



The Crash

Newsletter for rhino professionals

January 2016

President's Perspective:

Happy New Year! Over the years I've read many articles in our newsletter. This quarter's newsletter has several great articles that I hope inspire you to read on and learn about other ways to take care of our precious charges, our rhinos. The first recognizes our Tom Foose Memorial Scholarship winner Roxane Losey, and shares about one of the most misunderstood topics in captive rhinos, iron storage disease. Then keeper Jenn Fedesna of the Racine Zoo shares her learning experience from our Keeper Professional Development Program. (Jenn it was fun hosting you here in San Diego!) At the end of her article there is a link to see Judy Stephens of the Detroit Zoo share her presentation on KPDP from the RKW 2015. Next is an article from our Crash Editor and Christine Bobko detailing use of boots on a black rhino! This innovation may revolutionize how we care for some foot problems in rhinoceros. Don't forget to be sure to get your pictures in for the 2017 calendar contest!

For me personally in this New Year I'd like to say thank you to all of my colleagues from around the world who sent condolences on the passing of our northern white rhinoceros Nola. As a tribute to her and to rhino keepers worldwide I'd like to share the following...

Tribute to Nola

For over 26 years Nola the northern white rhino had called the San Diego Zoo Safari Park home. As most of us know she arrived here from the Druv Kralove Zoo, Czech Republic in 1989 with her coalition partner Nadi. Neither female had reproduced; both were entering their late teens, a time when most rhino females have already had several calves. Nola and Nadi took quickly to the large open exhibits of the Safari Park. They learned to enjoy the California sun and the large expansive pond in the exhibit. They were both happy. Unfortunately they never fulfilled the dreams that researchers, curators and keepers had for them. Neither female showed consistent interest in the male northern white rhinos they shared their exhibit with. Over the years both females were paired with 3 different males, Dinka, Saut and then Angalifu. Very little mating behavior took place, and as a result the northern white rhino is one of the very few animals we have not bred successfully at the park.

While Nola never had a calf she always had a following. At first it was her keeper staff that had the opportunity to know her intimately. Nola arrived with a toe nail problem that required hands on care. Nola's nails grew a bit curved upwards, so would not wear down normally. As a result keepers had to perform nail trims on her so she could walk less flat-footed, something that had she been left in the wild may have lead to her early demise. Nola received pedicures her entire life, at the hands of her keepers in Druv Kralove, and then at the park. Over the years most of the animal care staff has worked with her, meaning they all knew her quite well. Nola learned early on to trust the humans, they always wanted the best for her.

Because Nola was so tractable she also became an artist! A few years ago she started "painting" by rubbing her horn (which naturally curved downward) on canvases with children's non-toxic paints. Keepers learned that not all children's paints are the same! She actually had preferences for one brand over another based on the smell. Rhinos have very good noses and she made her preferences known. As most of us know she went on to paint pictures for auctions and rhino fund raising campaigns. She also painted a piece for the state capitol which was presented to Toni Atkins, California Speaker of the House.

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"Nola" and her artwork!

The recent deaths of 3 other northern white rhino have spurred many into action. In October 2014, 34 year old "Suni" died of natural causes in the Ol Pejeta Reserve in Kenya, leaving 6 NWR left in the world. Then in December 2014 our beloved bull "Angalifu" (Angi to his keepers) died here at the Safari Park leaving us at 5. Then in July we lost female "Nabire" at the Druv Kralove Zoo in the Czech Republic. She was one of only 4 northern white rhino ever born in captivity. She died from a ruptured cyst at age 31. And now with the loss of Nola we are down to 3 northern white rhino in existence on the planet, all at the Ol Pejeta Reserve. All 3 are not reproductive, so the Ol Pejeta will have the distinction of being where the northern white rhino goes extinct. In the meantime Nola will still have her following even though she has passed. Her body has been donated to the Smithsonian Institute's Natural History Museum, where she will live on in posterity representing her species, the northern white rhino.

Yes, we lost our dear sweet Nola but what we need to keep our perspective on is what is happening worldwide to rhinos. EVERY DAY more than 3 rhinos die due to poaching for their horns. In 2015 1,170 rhinos died in South Africa alone...part of the mission of the International Rhino Keeper Association is to help stop or slow this tragic situation.

When Nola passed your responses to me and the staff at the park was overwhelming, sharing in our sadness and remembering the loving nature of our gentle giant. We received flowers, cards, letters, and emails from around the world saying they felt our loss too. I had 70 people post to my timeline the story of her death! Amazing, this one rhino died and the world took notice...

For me personally her death has given me something else to notice, we need to complete the mission and purpose of the IRKA. Nola gave us hope and love, but most of all she showed us courage. She had been so strong for the last few months of her life battling her illness. It's her "I'm not giving up" attitude that has inspired her keepers to keep on. She's wasn't just passing the time, Nola had been living. Here's my final thought about my friend Nola. I'm not going to give up on any rhino, ever. God wants us to do what's right for all species, not just northern white rhinoceros. Thank you for being part of the team that knows the right thing to do for rhinos. Thank YOU International Rhino Keeper Association members for caring about all rhinos. What WE do does make a difference.

Jane



The talented "Nola" painting a masterpiece!



I'm Done!

IN MEMORY OF NOLA

2017 Rhino Calendar



TAKE A PICTURE - SAVE A RHINO!

The International Rhino Keeper Association is sponsoring a rhino photography contest. 12 winners for the contest will be featured in the 2017 Rhino Conservation Calendar.

Photo submissions are being accepted from February 1st - March 7th 2016

Only 1 photo submission per photographer (3.9 mega pixels or 250 pixels per inch)



E-mail Photos to: IRKACalendar@gmail.com
Contest details can be found www.rhinokeeperassociation.org
Photo by: Mike Veale, Northern White Rhino 'Nola' - San Diego Safari Park, California, USA

Tom Foose Memorial Scholarship: Roxanne Losey

Life has a funny way of putting you exactly where you are supposed to be sometimes. I am speaking about my trip to Chester Zoo for the 2015 International Rhino Keeper Workshop. Due to a cross country move and change of jobs my original plans to present on Iron Overload in black rhinos were completely scuttled. Anyone that has spoken to me for more than 3 1/2 seconds, or should I say listened to me, knows my passion for this issue. To say I was disappointed that I could not attend would be a great understatement. Everything changed in early April with a phone call from IRKA president Jane Kennedy "Congratulations, you have been awarded the Tom Foose Memorial Scholarship". I sat in disbelief, somewhere between honored, grateful and confused, but then it slowly sunk in. Between the Tom Foose Scholarship and the generous IRKA grant I would in fact be able to attend and present at the conference.

It was my great honor to present this particular topic with Dr. Don Paglia in attendance. His great passion to combat this disorder is unparalleled and to offer him the final piece to the puzzle, the proof to his theory, will be a moment I will not forget in this lifetime. Coming together with Rotterdam's rhino team and basking in all that they have accomplished in putting together a Large Volume Phlebotomy program was another immeasurable highlight. It is simply undeniable that we were all meant to be at that conference together to make the greatest impact in the community.

Six months have passed and I have had much communication from other keepers that have worked hard to get their pelleted diet changed to Mazuri 5ZIP and even a few that are starting up a Large Volume Phlebotomy Program. I am pleased that I had the opportunity to present usable data and to perhaps be a motivator for other keepers in making a leap with their vet staff and management. I now sit on the board of directors for Mike Veale's Global Conservation Force, who coincidentally was also nominated for the Tom Foose Award and whom I certainly would not have come into contact with had I not been at that workshop. We are extremely busy fundraising and churning out more gear to the rangers fighting the toughest fight for our beloved wild rhinos.

I am so grateful to Don Paglia for his long term endowment to keep the Tom Foose Scholarship active and to the IRKA Board Members that awarded me the scholarship. They put me in a place I didn't think possible, speaking about something so important to the browsing rhino community and unbeknownst to any of us, creating my next venture. My passion for helping facilities combat IOD will never waiver but I am so excited to have a new venue for my energies. I hope every board member that reads this is smiling, realizing what an instrumental role you played in once again putting me right where I am supposed to be, helping rhinos.



Roxanne and Dr. Paglia

Keeper Professional Development Program:

My Safari Park Adventure : Jennifer Fedesna, Racine Zoo



My heart is pounding. I feel nervous, excited, eager to learn, and wanting to help in any way I can. I am standing in an enclosure with several other keepers and veterinarians as we all watch an Eastern Black Rhino, Lembe, chew some grass. One of the veterinarians has a good shot and takes it. The dart flies thru the air and gets Lembe in the neck. Bull's-eye! After several minutes that seem like a lifetime, the rhino lies down and falls asleep thanks to the medications. The medical procedures can begin. This was only one out of many experiences I was fortunate to have while I worked at the San Diego Zoo Safari Park this past December through the International Rhino Keeper Association Professional Development program. When I first learned about this program I became very excited and wanted to participate right away. I had to wait several months but the wait was worth it. I never expected to learn and see as much as I did.

I worked at the Safari Park for twelve days. My first day was quite an eye opener. I am a zookeeper at the Racine zoo in Racine, WI. This zoo is only 32 acres but we have a great variety of animals. Coming to the San Diego Zoo Safari Park (an extremely large zoo compared to mine) opened my eyes on how a large zoo runs compared to the little zoo I am from. I met so many amazing and nice people at the park. Everyone was helpful, informative, and kind to me during my entire stay. On my first day, I saw just how different working at the park can be from the typical zoo setting. I worked mostly with fellow keepers out in the field exhibits. Here the exhibits are up to 65 acres with several different species of animals all living together. Most of the animals in these exhibits I have never worked with in my short zookeeper career. Most days I would go with either one or two keepers, load up the truck with hay and grain, and then head out to the field. We would drive into the exhibits, count each species to make sure everyone was accounted for, and pass out food at multiple feeders. This took several hours depending on which routine I was on. Being able to observe the animals and interact with them in a more natural setting was amazing to me. It was very weird for me at first when I realized the only thing between a rhino and myself was a truck door instead of bolsters but I got use to it and comfortable with it.



Jenn scratching down 46 year old southern white rhino bull "Chuck."



Jenn with hand raised giraffe calves Lery and Congo.

There were multiple days when medical procedures had to take place out in the field. I was able to witness and help with several immobilizations of animals including a South African Kudu, Scimitar-Horned Oryx, Angolan Roan Antelope, Eastern White-Bearded Gnu, two African Lions, and an Eastern Black Rhino. All of these immobilizations were amazing to watch, help with, and learn from. Learning how to hold a sedated animal's head correctly while a veterinarian does what he or she needs to do to the animal was one of the most valuable lessons I learned from this experience. I held the head of the young male White-Bearded Gnu during his procedure until he was ready to stand up in the horse trailer. I was nervous of course all the way up until the end but I am very glad I did it. I now feel more confident in my abilities when it comes to immobilizing hoof stock.



Jenn helping Safari park staff and senior keeper Mike Veale, IRKA member, by holding the head during a gnu immobilization.

Continued Keeper Development....



Jenn feeding greater one-horned rhino calf "Chutti."

Baby animals in my opinion are adorable. I was very lucky to have the opportunity to bottle feed a baby giraffe and a Great One-Horned Rhino several times. Of course no one had to twist my arm when it came time to help babysit a three-month-old Sumatran Tiger either. At the Animal Care Center I learned how to make different kinds of formulas for hand raising animals such as rhinos and tigers.

Shipping out an animal at my zoo is not an every day occurrence, especially a rhino. During my days at the park I watched the transportation of a female Great One-Horned Rhino. The planning was extensive, involved many keepers working together as a team, and patience. Everyone wanted to get the rhino successfully into her crate on the first try. This happened with great success all because of great teamwork and cooperation from the rhino. She wasn't the happiest being in the crate but she calmed down. She was kept overnight in the crate in another part of the park so the transportation company could have easy access to her. The truck that came the next day to get her was extremely large. It took a telehandler forklift machine to be able to lift up the crate and place it into the truck. The entire loading process took over a couple of hours.

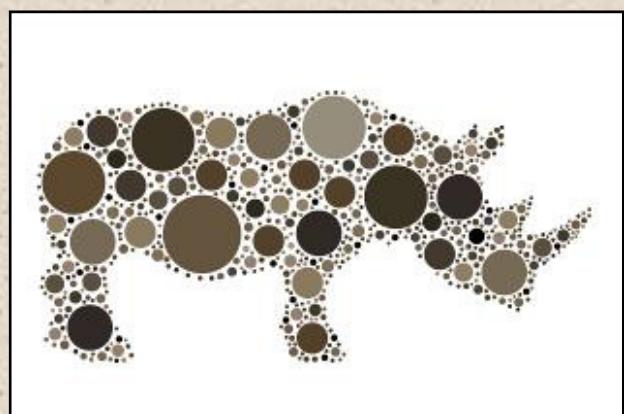
The San Diego Zoo Safari Park has begun a Rhino Rescue Center where research can be done on Southern White Rhinos in hope of saving rhinos from extinction. About a month before I came to work at the park six Southern White Rhinos were brought over from Africa. I was extremely lucky to spend a day with these rhinos and their keepers while they were still in quarantine. Since I have never been to Africa yet, seeing six wild female rhinos up close was marvelous. The two keepers I worked with said that little is known about the lives of these six girls before coming here to San Diego. If only the rhinos could talk. Four out of the six girls have already become somewhat comfortable with direct human contact. They are all getting along extremely well too. The keepers were working with name recognition with each rhino as well as shifting from yard to yard when asked. I was able to see these training sessions. The six girls have come so far in only a month's time.

This experience at the San Diego Zoo Safari Park was a once in a lifetime experience for me and something I will never forget. If I wrote about everything I learned from this experience, I could go on for several more pages. I would recommend this to any keeper interested in learning more about hoofstock species, especially rhinos. Thank you to every keeper at the Park who helped make my experience an amazing one.

Keeper Professional Development Program: Judy Stephens

Rhino Keeper Judy Stephens, from the Detroit Zoo has taken full advantage of special programs that the IRKA has to offer. She has attended every single one of the Rhino Keeper Workshops! Additionally, Judy decided to broaden her experience, specifically in foot care, by visiting the San Diego Zoo Safari Park on a Keeper Professional Development Program. She had the opportunity to shadow keepers, learn first hand how to perform foot and nail care techniques, and then apply them to the rhinos at the Detroit Zoo. That's the kind of keeper who is truly committed to her work, way to go Judy! To read Judy's presentation from the 2015 Rhino Keeper Workshop, please click on the link: http://media.wix.com/ugd/3e5e65_65e8ddaf98094c0b890646ebb6b479bf.pdf

To learn more about the Keeper Professional Development Program, please visit our website: <http://www.rhinokeeperassociation.org/#professional-development/c22qo> or contact Joe Hauser for details, jhauser@buffalozoo.org



Innovative approach forges rhino footwear :

Tye Chandler, Marketing Associate : Fossil Rim Wildlife Center

An angel gets its wings, and at Fossil Rim Wildlife Center, a rhino gets her boots.

Coco, a 25-year-old southern black rhino, has lived at Fossil Rim since 1995. At age six, she began to have issues with her right front foot.

"We've treated it a number of different ways," said veterinarian Dr. Holly Haefele, director of animal health. "In 2009, we put a boot on for about a month and got good resolution to the problem for about five years. In August 2014, she started having trouble with the right front again. We think there potentially used to be (a foreign object) in there that flared up in the foot pad and opened up a hole. "Even if nothing is in there any longer, maybe now it's hard for normal tissue to grow back. We tried to address it again last spring, but we've had trouble keeping boots on her and didn't have any of the success we had with the boot in 2009."

Adam Eyres, hoof stock curator, estimates that 20-plus boots constructed of various materials have been made for Coco over the years, but none proved to be a permanent solution. In fact, Coco recently developed problems with her left foot as well. "Now, Coco has a lesion on her left front foot, too, from bearing weight on it because she favors her front right," Haefele said. "We noticed it (last April)."

Enter Christine Bobko, president of Diceros Boots LLC and rhino keeper at the Denver Zoo. She has brought cutting-edge technology to the rhino boot market. The black rhino is her specialty. "I developed this boot in conjunction with a medical case for one of our black rhinos," Bobko said. "I was trying to do the same thing you all are trying to do here – keep the foot clean and dry. In conjunction with an artist, Landen Meier of Hyperflesh, we came up with a way to cast very quickly to make custom-formed elastomer boots.



Minutes after receiving her Diceros Boots, Coco takes them for a spin with a trot in her pen.

"They are super soft. For a rhino, it's like having their own Dr. Scholl's insole. We have a patent filed and are expanding to the canine and equine industry."

Having worked with rhinos for 27 years, Bobko has known Eyres for about 25 years.

"I presented a paper at the (International Rhino Keeper Association) workshop in Chester (England) this past June on our whole process and the treatment case of our rhino," she said. "Justin (Smith, Fossil Rim senior animal care specialist – hoof stock) was there, and he told me afterwards that he had the same rhino case at Fossil Rim. From there, I talked to Adam and sent photos of what we were doing."

"I feel like we produce a good product, and the problem (at Fossil Rim) has been trying to keep anything on the feet of this rhino. Our product is so custom-formed that there is a high likelihood we'll be able to keep this boot on (Coco) for at least two weeks."

Before Bobko made the trip to Fossil Rim Oct. 16, Coco's last immobilization was June 15. "We cleaned her feet at that point," Eyres said. "When we have the boots (from Christine), we'll clean her feet again and allow the wounds to heal. The critical thing is to protect the holes in her feet from further infection. That's what the boots will do."



During Christine Bobko's initial visit in October, it was all hands on deck with 22 people from Fossil Rim and other institutions working and/or observing



Making the mold

When Bobko initially arrived at Fossil Rim, the plan was to figure out what size Coco's boots needed to be while also performing various health assessments and keeping her safe. "Compared to sedating one of our other animals, rhinos and giraffes are different because of how much they weigh and the pressure that puts on their organs," Eyres said. "You worry about how long they are down."

"To keep medication on the wound and keep it clean – that's why we want to have a good boot," Haefele added. "We had to get Christine the info she needed so we can try the new technology of her boots."

The key for Bobko was to come away with a silicone mold of each front foot. "We had to make molds of both front feet, because you can't assume they're exactly the same and every boot is custom-made," she said. Weighing just over four pounds each upon completion, the new boots' soles are urethane, the orange portion of the upper is silicone and the black portion is Gore-Tex. "These are orange because that type of silicone provides better flexibility and strength than the purple version I brought initially as an example," she said during her return to Fossil Rim. "If needed, we could customize the color."

While Bobko and her husband Brian Teasdale, boot engineer, were getting the measurements they needed during the October sedation, Haefele and others on the scene had plenty to keep them occupied. "We had to monitor her anesthesia level and how she was doing physiologically," Haefele said. "Such a big animal can end up in trouble while immobilized with issues like muscle trauma while laying on one side, not breathing well on opioids or any number of things. Dr. Nancy Lung, the head vet at the Fort Worth Zoo, was in charge of monitoring the blood gases. Coco actually did really well and is a good anesthetic patient."

As Coco's feet were being cleaned and having the silicone applied, Haefele took measures to treat and protect her. "We put tourniquets on her (front) limbs to concentrate antibiotics in those areas for about 25 minutes during the immobilization," she said.



Brian Teasdale, Diceros Boots engineer, preps to make molds for each of Coco's front feet. After mixing, Teasdale had a short window of time to apply the silicone and molding strips to the rhino's feet before the solution solidified.



Brian Teasdale applies silicone to molding strips that were wrapped around each of Coco's front feet in order to form molds leading to the creation of her boots.

Haefele also radiographed the rhino's feet to make sure the bones in her toes weren't changing due to infection. "We also gave her IV fluids and drew blood," she said. "She is our only rhino that won't stand, unsedated, to have her blood drawn." On that note, Coco is the lone rhino that won't allow herself to be hand injected for sedation, so she had to be darted as the staff might do for an animal like a zebra.

Even with Bobko in town, Haefele and Eyres were still driven to discover a successful boot option of their own. "We've been talking about trying to get someone to build her a leather boot, which would hopefully stay on and be lightweight," Haefele said. "We did a cast of her foot to give a bootmaker her dimensions. I hope Christine's boots work, but there is no problem with having multiple options."

Team effort

There were 22 people on the scene during Coco's October immobilization, which lasted roughly 90 minutes, including Fossil Rim staff, Bobko and her husband, Fort Worth Zoo staff, Abilene Zoo staff and Dr. Lisa Stephens, an equine vet from Weatherford. Although several people were specifically requested to be there, Eyres said many were present because Fossil Rim is "a teaching facility."

"With a rhino immobilization, you need a certain number of people there in case you need to move it," Haefele said. "I love having Dr. Stephens there, and she enjoys helping us out often. Dr. Lung has done a lot of rhino immobilizations, so she brings great experience. I can't concentrate on the feet and monitor Coco's anesthesia, so we parse those things out."



Brian Teasdale paints silicone onto the molding strips wrapped around Coco's foot during the process of creating a mold for each of her front feet.



Brian Teasdale removes the silicone mold from Coco's foot. The zipper for the actual boot was applied where he made the split in the mold.



Christine Bobko and Coco's mold

"Plus, when you have a black rhino immobilization, we try to offer that opportunity to people from other institutions. A lot of zoos don't do them often, and the doctor from the Abilene Zoo had only participated in Indian rhino immobilizations before. You can never see enough of these, because every time you do, they're different."

Bobko estimated it could take up to three weeks to get Coco's boots ready, after which point she planned to return from Denver.

"This product concept was developed for the love of a very special rhino named Mshindi that I worked with for 21 years and created 29 variations of boots for," she said. "Now, his spirit drives everything we're doing, and that's what is at the core of Diceros Boots. Our mission is "saving species one step at a time". The people at Fossil Rim have been amazing to work with, and I can't express my gratitude in being given the opportunity to possibly help Coco."

Eyres remained hopeful that if the boot fits, Coco will wear it.

"Christine is starting up her company, and this could be a win-win," he said. "If we get a good product, she gets good press out of it and then more customers."

Time to build



Michael Birt, animal care specialist – hoof stock, holds up one of Coco's back legs to keep her blood circulating during an immobilization.

When Bobko returned to Colorado, there was plenty to be done.

"From the silicone mold we got during our first trip to Fossil Rim, we had to make a female plaster mold," she said. "There were certain modifications that had to be made to it. We put a smoothing compound over the entire silicone mold, and then I hand-sanded all the irregularities out of the plaster mold to prevent rubbing inside of the boot. After the boot is formed, the next step is internal sewing. "Brian uses two industrial sewing machines for that. The final step is sewing the bottom piece onto the boot (upper). All in all, it's a four-step process with about 40 hours of work on each boot."

With the process for these Diceros Boots still in its infancy, Bobko is looking to upgrade the process. "We now have a 3D imager and a 3D printer, so we're trying to make our process more high-tech," she said.

While Bobko can't make the plane trip every time the boots need to be taken off, she said it shouldn't be an issue for Fossil Rim staffers.

"It's not complicated to take the boots off and put them back on properly," she said. "You line the front of the boot up with the zipper at the middle toe. You can just take antibacterial soap, wipe the boots down and then air-dry them."

Coco gets booted

Flash forward to Nov. 30, and Bobko was back at Fossil Rim with the aforementioned orange boots. With a slightly different, and smaller, cast of characters on scene, it was time to sedate Coco and put her boots on. The weather had cooled considerably from mid-October, so she was sedated inside the rhino barn as opposed to an outside pen.

"Compared to the sedation the first time Christine was here, I desensitized Coco to be locked in the barn at night for two weeks leading up to this procedure," Smith said. "It reduced the amount of stress on Coco significantly and allowed the procedure to be done regardless of the weather outside."

Before the boots went on, Haefele and the animal health personnel underwent a similar routine to Coco's last sedation, but with some variations such as an even more thorough cleaning of her front feet. "We were more aggressive in cleaning and trimming (the wounds) this time because we knew we'd be putting boots on, so we asked Dr. Dustin Dorris, an equine vet from Stephenville, to join us," Haefele said. "He actually worked on Coco back in 2009 when we treated her right front foot aggressively. His specialty is working on feet, so we requested for him to come out."



Fossil Rim staff and colleagues work diligently to complete the task at hand.



After Dr. Lisa Stephens, a Weatherford-based equine vet, prepares the angle of the portable x-ray machine and then steps away, Justin Smith, senior animal care specialist – hoof stock, and Dr. Holly Haefele (right), director of animal health, take an x-ray of Coco's foot. Haefele wanted to verify that a wound on the bottom of the foot hadn't resulted in a bone infection

While the wound on her left foot had become deeper since October and required extensive trimming, the wound on her right foot was now shallower. "We don't know why she continues to have problems, but it's interesting that the two trouble spots are in exactly the same area on each foot, which makes you think that area receives the most pressure when the animal is standing," Haefele said. "We don't see on the x-rays that there is (a foreign object) in there."

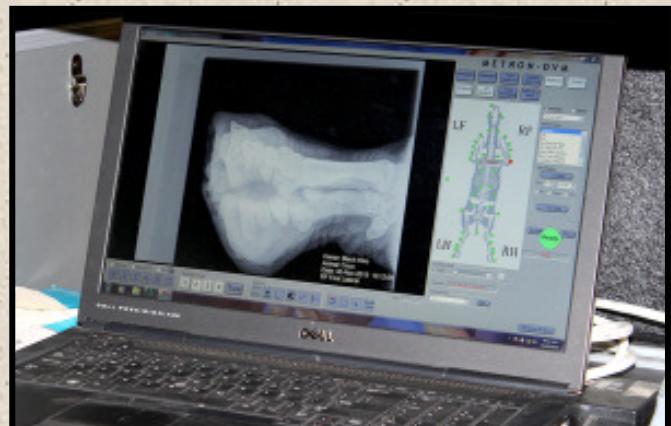
After all medical procedures were done and bandages applied, Bobko put each boot on and Coco was revived in order to try out her new footwear. "I was really pleased that putting on Coco's boots went very smoothly," Bobko said. "She has a much bigger (front) foot than the (back) foot of Mshindi, which was an eastern black rhino. This was our first time dealing with front feet, so there were additional considerations because we didn't want to impede the natural gait she has in her front feet while keeping her weight equally distributed. It was challenging, for sure, but when she trotted with the boots on I could see she was able to flex naturally."

If Coco would just keep the boots on through the first night, Bobko liked the chances of the boots making it the desired two weeks before they were to be removed for cleaning of feet and boots alike.

"It comes down to durability," she said. "Coco is the first rhino we're targeting to wear the boots that long. You need something waterproof, breathable and durable. She's an outside rhino, so it will definitely be a good trial for these boots."

Haefele was also optimistic following the procedure.

"I'm really pleased with the boots," she said. "Coco seems less angry and actually came up to the fence later during procedure day and presented her foot to Justin like she's been trained to do, which is a good sign the boots may be helping her feel better. They've also stayed on, which is great news."



Immediately after an x-ray is taken of Coco's right front foot, it is displayed on the laptop screen for evaluation.

After partaking in a second rhino sedation at Fossil Rim, Bobko saw consistency in the procedure.

"Especially with such an endangered species, you're going to have everyone pulling together for the work we did on Coco," she said. "The Fossil Rim staff is experienced in immobilizations, and everyone knows their role, so you seamlessly fit in on trying to help. You don't want these large animals down for a long period of time, so you need well-oiled execution."

The synergy among those in the rhino barn didn't go unnoticed by Haefele either.

"The Fossil Rim team, of which I consider Lisa and Dustin honorary members at this point, is excellent," she said. "That latest procedure was slick, fast and everybody knew what they were supposed to do. Dr. Stephens and Dr. Dorris are very busy veterinarians, but they make time for us pro bono to come do this work, which is spectacular. Christine is making time to build the boots and flying down to participate, so we're fortunate to have such great partners in this."



Dr. Dustin Dorris applies a cleansing solution to the wound on Coco's left foot. During both immobilizations, tourniquets were applied to Coco's front limbs to concentrate antibiotics in those areas.



Dr. Dustin Dorris cleans Coco's right foot before bandages are applied and her Diceros Boots are put on. Although it was the original foot to sustain a wound, the right foot healed more successfully than the left since Christine Bobko's first visit.



Shortly before they are put to use, Christine Bobko shows the Diceros Boots that were constructed specifically for the southern black rhino Coco that suffers from open wounds in both front feet.



An eye on the future

Smith added to the contentment in the moments that followed Coco getting her boots on.

"I feel very fortunate to have gone to the conference in England and learned about Christine's project," he said. "Then, (senior staff members) Adam, Kelley (Snodgrass) and Holly supported my thought that this was the best thing for Coco. Christine came out to get a fit for the boots and now they are on the rhino. It's amazing, and I feel really good from the day-to-day care standpoint."

"I'm excited to see how they hold up. Seeing Christine's progress with a boot that can help many animals if it takes hold is very encouraging. Thanks to everyone who helped us with this, including the veterinarians Lisa, Dustin, Holley and Julie (Swenson), as well as the hoofstock staff and interns."

An equine vet told Bobko the "boots could revolutionize the treatment of pachyderms."

"Our niche in the market is a treatment boot, and we hope to expand into equine and canine boots," she said. "But rhinos are my passion, so I'm always going to be involved with them and hopefully this is a way to give back to them."

Speaking of giving back, these efforts may help Coco do so for the black rhino population.

"If infection ever reached the bone of her toe, we'd be in trouble because it's very difficult to heal," Haefele said. "So far, so good. If we can get her feet to heal, maybe she'll stand normally with even weight distribution. Coco has been a great breeding animal, so if we can get her feet feeling better, we'd love for her to get pregnant again."

Coco's new boots!

“Rhino Buddies”

Sponsor an IRKA Professional Membership for an International Rhino Keeper!

For \$25 a year, you can sponsor a Rhino Keeper from around the World whom may not have the means to pay for their own IRKA Membership. If you sponsor a Rhino Keeper, you will be connected to the Rhino Keeper you are sponsoring via email so you can keep in touch, share ideas, learn about other countries and cultures, and in particular, learn about each other's rhinos!

If you are interested in Sponsoring a Rhino Keeper, please email Jennifer Conaghan at jconaghan@zoo.nsw.gov.au with your name, email address, institution, and species of rhino you care for.

*Note: Please be aware that English may not be your sponsored Rhino Keeper's first language! If you do speak a language other than English, please let us know. Otherwise, please be understanding of the language barriers and remember- you are both share a passion for RHINOS!



Correspondence Updates:

The IRKA send our congratulations and celebrate with the following institutions:

- San Francisco Zoo: Oldest black rhino in North America “Elly” celebrates her 48th birthday!!
- Chester Zoo: birth male black rhino
- Knowsley Safari Park: birth female white rhino
- White Oak Conservation: birth of male white rhino

Birth of female GOH rhino

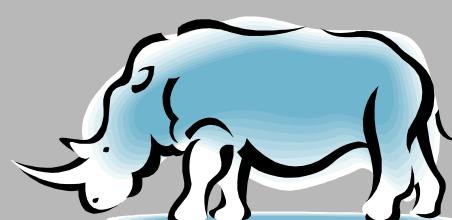
The IRKA sends our condolences to the following institutions:

- San Diego Zoo Safari Park: Death of beloved Nola, the last Northern White rhino in North America.
- Re-acquisition:

Male Sumatran rhino Harapan leaves Cincinnati Zoo for new home at Sumatran Rhino Sanctuary!



CREW Cincinnati Zoo



2015-2016 New and Renewing Members to IRKA

Caitlinn O'Brien	
Natasha Ryles Walker	Monarto Zoo
Anita Scalf	
Jason Faessler	Nashville Zoo
Robyn Johnson dom	Disney's Animal King-
Jayne Hoffman	Little Rock Zoo
Henry Opio Center	Uganda Wildlife Ed.
Jennifer MacNaughton	Busch Gardens Tampa
Garry White	Zoo Ausburg
Barbara Hammershoy	
Susan Petrunio	Knoxville Zoo
Louis Keeley	Blank Park Zoo
Amy Rose	
Michele Huck	
Mark Marquardt	
Katherine Heffernan	Great Plains Zoo
Victoria Salmons	Kansas City Zoo
Kate Clemens	Birmingham Zoo



Supporting Institutions New or Renewing:

- ◆ Zoological Society of San Diego
- ◆ The Wilds
- ◆ Tulsa Zoo & Living Museum
- ◆ Tanganyika Wildlife Park
- ◆ Henry Vilas Zoo
- ◆ Taronga Zoo
- ◆ Taronga Western Plains Zoo
- ◆ The Horns and Heroes Project
- ◆ Potter Park Zoo
- ◆ Maryland Zoo
- ◆ Fossil Rim Wildlife Center
- ◆ Buffalo Zoo
- ◆ White Oak
- ◆ Cincinnati Zoo & Botanical Gardens
- ◆ International Rhino Foundation
- ◆ Columbus Zoo and Aquarium

Thank you everyone for renewing your IRKA membership &/or just joining our organization. If you have not been receiving the Crash newsletter or the weekly rhino news emails, please email Sara Steward, Membership Chair, at Sara.Wunder@BuschGardens.com so we can make certain that we have your correct information. To date, we have 250 members & 16 Supporting Institutions.

Institutional Supporters

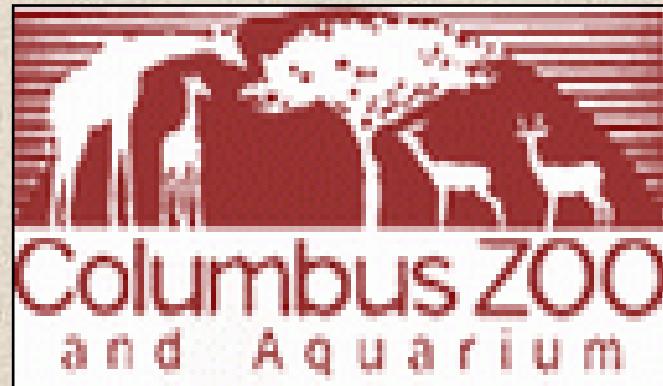
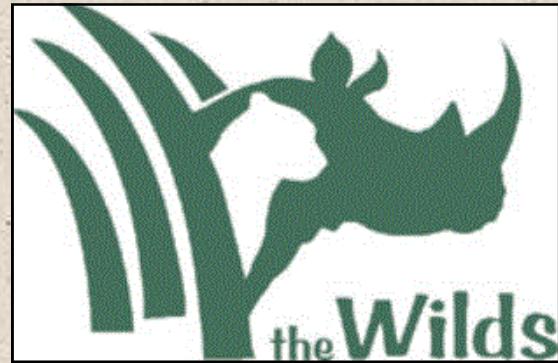
The Supporting Institutional Membership is for any conservation organization , or zoological institution which supports rhino conservation in accordance with the objectives and purpose of the IRKA. These memberships are available for \$100, \$500 and \$2000. Why should your zoo be interested in joining on this level? If your institution contributes on the \$500 level then all rhino keepers membership fees at your zoo are waived! It is important that as the IRKA grows that we continue to garner the support from all facilities that are responsible for the protection and management of all species of rhinoceros. We would like to extend our appreciation for this substantial support to the following institutions, and hopefully we can add your zoo to this growing list! If you have questions about institutional memberships or any other questions please contact us at

internationalrhinokeeperassoc@gmail.com.

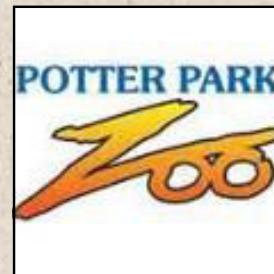
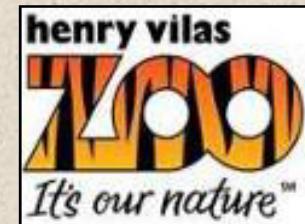
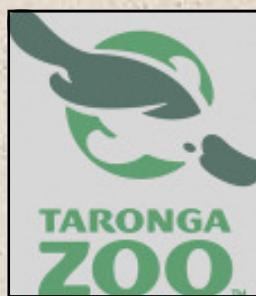
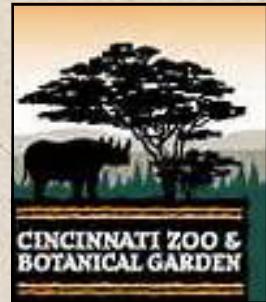
Partners



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2016 Sponsors at the \$500 – \$1,999 level



2016 Sponsors at \$100 level

