virus – An Emerging Disease in North America
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia, Course Coordinator
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
VCM 501: Zoological Medicine Seminar, Course Coordinator
VCM 333: Veterinary Parasitology, Zoo Medicine Student Project Coordinator, Research Assistant
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia
VCM 501: Zoological Medicine Seminar, Course Coordinator

2006
Spring
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
Fall
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
VCM 333: Veterinary Parasitology, Zoo Medicine Student Project Coordinator, Research Assistant
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia
VCM 501: Zoological Medicine Seminar, Course Coordinator

2007
Spring
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
Fall
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia
VP 340: Conservation Medicine: Health Assessment of the Humboldt Penguin at Punta San Juan, Peru
VCM 501: Zoological Medicine Seminar, Course Coordinator

2008
Spring
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
Fall
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
VCM 676: Veterinary Anesthesiology, Exotic Animal Anesthesia
VCM 501: Zoological Medicine Seminar, Course Coordinator

2009
Spring
VCM 625: Zoological Medicine, Clinical Radiology of Zoological Species
Path 640: Conservation Medicine & Ecosystem Health: A Comprehensive Health Assessment of the Humboldt Penguin (Spheniscus humboldti) Population at Punta San Juan, Peru
VCM 501: Zoological Medicine Seminar, Course Coordinator
VCM 598: Non-Thesis Research Supervision for 3 residents
VCM 592: Advanced Topics in Zoological Medicine, Course Coordinator for Seminar lecture series, Ultra potent Narcotic Drugs and Safety

2010
Fall
VCM 621, 501, 598, 592
Spring
VCM 621: Senior Zoological Medicine Rotation, Course Coordinator
VCM 625: Zoological Medicine, Clinical Radiology of Zoological Species, Introduction to Zoological Medicine
Path 640: Conservation Medicine & Ecosystem Health: A Comprehensive Health Assessment of the Humboldt Penguin (Spheniscus humboldti) Population at Punta San Juan, Peru
VCM 501: Zoological Medicine Seminar, Course Coordinator
VCM 598: Non-Thesis Research Supervision for 2 residents
VCM 592: Advanced Topics in Zoological Medicine, Course Coordinator for Seminar lecture series, Introduction to Marine
## Mammal Medicine

<table>
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<tr>
<th>Semester</th>
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| Fall 2011 | VCM 601: First Year Colloquium, Introduction to Careers in Zoo and Wildlife Medicine  
VCM 621, 501, 598, 592 |
| Spring 2011 | VCM 621: Senior Zoological Medicine Rotation, Course Coordinator  
VCM 625: Zoological Medicine: Exotic Felid Medicine, Careers in Zoological Medicine  
VCM 501: Zoological Medicine Seminar, Course Coordinator  
VCM 598: Non-Thesis Research Supervision for 2 residents  
VCM 592: Advanced Topics in Zoological Medicine, Course Coordinator for Seminar lecture series. Narcotic Safety & Exposure in Zoological Medicine |
| Fall 2012-present | VCM 601: First Year Colloquium, Careers in Zoo and Wildlife Medicine  
VCM 621, 501, 598, 592 |
| Spring 2012-present | VCM 621: Senior Zoological Medicine Rotation, Course Coordinator  
VCM 501: Zoological Medicine Seminar, Course Coordinator  
VCM 598: Non-Thesis Research Supervision for 1-3 residents  
VCM 592: Advanced Topics in Zoological Medicine, Course Coordinator for Seminar lecture series. |
| Fall 2014 | VCM 601: First Year Colloquium, Careers in Zoo and Wildlife Medicine  
VCM 621, 501, 598, 592 |
| Fall 2015 | VCM 609: Clinical Correlation Cases, Reptile Medicine  
VCM 682: Wildlife Medicine, Anesthesia and Analgesia in Reptiles  
VP 540: Ecosystem Health, Evaluating Wildlife Health on the Coast of Peru, Conservation Medicine Programs at Punta San Juan (2015, 2016)  
Aurora University through CZS, Ocean Explorers Discovery Course (OEDC) 5120, Monitoring Health of Dolphins in Sarasota Bay  
2017 Spring Western Illinois University through CZS, Biology 583: Zoo & Aquarium Management, Importance of Zoological Medicine in Zoos & Aquaria

Illinois Zoological and Aquatic Animal Residency Program

Established and direct the residency program, coordinating training and the Program amongst University of Illinois College of Veterinary Medicine, Chicago Zoological Society's Brookfield Zoo, & John G. Shedd Aquarium. Accredited by the American College of Zoological Medicine the Program was established in 2004 with first resident beginning the program in 2005. Reaccreditation received in 2017. Supervise and train residents in a clinical setting and oversee graduate student research.

2005-2008 Dr. Michelle Davis, Dipl. ACZM, Senior Veterinarian Atlanta Aquarium, GA
2006-2009 Dr. Lisa Naples, Dipl. ACZM, Head Veterinarian Los Angeles Zoo, CA
2007-2010 Dr. Trevor Zachariah, Dipl. ACZM, Head Veterinarian, Brevard Zoo, Melbourne, FL
2008-2010 Dr. Kimberlee Wojick, Associate Veterinarian Roger Williams Zoo, Providence, RI
2009-2012 Dr. Gwen Jankowski, Dipl. ACZM, Resident & Masters Student, Associate Veterinarian Denver Zoological Garden
2010-2011 Dr. Rebecca Dallwig, Resident, Private practice, WI
2011-2013 Dr. Charlie Deutsch (Masters Student)
2011-2014 Dr. Benjamin Nevitt, Dipl. ACZM, Associate Veterinarian San Diego Zoo
2012-2015 Dr. Jennifer Flower, Dipl. ACZM, Resident & Masters Student, Head Veterinarian Mystic Aquarium, CT
2013-2016 Dr. Jimmy Johnson, Dipl. ACZM, Resident & Masters Student, Miami Zoo, Senior Veterinarian
2014-2017 Dr. Megan Watson, Resident, New England Zoo, Associate Veterinarian, MA
2014-2016 Lauren Kane, Masters Student
2015-2018 Dr. Dana Lindemann, Resident and Masters Student
2016-present Dr. Karisa Tang, Resident and Masters Student
2017-present Dr. Julie Sheldon, Resident and Masters Student

Faculty Mentoring

2016-present Dr. Matt Allender, Asst. Prof.
Dr. Santiago Gutiérrez Nibeyro, Clin. Assoc. Prof.
Dr. Jason Pieper, Clin Asst. Prof.
Dr. Ken Welle, Clin. Asst. Prof.

Publications

Chapters in Books


Peer Reviewed Articles in Journals


Non-Peer Reviewed Articles in Journals

Conference Proceedings
5. Langan J. West Nile Virus Review & Update in Zoological Species, 4th Annual Exotics Symposium, University of Tennessee, College of Veterinary Medicine, 2006.
12. Langan J. Anesthesia and Analgesia in Reptiles. American Veterinary Medical Association Conference, Chicago, IL, July 2013. (4 pages)
13. Langan, J. Anesthesia and Analgesia in Amphibians. American Veterinary Medical Association Conference, Chicago, IL, July 2013. (4.5 pages)

Abstracts


19


44. Colegrove K, **Langan JN** et al. Tursiops Chronic Brucella Mystery Case Pathology Workshop. American College of Veterinary Pathologists (ACVP) and American Society for Veterinary Clinical Pathology (ASVCP) Conference December 3-7, 2016. New Orleans, LA, USA.


46. Flower JE, **Langan JN***, Wells RS, Cray C, Arheart K, Chinnadurai SK, Adkesson MJ. Serum acute phase proteins in bottlenose dolphins (*Tursiops truncatus*) and correlation with commonly
utilized inflammatory indices. May 21-26, 2016 International Association of Aquatic Animal Medicine Conference, Virginia Beach, VA, USA.


Public Media
1. University of Illinois – Brookfield Zoo Web blog during the 2008 field season, Humboldt Penguin Conservation in Punta San Juan, Peru
3. Chicago Zoological Society’s / Brookfield Zoo’s Veterinary Department Programs were highlighted in a feature article on “Innovation in Veterinary Care”, in the October issue of the AZA (Association of Zoos and Aquariums) Connect Magazine.
4. Brookfield Zoo Veterinary Department participated in filming by WTTW (public television) for an upcoming broadcast on Advances in Veterinary and Animal Care at Chicago Zoological Society.
5. Brookfield Zoo’s veterinary team was prominently featured in a three part story in the July 15, 2017 Journal of the American Veterinary Medical Association on zoo and wildlife veterinarians.

Book Reviews

Grants
7. Langan J, Adkesson M. A Population Health Assessment of the Humboldt Penguin (Spheniscus humboldti) at Punta San Juan, Peru. Endorsed by the AZA Humboldt Penguin SSP, Chicago Zoological Society’s Chicago Board of Trade Endangered Species Fund 2006, $4,800
8. Adkesson M, Langan J. A Comprehensive Health Assessment of the Humboldt Penguin (Spheniscus humboldti) population at Punta San Juan, Peru. Saint Louis Zoological Park, Field Research Conservation Program Grant 2006, $10,000
11. Adkesson M, Langan J. A Comprehensive Health Assessment of the Humboldt Penguins (Spheniscus humboldti) population at Punta San Juan, Peru. Sea World Busch Gardens Conservation Grant 2007, $5,940
12. Langan J, Adkesson M. A Population Health Assessment of the Humboldt Penguin (Spheniscus humboldti) at Punta San Juan, Peru, endorsed by the AZA Humboldt Penguin SSP, Chicago Zoological Society’s Chicago Board of Trade Endangered Species Fund 2007, $5,000
13. Adkesson M, Langan J. A comprehensive health assessment of the Humboldt penguin (Spheniscus humboldti) population at Punta San Juan, Saint Louis Zoo Field Research for Conservation Program Grant 2007, $10,000
15. Langan J, Adkesson M. Continued health assessment of the Humboldt penguin (Spheniscus humboldti) population at Punta San Juan, Peru, Chicago Zoological Society’s Chicago Board of Trade Endangered Species Fund Grant 2007, $5,000
17. Adkesson M, Langan J. A comprehensive health assessment of the Humboldt penguin (Spheniscus humboldti) population at Punta San Juan, Peru, Field Research in Conservation, WildCare Institute, Saint Louis Zoo Field Research Conservation Grant, Spring 2008, $10,000
19. Adkesson M, Langan J. A preliminary health assessment of the avifauna in the Punta San Juan ecosystem: Understanding potential disease threats to the Humboldt penguin (Spheniscus humboldti) population, Field Research in Conservation, WildCare Institute, Saint Louis Zoo Grant Spring 2008, $9,885

21. Naples L, **Langan J**. The effect of UV light supplementation on vitamin D levels in callimico monkeys (*Callimico goeldii*), Chicago Board of Trade Endangered Species Fund, Fall 2008, $4,850


26. Adkesson M, Dubach J, **Langan J**. Genetic Assessment of the Humboldt Penguin Population at Punta San Juan over a 17 year period. Saint Louis Zoo Field Research for Conservation Program Grant received in 2009, $9,630

27. Adkesson M, Levengood J, Yi S, **Langan J**, Beasley V. An assessment of toxicant exposure in the Humboldt penguin at Punta San Juan. Chicago Board of Trade Endangered Species Grant received in 2009, $4,630

28. Adkesson M, **Langan J**, Leading Conservation and management of Endangered Humboldt Penguins, $5,000 Chicago Zoological Society’s Women’s Board Grant – 2010

29. Wojick K, **Langan J**, Gamble K, Adkesson M. Pharmacokinetics of the long-acting intramuscular antibiotic, Excede™, in helmeted guineafowl (*Numida meleagris*) as a model for endangered and threatened avifauna in captive collections, Chicago Board of Trade Endangered Species Grant, $5,000, Project completed Spring 2010


**Continuing Education**

1995 Joint Conference of the American Association of Zoo Veterinarians (AAZV) & American Association of Wildlife Veterinarians (AAWV), East Lancing, MI
- AAZV Workshop – 2nd Annual Zoo & Wildlife Pathology Workshop
- AAWV Workshops – Tuberculosis in Wildlife, Game Ranching and Zoos, How to Get the Most from your Carcass

1997 Joint Conference of AAZV & American Association of Reptile and Amphibian Veterinarians (ARAV), Houston, TX
- AAZV Workshops – Marine Mammal Medicine, Reptile Medicine Clinical Conference
- ARAV Workshop – Reptile Medicine and Surgery
1997, 98  The University of Tennessee, College of Veterinary Medicine, Veterinary Continuing Education Conference, Topics in Exotic Animal Medicine
1998  European Association of Zoo and Wildlife Veterinarians, Chester, England
1998  Joint Conference of AAZV & AAWV, Omaha, NE
    -  Workshop – Fish Medicine and Surgery
1998  The University of Tennessee, College of Veterinary Medicine
    -  Fish Medicine VM 864-89152
    -  Multispecies Medicine VM 864
    -  Zoology for Veterinarians
    -  Seminars in Zoological Animal Medicine
    -  Nutrition Series VM 864-89017
    -  Raptor Management VM 846-89020
1999  North American Veterinary Conference, Orlando, FL
1999  University of Illinois College of Veterinary Medicine, 5th Annual Emerging Infectious Disease Conference
1999  Joint Conference of AAZV & ARAV – Columbus, OH
    -  Master Class – Fish Medicine
2000  American College of Zoo Medicine (ACZM) Review Course, NC
2000  Joint Conference of AAZV & International Association for Aquatic Animal Medicine (IAAAM), New Orleans, LA
    -  AAZV Workshop – Marine Mammal Medicine
    -  IAAAM Workshop – Fish Parasitology
2000  Board Review Short Course - American College of Zoological Medicine Certification
2001  ACZM Board Review Course, NC
2002  AAZV Conference – Milwaukee, WI
    -  Workshops – Rhino Fertility, Laser Surgery, Emerging Wildlife Diseases
2003  American College of Veterinary Internal Medicine Conference, Charlotte, NC
2003  Joint Conference of AAZV & ARAV – Minneapolis, MN
2005  Joint Conference of AAZV & AAWV – Omaha, NE
    -  Workshop – Shark Medicine
2006  University of Illinois College of Veterinary Medicine, 16th Annual Fall Conference for Veterinarians
2007  Joint Conference of AAZV & AAWV – Knoxville, TN
2008  AAZV Conference – Los Angeles, CA
    -  Session Chair – Primate Session
2009  IAAAM Main Conference – San Antonio, TX
    -  Workshop – Marine Mammal Ophthalmology
2010  Joint Conference of AAZV & ARAV – South Padre, TX
2011  Executive Veterinary Program, University of Illinois - Small Animal Ultrasound
2013  University of Illinois College of Veterinary Medicine, 21st Annual Fall Conference for Veterinarians
    Joint Conference of AAZV & ARAV – Kansas City, MO
2013  IAAAM Main Conference – Sausalito, CA
2013  AAZV Conference – Salt Lake City, UT
2014  European Zoo and Wildlife Veterinarian Conference, Warsaw, Poland
    -  Workshop – Anesthesia
    AAZV Conference – Orlando, FL
    -  Workshop – Elephant Medicine, Hoof Trimming
2015  AAZV Conference – Portland, Oregon
    -  Session Chair – Megavertebrate & Ungulates
2016  ECZM Annual General Meeting & Examination Committee Meeting, Belgium
AAZV Conference – Atlanta, GA (1 day attendance)
- Poster Session Chair
R. LEE KELLAR
(907) 491-1135
6450 Coki Point, St. Thomas VI 00802
rlkellar@ak.net

PROFESSIONAL EXPERIENCE:

General Curator Coral World St. Thomas USVI (2008-Present)

- Developed and led a $10 million dolphin interaction facility from concept through permitting including animal acquisition.
- Operate Coral World Ocean Park a for profit marine facility for sustainability and profitability
- Lead a high performing team of animal care experts, veterinarians, and trainers
- Lead a team of attorneys, planners, designers, architects, and consultants to acquire a major Land and Water use Coastal Zone Management permit for future development
- Organize and develop applications and presentations for Coastal Zone Management permits, Army Corps of Engineers, and other regulatory agencies
- Testified at public hearings in Coral World’s behalf
- Doubled revenue from animal interactive programs
- Developed the Aquarium’s Institutional Animal Care and Use Committee
- Operate and certify reverse osmosis drinking water plant- insure plant and distribution system meets all US and territorial standards
- Develop and enforce all policies for Coral World Park employees
- Through staff and contractors operate and manage onsite sewage treatment plant
- Manage and plan for all land acquisition negotiate leases
- Cultivate relationships with territorial, University, and federal agencies for mutual benefit
- Negotiate contracts with stateside and territorial contractors
- Manage relations with Territorial emergency planning team (VITEMA)
- Create and certify Spill Prevention, Control, and Countermeasure Plan (SPCC)
- Lead the facility against radical animal activist groups in person and in media
- Formed emergency and safety committee and organized safety meetings
- Hold two USDA PPQ permits Containment Director for Butterfly Garden St Thomas

Husbandry Director/Facilities Manager, Alaska SeaLife Center, Seward, AK (1999-2009)

- Responsible for a staff of 45, as the Center’s lead on animal husbandry information technology and facilities matters
- Provide strategic leadership regarding animal and facility operations issues
- Ensure that the Alaska SeaLife Center complies with OSHA, EPA, USDA-APHIS and other applicable regulations.
- Lead the Center’s Institutional Animal Care and Use Committee
- Operate the infrastructure including information services, trades, utilities, project management, and insurance of the facility through subordinate supervisors
- Manage a budget of $3.5 Million
- Develop and manage grants for Salmon Restoration (Alaska SSSF) and US Department of Commerce Stranding grants $1.5-$2 million/year
- Member of master planning team
- Member of strategic planning team
- Manage real estate purchase and leases
- Develop working relationships with Alaska Native Subsistence groups Alaska Beluga Commission, Ice Seal Commission, Alaska Native Harbor Seal Commission, and Alaska Steller Sea Lion and Sea Otter Commission, Bristol Bay Marine Mammal Committee
- Develop all security procedures and through a Chief of Security ensured that staff of security officers performed 24/7 duties
• Lead a high performing team (internationally recognized International Marine Animal Trainers Association)
• Present complex issues in layman’s terms to a diverse audience
• Lobbied for friend raising and fundraising
• Develop relationships with Congressmen, Senators, former governors, and staff.
• Develop and practiced emergency evacuation and response training and drills
• Through subordinate supervisors managed FEMA claims for flood damage (2006) and electrical damage due to avalanche
• Signing authority for funds transfer, payroll, and accounts payable
• Manage Spill Prevention Control and Countermeasure Plan (SPCC)

Aquarium Curator, Dallas Zoo and Aquarium, Dallas, TX (1997-1999)
• City of Dallas management employee grade 55
• Manage AZA accredited Aquarium facility including all animal care and facility infrastructure
• Oversight of commissioning of improved AC Chiller unit
• Manage and developed research and management plans for neotenic salamanders and Mexican pupfish. Including endangered species permits from USFWS
• Develop and implemented desert pupfish conservation initiatives in collaboration with USFWS, Texas Parks and Wildlife, and private landowners.
• Supervise a husbandry staff and managed a collection of fish and sea turtles.
• Ensure that all city policies were followed
• Administer City of Dallas employee grievance program for all aquarium employees and as a member of a zoo wide grievance team
• Oversight of all operations at Dallas Zoo a major metropolitan facility as rotational duty officer (staff of 200)
• Member of firearms training team
• Member of emergency planning team

Curator/General Manager, Marine Life Aquarium, Rapid City, SD (1988-1997)
• Oversaw the day to day operations of the aquarium. Responsible for a staff of over 35 employees.
• Manage political relations with offices of Senators and Congressmen

Member, Marine Mammal Coalition (1989-1996)
• Work as an advocate on a broad range of marine mammal issues including standards for captive care, display programs, and appropriate response to marine mammal strandings.
• Kept public aquaria, regulatory officials, legislators, and other policy makers informed concerning important marine mammal issues.
• Work with lobbyist to develop favorable legislation
• Directly lobbied US Congress for favorable changes to the Marine Mammal Protection Act (1994)

Animal Trainer, Florida’s Gulfarium, Fort Walton Beach, FL (1978-1988)
• Coordinated all stranding response for Northwest Florida and Southern Alabama.
• Managed all permitting and licensing with NMFS, USDA and State of Florida agencies.
• Trainer of dolphins sea lions and seals

ADDITIONAL ACTIVITIES:
Professional Memberships: AZA, IMATA, IAAAM, Society for Conservation Biology, American Institute for Biological Sciences, International Association of Amusement Parks and Attractions, American Association of Zoo Keepers
Safe Seas Oil Spill Training and Drill, San Francisco (2006)
Whale Disentanglement Training, by Ed Lyman (2006)
Oiled Wildlife Care, by Oiled Wildlife Care Network (2005)
Wilderness First Aid (2007)
Ice Seal Commission and Beluga Commission annual meetings (2006)
Conferences: AZA, IAAAM, IMATA, Regional Aquatics Workshops
Teach seminar on ethics in using animals for research use (IACUC), and philanthropy
Volunteer grant writer for Smith Bay Community Action Foundation
MICHELLE ELIZABETH CAMPBELL
PO Box 1068, Middleburg, VA 20118, PH: (540) 687-5958
mcampbell@dolphinquest.com

EDUCATION

California Coast University, Santa Ana, CA
Master of Science in Psychology 2008

University of California at Santa Barbara, Santa Barbara, CA
Bachelor of Arts in Biology 1991

PROFESSIONAL EXPERIENCE

Dolphin Quest/Quest Global Management, San Diego, CA Oct 2013 – Present
Vice President of Animals
• Oversee global animal management practices, crew development and Veterinary goals
• Oversee dolphin population sustainability and growth through breeding, animal loans and transports
• Serve on Board of Directors for company direction and growth
• Ensure compliance with Alliance of Marine Mammal Parks and Aquariums, American Humane and USDA standards.
• Direct all animal exhibit care, maintenance and capital improvements.
• Oversee Scientific Research Committee including project proposal selection and financial support

Dolphin Quest/Quest Global Management, Waikoloa, HI Jan 2005 – Sep 2013
Global Director of Marine Animals
• Managed animal health and well-being and trainer development for all three DQ locations.
• Managed dolphin encounter program development and criteria maintenance.
• Served as liaison with owners to keep them informed of daily ops, animal care and facilities.
• Created and implemented operational schedule on a biannual basis.
• Oversaw the hiring, training and continued growth of all trainer employees.
• Advanced the Dolphin Quest mission and values within the animal services staff and company.

Dolphin Quest Bermuda, Sandys, Bermuda Feb 1996 – Dec 2004
Director of Animal Management
• Managed trainers, aquarists and interns including staff training and performance evaluations.
• Managed animal health, husbandry and training while developing behavior management plans.
• Ensured AMMPA and USDA standards are met and implement safety protocols and procedures.
• Facilitated capital improvements, facility maintenance and long-term facility goals.
• Developed and implemented new programs along with long term animal development goals.
• Recruited new hires, maximized retention and created a positive working environment for all.

Trainer
• Conducted innovative dolphin interaction programs and shows for guests of all ages.
• Trained and troubleshot behavior throughout workday with team of bottlenose dolphins.
• Conducted diet preparation while maintaining a clean and safe working environment.

Oceana Cedar Point, Sandusky, OH
Marine Mammal Handler
• Performed daily shows with Atlantic bottlenose dolphins and California sea lions.
• Assisted with maintenance and upkeep of aquarium facility and marine mammal habitats.

Goleta Pet Hospital, Goleta, CA
Veterinary Technician
Jan 1991 – Feb 1992
• Supported veterinarian in daily operations of small animal clinic with variety of animal species.
• Assisted with maintenance, laboratory work, animal handling and surgeries.

ADDITIONAL EXPERIENCE
Live Animal Transport Experience
Professional Coordinator/Attendant
Oct 1996 – Present
• Primary logistics coordinator for 15 common bottlenose dolphin transports including International travel
• Participated in six transports as a marine mammal attendant/specialist on board the aircraft under the direction of the attending veterinarian
• Participated in three transports as a marine mammal attendant/specialist as ground transport under the direction of the attending veterinarian

Well Trained, Inc.
Owner
Feb 2016 – Present
• Developed professional animal training consulting services company
• Oversee training, client base, financials, marketing and sales

Alliance of Marine Mammal Parks and Aquariums
Board Member
Apr 2006 – Present
• Positions held include Director at Large, Treasurer and Vice Chair
• Review all matters relating to organization as presented by Executive Director

Government Affairs Committee
• Review of all regulatory topics for marine mammals under the AWA
• Reviewed and responded to ‘Swim With’ Regulations for marine mammals

Conference Chair
• Responsible for annual conference planning in conjunction with Executive Director.
• Coordinated volunteer support group and acted as hotel liaison.

Accreditation Inspector
• Assist with inspecting facilities based upon industry criteria for membership accreditation.
• Summarize and create inspection reports to provide recommendation for accreditation.

International Marine Animal Trainers’ Association
Nov 2002 – Jul 2004
Conference Committee Chair
- Mentored acting Vice Presidents in various conference planning duties.
- Attend leadership meetings to help guide the organization and accomplish strategic goals.

International Marine Animal Trainers’ Association  
Vice President  
Jul 1999 – Nov 2002
- Organized and conducted annual conference for 1,000 members.
- Provided input as a part of the board of directors to help guide the organization.

Indianapolis Zoo, Indianapolis, IN  
Intern  
- Assisted zookeepers with care ad training of California sea lions and harbor seals.
- Conducted public educational demonstrations with animals.

ORGANIZATIONS AND CERTIFICATIONS
- International Marine Animal Trainers’ Association member since 1992
- Open water SCUBA certification (Scuba Schools International)
- American Red Cross CPR and First Aid certified
- Certified Interpretive Guide through National Association of Interpreters
- Certified Marine Engine Operator
- Alliance of Marine Mammal Parks and Aquariums (Accreditation Inspector/International Committee/Conference Committee Chair)
- Behavior+ Works Certificate of Excellence; Living and Learning with Animals; The Science and Technology of Behavior Change. November 2014

PUBLICATIONS


• Prutow, Lauren, Campbell, Michelle. 2012. Care and Handling of Neonate Bottlenose Dolphins. Soundings (International Marine Animal Trainers’ Association).


• Bryan, Colleen, Campbell, Michelle, Schock, Tracey. Personalized and Baseline Environmental Health of Bottlenose Dolphins in Human Care through Metabolic Profiling. Metabolomics Society Conference, San Francisco, California, June 29 to July 2, 2015.

• Morey JS, Neely MG, Lunardi D, Anderson PE et al. RNA-Seq analysis of seasonal and individual variation in blood transcriptomes of healthy managed bottlenose dolphins. BMC Genomics 2016 Sep 8;17:720.


• Kathy Burek Huntington, Michelle Campbell, Tonya Clauss, Caroline Goertz, Roderick Hobbs, Denise Lunardi, Amanda Moors, Marion Neely, Lori Schwacke, Frances Van Dolah. Title: De novo transcriptome assembly and RNA-Seq expression analysis in blood from beluga whales of Bristol Bay, AK. Marine Genomics. 2017
CURRICULUM VITAE

Natalie E. Noll DVM
#43 Eastern Rd.
Nassau, New Providence
Bahamas
Cell phone: 242-424-9654
nollnatalie@yahoo.com

EDUCATION

College of Veterinary Medicine
1989-1993: Auburn University B.S. in Zoology,
Minor in Marine Biology

PROFESSIONAL EXPERIENCE

Marine Animal Veterinarian
Atlantis Dolphin Cay 11/11-present
Paradise Island, Bahamas
Staff Veterinarian responsible for the health of the animal collection at a five star megaresort
which includes dolphins, sea lions, birds, sharks, fish, and rays.

Small Animal and Exotic Veterinarian
All Pets Animal Hospital 3/10-10/11
Encinitas, CA 92024
Serve as general practice veterinarian for small animals and exotics at a high quality general
practice.

Marine Animal Consultant Veterinarian
Coral World Ocean Park, Inc. 9/09-present
St. Thomas, US Virgin Islands
Serve as consultant veterinarian for the aquarium's animal collection which includes sea lions, sea
turtles, stingrays, birds, fish and sharks, as well as sick and injured local wildlife. Developing a
Program of Veterinary Care and a Preventative Health Program.

Emergency and Critical Care Veterinarian
California Veterinary Specialists, Angel Care Cancer Center 10/06-2/10
Carlsbad, CA
Serve as a daytime emergency and critical care veterinarian in a cancer and specialty clinic.
Responsible for all hospitalized patients and incoming referrals of small animal and exotics.
Primary focus and consults with internal medical specialists, oncologists, cardiologists, radiologists
and surgeons on cases. Lead and assist in procedures involving large equipment such as CT
Scan, chemotherapeutic administration, radiation, fluoroscopes, bronchoscopes, endoscopes,
ultrasound and nuclear medicine.
Marine Mammal Veterinarian/Consultant
The Mirage Dolphin Habitat and Secret Garden
Las Vegas, NV 1/06-7/07
Served as staff veterinarian in order to build a new Program of Veterinary Care. Developed a full time veterinary program including protocols and SOPs, a veterinary manual, and preventative health care program. Purchased new equipment and set up veterinary medical inventory and a pharmacy. Networked with many marine mammal veterinarians. Assisted in the planning of building a new veterinary laboratory.

Contract Marine Mammal Veterinarian
Science Applications International Corporation
The Navy Marine Mammal Program, Department of Defense, US Government
Kingdom of Bahrain and San Diego, CA 6/05- 6/09
Served as Attending Veterinarian to oversee the health and welfare of dolphins participating in naval force protection in the port of Bahrain and the port of San Diego. Responsible for medical care, water quality, diets and medical inventory, as well as transport of dolphins back to the United States. Assist in research, medical procedures and obtaining medical inventory, as well as assisting in offsite procedures with dolphins in human hospitals, such as PET scans, CT scan and gamma scans at SPAWAR on San Diego, CA.

Emergency and Critical Care Veterinarian
Emergency Pet Care of Jupiter, Jupiter, FL 6/04-6/05
Served as emergency veterinarian in a brand new, state of the art, exceptionally equipped emergency veterinary hospital. Assisted in creation of standard operating procedures, computer programs and form development. Lead team meetings and assisted overall in the management of the practice. Served as the only emergency exotic veterinarian in Palm Beach County, Martin County and St. Lucie County.

Marine Animal Veterinarian
Alaska Sealife Center, Seward, AK 8/00-11/03
Served as Associate Veterinarian for research and collection animals. Manager of the Center's Rescue and Rehabilitation Program for injured, stranded marine mammals and birds. Developed and organized standard operating procedures and protocols, rehabilitation and volunteer manuals, quarantine protocols, volunteer training, as well as upgraded medical chart forms and systems. Also developed and managed a veterinary/husbandry intern program for the Veterinary Services Department. Involved with education and training of large whale entanglements procedures and protocols. Managed grant writing and fund raising efforts for veterinary services and rehab program. Participated in federal permit procedures and the IACUC program committee.

Emergency and Critical Care Veterinarian
Animal ER of San Diego, San Diego, CA 9/99-6/00
Performed emergency and critical care procedures for small animals and exotics. Internal medicine, oncology, dermatology, and surgical specialists present in day practice for consultation and referral.

Chief of Staff Veterinarian
Medical Management Inc. Vetsmart Pet Hospital, Encinitas, CA 11/98-9/99
Managed doctors and staff in a small animal and exotic general practice. Ensured the practice of high quality medicine and surgery. Facilitated teamwork and efficiency, consulted with internal medicine specialist, excellent client service and maintained high professional standards.

Small Animal, Avian and Exotic Veterinarian
Medical Management Inc. Vetsmart Pet Hospital, San Diego, CA 6/97-11/98
Practiced general medicine at a high volume, high quality, and innovative small animal, avian and exotic veterinary hospital.

ADMINISTRATIVE EXPERIENCE

• Author of Alaska SeaLife Center Rescue and Rehabilitation Program Manual 2/1/2001

• Principal Investigator: John H. Prescott Marine Mammal Health Stranding Grant, “Rescue and Rehabilitation of Pinnipeds and Cetaceans in Alaska” 9/1/2001-8/31/2002 Grant amount of $99,837

• Co-Investigator: John H. Prescott Marine Mammal Health Stranding Grant, “Improved rehabilitation techniques through the monitoring of nutrition and growth rates in free ranging and rehabilitated harbor seal pups” 9/1/2001-8/31/2002 Grant amount of $99,939

• Principal Investigator: NMFS Marine Mammal Stranding Grant for the Alaska SeaLife Center 7/1/03 Grant amount of $981,975

• John H. Prescott Marine Mammal Rescue Assistance Grant peer review panel for National Marine Fisheries Service 2002 and 2003

RELEVANT EXPERIENCE

• Provided volunteer veterinary services to the Seward Animal Shelter, Seward, Alaska. 11/00-11/03

• Relief emergency and general practice veterinarian for Pet Emergency Treatment and Diamond Animal Clinic in Anchorage, AK 11/01-11/03

• Provided veterinary services to the Seward community, Seward, Alaska 9/00-11/03

• Instructor for annual Alyeska Sea Otter Oil Spill training courses 2002, 2003

• Vice President of Save our Seward Pets (SOS Pets) - a pet advocacy society that promotes respectful, responsible pet care, Seward, Alaska. 11/00-11/03

• Volunteer Veterinarian for Mission: Wolf- a wolf sanctuary in Westcliffe, CO 3/00-9/00

• Provided volunteer veterinary services to several small animal shelter facilities in Baja California, Mexico. 10/97-1/00

• Volunteer veterinarian for Project Wildlife in San Diego, CA. 7/98-8/99

PROFESSIONAL MEMBERSHIPS

American Veterinary Medical Association
International Association of Aquatic Animal Medicine
Florida Veterinary Medical Association
California Veterinary Medical Association
San Diego Veterinary Medical Association
Top notch references furnished upon request
EDUCATION & TRAINING
Ross University School of Veterinary Medicine 2012-2016
1st-3rd year pursuing Doctorate of Veterinary Medicine on the island of St. Kitts
4th year Clinical Rotation at the University of Illinois Veterinary Teaching Hospital

Oklahoma State University 2009-2012
Zoology student-Freshman, Sophomore, Junior
- Dr. Matthew Bolek’s research on Coccidia, using a microscope to locate the coccidian oocyst, measure multiple parts including the sporocysts, sporozoites and the oocyst itself
- Dr. Bolek’s master’s student Crystal Wiles research on community structure of damselflies and their role as paratenic host for a turtle nematode, assisted in the field capturing damselflies, preparing them for parasite collection, measuring many different points of the parasite oocyst using computer software, recording data
- Dr. Alexander Ophir’s research on prairie voles, I observed and recorded particular behaviors and exact time that they were displayed

KEY ACHIEVEMENTS
- Presented a poster at the 2014 AAZV Conference- Efficacy of a gonadotropin-releasing hormone (GnRH) vaccine (GonnaCon™) on reproductive function in female vervet monkeys (Chlorocebus aethiops)
- Select Sires Bovine Artificial Insemination Certification 2014
- President’s Honor Roll, Oklahoma State University Fall 2009
- Dean’s Honor Roll, Oklahoma State University, entirety of undergraduate career 2009-Spring 2012.
- Earned Girl Scout Gold Award (Equivalent to Eagle Scout Award)
- State FFA Degree recipient

EMPLOYMENT / EXPERIENCE
Staff Veterinarian, Coral World Ocean Park 2019-Present
- Physical exams, diagnostics, and treatment of all animals within the facility
- Maintain accurate and up to date medical and controlled drug records
- Participate in animal transport as well as emergencies requiring assistance
- Perform rounds weekly with heads of animal care departments
- Communicate regularly with consulting Director of Veterinary Services

Associate Veterinarian, Banfield Pet Hospital- Owasso 2017-2018
- Educated about and provided comprehensive preventive medical care
- Performed spays, neuters, dentals, mass removals, and oral surgeries
- Provided medical care for both Petsmart and client owned exotic pets
- Assisted in training veterinary staff

Associate Veterinarian, Kindness Animal Hospital 2016-2017
- Performed surgeries on cats, dogs, and exotic species
- Provided thorough physical exams and work ups on cases
- Kept up to date records and answered client call back questions
Veterinary Extern, The Oklahoma City Zoo 2016
- Assisted with procedures (routine physicals, vaccinations, diagnostics, fluid therapy etc)
- Performed necropsies and wrote necropsy reports
- Accompanied veterinarians on daily rounds out in the zoo
- Vaccinated zebras with CO2 remote darting

Veterinary Student Extern, The Calgary Zoo 2015
- Assisted with procedures (routine physicals, vaccinations, surgery, fluid therapy etc)
- Assisted with treatments in-house and on zoo grounds
- Performed necropsies on both zoo and wildlife specimen
- Participated in both drill and real code situations
- Created and presented a power point presentation on General Anesthesia in Captive Adult Giraffe
- Practiced multiple darting techniques

Veterinary Student Extern, The Houston Zoo 2015
- Responsible for drawing up all in-house treatments and assisted in administration
- Accompanied veterinarians on daily rounds out in the zoo
- Assisted with procedures (routine physicals, vaccinations, surgeries, fluid therapy etc)
- Performed necropsies and wrote necropsy reports
- Created and presented power point presentation on Fibrosing Cardiomyopathy in Great Apes

Student, SA (South African) World Vets 2014
- Administered numerous intramuscular injections to sable, cape buffalo and impala
- Administered rabies vaccine to African wild dog and monitored respiration and anesthetic depth
- Assisted in multiple methods of relocation of sable, cape buffalo and impala
- Observed lame elephant tranquilization, assessment, blood draw, treatment, and reversal
- Assisted with casting procedures
- Assisted in mass capture
- Practiced rifle darting for tranquilization, including from helicopter

Leatherback Sea Turtle Project Volunteer, St. Kitts Sea Turtle Monitoring Network 2014
- Performed cloacal swabs on leatherback sea turtles
- Properly recorded on data sheets during leatherback nesting (carapace measurements, lesions, markings, identification numbers, nesting conditions, eggs laid, etc)
- Trained to perform blood draw via dorsal cervical sinus and interdigital vein
- Relocated leatherback nest
- Trained in turtle nest excavation
- Trained in flipper tag placement, microchip placement, and microchip detection

Research Assistant, Ross University School of Veterinary Medicine 2013- 2014
- Performed ELISA test kits for estradiol and progesterone
- Transformed the data using logistic regression equations in Microsoft Excel
- Vaccinated vervet monkeys and preformed proper handling and restraint techniques
- Performed ultrasound on vervet monkeys to assess pregnancy status
- Made and presented a poster on the project to RUSVM faculty and students
Extern, Kansas State University College of Veterinary Medicine- exotics 2013
● Participated in rounds with Dr. James Carpenter and his exotics department
● Assisted Dr. Carpenter with preparing darts with proper drug dosage for the maned wolves at the Sunset Zoo and learned about dart mechanics
● Assisted with two maned wolves transport, physicals, vaccinations, fluids, and blood collection (observed and participated when needed from darting to reversal)
● Observed a mandrill OVH process (from sedation to reversal) and intermittently took documentation pictures
● Learned about equipment and practiced darting techniques (both blow darting and CO2)
● Assisted with physical exams and treatment of exotic animals in a clinic setting (from history taking to discharge)

Unpaid Intern, Wild Heart Ranch: Wildlife Rescue & Rehabilitation 2013
● Prepared fawn diets and bottle fed over 20 fawns
● Administered subcutaneous fluids to a turkey vulture
● Learned proper handling and husbandry of different wild animals
● Observed treatment of a slipped tendon in a goose.

Shorebird research project volunteer, Ross University School of Vet Med 2013
● Walked the primary nesting beach, on St. Kitts, where two endangered shorebird species nest, looking for new nests and observing not only bird behaviour, but also watching for sea turtle tracks to report to the Sea Turtle Monitoring Network
● Recorded data on the Least Turn and Piping Plover nests including GPS location, predation, hatchling health and such
● Worked as a team to have consistent accurate information being recorded every other day

Volunteer Assistant Tech, Dewey Humane Society Spay/Neuter Clinic 2011-2012
● Assisted veterinarian and veterinary technician with all needed tasks
● Communicated with concerned clients and assisted with intake paperwork

Volunteer, Ark Animal Hospital 2011
● Assisted the veterinary technician with day to day tasks
● Assisted Veterinarian with procedures and observed surgical procedures

Unpaid Intern, Tulsa Zoo 2009-2011
● Worked Bird Department zookeeper routines
● Prepared diets, cleaned exhibits, and responsible for other husbandry needs
● Assisted in emergencies such as swan fight, blood feather issues, primate escape, etc.
● Broke down and recreated exhibit enclosures as well as properly relocated the animals during the process
● Learned how to properly restrain multiple birds including raptors, parrots, flamingos, and more for multiple procedures not limited to beak trims, nail trims, physical exams, penguin injections etc.

Volunteer/shadow, Oklahoma State Veterinary Teaching Hospital 2011
● Assisted with treatment and diagnostic work such as bone marrow tap in a calf, wrapping an alpaca leg, trimming and setting bovine hooves, etc.
● Observed many clinical cases
Volunteer, Companion Animal Assistance Program 2010-2011
- Communicated with clients, sorted paperwork and payment
- Assisted with patient recovery and discharge

Volunteer, Spay Oklahoma 2009
- Assisted veterinarian and vet techs with recovery, vaccinations, surgery, pain medication, dewormers, sterilized surgical instruments, etc.
- Scrubbed into problematic spay when extra hands were needed
- Participated in the Rosebud Sioux Reservation Spay/Neuter Clinic project where I was solely responsible for the recovery station and delegating duties

Kennel Tech, VCA Owasso Animal Center 2009
- Assisted veterinarians and veterinary technicians with procedures
- Responsible for dog and cat husbandry as well as laundry and facility upkeep

Zoo-teen, Tulsa Zoo 2006-2009
- Shadowed zookeepers of different departments
- Assisted with zoo animal husbandry, enrichment, and basic medical procedures
- Learned safety protocol and procedures in zoo environment

CONTINUING EDUCATION

Oilied Wildlife Response Workshop, participant 2018
- 8 hour course instruction on regulation, triage, response protocol, and more
- Certified to assist with an oil spill clean up animal response as directed by authorities

Wildlife & Exotic Animal Symposium, attendant 2018
- Attended numerous lectures on varied exotic animal medicine aspects

Wildlife and Exotic Animal Handling Training by HSUS, attendant 2016
- Attended the full day course provided by Tulsa Technology Center and presented by The Humane Society of the United States.
- Course focused on triaging calls and responding appropriately for different situations, safe wildlife capture and handling techniques and when to use which ones, and an overview of laws regarding captive dangerous, wild and exotic animals including what to look for on inspections/suspect cruelty cases.

Wisconsin Exotics Animal Veterinary Conference, attendant 2016
- Attended lectures (Sedation as an Alternative to General Anesthesia in Exotic Companion Mammals, Fluid Therapy in Exotic Animals, Sugar Gliders 101, General Considerations of Small Mammals Soft Tissue Surgery, Rabbit and Rodent Soft Tissue Surgery, Managing Abscesses in Rabbits, Euthanasia Techniques for Exotic Pets)
- Attended master classes (Anesthesia and Analgesia for the Higher Risk Small Mammal Patient, & Reptile Anesthesia and Analgesia)
- Participated in hands on lab (Rabbit and Rodents Intubation & IO Catheter)

W.A.Z.E Symposium, attendant 2015
● Attended and participated lectures (Intraosseous catheters in exotics, amphibian chytridiomycosis, Zoo animal immobilization with ketamine, coyote coexistence, stress in sharks, gorilla medicine and conservation, and Q&A panel)

AAZV Conference, presenter and attendant 2014
● Elephant Workshop wet lab – lectures (EEHV, pain medications, reproduction, etc) observation labs (blood draws, abdominal ultrasound, and contact behavior training), hands on labs (rectal ultrasound, ocular ultrasound, and foot radiograph placement and interpretation)
● Manatee Workshop - lectures (Manatee rehabilitation and manatee medicine), observation wet labs (manatee radiograph procedures, nasogastric intubation, and blood draws)
● Presented a poster- Efficacy of a gonadotropin-releasing hormone (GnRH) vaccine (GonnaCon™) on reproductive function in female vervet monkeys (Chlorocebus aethiops)
● Attended numerous educational and interesting lectures on a variety of zoo veterinary medicine topics

COMMUNITY SERVICE
Omega Tau Sigma- Theta Chapter Veterinary Fraternity 2015-2016
● Participate in monthly visits to the local assisted living and nursing home where we bring our well-behaved pets to visit with the residents there.
● Help put on the Road Race For Animals, which is OTS’ biggest annual charity event. Proceeds benefit the Wildlife Medical Clinic and A Pet’s Place.
● Worked at the vaccination clinic in a low-income community providing physical exams, vaccines, deworming, microchip placement, and such.

INTERESTS
In addition to being extremely passionate about zoo and wildlife veterinary medicine, I also enjoy hiking with my dogs, beekeeping, yoga, and crafting. I also enjoy spending time with family and close friends as well as snuggling with my pets.
I am writing in reference to application file number 22686. The veterinary staff at the Chicago Zoological Society - Brookfield Zoo has reviewed the complete medical records of the dolphins living at CoralWorld, including two animals that previously resided at the Dolphinaris Arizona. Furthermore, we have reviewed all publically available materials related to the death of four dolphins at the Dolphinaris Arizona facility. We do not see evidence of a common cause of death among the Arizona dolphins. The animals at CoralWorld appear in good health and we do not perceive any risks of infectious disease that could endanger other animals or people.

Please feel free to contact me if I can provide any additional information.

Best,

Michael Adkesson, DVM, Dipl. ACZM, Dipl. ECZM (ZHM)
Vice President, Clinical Medicine
Chicago Zoological Society / Brookfield Zoo
ENVIRONMENTAL AND WATER QUALITY MONITORING PLAN
FOR THE
OPERATION OF AN OFFSHORE DOLPHIN
ENCLOSURE IN WATER BAY AT CORAL WORLD
ST. THOMAS, U.S. VIRGIN ISLANDS

MONTH 1

INTRODUCTION

The following are the results of the first month of monitoring after the arrival of dolphins in the offshore dolphin enclosure at Coral World in Water Bay St. Thomas. Four dolphins were placed within the enclosure on February 22, 2019. These were not the dolphins they were planning to have in the habitat; these were an emergency evacuation.

Initially, Coral World interactive program is permitted to commence with six breeding age Atlantic Bottlenose dolphins. Overtime the number is allowed to expand to ten-twelve dolphins through acquisition and breeding. To increase the number of dolphins from the initial 6, Coral World, pursuant to a Special Condition in its CZM Permit, “must provide CZM with water quality monitoring results for a twelve-month consecutive period. This report represents the first of the 12 months of monitoring. Parameters monitored shall be consistent with Virgin Islands Class B Water Quality Standards as set forth by the Division of Environmental Protection.” Currently water quality standards allow for 3NTU turbidity, standards are proposed to decrease the allowable turbidity to 1 NTU. Coral World will adhere to the Class B guidelines when they change.

The dolphins will feed and will defecate within the pen and therefore will have an impact on water quality. This plan includes increased monitoring as the number of dolphins increases to ensure that impacts to water quality or the environment do not occur.

This monitoring plan includes monitoring to ensure that fecal coliform levels and nutrient levels do not become elevated above the allowable limits within the facility or immediately surrounding areas. As modeled, 6 to 18 dolphins are not reasonably anticipated to result in elevated levels of fecal coliform or nutrients in the pen areas or to the outlying bay. If levels increase above allowable limits, Coral World will take steps to identify whether Coral World dolphins may be acting as a possible source(s) and whether their potential contribution is the primary cause for the elevated parameters.

A baseline was established as shown below. During this baseline elevated bacterial readings above the allowable standard of 70 did occur on occasion at the west control which is close to the Margaritaville Beach and down current from the dolphin enclosure.
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<th>Salinity (ppt)</th>
<th>DO (mg/L)</th>
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The DO is usually lowest at the west control closest to the drainage discharge. The turbidity is usually the highest at the west control and the bacterial contamination has been highest closest to points of runoff into the bay. Enterococci has not exceeded 104 and fecal coliform has been higher than 70 colonies/100ml three times at the west control and once at monitoring station CW-1. The highest bacterial count encountered was at the west control and 593 fecal coliform were found in 100ml. Only once at a sampling point adjacent to the pen did the fecal coliform surpass the 70 fecal coliform colonies/100ml.
OPERATION MONITORING

Monitoring of water quality within the facility (e.g., main habitat area) is being performed on a weekly basis for the first year when dolphins are present and then at a lower frequency throughout the period of operation, consistent with Coral World’s obligations for the care, treatment and housing of dolphins under the Animal Welfare Act and USDA requirements and in order to assure the continued health of the benthic community. Accordingly, monitoring within the facility throughout the period of operation to insure dolphin welfare is separate from the scope of monitoring activities described below. As presented, monitoring in areas immediately outside as well as within the facility will be performed to insure protection of the surrounding marine environment of Water Bay.

MARINE WATER QUALITY MONITORING

Now that the facility is operational, water quality in areas immediately bordering the facility (i.e., sample locations 1, 2 and 3, and two identified control locations, shown in Figure 3) will be sampled on the same day and timeframe for temperature, salinity, dissolved oxygen, secchi depth and turbidity expressed as NTUs as well as fecal coliform and enterococci bacteria, TKN and total phosphates. Sample location 4 in Figure 3 depicts the within the enclosure sample. Samples will be obtained from locations 1 through 4 and the control locations on a weekly basis for the first year of operation of the facility, during the initial period of time a maximum of six dolphins will be present, consistent with the 12-month period of monitoring stipulated in the Special Condition of the CZM Permit and then throughout the operation of the facility. Anytime additional
dolphins are added water sampling will be taken weekly for the first 3 months to ensure that no water quality degradation occurs. If no degradation occurs water quality sampling will decrease to bi-weekly for the following 6 months and then every 4 weeks (monthly) if no degradation of water quality is noted. If degradation is noted methods must be undertaken to abate that impact whether it be turbidity, nutrients or bacterial. Coral World will work with the monitor, CZM, DEP, NMFS and COE to come up with method to abate them impact if the impact cannot be abated the number of dolphins may have to be decreased to that at which water quality standards can be maintained.

Should exceedances to allowable limits at the three locations bordering the facility (i.e., locations 1, 2 and 3) or within the facility be attributed to the operations, steps will be taken to evaluate the source.

Figure 2. Location of sampling stations.
# RESULTS OF FIRST MONTHS SAMPLING

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<tr>
<th>Date</th>
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<th>Temp (°C)</th>
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<th>DO (mg/L)</th>
<th>pH (s.u.)</th>
<th>Turbidity (NTU)</th>
<th>Nitrates (ppt)</th>
<th>Ortho Phosphates (ppt)</th>
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Note: E. coli presence/absence was determined for all samples using the Colilert-18 Presence/Absence method, except 3.25.19 samples. “P” indicated presence and “A” indicates absence. E. coli was quantified for 3.25.19 samples using the Colilert-18 MPN method. Enterococci was quantified using the IDEXX Enterolert for all samples except those collected on 3.11.19. The 3.11.19 samples were analyzed using Enterococci MF-1600 method and are reported as colony forming units per 100 ml (CFU/100ml).

RESULTS SUMMARY

The first month of water quality monitoring post dolphin arrival shows mixed water quality results similar to baseline monitoring results. Dissolved oxygen was often low at the west control, which is closest to the drainage discharge near Margaritaville Beach. Turbidity levels were often higher at the west control than other sample locations as well. Besides the west control, variation in many of the parameters was slight between sample locations. Generally speaking, temperature, salinity, dissolve oxygen, and turbidity levels did not show great variation between sample locations. Nitrate levels remained low (<0.2 ppm) in all water samples in each sampling week. Phosphate levels reported as orthophosphates remained below < 0.2 ppm at all sites except the west control and once on 3/18/19 at CW-3 when the level rose to 1ppm, but was back at <0.2ppm the following week.

Bacterial analysis results varied from week to week. The first two weeks post dolphin arrival, levels of enterococci were < 10 MPN/100 ml for all sites except CW-1 on 3/08/19 where 97/100 ml was found. This is still below the safe swimming level of 104/100ml. On March 25, 2019 the enterococci exceeded EPA’s safe swimming level of 104/100ml at the west control adjacent to the Margaritaville beach and well down current from the dolphin enclosure. All of the other readings in and around the pen and the control to the east remained low.

While Enterococci is the parameter utilized for testing ambient water by both EPA and DPNR, Coral World is also testing for E. coli bacteria. The E. coli test were being run as Presence/Absence the first 3 weeks due to issues with a shipment of Colilert from IDEXX which arrived late and the unanticipated arrival of dolphins. During these first two weeks E. coli was only found to be present at the west control and at CW-2. However, the third and fourth week of sampling (3/11/19 and 3/18/19) indicated the presence of e. coli bacteria in all sample sites. There were high winds, swell, and some rain during this time which may have affected these results. All sample sites including both controls, and an additional sample site close to Coki Beach all tested positive for E. coli, which further points to the explanation of the E. coli presence being affected by environmental processes and not related to the dolphins. The presence of the E. coli bacteria by no means indicates that it is over the 70/100ml regulatory limit and with the Enterococci being low throughout the sample period it is probable that though present E. coli were present levels were low as well. The final week of sampling in March (3/25/19) showed that E. coli levels were below 10 MPN/100 ml in all sample locations except CW-1 which was 20/100ml well below the regulatory limit of 70/100ml.
Bacterial analysis methods varied throughout the study period due to shipping issues. E. coli presence/absence data was obtained using the Colilert-18 Presence/Absence method from 2/28/19-3/18/19. This method indicates if E. coli is present or absent in a sample but does not provide an estimate of the number of cells present. E. coli bacteria was quantified using the Colilert-18 MPN method on 3/25/19 and the number of viable bacterial cells were counted. Enterococci bacteria were quantified using the IDEXX Enterolert method for all samples except 3/11/19 samples. These samples were analyzed using the Enterococci MF-1600 method which reports results as colony forming units per 100 ml (CFU/100 ml).

**SEDIMENT TESTING**

Bacteria and nutrients are known to concentrate in sediments therefore on a monthly basis for the first year of operation sediment samples will be collected and analyzed for fecal coliform, enterococci, TKN and total phosphate. A sample will be taken inside the enclosure and to the east and the west. These samples will be compared to the baseline result collected prior to construction of the facility. If any of the parameters increase methods will be implemented to abate the accumulation. This may include reducing feeding volumes and or reducing the number of dolphins present in the pen if it is determined that the increase is due to the facility. Other parameters will be utilized to help determine if it is a result of the facility.

**RESULTS OF SEDIMENT TESTING**

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<td>Control East</td>
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The result of the first month’s sediment sampling is within the range of the results found in the samples taken prior to the construction of the facility. Nitrates are found between <0.2ppm and 0.3ppm and Orthophosphates are more variable and range from 0.2ppm to 1.1ppm.

Respectfully submitted,

Amy Claire Dempsey, M.A.
President, Bioimpact, Inc.
Certifying statement:

Dolphin Quest Bermuda has a breeding program for common bottlenose dolphins. The breeding program, undertaken in large part through an educational breeding loan with the Chicago Zoological Society – Brookfield Zoo, is highly successful. Dolphin Quest Bermuda’s propagation strategy for population sustainability has been managed through onsite breeding to honor genetic diversity within the collective groups. Population growth at the Dolphin Quest Bermuda location has been sustained through this breeding program. Dolphin Quest Bermuda will not collect any animals from the wild as a replacement for animals exported from Bermuda and has no plans to import any wild caught animals at this time.

Veterinarian/Owner signature/date

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Jay Sweeney, V.M.D.