

Notes From The Field



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Notes from the Field

FAUNA RESEARCH INC.



LOCATION: The Maryland Zoo
in Baltimore,
Okapi Holding Area

SPECIES: **Okapi**

EQUIPMENT: Customized
OKAPI TAMER,
and alleyway.

NOTES:

The Maryland Zoo recently installed an okapi TAMER to help manage their breeding pair of okapi. The okapi TAMER is a fully padded, mechanical restraint with 18 access doors, a built in full floor scale and a smooth glide push panel with friction lock for quick and easy restraint when needed. Mike McClure, General Curator said: "We plan to use the TAMER for every thing from routine medical procedures (blood draws, health exams, foot care and weights) to any necessary emergency procedures as needed." Keepers Paula Blair, Amy Demchak, Melanie Crump, and Loren Berry are using desensitization and operant conditioning to get the okapi accustomed to the TAMER with good results so far. By training the okapi to be relaxed within the TAMER most veterinary procedures can be done without resorting to risky anesthesia reducing the stress and cost of these procedures.



Training session with Hiari, a 13 year old male Okapi



For more information about this project or equipment, please contact Mark MacNamara at (845) 758-2549, or e-mail: faunaresearch@gmail.com www.faunaresearch.com



Okapi TAMER installation

"TAMERS®" Changing the way captive animals are managed



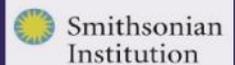
RESTRAINT OF PRZEWALSKI'S HORSES (*Equus ferus przewalskii*) IN A HYDRAULIC TAMER® FOR REPRODUCTIVE STUDIES AT THE NATIONAL ZOO'S CONSERVATION AND RESEARCH CENTER



Mark MacNamara¹ and Linwood R. Williamson²

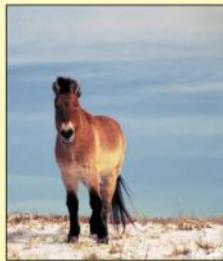
¹ Fauna Research, Inc., 8 Bard Avenue, Red Hook, NY email: faunaresearch@yahoo.com

² Curator of Mammals, National Zoo's Conservation and Research Center, Center for Species Survival, Front Royal, VA



INTRODUCTION

Reproductive studies provide critical information on species biology and are the basis for most successful breeding programs in zoological collections. Well designed animal management and handling facilities, appropriate manual restraint equipment used in conjunction with diligent training, and conditioning of animals to research protocols are essential for obtaining meaningful results. The Przewalski's horses at NZP-CRC have been the subjects of reproductive studies for over 3 years. Since 2006 443 full restraints, of 9 different horses have been recorded. The facilities (Diagram 1), restraint equipment (Figure 1), and the training procedures used in these studies are described and presented here. The results of the studies are reported elsewhere.



CONDITIONING

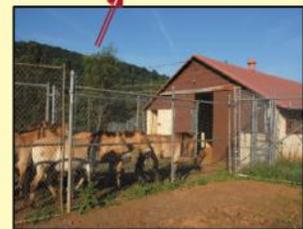
In order to collect the data for the proposed studies each horse was conditioned and trained to be temporarily separated from the herd, stopped at various points in the facility, and eventually stopped in the TAMER® and restrained for various procedures. Initially the horses were run through the facility with all doors and stops open. This movement became a part of the normal routine. Once completely through the facility, the horses were rewarded with access to green pasture. Additional rewards, such as apples, were added at strategic points, including entry into the TAMER®.



Horses move through the staging stalls and can then enter the TAMER®



The horses then proceed through gate A into the alleyway that contains an electronic scale. Horses are stopped on the scale for individual weighing with the use of manually operated sliding doors.



Horses move from pasture to the sorting stall via a chute.

ABSTRACT

A description of the National Zoo's Conservation and Research Center (NZP-CRC) Przewalski's Horse facility is presented and illustrates a successful layout of pens, alleys, stalls and TAMER. The facility provides good animal flow, safety for keepers and horses and allows for low stress, repeat handling and the ability to perform a wide array of veterinary procedures. The importance of training and conditioning of the horses to the facility and the restraint equipment is emphasized. The hydraulic TAMER® allows zoo personnel to handle the horses on a regular basis without the use of chemical immobilization, making it possible to conduct long term research projects, such as reproductive studies that involve repeat rectal palpations, ultrasound exams, hormone injections and assessment of ovarian activity.



Figure 1. The TAMER® (for more details on the TAMER® see below and the boxes to the right)



Clear observation is permitted through enlarged viewing ports.

Injections are performed easily and safely.

Ultrasounds are performed on a regular basis.



Horse exiting the TAMER®

DISCUSSION

Well designed animal holding and management facilities that incorporate a manual restraint device such as a TAMER® are essential for not only basic care and welfare but also for scientific studies. The facilities at NZP-CRC and the conditioning of Przewalski's horses by the staff has allowed investigators to develop a research program to help understand the fundamental reproductive biology of the Przewalski's horses in a stress-free environment. The ultimate goal is to develop an artificial insemination program for the genetic management of this endangered species.

Specifically, the TAMER® is used for the following procedures:

- 1) Female reproductive exam – rectal palpation, ultrasound exam, monitoring ovarian activity, pregnancy detection, hormone injections and artificial insemination after inducing standing sedation.
- 2) Minor veterinary procedures – injection of anesthetics for artificial insemination; treatment of cuts and abrasions.



Horses in the herd stall.

TAMER®

- Hydraulically powered restraint device for large exotic hoofstock including wild equids.
- Constructed of a high strength tube steel mainframe with reinforced stress points.
- A 4' wide catwalk on each side of the restraint for animal handlers.
- 4 steel sliding doors and 4 smaller swing doors provide easy access to restrained horses.
- 4" thick high density foam pads with heavy-duty, rip-stop vinyl covers provide a secure and comfortable restraint.
- Hydraulic controls mounted on the unit with adjustable pressure control and an easy to read pressure gauge allow for firm but gentle restraint.
- Padded sides open up to 72" wide and have a 24" lift capacity.
- The sides are controlled by 7 hydraulic cylinders for squeeze and lift movements.



Hydraulically controlled head and neck pad

Special modifications for working horses at NZP-CRC:

- Enlarged viewing ports in the steel curtains provide a better view of the animal in the TAMER®
- Reinforced kick plate on sliding doors on the front and back of the TAMER®
- Individual chains suspended over animal restraint area in TAMER® help prevent horses from rearing up.



Horses view looking through an open TAMER®.

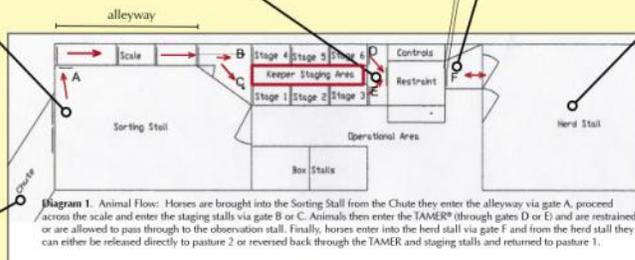


Diagram 1. Animal Flow: Horses are brought into the Sorting Stall from the Chute they enter the alleyway via gate A, proceed across the scale and enter the staging stalls via gate B or C. Animals then enter the TAMER® through gates D or E and are restrained or are allowed to pass through to the observation stall. Finally, horses enter into the herd stall via gate F and from the herd stall they can either be released directly to pasture 2 or reversed back through the TAMER and staging stalls and returned to pasture 1.

FACILITIES

The handling facilities are located in a barn situated between two pastures and consist of a large sorting stall (26'X 38'), an alleyway 38' long with a built in electronic scale (35" wide by 97" long), 6 staging stalls, each stall is (42" wide by 97" long), the upper portion of the staging stalls sides are vertical bars spaced 3 inches apart providing good visibility for the horses and keepers. There is a protected keeper space between the staging stalls (red box in Diagram 1) that is (36" wide by 24" long), this space allows keepers to encourage the horses to move toward the hydraulic TAMER®. An observation stall (8' X 11') at the exit of the TAMER® allows animals to be held for observation after being in the TAMER® and before being released to the herd stall (28'X67') and finally out to pasture. The substrate is clay for the stalls and blue-stone dust for the alleyways and restraint. There is a 3/4" thick rubber stall mat as flooring within the restraint. Animal flow is generally left to right, although horses can enter the TAMER® in either direction.

Acknowledgments: We thank Dolores Reed, David Shelton, Greg Peterson, Shannon Hunter, and Jessica Kordell, Animal Keepers; Ken Lang, Mammal Supervisor; Budhan Pokazhenthi, Linguistic Biologist; Wynne Collins, graduate student and Lisa Ware, Veterinary Technician, who provided the photographs. We thank Kate MacNamara Smith for editing the poster and for help with design.

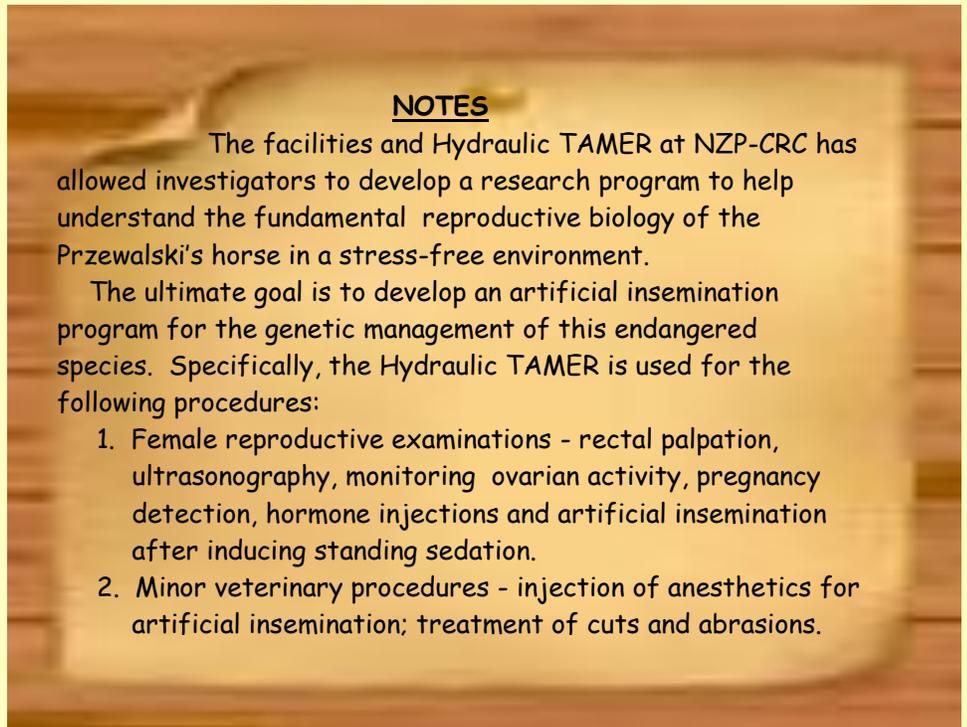
Notes from the Field

LOCATION: The National Zoo's Conservation and Research Center at Front Royal, VA

EQUIPMENT: Hydraulic Equid Tamer



Injections are given easily and safely.*



NOTES

The facilities and Hydraulic TAMER at NZP-CRC has allowed investigators to develop a research program to help understand the fundamental reproductive biology of the Przewalski's horse in a stress-free environment.

The ultimate goal is to develop an artificial insemination program for the genetic management of this endangered species. Specifically, the Hydraulic TAMER is used for the following procedures:

1. Female reproductive examinations - rectal palpation, ultrasonography, monitoring ovarian activity, pregnancy detection, hormone injections and artificial insemination after inducing standing sedation.
2. Minor veterinary procedures - injection of anesthetics for artificial insemination; treatment of cuts and abrasions.



Side view of TAMER*



Interior view of TAMER*

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Royal, VA 22630

For equipment inquiries,
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(845) 758-2549
or e-mail: faunaresearch@gmail.com
or on-line: www.faunaresearch.com



Notes from the Field

FAUNA RESEARCH INC.

- LOCATION:** The Saint Louis Zoo Antelope Area.
- SPECIES:** Grevy's zebra. Endangered. Total wild population less than 3,000 restricted to northern Kenya and 3 small pockets in Ethiopia.
- EQUIPMENT:** Hydraulic TAMER with built in scale and specially designed hydraulic head hugger for gentle but firm control of the neck and head. A 4' wide alleyway with a solid, pass through push board suspended from a carriage that rides on overhead rail system. Installed March 2008. *For more information about this equipment, please contact Fauna Research / Mark MacNamara at (845) 758-2549, email faunaresearch@yahoo.com, or visit www.faunaresearch.com.*



Grevy's Zebras walking through Hydraulic TAMER

NOTES

Zoo staff is in the process of training the zebras to go through the TAMER on a daily basis. Their goal is to not only safely provide routine health care without general anesthesia or chemical immobilization but also conduct veterinary, reproductive, nutritional and genetic research which will enhance the conservation of this endangered species.

Using a hydraulic TAMER zebras can be routinely and repeatedly handled and data such as blood sample collections and ultrasound examinations, can be carried out in a manner that is safe and low stress for both zebras and handlers.



Zebras being restrained in the Hydraulic TAMER



Zebras being restrained in the Hydraulic TAMER

The Grevy's Zebra Trust (GZT) was established to conserve Grevy's zebra across its range in Kenya and Ethiopia. GZT addresses critical conservation issues facing Grevy's zebras and is focused on the following activities: employment of communities to protect and monitor the species; support education for pastoral children; awareness campaigns; partnering on research projects that link directly to management; rangeland rehabilitation through planned livestock grazing; and supporting the implementation of the Kenya Wildlife Service's Conservation and Management Strategy for Grevy's Zebra in Kenya, 2007-2011.

Twenty-one AZA Zoos, several commercial AZA Members and numerous private individuals supported the activities of the GZT in 2008.

For more information, contact Martha Fischer at fischer@stlzoo.org, or visit www.grevyszebratrust.org

Notes from the Field

FAUNA RESEARCH INC.



LOCATION: The Maryland Zoo in Baltimore
SPECIES: 1.3 Plains Zebras,
Equus burchelli
EQUIPMENT: The Hydraulic Tamer
with built in scale



For more information about TAMERS at this facility, contact:
Mark MacNamara at
(845) 758-2549,
E-mail:
faunaresearch@ygmail.com
On-line:
www.faunaresearch.com

NOTES

The HYDRAULIC TAMER was installed in the zebra barn in 2009. Using operant conditioning and other training techniques, several zebra have been conditioned to enter the TAMER in order to record weights and closely examine body condition. The TAMER allows these tasks to be completed with less stress than anesthesia.

Future goals include, desensitizing all of the zebras to the TAMER so hoof care, blood draws, and routine health exams can be performed on a regular basis without immobilizations.

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Notes from the Field

FAUNA RESEARCH INC.

LOCATION: Micanopy Zoological Preserve, a 600 acre facility located in central Florida

SPECIES: Roan antelope, beisa oryx, blue duiker, suni, hartebeest, wilde beest, anoa, greater kudu, bongo, waterbuck, and giraffe.

EQUIPMENT: Hydraulic TAMER, TAMER 2, and a giraffe TAMER.

NOTES:

All of the ungulates at Micanopy are worked through a management facility that includes a Hydraulic TAMER and a TAMER2.

The TAMERs are adjustable and can accommodate all of the different species at Micanopy. Procedures performed regularly using TAMERS include deworming, blood draws, hoof trims, tagging and weighing.



3 Species...
1 TAMER!



For more information about TAMERS at this facility, contact:
Mark MacNamara at (845) 758-2549,
or e-mail: faunaresearch@gmail.com
www.faunaresearch.com.

For more information about Micanopy, contact Rhudy Holly at rhudy@micanopyzoologicalpreserve.com

The goal of MZP is to focus on the captive propagation and preservation of rare ungulates and to support conservation projects worldwide.

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MANAGING HOOFSTOCK COLLECTIONS WITH PORTABLE HANDLING SYSTEMS



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² Animal Collection Manager, Environmental Agency, Abu Dhabi, UAE - justin.chuyen@ead.ae

Abstract

One of the greatest challenges facing any progressive zoological collection is the safe and rapid restraint of their animals. Large hoofstock in particular have historically proven difficult to restrain without the use of chemical agents. This challenge is often compounded in the traditional, urban zoo by the limited or sometimes complete lack of off-exhibit, animal management areas. In order to help resolve this problem, portable and modular handling facilities have been developed so they can be placed inside off-exhibit areas and connected to existing corrals and stalls. In relatively small spaces allowing animals to be restrained rapidly and safely for repeated, routine healthcare and animal management issues.

All portable corral and TAMER systems are illustrated in the diagrams in green.

Key factors for the successful use of portable animal management handling equipment

- The restraint equipment, corrals, and alleyways must be simple and easy to use
- The equipment should be species appropriate, lightweight, easily transportable and easily erected under a variety of conditions
- The containment panels need to be designed so they can be readily incorporated into existing facilities
- Animal management procedures requiring portable handling equipment need to be pre-planned, well thought out, and set up in advance
- There should be a designated team of individuals specially trained to erect and use the corrals and management equipment effectively and efficiently



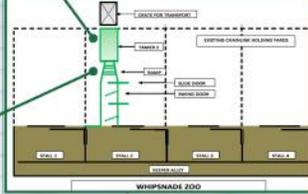
Al Ain Zoo Tamer Team, Al Ain, UAE

Whipsnade Zoological Park, UK

THE CHALLENGE: Move a group of siltitunga from winter quarters to summer pasture 500 meters away.

EXISTING FACILITIES: A small heated barn with several interconnecting stalls, each stall with access to an adjacent outdoor pen.

THE SOLUTION: Erect a portable, sorting and push alleyway, connecting an indoor stall with the TAMER2 and loading chute.



THE RESULTS: The group of 8 animals was successfully moved to summer pasture without injury. Each animal was individually put through the TAMER2 where they were weighed, received a health exam, hoof exam, dewormer, vaccinations, blood draw and were each loaded into a crate for transport.

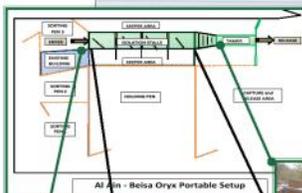


Al Ain Zoo, Al Ain, UAE

THE CHALLENGE: Move a large herd (65 animals of mixed sex and age) of beisa oryx into several holding corrals and then individually sort, restrain in the TAMER and identify, tag, perform a health exam, hoof exam, blood draw and vaccinate.

EXISTING FACILITIES: Two large and several smaller chain link fenced holding corrals.

THE SOLUTION: Erect a portable catch area connected to a portable sorting alley and TAMER for restraint of individual animals.



THE RESULT: 65 Animals were successfully caught in holding pens and individually sorted and moved through the TAMER for procedures listed above and released back into the herd in less than 6 hours.



Bronx Zoo, USA

THE CHALLENGE: Sort and separate a group of barasingha deer, individually sort and restrain each deer for routine animal management and health care procedures.



EXISTING FACILITIES: Large solid walled holding corrals with run-in sheds.

SOLUTION: Erect several portable catch pens, isolation pens and connect to a short alley and TAMER.



RESULTS: 12 individuals of mixed sex and ages were separated from the main herd. Each animal was isolated and moved into the TAMER and restrained for various health and husbandry procedures and then released back into the herd.

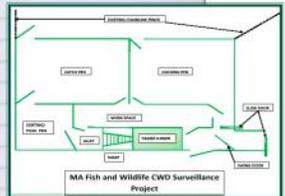
Massachusetts Division of Fisheries and Wildlife, USA

THE CHALLENGE: Inventory the captive deer herds in the State of Massachusetts with a minimum of chemical immobilizations.



EXISTING FACILITIES: Most Massachusetts deer farms consist of large fenced areas with minimal holding pens and no deer management facilities.

THE SOLUTION: Use a portable capture and management system that can be brought to each farm. The portable system is set up on each farm the deer are caught in the catch pen and moved through the TAMER, identified and inventoried.



THE RESULT: Several deer farms have been inventoried to date.

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THE USE OF PORTABLE CORRAL SYSTEMS AND TAMERS®, IN THE MANAGEMENT OF CAPTIVE AND FREE RANGE HOOFSTOCK

استخدام أنظمة الزرائب المتنقلة والمروّضات (TAMERS) لإدارة شؤون ذوات الحافر المأسورة والطيقة.

Mark MacNamara¹ and Andy Blue²

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² San Diego Zoo's Wild Animal Park, 15500 San Pasqual Valley Road, Escondido, CA 92027, USA.



THE EQUIPMENT

Corrals

These modular corrals can be used to hold, sort, and move individual animals into the TAMER (Figure 1). They feature swing and slide doors and alleyway pushboards that facilitate the movement of animals. They are easily transported and can be erected quickly and with ease.



Figure 1. The corrals leading to the Tamer Jr. were set up in the morning and animals were worked in the afternoon.



Figure 2. Hoofstock can be easily immobilized in the Tamer Jr using the drop floor. The side panels can be adjusted to accommodate different sized animals (arrows).

TAMER Jr.

The Tamer Jr. is a light weight (225 kg) drop floor chute (Figure 1). It is designed to restrain small hoofstock (up to 150 kg) allowing unrestricted access for veterinary and management procedures.



Figure 3. Ear tagging of hoofstock is quick and easy using the Tamer Jr.



Figure 4. The Tamer Jr. and Tamer II are easy to transport making them ideal equipment for work in natural and remote habitats where animals need to be worked in the field.

TAMER II

The TAMER II is a large drop-floor chute, approximately 2.44m long by 1.83m wide and 2.44m high. The TAMER II can safely restrain larger, more aggressive hoofstock such as roan antelope, kudu, waterbuck, and oryx. At the Endangered Wildlife Breeding and Conservation Center it was used to handle, sable, markhor, impala, springbok, and Cretian goats. The TAMER II is equipped with over the road tires and can be towed by a tractor, truck or ATV (Figure 4).

ABSTRACT

The responsible management of captive collections of exotic hoofstock begins with properly identifying each animal and then tracking that animal and providing preventative veterinary care and making informed management decisions based on the individual animals biological history. Essential equipment in this effort include portable capture, sorting and holding corrals and TAMERS, restraint devices for individually handling each animal. The TAMER is designed so that each animal can be physically and safely restrained without the use of immobilizing drugs. TAMERS are adjustable in size to accommodate a variety of different species of animals. Furthermore, TAMER systems are easily transportable to allow capture over expansive areas, often hundreds of hectares, where animals may be found. This mobility allows collection managers to bring the equipment to the animals, rather than moving animals to established facilities that that may be hundreds of kilometers away.



NOTES FROM THE FIELD

February 2006
Endangered Wildlife Breeding and Conservation Center (EWBCC)

DAY 1:

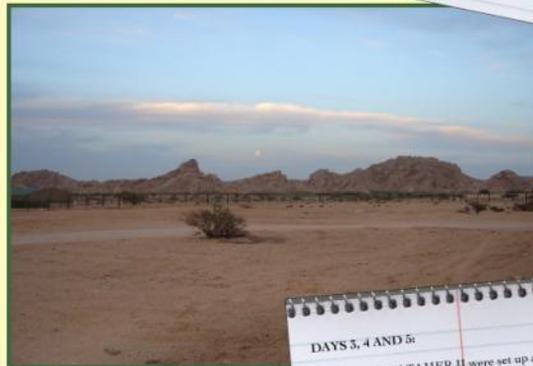
At the EWBCC facility in Al Ain the TAMER Jr. was used to handle Nubian ibex, urials, and Cretian goats. Portable panels were put together to form a small catch pen, where the animals were sorted and separated and individually run into the TAMER Jr. While immobilized each animal was given a regiment of several injections and vaccinations, each animal was simultaneously weighed, tagged with an electronic ear tag, and were given a typical health exam and if required a hoof trim, horn trim, or other veterinary procedure including minor surgery.

The crew standing in front of a Tamer II.



DAY 2:

A 30m long by 1.2 m wide alleyway was constructed out of the portable panels in order to move a herd of 65 urials across a paved road that was separating two enclosures. A team of 5 erected the alleyway in less than 1.5 hours and safely moved the urials across the road, once across the road they were worked into the TAMER Jr. and treated the same way as the day before.



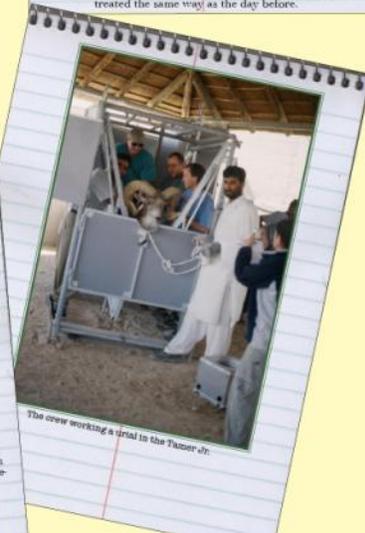
Al Ain, United Arab Emirates

DAYS 3, 4 AND 5:

An alleyway and TAMER II were set up at one end of an existing loading chute from a quarantine at EWBCC. Markhor, impala, springbok and sable were individually moved into the TAMER II for health exams, vaccinations, moved into the TAMER II for health exams, vaccinations, weighing, and tagging, and then moved back to their holding pens, or crated for relocation to another area. During this time, a small crew of people, four animal handlers, one vet tech, and one veterinarian ran 90 animals through the system and individually treated each one with no immobilizing drugs, and no injuries or losses.



An impala is free to run immediately following release from the Tamer.



The crew working a trial to the Tamer Jr.

Acknowledgements:
We thank Tim Bouts and his staff at the EWBCC for their help and support during this project.

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Notes from the Field

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NOTES

On Feb. 14th during a visit to the Wildlife Park I assisted the Park staff in working a captive herd of 65 beisa oryx through a TAMER 2 system. The animals were corralled and individually sorted and restrained in the TAMER 2.

While the animals were restrained, they received vaccinations, ID tags, blood draws and a routine health exam. Total time to work 65 animals was less than 4 hours. Justin Chuven, and Ricardo Pusey, animal collection lead supervisors at the park, both agree that the TAMER system has enabled them to safely manage and monitor the health status of the large herds of deer and antelope.

LOCATION: Al Ain Wildlife Park and Resort, Al Ain, United Arab Emirates
SPECIES: Large herds of antelope, deer & sheep
EQUIPMENT: TAMER Jr., TAMER 2, several portable catch pens, and sorting stalls.



TAMER TEAM



Successful Restraint



Sorting Animals

For more information about TAMERS at this facility, contact:
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On-line: www.faunaresearch.com

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Notes from the Field

FAUNA RESEARCH INC.



LOCATION: BRONX ZOO, 50 ACRE
WILD ASIA EXHIBIT
AND HOLDING PENS

SPECIES: BARASINGHA DEER,
Rucervus duvaucelii

DATE: November 30, 2011

EQUIPMENT: TAMER 2 & PORTABLE
CATCH PENS WITH
SORTING/PUSH
ALLEYWAY

NOTES:

A portable catch pen and TAMER 2 were set up in the night quarters for a mixed group of Axis deer, Blackbuck and Barasingha. A small group of Barasingha were caught in the catch pen, and were individually sorted and moved down a short alleyway into a TAMER 2 and restrained. Each deer received a routine health exam, hoof exam, and were scanned for ID tags and immediately returned to the exhibit. No chemical immobilizations were required.



Portable Corrals &
TAMER 2 at
Wild Asia
Holding Pens



Bronx Zoo
TAMER 2 Team

“Taking TAMERS to the animals.”
The portability & simple design allows the staff to set up the equipment in many of the off-exhibit areas that are spread out over the 250 acre zoo.



Barasingha in the TAMER 2



For more information about TAMERS at this facility, contact: Mark MacNamara at (845) 758-2549,
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NOTES FROM THE FIELD



BLOOD DRAW

ZSL WHIPSNADE ZOO



MALE SITATUNGA

LOCATION: ZSL WHIPSNADE ZOO, BEDFORDSHIRE, ENGLAND:
HOOFSTOCK BARN AND OFF-EXHIBIT AREAS

SPECIES: SITATUNGA, SCIMITAR HORNED ORYX, NILE LECHWE

EQUIPMENT: PORTABLE CAPTURE & MANAGEMENT PENS WITH A TAMER2, DIGITAL WEIGH SCALE, AND PUSHBOARD ALLEYWAY

NOTES

THE EQUIPMENT ARRIVED AT WHIPSNADE IN MAY 2010 AND WAS IMMEDIATELY PUT TO USE.

DAY 1 THE TAMER 2, WAS SET UP OUTSIDE THE SITATUNGA BARN IN ABOUT 3 HOURS. SIX ANIMALS WERE RESTRAINED, DEWORMED, WEIGHED, HAD BLOOD DRAWN AND A HOOF TRIM AND THEN WERE CRATED AND MOVED TO THEIR SUMMER EXHIBIT.

DAY 2 A TAMER 2, WAS SETUP IN A QUARANTINE AREA IN ORDER TO TB TEST AND ADMINISTER A ROUTINE HEALTH EXAM TO SEVERAL ORYX.

DAY 3 & 4 A PORTABLE TRAP CORRAL WITH MANAGEMENT PENS AND PORTABLE PUSH ALLEYWAY WERE SETUP TO CAPTURE AND SORT A HERD OF NILE LECHWE IN THE COMING WEEKS.

DAY 5 RESTRAIN ORYX IN THE TAMER 2 TO READ TB TEST.



PORTABLE ALLEYWAY



NILE LECHWE PORTABLE CATCH PEN



TAMER 2 SET UP IN SITATUNGA YARD



For more information about TAMERS at this facility, contact: Mark MacNamara at (845) 758-2549, or e-mail: faunaresearch@gmail.com www.faunaresearch.com.

Notes from the Field

FAUNA RESEARCH INC.



LOCATION:

SHAUMARI WILDLIFE RESERVE, AZRAQ, JORDAN

A 22 km² protected wildlife preserve created in 1975 by the Royal Society for the Conservation of Nature. The RSCN, the Phoenix Zoo, and the US Forest Service are working together to maintain a breeding herd of endangered and locally extinct Arabian Oryx at the preserve.

SPECIES:

ARABIAN ORYX

EQUIPMENT:

TAMER Jr. & A MODULAR, PORTABLE ALLEY. The TAMER Jr. is a lightweight (225 kg) drop-floor chute designed to restrain small hoofstock up to 200 kg. It is constructed of a tube steel frame and plywood or bamboo sheeting. It is adjustable and can handle body sizes ranging from 10 kg to 200 kg. It is easily operated and allows for unrestricted access to restrained animals for veterinary and management procedures.



Shaumari Reserve Rangers & Phoenix Zoo Staff Setting up and using the TAMER Jr.



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NOTES
The RSCN plans to use the TAMER Jr. to individually identify and tag each animal and regularly perform routine health exams and veterinary procedures such as deworming, blood draws, foot care and vaccinations.



For more information about TAMERS at this facility, contact: Mark MacNamara at (845) 758-2549, E-mail: faunaresearch@gmail.com On-line: www.faunaresearch.com

Photos by Natasha Marwah, US Forest Service



Notes from the Field FAUNA RESEARCH INC.

LOCATION: Highland Wildlife Park, Kincaig, Scotland, UK, operated by the Royal Zoological Society of Scotland

EQUIPMENT: Portable TAMER 2, Pushboard Alleyway, and a portable catch and sorting pen.



Moose, featured at the Highland Wildlife Park.

NOTES

The Highland Wildlife Park features a large, 800 acre main reserve where many of the species including: Kiang, Yak, Forest Reindeer, Tundra Reindeer, Wisent, Buhkara, Moose, and Przewalski's Horse roam free. They also have the largest herd of Mishmi Takin in Europe and a group of Bactrian camels.

DAY 1, A portable corral, pushboard alleyway, and TAMER II were moved on site and set up in the main reserve.

DAY 2, A group of Tundra Reindeer were quickly caught in the portable corral, and were individually sorted and moved into and restrained in the TAMER II via the pushboard alleyway.

The plan is to work all the various herds through the handling system, in order to individually identify and tag each animal and regularly perform routine health exams, and veterinary procedures such as deworming, blood draws, foot care and vaccinations.



TAMER II & Crew

For more information about TAMER® equipment at this facility, contact: Mark MacNamara at (845) 758-2549, E-mail: faunaresearch@yahoo.com On-line: www.faunaresearch.com



Handling Reindeer in Tamer II

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FAUNA RESEARCH INC.

Notes from the Field



Dallas Zoo

Training and ultrasound on a pregnant Giraffe



Dallas Zoo

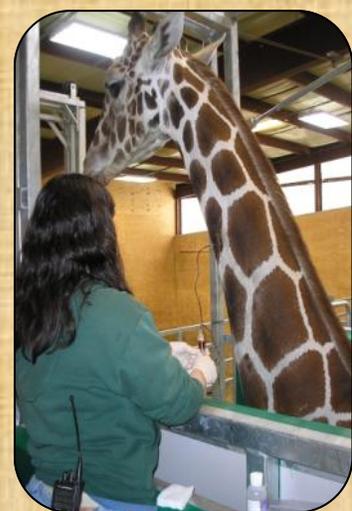
Successful ultrasound in a safe workspace.



White Oak Conservation Center
Blood draw on young bull.



Giraffe TAMERS® have reduced the need for immobilizing drugs and provide multiple safe work areas for animal care by staff and veterinarians when training, conditioning, managing, and administering health care.



Fort Wayne's Children Zoo
Blood draw on cooperative mature female.

For more information about TAMER® equipment contact, Mark MacNamara at (845) 758-2549, E-mail: faunaresearch@gmail.com On-line: www.faunaresearch.com



Jacksonville Zoo

"Hands On" Desensitizing Bull Giraffe in TAMER®



Al Ain Zoo

Multiple Access Points for a Veterinary Procedure



Paris Zoo

Target Training

TAMERS®: Changing the way captive animals are managed



Notes from the Field

FAUNA RESEARCH INC.



For more information about TAMERS at this facility,
contact: Mark MacNamara at (845)758-2549,
or e-mail faunaresearch@gmail.com On-line: www.faunaresearch.com

LOCATION: White Oak Conservation Center,
Yulee, Florida
SPECIES: Giraffe



**Giraffe in
management penning**

NOTES

A series of management pens, an alleyway, loading chute and giraffe TAMER were installed at White Oak Conservation Center in December 2009. Only a few weeks after its completion, animal managers and veterinarians were able to treat White Oak's entire giraffe herd for varied health issues. Adult and juvenile giraffe are moved through the chute monthly for oral and injected anthelmintics.

Recently, two yearling males were tested for tuberculosis, given pre-ship injections, had blood drawn, and were loaded onto the transport trailer through the chute and restraint system. In the future, White Oak Conservation Center hopes to use the system to collect tissue and blood samples for a variety of research projects.



Giraffe TAMER

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Notes from the Field

FAUNA RESEARCH INC.



LOCATION: African Journey Giraffe Exhibit and new barn, Fort Wayne Children's Zoo, Fort Wayne, Indiana

SPECIES: Reticulated Giraffe

DATE: Completed Spring 2010

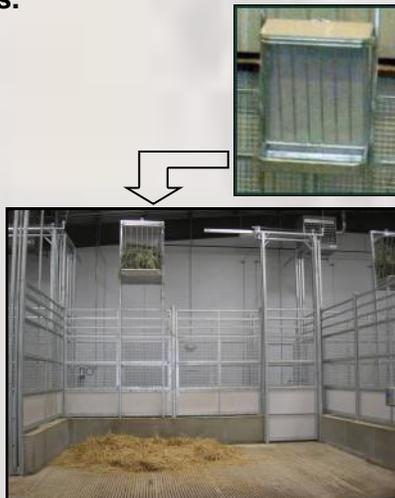
EQUIPMENT: Giraffe Tamer® with built in scale; six interconnected stalls covering 4500 square feet. Stall access and animal flow is controlled by remotely operated pre-hung roller doors. Height adjustable, combo hay/grain feeders are located in each pen. Giraffe doors are rapidly and easily opened and closed with custom wheel winches.

NOTES:
The Tamer® makes it possible to record daily weights, draw blood samples, give injections and vaccinations, as well as perform routine vet exams and most medical treatments. The design of the facility and the Tamer® has also allowed for an expanded and improved operant conditioning program, better hoof care and maintenance, and excellent animal flow.

For more information about this project or equipment, please contact:
Mark MacNamara at
(845) 758-2549, or e-mail:
faunaresearch@gmail.com
www.faunaresearch.com



INSIDE VIEW OF TAMER®

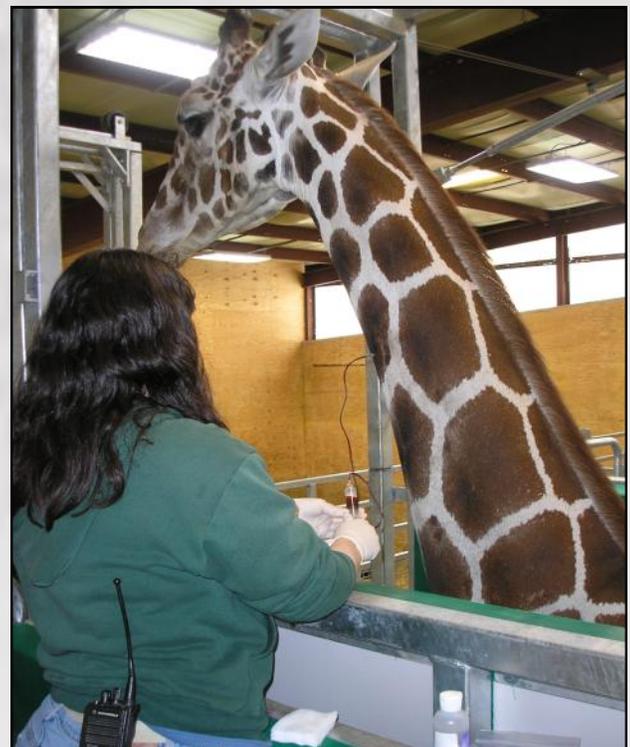


ADJUSTABLE HAY & GRAIN FEEDER RAISED AND LOWERED WITH A HAND CRANK



MODULAR GIRAFFE PENNING SYSTEM

"The highlight of our new Giraffe facility is the TAMER®. Keepers are now able to routinely weigh each giraffe."
Amber Eagleson, Area Manager, African Journey



STANDING BLOOD DRAW FROM A WILLING PARTICIPANT INSIDE THE TAMER®

Photography courtesy of Amber Eagleson

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Notes from the Field

FAUNA RESEARCH INC.



LOCATION: Paignton Zoo
Environmental Park,
Paignton, England

EQUIPMENT: Customized, galvanized
giraffe TAMER, installed
in 2 days.

NOTES

The Paignton Zoo recently installed the first giraffe TAMER in Europe to help manage their growing giraffe herd and expedite the importation of several female giraffe from the Czech Republic. The TAMER allows for quick and easy collection of blood samples necessary for mandatory blue-tongue testing. Park Director and Curator of Mammals Neil Bemment said: "This is fantastic for us and for the animals. If we need to hold an individual giraffe firmly and safely without sedation in order to examine it or inject it we can." Ghislaine Sayers, Head of Veterinary Services at the Zoo, said: "This makes it possible to carry out veterinary procedures such as blood draws, clinical exams, and foot care without resorting to risky anaesthesia. By training the giraffes to be relaxed within the TAMER we can reduce the stress and the cost of all these procedures, benefiting animal welfare."

For more information about
this project or equipment,
please contact:
Mark MacNamara at
(845) 758-2549, or e-mail:
faunaresearch@yahoo.com



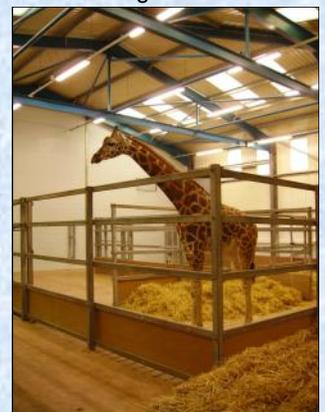
Giraffe TAMER



Installing TAMER



Yoda, a young bull at
Paignton Zoo



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Notes from the Field

FAUNA RESEARCH INC.



LOCATION: Jacksonville Zoo's Giraffe Holding and Management Area
EQUIPMENT: Giraffe Tamer and Penning System, installed March 2005

NOTES

The Zoo's successful giraffe breeding program consists of 7 animals: one 10 year old bull, "Duke"; 3 cows; and 3 youngsters (the youngest born Jan. 26/08). Duke is trained to enter the TAMER daily for routine health management and weighing. The TAMER is equipped with a rubber matted, slip resistant floor, heavy duty load cells, and an electronic scale with digital reader for quick and accurate weighing. Primary giraffe keeper, Donna Kelley, takes advantage of the 18 access doors to train and desensitize Duke to being confined in the TAMER so hoof care, blood draws and even x-rays on a bum knee can be performed. Newborns are introduced and trained to enter and stand in the TAMER shortly after birth and weighed on a regular basis. Training young animals to stand and feel comfortable in the TAMER is one of the first steps in an effective animal management and health program.



Duke - 2040 lbs.



Newest Addition



Training



Pens

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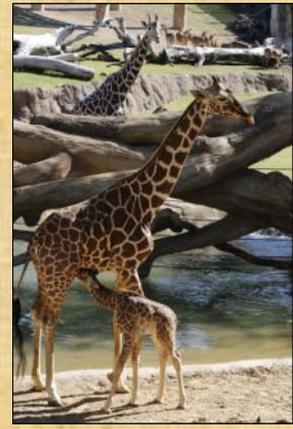
FAUNA RESEARCH INC.

Notes from the Field

LOCATION: Dallas Zoo's Giants of the Savanna exhibit and giraffe barn

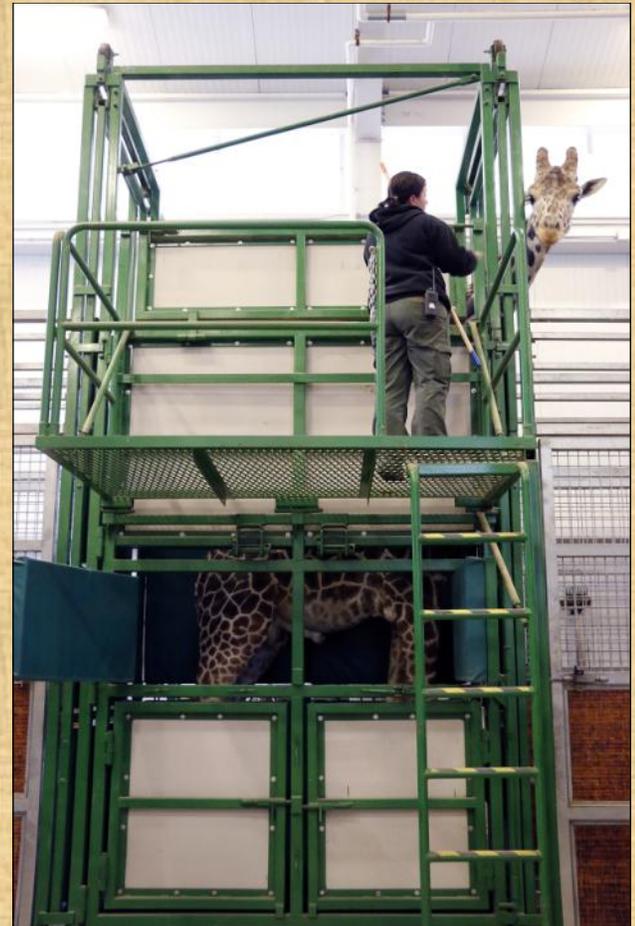
EQUIPMENT: GIRAFFE TAMER®, installed at the Dallas Zoo in 2010

SPECIES: Reticulated Giraffe



MOM & CALF ON EXHIBIT

NOTES: When 6-year-old Chrystal's labor halted after about two hours, the team quickly moved her into the giraffe TAMER®. There, keepers were able to restrain her without using anesthesia, a risk they wanted to avoid for the health of both the mom and calf. With Crystal safely ensconced in the TAMER®, Jan Raines, D.V.M., determined the calf's head and neck were incorrectly positioned. Raines was able to move the calf's head and neck into the proper position. With the help of Lynn Kramer, D.V.M., and the giraffe team, the newborn was safely delivered. The calf was quickly moved to the maternity stall where he was introduced to mom and began nursing shortly after.



ROUTINE TRAINING IN THE TAMER

"The TAMER® and our team's training definitely paid off, allowing us to provide excellent emergency care to Chrystal and her calf" said Kramer, who is also the Dallas Zoo's Vice President of Animal Operations and Welfare.



ULTRASOUND

For more information about TAMER® equipment contact: Mark MacNamara at (845) 758-2549, E-mail: faunaresearch@gmail.com On-line: www.faunaresearch.com

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FAUNA RESEARCH INC.

Notes from the Field



LOCATION: The Al Ain Zoo, Al Ain, UAE
DATE: July, 2013
SPECIES: Giraffe
EQUIPMENT: Giraffe TAMER® and Push alley way with slide doors and catwalk
NOTES: The Giraffe TAMER® was installed on a concrete pad adjacent to the existing Giraffe barn. Installation was completed in 3 days and the TAMER® was immediately put to use on Day 4.

FIELD NOTES:

DAY 1: Begin installation of TAMER® . Giraffe gives birth same day.

DAY 2: Continue installation of TAMER® .

DAY 3: Complete installation of TAMER® . Giraffe has not passed the placenta. Vets attempt to dart giraffe with antibiotics.

DAY 4: 7:00 am Final decision and preparations are made to separate the female from the herd and move her into the TAMER® .
 8:00 am The Giraffe is separated from the herd and guided through the barn and alley-way toward the TAMER® by animal keepers. Led by Mr. Gul Karim.
 8:03 am She is locked in the TAMER® and the following procedures are performed:

- Exact body weight taken immediately on entering the TAMER®
- Using the adjusting push panel, the animal is snugged up to control movement.
- From the upper catwalk, Drs. Shwaki & Cavero calm the animal, secure a blind fold, draw blood, inject antibiotics, vitamins & minerals, and monitor her behaviour.
- At the same time, Drs. Chege & Sean work through the No. 2 rear door, clean the perineum area, gently remove the placenta, then clean and flush the uterus with providone iodine.

8:40 am The Giraffe exits the TAMER® under her own power and is held in an adjacent pen for observation.



Giraffe being held in TAMER® by push side panel



Blind fold & Blood Draw: Drs. Shawki and Cavero



Female in the Giraffe TAMER®



Multiple access points on the Giraffe TAMER®



Successful removal of retained placenta & a shot of antibiotics.

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 E-mail: faunaresearch@gmail.com
 On-line: www.faunaresearch.com

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FAUNA RESEARCH INC. Notes from the Field



LOCATION: The São Paulo Zoo, São Paulo, Brazil
DATE: March 2014
EQUIPMENT: Customized, galvanized giraffe TAMER® with built in full floor, electronic scale.

NOTES: The São Paulo Zoo recently installed the first Giraffe TAMER® in South America to help manage their growing giraffe herd and help facilitate the importation and exportation of individuals in order to maintain genetic diversity. The TAMER® allows for quick and easy collection of blood samples necessary for the monitoring of blood borne diseases. In addition, the TAMER® makes it possible to record daily weights, give injections and vaccinations, as well as perform routine vet exams and most medical treatments. The TAMER® is also the focal point of an expanded operant conditioning program and better hoof care and maintenance program.



TAMER® team in São Paulo

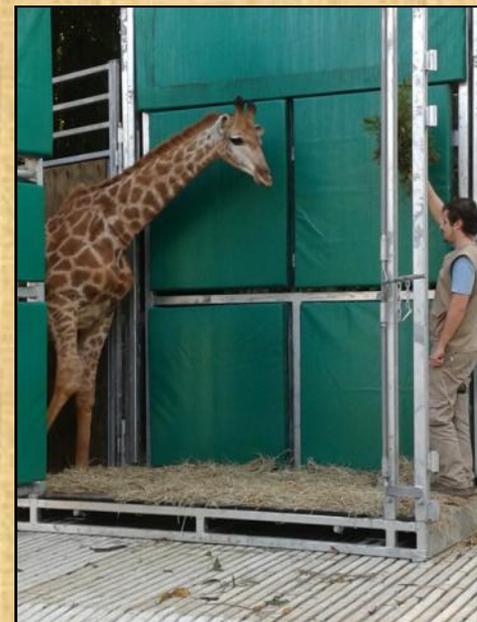
The São Paulo Zoo is dedicated to promoting education, research, species conservation and biodiversity conservation both at the Zoo and in the field.



Week 1: Checking out the TAMER®



Week 2: Desensitizing the Giraffe to the TAMER®



Week 3: Stepping up and walking through the TAMER® becomes part of the daily routine.

For more information about animal management programs at São Paulo Zoo, contact Mara Cristina Marques at mcangelo@sp.gov.br.

For more information about TAMER® equipment contact: Mark MacNamara at (845) 758-2549, E-mail: faunaresearch@gmail.com On-line: www.faunaresearch.com

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Notes from the Field

FAUNA RESEARCH INC.



LOCATION: Zoos using giraffe TAMERS to help manage their giraffe herds.

EQUIPMENT: Giraffe TAMERS, adjustable giraffe feeders, portable and permanent giraffe penning and alleyways.

NOTES: A giraffe TAMER makes it possible to hold the giraffe firmly and safely, in order to carry out veterinary procedures such as blood draws, clinical exams, and footcare, without resorting to risky anesthesia.



Ultra Sound/X-Ray



Training



Blood Draws



Foot Care

Giraffe TAMER locations in North America. For a list of global Giraffe TAMERS contact Mark MacNamara at 1-845-758-2549



- Audubon Zoo, New Orleans
- Bronx Zoo
- Cleveland Metroparks Zoo
- El Paso Zoo
- Franklin Park Zoo, Boston
- Greenville Zoo, SC
- Lincoln Park Zoo, Chicago
- Lion Country Safari, Canada
- Living Desert, Palm Desert, CA
- Lowry Park Zoo, Tampa, FL
- The Maryland Zoo, Baltimore
- Miami Metrozoo
- Milwaukee County Zoo
- Kansas City Zoo
- Santa Barbara Zoo, CA
- White Oaks Plantation Yulee, FL
- New Zoo, Wisconsin
- Peoria Zoo, IL
- Philadelphia Zoo
- Sacramento Zoo
- San Diego WAP
- San Francisco Zoo
- Six Flags, Vallejo, CA
- Tulsa Zoo, OK
- Honolulu Zoo, HI

- Zoo De Granby, Quebec
- Mayaguez Zoo, Puerto Rico
- Paignton Zoo, Devon, UK
- National Zoo, Wash., DC
- Niabi Zoo, Coal Valley, IL
- Micanopy Preserve, FL
- Indianapolis Zoo, IN
- Busch Gardens, Tampa, FL
- Al Ain Wildlife Park and Resort Al Ain, UAE

- Omaha's Henry Doorly Zoo, NB
- Albuquerque Biopark, NM
- Abilene Zoo, TX
- Zoo Atlanta, GA
- Turtle Back Zoo, NJ
- San Antonio Zoo, TX
- Oklahoma Zoo, OK
- Toronto Zoo, ON, Canada
- Copenhagen Zoo, Denmark
- Vienna Zoo, Austria



Notes from the Field

FAUNA RESEARCH INC.

LOCATION: NEW ELEPHANT BARN,
ROSAMOND GIFFORD ZOO,
SYRACUSE, NY

SPECIES: ASIAN ELEPHANT *Elephas maximus*

DATE: Spring 2011

EQUIPMENT: INDOOR AND OUTDOOR MANUAL
SWING AND PRE-HUNG ROLLER
GATES, HYDRAULIC ROLLER GATES
AND ELEPHANT TAMER® WITH SCALE
AND BELLY BANDS

NOTES

The herd consists of one mature bull, Indy, 5 cows and a 3 year old bull calf. The zoo manages the animals with a combination of free and protective contact. Indy is managed safely in a protective contact program. The 10,000 lb bull put the TAMER® to the test while in full musth shortly after the barn opened. The TAMER® withstood the pounding and punishment from Indy as he repeatedly challenged the hydraulically operated doors and swing panels.



Indy entering the TAMER®



Indy in musth,
challenging the closing roller gate.



Pre-hung roller gates can be installed rapidly on sloped floors and require no floor track. Exterior gates are insulated, sheathed with plate steel and sealed with weather stripping.

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Notes from the Field FAUNA RESEARCH INC.

LOCATION: The Rare Rhinos Exhibit—Great Plains Zoo, Sioux Falls, SD
-Completed in 2010, the outdoor exhibit boasts two beautifully landscaped exhibits over 27,000 square feet and an indoor exhibit featuring numerous sky lights and planters creating a bright, lush environment year round.
-The exhibit is home to Jubba a 16 year old male, Imara a 15 year old female and their male calf Kiano, born October 7, 2010.

SPECIES: Black Rhino, *Diceros bicornis*
DATE: Spring 2010

- EQUIPMENT:**
- Manual swing and pre-hung roller gates;
 - Hydraulic roller gates; and
 - Rhino TAMER® with built-in scale
 - Exterior Rhino doors insulated & weather stripped.

NOTES
All of the Rhinos are moved through and trained in the Rhino TAMER® as part of their daily routine. The TAMER® makes it possible to record daily weights, safely give baths, apply mudpacks, draw blood samples, give injections & vaccines as well as perform routine vet exams and most medical treatments.

“Having the right equipment can make a big difference in the care and husbandry of Rhinos. The Rhino TAMER® is definitely one of the best components of the new barn.” Lisa Smith, Director of Animal Programs



A PAT ON THE BACK FROM KEEPER AMANDA CROWBERG

Photography courtesy of Great Plains Zoo and Delbridge Museum of Natural History



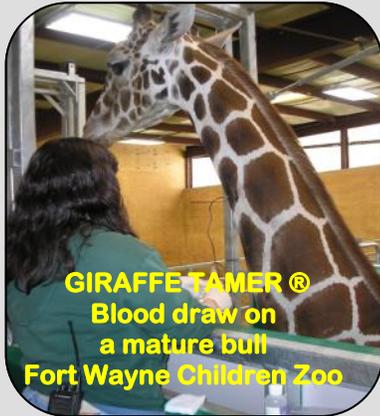
Jubba, enjoying his new home at the Rare Rhinos Exhibit

For more information about this project or equipment, please contact:
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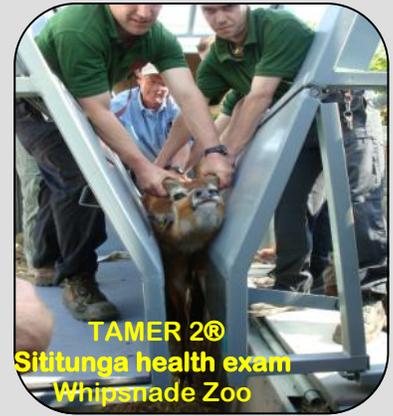
Notes from the Field



GIRAFFE TAMER®
Blood draw on
a mature bull
Fort Wayne Children Zoo



HYDRAULIC TAMER®
Target training a Zebra
Maryland Zoo



TAMER 2®
Sititunga health exam
Whipsnade Zoo

ANIMAL HANDLING ISSUES?

One of the greatest challenges facing any progressive zoological collection is the safe and rapid restraint of their animals. Large hoofstock in particular have historically proven difficult to restrain easily and safely without the use of chemical agents. In order to help resolve this problem, **FAUNA RESEARCH, INC.**, has developed both permanent and portable **TAMER®** systems, not only for hoofstock, but also Giraffe, Rhino, Hippo, Elephant, and Ostrich.



Ostrich TAMER®
Male Ostrich exiting TAMER®
Highland Farm



TAMER JR®
Transcaspian Urial Ram
hoof trim
Al Ain Zoo



RHINO TAMER®
Applying Antibiotic
Cream
Great Plains Zoo



Elephant TAMER®
Weighing a Mature Bull
Rosamond Gifford Zoo

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