WILDLIFE DOCS IN WILD PLACES

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Veterinary rounds for the African wildlife doc can begin before the sun comes up. The game reserves are so large and there are so many reserves located in the Eastern Cape that it can take up to 2 hours to get to your destination, and an additional 30 to 45 minutes to get to the patient’s location.

Dr. William Fowlds is a wildlife doc with an incredibly unique field practice. As a Veterinary Surgeon at the Amakhala Game Reserve, he provides veterinary care for numerous game reserves and conservancies in the Eastern Cape of South Africa. Affiliated with the Wilderness Foundation Africa, he is involved in a wide range of conservation initiatives and is a world renowned rhino specialist and activist. He constantly works to raise awareness of the rhino crises and is actively involved with the Wild Rhino Protection Initiative. He also provides training and education for veterinary students from schools on all 5 continents.

In April 2017, The Wildlife Docs film crew accompanied me to South Africa to spend time with Dr. Fowlds. Dr. Fowlds had been working with Abaxis Global Diagnostics to acquire equipment for his veterinary facility in South Africa, and was interested in the VetScan i-STAT® 1 for field immobilizations to get animal side information that would be useful for patient monitoring and research purposes. Abaxis set up a brand new VetScan VS2 and VetScan HM5, and trained Dr. Fowlds and his staff on the use of the equipment. In addition, Abaxis donated an i-STAT® 1 to Dr. Fowlds and the Wilderness Foundation Africa.

**RHINO PROTECTION**

The black and white rhino populations in Africa are threatened with extinction. There has been a recent resurgence in poaching as rhino horn is peddled as a cure for cancer. The demand for rhino horn is rising, along with the price. To combat this, the Wild Rhino Protection Initiative has four areas of focus: On the ground anti-poaching patrols, increasing security and law enforcement presence, increasing public awareness, and reducing the demand for rhino horn in user countries.

During our visit we experienced firsthand how Dr. Fowlds is involved in protecting rhinos.

Dr. Fowlds received a call about a black rhino bull that had been likely injured in a territorial dispute with another bull. When we arrived at the reserve, the bull in question had been located by helicopter and veterinary staff and game rangers discussed a plan to immobilize the animal, assess its condition, and administer treatment. Dr. Fowlds darted the animal from the helicopter and kept it in sight as vehicles moved in. The immobilization was smooth and the animal went down in an easily accessible location. Rangers blindfolded the animal and placed earplugs to diminish visual and auditory stimuli during the immobilization. While Dr. Fowlds examined the wounds, I collected a blood sample which was immediately taken to one of Dr. Fowlid’s associates for blood gas analyses and chemistries on the i-STAT® 1.
Animal side diagnostics would now become routine for field immobilizations of these magnificent animals. The wounds were treated, antibiotics administered and the bull was reversed for a successful immobilization.

As part of an ongoing project to aid wildlife forensic officers in their fight against poaching, a second black rhino bull was immobilized to collect a tissue sample from the ear and horn material for DNA analyses. Transponders were also placed in each horn and one subcutaneously. One of the problems law enforcement faces if they confiscate rhino horn is proving where it came from and tracing it back to the scene of the crime. By placing transponders in the horns and collecting DNA samples, law enforcement can use the information gathered to convict poachers and place them behind bars.

We visited another reserve during our stay to immobilize three white rhinos related to the same project. The first animal immobilized was a large bull. Its location was determined prior to our arrival, and once again the helicopter was used for darting. Once darted, vehicles converged on the animal. Blindfolds and earplugs were placed, and samples were collected for DNA analyses. This time, instead of placing transponders in the horns, the horns were trimmed down to a level that causes no pain to the animal. Horn trimming is another beneficial tool in anti-poaching efforts. By trimming their horns, the animals are less likely to be targets of poachers, and the horn will eventually grow back.

Two females had also been identified for the same procedures. These two animals typically traveled together. It was hoped that when the first one was darted and immobilized, the second animal would stay in the area and be darted after the first procedure was done. However, the second female did not stay. While a team on the ground and I worked on the first female, Dr. Fowlds darted the second animal before it wandered off too far, and another vet on the ground took a separate team to attend to it.

The procedures were similar to those described for the bull, with a few exceptions. The first female went down on a slope facing downhill. We were concerned that the abdominal contents would put pressure on the diaphragm and compromise respiratory function. She was partially reversed, with blindfold and earplugs in place, and guided down the slope to a flat area. Additional drugs were later administered so that she laid down to complete the procedure. She was reversed and recovered uneventfully.

For the second female, Dr. Fowlds wanted to also measure the effects of hypoxemia with the use of diprenorphine for partial reversal, as it is assumed that partial reversal with diprenorphine might also reduce hypoxemia. One of the concerns with immobilizing rhinos is the respiratory depression and hypoxemia that occurs when administering ultrapotent opioids, such as etorphine. Work has been done recently on partially reversing the etorphine with butorphanol. It has been shown that intravenous butorphanol combined with oxygen insufflation reduces opioid-induced hypoxemia. With the i-STAT®, Dr. Fowlds was able to look at the effect of partial reversal with diprenorphine on partial pressure of oxygen in this female.

LION TRACKING

Lions may have radio collars placed on them for various reasons. It is often used in research projects studying their impact as predators, or studying predator/prey relationships within their ecosystems. In private game reserves, another reason for collaring lions is to aid in locating escaped individuals if perimeter fences become compromised.

Dr. Fowlds was asked to immobilize two lions during our visit. One was an adult male that had never received a collar and the second was a female whose collar was thought to be too tight.

Immobilization of the male lion went well. The collar was placed and blood samples collected were run on the i-STAT® for chemistries and blood gases. Although the procedure itself did not take long, the anesthetic protocol utilized medetomidine and Zoletil (tiletamine/zolazepam). While the medetomidine can be reversed, the zoletil cannot be reversed. The medetomidine was not reversed.
For at least 45 minutes post induction to allow the anesthetic effects of the Zoletil to wear off. Full recovery after reversal of medetomidine took a while, but was otherwise smooth and uneventful.

The female lion was immobilized and blood collected for chemistries and blood gases. We determined that the radio collar was not too tight, so it was left in place. However, pulse oximetry verified by blood gases on the i-STAT® 1 showed that the animal was very hypoxic. A decision was made to not wait for the full 45 minutes to allow Zoletil to wear off. The medetomidine was reversed and the female allowed to recover. Because the Zoletil was still on board, recovery was stormy; the ground crew stood by to make sure she didn’t hurt herself and that the other females in her pride did not harm her. The value of having the i-STAT® 1 to assess the animal’s condition under anesthesia may have prevented serious complications during this anesthetic event.

CONSERVATION PARTNERSHIPS

This visit to South Africa is just one example of how people and organizations with a common goal are coming together to address some critical conservation issues. Abaxis, Dr. Fowlds, The Wilderness Foundation, The Wildlife Docs, and the SeaWorld & Busch Gardens Conservation Fund are all dedicated to conserving wildlife and wild places. The readers can also become involved by educating themselves and raising awareness of the issues confronting endangered species like the black and white rhinos. You can donate to organizations like The Wilderness Foundation and SeaWorld & Busch Gardens Conservation Fund that are funding conservation projects directly.

ABOUT US

The SeaWorld & Busch Gardens Conservation Fund (https://swbg-conservationfund.org) is a non-profit foundation that provides funds to a wide variety of conservation programs worldwide. Since its establishment in 2003, it has granted over $14 million to more than 500 projects around the world, including the Wilderness Foundation Africa (http://www.wildernessfoundation.co.za), and numerous grants to aid in rhino protection. It has funded the collection of endangered and threatened rhino population’s DNA to help police and wildlife investigators link rhino poachers to crime scenes; on the ground proactive protection of rhinos through dedicated patrol vehicles and officers; and also light aircraft, helicopter time, and a Bat Hawk aircraft, which can be deployed to hotspots of rhino poaching.

The Wilderness Foundation Africa’s mission is to protect and sustain wildlife and wilderness through a number of integrated conservation and education programs. Among their many programs is the Forever Wild Conservation Program, which developed in 2011 in response to the rhino poaching crises, and has been active through the Wild Rhino Protection Initiative.

The Wildlife Docs television show originated at Busch Gardens, Tampa in 2014. The show focuses on the animal health care provided by the veterinary staff and dedicated Animal Care Specialists for close to 300 species of animals that call Busch Gardens home, and also travels with the Wildlife Docs to visit conservation partners around the world that are funded by the SeaWorld & Busch Gardens Conservation Fund.

ACKNOWLEDGEMENT

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References