

## RIDIN' THE STORMS OUT

Angi Millwood, Director of Behavior Programs  
DonnaSue Evans, Vice President  
Natural Encounters, Inc., Winter Haven, Florida

### Introduction

During the hurricane season of 2004, Florida endured a phenomenon never before encountered in recorded history. The “Sunshine State” took the brunt of not one, not two, not three, but four major hurricanes! Three of these amazing storms, Hurricanes Charley, Frances, and Jeanne, blew directly through Central Florida and impacted the two animal facilities maintained by Natural Encounters, Inc. (NEI).

NEI’s primary facility, a 34-acre ranch located in Winter Haven, is approximately 30 miles southwest of Orlando. Maintaining over 200 animals, the ranch is utilized for housing, training, and breeding of an extensive bird collection as well as a few small mammals. This is also the location for a variety of animal training workshops offered and taught by NEI throughout the year.

Our secondary facility, and the focus of this paper, is inside the Disney’s Animal Kingdom (DAK) Theme Park. This location is home to one of our free-flight bird shows, *Flights of Wonder*, and maintains over 120 individual animals from parrots to cranes to eagles. All of the animals housed in this facility have received extensive handling and training to either participate in our Disney production or to serve as education birds for guest encounters. As it turned out, that training made all the difference in how these animals were able to weather the storms. It was during these high-stress environments that we realized the enormous impact managing trained animals had in our hurricane preparedness and ride out and the extrapolations that could be made to any captive animal in an emergency situation.

### Hurricane Protocols

Preparations for each storm, as you might assume, followed established protocols that had long been in place. Functioning under the Disney umbrella, our first point of reference was the *Walt Disney World Resort Hurricane Emergency Management Plan*. After all, as contractors, we were expected to adhere to all DAK protocols including the timelines stipulated for the park to be in lock-down (meaning no one was allowed to enter or exit the park), who was allowed to remain on property with the animals during the hurricane, appropriate lines of communication to use at specific stages of the ride-out, and so forth. The storms were divided into 6 phases. The table below illustrates these phases specific to the Flights of Wonder Show.

<b>Phase 5</b>	<b>Monitoring – storm possible</b> Review current plans and checklists, review personnel and resource availability for ride-out crew, verify contact numbers and emergency data.
<b>Phase 4</b>	<b>Storm likely within 24-36 hours</b> Brief personnel, begin gathering needed supplies.
<b>Phase 3</b>	<b>Storm probable within 12-24 hours</b> All pre-determined emergency supplies delivered, intensify clean-up and tie-down, label and preparation of all temporary animal crates, preparation of animal diets for ride-out.

<b>Phase 2</b>	<b>Storm impending within 6-12 hours</b> Complete all clean-up and tie-down, authorized ride-out crew and animals report to designated shelter, unauthorized crew are released to go home, animals in outside holding are crated and moved into the bird show building for security.
<b>Phase 1</b>	<b>Storm imminent, take shelter</b> Shutdown all activities. All ride-out crews remain in designated shelters.
<b>PSP</b>	<b>Post storm phase</b> Damage assessment and situational reports submitted. Establish a positive business resumption schedule for DAK show, notify staff with timeline on reporting back to work as soon as practical.

We had also created an NEI Hurricane Protocol to address our specific additional needs. This protocol covered needed supplies, placement of animals and equipment as well as key staff to contact and how to reach them (cell phones are a wonderful thing). A similar, yet slightly less rigid due to differences in security, protocol was in place at our ranch facility. Having said that, our protocols had never been previously tested. That was about to change.

### **Making Preparations: Phases 5-4**

As the first hurricane began brewing in the Atlantic, there was a mere murmur about it among the staff (and most Central Florida residents in general). Most of us had lived in the area for many years and were utterly confident in the assumption that hurricanes wouldn't come far enough inland to have a substantial impact on us. We were accustomed to intense storms and high winds, but a hurricane in Orlando? Come on! So, with a roll of our eyes at the weather forecaster's predictions that Hurricane Charley would indeed make it to our doorstep sustaining hurricane force winds, we went about our daily tasks with a mere glimmer of interest.

However, as Hurricane Charley grew closer and showed no signs of slowing, and in addition, changed its track from bypassing us to the north to hitting us head-on, we had little choice but to take notice and begin preparations. Given that none of us had experienced a storm of this magnitude in Central Florida, it is no surprise that we learned a great deal from this initial storm that fostered more efficient preparations in the storms to come.

The first order of business for each hurricane was to determine ride-out crews for DAK and the ranch that would remain with the animals throughout the storm. Although the staff at our ranch facility changed with each storm due to availability, we, the authors, rode out each storm at our DAK facility as a team.

As we began preparations, rounding up supplies, securing everything that wasn't a permanent structure and determining how best to situate all of our animals, the first storm found us flying by the seat of our pants at times (bad pun intended). With each hurricane, however, our efficiency and confidence increased. By the time we were preparing for Hurricane Jeanne to roll through, preparations seemed old-hat.

### **Experiencing the Outer Bands: Phases 3-2**

It was during phases 3-2 that the action really shifted into high gear. This was also the time frame when our collection first demonstrated for us the inestimable benefit of working with well-trained, flexible, confident animals.

Once all static items were secured, supplies were in place, and the facility had been checked and double-checked, the staff began preparing to relocate all of our birds residing in outside enclosures to the inside of our concrete bird show building or the inside of our parrot/ bird of prey building. The staff cleaned and labeled appropriately sized crates (large enough for them to remain in for 24 hours if need be) with each animal's name or group.

During Hurricane Charley, we were skeptical that all of the birds would crate on cue. Yes, these birds are fully trained for show behaviors. Yes, they voluntarily go into crates several times per day on a daily basis to be taken to their release points, then voluntarily run into different crates to be taken back to their enclosure. Yet, somehow, we were convinced this situation was different. Our inclination was that they would sense the different context, would be nervous about the change in air pressure and weather due to the impending storm, and would require coaxing and/or force under these unusual circumstances. We were wrong.

They amazed us. During each storm they crated as if nothing were unusual – as if the winds weren't whipping around at ridiculous speeds, as if it weren't raining (as a side note, we usually do not do shows in the rain due to the risk to the electrical equipment), as if we weren't all wearing clothes they were not accustomed to seeing us in, as if there wasn't a palpable electricity in the air.

The process couldn't have gone more smoothly. The trainers simply placed each labeled crate in front of the appropriate pen. Then when we felt we couldn't safely wait any longer (we wanted to avoid undue length of time in the crates), we opened the crate doors, gave the crate cue as usual, and almost every animal responded without hesitation. Alright, so it wasn't 100 percent. They're not animatronic, after all, even at Disney! They did however, consistently respond as well as they do for any given show, from the first hurricane to the last.

### **Weathering the Storms: Phase 1**

Phase one of the hurricane protocol is when we experienced the true force of each of the storms. It is the time period when the hurricane passes through, bringing the strongest winds and inflicting the most damage. At this point, all animals should be securely where they will ride out the storm and staff should remain inside a designated building (in our case, it was the bird show building) until the storm has passed. As anticipated, little during the first hurricane went as planned.

It was during the first intense wind gust of Hurricane Charley that we began to question the strength of our parrot/ bird of prey building. The combination of watching businesses and homes on the television news having their roofs effortlessly peeled off and hearing our own metal roof creaking and flexing with the pressure of the intense gusts heightened our concerns. The one animal that seemed the most vulnerable in her location was our Harpy Eagle, Imataca.

Normally residing in one of our outside enclosures and too large to fit into even our largest crate comfortably, we had tethered her to a large, extremely heavy, perch in an open space between our parrot row and our bird of prey mews. Behaviorally, she seemed completely relaxed. It was we who were worried. So, between storm bands, but still in rain and high winds, we relocated Imataca to the more secure cement block bird show building. Owing to the Harpy Eagle's experience and comfort being handled by multiple trainers in varied situations as well as being housed in multiple locations, dependent on the season, she tolerated the move beautifully. She stepped up onto DonnaSue's glove and appeared more interested in watching Angi struggle with transferring the heavy perch to the show building than in the swirling debris around her.

After all, Imataca is nothing, if not bold – a trait she demonstrated for us more than once during these storms. Also during Hurricane Charley, she gave Angi a jolt by flying to and attempting to land on a crate right beside where Angi had her legs propped up, watching the news report on television. Once again, Imataca cooperatively allowed herself to be picked up and taken back to her perch (where she was secured with a much shorter tether!) and resumed destroying the catalogs given to her as enrichment. Clearly, the animals were adjusting better to

the circumstances than the staff were, demonstrable by the 10-foot leap Angi achieved at the sight of the Harpy landing next to her. It's also interesting to note that Imataca, whom we assumed to be too young to breed at that point, laid an egg the day after Hurricane Charley and has now been paired with a male from the San Diego Wild Animal Park for breeding. Perhaps the clouds of Hurricane Charley truly did have a silver lining.

Another lesson we learned while riding out these storms was better organization of the bird crates in the bird show building. Most of the crates, as mentioned earlier, were quite large and were usually stacked two-high. What we weren't aware of before it was demonstrated quite spectacularly was that if a large bird pounds hard enough, long enough on a crate door, it may jar it open. An Abyssinian Ground Hornbill who, immediately upon release from his crate, flew to a swinging light fixture above the Harpy Eagle confirmed this particular feat. This led to an entire comedy of errors for the following ten to fifteen minutes involving the Harpy being picked up once again and taken to an adjacent office where Angi's small dog proved much more of a distraction for the eagle than either the hurricane or the hornbill. Once again, due to foundation behaviors such as extensive handling, having a recall or come-to cue and crating, both birds were safely returned to their designated locations without incident. The lesson learned: all birds with the potential to dislodge the doors on their crates are placed with their doors against the walls.

### **Post Storm Phase**

In the end, we found that our animal enclosures were stronger than we anticipated, both at DAK and the ranch, even with large tree limbs on top of them. Of all of the storms, Hurricane Charley inflicted the most severe damage to our facilities. This is potentially simply due to the fact that Charley took out most of the large trees and unstable branches as well as any non hurricane-proof structures, leaving less for the two hurricanes that followed to feed on. In retrospect, we learned that Charley was the first storm of its strength to reach Central Florida in 44 years. Frances, however, was in fact the largest storm by size to hit Florida in over 60 years.

Overall, we sustained minor damage at our Disney facility including large limbs and portions of trees on our enclosures and on the roof of our show building as well as minor damage to our stage area shade structure. Extensive debris followed each hurricane requiring days of clean up, but not a single bird was lost due to the storms.

Our ranch facility did not fare as well. It suffered extensive damage including complete loss of the 2-story pool enclosure that was functioning as an aviary, and the solar panels adjacent to the primary house (Steve Martin's home). Many of the bird enclosures incurred damage due to limbs or entire trees falling on them, the roof over 3 out of the 4 goat stalls was blown off, and the roof of the quarantine building was completely lost with many of the 2X4s from the building impaling themselves in the intern house next door (luckily, the resident at the time, Jessie, was in the main house during the storm).

Due to the fact that many of the birds at our ranch are either in breeding situations or are in the process of being trained, securing the animals took additional time and effort. Fortunately for us, we have staff with a wealth of expertise on crating animals voluntarily when possible as well as swift, efficient capture and restraint when needed. At a facility housing over 200 animals, all individuals were secured in either the living room of the main house, the garage, or the hurricane shelter, with the exception the small birds in our free flight aviary. This aviary housed approximately 50 small birds including finches, starlings, and rosellas. With the collapse of the aviary during the height of the storm, the birds inside were released. Within the first 24 hours after Hurricane Charley, our staff was able to recapture approximately half of that collection.

Although we can never fully eliminate the risk of losing an animal during an emergency, we can and should do everything within our ability to minimize those risks. Having identified some of the weaknesses in our original hurricane protocol, we are now better aware of the measures necessary to best promote the safety of our collection during severe weather conditions. Our new hurricane protocol reflects those lessons learned.

## **Conclusion**

Weathering the storms throughout the hurricane season of 2004 taught us many things. Most importantly, it reminded us of something that we try to teach people everyday in our business: whenever possible, be proactive. Be proactive not only in acquisition of supplies and equipment for emergency situations, but proactive in how you train your animals. Many behaviors existing in our birds' extensive show-based repertoire proved to be life-saving actions. Even in the midst of a hurricane, strong foundation behaviors allowed for minimal stress and loss of life in our collection.

The same can be said of any zoological institution or any domestic animal in an emergency situation. Solid foundation behaviors such as recall, come, and crate have enormous potential to save an animal's life in an emergency situation. Far from a frivolous undertaking, emergency circumstances do arise. Whether the occasion is an unprecedented hurricane season, a fire, a potential prey animal (or worse, a person) falling into a carnivore exhibit, or any other of the million scenarios possible, managing trained animals improves their chances of surviving whatever the situation may be.

Equally important is active desensitization of pets or exotic animals in your care to a variety of individuals and situations. This training promotes a higher comfort level in the animal when circumstances demand that they cooperate with people with whom they are less familiar. If animals are routinely exposed to new people and these experiences are consistently positive, the animal will likely be much more accepting of strangers or people with whom they have a limited history. We believe this strategy of preparedness through proactive operant conditioning had without question a dramatic impact on our ability to weather these devastating emergency situations in the best interest of our animals. Furthermore, we believe it has the ability to do the same for both domestic and exotic animals in any crisis situation.

## **Acknowledgements**

We would like to give special thanks to the incredibly dedicated staff that makes up the NEI Team. Their camaraderie and unquestioned dedication throughout these emergencies made us remember why we entered this field in the first place. A special thank you to the individuals who rode out one or more of the storms at the ranch: Steve Martin (who, like the rest of us, assumed there was minimal chance that Charley would impact us and so went to the IAATE meetings in Atlanta, then got a speeding ticket doing 95 mph in a 65 mph zone trying to get home – tsk, tsk, tsk!), Wouter Stellard, Jessie Binder, Erik Dyskant, Lindsey Morse, Dillon Horger, Anne Shaw, and Bill Mackin. Thank you to Emily Insalaco, Rob Bules, Kevin O'Brien, Jennifer Jakobsen, Wouter Stellaard, and Ryan Van Zant for your editorial, photography and videography contributions. Lastly, an enormous thank you to Steve Martin for his editorial, photography, videography, and video editing wizardry.