



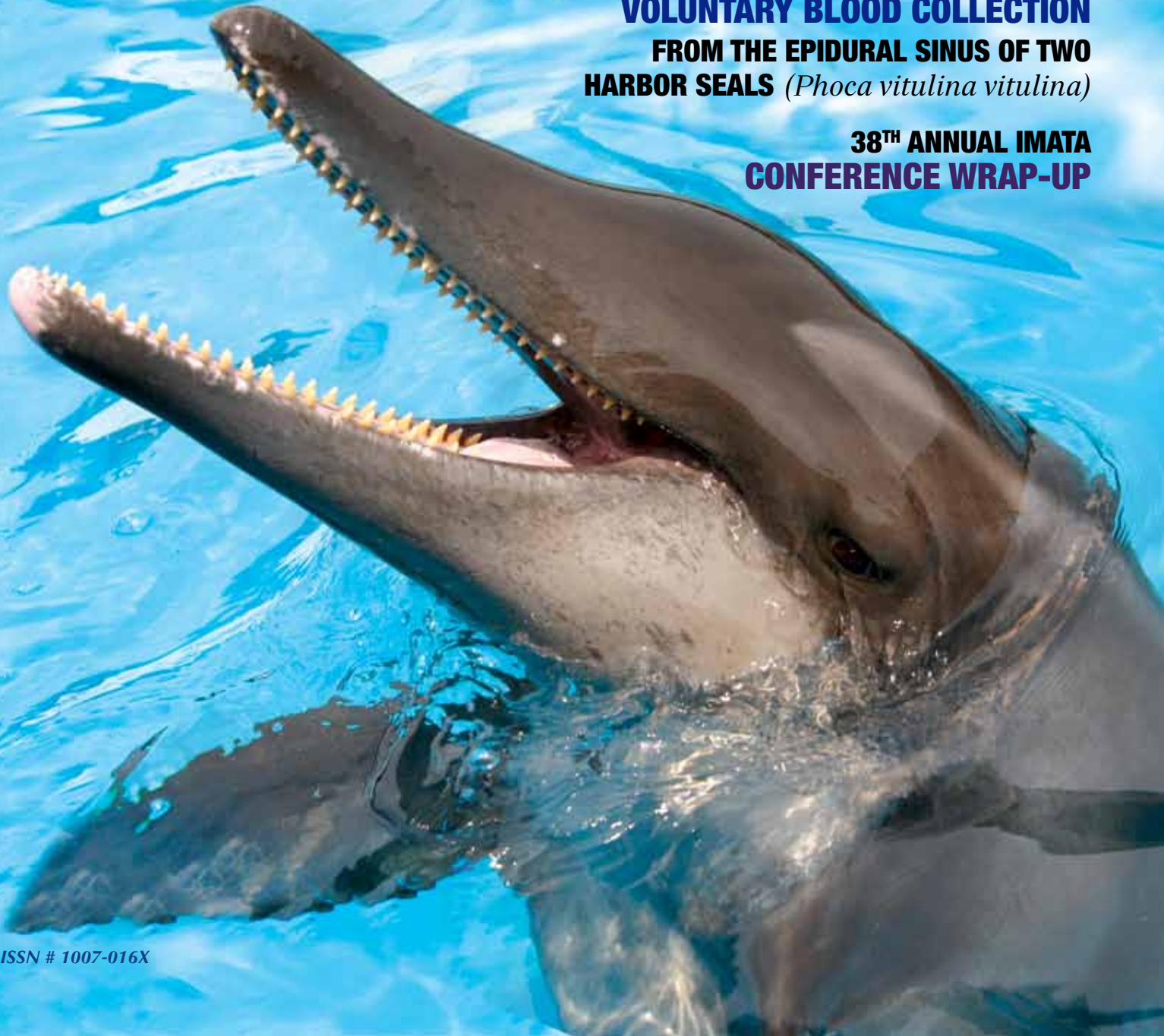
# SOUNDINGS

*Magazine of the International Marine Animal Trainers' Association*

## Rough Toothed **DOLPHINS** *(Steno bredanensis)*

**VOLUNTARY BLOOD COLLECTION  
FROM THE EPIDURAL SINUS OF TWO  
HARBOR SEALS** (*Phoca vitulina vitulina*)

**38<sup>TH</sup> ANNUAL IMATA  
CONFERENCE WRAP-UP**



DEDICATED TO ADVANCING THE HUMANE CARE AND HANDLING OF MARINE ANIMALS BY FOSTERING COMMUNICATION BETWEEN PROFESSIONALS THAT SERVE MARINE ANIMAL SCIENCE THROUGH TRAINING, PUBLIC DISPLAY, RESEARCH, HUSBANDRY, CONSERVATION, AND EDUCATION.



Front Cover Photo Credit: Kelly Castillo

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# President's CORNER



IMATA's Board of Directors, Committee Chairs, and Chief Editors met in Boston to conduct IMATA business. Pictured are, front row (left to right) Mike Osborn, Patty Schilling, Dave Roberts, Chris Davis, Sunna Edberg, Mike Pool, Christine Scullion, Shelley Wood, Laura Yeates, Traci Belting, and Heather Keenan. Second row (left to right) Eric Gaglione, Grant Abel, Bill Wolden, Mark Xitco, Nedra Hecker, Patrick Berry, Billy Hurley, Ken Ramirez, Beau Richter, and Michael Hunt.

**What is it that makes IMATA truly significant?** Many say it is the people that make IMATA significant or purposeful, meeting with friends, who some refer to as professional contacts. Others may say it is taking the opportunity at a conference to sit down with friends and sharing stories of experience. For others it may be access to the website and its incredible resources. For me it is the influence of friends/colleagues that help me realize no matter how well I think I have done my job, there are still many new achievements yet to be accomplished. I am continually amazed by the quality of individuals at IMATA conferences and workshops. With everyone I meet at these gatherings there is an overwhelming level of respect, professionalism, and passion to support positive progress. Being a member of IMATA has truly made a significant impact on my life, helping me strive to be a better person.

December 2010 marked the 38th consecutive year IMATA members engaged with one another in helping to advance our profession. Since its inception, the organization has consistently made great strides in increasing its benefits and growing its membership. This last decade was no exception and includes the



Bidding fond farewell to IMATA's outgoing officers (left to right) Eric Gaglione, Shelley Wood and Michael Hunt.



IMATA welcomes incoming officers (left to right) Michelle Sousa, Patti Schilling, and Shelley Wood.

likes of utilizing advancements in technology, attention to customer-service, collaboration with like-minded organizations, and reaching out to expand international membership.

With the expansion of the IMATA website and the introduction of an IMATA Facebook page, information is more accessible and networking easier than ever. Anyone that had visited IMATA on Facebook in the months preceding the Boston conference received a taste of the vocal minority utilizing their freedom of speech at attempting to demoralize our organization. They made claims that IMATA is in breach of its own standards because we allow trainers from facilities that have acquired dolphins to participate in the conference.

The simple fact is we are dedicated more than ever in our approach to support IMATA's mission by upholding one of our primary values, "respect and support to all colleagues and organizations in the field". The concept is that we will be able to influence change by engaging, rather than blacklisting, individuals that wish to attend conferences in pursuit of learning.

Please do not let the distractions of activist slow you down. IMATA is approaching 40 years strong and is growing. In 2012 our 40th annual conference is going to be held in Hong Kong, allowing us to exchange information with trainers throughout Asia and the world. When confronted with misleading accusations we need to be prepared to speak with confidence and conviction about the incredible difference we make every day with our visitors, and the contributions we make to scientific research and conservation. It is our responsibility to be excellent animal trainers and passionate spokespersons, to share with the world messages of what everyone can do to preserve the sustainability of our oceans and the quality of life for the animals that live in it. Please stay tuned for links on our website for "things you can do to make a difference".

What is the point of IMATA if we don't focus on animal training? There has been tremendous feedback from the satellite training sessions during the Boston conference (great job Eric Gaglione and the entire conference team!). This next year IMATA TV will be available to highlight live training sessions from around the world through IMATA's website. If you are interested in putting on a live pool-side training session please contact myself or Dave Roberts at [President@IMATA.org](mailto:President@IMATA.org) or [PastPresident@IMATA.org](mailto:PastPresident@IMATA.org). The technology is simple to connect using high speed internet. Things to look forward to this year include;

- conservation links on the website
- initiation of the conservation grant
- seeing your friends on IMATA TV
- continued efforts in up grading membership benefits
- only 9 months between Boston and meeting again in Miami.

The 2011 meeting in South Beach Miami is gearing up to be one of the most piquant conferences ever. With Bill Wolden at the helm and Miami Seaquarium as the host facility, you will not want to miss this one.

Remember we are an organization made up of 100% volunteers. For those of you wishing to become more involved with IMATA please utilize the website to take advantage of this opportunity. Visit the committee section, where each committee chair has a mission statement and link to their email to begin a dialog on current activities. Your voice is important to the organization. Please do not hesitate to contact any board member to let us know what you think about the direction that IMATA is heading or pose any questions you may have.

### REMAIN BALANCED IN LIFE:

Have fun.....and.....be serious  
 laugh.....and.....cry .....when the time is right  
 stand up for yourself.....and.....be respectful of others  
 when you're flying high.....keep yourself grounded  
 be true to yourself, honest to others...and...listen to your heart for what is right  
 and for goodness sake be the best team of marine animal trainers you can be!!!!

I wish everyone the best start to 2011!

*Michael T. Osborn*

# CONSERVATION BRIEFS

## Let's Talk Tuna

In late fall of 2010, the International Commission of the Conservation of Atlantic Tuna (ICCAT) met to discuss quotas for the 2011 fishing season. The nearly 50 member group had set a limit for catches of eastern Atlantic bluefin tuna (*Thunnus thynnus*) in 2010 at 13,500 tons, down from 19,950 tons in 2009. For a stock, that has been depleted nearly 80 percent since 1970, this reduction may not have been enough to see the tuna numbers rebound. France, Italy, and Spain catch most of the Atlantic tuna consumed on the global market; and Japan, where tuna is a delicacy, imports up to 80 percent of it. The bluefin tuna, which weigh up to 650kg (1433 lbs), accelerate faster than some sports cars and reach speeds of 70km/h (40mph), and can fetch up to \$100,000 per fish. Many conservation groups feel that ICCAT may be one of the last hopes for recovery, as the European Union's bid to list the bluefin tuna as endangered failed at the 2010 meeting on the Convention on International Trade in Endangered Species (CITES). The ICCAT has allocated quotas for western bluefin since 1982 and eastern stocks since 1994. (Reuters)



Atlantic bluefin tuna (*Thunnus thynnus*). Photo Credit: Osaka Aquarium

## Huh? I Can't Hear You

Each year, 1,200 to 1,600 whales and dolphins are found stranded off the United States coast, according to the National Oceanic and Atmospheric Administration (NOAA). The ongoing question is: Why? In a recent study published in November 2010, in the journal *PLoS One*, it was found that several stranded species of marine mammals shared a common problem; they were nearly deaf. Studying the strandings of the Gulf of Mexico, Atlantic Ocean, and Caribbean Sea, researchers would affix sensors to head of the stranded animal with suction cups. Detecting electrical activity in the brain, the sensors would pick up the response of the neurons firing to process the sound tones played. Four of seven bottlenose dolphins (*Tursiops truncatus*) and five of fourteen rough-toothed dolphins (*Steno bredanensis*) studied showed signs of severe to near total hearing loss. On the other hand, the three Risso's dolphins (*Grampus griseus*), two pygmy killer whales (*Feresa attenuata*), and a spinner dolphin (*Stenella longirostris*) studied showed no hearing problems. In an acoustical world, the loss of hearing would leave a dolphin helpless. It is



Pygmy killer whale found near Sarasota, Florida. Photo Credit: Florida Sportsman



Risso's dolphin (*Grampus griseus*). Photo Credit: Robert Pitman-NOAA

uncertain what causes the hearing loss. Some look at old age, birth defects, and disease; while others point towards the noise level in the ocean. Man-made noise, such as huge oceangoing ships, seismic tests of oil and gas exploration, and sonar testing, add significantly to the background noise of the oceans. (Washington Post)



Narwhals (*Monodon monoceros*) in Baffin Bay. Photo Credit: The Vancouver Sun

## Narwhals as Research Assistants?

In Baffin Bay, a vast arm of the Arctic Ocean that separates Canada and Greenland, researchers are looking to narwhals (*Monodon monoceros*) to help recover information on impacts of climate change. Groups from the University of Washington and the Greenland Institute of Natural Resources attached tags with satellite-readable temperature sensors onto narwhals to record data as they swim and dive. As the whales dived, sometimes in excess of 1,700 meters (5576 feet) deep in pursuit of food, the teams were able to obtain data about the changing temperature levels throughout the water column. Their data, published in the *Journal of Geophysical Research-Oceans*, showed that the waters in this key breeding and feeding habitat are warming faster than previous climatology data had suggested. (The Vancouver Sun)

## BE GREEN

3.8 liters (1 gallon) of gasoline takes nearly 50 liters (13 gallons) of water to produce. Combine your errands, car pool to work, or take public transportation to reduce both your energy and water use.

## SAVE ENERGY

Using a low-flow showerhead can save you 57 liters (15 gallons) of water during a 10 minute shower. If one were to shower daily this savings is equivalent to 20,905 liters (5,475 gallons) per year.

CONSERVATION BRIEFS is compiled by Shelly Samm.

# BACK 2 BASICS

## THE 'OTHER' OTTERS AT THE SEATTLE AQUARIUM

## TRAINING NORTH AMERICAN RIVER OTTERS

Caroline Hempstead and Carol Jackson, Seattle Aquarium

Since opening in 1977, the Seattle Aquarium has become well known for its success with exhibiting and breeding Northern sea otters (*Enhydra lutris kenyoni*). But it is time to share the spotlight with our other otter residents and highlight our accomplishments with the little guys, the North American river otters (*Lontra canadensis*). Currently, the Seattle Aquarium has 2.0 North American river otters, commonly referred to as NARO's. The tale of our NARO training program began in the summer of 1998 when the aquarium acquired 3.0 orphaned river otter cubs. Six years later one of the animals was transferred to a zoo as a companion for another otter. The remaining two river otters, Waadah and Skagway, lived together at the Seattle Aquarium and are currently center stage for our Sound to Mountains exhibit. These otters have been in a formal training program since 2003 and they have encouraged the evolution of our successful free contact training program with river otters.

During the first five years of managing river otters at the aquarium, they received only limited contact with the keepers. As cubs they began jumping up on the keepers and we questioned the safety and sanity of continuing to interact with such high strung and unpredictable animals in a free contact setting. Movements between the main exhibit and holding area were conditioned with food placement on either side of the gate. The ability to weigh them was only achieved during annual

exams which were conducted using manual restraint. Capturing the otters with a net in the holding area sometimes lasted several minutes resulting in frustration and duress to both otters and staff.



WAADAH & SKAGWAY

We decided to implement a formal training program for our river otters in an attempt to meet some of our animal management goals. In addition to placing natural behaviors under stimulus control, we wanted the otters to perform basic husbandry behaviors such as; voluntary weights, consistent shifting, and kenneling. The aquarium staff did not know what to expect since there was relatively little information on NARO training available.

Initially we chose a clicker for a bridging stimulus but a startle response remained strong even after several sessions of desensitization so the bridge was changed to a verbal "good" with favorable results. We use a small Kong toy attached to a wooden dowel as a target. Small herring pieces (their favorite food) were offered as primary reinforcement and was delivered on the end of a kitchen fork to keep our fingers at a safe distance from their mouths. Training sessions took place in the main exhibit for public demonstrations as well as in the holding area. Using both areas allows us to work with the otters together or apart for individual training sessions.

River otters are known for their unpredictable behavior and can be dangerous if safety protocols aren't followed. Although training the otters via protected contact through the holding area fence was always an option, we knew we would have more flexibility if we could work with them in a free contact setting. We opted for wearing chest high wading boots for



added protection when we entered the exhibit. At first, we had excited otters that frequently jumped up on us but with selective reinforcement of calm responses, the jumping episodes became less and less frequent until they were eventually extinguished all together. As our comfort levels increased, we switched from chest waders to wearing thigh high boots and now we simply wear standard knee high boots.

Although initially the otters were a bit high strung, we found that teaching them to remain still and calm on a target (nose on target) was the foundation for quick learning of other behaviors. If the otters appeared to be too wound up, we just left the area (a time out). Skagway and Waadah were (and still are) quite curious, so putting their noses on a target came naturally. After a couple of reinforcements for smelling the target and they understood the "training game" quite well. The target was used to shape a roll over for ventral body exams, paw presentations, a hind leg stand, and standing on a scale for weighing. An extended target behavior has allowed us to clip the fur at the base of Waadah's tail for easier identification (both otters look virtually identical). Using an initial combination of targeting and tossing food, we have placed other behaviors under stimulus control including; shifting, kenneling, entering and exiting the water, a swim across the pool, remote stationing on an island in the pool, and a run through or over a hollow log. Other behaviors we hope to train include: eye drops, tooth brushing, voluntary injections and object retrieval.

Once we established a foundation of basic behaviors, some new challenges emerged. Since working free contact necessitates that trainers enter the same space as the otters, we needed some way to make sure these incredibly quick animals didn't come out of the exhibit while we were trying to go in! One way to accomplish this was to condition them to enter the transfer chute leading into holding and shut them in while we entered or exited the main exhibit or holding area. This method was effective but was only possible if there was an extra person on the outside to operate the chute doors. Since extra hands aren't always available, we decided to train a remote stationing behavior using some shapes cut from PVC material.

We started using just two different shapes; Skagway's shape is a blue square and Waadah's shape is a yellow circle. Initially only one shape was offered and the otter's naturally inquisitive nature made it easy for us to reinforce them for investigating and later touching their shape. Next, the second shape was introduced and each otter was selectively reinforced for only touching their assigned shape. Once this



PAW PRESENT

was accomplished, we paired the behavior with a new cue (a different one for each animal so that later we could work them together). Once the otters learned to move towards and target on their respective shapes, we hung them on the holding fence a few feet from the keeper access doors. It was simple to train the otters to remotely target on their shape; the bigger challenge was getting them to STAY on their shape instead of following us when we moved towards the door. This was eventually accomplished in successive approximations by taking one step away from them and quickly returning to reinforce them for staying on their shape. Then taking two steps away, then three, until eventually we reached the door without being followed. The final steps included desensitizing them to the sound of the door latch, actually opening the door and finally stepping out the door and closing it behind us, all unaccompanied by an otter! We can now safely enter and exit the holding area using this remote targeting.

JULIE TARGETING SKAGWAY ON LOG



SKAGWAY ON SCALE



Free contact has provided us the opportunity to work with Waadah and Skagway while on public display. As we all know, observing training sessions can enhance the visitor experience by providing an opportunity to observe a wide range of behaviors in a relatively short period of time. Sessions are mixed up so that sometimes both are being trained out on display or just one while the other is in the holding area. Being able to separate these two animals during training sessions is important because they are usually very dependent on each other; sleeping together, swimming together, and eating together.

Although we have focused on the otter's, the true beneficiaries of the NARO training program are the staff. We have learned a great deal about patience, fast thinking, and the art of a well-timed bridge from these amazing animals!

### ACKNOWLEDGMENTS:

We would like to thank our Curator of mammals and birds, Traci Belting, for her ongoing support and expertise. Huge thanks to the rest of the animal care staff; Julie Carpenter, Rodger Ogren, and Marla Tullio along with our wonderful volunteers who help care for our river otters...and of course Waadah and Skagway.

BACK TO BASICS is compiled by **Marcia Thissell**.



TUBE TRAINING



DOUBLE UP

Photos 1-4 & 7 Credit: Jessica Aditays

# RESEARCH BRIEFS

## RESEARCH WITH MANATEES: PASSIVE TACTILE DETECTION ABILITIES

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At Mote Marine Laboratory & Aquarium, the behavioral research we conduct with the manatees focuses on their sensory processes and physiological adaptations. The Florida manatee (*Trichechus manatus latirostris*) inhabits the turbid coastal waterways of Florida. Even though they possess poor visual acuity, manatees are able to deftly maneuver through complex aquatic environments (Bauer, Colbert, Gaspard, Littlefield, & Fellner, 2003). Manatees possess over 5,000 vibrissae (specialized hairs that are tactile in nature) located densely on their facial region (Figure 1), but are also located about every square inch across their body (Figure 2). The manatees' design of sensory hairs is unique amongst mammals (with one exception being a close evolutionary relative, the dugong). This suggests that the sense of touch may play a substantial role in the detection of stimuli that manatees utilize during navigation

similar to a lateral line sensory system possessed by fish (Gerstein, Gerstein, Forsythe & Blue, 1999; Mann, Colbert, Gaspard, Casper, Cook, Reep, & Bauer, 2005; Colbert, Gaspard, Reep, Mann, & Bauer, 2009; Bachteler & Dehnhardt, 1999; Reep, Marshall, & Stoll, 2002; Gaspard, Colbert, Buaer, Reep, & Mann, 2006).

To investigate this hypothesis, two Florida manatees were trained and tested in a go/no-go paradigm. They were trained to submerge to mid-water depth and position themselves on a stationing apparatus (Figure 3). A small sphere attached to a dipole shaker oscillated in a linear motion directing the hydrodynamic stimuli at a desired site on the manatee. When the manatee detected the stimulus, he responded by leaving station and depressing a paddle (Figure 4). If no stimulus was detected, they would remain stationed for a minimum of 10 seconds. A modified staircase method was used to

assess their threshold; each time the manatee was correct on a stimulus present trial, the intensity of the stimulus would decrease. A single frequency was tested during a single session and a threshold was determined for that particular frequency. The tested frequencies ranged from 5 – 150 Hz.

The passive touch research was broken down into a number of phases to determine the sensitivity and highlight the possible use of the vibrissae.

- During the first phase, the stimuli were directed at the facial vibrissae. Both manatees could detect the stimuli above the 50% chance level down to 5 Hz. Threshold levels demonstrated that manatees could detect displacements of less than 1 micron down to 15 Hz, an order of magnitude lower than those reported for harbor seals (Dehnhardt, Mauck, & Bleckmann, 1998).

- For the second phase, the manatees were trained to station with their muzzle in mesh netting (Figure 5). The hole size was varied to determine the critical nature of the hairs in detecting the hydrodynamic stimuli. As the number of vibrissae restricted by the mesh increased, the threshold increased as well (i.e. they are less sensitive to the stimuli).
- The next phase initiated research on the post-facial hairs. For this portion, the stimuli were now directed at a specific location of the body, with multiple sites being tested (Figure 6). The manatees again have demonstrated tactile stimulus thresholds approaching those of fish.
- Currently, the manatees have been trained to wear a specially designed neoprene wrap that will ultimately allow for the investigation of the sensitivity of a single hair.
- The research supports our initial notion that manatees utilize their vibrissae as a full-body sensory array analogous to a fish's lateral line system. With this research we hope to gain a better understanding of how manatees perceive their environment and continue to grow our knowledge of the species to assist in the conservation efforts of the wild manatee population.

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RESEARCH BRIEFS is compiled by Beau Richter.



FIG. 1



Facial region of a manatee showing densely packed tactile vibrissae. (Photo Courtesy of Mote Marine Lab)

FIG. 2



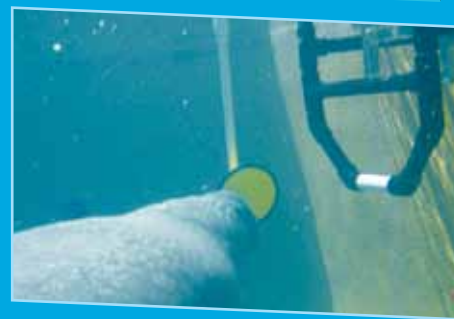
Tactile vibrissae located on the body surface of a manatee. (Photo Courtesy of J. Gaspard)

FIG. 3



A manatee at Mote Marine Lab stationing on an experimental apparatus used in the tactile detection experiments. (Photo Courtesy of J. Gaspard)

FIG. 4



Manatee depressing experimental paddle as a response to detecting a tactile stimulus. (Photo Courtesy of J. Gaspard)

FIG. 5



Manatee participating in tactile detection experiment and stationing with muzzle mesh netting. (Photo Courtesy of J. Gaspard)

FIG. 6



Manatee post facial vibrissae tactile detection trial set-up showing stimulus generator aimed at the animal's side. (Photo Courtesy of J. Gaspard)



# enriching environments

## HAVING A BALL: ENRICHING AND TRAINING STINGRAYS IN AN INTERACTIVE COMMUNITY SETTING

Jamie Doglione Living Exhibits, Inc.

Stingray Bay at the Jacksonville Zoo and Gardens opened in March of 2008 and was an instant success with over 44,000 people participating in the experience in the first month. Stingray Bay is an interactive exhibit housing 24 cownose stingrays (*Rhinoptera bonasus*) and five southern stingrays (*Dasyatis americana*). All of the rays were wild caught just two months before our opening and we only had two weeks to train them to interact with people. They quickly picked up how to feed from our hands and coming to the sides to be touched. Soon after opening to the public it became apparent that the rays were becoming over stimulated and appeared to be avoiding guest interactions by swimming out of hands reach. After doing observations we noticed that the ray/guest interactions were highest when food was present. Since their diet or hunger drive was not large enough to allow people to always be feeding them, we needed to find a way to deliver small amounts of food and keep the rays interacting with guests. We came up with different ways to deliver small amounts of fish to the rays in the form of environmental enrichment and training.



### CHALLENGES

There were many obstacles to overcome to make this a success. One of the biggest was food distribution. The rays were fed two pounds (as they grew larger that amount was increased to four pounds) of fish every one to two hours depending on the day. Most food was consumed over a thirty minute period or less. They received two "free feeds" where food was thrown in the pool. The majority of their diet was fed by the public in an attempt to reinforce interaction. This resulted in a dampened food drive for training sessions.

There were also many distractions. There were 29 rays in a 17,000 gallon pool, which provided a challenge for working with individuals and no way to isolate an individual. Simultaneously, as many as 100 people might be around the pool at any given time. Interaction with guests and in training/enrichment sessions was solely voluntary.

### ENRICHMENT

Many different enrichment "toys" were developed. Most of the toys were durable objects (many dog toys) containing holes into which fish could easily be stuffed. The most successful objects included PVC pipes, hamster balls and wiffle balls. Originally enrichment sessions were held during busy times, in-between feedings. Toys were dropped along the walls so that as the rays came to eat people could touch them therefore reinforcing them but using smaller amounts of food.

PVC pipes were six inch sections into which holes were drilled and caps were placed on each end. Fish was cut into tiny pieces and stuffed into the pipes. The rays were quick to observe that the pipes contained food and made many attempts at removing the food from the pipe. Cownose rays sucked on the tubes and sometimes carried the tubes a short distance as they tried to remove the food. Southern stingrays dropped down on top of the tubes, exerting suction to remove until every piece of fish had been removed.

We cut fish sized holes into the sides of hamster balls through which a few handfuls of fish were placed. No matter how many times the rays had been exposed to the hamster balls, they continued to act as if the balls were novel objects. The ball moved around the pool with the current, as well as up and down in the water dropping small pieces of fish. Some of the rays sucked on the ball, pushing it around. Occasionally the southern stingrays also pushed the ball around.

Wiffle balls were also stuffed with fish, but since the wiffle balls did not sink they floated at the surface. The rays normally looked for food at the bottom of the pool, but not at the surface of the water. Some rays pushed against the wiffle balls in their attempts to remove the food; others "dunked" the wiffle balls by lifting their heads out of the water and pushing them underneath their bodies and to the ground to suck out fish. They also pushed the wiffle balls around the pool, resembling a little stingray soccer team even after the food was gone from the wiffle balls.

Novel food was given to add variety which included clams, squid, sardines and oysters. One way that novel food was delivered was through "fishcicles". "Fishcicles" were made from water bottle ice cube trays, which are tall and slender. Food was stuffed into the trays, which were filled with water and frozen. They were easily removed, easy for the rays to eat and encouraged a "crunching" method of feeding that might be similar to natural shell crushing behaviors.

### TRAINING AND DEVELOPING BEHAVIORS

The first behavior trained was target. For the southern rays a PVC pipe with a "funnoodle" on the end was used as the target and they were taught to target by cutting slits in the "funnoodle" into which fish could be stuffed. This provided immediate reinforcement for the less interactive rays that initially avoided our hands by swimming away. The target served as a great station for the southern stingrays to be fed since they tended to not hand feed from guests. The cownose rays had a target made of craft foam in the shape of a circle with a zip tie to hold over our hands. As they followed the target fish was immediately fed.

One of the southern rays, Ariel, was very quick to pick up on behaviors. Ariel learned to swim in a circle and weave through our legs using the target pole. Another trained behavior was swimming through a hula hoop. There were several that consistently swam through the hoop when it was placed in the pool. The hoop also allowed guests to interact with our training sessions. The hoop could be held near the edge of the pool and guests could deliver reinforcement once they went through.

Husbandry training included desensitization and training to a catch net. The catch net was placed into the pool with food spread around it, sometimes for up to a full day. Once the rays were consistently swimming near, over and sometimes into the net, people were added into the water and targeting near the net and following the target over the net. Several of the cownose rays and Ariel voluntarily swam into the net allowing the sides to be raised around them. The net has many valuable applications which include isolating a ray for tube feeding, injections, ultrasounds or other medical needs. It has also been used to track weights to detect illness and collect growth rate data on pups.

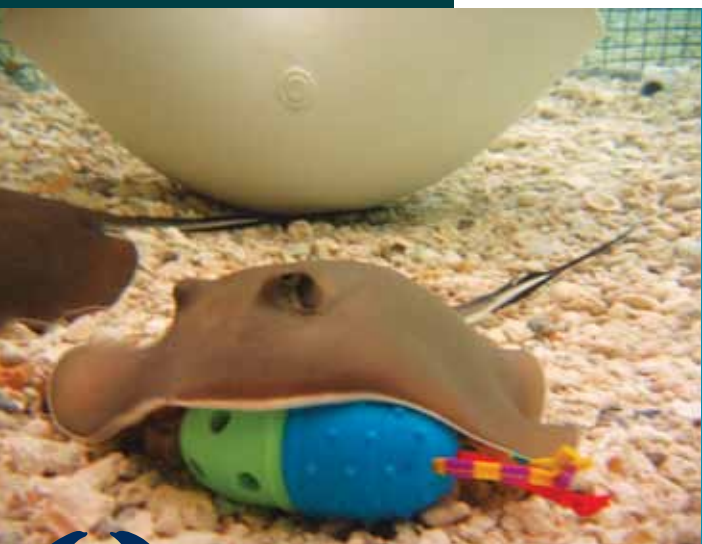
### TRAINING AND ENRICHMENT WITH SOUTHERN STINGRAY PUPS

Training and enrichment were also applied to two southern stingray pups. By the time they were a month old, each had learned to eat at a specific shaped station, target and follow the target around. They also seemed to enjoy trying to remove food from the toys, which included puppy toys and smaller holed objects. They were also given sand boxes to bury in and pipes to swim through.

### CONCLUSION

Originally the enrichment and training program was started to increase interactions with people. Over time the rays became more accustomed to being touched by large amounts of people and there was a decrease in guest avoidance. Although harder desensitization and training (such as the catch net or getting used to people in the water) were usually done in the morning when hunger drive was the highest, we found that the rays were receptive to training and enrichment at any time of day and situation. They seemed to enjoy training sessions, with several actively participating in every session and quickly picking up on behaviors. It also helped us bond with our animals and get to know individuals and personalities. Enrichment and training has been adapted in all of our exhibits (including the St. Louis and Toronto Zoos) and expanded to include nurse and bamboo sharks.

We hope to improve not only guest experiences throughout all of our exhibits for future seasons, but improve the quality of our animals' lives in captivity.



ENRICHING ENVIRONMENTS is compiled by Suzanne Smith.

Photo Credit: Kelly Castillo.

# Rough Toothed DOLPHINS

(*Steno bredanensis*)

Photo 1

**Kristen A. Hannigan, Maria F. Pomara**  
Formally from Gulf World Marine Park

Gulf World Marine Park's Marine Mammal Department currently manages a cetacean population of 2.5 rough-toothed dolphins (*Steno bredanensis*) and 5.5 Atlantic bottlenose dolphins (*Tursiops truncatus*). All seven rough-toothed dolphins, as well as some of the bottlenose, were rescued and rehabilitated by Gulf World Marine Park and other organizations that participate in the Southeast Region Marine Mammal Stranding Network. Each animal stranded under different circumstances; however, the National Marine Fisheries Services (NMFS) deemed them all non-releasable. The release guidelines set forth by NMFS determine non-releasable status if significant concerns exist about an animal's ability to survive in the wild. Gulf World Marine Park now maintains the only group of rough-toothed dolphins under long-term human care in North America.

## NATURAL HISTORY

Rough-toothed dolphins received their common name from the small vertical ridges on their teeth. These dolphins have a distinctively shaped head, which lacks a crease at the base of the melon and allows the head to have a long slope into the rostrum. This facial characteristic is an identifying feature (Ritter, 2002). (Photo 1) Another distinctive feature is their large eyes, which have possibly adapted to their deep diving habits (Miyazaki & Perrin, 1994). This conical head shape helps to highlight

the sleekness of their body (Würsig, Jefferson, & Schmidly, 2000). The pectoral flippers of these animals are set far back on their body. The flippers are proportionally larger (compared to body size) than those of the bottlenose dolphin (Ritter, 2002; Miyazaki & Perrin, 1994). (Photo 2)

Rough-toothed dolphins' coloration ranges from dark grey to black and exhibits extreme counter shading. The dorsal surface has a dark band stretching from the rostrum past the dorsal fin. The ventral surface is usually lighter in color ranging from light grey to pink or white. Spotting may occur from the bottom jaw through the belly region (Reeves, Steward, Clapham, & Powell, 2002; West, 2002).

These dolphins are smaller than their bottlenose counterparts. They can reach maximum lengths of 2.6 meters (8.5 feet) and weights of 160 kg (350 pounds) (National Oceanic and Atmospheric Association 2010).

Rough-toothed dolphins can be found in temperate to tropical waters throughout the world, and they are generally found offshore, beyond the continental shelf (Gannier & West, 2005; Reeves et al., 2002; West, 2002). An accurate count of the wild population is difficult to obtain, partly due to their tendency to prefer offshore waters (Würsig et al., 2000). The migratory pattern of these animals is currently unknown, but researchers have seen year-round populations in certain areas, such as the Gulf of Mexico and Hawaii (Reeves et al., 2002).

These animals are generally found in pods, with numbers usually ranging from 10 to 35 (Carwardine, Hoyt, Fordyce, & Gill 1998; Gannier & West, 2005). They have been found associating with other dolphins that share the same habitat ranges, such as bottlenose dolphins and

spinner dolphins (Ritter, 2002). Rough toothed dolphins have also been documented interspersed with melon headed whales in the Northern Mariana Islands (Jefferson, Fertl, Michael, & Fagin, 2006). Researchers have a challenge following these animals in open water in part because they are such deep divers (Reeves et al., 2002).

There is not much known about the reproductive strategy of rough-toothed dolphins. West (2002) conducted a study to determine age at physical and sexual maturity and size range. This study concluded that male rough-toothed dolphins reach sexual maturity between 5 and 10 years of age, while females reach sexual maturity at 9 to 10 years of age. In both males and females, as compared with Bottlenose dolphins, physical maturity is reached "at an older age and larger size" (West, 2002, p. vi).

The diet of rough-toothed dolphins consists of multiple species of fish and cephalopods (Miyasaki & Perin, 1994). Opportunistic feeding has been observed with rough-toothed dolphins. An example of this feeding style was observed off Mauritania, when these animals were seen feeding near fishing trawlers (Addink & Smeenk, 2001). In tropical waters, these animals have been seen catching large fish such as mahi-mahi (in Hawaiian) (*Coryphaena hippurus*) (Würsig et al., 2000). Observers believe these large fish, some weighing over 5 kg (11 lb), are caught cooperatively. Rough-toothed dolphins under human care have been seen beheading and biting their fish, regardless of size (Reeves et al., 2002).

## OBSERVED BEHAVIOR AT GULF WORLD MARINE PARK

While monitoring our cetacean collection through observations and training, many behavioral differences have become apparent between the two species. Through our work with these animals, they have shown to be extremely motivated by rubdowns. Rubdowns proved to be motivating for the rough-toothed dolphins even without first being paired with primary reinforcement. We have found that the rough-toothed dolphins are innately curious. This curiosity helps them to be easily desensitized to environmental changes. Curiosity has also been

Photo Credit: Maria Pomara.

Photo 2

observed in wild populations (Kuczaj & Yeater, 2007). The rough-toothed dolphins show low stress levels to new situations or changes in their environment.

The trainers at Gulf World Marine Park aspire to create a stimulating environment for the animals. The collection of rough-toothed dolphins is provided with many different enrichment activities, such as play sessions with trainers and social interactions with the bottlenose dolphins. They also respond to a vast array of enrichment. Examples of activities that they seem to find enriching include breaching on floating mats, spinning dive fins on their rostrums, carrying rope toys and hoops on their flippers, rubbing on various textured hoses, and mimicking the

Photo 3

Photo Credit: Kelly Castillo.

sounds of dragonflies and bumblebees. (Photo 3) All enrichment is closely monitored throughout our entire cetacean collection; however, special supervision is given to the rough-toothed dolphins. Enrichment devices that are appropriate for our bottlenose dolphins are often not suitable for the rough-toothed dolphins. Using their long skinny rostrums and sharp teeth, they are easily able to take apart or destroy toys, making these items potentially dangerous. Enrichment items are often used as tools, with more than one individual, in what appears to be a collaborative effort. For example, our rough-toothed dolphins have been observed using a dive fin to wedge and open gates, allowing them access to other areas. Wild rough-toothed dolphins have also been observed interacting with objects in their environment. In 2007, a rough-toothed dolphin off Honduras was observed holding a small object in his mouth, dropping it, and holding it on his pectoral fin. The same study observed these animals playing with seaweed and sea grass (Kuczaj & Yeater, 2007).

## HUSBANDRY AND TRAINING

Preventive measures are taken daily to ensure the well-being of our animals. During daily husbandry sessions with our rough-toothed dolphins, it is common to find small objects lodged in the spaces between their teeth. As discussed earlier, their curious nature causes them to investigate foreign matter in their environment, such as bugs and leaves. The gaps between each tooth are larger than those of

Photo Credit: Kelly Castillo.



Photo 4

the bottlenose dolphins, providing room for debris to become lodged. (Photo 4) To address this issue, we have desensitized the dolphins to routine mouth flushes.

We regulate the water temperature in colder weather. The pool is maintained at or above 22.2°C (72°F). Below this temperature, our rough-toothed dolphins are prone to developing dermatitis. We observe an increase in skin abrasions during cold weather, with skin ailments usually clearing at temperatures above 22.2°C.

The dietary needs of the rough-toothed dolphins are different from bottlenose dolphins, perhaps due to the different natural habitat, pelagic, which these animals live. Through trial and error, we discovered that diets high in fat content (diets with a high ratio of herring) caused acute anorexia and elevated pancreatic enzymes in the rough-toothed dolphins. To avoid these issues, our rough-toothed dolphins are fed low-fat, high-calorie diets. This is achieved by increasing the amount of capelin and squid in the animal's diet.

The unique facial anatomy of these animals is considered when training new behaviors. In-water interaction must be modified for the health and safety of the animals. For example, because of their long slender rostrums, we avoid any behavior that allows a significant amount of pressure on this area, such as a foot push. In the past, these behaviors have been shown to cause significant swelling and inflammation to the mandibular tissue.

As training began, it quickly became apparent this species was highly motivated through tactile reinforcement. No conditioning was needed to make touch reinforcing. In some instances, we achieved better results through tactile motivation rather than with food.

#### PUBLIC IMAGE

With the rough-toothed dolphins' "different" appearance, the public's first impression of these animals is not always a positive one.

Our guests have referred to them as the "ugly dolphins," and the "sharp-toothed dolphins." We commonly hear that rough-toothed dolphins are "mean looking." It seems unbelievable that guests would regard this unique-looking species with negativity. We believe that a possible cause for this attitude results from these animals not possessing TV's classic "Flipper" look.

The view from the public presents a challenge when trying to integrate these animals into our programs. During spring 2010, we created a new public program, the Meet and Greet, to give our guests the opportunity to meet rough-toothed dolphins.

This new poolside program creates an interactive experience between our visitors and these remarkable animals, and it gives us the opportunity to educate program participants on each animal's individual stranding story. The program also informs guests about dolphin conservation.

Another program we offer is our Encounter Program. This consists of a classroom session, which focuses on wild dolphin conservation, followed by an in-water interaction. The classroom session allows us to introduce the two species of dolphins housed at Gulf World Marine Park. If emphasis is not placed on how rare the opportunity is to meet rough-toothed dolphins, the guests prefer to interact with bottlenose dolphins.

During public presentations, we attempt to grab the audience's attention by pairing high-energy behaviors such as flips and vertical spins with upbeat music. These impressive aerial behaviors seem to excite the guests and allow them to rethink their first impression.

As we have increased awareness of this species, guests are now requesting to interact with the rough-toothed dolphins, and their tactile nature makes them ideal for guest interactions. By incorporating them into our programs, we are able to leave a lasting impression of this pelagic species in the minds of our guests.

Photo Credit: Gulf World Marine Park.



Photo Credit: Secret Holmes.

#### OUTREACH AND EDUCATION

The mission of educational programming at Gulf World Marine Park is to enhance appreciation for and understanding of marine mammals and their ecosystems. Using our unique resources we hope to instill in those who visit us an awareness of ecological and conservation issues and a respect and caring for these animals and their environment. Our hope is that guests leaving the park will have a better understanding of how to respect the oceans and its inhabitants.

Gulf World Marine Park is in a unique position to compile medical baseline data on this virtually unknown species. There is very little published information available on the medical care and behavior of these animals. All information collected will be crucial for future care programs for rough-toothed dolphins.

Having a collection of rough-toothed dolphins allows for collaborative research opportunities. Dr. Stan Kuczaj, Director of the Marine Mammal Behavior and Cognition Laboratory at the University of Southern Mississippi, is involved in multiple research projects with rough-toothed dolphins at Gulf World Marine Park. His research focuses on marine mammal behavior and cognition. Some of these projects focus on learning and memory, communication (tactile and auditory), group play, and social behavior.

#### LOOKING AHEAD

Being able to reverse some negative views of the rough-toothed dolphins through public programming is a remarkable feat. As Gulf World Marine Park continues to grow and add new programs, we strive to incorporate the rough-toothed dolphins as an integral part of the public's educational experience. Through observation and training, we will continue to learn and contribute information to the marine mammal community.

Understandably, all behavioral information is based solely on the rough-toothed dolphins housed at Gulf World Marine Park. We hope to be able to convey all of the observations and information learned at Gulf World regarding the rough-toothed dolphins to the rest of the marine mammal community in the coming years. We hope this article will encourage our colleagues to learn with us about this unique species.

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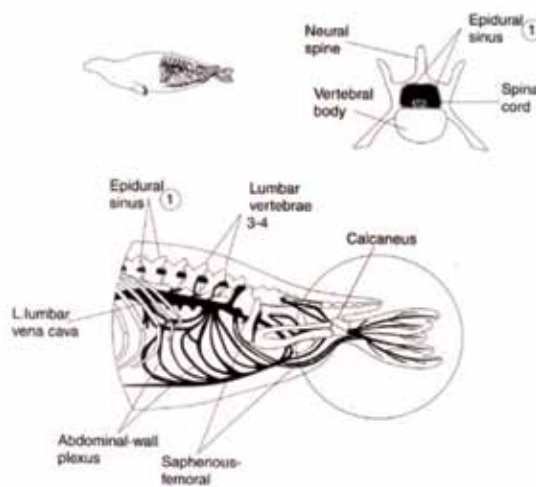
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# Voluntary Blood Collection from the Epidural Sinus in Two Harbor Seals (*Phoca vitulina vitulina*)



**Figure 1:** Epidural sinus location in seals. Taken from Bossart et al. (2001)

## Introduction

Training of cooperative behaviors has been a trend in almost all zoos and aquariums in the world. Those behaviors reduce stress in the animals during physical exams and it allows for reliable sample collections. Undoubtedly, blood samples are the most important of all because they can provide complete information about an individual's health status and the function of all systems of the organism (Geraci and Smith, 1975). Thus, training a controlled blood draw should be a priority for every facility.

In the case of marine mammals, blood collection has been trained in the veins of the flukes of dolphins, belugas, and killer whales, from the rear-flippers in sea lions, seals, and walruses (Ramirez, 1999). For pinnipeds, and in seals specifically, vein detection in the rear-flippers is complicated because the amount of hair in these appendages and the high sensitivity of them. Besides, as thermoregulation takes place through those flippers, the nervous system allows the seal to

involuntarily control the blood flow to those appendages, contracting the veins. Very often, this vasoconstriction makes blood collection impossible.

Because of this, we need to look for other places where venipuncture might be easier, more successful, and non-invasive for the animal. Romagnoli and Chevis (2005) trained blood sampling from the jugular veins in California sea lions (*Zalophus californianus*) and it is known that the blood collection from the lower back can be trained in seals. The epidural sinus (Figure 1), one of several dilated channels for venous blood, may be a good option, but a puncture in this zone could be dangerous because of proximity to the spinal cord. A little mistake during puncture may affect the rear flipper's motor nerves and could even prove lethal, if it results in an injury that would affect survival in a water environment. Thus, this type of training requires both the complete relaxation of the animal as well as correct manipulation by knowledgeable personnel.

Blood sampling from the lower back in seals has been reported since beginning of 1990's (Ramirez, 1999) but there are no reports about the methodology by which those samples are obtained. But, how could we train it? The goals of our staff were to design and to train a sequence of steps that allows obtaining trained blood samples from the epidural sinus in harbor seals.

## Materials and Methods

Over the past year, two harbor seals, *Phoca vitulina vitulina*, were trained for this type of blood draw at the facilities of the National Aquarium of Cuba, in Havana. Both the male, Drakar (8 years-old), and the female, Marie (6), were born at the Boudewijn Seapark in Belgium and arrived in Cuba in 2003 from Zoomarine, Portugal (Guevara et al., 2008).

The training sessions took place in two areas of the aquarium, first in the exhibit area and later in another enclosure dedicated for maternity of pinnipeds. Both have dry space enough for training and a pool of 45 cubic meters (11,887 gallons) of water. Food consumption varies from 4 to 6 kilos (8.8 to 13.2 pounds) daily, per animal, of Jack mackerel, capelin, and squid.

We designed the training plan for only one or two daily sessions using a continuous reinforcement schedule. During sessions, two trainers participated; the assistant, representing the vet role, and the primary trainer. A behavior map was designed with nine steps, and we gave them percent values (quantitative scale) depending on the complexity and importance of each one. This enabled us to gauge how far along in the training we were.

- 10%- Animal in station out of the water in prone position, completely relaxed. In this position, trainer has better control of the animal and may detect troubles quickly. Besides, is important to reach a total relaxation of the animal to prevent manipulation mistakes.
- 20%- Another person desensitizes all the animal body with hands. This person (assistant) simulates the vet role. Although the trainer has the knowledge enough to do the extraction, a hand might be useful in some cases.
- 30%- Desensitizing the specific area (lower back).
- 40%- Application of alcohol in the specific area. The goal of this step is to desensitize temperature changes that alcohol provokes in the skin.
- 50%- Trainer presses the area with a blunt object for a certain time. In this moment, the specific behavior (blood drawn) differs from other behaviors that could have the same training schedule.
- 60%- Trainer punctures the area with a sterile needle a short time (a few seconds).
- 70%- The time of puncture is increased to about 30 seconds.
- 80%- Trainer punctures the area with a sterile needle and syringe for a longer time, going deeper in the skin. There are changes between manipulations with only a needle and when we add a syringe. That is why this step is important.
- 100%- Trainer puncture in the sinus for about a minute and the animal stays completely relaxed (behavior under stimulus control).

Armando Sobrado López  
National Aquarium of Cuba



**1** Animal in station out of the water in prone position completely relaxed.



**2** Desensitizing the body by another person, assistant.



**3** Desensitizing the specific area.



**4** Use of alcohol in the specific area.



**5** The trainer presses the area with an object for a certain period of time. In this case a finger is used.



**6** Trainer punctures the area with a needle for a short time.



**7** Next step is to puncture the area with a needle and a syringe for a long time.



**8** Blood collection behavior under stimulus control.

For blood collection training, we always use sterile materials: gloves, 21 gauge hypodermic needles, clean dresses, and the alcohol was ethanol 70%. The exact point for puncture was determined based on Bossart et al. (2001) scheme of the epidural sinus, specifically between the 3rd and 4th lumbar vertebrae. (Figure 1) This point is easily detected externally based on the guide of these authors.

## Results and Discussion

Figure 2 shows the training time for this behavior. The behavior achieved stimulus control in about a month in both cases. As the graph shows, we could obtain blood sample training faster, if we worked after the conditioning of other medical behaviors such as gastric intubations and blood collection from the rear-flippers, the latter having a similar level of complexity.

There is an extreme difference in training times between those two points for blood draws. The function of rear-flippers in this species explains that significant difference. Seals may control, as we said before, blood fluid to these appendages dependant on body temperature. When seals constrain peripheral blood vessels, it blocks the blood drawn. Sometimes during training it appears that an animal learns to block blood fluid to their rear flippers further complicating training. Seals also possess high sensitivity in those flippers, making it even more difficult for the animal to stay calm and relaxed during training sessions.

Another clue of how much better the blood drawn is from the sinus for the animal was in the case of the male Drakar. As we can see in Figure 3, blood collection was trained with the male under pathological conditions. The white blood cell (WBC) value in the male was more than twice maximum level described in the normal range for this species. This type of value indicates a serious infection as a product of chronic disease. We decided to begin to train a blood draw behavior, hoping to have success and to reduce the suffering of the animal during treatments. As Figure 3 also shows, his diet was not stable and it varied a lot during this process. On some days, the male did not want to eat, although he did respond to training. For those days, we used secondary reinforcers, especially touch and playing with water. Arrows indicate successful voluntary blood collections. Fortunately, the male recovered his health with treatment.

Blood drawn from the epidural sinus can bring additional advantages. First, the process is faster (less than a minute). Puncture takes place in a sinus resulting in more blood that flows more quickly, if you are in the correct spot. Second, we do not need anticoagulants. Hemostatic mechanisms in this species are very efficient and blood coagulates quickly, even inside the syringe, however the blood flow through the lower back is abundant enough to prevent activation of any coagulation chains. Third, as with any other sinus, the subject animal cannot constrain blood flow, so blood is readily available. Lastly, the quality of the blood sample is bigger and due to the decreased probability of hemolysis and samples contamination, they are more reliable.

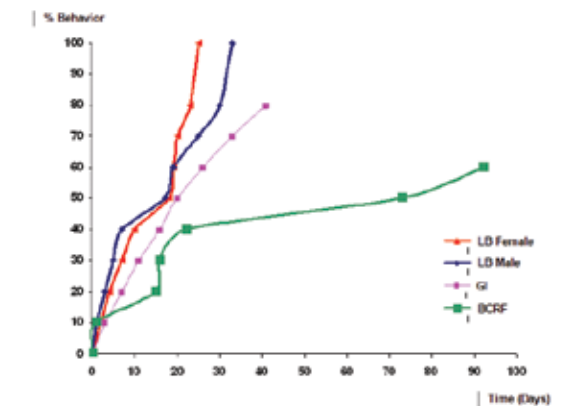
## Conclusions

We were able to successfully train voluntary blood collection from the epidural sinus in harbor seals in a relatively short time using the methodology described above.

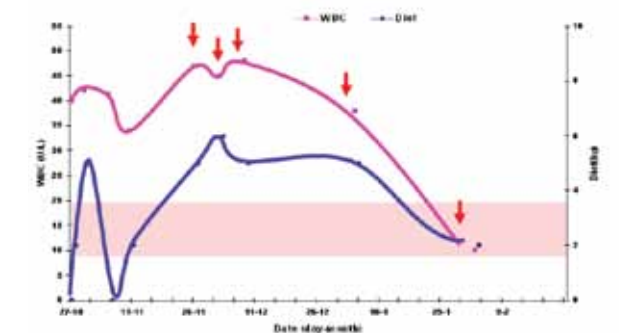
Blood drawn from a seal's epidural sinus reduces the time of the procedure, any tension the animal may experience, and increases the quality of the sample.

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**Figure 2:** Learning curves of blood collection from lower back behavior in two harbor seals (red and blue lines). The two additional learning curves represent average time fora gastric intubations (GI) and blood collection from the rear-flippers (BCRF) training in the same animals.



**Figure 3:** White Blood Cell and Diet values of the male Drakar during blood collection training time. Red arrows indicate trained blood samples after training and transparent red band shows normal range of leucocytes (WBC) described by Bossart et al. (2001).

Photo Credit: Ocean Park, Hong Kong



IMATA Asia Regional Workshop

## ASIA REGION

**Philip Wong**  
Ocean Park  
Hong Kong, China



Photo Credit: Dalian Laohutan Ocean Park Co.

The penguin team of Dalian Laohutan Ocean Park Co., Ltd is proud to announce the first emperor chick (*Aptenodytes forsteri*) of China.

**DALIAN LAOHUTAN OCEAN PARK CO., LTD** – Zhongshan District, Dalian of Liaoning Province, CHINA

The penguin team of Dalian Laohutan Ocean Park Co., Ltd is proud to announce the first emperor chick (*Aptenodytes forsteri*) of China was hatched on 17 August 2010. Both parents and the chick are doing very well. The chick adapted to the hand-feeding and will be introduced to the colony after fledging. The breeding records and data will provide a basis for the emperor penguins conservation and research.

The sea lions have been learning desensitization for a voluntary tube and blood draws. One, 6-year-old male California sea lion (*Zalophus californianus*) has successfully accomplished the voluntary endoscope examination. One, 10-year-old male Walrus (*Odobenus rosmarus*) is being trained for voluntary blood draws. The gastric tube desensitization and voluntary urine collection are also applied to the dolphins (*Tursiops truncatus*) and belugas (*Delphinapterus leucas*).

The Laohutan Ocean Park was excited to welcome 0.4 bottlenose dolphins, 1.1 walrus and 1.4 California sea lions. All animals have acclimated to their new home and trainers.

**OCEAN PARK** – Hong Kong, CHINA

Ocean Park Hong Kong held its 3rd Animal Training Seminar from 8th to 9th November 2010. This year's seminar however is different than previous years, as Ocean Park liaised with IMATA to host the 1st regional training seminar for the Asia Pacific region, attracting over 250 participants. The program included presentations, workshops on animal training with Dr. Géraldine Lacave as keynote speaker and Back of House tours. Local and overseas institutions that attended the seminar included 25 from China, five from Taiwan, one from the Philippines, one from Singapore, one from the United States and five local industry partners and Government Departments. Ocean Park also took this opportunity to promote the IMATA 2012 conference to the participants who are very supportive of this coming event. The training seminars are an annual event organized by Ocean Park and involving regional partners.

## AUSTRALIA REGION

**Ryan Tate**  
Taronga Zoo  
Sydney, Australia  
Gold Coast, Australia

**PET PORPOISE POOL** – Coffs Harbour, AUSTRALIA

The trainers are gearing up for the fourth cetacean birth of the year at Sea World, Australia. Squeak, a 30-year-old show veteran, is due to give birth to her fourth calf at the park in late December. Earlier this year, Evie and Chaser, both females, were weaned from their mothers, Stormy and Moki and made their debuts in Imagine, Sea World's dolphin show.

The staff is also eagerly awaiting the arrival of the king (*Aptenodytes patagonicus*) and gentoo penguins (*Pygoscelis papua*) whose new facility will open after Christmas.

Seal Theatre's little New Zealand (*Arctocephalus forsterii*) fur seal, Rambo has joined his dad, Manny as one of the stars of the, Fish Detectives show.

Farewell to California sea lions, Zorro and Sax that have given all of the staff many enjoyable memories and laughs over the years.

Sea World welcomes the addition of three new trainers Monique Lane, Alyssa Peisely and Kellie Blandford and bids farewell to Ross Deakin.

**SEA WORLD AUSTRALIA** – Gold Coast, QUEENSLAND

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**TARONGA ZOO** – Sydney, AUSTRALIA

Taronga's two resident leopard seals (*Hydrurga leptonyx*), Casey and Sabine, have recently been given access for breeding. As part of their breeding plan they were housed separately in the hope that some time apart will create a stronger desire to be together and mimic what would naturally happen in the wild.

The Australian Marine Mammal Research Centre (AMMRC) is playing some wild leopard seal songs to Casey. In the wild, males and females sing to each other to locate or notify each other that the female is in season. Casey has been responding well to these songs and his beautiful and haunting sounds can be heard quite often.

The Marine Mammal staff has recently travelled to Holsworthy Army Barracks to see how the dogs are trained to find explosives and talk to the army personnel about their training techniques and challenges. The police Dog teams were also on hand to demonstrate how they train and manage their animals.

The marine mammal department has started making the public aware of the issues with overfishing and trying to promote sustainable seafood. The staff has been working on training a variety of new behaviors for the show to educate the public and increase awareness of this important issue.

## CANADA REGION

**Brian Sheehan**  
Vancouver Aquarium  
Vancouver, British Columbia

**VANCOUVER AQUARIUM** – Vancouver, BRITISH COLUMBIA

Vancouver Aquarium staff have successfully collected their first successful resting metabolic rate data with their male Pacific white-sided dolphin (*Lagenorhynchus obliquiden*). Staff will continue to work with their 1.2 collection with the goal being to collect monthly resting levels in order to determine if seasonality has any influence on levels.

Voluntary stretcher training has progressed very well with Daisy, a 2-year-old harbor porpoise (*Phocoena phocaena*). Daisy now swims voluntarily into her stretcher which enables staff to carry her to be weighed or to move her to different habitats.

**PARC AQUARIUM DU QUÉBEC** – Québec, QUEBEC

In November 2010, several researchers, veterinarians and staff of Quebec Aquarium, Océanopolis, and Polaria will be collaborating together in an Arctic Seal Workshop in France. The goals of this collaboration will be to share the experiences in maintaining these species ex situ, future of the captive population and future collaborations between facilities.

In September 2010, polar bear (*Ursus maritimus*) keeper and trainer, Francois Couture experienced a week in the tundra with Polar Bear International during Keeper Leadership Camp. Following this camp, Francois continued his work with the conservation of polar bears during a Roots and Shoots teen education program in Sudbury Ontario.

In October, the Quebec Aquarium was awarded CAZA's (Canadian Association of Zoos and Aquariums) Conservation Award for their efforts in the care, education and conservation of polar bears.

## CARIBBEAN ISLANDS REGION

**Adrian Penny**  
Atlantis Paradise Island  
Paradise Island, Bahamas

**CORAL WORLD OCEAN PARK** – St. Thomas, USVI

At Coral World Ocean Park in September, the hurricane preparation training paid off when hurricane Earl hit the Virgin Islands. The voluntary relocation of the South American sea lions (*Otaria byronia*) to an indoor pavilion was very successful.

The staff is also excited about recent progress made by all four of the sea lions towards voluntary blood draws and the opportunity to present this training at the 2010 IMATA Conference.

**DOLPHIN CAY, ATLANTIS** – Nassau, BAHAMAS

Dolphin Cay has had an extremely busy summer with both dolphin and sea lion interactions.

The newest arrivals, 2.4 South American and 0.2 California sea lions are progressing in both their husbandry and interaction behaviors. The staff hopes to have them interacting with guests in the upcoming year.

The Marine Mammal rescue team continues to receive updates from Spanish Wells regarding Rita, the Florida manatee, and her calf. They spend most of their time in many of the hidden estuaries where there are plentiful amounts of sea grass available. They have also been seen coming into the main harbor where the residents are providing fresh water for them.

Dr. Charlie Manire recently traveled to Jamaica with Drs. Mike Walsh and Ruth Francis-Floyd from the University of Florida, Gainesville, to attend the 26th Veterinary Conference of the Caribbean Veterinary Medical Association. At the conference, they presented a day and half symposium on aquatic animal medicine, which included topics varying from care of aquaculture fish and koi to emerging diseases in marine mammals to stranding and rehabilitation of sea turtles and cetaceans. The symposium was very well received by the veterinarians attending the conference.

**DOLPHIN ENCOUNTERS** – Blue Lagoon Island, BAHAMAS

October 2010 brought another round of new additions to Dolphin Encounters marine mammal family. On October 2, Chippy, a 34-year-old Atlantic bottlenose dolphin gave birth to a baby girl. Just 11 days later, Chippy's daughter, Nina gave birth to a girl of her own. Staff and guests alike enjoy watching the three generations of dolphins all swimming together. This is the 2nd time that this mother/daughter pair have raised their babies together, as in 2006 they had calves just 16 days apart.

**DOLPHIN QUEST BERMUDA** – Dockyard, BERMUDA

At Dolphin Quest Bermuda, two Atlantic bottlenose dolphins, Tatem and Nea, were successfully transported to Brookfield Zoo in Chicago during September 2010. They were raised under an ongoing breeding loan agreement.

Calf training is progressing well, with all three calves growing and beginning to participate in the guest interactive programs. The Dolphin Quest Bermuda Crew is continuing with monthly Project Newborn, obtaining valuable neonate data for the marine mammal field. DQ has contributed to an important study that tracks Immunology development in neonates as they grow.

## EUROPE NORTH CENTRAL REGION

**Christiane Thiere**  
Tiergarten Nuremberg  
Nuremberg, Germany

**TIERGARTEN NUREMBERG** – Nuremberg, GERMANY

At Tiergarten Nuremberg, the staff had to say good bye to Daniel Zieger who became assistant head keeper in the zoos' aquapark. There he will be responsible for polar bears, cheetahs, sea lions, penguins and birds of prey.

The construction of the new dolphin lagoon and manatee tropical house is expecting the big opening in August 2011.

## EUROPE SOUTH CENTRAL REGION

**Pablo Joury**  
Amnéville Zoo  
Amnéville, France



Photo Credit: Amnéville Zoo

Winter time at the Amnéville Zoo

**AMNÉVILLE ZOO** – Amnéville, FRANCE

Tossy, Sunny, Anoki, Ketou and Kinai have left Amnéville Zoo's sea lion department to go to China.

The Amnéville Zoo currently has 2.3 California sea lions and 1.1.1 South American sea lions.

**ZOOMARINE ITALY** – Pomezia (Roma), ITALY

The marine mammal department at Zoomarine is proud to announce the best season since 2005.

The staff welcomes Elisa Mozzato, Mario Libianchi and Matteo Cianni.

## EUROPE NORTH EAST REGION

**Sunna Edberg**  
Kolmarden, Sweden



Photo Credit: Sunna Edberg, Kolmården

An 8-year-old, female South African fur seal (*Arctocephalus pusillus pusillus*) arrived at Kolmården

**KOLMARDEN** – Kolmården, SWEDEN

Kolmården received a female South African fur seal (*Arctocephalus pusillus pusillus*) from West Midland Safari & Leisure Park in the UK. Cleo is 8-years-old and is mixing in very well with the existing pinniped collection. Thank you to Amy Sewell and Chris Ireland for a beautiful animal and transport.

This year's Christmas show is fully booked and the guests can enjoy a show with the dolphins in the Lagoon before walking through a frosty zoo and enjoying a Swedish smorgasbord at the restaurant.

## PACIFIC ISLANDS REGION

**Stephanie Vlachos**  
Waimanalo, Hawaii

**DOLPHIN QUEST HAWAII** – Waikoloa, HAWAII

Dolphin Quest Hawaii's newest baby dolphin has a name. On 5 August 2010, Pele, a 25-year-old Atlantic bottlenose dolphin gave birth to a baby girl. More than 400 entries were submitted in Dolphin Quest's baby-naming contest and the winning name is Noelani. Translated from the Hawaiian language, Noelani means mists of heaven or heavenly mist.

Liko, a 10-year-old male Atlantic bottlenose dolphin, is undergoing low laser treatment to help stimulate tissue growth and regeneration in his injured fin. Liko encountered a tear at the base of his dorsal fin when he was a juvenile and continues to receive therapy as needed.



Photo Credit: Dolphin Quest Oahu

During a multi-sensory field trip at Dolphin Quest Oahu, blind students interact with a target trained brown stingray (*Dasyatis lata*).

**DOLPHIN QUEST OAHU** – Honolulu, HAWAII

A class for blind children enjoyed a multi-sensory field trip at Dolphin Quest Oahu. The 8-year-old students experienced in-water interactions with a brown stingray (*Dasyatis lata*) and Atlantic bottlenose dolphins.

Hands-on learning stations focused on themes, including positive reinforcement training, echolocation, husbandry and anatomy. To understand echolocation, the children touched replica dolphin and human skulls, felt sound travel through their bones from a vibrating tuning fork and listened underwater to real dolphin clicks. Students experienced anatomy by feeling the dolphins' bodies as DQO trainers explained what they were stroking. According to the class thank you notes, one of the favorite activities was brushing a dolphin's teeth.

**WAIKIKI AQUARIUM** – Waikiki, HAWAII

In August at Waikiki Aquarium, a broken pipe inside the life support room of the Hawaiian monk seal (*Monachus schauinslandi*) exhibit caused extensive water damage. Fortunately the seals were not affected by this. Thanks to the support of the University of Hawaii, the staff has worked quickly to repair the system and

# REGIONAL REPORTS

have returned to normal filtration operation.

Thank you to interns, Lea Williams and Shannon Westman, for a great fall semester. Also, a big welcome to spring 2011 interns, Charis Schulz and Karli Rice.

## MEXICO REGION

**Alejandro G. Mata**  
Dolphin Discovery  
Cancún, Quintana Roo

### DOLPHIN DISCOVERY GROUP –

*Cancun, MEXICO*  
The Dolphin Discovery Group is happy to announce the opening of a new facility in Mahahual, Costa Maya, in Mexico. Seven of the eight Atlantic bottlenose dolphins were born in Quintana Roo, being a young and healthy population. Thanks to all the staff for the support in this opening and good luck to Felix Osorio as the Animal Training Supervisor.

### ISLA MUJERES DOLPHIN DISCOVERY –

*Cancún, Quintana Roo, MEXICO*  
The Isla Mujeres Dolphin Discovery facility is glad to receive the Alliance reaccreditation certificate again in five years. All the staff has been working hard during these years to maintain and improve the best standards in animal health, research, education, conservation and interactive programs. In addition, Isla Mujeres is the first facility in Mexico to obtain the IMATA certification, accomplishing the goals in education and animal training.



Photo Credit:  
Manuel Garduño  
A male manatee (*Trichechus manatus manatus*) calf born at Puerto Aventuras Dolphin Discovery

### PUERTO AVENTURAS DOLPHIN DISCOVERY

*– Cancún, Quintana Roo, MEXICO*  
At Puerta Aventuras Dolphin Discovery, Julieta a 20-years-old West Indian manatee (*Trichechus manatus manatus*) gave birth to her 3rd calf in September 2010. The male calf is doing excellent and socializing without any problem with the rest of the population. The manatee family increased in Puerto Aventuras, and after several months the new and bigger lagoon is open for all of them, double size and several fresh water entrances from natural cenotes.

## MIDDLE EAST REGION

**Tommy Wilken**  
Zoological Consultancy Worldwide  
Dubai, United Arab Emirates

### DUBAI DOLPHINARIUM – Dubai, UNITED ARAB EMIRATES

Dubai Dolphinarium has recently welcomed a new addition to its resident pod. A female calf was born on 10 October 2010, to two Black Sea bottlenose dolphins (*Tursiops truncatus ponticus*). The calf and mother are doing well, bringing the total number of dolphins up to six animals, made up of Black Sea bottlenose and Pacific bottlenose dolphins (*Tursiops truncatus gilli*).

## SOUTH AFRICA REGION

**Gabby Harris**  
Durban, South Africa

### BAYWORLD – Port Elizabeth, SOUTH AFRICA

The marine mammal staff came up with an additional show for tourism month at Bayworld. This was done in only three weeks with no budget and was called the, Sea Horse show. It was a theatrical show that included a lusitano colt, two seal's and three penguins all coming together to spread the message that if terrestrial prey animals, flightless birds and marine predators can come together to spread the message to reduce the affect on the planet.

The penguins have been breeding extremely well, 22 juveniles are currently being weaned. One of the 2-year-old penguins made it into the record books when he paired with an older female and successfully raised two chicks.

### SEA WORLD AT USHAKA MARINE WORLD – Durban, SOUTH AFRICA

The dolphins at Sea World uShaka took part in a specially scripted annual evening Halloween show. A second evening show consisted of an acclaimed boy's choir who backed the dolphins with heartwarming melodies. Plans for the evening Christmas show and new dolphin show are afoot.

Management attended a two day biodiversity management plan meeting to focus on the future species survival of the African penguin (*Spheniscus demersus*). The meeting was attended by in-situ and ex-situ role players. The outcome of the meeting is a comprehensive document that will include a variety of plans. This document will be put forward to government as a solid recommendation to ensure the long term survival of the bird in the wild.

Four juvenile African penguins that were hatched here are currently under quarantine. They are destined for the Singapore Zoo to increase the genetic diversity of their collection.

## U.S. MIDWEST REGION

**Stacey Lonski**  
Indianapolis Zoo  
Indianapolis, Indiana

### BROOKFIELD ZOO – Brookfield, ILLINOIS

Brookfield Zoo staff is happy to have a full house of animals again. Just before Memorial Day the staff welcomed back the female dolphins who were then joined by male dolphin, Chinook from the National Aquarium in Baltimore.

Later in the summer, two orphaned California sea lion pups joined the group. The 0.2, as yet unnamed pups were hand-reared by staff and are growing by leaps and bounds. They continue to gain weight rapidly and are having fun exploring the exhibit pools much to the delight of the guests.

Around Labor Day, the Brookfield Zoo staff expanded again by welcoming Tatem and Nea, 1.1 bottlenose dolphins from Dolphin Quest Bermuda.

### MINNESOTA ZOO – Apple Valley, MINNESOTA

The Minnesota Zoo is happy to report that the female dolphin calf is doing great. She is still splitting her time between mom Allie and Grandma April. She has become increasingly independent and loves spending time playing with the water, ice cubes, and sticking her tongue out the side of her mouth. She has been introduced to the main exhibit pool and continues to swim between pools with Allie and April. She will soon have a name too as the naming contest has just come to a close.

During the last week in September the MN Zoo

recognized Sea Otter (*Enhydra lutris*) Awareness Week. The marine mammal staff did daily interpretations and answered guests questions during the training sessions, and the volunteers provided information and resources to the guests about sea otter natural history and conservation issues.



Photo Credit:  
Oceans of Fun  
Sequoia, a 7-month-old California sea lion (*Zalophus californianus*) pup at Oceans of Fun.

### OCEANS OF FUN, INC. – Milwaukee, WISCONSIN

Oceans of Fun has enjoyed a successful summer season in both the Wisconsin and Pennsylvania locations. The staff is excited to have the animal family back together in Milwaukee again for the winter. Sequoia, a 7-month-old pup, has been enjoying this added social enrichment of meeting and playing with two more sea lion friends.

Oceans of Fun provided Milwaukee zoo patrons with a new, Greener Living, educational exhibit this summer and it was met with great success. Not only did it provide easy at home ideas for greener living, but OOF was also able to collect donations for the oil spill recovery efforts in the gulf.

## U.S. NORTHEAST REGION

**Beth Manning**  
Baltimore, Maryland

### MYSTIC AQUARIUM & INSTITUTE FOR EXPLORATION – Mystic, CONNECTICUT

The Marine Mammal and Bird Staff at Mystic Aquarium and Institute for Exploration would like to extend a warm welcome to New England Aquarium trainers and three of their northern fur seals (*Callorhinus ursinus*). They are being housed temporarily while renovations are completed to their exhibit. Mystic's pinniped staff has also been working on modifications to their gating system to further improve protected contact training with their intact male Steller sea lion (*Eumetopias jubatus*), Kodiak.

The Marine Mammal and Sea Turtle Stranding Department has been busy with renovations to their entire area, made possible by a grant from NOAA National Marine Fisheries Service. The renovations will increase standards, specifically in the area of pool size/depth and haul out spaces. Ice seal season will be beginning in January/February and staff is excited to utilize the new pools.

The Arctic Coast staff is happy to report the arrival of Juno, an 8-year-old male beluga (*Delphinapterus leucas*) on breeding loan from Sea World Orlando. Juno is acclimating well with the two females Naku and Kela.

The staff would like to congratulate the following people on their new positions within the aquarium; Kristen Patti, Kim Cummings, Kate McElroy, Lynn Turcotte-Schuh and Sasha Francis.

### NEW ENGLAND AQUARIUM – Boston, MASSACHUSETTS

The New England Aquarium is now home to 2.4 northern fur seals from Mystic Aquarium & Institute for Exploration, Seattle Aquarium and New York Aquarium.

These six animals make the largest colony of northern fur seals in the US.

The Aquarium would like to thank Mystic Aquarium & Institute for Exploration on housing some of the northern fur seals and staff members while the New Balance Foundation Marine Mammal Center underwent renovations in October and November 2010. It has since reopened and continues to be a well-received attraction by visitors of the Aquarium.

Smoke, one of the female Atlantic harbor seals (*Phoca vitulina*) celebrated her 39th birthday in May. Eleven new African penguin chicks were successfully hatched and the Rescue & Rehabilitation team released 16 Kemp's Ridley and Green sea turtles after 8 months of rehabilitation. The Aquarium opened its newly built off-site Holding and Rescue/Rehab facility in September 2010. Currently, the Aquarium is also undergoing the construction of the largest Shark and Ray Touch Tank on the East Coast - it is set to open in April 2011.

The staff welcomed Meg Stone and Erin Weber to the Marine Mammal Training Team in July 2010.



Photo Credit:  
Pittsburg Zoo, PA  
A female pup born at the Pittsburgh Zoo.

### PITTSBURGH ZOO AND PPG AQUARIUM – Pittsburgh, PENNSYLVANIA

The Pittsburgh Zoo & PPG Aquarium is finally celebrating the birth of a much anticipated California sea lion pup. The female pup was born on 26 September 2010 to mom Maggie a 15-year-old and only the second pup born in the history of the Pittsburgh Zoo & PPG Aquarium. The first pup, Sidney, was born on June 13th 2009 to Maggie's half-sister, Zoey and Seahawk who is also the father of this pup. Sidney is still nursing occasionally from Zoey, but she is eating fish and is starting to participate in daily training sessions. Summer and Calli, 5-year-old females, currently residing here from the National Zoo, are doing well with the new pup and will hopefully pick up some maternal insights for when they have pups of their own.

## U.S. NORTHWEST REGION

**Cynthia Alia-Mitchell**  
Tualatin, Oregon

### ALASKA SEALIFE CENTER – Seward, ALASKA

In November, the Alaska SeaLife Center (ASLC) hosted a workshop of more than 40 first responders to share knowledge about marine mammal de-oiling. The two day workshop was conducted in collaboration with Alaska Clean Seas, World Wildlife Foundation and British Petroleum and with the assistance of experts, Dr Pam Yochem from Hubbs SeaWorld Research Institute and Bill Winhall from SeaWorld. Staffs from ASLC and US Fish and Wildlife Service were also instrumental in making the workshop a success. Over the two day workshop current practice standards and protocols were evaluated, participants gained hands on experience in de-oiling marine mammals and evaluated what more needed to

be done to both build response capacity along the Alaska coastline and address knowledge gaps.

ASLC is excited to announce the continuing process of becoming accredited by the Alliance of Marine Mammal Parks and Aquariums. ASLC was accepted at the April meeting contingent upon passing a November inspection.

Two non-releasable spotted seals (*Phoca largha*) that were in ASLC care have been transferred to Long Marine Lab in Santa Cruz, California.

Welcome to the newest AmeriCorps Volunteer, Minna Abassi and congratulations to former AmeriCorps Volunteer Noel Sutton as she has accepted a position with the Audubon Aquarium of the Americas.

### OREGON COAST AQUARIUM – Newport, OREGON

The Oregon Coast Aquarium recently acquired a new northern sea otter named Mojoe, a 6-month-old from the Alaska SeaLife Center's rehabilitation program. Mojoe is adjusting to his new home, and has begun training for introduction to the other three sea otters.

The staff is sad to report the loss of California sea lion, B.J. BJ was 27-years-old, and she had lived at Oregon Coast Aquarium since its opening in 1992.

The bird department has recently begun training with two turkey vultures (*Cathartes aura*), which were new additions to the aquarium this past year. These are the first birds to be formally trained at the aquarium, and it is an exciting change for the bird department.

### OREGON ZOO – Portland, OREGON

At the Oregon Zoo, the Steller sea lion, Gus has a bacterial infection in his eye called pseudomonas. It is causing the cornea to melt. He is being treated with pain relief and topical eye antibiotics.

## U.S. SOUTH CENTRAL REGION

**Shannon Ray**  
Oklahoma City Zoo  
Oklahoma City, Oklahoma

### HOUSTON ZOO – Houston, TEXAS

The last few months were both busy and exciting as the Houston Zoo geared up for, and hosted, the 86th Annual AZA conference. Hosting the conference allowed staff from all levels and departments to benefit from the inspirational keynote speakers, gain knowledge from numerous papers and posters, as well as meet new colleagues and renew friendships. For animal keepers, Zoo Day was the highlight of the week with extra keeper chats/shows, tours of the new African Forest exhibit and behind the scenes tours throughout the zoo. The sea lion department presented their 1.2 California sea lions through their educational day demonstration and comedic interactive special event show. Staff welcomed a steady stream of delegates during the two hour open house, when their most timid California sea lion not only chose to hang out in the back area almost the entire time, but was front and center. Her relaxed demeanor and curiosity to all the novel objects was the most rewarding moment.

### OKLAHOMA CITY ZOO – Oklahoma City, OKLAHOMA

With heavy hearts the Oklahoma City Zoo mourns the loss of Midge, a 25-year-old female California sea lion who was one of the resident stars of the zoo's sea lion show. Preliminary reports suggest lung cancer, but final results will not be available until December. Midge was most known for her guest interactions, painting, and a vast array of cooperative behaviors.

This winter will keep the training staff busy

developing a new show for 2011, and beginning the crate training process for the Tulsa sea lions for their return home next year. Ozone renovations on the zoo's outdoor natural exhibit should be complete by January and all of the life support refurbishment projects will be complete.

The training staff would like to bid a fond farewell to part time staff member Logan Agan. The training staff would like to welcome Heather Crane as a new part time staff member.

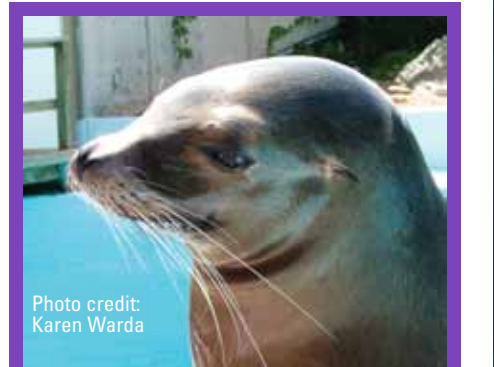


Photo credit:  
Karen Warda  
With heavy hearts, the Oklahoma City Zoo mourns the loss of Midge.

### SEAWORLD SAN ANTONIO – San Antonio, TEXAS

SeaWorld San Antonio is gearing up for the holidays with some great new shows and animal presentations. New this fall, several education shows will be featured throughout the park in addition to regular shows. Now, guests will have the opportunity to see the Believe Shamu show, the Cannery Row Caper pinniped show, and the Azul cetacean show throughout their day. The new 5-month-old beluga calf is doing very well. She was conceived through artificial insemination, and is a second generation calf; her mother Luna was born at SeaWorld San Antonio in 2000. The calf continues to grow and show interest in her trainers, and Luna has been re-acclimated into shows and the Beluga Interaction Program.

This fall, The Creepy Creatures show continues which features reptiles, birds, and small mammals, and is hosted by the Animal Ambassador Team.

A new Christmas show is in the works with the California sea lions, Asian small-clawed otters (*Aonyx cinerea*) and Pacific walrus. It's going to be called Clyde and Seamore's Countdown to Christmas and it will debut later this fall.

### TEXAS STATE AQUARIUM – Corpus Christi, TEXAS

Due to renovations and facility maintenance at Dolphin Bay, the three male Atlantic bottlenose dolphins were moved to SeaWorld San Antonio in early November of this year. Dolphin Bay would like to thank the SeaWorld staff for all of their help and hospitality. Texas State Aquarium staff would like to give a fond farewell to Brandi Swanson and Amy Desotell. Staff would also like to welcome the newest staff members Emily McBride and Lauren Schneider

## U.S. SOUTHEAST REGION

**Sarah Graff**  
Miami Seaquarium  
Miami, Florida

### CLEARWATER MARINE AQUARIUM – Clearwater, FLORIDA

Clearwater Marine Aquarium is busy with the filming of Dolphin Tale, a 3-D Hollywood movie set to

# REGIONAL REPORTS

hit the silver screen next fall. While the female dolphin, Winter is the star of the film, the other resident dolphins and river otters (*Lontra canadensis*) have their share of the limelight too. They continue to amaze the actors and production company with their antics both in and out of sessions.

The dolphins and otters continue to expand their behavioral repertoire and have been exposed to new types of enrichment. The CMA has remained a 24-hour marine animal hospital throughout the filming. The dedicated staff and volunteers still work around the clock to provide top care for both resident and rescue animals. The marine mammal stranding program directly benefited from the movie filming; the production company built CMA a brand new stranding pool.

CMA would like to welcome Cat Rust to their training team.

## DOLPHIN CONNECTION – Duck Key, FLORIDA

The Dolphin Connection recently hosted several members of the Navy Marine Mammal Foundation, including Director of Biological and Bioacoustical Sciences, Dr. Dorian Houser, and Senior Scientist, Dr. Patrick Moore. Their visit included data collection and research surrounding ocean noise levels, including the determination of normal ambient sound in Florida Keys waters as well as sound measurement in the Dolphin Connection's natural lagoon.

The training staff has focused its efforts on collecting voluntary, sterile semen samples from the founder male dolphins currently housed at the facility for freezing and banking by Dr. Todd Robeck and his lab staff. They are pleased to announce that semen has been banked on two male dolphins, both in their late 30's, preserving these valuable genetics for the future.

The Dolphin Connection is proud to welcome Education Supervisor Terran McGinnis to their staff. Terran is currently co-chair of the education committee for the Alliance of Marine Mammal Parks and Aquariums.

## GEORGIA AQUARIUM – Atlanta, GEORGIA

The Georgia Aquarium is happy to announce the addition of 1.2 orphaned Southern sea otter pups to its collection. The pups were stranded off the coast of central California and were successfully rehabilitated by colleagues at the Monterey Bay Aquarium. The animals have acclimated nicely to Georgia Aquarium's sea otter holding facilities and will eventually be introduced to resident otters, Oz and Gracie, and to the sea otter exhibit in the Cold Water Quest Gallery. The animals are progressing nicely on behaviors to support husbandry care and area management.

Georgia Aquarium welcomes Christina Suarez and Kristen Hannigan to the Mammals & Birds Training Team, and Ashley Gerhart and Erica Zeno to the Animal Training Team at the Dolphin Theatre.

## MARINELAND'S DOLPHIN CONSERVATION – Marineland, FLORIDA

Marineland's Dolphin Conservation Center thankfully had a very uneventful hurricane season, and now settles into the slower off-season months. The training staff and dolphins had a very enriching month in October due to a creative Enrichment Challenge game. The trainers were challenged to use every enrichment device with every single dolphin during the month of October. Each trainer had to then record their completed enrichment on the challenge chart. Marineland is proud to report that all 47 different enrichment combinations were completed with all 12 of their dolphins. The animals were not the only ones who found this

extremely reinforcing; the trainers were treated to a movie and pizza party for completing the enrichment challenge.

Marineland welcomes Caleb Rich, Kim Keever and Lindsay Espailat to the training staff and bids a farewell to Chad Stouffer, Krista Aiello and Maura Davis wishing them the best of luck with their future endeavors.

## MEMPHIS ZOO – Memphis, TENNESSEE

The keepers at the Memphis Zoo have been busy preparing for a possible polar bear birth. Payton and Haley, the zoos two polar bears, bred naturally last February, and the staff has had a few other indicators leading them to believe she may be pregnant.

Haley has been moved to the black bear (*Ursus americanus*) exhibit, which was built to double as a maternity den. The 1.2 black bears, River, Spring, and Fire, are rotating out in the main polar bear exhibit, alternating days with Payton. Although the staff does not know for sure if she is pregnant, they are preparing for the possibility. This would be the first polar bear birth at the Memphis Zoo since 1979.

## MIAMI SEAQUARIUM – Miami, FLORIDA

Miami Seaquarium and the Shedd Aquarium have partnered to combine the recourses and strive to produce more Pacific white-sided dolphin's calves. Seaquariums male Pacific white-sided dolphin, Lii, has fathered two calves, Ohana, who is at Shedd on breeding loan, and Liko, who can be seen daily in shows at the Seaquarium.

The Animal Care Department participated in the recent transfer of two manatees, Wooten, a male calf, an Illusion, a mature female to the Cincinnati Zoo. Wooten and Illusion will remain at the zoo for a year before being transferred back to the Seaquarium for their release.

The 15th Annual Monster Splash Celebration was a success. The Halloween themed shows were seen throughout the park and guests also experienced the terror of two haunted houses and enjoyed carnival rides and family fun the entire Halloween weekend.

at Shamu Stadium. Katina went into labor on Saturday October 9th and delivered a 2.1 M (7ft) long, 159 kg (350 lb) baby at about 7:30 pm. The newest member of the Shamu family is the 27th killer whale calf born in the SeaWorld parks and the 16th born in Orlando.

Twenty four West Indian manatees have been rescued so far in 2010. Most of these animals suffered from either cold stress syndrome or injuries due to boat collisions or entanglement. Fifteen of these manatees have been successfully rehabilitated and returned to the wild.

This holiday season brings the return of, Shamu: Christmas Miracles, to Shamu Stadium and Clyde and Seamore's Countdown to Christmas, to the Sea Lion and Otter Stadium. This year marked the fifth anniversary of the Orlando Park's whale and dolphin show, Blue Horizons; which also opened successfully in SeaWorld San Diego last spring.

## THEATER OF THE SEA – Islamorada, FLORIDA

Theater of the Sea is proud to announce that Skipper, the youngest of the park's Atlantic bottlenose dolphins, succeeded in giving his first voluntary blood sample at just 13-months of age. Skipper has been actively participating in a variety of public interaction programs alongside his mother, including Meet the Dolphin, Wade with the Dolphin, and Swim with the Dolphin. Trainers have also made a great deal of progress in training the park's 1.1 American alligators (*Alligator mississippiensis*) and 1.0 American crocodile (*Crocodylus acutus*). All three animals have learned to recall, station, target, and enter a transport box on cue using non-flavored gelatin as a reinforcer.



Photo Credit: Disney's Animal Programs and Environmental Initiatives  
**Wendi at the Seas with the new audio/video dolphin monitoring system.**

## THE SEAS, DISNEY'S ANIMAL PROGRAMS AND ENVIRONMENTAL INITIATIVES – Orlando, Florida

Wendi Fellner, Research Associate at The Seas, has installed a comprehensive audio and video system that will be used to record and analyze the vocalizations and behaviors of The Seas' resident Atlantic bottlenose dolphins. The system is capable of recording high quality video directly to a hard drive in a format that is immediately usable for viewing and analyzing. The video will be synchronized with existing recording equipment enabling staff to undertake more sophisticated analyses of the dolphins' vocal repertoire combined with physical behaviors. The Seas Research Team has also added a 3-speaker play-back component to the audio system that will be used in several projects. Experiments involving audio stimuli will use this system. Sounds are produced by using a Tough Book laptop computer that can be connected to the system wirelessly so acoustic stimuli can be presented remotely or by a trainer sitting poolside while directly interacting with a dolphin.

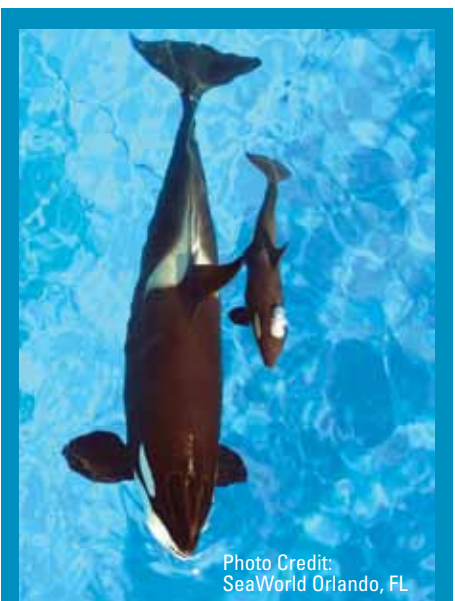


Photo Credit: SeaWorld Orlando, FL  
**Katina (*Orcinus orca*) and her new calf at Shamu stadium.**

## SEAWORLD – Orlando, FLORIDA

SeaWorld Orlando is pleased to announce the recent birth of a killer whale (*Orcinus orca*). The male calf was born to Katina, one of the most experienced dams

## U.S. SOUTHWEST MAINLAND REGION

**Brittany Harris**  
SeaWorld San Diego  
San Diego, California

## MARINE MAMMAL PHYSIOLOGY PROJECT AT LONG MARINE LAB – Santa Cruz, CALIFORNIA

The Marine Mammal Physiology Project has been extremely busy over the past year with its many research projects, trainer development programs, and educational outreach.

In addition to welcoming several new staff members, the Marine Mammal Physiology Project also welcomes Ho'aiiona, a juvenile Hawaiian monk seal (*Monachus schauinslandi*) to their animal family. Ho'aiiona was placed at Long Marine Laboratory to participate in several research projects designed to help learn as much as possible about the Hawaiian monk seal. The staff is extremely excited to be a part of such ground-breaking work and look forward to the

adventures ahead.

The Marine Mammal Physiology Project has several new websites highlighting the animals, the staff, and current projects; [www.mmpp.ucsc.edu](http://www.mmpp.ucsc.edu); [www.monkseal.ucsc.edu](http://www.monkseal.ucsc.edu); and [www.antarctica.ucsc.edu](http://www.antarctica.ucsc.edu). These websites have been widely distributed to educators around the world to provide them access to various activities and knowledge about marine science.

The team has returned from the icy land of Antarctica, and had a very successful field season this year, studying the Weddell seal (*Leptonychotes weddellii*).

## SEAWORLD – San Diego, CALIFORNIA

Sea World welcomed a baby beluga on 27 June 2010. The San Diego public voted on the name Pearl in a naming competition in the local newspaper. She was hand reared for the first two months and was then introduced to her surrogate mother, Allua. After a few weeks Allua started spontaneously producing full strength milk and all assisted feedings were

discontinued. Currently, they are both in excellent health and Pearl has gained 58.9 kg (130 lbs) since birth.

## SIX FLAGS DISCOVERY KINGDOM – Vallejo, CALIFORNIA

At Six Flags Discovery Kingdom, Sergeant Nevis, a California sea lion who was shot in the face by a local fisherman, was the first of his species to undergo plastic surgery. Dr. Praful Ramenini, a reconstructive surgeon from Washington DC, donated his services and joined Six Flags veterinarians Dianna Proctor and Nancy Anderson and the Marine Mammal Center's veterinarian Bill Van Bonn for the surgery. The Surgery went well and Sergeant Nevis continues to recover while on exhibit.

The two dolphin calves, Bodie and Titan are now 4-months-old and are doing very well. Bodie has been eating fish jell-o and ice during training sessions since he has been 2-months-old.

REGIONAL REPORTS is compiled by **Beth Ament**.

## Notices & Announcements

**AVMA/WAVMA JOINT SYMPOSIUM** The American Veterinary Medical Association and the Worldwide Aquatic Veterinary Medical Association are hosting a joint symposium focused on the Advances in Clinical Aquatic Veterinary Medicine Aquaculture America on 28 February - 3 March 2011. This conference will be held in New Orleans, Louisiana. Continue to check [www.iaaam.org](http://www.iaaam.org) as new information becomes available.

**ABWAK ANNUAL SYMPOSIUM** The annual symposium for the Association of British and Irish Wild Animal Keepers will be held on 5-6 March 2011. This event will be held at Port Lymphe Wild Animal and Safari Park located near the town of Hythe, in Kent, England. Visit [www.abwak.org](http://www.abwak.org) for more information.

**ZACC ANNUAL CONFERENCE** The annual conference for the Zoos and Aquariums Committing to Conservation will take place 8-11 March 2011 in Seattle, Washington. The event will be hosted by the Woodland Park Zoo. More information will be posted at [www.zoo.org](http://www.zoo.org) as it comes available.

**EAAM ANNUAL SYMPOSIUM** The European Association for Aquatic Mammals will be holding their 39th Annual Symposium on 11-14 March 2011. The event will be taking place at the Hotel Barcelona Ramblas and hosted by the Barcelona Zoo in Spain. More information can be found at [www.eaam.org](http://www.eaam.org).

**AZA MID-YEAR MEETING** The Association of Zoos and Aquariums has announced the date for their 2011 mid-year meeting. The event will be hosted by the Tennessee Aquarium in Chattanooga, Tennessee on 19-24 March 2011. Information for this event can be found at [www.aza.org](http://www.aza.org).

**THE BRAZILIAN ZOO'S SOCIETY CONFERENCE** The Brazilian Zoo's Society will be holding its 35th Congress on 30 March -2 April 2011 at the Gramado Zoo in Foz do Iguaçu. Updates on this conference will be posted at [www.congressozs2011.com.br](http://www.congressozs2011.com.br).

**ABMA ANNUAL CONFERENCE** The Animal Behavior Management Alliance will be holding their annual conference in Denver, Colorado on 17-22 April 2011. Continue to check [www.abma.org](http://www.abma.org) as new information becomes available.

**IAAAM ANNUAL CONFERENCE** The International Association for Aquatic Animal Medicine 42nd annual meeting and conference will take place

7-11 May 2011 in Las Vegas, Nevada. Updates on information about this conference can be found at [www.iaaam.org](http://www.iaaam.org).

**ASZK CONFERENCE** The conference of the Australian Society of Zoo Keeping will take place in Gold Coast, Queensland on 20-22 May 2011. This event will be taking place at the Greenmount Resort. Continue to check [www.aszk.org.au/](http://www.aszk.org.au/) for updates about this event.

**BIAZA ANNUAL CONFERENCE** The 2011 annual conference for the British and Irish Association of Zoos and Aquariums will be taking place on 9-12 June 2011. This event will be hosted by the Fota Wildlife Park in Cork City. Updates for this conference will be posted on [www.biaza.org.uk](http://www.biaza.org.uk).

**AAZK NATIONAL CONFERENCE** The American Association of Zoo Keepers has updated the information about their upcoming 2011 National Conference held on 24-28 August 2011. The conference will be hosted by the San Diego AAZK and held at the Westin Gaslamp Quarter. More information concerning presentation submissions can be found at [www.aazk.org](http://www.aazk.org).

**AZA ANNUAL CONFERENCE** Zoo Atlanta and the Georgia Aquarium will co-host the Association of Zoos and Aquariums 2011 annual conference 12-17 September 2011. More information can be found at [www.aza.org](http://www.aza.org).

**EAZA ANNUAL CONFERENCE** The 2011 annual conference of the European Association of Zoos and Aquaria will be take place in Montpellier, France on 20-24 September 2011. Information will be posted at [www.eaza.net](http://www.eaza.net) as it becomes available.

**WAZA ANNUAL CONFERENCE** The 66th annual conference for the World Association of Zoos and Aquariums will take place on 2-6 October 2011 in Prague, Czech Republic. Registration information can be found at [www.waza.org](http://www.waza.org).

**SMM BIENNIAL CONFERENCE** The 19th biennial conference for the Society for Marine Mammalogy will be held at the Tampa Convention Center in Tampa, Florida on 26 November - 2 December 2011. Visit [www.marinemammalscience.org](http://www.marinemammalscience.org) for more information.

**AAZV ANNUAL CONFERENCE** The American Association of Zoo Veterinarians annual conference will take place 23-28 October 2011 in Kansas City, Missouri. More information will be posted at [www.aazv.org](http://www.aazv.org) closer to the conference date.

**ICZ CONFERENCE** The 4th International Congress on Zoo Keeping conference will be held in Singapore in September 2012. Updates on information for this conference can be found at [www.aszk.org.au/](http://www.aszk.org.au/).

**ABC DOLPHIN TRAINER ACADEMY** Learn the science of animal training while having fun working with dolphins, sea lions, and manatees.

- 2011 Schedule  
Basic Course: 30 May to 4 June; 5 to 9 September  
Advanced Course: 6 June to 10 June  
Combo package: 30 May to 10 June
- A special 20% discount is being offered for a limited time only for the Combo Package. Combo package includes both Basic and Advanced workshops for a savings of over \$400 US dollars.
- All 2011 workshops are being hosted by Dolphin Discovery Puerto Aventuras, Riviera Maya, Mexico.
- Further information is available at [www.abcanimaltraining.com](http://www.abcanimaltraining.com) or email [swood@abcanimaltraining.com](mailto:swood@abcanimaltraining.com)

**PHOTOS NEEDED** All IMATA members are invited to submit photographs for use in *Soundings* magazine. High quality images at 300dpi are preferred. Please identify the photographer for credit and mail your photos to "IMATA Photo Archivist" as well as "*Soundings* Chief Editor" at the IMATA Central Office, [info@imata.org](mailto:info@imata.org).

**IMATA LIBRARY** Are you looking for an article from a past conference or an old issue of *Soundings*? IMATA's library is available online to Associate, Active, and Professional members! Go to [imata.org](http://imata.org) and click *Publications*. Our searchable index is also found there.

**CHANGING ADDRESSES, JOB TITLES, OR EMAIL?** Keep your information current on IMATA's website. You have the ability to update your information. It's as easy as 1, 2, and 3.

1. Log onto the member's section of the IMATA website with your username and password.
2. Click on edit profile and update your current information.
3. After updating your information, click on submit at the bottom of the page and recheck the information you just entered.

That's all you have to do. Your changes are immediately entered into the website. If you have any problems, click on feedback, and write your questions in the comment section.

**WEBSITE** Visit us online at [www.imata.org](http://www.imata.org).

**NOTICES & ANNOUNCEMENTS** is compiled by Haley Merritt.



All Photos Courtesy of Grant Abel, Morgane Davis, and Brian Masuga

## CONFERENCE WRAP UP - 38<sup>TH</sup> ANNUAL CONFERENCE International Marine Animal Trainers' Association

As I sat on my bar stool late Wednesday night on 8 December (actually early morning Thursday, 9 December), after the honors and awards banquet, I continued to enjoy the spirit and camaraderie of IMATA as a majority of the attendees took the brisk walk across the street from the Seaport Hotel and strolled into THE WHISKEY PRIEST bar. With all the planning complete and the conference officially over, I was once again reminded why IMATA is such a special organization. The fun and excitement of the week spilled over to late that evening as colleagues continued to mix and mingle, and enjoy each other's company as they did throughout the week. It was a special evening at the honors and awards banquet as Mandy and Jayne Rodriguez were honored with the Sonny Allen Professional Achievement Award for their lifetime accomplishments in our field. It was an honor to share a drink with Mandy that that evening and this was truly one of many highlights of the week.

Six days earlier, the William Diamond Fife and Drum entered the Plaza Ballroom of the Seaport Hotel and the 38th Annual IMATA Conference officially commenced. The Fife and Drum, dressed in their New England patriotic attire, represented the history of the great city of Boston. This was followed by the conference opening video; so amazingly assembled by IMATA's 2<sup>nd</sup> Vice President Bill Wolden (the video is currently available for viewing at [www.imata.org](http://www.imata.org)). After a warm welcome by Kathy Streeter of our host facility, the New England Aquarium, advisors Billy Hurley and Ken Ramirez provided a detailed update of IMATA's position on dolphin drive fisheries. This was followed by our keynote speaker Brandon Southall, who provided an exhilarating presentation on marine mammals and sound while sharing the perspectives of the late Ronald Schusterman. Great presentations followed and included our first "IMATA Classic" given by Tim Sullivan of Brookfield Zoo. This paper, THE YIN AND



By Eric Gaglione

YANG OF POSITIVE REINFORCEMENT TRAINING is timeless and was first presented at an annual IMATA conference nine years ago. As I planned this conference, I gave thought to past papers that had an impact on me and my training approach, and his paper was the first to come to mind. I enjoyed and appreciated this paper just as much as I did nine years ago and attendees seeing it for the first time did the same. The day concluded with the Career Night as students and colleagues spent the evening receiving advice on resume preparation and interviewing skills, as well as visiting the staff from prospective organizations at the job fair.

High quality presentations were scheduled throughout the week. Sunday's program included a panel discussion titled 2010 A LOOK BACK, A LOOK FORWARD, and engaged the membership in the issues of this past, somewhat challenging year. President Dave Roberts lead the panel of experts including Mark Xitco (US Navy Marine Mammal Program), Jeff Jouett (Dolphin Quest), Brad Andrews (SeaWorld), and Marilee Menard (Alliance of Marine Mammal Parks and Aquariums) as they updated us on the latest issues in our field and engaged the membership in a discussion on the 'hot topics'. Early that same afternoon the business meeting was conducted and Patrick Berry was honored with the John Kirtland Award for his major contributions to IMATA, especially as the

Chief Editor of *Soundings*. Later that evening, we all made our first (official) visit to THE WHISKEY PRIEST and enjoyed good food and beverage, and the always entertaining live auction with Billy Hurley and Bill Wolden.

On Monday morning attendees enjoyed a terrestrial workshop that discussed the use of marine animal training techniques with terrestrial species. A conservation workshop looked at challenges facing arctic marine mammals, and a career building workshop engaged participants

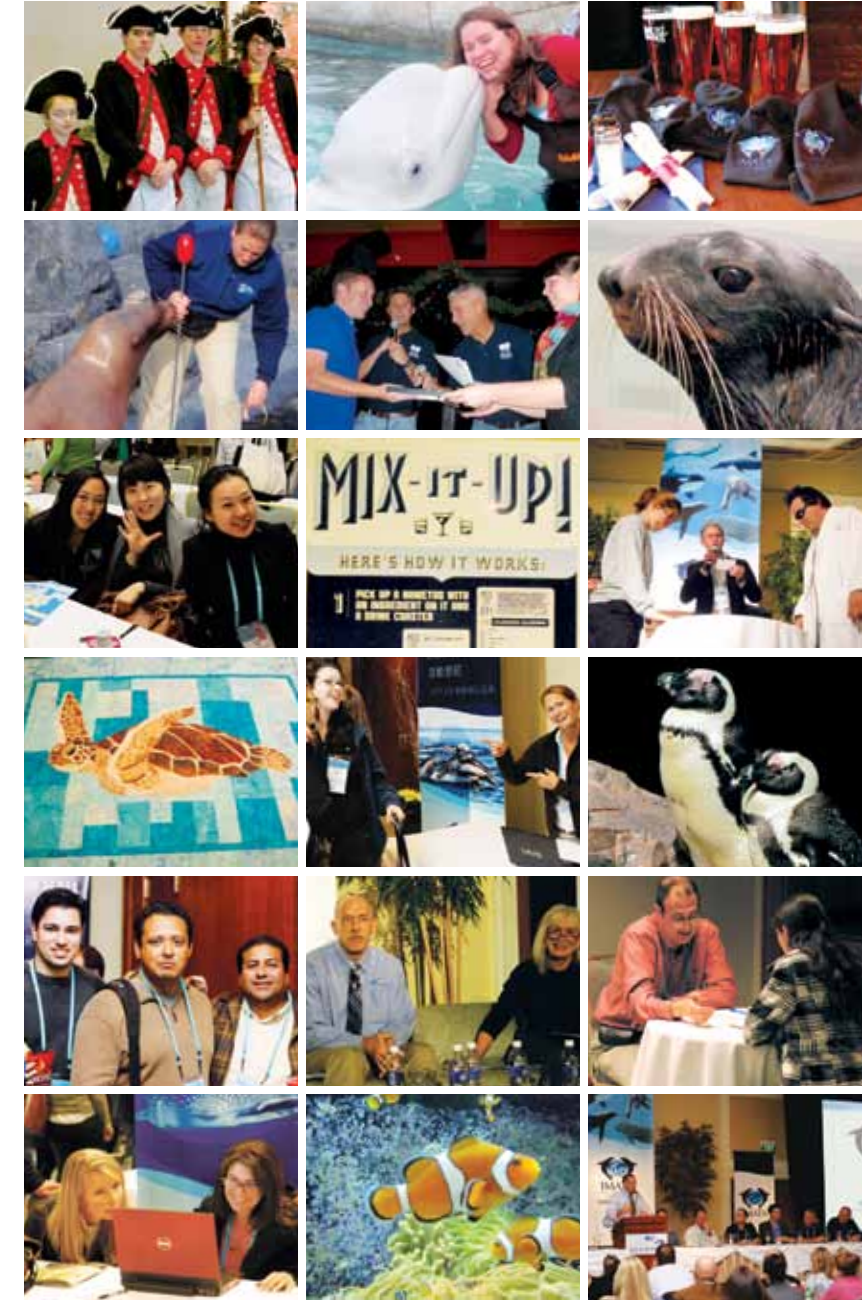
interested in working outside the US. That afternoon we all enjoyed an afternoon at the New England Aquarium. Behind-the-scenes tours were conducted throughout the afternoon and included harbor seal training sessions. This was followed by a special viewing of one of their IMAX films. The evening concluded with poster displays in the Aquarium galleries and informal presentations in the IMAX theater. Thank you New England Aquarium for hosting such a wonderful event.

On Tuesday we were exhilarated by live remote training sessions as President-elect, Mike Osborn hosted live connections with Ocean Park Hong Kong, SeaWorld San Diego, and Alaska Sealife Center (Seward, Alaska). It was a real treat to cross so many time zones and see our colleagues in action. At one point the panda at Ocean Park even reacted to our applause in the Seaport Ballroom. Many thanks go out to our friends and colleagues that helped pull off such a special event. Tuesday night we had a free night and everyone went out in the cold and enjoyed Boston! The city was decorated beautifully for the holidays. I enjoyed a hockey game at the Boston Garden and then joined the pub crawl after the game. I was so impressed to find so many IMATA attendees together, enjoying the night life the great city of Boston. It was a great night and I'm certain everyone appreciated the late start the next morning.

After Wednesday's late start we continued to enjoy great papers including some looks at training applications to aquarium, non-marine mammal species. Bill Wolden provided a preview of our 39th meeting in Miami; a conference sure to be full of fun and excitement, and one you don't want to miss. After the conclusion of committee meetings we all enjoyed a wonderful honors and awards banquet which concluded with Dave Roberts handing the gavel to Mike Osborn to officially start his presidency. Mike then led us in dancing and, of course, most of us ended up at THE WHISKEY PRIEST to conclude the night.

It was truly an honor to serve as Vice President of such a great organization and I thank all members and conference attendees for allowing me the privilege of organizing this past year's conference. I had a WICKED GOOD TIME! I look forward to seeing everyone in Miami.

Eric



# 2010 HONORS AND AWARDS CEREMONY

By Mike Pool

It was an exciting night of Honors and Awards in Boston, Massachusetts where many were recognized for their efforts to IMATA and the 38th Annual IMATA Conference! Read below to see who received awards!

## SONNY ALLEN PROFESSIONAL ACHIEVEMENT AWARD

This award honors an individual who has demonstrated a dedication to the field of marine mammal science, training, and service to IMATA. This year the award was extended to two people, **Jayne and Mandy Rodriguez**, of the Dolphin Research Center. Mandy and youngest daughter Kelly-Jayne accepted the award after moving testimonials from Michael Hunt and Linda Erb. Our sincere thanks and congratulations to Jayne and Mandy!



**Past recipients include:**  
 1997 – Randy Brill, U.S. Navy Marine Mammal Program  
 1998 – Ken Ramirez, John G. Shedd Aquarium  
 1999 – Cheryl Messinger, The Dolphin Connection  
 2000 – Jeff Haun, U.S. Navy Marine Mammal Program  
 2001 – William Brisby, Exotic Animal Training and Management Program  
 2003 – John Kirtland, Center for Elephant Conservation  
 2005 – Jay Sweeney, Dolphin Quest

## JOHN KIRTLAND AWARD OF DEDICATION

The John Kirtland Award, given to acknowledge persons or organizations that have demonstrated true dedication towards and made major contributions to IMATA, was presented to **Patrick Berry** during the 2010 conference. Patrick has served IMATA in various roles for years, and has done a phenomenal job as Chief Editor of *Soundings* for the past 10 years. Congratulations Patrick!



**Past recipients include:**  
 2005 - John G. Shedd Aquarium (home of the IMATA Central Office).

## IMATA RAFFLE DONATION

The IMATA Conservation Fund and Research Grant was the recipient of the proceeds from the 2010 IMATA Raffle and Not-So-Silent Auction. Together, we raised more than \$8,000 dollars for IMATA!



## CONFERENCE PEOPLE'S CHOICE AWARD

Given to any individual, group, or organization that conference attendees feel has made the greatest contribution to the 2010 Conference



**1<sup>ST</sup>** – Israel Ortiz (left) – Formal Presentation – “Combining Behaviors at Dolphin Adventure”  
**2<sup>ND</sup>** – New England Aquarium – Host Facility

## ACCREDITATION AWARDS

During 2010 several facilities underwent the IMATA accreditation process. Billy Hurley, Accreditation Committee Chair, recognized the facilities that now have IMATA accredited animal trainer training programs:

**Dolphin Connection**  
**Mystic Aquarium**  
**Dolphin Discovery** – Cancun, Isla Mujeres & Puerto Aventuras

## BEHAVIORAL TRAINING



**1<sup>ST</sup>** – Israel Ortiz (left), Wayne Phillips – Dolphin Adventure – “Combining Behaviors at Dolphin Adventure”  
**2<sup>ND</sup>** – Heather D. Carollo, Toni M. Rael, Jessa R. Paschke, Melissa M. Coan, Kelly A. Whelan, & Randi S. Levine – Six Flags Discovery Kingdom – “Adventures in Training a Naive Blind Sea Lion”

## HOST FACILITY AWARD



New England Aquarium

## HUSBANDRY TRAINING



**1<sup>ST</sup>** – Jennifer McGee (right) & Rita Stacey Vondra – Brookfield Zoo – “Hand Rearing Orphaned California Sea Lion Neonates”  
**2<sup>ND</sup>** – Matthew Walker & Kelly Flaherty Clark – SeaWorld Orlando – “Feeling a Little Flushed? Training Subcutaneous Fluid Delivery to a Visually Impaired, Asian Small Clawed River Otter”

## RESEARCH ADVANCEMENTS



**1<sup>ST</sup>** – Kelly Jaakkola, Emily Guarino, & Mandy Rodriguez (above) – Dolphin Research Center – “I Can Do That Blindfolded: A Dolphins Use of Sound Cues to Imitate Motor Behaviors”  
**2<sup>ND</sup>** – Troy Neale, Danielle Hyson, Nigel Waller, Billy Lasby, & Nathan Harben – Vancouver Aquarium – “Training Stellar Sea Lions in the Open Ocean for Heart Rate Studies”

## EDUCATION AND CONSERVATION



**1<sup>ST</sup>** – Thad Lacinak (above) & Angi Millwood – Precision Behavior – “Safety and Responsibility in Zoological Environments”  
**2<sup>ND</sup>** – Carmen Colitz & Michael S. Renner – Aquatic Animal Eye Care, Charles A. Manire & Michael T. Walsh – Atlantis Paradise Island, Bethany M. Doescher – Sea Life Park Hawaii – “Ophthalmic Lesions and Associated Clinical Signs seen in Bottlenose Dolphins Under Human Care”

## POSTER



**1<sup>ST</sup>** – Kerry Martens (above) & Allison Ginsburg – National Aquarium in Baltimore – “Training ERG with a Geriatric Atlantic Bottlenose Dolphin”  
**2<sup>ND</sup>** – Patty Schilling – New England Aquarium – “Say Ahhh”

## FIRST TIME PRESENTER



Israel Ortiz (left) – Dolphin Adventure – “Combining Behaviors at Dolphin Adventure”

## OUTERNET TECHNOLOGY AWARDS

This \$200 for 1st and \$100 for 2nd place cash award sponsored by Outernet Technologies recognizes the best or most innovative use of science and technology in training sessions, shows, play sessions, husbandry, conference presentations, or record keeping for any formal, informal, or poster presentation.



**1<sup>ST</sup>** – Troy Neale (right), Danielle Hyson, Nigel Waller, Billy Lasby, & Nathan Harben – Vancouver Aquarium – “Training Stellar Sea Lions in the Open Ocean for Heart Rate Studies”  
**2<sup>ND</sup>** – Steven G. Huguely & DruAnn C. Price – U.S. Navy Marine Mammal Program – “To 1,000 feet and Around The World: Training a Deployable Sea Lion Program”

## EDITOR'S CHOICE AWARD

A \$300 cash award, sponsored by The Dolphin Connection, is given to the author of the abstract that most effectively and accurately reflects the formatting guidelines IMATA Proceedings and requires the least amount of editing.



Nancy Cooper (right) – Dolphins Plus – “Training Transformation: Overhauling the Training Protocol of Two Marine Mammal Facilities in the Florida Keys”

## IMATA SERVICE AND BOARD MEMBER AWARD



Eric Gaglione (right) – IMATA Vice President, 2008-2010.  
 Dave Roberts (left) IMATA President, 2010.

## PASSING OF THE GAVEL

The gavel was officially passed from the outgoing IMATA president Dave Roberts (right) to the incoming IMATA President Michael Osborn (left).



## S.A.I.C. ART CONTEST ART



**1<sup>ST</sup>** – Carol Jackson – Seattle Aquarium  
**2<sup>ND</sup>** – Jann Warfield – Mote Marine Lab

## HUMOR



**1<sup>ST</sup>** – Kayla St. George – Mystic Aquarium  
**2<sup>ND</sup>** – Ash Crowe

## PHOTO



**1<sup>ST</sup>** – Morgane Davis – A-Z Consulting  
**2<sup>ND</sup>** – Jaime Doglione – Living Exhibits

## OVERALL WINNER

Morgane Davis – A-Z Consulting

The quality of the presentations, the panel discussion, live remote training sessions, our gracious host facility, and a large number of international members were only a handful of reasons why the 2010 IMATA Conference was such a huge success. Thanks goes to all involved, especially Eric Gaglione and the Conference Committee. Miami, here we come!!

- Mike Pool

## 2010 JUDGING TEAM

Special thanks to this year's judges:

Carol Jackson  
 Melissa Berdine  
 Peter Giljam

Jessica Robinson  
 Brandi Swanson  
 Chelsea Grubb

Ashley Benson  
 Blair McGuffie

These folks volunteered their time to evaluate every single presentation and did a wonderful job of selecting many of this year's award recipients.



# TRAINER'S FORUM

## QUESTION:

**To deal with inappropriate behavior, we have found the need, in certain instances, to use a time-out. At our facility it is necessary to gate animals at the end of all sessions, which we always reinforce. Can we effectively use a timeout and communicate what the animal did**

**wrong if we must always gate and reinforce the animal afterwards?**

**ANSWER 1** At the San Diego Zoo, we have had many debates about time-outs. Do they work? Is it punishment? What is an alternative to a time out?

The definition of a time out states that there is NO reinforcement used after an animal is placed on a time-out. So by that, it seems that your facility may not be using a "true" time-out. At our facility, we have found that we don't use time-outs in the true sense of the definition. The truth of the matter is that for the protection and safety of the animal, trainers, and guests, if the animal perceives that reinforcement is not coming, because in the trainer's mind the animal is not doing what is asked of it, it could turn to frustration and aggression. If we have an animal out in public, and we need to have it gate or crate, we want to know that that behavior has a great history of reinforcement. So we reinforce our gating and crating behaviors to give them what we call a "break". They are reinforced for going inside, but then we can rework whatever the animal and trainer were having trouble understanding from each other later once the animal has time to itself, and we have a chance to think about why the animal was acting that way.

Now, as far as whether or not the animal knows what exactly it did wrong is a really difficult question to answer. We feel that our jobs as trainers is to communicate as clearly as possible what we want from our animals in order to insure as little confusion and frustration as possible. We don't focus on the fact that the animal did something wrong. Instead, we work on redirecting the behavior to something that can be reinforced and try to focus on good behavior. Whether or not THE ANIMAL understands it performed a behavior incorrectly is LESS important than the trainer's ability to recognize where the communication glitch occurred so that trainer errors are decreased. Any single drop in criteria typically is a communication error. Whether you are giving the animal a break from the session or a "time-out", PATTERNS on either side of those tools most typically leads us to the cause of undesired behavior.

If you feel that a session is not going in the right direction, we feel that what you are doing is actually a good thing. By allowing the animal to still get reinforced for doing something correctly you allow your staff to create a situation in which the animal keeps its trust and relationship with its trainers and also gives your trainers a chance to pause from the session and analyze why the animal was not displaying the desired behavior. Usually when we take a step back we can find an alternate and possibly better way to

communicate what we want.

Hope this is helpful!

**The Animal Training Staff  
San Diego Zoo**

**ANSWER 2** This turned out to be a very good question, which allowed for many interesting discussions among our trainers. Although we think it's a bit difficult to answer the question when we don't know the reasons for the time-out, we will give some suggestions which we hope you find helpful.

What we all agreed on was that the important part of the communication to the animal is the time between the beginning of the time-out and the beginning of the gating. That means, when you decide to give a time-out, the trainer must remove himself, or ignore the animal for a moment, before beginning the gating. Then, if the gating is done successfully, the animal should be reinforced. We think that if you gate immediately after what caused the time-out, that the gating itself could be a part of the punisher. This could slowly create a deterioration of the gating behavior, or as you mentioned, confuse the animal so that the animal simply wouldn't understand the time-out.

Here we normally only give a time-out if the animals try to bite! I have only experienced that one time with an adult animal – in 20 years – and then it was clearly a trainers fault. We begin training with the pups as soon as they start eating and sometimes they try to bite in the beginning stages of training. This usually occurs during the first few months of training. In these instances, we give the animal a time-out. During our time-out, we leave them immediately and don't come back before the next feeding opportunity. Often we only have to take this step once before the animal realizes the consequences of that behavior.

Once training is consistent with our animals, we rarely take a time-out simply because the animal doesn't do what we ask it to. The first thing we do is to ask for the behavior again. Usually this is enough to get the behavior we're looking for. If that doesn't work then we might move on and try the behavior again later in the session or during a different training session all together. If for some reason we still have a problem with the behavior, then we start to look at the motivation for the animal to do the behavior.

Motivation comes in different forms. One thing we consider is the animal's health. If the animal is sick or not feeling well it may affect their willingness to participate in certain behaviors. Other things to consider are the circumstances in which the animal is failing. For instance, is there anything in the environment that is keeping the animal from performing the behavior correctly? What is the history of the behavior? Did something happen the last time the behavior was performed that may have made it negative in some way? Has the behavior been over worked? Would it help the animal to take a break from the behavior for a day or two and then come back to it? If all of these options have been exhausted, and the animal is still not performing the behavior, then something IS wrong!

Here at Copenhagen Zoo, we don't have a fixed show. It is sometimes easier for us to take the time to work through behavior rather than resorting to a time-out. If the animals don't want to participate in a training session, it's ok. When it comes to training sessions, we find that it's really up to us to be as interesting and motivating to the animals as possible. If they want to work with us, the sessions tend to run more smoothly without the need for time-outs.

The problem with a time-out is that it leaves the animal in a situation where it might understand that it's being "punished," but may not necessarily know why, or what it should have done to avoid this consequence. This lack of understanding won't really aide in the training of your behavior or in maintaining your relationship with that animal. The risk of leaving your animal frustrated seems like a greater risk than the benefit. Frustrated animals can escalate to aggressive animals. This aggression may not only affect you, but if the animal is housed with other animals, they run the risk of encountering displaced aggression. This may cause tension among the animals and affect their training sessions as well.

The time-out itself probably causes the session to end differently, or more suddenly, than usual. Even without performing a time-out an animal may pick up on different cues that indicate to them that something is "wrong." For example, we choose to gate a sea lion out of the group for a training session. Sometimes, another animal gates with the other animal even though it was not asked to do so. In this instance we usually are able to work the correct animal while ignoring the incorrect animal. Usually the animal that wasn't supposed to be in the training area is not very insistent on getting attention. With the lack of attention and reinforcement the animal usually gates back to its enclosure at the next gating opportunity.

Basically, in most cases, we believe that one should generally avoid time-outs.

**Copenhagen Zoo Staff  
Copenhagen Zoo**

**ANSWER 3** In our opinion the short answer would be no, you have not communicated effectively. The definition of a time-out is "a non-reinforcement training strategy whereby a training session is temporarily paused and attention is removed from the animal for a period of time" ([www.imata.org/members/publications](http://www.imata.org/members/publications)). By asking for any behavior including gating, you've more than likely reinforced the animal.

When we started our formal pinniped training program we ran into similar issues when needing to apply a time-out. If you don't already, we recommend having a brief pre-session training meeting to discuss what each trainer will be working on in their session and how the group will respond if the need for a time-out arises with a particular animal. It's important to have great communication between trainers even during the training session as well as knowing your animal's precursors. Knowing your animal's precursors and using a variety of methods to effectively start a time-out has worked well for us.

If the behavior that warrants the time-out is from the same animal, gate the animal at the beginning of the session so gating is reinforced before a time-out has to occur. Alternately, you could gate any other animal(s) and work them in your holding pen instead. If all animals must remain on exhibit during the session and a time out becomes necessary, try "quick" feeding the remaining animals, ending their session positively, and all have all the trainers exit the exhibit. If the situation escalates as trainers are exiting the exhibit and it potentially becomes unsafe to exit the exhibit, send the animal in the water, ask for a stay, have all unnecessary staff exit, then begin the time-out as that animal's trainer exits. As a last resort only, gate the animal, but don't reinforce it, and start the time out. This method should be used very rarely because you have the potential of the gating behavior breaking down.

**Blank Park Zoo Staff  
Blank Park Zoo**

**ANSWER 4** At Dolfinarium Harderwijk we take a time-out primarily when training new behaviors. We use the time-out in these situations if we feel that the sea lion does not understand the request from the trainer.

As for separating the sea lion away from the 'training area,' it seems to bring more confusion for a time-out, as separation is also a trained behavior. The sea lion would expect a reward for this behavior thus 'forgetting' why he would be separated in the first place.

It does not matter where you take the time-out. If possible, it should be in the exhibit itself. However, it can also be elsewhere, but be aware of the consequences of changing the structure of the time-out.

We believe that our animals enjoy our interaction with them; at least we think and hope so! If we leave for a time-out and come back after five or ten minutes we find that the sea lion then often shows the correct response. This shows that the time-out works when used properly.

**Robbert van Schie  
Dolfinarium Harderwijk**

**ANSWER 5** At Zoo de La Palmyre, France, we use this type of "time-out" with our sea lions only in extreme cases. The sea lions we have are housed in the main pool between training sessions and then called to other enclosures before each session, and are reinforced for doing so. Our animals receive a portion of their food during the training session, and the rest of their diet is given at the end of the day in the same enclosure. By handling the animals in this way, they quickly understand the time difference between coming in and being reinforced for a normal gating session, remaining in the enclosure during a time out, and returning to the main pool after a job well done. So, if we take a "time out" we call them in the enclosure and if they come in correctly, we reinforce them, as for simple exercise. After a time-out (5-10min) we start with the incorrect behavior. Once the behavior is done correctly the communication is complete. If necessary, we may take a step back to motivate the animals. In general, we try to find a solution for each problem during the basic training session and finish the session on a positive note.

Best Regards,

**Dimitre Ivanov, Head Trainer  
Zoo de La Palmyre, France**

TRAINER'S FORUM is compiled by **Robert Rooszendaal**.

# LIP SYNC



The Alliance of Marine Mammal Parks and Aquariums is an international association of marine life parks, aquariums, zoos, research facilities, and professional organizations dedicated to the highest standards of care for marine mammals and to their conservation in the wild through public education, scientific study, and wildlife presentations. The Alliance closely monitors legislative and regulatory activity around the globe that may impact member organizations like IMATA. The following briefs have been reprinted with permission or furnished by the Alliance for *Soundings*.

China's Ministry of Housing and Urban-Rural Development posted guidelines on its Web site aimed at improving the treatment of animals in zoos and wildlife parks. The ministry urged that animals be provided adequate food and shelter, that sales of wildlife products in zoo restaurants or stores be halted, and that animal performances no longer be staged. Animal welfare groups have allegedly documented abuse in Chinese facilities. A three-month inspection period began 18 October. Zoos may be shut down or receive a citation if they violate the guidelines. The ministry did not state whether the guidelines would be made permanent. [www.huffingtonpost.com/2010/10/27/china-zoo-cruelty-crackdo\\_n\\_774588.html](http://www.huffingtonpost.com/2010/10/27/china-zoo-cruelty-crackdo_n_774588.html)

The European Commission and the two firms it hired to evaluate the EU policy on animal welfare have established a Web site to raise awareness about the project, offer access to relevant reference material, and provide a vehicle for forwarding comments to the evaluation team. The site explains background on the policy review, its objectives, and the 11 questions on which the evaluation is based. It points out that the review covers farm animals, experimental animals, pet animals, and "wild animals that are kept in captivity or submitted to a treatment that is controlled by humans." Recommendations could result in legislation, research, communication, and/or international activities. The acronym for the project is EUPAW. [www.eupaw.eu/](http://www.eupaw.eu/)

The European Union's ban on imports of seal products has been upheld by a judge, according to a ruling released on 28 October. The ban, which took effect 20 August, included a temporary exemption for Canada's national Inuit organization

and 15 other plaintiffs who sought a freeze until Europe's top court makes a final ruling, arguing that the ban would slash incomes in traditional Inuit communities and lead to suicides and substance abuse. This ruling prohibits the import of all seal products from any hunts until the European Court of Justice decides on the legality of the prohibition. [www.sikunews.com/News/International/Seal-ban-upheld-in-a-new-decision-8165](http://www.sikunews.com/News/International/Seal-ban-upheld-in-a-new-decision-8165)

The government of French Polynesia has abruptly ended its efforts to allow the hunting of marine turtles, some of which are in danger of extinction. Moorea Dolphin Center joined local environmental groups in circulating a petition to pressure the government to withdraw the proposed legislation, which it claimed was important for "nutritional purposes." The petition is at [www.petitions24.com/we\\_must\\_save\\_the\\_polynesian\\_marine\\_tortoises](http://www.petitions24.com/we_must_save_the_polynesian_marine_tortoises). Coverage in French is at <http://news.suite101.fr/article.cfm/les-tortues-marines-de-polynesie-menacees-par-le-gouvernement-a20053>.

The German Federal Ministry of Food, Agriculture, and Consumer Protection convened a 6 July meeting in Bonn to establish a process and a schedule for the revision of Germany's guidelines, or Säugetiergutachten, for the public display of mammals. Attendees at the Bonn meeting agreed to establish a working group that will include two representatives from the zoo/aquarium community, two from animal rights organizations, and two independent consultants. In addition, there will be one representative of the Länders (German "states") and one from the Federal Ministry for the Environment Nature Conservation. Subgroups are expected to address specific species such as marine mammals. Guideline revisions will be based

on consensus after reviewing expert information. It has not been decided whether the guidelines should become law. The working group was scheduled to hold its first meeting in Bonn in September.

Palau's minister of the environment, natural resources and tourism announced on 25 October the creation of a 600,000-square-kilometer sanctuary for whales, dolphins, dugongs, sharks, and other species and that "there will be no hunting or harassment of marine mammals and other species in our waters." The announcement was made at a press conference during Oceans Day at the meeting of the Conference of the Parties to the Convention on Biological Diversity in Nagoya, Japan. To date, Palau has given support to Japan's efforts to overturn the global ban on commercial whaling. [www.ipsnews.net/news.asp?idnews=53280](http://www.ipsnews.net/news.asp?idnews=53280)

The United States Fish and Wildlife Service expanded federal protection areas for manatees in Citrus County, Florida, creating a refuge that includes all of Kings Bay in Crystal River. The manatee refuge went into effect 15 November. This emergency rulemaking will provide manatees greater access to critical warm water areas during the winter months and address public concerns associated with local, wintertime manatee viewing activities. [www.fws.gov/home/feature/2010/KingsBayManateeRule%20PressRelease.pdf](http://www.fws.gov/home/feature/2010/KingsBayManateeRule%20PressRelease.pdf)

[www.tampabay.com/opinion/editorials/manatees-get-much-needed-protection-from-harassment/1133939](http://www.tampabay.com/opinion/editorials/manatees-get-much-needed-protection-from-harassment/1133939)

The United States National Marine Fisheries Service (NMFS) is financing a study of survival of seals released after rehabilitation at a stranding center. "We have some interest in knowing whether or not rehabilitation ultimately results in the animal surviving," a NMFS official explained. Ten seal pups, nursed back to health at a stranding center in Washington State, were chosen to participate in this "new, first-of-its-kind study in Puget Sound." Scientists have tagged 10 rehabilitated seals and 10 from the wild and will track them over the next year to see how their "fates compare." An article on the project concludes, "The study could help answer big questions, including whether rehab efforts should be undertaken at all." [www.spokesman.com/stories/2010/oct/31/seal-rehab-costs-plenty-so-survival-to-be-studied/](http://www.spokesman.com/stories/2010/oct/31/seal-rehab-costs-plenty-so-survival-to-be-studied/)

NMFS has officially determined that a recent spike in bottlenose dolphin strandings in Florida's St. Johns River is an unusual mortality event. Nineteen dolphins stranded between early June

and mid-September. The strandings may be linked to a massive fish kill in the area. Strandings have tapered off and NMFS is investigating. <http://floridaindependent.com/11894/spike-in-dolphin-deaths-officially-an-unusual-mortality-event>

NMFS scientists estimate the Cook Inlet beluga whale population at 340 animals, up from the 2009 figure of 321. However, analysis over the past decade shows a gradual downward population trend of 1.1% annually. Aerial surveys were conducted in June. [www.fakr.noaa.gov/newsreleases/2010/belugapopulation.htm](http://www.fakr.noaa.gov/newsreleases/2010/belugapopulation.htm)

NMFS has listed the southern distinct population segment of the spotted seal as threatened under the Endangered Species Act, strictly regulating importation of the animal or its parts into the United States. This population of seals can be found in two bays in China and Russia. [www.noanews.noaa.gov/stories2010/20101021\\_spottedseals.html](http://www.noanews.noaa.gov/stories2010/20101021_spottedseals.html)

NMFS has determined that the Hawaiian insular false killer whale (*Pseudorca crassidens*) is a "distinct population segment" and is in danger of extinction. The agency proposed in the 17 November Federal Register to list it as endangered under the U.S. Endangered Species Act. NMFS is soliciting information to assist in the development of the final listing rule and designation of critical habitat. [www.nmfs.noaa.gov/pr/pdfs/fr/fr75-70169.pdf](http://www.nmfs.noaa.gov/pr/pdfs/fr/fr75-70169.pdf)

NMFS is reviewing and revising critical habitat designations for the North Atlantic right whale and expects to propose changes in the latter half of 2011. [www.nefsc.noaa.gov/press\\_release/2010/MediaAdv/MA1006/index.html](http://www.nefsc.noaa.gov/press_release/2010/MediaAdv/MA1006/index.html)

LIP Sync is compiled by **Mark Xitco**.

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# IMATA

International Marine Animal Trainers' Association

1200 S. Lake Shore Drive  
Chicago, Illinois 60605 USA



## ALL FOOTAGE MUST BE RECEIVED BY 1 APRIL 2011

### OPENING VIDEOS CALL FOR FOOTAGE!

For the first time ever, at the **2011 IMATA Conference** in Miami, FL we aren't doing ONE opening video, we're doing **FIVE!** Now is your chance to be a part of these videos. To make sure you are represented in these fun and entertaining music video compilations we need you to submit video footage of you and your animals at your facility. Each morning of the conference a new video will be played. **Video footage suggestions for each theme include:**

#### Monday



### DANCE

- Animals dancing
- Trainers dancing with animals
- Hands clapping to the beat
- Arms swinging, legs kicking, body shaking dancing

#### Tuesday



### LOVE

- Kissing animals
- Hugging and cuddling with animals
- Pats on the back and touching your heart
- Smiling and giving high-fives

#### Wednesday



### LAUGH

- Animals laughing and rolling around
- Trainers laughing
- Practical jokes
- Pushing people in the water

#### Thursday



### TRAIN

- Trainers training animals various behaviors
- Target pole work with animals
- Training approximation successes and failures
- Finished high energy behaviors

#### Friday



### SING

- Song = "I've Had the Time of My Life" by Bill Medley and Jennifer Warnes from Dirty Dancing.
- Animals singing and moving their mouth
- People singing the actual words of the song and acting it out
- Be animated and do your best karaoke!

For Complete Details Visit [miami2011.imata.org](http://miami2011.imata.org)