RCVD FEB 06 2017

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OMB No. 1018-0093
Expires 05/31/2017

Department of the Interior
U.S. Fish and Wildlife Service

Federal Fish and Wildlife Permit Application Form

Return to: U.S. Fish and Wildlife Service
Division of Management Authority (DMA)
Branch of Permits, MS: IA
5275 Leesburg Pike
Falls Church, VA 22041-3803
1-800-358-2104 or 703-358-2104

Type of Activity:
CAPTIVE-BRED WILDLIFE REGISTRATION (CBW)
(U.S. Endangered Species Act)
☐ New Application
☑ Requesting Renewal/Amendment of Permit# MA812907-0

Complete Sections A or B, and C, D, and E of this application. U.S. address may be required in Section C, see instructions for details.
See attached instruction pages for information on how to make your application complete and help avoid unnecessary delays.

A. Complete if applying as an individual

1.a. Last name	1.b. First name	1.c. Middle name or initial	1.d. Suffix

2. Date of birth (mm/dd/yyyy)	3. Social Security No.	4. Occupation	5. Affiliation/ Doing business as (see instructions)

6.a. Telephone number	6.b. Alternate telephone number	6.c. Fax number	6.d. E-mail address

B. Complete if applying on behalf of a business, corporation, public agency, Tribe or institution

1.a. Name of business, agency, Tribe, or institution	1.b. Doing business as (dba)
Disney's Animal Kingdom	

[redacted]	3. Description of business, agency, Tribe, or institution: Zoological Theme Park	
[redacted] name	4.b. Principal officer First name: Mark	[redacted] fficer Middle name/ initial; 4.d. Suffix

5. Principal officer title	6. Primary contact [redacted]
Vice President	Lynn McDuffie

7.a. Business telephone numbe[redacted]umber	7.c. Business fax number	7.d. Business e-mail address
407-939-2468	407-938-2916	Lynn.McDuffie@disney.com

C. All applicants complete address information

1.a. Physical address (Street address, Apartment #, Suite #, or Room #; no P.O. Boxes)				
1200 N. Savannah Circle E				
1.b. City	**1.c. State**	**1.d. Zip code/Postal code**	**1.e. County/Province**	**1.f. Country**
Bay Lake	FL	32830	Orange	USA

2.a. Mailing Address (include if different than physical address; include name of contact person if applicable)				
P. O. Box 10000 (Lynn McDuffie)				
2.b. City	**2.c. State**	**2.d. Zip code/Postal code**	**2.e. County/Province**	**2.f. Country**
Lake Buena Vista	FL	32830	Orange	USA

D. All applicants MUST complete

1. Attach check or money order payable to the U.S. FISH AND WILDLIFE SERVICE **in the amount of $200 nonrefundable fee**. Federal, Tribal, State, and local government agencies, and those acting on behalf of such agencies, are exempt from the processing fee – ***attach documentation of fee exempt status as outlined in instructions.*** (50 CFR 13.11(d))

2. Do you currently have or have you ever had any Federal Fish and Wildlife permits?
Yes ☑ If yes, list the number of the most current permit you have held or that you are applying to renew/re-issue: MA812907-0 No ☐

3. Certification: I hereby certify that I have read and am familiar with the regulations contained in ***Title 50, Part 13 of the Code of Federal Regulations*** and the other ***applicable parts in subchapter B of Chapter I of Title 50***, and I certify that the information submitted in this application for a permit is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. 1001.

Signature (**in blue ink**) of applicant/person responsible for permit (No photocopied or stamped signatures) — Date of signature (mm/dd/yyyy): 02/01/2017

[redacted]

LYNN S Mc DUFFIE

[redacted]

DATE

PAY TO THE ORDER OF U.S. Fish and Wildlife Service $ 200 00

Two Hundred and 00/100 DOLLARS

Merrill Lynch
Bank of America Corporation

[redacted]

L McDuffie

RCVD FEB 06 2017

E. CAPTIVE-BRED WILDLIFE REGISTRATION *(U.S. Endangered Species Act)*

Please use the following application for all CBW requests: new or renewals.

For New applications, complete Part 1 of the applications. CBW registration is valid for 5 years. You may renew your CBW once after 5 years, but after a CBW registration has been valid for 10 years, you must submit a complete new application responding to all questions.

If you are requesting to renew your CBW (it has been less than 10 years since you completed a completely new application), completed Part 2 of this application.

All applicants must complete Part 3 of the application.

Electronic submission of inventories, photographs, and receipts: Some applications contain long inventories and/or a large number of photographs or receipts. You may provide electronic versions of these documents. Such a submission may assist to expedite the processing of your application since it will eliminate the need for data entry by U.S. Fish and Wildlife Service. You may include a disk containing your information or, if applicable, please check the following:

Part 1: New Applications or the Renewal of CBW that are older than 10 years:

Provide the following information. Complete all questions on the application. Signify that you have read each question by writing "N/A" if non applicable. If needed, use separate sheets of paper. On all attachments or separate sheets you submit, indicate the application question number you are addressing.

1. The scientific name (genus, species and, if applicable, subspecies) and common name of each species you are seeking to have covered by the registration.

The scientific name and common name of each species Disney is seeking to have covered by the registration are:

Common Name	Scientific Name
Mammalia	
Red-collared Brown Lemur	*Eulemur collaris*
Ring-tailed Lemur	*Lemur cata*
Golden Lion Tamarin	*Leontopithecus rosalia*
Cotton-top Tamarin	*Saguinus oedipus*
Lion-tailed Macaque	*Macaca silenus*
Mandrill	*Mandrillus sphinx*
White-cheeked Gibbon	*Nomascus leucogenys*
Siamang	*Symphalangus syndactylus*
Western Lowland Gorilla	*Gorilla gorilla gorilla*
Cheetah	*Acinonyx jubatus*
Southern African Cheetah	*Acinonyx jubatus jubatus*
Lion	*Panthera leo*
African Lion	*Panthera leo krugeri*
Tiger	*Panthera tigris*
Sumatran Tiger	*Panthera tigris sumatrae*
African Hunting Dog	*Lycaon pictus*
African Hunting Dog	*Lycaon pictus pictus*
Grevy's Zebra	*Equus grevyi*

Hartmann's Mountain Zebra	*Equus zebra hartmannae*
Somali Wild Ass	*Equus africanus somaliensis*
Southern White Rhinoceros	*Ceratotherium simum simum*
Southern Black Rhinoceros	*Diceros bicornis minor*
Eastern Black Rhinoceros	*Diceros bicornis michaeli*
North Sulawesi Babirusa	*Babyrousa celebensis*
Burmese Brow-antlered Deer	*Rucervus eldii thamin*
Bontebok	*Damaliscus pygargus pygargus*
Addax	*Addax nasomaculatus*
Scimitar-horned Oryx	*Oryx dammah*
Red Lechwe	*Kobus leche leche*

Aves

White-naped Crane	*Antigone vipio*
Hyacinth Macaw	*Anodorhynchus hyacinthinus*
Scarlet Macaw	*Ara macao*

Reptilia

Radiated Tortoise	*Astrochelys radiata*
Galapagos Tortoise	*Chelonoidis nigra*
Common Spider Tortoise	*Pyxis arachnoides arachnoides*
Egyptian Tortoise	*Testudo kleinmanni*
Komodo Dragon/Ora	*Varanus komodoensis*

Osteichthyes

Giant Thai Catfish	*Pangasius sanitwongsei*

While not all species are currently listed as either Endangered or Threatened, they are either proposed listing or under review for listing. As this permit is valid for five (5) years, we are requesting to have them covered by this Registration.

2. **The exact location (address) where the wildlife requested in this application will be maintained. If more than one location exists, list all that apply.**
NOTE: You must report any change in address to the Division of Management Authority within 10 days.

The wildlife will be maintained on the Walt Disney World® Resort property at Disney's Animal Kingdom, 1200 North Savannah Circle E, Lake Buena Vista, Florida 32830 and Disney's Animal Kingdom Lodge, 2901 Osceola Parkway, Lake Buena Vista, Florida, 32830. We maintain Disney's Animal Kingdom Lodge as an enclosure of Disney's Animal Kingdom as it is adjacent to the park.

3. **The name, address, and CBW registration number of the person(s) or institution(s) from whom you plan to acquire the wildlife.**

Disney's Animal Kingdom plans to acquire wildlife from other Association of Zoos and Aquariums (AZA) accredited and related institutions, member facilities of other zoo associations, recognized wildlife departments within the countries of origin, private individuals/breeders that abide by the AZA Professional Code of Ethics and are a participating member of an AZA Species Survival Plan® (SSP), or other CBW registrants.

4. **Provide a current inventory, including those out on loan, of the ESA-listed species you are requesting to include in a CBW registration.**

See Addendum A for the current inventory, including those out on loan, of the ESA-listed species Disney's Animal Kingdom is requesting to include in a CBW registration.

5. **Provide a specific description of how your proposed activities are going to facilitate captive breeding for conservation purposes of the species identified above, including your long-term goals and intended disposition of any progeny.**

   As an active member of AZA, Disney's Animal Kingdom participates in many of AZA's Species Survival Plan® (SSP) programs. SSP Programs develop a Breeding and Transfer Plan that identify population management goals and recommendations to ensure the sustainability of a healthy, genetically diverse, and demographically varied population. Each SSP works under the supervision of a Taxon Advisory Group (TAG), which may manage multiple AZA Animal Programs within its purview. In addition, we have a long-term commitment to conservation and education relating to the preservation of the biodiversity of nature. This commitment to conservation and education is accomplished not only by our involvement with the AZA SSP programs since the park opened in 1998, but also through the education of our guests (both foreign and local) as to the role they can play in saving habitats and species throughout the threatened ecosystem.

   Disney's Animal Kingdom works under the direction of AZA SSP and TAG programs to determine which animals in the collection are to be bred for conservation purposes and maintained in the collection. These management groups are, and will be, consulted for future holdings in the collection, and disposition of any progeny is under the direction of the SSP. These practices will continue to help maintain gene diversity and sustain SSP populations.

   For specific details of our long-term goals for each species and intended disposition of any progeny, see the responses for the following questions (both 6 and 7) regarding documentation of recommendations from SSPs or TAGs.

6. **Provide documentation showing how your captive population is being managed to maintain its genetic vitality. If you do not currently maintain sufficient specimens in each species request to maintain the genetic vitality of the species, you must participate in an organized breeding program, such as a Species Survival Plan. Please indicate this and provide documentation describing the objectives and goals of the program.**

   Disney's Animal Kingdom is an AZA accredited institution and is a member of Species360. All animal records are entered into our Zoological Information Management System (ZIMS) records. The majority of the requested species are maintained in an organized management plan. A concerted effort is made to cooperate with all studbooks, Species Survival Plans (SSPs) and Taxon Advisory Groups (TAGs) that exist relating to the collection held at the facility. The objectives of Disney's Animal Kingdom are in accordance with those of the AZA and its other member institutions, recognizing that cooperative management is critical to the long-term survival of professionally managed programs. Disney's Animal Kingdom is fully committed to the goals and cooperative spirit of the SSP. During times when animals are not recommended to breed, females will either be prescribed contraception in accordance with SSP guidelines or animals will be housed in same-sex groupings. We will manage surplus animals in the SSP population to alleviate crowding at other AZA facilities with breeding recommendations.

   In most SSP populations, pairings are prioritized to maintain or increase gene diversity through considerations of mean kinship, avoidance of inbreeding, differences in sires and dam mean kinships, and the degree of uncertainty within a pedigree. SSP Programs have three designations: Green, Yellow and Red. Green SSP Programs manage populations that are the most sustainable over time. Yellow SSP Programs manage populations that are potentially sustainable but require additional attention and effort to increase their sustainability. Factors such as reduced husbandry and breeding expertise/predictability, limited number of individuals, space, or founders, and/or poor demographics may prevent the program from achieving the Green SSP Program designation. Red SSP Programs manage populations that are currently unsustainable and in critical need of start-up efforts (e.g. importations) to help them increase their sustainability. This designation may change to a Yellow or Green SSP program as sustainability increases.

Mammalia

Cotton-top Tamarin (*Saguinus oedipus*) – This species is managed under the direction of the Cotton-top Tamarin SSP. The SSP is focusing on growing the population to its target size (300) set by the AZA New World Monkey TAG through increased breeding over the next 62 years by creating more breeding pairs and allowing some previously established pairs to begin breeding. Gene diversity is high and will remain above 90% for 100 years making this species qualify as a Green SSP. To meet these goals, the SSP has recommended 37 breeding pairs, an increase from 27 pairs in the past in an attempt to reverse the decline in recent years and 31 transfers to set up new breeding pairs, give singly housed animals social companions, and get genetically valuable animals in breeding situations. Disney's Animal Kingdom has been requested to hold one pair and do not breed. We have also been recommended to send one female to another location and to receive another female for future breeding.

Lion-tailed Macaque (*Macaca silenus*) – This species is managed under the direction of the Lion-tailed macaque SSP. The SSP is focusing on growing the population to a target size of 75 individuals set by the Old World Monkey TAG. This program is qualified as a Red SSP. The current gene diversity is 78.44%. At the request of the SSP, Disney's Animal Kingdom imported three females from Europe in 2016 to add a new genetic blood line to the small AZA population of 32 individuals. The majority of this population is likely non-reproductive due to age or sterility. The animals currently in Disney's collection have been recommended to breed. The staff will try to maintain females in the natal group, unless recommended otherwise.

Mandrill (*Mandrillus sphinx*) – This species is managed under the direction of the Mandrill SSP. The SSP is focusing on growing the population to a target size of 150 animals set by the Old World Monkey TAG. This population qualifies as a Yellow SSP. Demographic analysis of the captive AZA SSP population indicated that with an estimated breeding success of 40%, the population will need at least 15 births in the next three years to maintain the current population size of 88 animals. Given the low reproductive output of this population, it is estimated that 28 pairings (over three years) are necessary to produce 15 offspring. To meet these goals, the SSP has recommended breeding 23 females, 14 transfers and two zoos (in addition to Disney's Animal Kingdom) to import from Europe. We have been recommended to breed five of our females with a male that was recently imported from Europe, as this brought a new genetic bloodline and we have shown success in breeding for this species. One of our other males has also been transferred for breeding purposes per recommendation. All other females in the breeding group have been prescribed contraception. Offspring will be held for group growth when appropriate. The ultimate goal is to manage a large, stable, age-diversified group of mandrills. The staff currently manages three smaller groups due to social incompatibility.

White-cheeked Gibbon (*Nomascus leucogenys*) – This species is managed under the direction of the White-cheeked Gibbon SSP. The management strategy for this species, designated by the Ape TAG, is to grow the SSP population from 87 individuals to 125 over the next 30 years. The population currently qualifies as a Yellow SSP Program. The population is projected to maintain 90% gene diversity for approximately 68 years and 88.1% gene diversity for 100 years. To meet its goals, the SSP has recommended 15 breeding pairs to breed over the next two to three years and nine transfers, including an export and an import from Australia. When this recommendation was published (2015), we were recommended to breed our pair and have fulfilled this recommendation. Our current strategy for this species is to maintain a social family group. Offspring will stay in the family group until the age of six or seven, ensuring they are socially adapted before being transferred per SSP recommendation. Though the current breeding female in the collection is on contraception in accordance with SSP recommendation, she will be bred again after her oldest offspring is removed from the group.

Siamang (*Symphalangus syndactylus*) – This species is managed under the direction of the Siamang SSP. The management strategy for this species, designated by the Ape TAG, is to grow the SSP population from 113 individuals to 115 over the next two years. The current gene diversity of this population is just over 97% and is projected to retain 90% gene diversity for over 100 years. This population qualifies as a Green SSP Program. The SSP continues to balance the social cost of repairing existing pairs with large mean kinship differentials with the genetic benefit. In the future, care will continue

to be taken to minimize mean kinship differentials of new pairs in order to maximize exploitation of potential gene diversity in the population. To meet the goals, the SSP has recommended 20 females to breed, with breeding institutions to hold offspring for at least five years and nine transfers. The current strategy at Disney's Animal Kingdom is to manage the older animals in our collection through attrition and place one (or both) of our younger females based on SSP recommendations. The staff will work under the direction of the SSP to place and/or receive individuals in order to create the best social condition for the collection.

Western Lowland Gorilla (*Gorilla gorilla gorilla*) – This species is managed under the direction of the Gorilla SSP. The current SSP managed population is 353 individuals; of which 312 make up the potentially breeding population. Given the current gene diversity, this population is projected to be 90% for over 400 years and above 95% for over 150 years. This population qualifies as a Green SSP Program. To maintain the target population size set by the Ape TAG, the SSP has recommended 53 pairings over an 18-24 month period. In addition to mean kinship, consideration was also given to the construction of same-age cohorts within institutions. Specifically, where possible, multiple low mean kinship females were recommended to breed at institutions that currently have no individuals under three years old. For all breeding recommendations, inbreeding was avoided and breeding-related transfers were not recommended unless requested by an institution. In general, females do not get recommendations to breed unless they are at least ten years of age and males are in their late-teens. The current strategy at Disney's Animal Kingdom for this species is to house one mixed-sex family group (one silverback and three to four adult females with offspring) and one bachelor group of gorillas. Female offspring will be maintained in the natal group until the age of ten. Male offspring will be held in the natal group as long as socially possible. Based on SSP recommendations, similarly aged males will be grouped together to form future bachelor groups. We have not been recommended to breed this year, but anticipate breeding recommendations in the future due to the success of our program and genetic lines. All of our females have been contracepted using reversible methods unless otherwise recommended by the SSP.

Sumatran Tiger (*Panthera tigris sumatrae*) – This species is managed under the direction of the Sumatran Tiger SSP. The long-term management strategy designated by the Felid TAG is to grow the current population to 150 animals. The short-term management strategy for this SSP is to grow the current population from 70 animals to an estimated 84 animals. Gene diversity is starting to decline and has fallen below 90% in the managed population. This population qualifies as a Yellow SSP Program. There were 15 breeding pairs recommended and ten transfers for future breeding purposes or to meet exhibition/ management needs. The pair housed at Disney's Animal Kingdom is included in the breeding recommendations.

Grevy's Zebra (*Equus grevyi*) – This species is managed under the direction of the Grevy's Zebra SSP. The management strategy for this species is to grow the population from 174 individuals to 200, as designated by the Equid TAG. The current gene diversity of this population is 97.19% and this population could maintain gene diversity of 90% for 100 years. This population currently qualifies as a Green SSP Program. In order to meet its goal, the SSP has recommended 81 breeding pairs and 21 transfers. In addition to genetic criteria, the SSP also considered other factors such as social group needs, age, health, and reproductive status when making pairings and transfers. The male currently residing at Disney's Animal Kingdom has been recommended to breed with all of the females held here. Offspring will be held until transfer is recommended by the SSP.

Hartmann's Mountain Zebra (*Equus zebra hartmannae*) – This species is managed under the direction of the Hartmann's Mountain Zebra SSP. The management strategy for this species is to grow the population from 57 animals to the target size of 90, as designated by the Equid TAG. Gene diversity in this population is currently 93.10%, but is expected to drop to 75.9% in 100 years. This population currently qualifies as a Yellow SSP Program. In order to reach its goals, the SSP has recommended 12 breeding herds with ten males and 34 females recommended to breed. Four transfers have also been recommended. The SSP has requested we transfer our male to a new institution for breeding and that we are to receive a new male from outside the AZA population to breed with all females of age in the collection.

Southern White Rhinoceros (*Ceratotherium simum simum*) – This species is managed under the direction of the Southern White Rhinoceros SSP. The Rhinoceros TAG has set the target size for the AZA population to be 150 animals. AZA institutions currently hold a total of 165 individuals and as interest in this species continues to grow, the target size could be increased. Current projections for the AZA population indicate that between 89.1% and 91.2% of founding gene diversity can be maintained for 100 years. This program currently qualifies as a Yellow SSP Program. The SSP has recommended 87 females for breeding and nine transfers. Although this number of recommended females may seem aggressive, historical reproductive success suggests only a small percentage of recommended females are expected to breed. Disney has complied with two recommended transfers for breeding purposes. Four females have been recommended to breed with one of our males.

North Sulawesi Babirusa (*Babyrousa celebensis*) – This species is managed under the direction of the Babirusa SSP. The Wild Pig, Peccary & Hippo TAG has set the target size for this population to be 100 animals which would be an increase from the current 60 animals. The current gene diversity in the population is 67.83% and gene diversity is projected to be 53.4% in 100 years. The Babirusa SSP qualifies as a Yellow SSP Program. In order to reach its goals, the SSP has recommended 27 females to breed and 22 transfers. The pair currently in the collection at Disney's Animal Kingdom has been recommended to breed. All offspring will be relocated according to SSP recommendations.

Addax (*Addax nasomaculatus*) – This species is managed under the direction of the Addax SSP. The Antelope TAG has designated the target size for this population to be 250 animals, a slight increase from the current 248 animals. The current gene diversity of this population is 86.93% and is expected to maintain 74.9% after 100 years. This program qualifies as a Yellow SSP Program. The SSP has recommended 96 breeding pairs and sixteen transfer for the next breeding season. The high number of pairings recommended is due to a relatively low rate of success in recent years and also the decline of the wild population (less than 100 animals are estimated to exist in the wild). While Disney's Animal Kingdom had previously been holding eight sterile males due to over-crowding among 24 AZA institutions, the SSP has recommended that we are to receive one male and two females for breeding purposes.

Red Lechwe (*Kobus leche leche*) – This species is currently designated as a candidate species under the management of the Antelope and Giraffe TAG. This is not a full SSP program yet due to the low participation level in the AZA community. Currently, there are only 24 animals at four participating institutions. The target population size, as designated by the Antelope and Giraffe TAG, is 75 animals. The current gene diversity of this population is 64.94% and is projected to decrease to 26.1% in 100 years. After consulting with the TAG, Disney's Animal Kingdom has acquired two young females from another AZA institution and plans to acquire a male from the private sector to increase the genetic diversity within the AZA population.

Aves

White-naped Crane (*Grus vipio*) – This species is managed under the direction of the White-naped Crane SSP. The Gruiformes TAG has set a target population size of 90 animals. There are currently 66 specimens in the SSP population. The gene diversity at 100 years is expected to be 87%. This program qualifies as a Yellow SSP Program. The SSP has recommended 19 breeding pairs and ten transfers. The pair currently in the collection have been recommended to breed. All offspring will be held until staff receives recommendations from the SSP for placement.

Reptilia

Radiated Tortoise (*Astrochelus radiata*) – This species is managed under the direction of the Radiated Tortoise SSP. The Chelonian TAG has set a target population size of 500 animals, which would be an increase from the current 336 animals at 58 institutions. Gene diversity for this population is currently at 98% and is expected to continue to exceed 90% at 200 years, allowing this program to be designated as a Green SSP Program. Due to recent low reproductive rates, the SSP has recommended 23 females to breed and 32 transfers. Disney's Animal Kingdom has been recommended to receive a breeding pair and to transfer the current animals in the collection for holding at another facility. All offspring will be held until staff receives recommendations from the SSP for placement.

Egyptian Tortoise (*Testudo kleinmanni*) – This species is managed under the direction of the Egyptian Tortoise SSP. The Chelonian TAG has set a target population size of 90 animals, which is slightly under the current 107 animals at 24 institutions. Gene diversity for this population is currently 89.74% and is expected to drop to 72.8% at 100 years. This program qualifies as a Yellow SSP Program. The SSP has recommended 34 transfers and 32 females for breeding over the next three years. Disney's Animal Kingdom has transferred one of its females for breeding and the remaining pair has also been recommended to breed. All offspring will be held for at least five years at the request of the SSP and relocated according to SSP recommendations. This species is currently listed as under review for listing. As this permit is valid for five (5) years, we are requesting to have them covered by this Registration.

Komodo Dragon (*Varanus komodoensis*) – This species is managed under the direction of the Komodo Dragon SSP. The Lizard TAG has set a target population size of 150 animals, which would be an increase from the current 126 animals at 58 institutions. Gene diversity is currently 92.18% and is projected to drop to 51.5% in 100 years. This program qualifies as a Yellow SSP Program. The SSP has recommended 16 females to breed and 11 transfers in order to increase the population size. One of the females in Disney's collection has been recommended to breed; however, the male she was to be paired with died after the SSP recommendations were published. Disney is still waiting on new recommendations from the SSP.

For further documentation, see Addendum B for published SSP Breeding and Transfer recommendations by species for the species that we are requesting be covered by this Registration.

7. **If your activities include the holding of surplus wildlife for an organized management program, document how your acquisition of such wildlife will relieve crowding at the locations from which the wildlife will be obtained, and thereby assist the breeding program for the species involved. If applicable, provide documentation that you are a participant in an organized management program where the holding of surplus wildlife has been identified as a necessary objective of the breeding program. If your only purpose is to hold surplus wildlife, provide a description of how you will restrict/control breeding at your facility.**

Disney's Animal Kingdom is an AZA accredited institution and is a member of Species360. All animal records are entered into our Zoological Information Management System (ZIMS) records. The majority of the requested species are maintained in an organized management plan. A concerted effort is made to cooperate with all studbooks, Species Survival Plans (SSPs) and Taxon Advisory Groups (TAGs) that exist relating to the collection held at the facility. The objectives of Disney's Animal Kingdom are in accordance with those of the AZA and its other member institutions, recognizing that cooperative management is critical to the long-term survival of professionally managed programs. Disney's Animal Kingdom is fully committed to the goals and cooperative spirit of the SSP. During times when animals are not recommended to breed, females will either be prescribed contraception in accordance with SSP guidelines or animals will be housed in same-sex groupings. We will manage/hold surplus animals in the SSP population to alleviate crowding at other AZA facilities with breeding recommendations.

In most SSP populations, pairings are prioritized to maintain or increase gene diversity through considerations of mean kinship, avoidance of inbreeding, differences in sires and dam mean kinships, and the degree of uncertainty within a pedigree. SSP Programs have three designations: Green, Yellow and Red. Green SSP Programs manage populations that are the most sustainable over time. Yellow SSP Programs manage populations that are potentially sustainable but require additional attention and effort to increase their sustainability. Factors such as reduced husbandry and breeding expertise/predictability, limited number of individuals, space, or founders, and/or poor demographics may prevent the program from achieving the Green SSP Program designation. Red SSP Programs manage populations that are currently unsustainable and in critical need of start-up efforts (e.g. importations) to help them increase their sustainability. This designation may change to a Yellow or Green SSP program as sustainability increases.

Mammalia

Golden Lion Tamarin (*Leontopithecus rosalia*) – The staff works under the direction of the Golden Lion Tamarin SSP to determine which animals should be part of the collection. The current gene diversity

of this population is 94.74%. This program qualifies as a Green SSP Program. The SSP is currently focusing on maintaining the population size at 250 animals, as designated by the New World Primate TAG. As of June 25, 2012, there were 278 Golden Lion Tamarins living in 72 institutions in North America. The SSP has recommended 77 animals to breed to achieve this goal. The individuals in Disney's collection have not been recommended to breed due to being siblings. In the future, Disney will continue to be a holding facility for non-breeding animals to alleviate crowding at the other institutions participating in this SSP.

Red-collared Brown Lemur (*Eulemur collaris*) – The staff works under the direction of the Collared Lemur SSP to determine which animals should be part of the collection. The current gene diversity of this population is 76.03% and is expected to drop to 52.8% at 100 years. This program qualifies as a Red SSP Program. The SSP is currently focusing on growing the population size to 50 animals from the current 34, as designated by the Prosimian TAG. The SSP has recommended nine breeding pairs and one transfer to achieve this goal. The individuals in Disney's collection have not been recommended to breed due to sterility. In the future, Disney will continue to be a holding facility for non-breeding animals to alleviate crowding at the ten institutions participating in this SSP.

Ring-tailed Lemur (*Lemur catta*) –The staff works under the direction of the Ring-tailed Lemur SSP to determine which animals should be part of the collection. The current gene diversity of this population is 94.01% and is expected to drop to 89.1% at 100 years. This program qualifies as a Green SSP Program. The SSP is currently focusing on growing the population size to 675 animals from the current 584, as designated by the Prosimian TAG. The SSP has recommended 23 breeding males and 39 breeding females, as well as 25 transfers to achieve this goal in the next three years. The individuals in Disney's collection have not been recommended to breed due to sterility. In the future, Disney will continue to be a holding facility for non-breeding animals to alleviate crowding at the 98 institutions participating in this SSP.

Cheetah (*Acinonyx jubatus*) – The staff works under the direction of the Cheetah SSP to determine which animals should be part of the collection. The current gene diversity of this population is 97.34% and is expected to drop to 80% at 100 years. This program qualifies as a Yellow SSP Program. The SSP is currently focusing on maintaining the population size at 300 animals, as designated by the Felid TAG. The current population is 302 animals. The SSP has recommended 31 females to breed with specific mates and provided an additional 32 females with breeding options, as well as 43 transfers to achieve this goal. Disney's Animal Kingdom physically holds four non-breeding females for exhibit purposes only: two have been excluded from the breeding population due to age/medical reasons and two have high mean kinships, so therefore are low on the list of potential breeders. Disney will continue to be a holding facility for non-breeding animals to alleviate crowding at the 57 participating facilities. Disney has one male (excluded from the breeding population due to age) and one female on loan to another facility. The female has not been given a recommendation to breed in a specific pairing, but is being considered a potential future breeder due to low mean kinship.

African Lion (*Panthera leo krugeri*) – The staff works under the direction of the Lion SSP to determine which animals should be part of the collection. The current gene diversity of this population is 97.43% and is expected to drop to 93% at 100 years. This program qualifies as a Green SSP Program. The SSP is currently focusing on growing the population size to 320 pedigreed animals from the current 297, as designated by the Felid TAG. The SSP has recommended 35 females to breed and 18 transfers to achieve this goal. Disney's Animal Kingdom physically holds one male and two non-breeding females for exhibit purposes only to help alleviate crowding at the 98 participating institutions. Disney has one non-breeding generic lion (*Panthera leo*) on loan to another facility. She is not included in the breeding population due to age and unknown pedigree.

African Hunting Dog (*Lycaon pictus*) – This staff works under the direction of the African Painted Dog SSP to determine which animals should be part of the collection. The current gene diversity of this population is 91.15% and is expected to drop to 40.1% at 100 years. This program qualifies as a Yellow SSP Program. The SSP is currently focusing on growing the population size to 150 animals from the current 100, as designated by the Canid/Hyaenid TAG. The SSP has recommended 14 breeding females within nine breeding groups and 25 transfers to achieve this goal. Disney's Animal Kingdom currently

holds for exhibition only a young (approximately two years old) litter of six males to help alleviate crowding at the 33 participating facilities. Disney also has four males on loan to two other AZA institutions (two at each) that were imported from Australia at the request of the SSP. The SSP has included all of these males in the breeding recommendations due to the new genetic bloodline resulting from the import. All breeding institutions are expected to hold offspring for 18 to 24 months in order to replicate the natural social structure for this species of multigenerational packs.

Somali Wild Ass (*Equus africanus somalicus*) – The staff works under the direction of the Somali Wild Ass SSP to determine which animals should be part of the collection. The current gene diversity of this population is 79.02% and this population could maintain gene diversity of 60.61% for 100 years. This program qualifies as a Yellow SSP Program. The SSP is currently focusing on growing the population size to 75 animals from the current 56, as designated by the Equid TAG. The SSP has recommended 30 breeding pairs and ten transfers. Although Disney's Animal Kingdom is holding two males to alleviate crowding among the nine AZA institutions, Disney could potentially breed this species in the future as the SSP is requesting more facility participation.

Southern Black Rhinoceros (*Diceros bicornis minor*) – This species is not managed by an AZA TAG or SSP. Management is formally overseen by the International Rhino Foundation (IRF). It is an international program including institutions in the United States, Mexico and Australia. The current gene diversity of this population is approximately 95.12% and is projected to decline to 59.7% in 100 years. The global target population size, as determined by IRF, is 189 animals, which is an increase from the current 40 animals. There are currently 14 US institutions participating in this program. Disney's Animal Kingdom is not actively attempting to breed the animals in our collection. We are working with IRF to potentially switch from *D. b. minor* to *D. b. michaeli* and would like to be considered a breeding institution if the opportunity arises. However at this time, Disney's Animal Kingdom is planning to continue holding Southern Black Rhinoceros. If in the future IRF needs the space for Eastern Black Rhinoceros, Disney would certainly consider the request.

Burmese Brow-antlered Deer (*Rucervus eldii thamin*) – The staff works under the direction of the Eld's Deer SSP to determine which animals should be part of the collection. The current gene diversity of this population is approximately 88%. This program qualifies as a Yellow SSP. The SSP is currently focusing on growing the population size to 125 animals from the current 64, as designated by the Deer (Cervid/Tragulid) TAG. The SSP has recommended only two transfers and has designated three breeding facilities. Disney's Animal Kingdom holds one male and two females for non-breeding, exhibition purposes due to their age or sterility. Our holdings help alleviate crowding at the six AZA participating institutions. While we do not currently breed this species, Disney could potentially breed in the future as the SSP is requesting more facility participation.

Bontebok (*Damaliscus pygargus pygargus*) – The staff works under the direction of the Bontebok SSP to determine which animals should be part of the collection. The current gene diversity in the population is 86.48% and is projected to be approximately 73% if the population grows at its projected growth rate of 4% to the Antelope and Giraffe TAG-recommended target size of 152 animals. The formally managed population of bontebok is 53 animals and this program qualifies as a Yellow SSP Program. The SSP has recommended 25 females to breed and 10 transfers. One of Disney's males was transferred for breeding and the two that remain are both neutered. Disney remains as a surplus holding facility to alleviate crowding at the 12 AZA and one private institutions.

Scimitar-horned Oryx (*Oryx damma*) – The staff works under the direction of the Scimitar-horned Oryx SSP to determine which animals should be part of the collection. The current gene diversity of the population is 94.06% and is projected to be 78.6% at 100 years. This program qualifies as a Yellow SSP Program. The SSP is currently focusing on growing the population size to the Antelope and Giraffe TAG target size of 250 animals from the current 227 animals. The SSP has recommended 77 females to breed and 24 transfers. After the last planning session, the SSP did not recommend Disney's Animal Kingdom to breed any animals; however, we were told to hold certain individuals for potential breeding in the future. Disney's current strategy is to hold non-breeding animals or animals who have not received breeding recommendations to alleviate crowding among the 19 AZA institutions.

Aves

Hyacinth Macaw (*Anodorhynchus hyacinthinus*) – The staff works under the direction of the Hyacinth Macaw SSP to determine which animals should be part of the collection. The current gene diversity of the population is 97.88% and is projected to drop to 90% in 42 years and to almost 80% in 100 years. This program qualifies as a Yellow SSP Program. The SSP is currently focusing on growing the current population of 140 animals to the target size of 150 birds, as designated by the Parrot TAG. The SSP has recommended 24 breeding females and 9 transfers to meet these goals. Disney's Animal Kingdom holds one male for educational purposes and has not been recommended to breed this animal. This species is currently listed as proposed endangered. As this permit is valid for five (5) years, we are requesting to have them covered by this Registration.

Scarlet Macaw (*Ara macao*) – The staff works under the direction of the Parrot TAG to determine which animals should be part of the collection. AZA does not manage this species with a SSP program at this time. Disney's Animal Kingdom currently holds one male and two females for exhibit and educational purposes. This species is currently listed as proposed endangered. As this permit is valid for five (5) years, we are requesting to have them covered by this Registration.

Reptilia

Galapagos Tortoise (*Chelonoidis nigra*) – The staff works under the direction of the Galapagos Tortoise SSP to determine which animals should be part of the collection. The Chelonian TAG has set a target population size of 290 animals, which would be an increase from the current 236 animals. This population currently qualifies as a Yellow SSP Program. The SSP has recommended 27 females for breeding and 19 transfers in order to reach its goal. Disney's Animal Kingdom has been recommended to receive a non-breeding male for exhibit purposes to alleviate crowding among the 53 participating institutions. Our long-term goal is to house a breeding group if animals can be identified for transfer/breeding by the SSP.

Common Spider Tortoise (*Pyxis arachnoides arachnoides*) – The staff works under the direction of the Madagascar Spider Tortoise (*Pyxis arachnoides*) SSP to determine which animals should be part of the collection. The Chelonian TAG has set a target population size of 175 animals, which would be an increase from the current 162 animals. The current gene diversity of the population is 97.73% and is projected to drop to 88% in 100 years. This program currently qualifies as a Yellow SSP Program. The SSP has recommended 15 breeding females and 11 transfers in order to read its goal. Disney's Animal Kingdom houses one non-breeding animal. This animal has been excluded from the genetic analysis by the SSP due to unknown lineage. It is Disney's long-term goal to receive a breeding pair recommendation and transfer from the SSP and breed this species. This species is currently listed as under review for listing. As this permit is valid for five (5) years, we are requesting to have them covered by this Registration.

Osteichthyes

Giant Thai Catfish (*Pangasius sanitwongsei*) – This species is not currently part of an AZA management plan. We currently house one animal with the plan to increase the population to three and will maintain for exhibit only.

For further documentation, see Addendum C for published SSP Breeding and Transfer recommendations by species for the species that we are requesting be covered by this Registration.

8. **If you conduct research directly related to maintaining and propagating the types of wildlife sought to be covered, provide a complete description of your research goals and methods as well as any related published papers you have written.**

Disney's Animal Kingdom encourages, conducts, and supports applied and basic research in support of its conservation and research mission. Preferred research projects are those that have high conservation value, facilitate the animals' care and management, enhance animal well-being, and/or promote the guests' understanding of and respect for animals. Collaboration with experts from universities, zoological parks,

aquariums, museums and conservation organizations is encouraged. Proposals to study animals in our collection, guest behavior, and native wildlife are considered.

Collection of biological samples such as, feces, urine, semen, blood, milk, skin biopsies, etc., may be collected during routine husbandry and medical procedures, annual physical examinations, or upon necropsy. Disney's Animal Care & Welfare Committee will not approve research projects that include procedures that may involve more than momentary pain and distress unless there is a direct benefit to the individual animal(s) involved.

Disney's Animal Care & Welfare Committee (DACWC) functions similar to an Institutional Animal Care and Use Committee (IACUC), reviewing research proposals and requests for biological samples with the goal maintaining the highest standards of humane animal care and well-being, and to ensure the safety of Cast Members (staff) and/or collaborating researchers. Scientific merit and animal welfare issues are both key considerations in the review process.

List of Formal Research at Disney's Animal Kingdom for Relevant Species to CBW

Mammalia

Scimitar-horned Oryx

Alternative methods for control of nematodes in ungulates (2009-Ongoing)
External Collaborators: International Health products, Louisiana State University
Goal: The goal of this project is to evaluate non-chemical methods for controlling gastrointestinal nematode parasites in managed ruminant hoofstock at three collaborating zoological facilities. The specific hypothesis to be tested is that feeding D. flagrans spores reduce infective larvae survival and development in managed ruminant hoofstock. (Fontenot)

Southern Black Rhinoceros

Management of iron overload in black rhinoceros (Diceros bicornis) using an oral iron chelator (2013-Ongoing)
External Collaborators: University of Florida
Goal: Zoo managed black rhinos show significant organ damage that indicates a very high prevalence of chronic iron toxicity. This study evaluates the use of an iron-binding dietary supplement for reducing iron absorption in this endangered species. The investigators are determining iron status and absorption measurements in black rhinos given and not given the supplement. By increasing dietary iron elimination, the supplement could be safely administered to zoo rhinos to prevent and treat iron overload disorder. (Lavin)

Evaluation of hematologic oxidative stress in black and white rhinoceroses with correlation to serum markers of iron overload status. (2013-Ongoing)
External Collaborators: University of Florida
Goal: The purpose of this study is to measure markers of oxidative stress in blood of managed black rhinoceroses and compare them to the same measurements in managed white rhinoceroses. By making these comparisons, and by pairing data with evaluations of serum iron analyte concentrations, this research has potential to evaluate effect of ISS on oxidative stress and overall health in these rhinoceroses. (Mylniczenko)

Western Lowland Gorilla

Intergroup behavioral influences in captive gorillas (2009-Ongoing)
Goal: The purpose of this study is to investigate the behavioral influences gorilla groups (bachelors & mixed sex) have on one another. This knowledge will assist with addressing animal management and welfare needs. (Leighty)

Aves

None

Reptilia

None

Osteichthyes

None

See Addendum D for any publications resulting from any research conducted for any ESA-listed species.

9. For each requested species, provide a description of your experience in maintaining and propagating the requested species or similar species, including:

a. The number of years you or the facility has/have maintained the requested species or similar species.

Mammalia

Bovidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since December 1996:

- Bontebok (*Damaliscus pygargus pygargus*): managed since May 2005 (11 years);
- Addax (*Addax nasomaculatus*): managed since May 2010 (6 years);
- Scimitar-horned Oryx (*Oryx dammah*): managed since December 1996 (20 years); and
- Red Lechwe (*Kobus leche leche*): managed since June 2016 (<1 year).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since September 1996:

- Impala (*Aepyceros melampus*): managed since February 1998 (14 years);
- Eastern White-bearded Wildebeest (*Connochaetes taurinus*): managed since May 1997 (19 years);
- Blesbok (*Damaliscus pygargus phillipsi*): managed March 2000 to October 2011 (11 years);
- Springbok (*Antidorcas marsuplialis*): managed since April 2001 (15 years);
- Blackbuck (*Antilope cervicapra*): managed since September 1998 (18 years);
- Thomson's Gazelle (*Eudorcas thomsonii*): managed since September 1997 (19 years);
- Sand Gazelle (*Gazella leptoceros*): managed October 2014 to December 2016 (2 years);
- Southern Gerenuk (*Litocranius walleri walleri*): managed December 1997 to May 2014 (17 years);
- Gunther's Dik-dik (*Madoqua guentheri smithii*): managed January 1997 to February 2003 (6 years);
- Mhorr Gazelle (*Nanger dama mhorr*): managed January 1997 to November 2001 (4 years);
- Grant's Gazelle (*Nanger granti*): managed July 2000 to February 2007 (7 years);
- Klipspringer (*Oreotragus oreotragus*): managed January 1997 to March 2010 (13 years);
- Steenbok (*Raphicerus campestris capestris*): managed since April 2013 (3 years);
- Javan Banteng (*Bos javanicus javanicus*): managed February 1998 to April 2015 (17 years);
- Ankole Cow (*Bos taurus taurus ankole*): managed since June 2000 (16 years);
- Asiatic Water Buffalo (*Bubalus bubalis*): managed since July 2015 (1 year);
- Dwarf Forest Buffalo (*Syncerus caffer nanus*): managed October 2000 to November 2002 (2 years);
- Common Eland (*Taurotragus oryx*): managed since May 1997 (19 years);
- Nyala (*Tragelaphus angasii*): managed since December 1996 (20 years);
- Eastern Bongo (*Tragelaphus eurycerus isaaci*): managed since October 1996 (20 years);
- Lesser Kudu (*Tragelaphus imberbis*): managed since July 2014 (2 years);
- Sitatunga (*Tragelaphus spekii*): managed since December 2013 (3 years);
- Greater Kudu (*Tragelaphus strepsiceros*): managed since March 1997 (19 years);
- Yellow-backed Duiker (*Cephalophus silvicultor*): managed since September 1996 (20 years);
- Roan Antelope (*Hippotragus equinus*): managed since February 2007 (9 years);
- Sable Antelope (*Hippotragus niger*): managed since October 1996 (20 years);
- Fringe-eared Oryx (*Oryx beisa callotis*): managed November 2002 to June 2011 (9 years);
- Gemsbok (*Oryx gazella*): managed March 2000 to May 2004 (4 years);

- Common Waterbuck (*Kobus ellipsiprymnus*): managed since February 1997 (19 years); and
- Nile Lechwe (*Kobus megaceros*): managed March 1998 to March 1999 (1 year).

Canidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since November 2015:
- African Hunting Dog (*Lycaon pictus*): managed since November 2015 (1 year).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since January 1998:
- Fennec Fox (*Vulpes zerda*): managed January 1998 to December 2016 (18 years).

Cebidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since February 1998:
- Golden Lion Tamarin (*Leontopithecus rosalia*): managed since February 1998 (18 years); and
- Cotton-top Tamarin (*Saguinus oedipus*): managed since February 1998 (18 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since February 1998:
- White-fronted Marmoset (*Callithrix geoffroyi*): managed since September 2000 (16 years); and
- Emperor Tamarin (*Saguinus imperator subgrisescens*): managed since August 2010 (6 years).

Cercopithecidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since October 1997:
- Lion-tailed Macaque (*Macaca silenus*): managed since April 2016 (<1 year); and
- Mandrill (*Mandrillus sphinx*): managed since October 1997 (19 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since October 1996:
- Mona Monkey (*Cercopithecus mona*): managed March 2001 to August 2004 (3 years);
- Black-and-white Colobus (*Colobus angolensis palliates*): managed since February 2008 (8 years); and
- Kikuyu Black-and-white Colobus (*Colobus guereza kikuyuensis*): managed October 1996 to July 2008 (12 years).

Cervidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since September 1998:
- Burmese Brow-antlered Deer (*Rucervus eldii thamin*): managed since September 1998 (18 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since July 1996:
- Spotted Deer (*Axis axis*): managed February 1998 to March 2015 (17 years);
- Tufted Deer (*Elaphodus cephalophus cephalophus*): managed April 1997 to November 2006 (9 years); and
- Chinese Muntjac (*Muntiacus reevesi*): managed since July 1996 (20 years).

Equidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since October 2007:
- Grevy's Zebra (*Equus grevyi*): managed since March 2012 (4 years);
- Hartmann's Mountain Zebra (*Equus zebra hartmannae*): managed since October 2007 (9 years); and
- Somali Wild Ass (*Equus africanus somaliensis*): managed since August 2012 (4 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since October 1996:
- Plains Zebra (*Equus quagga*): managed since October 1996 (20 years).

Felidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since December 1997:

- Cheetah (*Acinonyx jubatus*): managed since December 1997 (19 years);
- Southern African Cheetah (*Acinonyx jubatus jubatus*): managed since October 2004 (12 years);
- Lion (*Panthera leo*): managed since February 1998 (18 years);
- African Lion (*Panthera leo krugeri*): managed since December 2011 (5 years);
- Tiger (*Panthera tigris*): managed since October 1998 (18 years); and
- Sumatran Tiger (*Panthera tigris sumatrae*): managed since May 2014 (2 years).

Hominidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since June 1997:

- Western Lowland Gorilla (*Gorilla gorilla gorilla*): managed since June 1997 (19 years).

Hylobatidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since October 1998:

- White-cheeked Gibbon (*Nomascus leucogenys*): managed since November 1998 (18 years); and
- Siamang (*Symphalangus syndactylus*): managed since October 1998 (18 years).

Lemuridae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since December 1997:

- Red-collared Brown Lemur (*Eulemur collaris*): managed since November 1999 (17 years); and
- Ring-tailed Lemur (*Lemur catta*): managed since December 1997 (19 years).

Rhinocerotidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since October 1996:

- Southern White Rhinoceros (*Ceratotherium simum simum*): managed since October 1996 (20 years); and
- Southern Black Rhinoceros (*Diceros bicornis minor*): managed since June 1997 (19 years).

Suidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since March 2000:

- North Sulawesi Babirusa (*Babyrousa celebensis*): managed since March 2000 (16 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since November 1997:

- Buru Babirusa (*Babyrousa babyrussa*): managed October 2001 to July 2010 (9 years);
- Warthog (*Phacochoerus africanus*): managed since November 1997 (19 years); and
- Red River Hog (*Potamochoerus porcus*): managed since July 2004 (12 years).

Aves

Gruidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since December 2011:

- White-naped Crane (*Antigone vipio*): managed since December 2011 (5 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since September 1996:

- West African Black Crowned-crane (*Balearica pavonina pavonina*): managed since September 1997 (19 years);
- East African Grey Crowned-crane (*Balearica regulorum gibbericeps*): managed since September 1996 (20 years);
- Sarus Crane (*Antigone antigone*): managed since October 1998 (18 years);
- Demoiselle Crane (*Anthropoides virgo*): managed February 1998 to June 2002 (4 years);
- Stanley Crane (*Anthropoides paradiseus*): managed since June 1998 (18 years); and

- Wattled Crane (*Bugeranus carunculatus*): managed since January 1998 (18 years).

Psittacidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since January 1998:
- Hyacinth Macaw (*Anodorhynchus hyacinthinus*): managed since January 1998 (18 years); and
- Scarlet Macaw (*Ara macao*): managed since January 1998 (18 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since February 1998:
- Macaw (*Ara ararauna x maco hybrid*): managed September 2000 to April 2003 (3 years);
- Blue-and-yellow Macaw (*Ara ararauna*): managed since January 1998 (18 years);
- Green-winged Macaw (*Ara chloropterus*): managed since January 1998 (18 years);
- Military Macaw (*Ara militaris*): managed February 1998 to November 2016 (18 years);
- Red-fronted Macaw (*Ara rubrogenys*): managed March 2006 to June 2016 (10 years);
- Chestnut-fronted Macaw (*Ara severus*): managed September 2000 to August 2005 (5 years);
- Yellow-naped Amazon (*Amazona auropalliata auropalliata*): managed September 2000 to October 2002 (2 years);
- Cuban Amazon (*Amazona leucocephala leucocephala*): managed December 2003 to June 2006 (3 years);
- Panama Yellow-crowned Amazon (*Amazona ochrocephala panamensis*): managed since February 1998 (18 years); and
- Northern Red-shouldered Macaw (*Diopsittaca nobilis*): managed September 2000 to May 2003 (3 years).

Reptilia

Testudinidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since February 2002:
- Radiated Tortoise (*Astrochelys radiata*): managed since December 2009 (7 years);
- Galapagos Tortoise (*Chelonoidis nigra*): managed February 1998 to November 2016 (18 years);
- Common Spider Tortoise (*Pyxis arachnoides arachnoides*): managed since July 2007 (9 years); and
- Egyptian Tortoise (*Testudo kleinmanni*): managed since February 2002 (14 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since February 1998:
- Yellow-footed Tortoise (*Chelonoidis denticulata*): managed since September 2000 (16 years);
- African Spurred Tortoise (*Geochelone sulcata*): managed July 1999 to January 2015 (16 years);
- Gopher Tortoise (*Gopherus sp.*): managed since March 1998 (18 years);
- Elongated Tortoise (*Indotestudo elongata*): managed September 2000 to June 2003 (3 years);
- African Pancake Tortoise (*Malacochersus tornieri*): managed since May 2001 (15 years);
- Asian Brown Tortoise (*Manouria emys emys*): managed since September 2002 (14 years);
- Burmese Black Tortoise (*Manouria emys phayrei*): managed since October 2009 (7 years);
- Leopard Tortoise (*Stigmochelys pardalis*): managed March 1998 to February 1999 (1 year); and
- Hermann's Tortoise (*Testudo hermanni*): managed March 2001 to August 2001 (<1 year).

Varanidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since November 1998:
- Komodo Dragon/Ora (*Varanus komodoensis*): managed since November 1998 (18 years).

In addition, Disney's Animal Kingdom has maintained similar species from this taxonomic family since March 1998:
- White-throated Monitor (*Varanus albigularis*): managed since August 2014 (2 years);
- Savanna Monitor (*Varanus exanthematicus*): managed March 1998 to February 2001 (3 years);

- Nile Monitor (*Varanus niloticus*): managed June 1998 to October 2009 (11 years);
- Emerald Monitor (*Varanus prasinus*): managed since June 2011 (5 years);
- Rough-necked Monitor (*Varanus rudicollis*): managed June 1998 to November 2001 (3 years);
- Water Monitor (*Varanus salvator*): managed August 2000 to November 2012 (12 years); and
- Black Tree Monitor (*Varanus beccarii*): managed since June 2012 (4 years).

Osteichthyes

Pangasiidae: Disney's Animal Kingdom has maintained species requested from this taxonomic family since September 2003:

- Giant Thai Catfish (*Pangasius sanitwongsei*): managed since September 2003 (13 years).

b. During the past five years, how many (by species, by year) successful births/hatches of each requested species or similar species have occurred at your facility? How many survived beyond 30 days?

Mammalia

Bovidae: From January 2012 to present, Disney's Animal Kingdom has had 2 successful births of species from this taxonomic family, with all animals surviving beyond 30 days for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Bontebok*	0	2	0	0	0	0
Addax**	0	0	0	0	0	0
Scimitar-horned Oryx*	0	0	0	0	0	0
Red Lechwe***	--	--	--	--	0	0
Total	0	2	0	0	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.
**Until recently, Disney has been a holding facility for non-breeding animals at the request of the SSP and will be breeding in the future.
***Disney recently acquired two females and has been recommended by the SSP to breed them when a male can be acquired.

In addition during this time period, Disney's Animal Kingdom had 105 successful births of similar species from this taxonomic family, with 100 animals surviving 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Impala	5 (1)	5	7	3	0	0
Springbok	3 (1)	0	4	5	0	0
Thomson's Gazelle	0	3	4	0	0	0
Sand Gazelle	--	--	0	2	0	--
Steenbok	--	0	0	2	2	1
Common Eland	0	0	0	2	2	0
Nyala	6	7 (1)	0	0	8	0
Eastern Bongo	1	1	0	3 (1)	2	0
Sitatunga	--	0	0	3 (1)	2	0
Sable Antelope	3	0	1	4	3	0
Common Waterbuck	1	0	3	3	4	0
Total	19 (2)	16 (1)	19	27 (2)	23	1

Canidae: From January 2012 to present, Disney's Animal Kingdom has had no successful births of species from this taxonomic family, for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
African Hunting Dog*	--	--	--	0	0	0
Total	0	0	0	0	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

In addition during this time period, Disney's Animal Kingdom had 2 successful births of similar species from this taxonomic family, with all animals surviving 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Fennec Fox	2	0	0	0	0	--
Total	2	0	0	0	0	0

Cebidae: From January 2012 to present, Disney's Animal Kingdom has had no successful births of species from this taxonomic family, for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2012	2015	2012	2017
Golden Lion Tamarin*	0	Golden Lion Tamarin*	0	Golden Lion Tamarin*	0	Golden Lion Tamarin*
Cotton-top Tamarin**	0	Cotton-top Tamarin**	0	Cotton-top Tamarin**	0	Cotton-top Tamarin**
Total	0	Total	0	Total	0	Total

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.
** Until recently, Disney has been a holding facility for non-breeding animals at the request of the SSP and will be breeding in the future.

In addition during this time period, Disney's Animal Kingdom had 7 successful births of similar species from this taxonomic family, with all animals surviving 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
White-fronted Marmoset	0	0	1	1	5	0
Total	0	0	1	1	5	0

Cercopithecidae: From January 2012 to present, Disney's Animal Kingdom has had 1 successful birth of species from this taxonomic family, with 1 animal surviving 30 days for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Lion-tailed Macaque	--	--	--	--	0	0
Mandrill	0	0	0	0	1	0
Total	0	0	0	0	1	0

In addition during this time period, Disney's Animal Kingdom had 1 successful birth of similar species from this taxonomic family, with no animals surviving 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Black-and-white Colobus	0	1 (1)	0	0	0	0
Total	0	1 (1)	0	0	0	0

Cervidae: From January 2012 to present, Disney's Animal Kingdom has had no successful births of species from this taxonomic family.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Burmese Brow-antlered Deer*	0	0	0	0	0	0
Total	0	0	0	0	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

Equidae: From January 2012 to present, Disney's Animal Kingdom has had 9 successful births of species from this taxonomic family, with 8 animals surviving beyond 30 days for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Grevy's Zebra	0	0	0	1	1	0
Hartmann's Mountain Zebra	0	3	1 (1)	2	1	0
Somali wild ass*	0	0	0	0	0	0
Total	0	3	1 (1)	3	2	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

Felidae: From January 2012 to present, Disney's Animal Kingdom has had no successful births of species from this taxonomic family.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Cheetah*	0	0	0	0	0	0
Southern African Cheetah*	--	--	0	0	0	0
Lion*	0	0	0	0	0	--
African Lion*	0	0	0	0	0	0
Tiger*	0	0	0	0	0	--
Sumatran Tiger	--	--	0	0	0	0
Total	0	0	0	0	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

Hominidae: From January 2012 to present, Disney's Animal Kingdom has had 2 successful births of species from this taxonomic family, with all animals surviving beyond 30 days for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Western Lowland Gorilla	0	0	2	0	0	0
Total	0	0	2	0	0	0

Hylobatidae: From January 2012 to present, Disney's Animal Kingdom has had 2 successful births of species from this taxonomic family, with all animals surviving beyond 30 days for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
White-cheeked Gibbon	0	1	0	0	1	0
Siamang*	0	0	0	0	0	0
Total	0	1	0	0	1	0

*Disney has not received breeding recommendations for the animals in the collection during this time period. There have been successful births outside this time period.

Lemuridae: From January 2012 to present, Disney's Animal Kingdom has had no successful births of species from this taxonomic family.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Red-collared Brown Lemur*	0	0	0	0	0	0
Ring-tailed Lemur*	0	0	0	0	0	0
Total	0	0	0	0	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

Rhinocerotidae: From January 2012 to present, Disney's Animal Kingdom has had 3 successful births of species from this taxonomic family, with all animals surviving beyond 30 days for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Southern White Rhinoceros	1	0	0	2	0	0
Southern Black Rhinoceros*	0	0	0	0	0	0
Total	1	0	0	2	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

Suidae: From January 2012 to present, Disney's Animal Kingdom has had no successful births of species from this taxonomic family, for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
North Sulawesi Babirusa	0	0	0	0	0	0
Total	0	0	0	0	0	0

In addition during this time period, Disney's Animal Kingdom had 20 successful birth of similar species from this taxonomic family, with 19 animals surviving 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Warthog	5	0	0	5 (1)	0	0
Red River Hog	0	3	3	4	0	0
Total	5	3	3	9 (1)	0	0

Aves

Gruidae: From January 2012 to present, Disney's Animal Kingdom has had no successful hatches of species from this taxonomic family, for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
White-naped Crane	0	0	0	0	0	0
Total	0	0	0	0	0	0

In addition during this time period, Disney's Animal Kingdom had 13 successful hatches of similar species from this taxonomic family, with 10 animals surviving 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
West African Black Crowned-crane	0	0	0	2 (1)	0	0
East African Grey Crowned-crane	0	2 (2)	3	2	3	0
Wattled Crane	1	0	0	0	0	0
Total	1	2 (2)	3	4 (1)	3	0

Psittacidae: From January 2012 to present, Disney's Animal Kingdom has had no successful hatches of species from this taxonomic family, for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Hyacinth Macaw*	0	0	0	0	0	0
Scarlet Macaw*	0	0	0	0	0	0
Total	0	0	0	0	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

Reptilia

Testudinidae: From January 2012 to present, Disney's Animal Kingdom has had no successful hatches of species from this taxonomic family, for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Radiated Tortoise*	0	0	0	0	0	0
Galapagos Tortoise*	0	0	0	0	0	--
Common Spider Tortoise*	0	0	0	0	0	0
Egyptian Tortoise	0	0	0	0	0	0
Total	0	0	0	0	0	0

*Currently, Disney is a holding facility for non-breeding animals at the request of the SSP.

In addition during this time period, Disney's Animal Kingdom had 30 successful hatches of species from this taxonomic family, with all animals surviving beyond 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
African Pancake Tortoise	3	4	3	0	0	0
Burmese Black Tortoise	0	2	16	2	0	0
Total	3	6	19	2	0	0

Varanidae: From January 2012 to present, Disney's Animal Kingdom has had no successful hatches of species from this taxonomic family, for the species requested.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Komodo Dragon/Ora**	0	0	0	0	0	0
Total	0	0	0	0	0	0

** Until recently, Disney has been a holding facility for non-breeding animals at the request of the SSP and will be breeding in the future.

In addition during this time period, Disney's Animal Kingdom had 5 successful hatches of species from this taxonomic family, with all animals surviving beyond 30 days.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Black Tree Monitor	0	0	0	1	4	0
Total	0	0	0	1	4	0

Osteichthyes

Pangasiidae: From January 2012 to present, Disney's Animal Kingdom has had no successful hatches of species from this taxonomic family.

Species	Number of Successful births/hatches (Number that did not survive past 30 days)					
	2012	2013	2014	2015	2016	2017
Giant Thai Catfish	0	0	0	0	0	0
Total	0	0	0	0	0	0

c. How many mortalities of requested species or similar species, have occurred at your facility during the past five years? What were the causes? What measures have you taken to prevent future mortalities?

Disney's Animal Kingdom employs a full time animal health department consisting of ten veterinarians, including the Animal Health Director and two clinical instructors. Our veterinarians strive to use best practices of the zoo medicine industry to perform appropriate preventative medicine, avoid or decrease mortalities, and provide medical and surgical treatment as needed for the animal collection.

See Addendum E for mortalities of requested species or similar species occurring at the facility during the past five years, with causes of death and measures taken to prevent future mortalities.

d. A brief resume for all senior animal care staff or personnel that will be working with or maintaining of each species requested.

See Addendum F for all senior animal care staff maintaining each of the species requested.

10. Provide a detailed description, including size, construction materials, and protection from the elements, and photographs and detailed diagrams (no blueprints, please) clearly depicting your existing facilities where the wildlife will be maintained.

See Addendum G for detailed descriptions, including size, construction materials and protection from the elements, and photographs and detailed diagrams clearly depicting the existing facilities where the wildlife will be maintained at Disney's Animal Kingdom.

11. Provide a copy of your license or registration, if any, under the Animal Welfare Act regulations of the U.S. Department of Agriculture (9 CFR 2) and/or any State license or registration you may have.

See Addendum H for a copy of Disney's USDA license (#58-C-0076).

Part 2: Applications to Renew CBW registrations that are 5 years old or less:
All CBW registrants are required to submit an annual report on activities conducted at the facility over the previous year, as well as a current inventory of all species covered under the registration. If you have already responded to the following questions in your annual report, please note that in your answer to the question.

12. Have there been any changes to your operation such as reconstruction or new construction, new facilities, or other physical changes? If yes, please describe them.

Disney's Animal Kingdom has held a valid Captive-bred Wildlife Registration for over 10 years and therefore is submitting a complete new application.

13. Have there been any changes to senior staff or personnel changes that would affect how your operation handles the species included in the registration? If yes, please describe these changes.

Disney's Animal Kingdom has held a valid Captive-bred Wildlife Registration for over 10 years and therefore is submitting a complete new application.

14. **Have there been any changes to your inventory that has not been reflected in your annual reports or the current inventory list provided to the Service? If yes, please describe these changes.**

    Disney's Animal Kingdom has held a valid Captive-bred Wildlife Registration for over 10 years and therefore is submitting a complete new application.

15. **Is there any additional information that believe the Service should be aware of in regards to your operation, facilities, inventory, or business model?**

    Disney's Animal Kingdom has held a valid Captive-bred Wildlife Registration for over 10 years and therefore is submitting a complete new application.

Part 3: All Applicants Should Complete

16. **The Division of Management Authority annually distributes a list of Captive-Bred Wildlife (CBW) Registration permittees to all CBW registration holders. The list facilitates the exchange of parental stock among registered breeders; and includes permittees that operate as individuals, as well as those that are business entities. For businesses and other organizations holding CBW registrations, including sole proprietorships, the list includes name, permit number, address, and species held by each permittee. However, the records for individuals holding CBW registrations are contained in a Privacy Act (5 U.S.C. 552a) system of records. Therefore, only the name, species, permit number, and state of residence will automatically be included on the list. The complete address will be included only upon authorization from the individual permittees.**

    If you are not a business or organizational entity, and are applying for the CBW registration as an individual, please provide one of the following statements: (note that if you collect funds for any wildlife purpose, you are a business)
    I, [your name] of [facility name] authorize the U.S. Fish and Wildlife Service to include my complete address in its CBW registration list and to release this information to other CBW holders or the public, if requested. I would also like the Service to use the following address on the CBW registration list:
    [indicated either you mailing address or facility address as identified in your application].

    Signed _____ Date _____

OR

    I, [your name] of [facility name] DO NOT authorize the U.S. Fish and Wildlife Service to include my complete address in its CBW registration list.

    Signed _____ Date _____

    Disney's Animal Kingdom is an organizational entity and we are not applying for the CBW registration as an individual.

17. **Name and address where you wish the permit to be mailed (if different from page 1):**

    Please use the pre-paid FedEx envelope that is enclosed with this application for returning the permit.

18. **If you wish the permit to be delivered by means other than USPS regular mail, provide an air bill, pre-paid envelope, or billing information. If you do not have a pre-paid envelope or air bill and wish to pay for a courier service with your credit card, please check the box below. Please DO NOT include credit card number or other information; you will be contacted for this information.**

    ☒ **If a permit is issued, please send it via a courier service to the address on page 1 or question 20. I understand that you will contact me for my credit card information once the application has been processed. If you wish the permit to be delivered by means other than USPS regular mail, provide an**

air bill, pre-paid envelope, or billing information. If you wish for us to send the permit via FedEx where you pay with a credit card, please state this below (do NOT include credit card number or other information), you will be contacted for this information.

A pre-paid FedEx envelope is enclosed with this renewal.

19. **Who should we contact if we have questions about the application? (Include name, phone number, and email):**

    Lynn McDuffie, [redacted]), Lynn.McDuffie@disney.com (email)

20. **Disqualification Factor. A conviction, or entry of a plea of guilty or nolo contendere, for a felony violation of the Lacey Act, the Migratory Bird Treaty Act, or the Bald and Golden Eagle Protection Act disqualifies any such person from receiving or exercising the privileges of a permit, unless such disqualification has been expressly waived by the Service Director in response to a written petition. (50 CFR 13.21(c)) Have you or any of the owners of the business, if applying as a business, been convicted, or entered a plea of guilty or nolo contendere, forfeited collateral, or are currently under charges for any violations of the laws mentioned above?**

    ☐ Yes ☒ No If you answered "Yes" provide: a) the individual's name, b) date of charge, c) charge(s), d) location of incident, e) court, and f) action taken for each violation.

Addendum A

Inventory

19 January 2017

Addendum A
Disney's Animal Kingdom Inventory
As of January 19, 2017

Code:
1.0 Male
0.1 Female
0.0.1 Sex Unknown

MAMMALIA

PRIMATES

Lemuridae

	Red-collared Brown Lemur *Eulemur collaris*	2.0
	Ring-tailed Lemur *Lemur catta*	2.0

Cebidae

	Golden Lion Tamarin *Leontopithecus rosalia*	1.1
	Cotton-top Tamarin *Saguinus oedipus*	2.2

Cercopithecidae

	Lion-tailed Macaque *Macaca silenus*	1.3
1	Mandrill[1] *Mandrillus sphinx*	6.9

Hylobatidae

2	White-cheeked Gibbon[2] *Nomascus leucogenys*	3.4
3	Siamang[3] *Symphalangus syndactylus*	1.4

[1] 1.0 Mandrill out on loan to Cleveland Metroparks Zoo, Cleveland, OH. 1.0 Mandrill out on loan to Peoria Zoo, Peoria, IL. 1.2 Mandrill out on loan to Jacksonville Zoo, Jacksonville, FL. 1.0 Mandrill out on loan to the Bronx Zoo, Bronx, NY. 0.1 Mandrill out on loan to Rolling Hills Zoo, Salina, KS. 2.6 Mandrill currently residing at Disney's Animal Kingdom.
[2] 0.1 White-cheeked Gibbon out on loan to Smithsonian National Zoological Park, Washington, DC. 0.1 White-cheeked Gibbon out on loan to Turtle Back Zoo, West Orange, NJ. 3.2 White-cheeked Gibbon currently residing at Disney's Animal Kingdom.
[3] 0.1 Siamang out on loan to Dakota Zoo, Bismarck, ND. 1.3 Siamang currently residing at Disney's Animal Kingdom.

	Hominidae	
4	Western Lowland Gorilla[4] *Gorilla gorilla gorilla*	9.7
	CARNIVORA	
	Felidae	
5	Cheetah[5] *Acinonyx jubatus*	1.2
6	Southern African Cheetah[6] *Acinonyx jubatus jubatus*	0.3
7	Lion[7] *Panthera leo*	0.1
	African Lion *Panthera leo krugeri*	1.2
8	Tiger[8] *Panthera tigris*	0.3
	Sumatran Tiger *Panthera tigris sumatrae*	1.1
	Canidae	
	African Hunting Dog *Lycaon pictus*	6.0
9	African Hunting Dog[9] *Lycaon pictus pictus*	4.0
	PERISSODACTYLA	
	Equidae	
	Grevy's Zebra *Equus grevyi*	1.3
	Hartmann's Mountain Zebra *Equus zebra hartmannae*	1.7

[4] 0.1 Western Lowland Gorilla out on loan to Kansas City Zoo, Kansas City, MO. 0.2 Western Lowland Gorilla out on loan to Knoxville Zoo, Knoxville, TN. 2.0 Western Lowland Gorilla out on loan to Los Angeles Zoo, Los Angeles, CA. 7.4 Western Lowland Gorilla currently residing at Disney's Animal Kingdom.
[5] 1.0 Cheetah out on loan to San Diego Zoo Safari Park, Escondido, CA. 0.2 Cheetah currently residing at Disney's Animal Kingdom.
[6] 0.1 Southern African Cheetah out on loan to San Diego Zoo Safari Park, Escondido, CA. 0.2 Cheetah currently residing at Disney's Animal Kingdom.
[7] 0.1 Lion out on loan to White Oak Conservation Holdings, Yulee, FL.
[8] 0.3 Tiger out on loan to White Oak Conservation Holdings, Yulee, FL.
[9] 2.0 African Hunting Dog out on loan to Cincinnati Zoo & Botanical Gardens, Cincinnati, OH. 2.0 African Hunting Dog out on loan to Zoo Miami, Miami, FL.

Somali Wild Ass *Equus africanus somaliensis*	2.0

Rhinocerotidae

Southern White Rhinoceros *Ceratotherium simum simum*	2.5
Southern Black Rhinoceros *Diceros bicornis minor*	2.1
Eastern Black Rhinoceros *Diceros bicornis michaeli*	0.0

ARTIODACTYLA

Suidae

North Sulawesi Babirusa *Babyrousa celebensis*	1.1

Cervidae

Burmese Brow-antlered Deer *Rucervus eldii thamin*	1.2

Bovidae

Bontebok *Damaliscus pygargus pygargus*	2.0
Addax *Addax nasomaculatus*	8.2
Scimitar-horned Oryx *Oryx dammah*	3.5
Red Lechwe *Kobus leche leche*	0.2

AVES

GRUIFORMES

Gruidae

White-naped Crane *Antigone vipio*	1.1

PSITTACIFORMES

Psittacidae

Hyacinth Macaw *Anodorhynchus hyacinthinus*	1.0

	Scarlet Macaw *Ara macao*	1.2

REPTILIA

TESTUDINES

Testudinidae

	Radiated Tortoise *Astrochelys radiata*	2.0
	Common Spider Tortoise *Pyxis arachnoides arachnoides*	0.0.1
10	Egyptian Tortoise[10] *Testudo kleinmanni*	2.1

SQUAMATA

Varanidae

	Komodo Dragon/Ora *Varanus komodoensis*	1.3

PISCES

SILURIFORMES

Pangasiidae

	Giant Thai Catfish *Pangasius sanitwongsei*	0.0.1

[10] 1.0 Egyptian Tortoise out on loan to Woodland Park Zoo. 1.1 Egyptian Tortoise currently residing at Disney's Animal Kingdom.

Addendum B
Published AZA Documentation

Population Analysis & Breeding and Transfer Plan

Addax (*Addax nasomaculatus*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator
Bill Houston, Saint Louis Zoo (houston@stlzoo.org)

AZA Species Survival Plan® Vice-Coordinator
Tim Thier, Saint Louis Zoo (tthier@stlzoo.org)

International Studbook Keeper
Wendy Enright, Living Desert (wenright@livingdesert.org)

Adjunct Population Advisor
Edward Spevak, Ph.D. Saint Louis Zoo (spevak@stlzoo.org)

May 14, 2016

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums
Saint Louis Zoo Animals Always®

DISNEY AK

Disney's Animal Kingdom, 1200 N. Savannah Circle E., Bay Lake, FL 32830-1000
Contact: Steve Castillo, ph 407-938-2335, fax 407-939-6391, e-mail steve.castillo@disney.com

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
3834	100223	s	17	HOLD	DISNEY AK	DO NOT BREED		
3843	100225	s	17	HOLD	DISNEY AK	DO NOT BREED		
3844	100224	s	17	HOLD	DISNEY AK	DO NOT BREED		
3851	100227	s	17	HOLD	DISNEY AK	DO NOT BREED		
5212	120726	s	9	HOLD	DISNEY AK	DO NOT BREED		
5223	120727	s	9	HOLD	DISNEY AK	DO NOT BREED		
X91	120728	s	6	HOLD	DISNEY AK	DO NOT BREED		
X92	120729	s	6	HOLD	DISNEY AK	DO NOT BREED		
X181	113005	M	3	RECEIVE FROM	GARDENCTY	BREED	X242, X244, X284	
X242	160006	F	2	HOLD	DISNEY AK	BREED	X181	
X244	160007	F	1	HOLD	DISNEY AK	BREED	X181	
X284	150405	F	2	RECEIVE FROM	ROLLING H	BREED	X181	

Summary:
Before transfers: 0 males, 2 females, 8 sterile
After transfers: 1 male, 3 females, 8 sterile

EL PASO

El Paso Zoo, 4001 E. Paisano, El Paso, TX 79905
Contact: John Kiseda, ph. 915-212-2813, fax. 915-212-0252, email: KisedaJJ@elpasotexas.gov

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
X333	F15019	F	1	RECEIVE FROM	SAN ANTON	BREED	X276	
X276	15M064	M	1	RECEIVE FROM	METROZOO	BREED	X333	

Summary:
Before transfers: 0 males, 0 females
After transfers: 1 male, 1female

Population Analysis & Breeding and Transfer Plan

Babirusa (*Babyrousa celebensis*) AZA Yellow SSP Program

AZA SSP Program Coordinator
Jeff Holland, Los Angeles Zoo, Jeff.Holland@lacity.org

AZA Studbook Keeper
Joe Forys, Audubon Zoo, jforys@audubooninstitute.org

Adjunct Population Advisor
Andrea Putnam, PhD, California AZA Population Biologist
aputnam@sandiegozoo.org

9 March 2015

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

Recommendations by Institution

AUDUBON

Audubon Zoo
New Orleans, LA

Institutional Note: Female 95 is genetically valuable, but not cycling and may be post-reproductive. Male 160 is a future breeding male for AUDUBON. Please contact the SSP Coordinator when offspring are produced, as population growth needs to be monitored carefully.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
95	103607	F	14	HOLD	AUDUBON	BREED WITH	110	See Inst. Note
110	101524	M	9	HOLD	AUDUBON	BREED WITH	95, 132	
132	103536	F	4	HOLD	AUDUBON	BREED WITH	110	
160	14M001	M	0	HOLD	AUDUBON	DO NOT BREED		See Inst. Note
161	14M002	F	0	SEND TO	RUM CREEK	BREED WITH	165	
164	103879	F	1	SEND TO	SANDIEGOZ	BREED WITH	136	

COLUMBIA

Riverbanks Zoo and Garden
Columbia, SC

Institutional Note: Please consider sending female 155 to BERLINZOO to improve the demographics of the EEP population. If needed, contact the Program Leader assistance with the export. Please contact the SSP Coordinator when offspring are produced, as population growth needs to be monitored carefully.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
128	11072	M	5	HOLD	COLUMBIA	BREED WITH	133	
133	11482	F	4	HOLD	COLUMBIA	BREED WITH	128	
155	11865	F	1	SEND TO	BERLINZOO	SEE NOTES		See Inst. Note

DISNEY AK

Disney's Animal Kingdom
Lake Buena Vista, FL

Institutional Note: Please contact the SSP Coordinator when offspring are produced, as population growth needs to be monitored carefully.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
96	10581	M	14	SEND TO	MICANOPY	BREED WITH	166	
125	90263	F	6	HOLD	DISNEY AK	BREED WITH	144	
144	103008	M	2	RECEIVE FROM	LOWRY	BREED WITH	125	

Population Analysis & Breeding and Transfer Plan

White-naped Crane (*Grus vipio*) AZA Species Survival Plan® Yellow Program

AZA Species Survival Plan® Coordinator
Carol Hesch, Memphis Zoo (chesch@memphiszoo.org)

AZA Studbook Keeper
Carol Hesch, Memphis Zoo (chesch@memphiszoo.org)

AZA Population Advisor
Colleen Lynch, Population Management Center (clynch@riverbanks.org)

11 DECEMBER 2015

PMC Population Management Center

Lincoln Park Zoo

ASSOCIATION OF ZOOS & AQUARIUMS

DETROIT

Detroit Zoological Society
Royal Oak, MI

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
0175	2857	F	35	HOLD	DETROIT	DO NOT BREED		over-represented
0194	2858	M	34	HOLD	DETROIT	DO NOT BREED		over-represented

DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
0972	110947	M	5	HOLD	DISNEY AK	BREED WITH	992	
992	110948	F	4	HOLD	DISNEY AK	BREED WITH	0972	

DULUTH

Lake Superior Zoological Gardens
Duluth, MN

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
0828	833000	M	21	HOLD	DULUTH	DO NOT BREED		
0927	200002	F	19	HOLD	DULUTH	DO NOT BREED		over-represented

FARGO

Red River Zoo
Fargo, ND

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
0421	210020	F	29	HOLD	FARGO	BREED WITH	0888	
0888	298004	M	21	HOLD	FARGO	BREED WITH	0421	

FORTWORTH

Fort Worth Zoological Park
Ft Worth, TX

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
0970	206563	M	6	HOLD	FORTWORTH	BREED WITH	0973	
0973	206570	F	5	HOLD	FORTWORTH	BREED WITH	0970	

Population Analysis & Breeding and Transfer Plan

Komodo Dragon (*Varanus komodoensis*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator
Don Boyer, Bronx Zoo / Wildlife Conservation Society
dboyer@wcs.org

AZA Studbook Keeper
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AZA Population Advisor
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jray@lpzoo.org

24 August 2015

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

COLUMBUS

Columbus Zoo and Aquarium
Powell, OH

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
411	312045	M	11	HOLD	COLUMBUS	SEE NOTES		Potentially breed with either sister: 428 or 429

DALLAS

Dallas Zoo
Dallas, TX

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
437	11L012	F	4	HOLD	DALLAS	DO NOT BREED		

DENVER

Denver Zoological Gardens
Denver, CO

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
~~82~~	~~940339~~	~~M~~	~~21~~	~~HOLD~~	~~DENVER~~	~~DO NOT BREED~~		~~Excluded from genetic analyses - Age (arthritis)~~ *Death reported during comment period*
403	A03003	M	12	HOLD	DENVER	BREED WITH	492, 493	Genetically valuable pairing
492	A12159	F	4	HOLD	DENVER	BREED WITH	403	Genetically valuable pairing
493	A12160	F	4	HOLD	DENVER	BREED WITH	403	Genetically valuable pairing

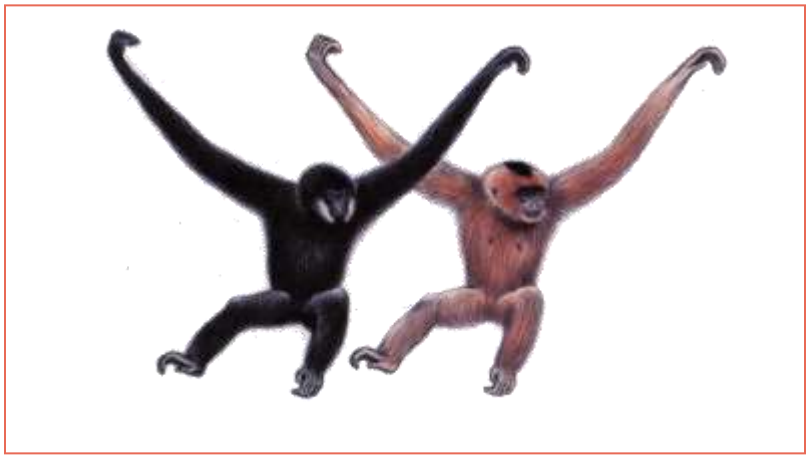
DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
410	140173	F	11	HOLD	DISNEY AK	BREED WITH	304	
519	140174	F	1	HOLD	DISNEY AK	DO NOT BREED		
445	UNK	M	4	HOLD	DISNEY AK	DO NOT BREED		
448	211003	F	4	HOLD	DISNEY AK	DO NOT BREED		
304	98R069	M	16	RECEIVE FROM	METROZOO	BREED WITH	410	

Population Analysis & Breeding and Transfer Plan

White-Cheeked Gibbon (*Nomascus leucogenys*) AZA Species Survival Plan® Yellow Program



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21 May 2015

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Notes
0229	010108	F	24	MELAKA	HOLD	DISNEY AK	BREED WITH	175	Demographic pair
175	981764	M	22	A.J.	HOLD	DISNEY AK	BREED WITH	0229	
354	100031	M	4	MURRAY	HOLD	DISNEY AK	DO NOT BREED		
368	130090	M	1	MAXIMUS	HOLD	DISNEY AK	DO NOT BREED		

ERIE

Erie Zoological Gardens
Erie, PA

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Notes
0190	1258	F	19	CAI LAY	HOLD	ERIE	DO NOT BREED		
366	2041	U	2	CHUA	HOLD	ERIE	DO NOT BREED		

FORTWORTH

Fort Worth Zoological Park
Ft Worth, TX

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Notes
0188	781	F	27	NIKKI	HOLD	FORTWORTH	DO NOT BREED		
0196	915	M	27	MEKONG	HOLD	FORTWORTH	DO NOT BREED		
339	203756	M	9	KIBOU	HOLD	FORTWORTH	DO NOT BREED		
342	204738	F	8	PIPPIN LOU	HOLD	FORTWORTH	DO NOT BREED		

Population Analysis & Population Analysis & Breeding and Transfer Plan

Western Lowland Gorilla (*Gorilla gorilla gorilla*)
AZA Species Survival Plan®
Green Program

2015

AZA Species Survival Plan® Program Coordinator
Kristen Lukas, Cleveland Metroparks Zoo (kel@clevelandmetroparks.com)

AZA Studbook Keeper
Roby Elsner, Audubon Zoo (robyelsner@msn.com)

AZA Population Advisor
Sarah Long, Population Management Center, Lincoln Park Zoo (slong@lpzoo.org)

22 December 2015

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

DISNEY AK
Disney's Animal Kingdom, Bay Lake, FL
Institutional representative: Rachel Daneault
Gorilla SSP Management Group Liaison: Rachel Daneault

ID	Sex	Age	Name	Disposition	Location	Breeding	With	Group	MK
413	F	43	Benga	HOLD	DISNEY AK	DO NOT BREED	---	2	X
749	M	34	Gino	HOLD	DISNEY AK	DO NOT BREED	---	2	0.012
771	M	33	Augustus	HOLD	DISNEY AK	DO NOT BREED	---	1	0.011
1185	M	23	Kejana	HOLD	DISNEY AK	DO NOT BREED	---	1	0.012
1190	M	23	Zawadi	HOLD	DISNEY AK	DO NOT BREED	---	1	0.013
1294	F	21	Kashata	HOLD	DISNEY AK	DO NOT BREED	---	2	0.013
1305	M	21	M'bizi/Spike	HOLD	DISNEY AK	DO NOT BREED	---	1	0.012
1459	F	18	Azizi	HOLD	DISNEY AK	DO NOT BREED	---	2	0.007
2030	F	5	Lilly	HOLD	DISNEY AK	DO NOT BREED	---	2	0.013
2174	M	<1	Cory	HOLD	DISNEY AK	DO NOT BREED	---	2	0.010
2175	M	<1	Flint	HOLD	DISNEY AK	DO NOT BREED	---	2	0.013

Summary:
No transfers: 7 males, 4 females

NOTES:
- All breeding recommendations requiring transfer are contingent upon group stabilizing after introductions. Please provide confirmation of group stability to SSP before removing female(s) from birth control.
- All institutions with a breeding recommendation should prepare a Birth Management Plan with input from the Ape Taxon Advisory Group.
- All females that are not recommended to breed and housed in mixed-sex groups should be **contracepted (C)** using reversible methods unless otherwise recommended.
- All institutions with a pending introduction should prepare Introduction and Wound Management Plans, contacting Gorilla Behavior Advisory Group for assistance.
- All institutions with transfer recommendations should conduct a full examination including cardiac ultrasound, consulting the Veterinary Advisory Team for details.

Population Analysis & Breeding and Transfer Plan

Red Lechwe (*Kobus leche*)
AZA Species Survival Plan®
Candidate Program

Candidate Program Coordinator & Studbook Keeper
Mel Covey, Disney's Animal Kingdom®
(Melissa.A.Covey@disney.com)

Adjunct Population Advisor
Gina M. Ferrie, Disney's Animal Kingdom®
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5 February 2016

PMC
Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

Disney's ANIMALS, SCIENCE and ENVIRONMENT

Breeding and Transfer Recommendations by Institution

DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL
Note: Institution is acquiring 0.3 from SD-WAP to start a new breeding herd. Discuss with Program Coordinator options for obtaining a male for breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
1008	615316	F	0	RECEIVE FROM	SD-WAP	DO NOT BREED		
1012	615464	F	0	RECEIVE FROM	SD-WAP	DO NOT BREED		

GUADALJR – *non-AZA Candidate Program Participant*

Guadalajara Zoo
Guadalajara, Jalisco, Mexico
Note: These two individuals are highly related to each other (greater than siblings) but under-represented compared to the rest of the population. Breed for now but discuss with Program Coordinator options to bring in a new male or more females in the future.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
766	M02951	M	9	HOLD	GUADALJR	BREED WITH	778	
778	M03937	F	5	HOLD	GUADALJR	BREED WITH	766	

MICANOPY – *non-AZA Candidate Program Participant*

Micanopy Zool. Preserve (Rhudy Holly)
Micanopy, FL
Note: Institution should consider bringing in females to breed or males to form a bachelor group with this animal. Discuss with Program Coordinator available options. This individual is under-represented compared to the rest of the population and should breed.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
1005	UNK	M	UNK	HOLD	MICANOPY	DO NOT BREED		

PUEBLA

Africam Safari (Africam, S. A.)
Puebla, Mexico
Note: Institution should consider bringing in females to breed or males to form a bachelor group with this animal. Discuss with Program Coordinator available options from either the US or Mexico. This individual is under-represented compared to the rest of the population and should breed.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
828	5686	M	10	HOLD	PUEBLA	DO NOT BREED		

Population Analysis & Breeding and Transfer Plan

Lion-tailed Macaque (*Macaca silenus*) AZA Species Survival Plan Red Program

Photo by Tom Ness

AZA Species Survival Plan® Coordinator
Joe Knobbe, San Francisco Zoo (joek@sfzoo.org)

North American Studbook Keeper & Adjunct Population Advisor
Tom Ness, Minnesota Zoological Gardens (tom.ness@state.mn.us)

20 July 2016

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

MINNESOTA ZOO™

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
2770	KANSASCTY	M13014	F	19	HOLD	KANSASCTY	DO NOT BREED		
3176	DISNEY AK	160111	F	11	HOLD	DISNEY AK	BREED WITH	2544	
3206	DISNEY AK	160112	F	10	HOLD	DISNEY AK	BREED WITH	2544	
3403	DISNEY AK	160113	F	8	HOLD	DISNEY AK	BREED WITH	2544	

BALTIMORE
Maryland Zoo in Baltimore

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
1753	BALTIMORE	85022	F	31	HOLD		DO NOT BREED		
1885	BALTIMORE	87008	M	29	HOLD		DO NOT BREED		

BATONROUG
BREC's Baton Rouge Zoo

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
2335	BATONROUG	8188	M	24	HOLD		DO NOT BREED		Housed with Sulawesi

COLUMBIA
Riverbanks Zoo and Garden

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
2304	COLUMBIA	SJ1509	M	25	SEE NOTES	COLUMBIA	DO NOT BREED		Discuss possible transfer to EL PASO if 2022 is not available for transfer

DENVER
Denver Zoological Gardens

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
2544	DENVER	A15052	M	21	SEND TO	DISNEY AK	BREED WITH	3176, 3206, 3403	

DISNEY AK
Disney's Animal Kingdom

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
3176	DISNEY AK	160111	F	11	HOLD	DISNEY AK	BREED WITH	2544	
3206	DISNEY AK	160112	F	10	HOLD	DISNEY AK	BREED WITH	2544	
3403	DISNEY AK	160113	F	8	HOLD	DISNEY AK	BREED WITH	2544	

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
2544	DENVER	A15052	M	21	RECEIVE FROM	DISNEY AK	BREED WITH	3176, 3206, 3403	

Population Analysis & Breeding and Transfer Plan

Mandrill (*Mandrillus sphinx*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator and
North American Regional Studbook Keeper
Rebecca S. Phillips, Disney's Animal Kingdom
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17 June 2016

MINNESOTA ZOO™

PMC Population Management Center

Lincoln Park Zoo

ASSOCIATION OF ZOOS & AQUARIUMS

DENVER
Denver Zoological Gardens

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
986	DENVER	A02183	F	13	HOLD	DENVER	BREED WITH	1015	
994	DENVER	A03158	F	12	HOLD	DENVER	DO NOT BREED		PL will continue to look at placement options
1015	DENVER	A13134	M	8	HOLD	DENVER	BREED WITH	986	

Notes:

DISNEY
AK
Disney's Animal Kingdom

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
462	DISNEY AK	100056	F	29	HOLD	DISNEY AK	DO NOT BREED		Excluded - age
471	DISNEY AK	110021	F	29	HOLD	DISNEY AK	DO NOT BREED		Excluded - age
522	DISNEY AK	970173	M	27	HOLD	DISNEY AK	DO NOT BREED		Excluded - age
904	DISNEY AK	060054	F	19	HOLD	DISNEY AK	BREED WITH	1060	
906	DISNEY AK	980233	F	20	HOLD	DISNEY AK	BREED WITH	1060	
956	DISNEY AK	100465	F	17	HOLD	DISNEY AK	BREED WITH	1060	
1021	DISNEY AK	100540	F	5	HOLD	DISNEY AK	BREED WITH	1060	
1024	DISNEY AK	110376	M	4	SEND TO	NY BRONX	BREED WITH	1026, 1034, 1036	
1025	DISNEY AK	110548	F	4	HOLD	DISNEY AK	BREED WITH	1060	
1060	DISNEY AK	150799	M	9	HOLD	DISNEY AK	BREED WITH	904, 906, 956, 1021, 1025	

Notes:

FORTWORTH
Fort Worth Zoological Park

Studbook ID	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
315	FORTWORTH	783	F	35	HOLD	FORTWORTH	DO NOT BREED		Excluded - age
538	FORTWORTH	784	F	26	HOLD	FORTWORTH	DO NOT BREED		Excluded - age
891	FORTWORTH	208327	F	21	HOLD	FORTWORTH	DO NOT BREED		Excluded - age

Animals planned to be moved to this institution:

Population Analysis & Breeding and Transfer Plan

Southern White Rhinoceros (*Ceratotherium simum simum*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator
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AZA Studbook Keeper
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Adjunct Population Advisor
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jivy@sandiegozoo.org

26 October 2015

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums
San Diego Zoo Global

This Animal Program is currently a Yellow Program and recommendations proposed are non-binding – Participation is voluntary. Dispositions to non-AZA institutions should comply with each institution's acquisition/disposition policy.

DISNEY AK

Disney's Animal Kingdom/The Living Seas
Bay Lake, FL

Institutional notes: Females 1224 and 1382 are very genetically valuable and high priorities for breeding. Please contact CREW at Cincinnati Zoo to initiate a reproductive assessment of both females to determine if either exhibits any reproductive concerns.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
1224	70094	F	23	HOLD	DISNEY AK	BREED WITH	1403	
1235	990143	F	16	HOLD	DISNEY AK	BREED WITH	1403	
1382	70528	F	18	HOLD	DISNEY AK	BREED WITH	1403	
1403	130435	M	13	HOLD	DISNEY AK	BREED WITH	1224, 1382, 1235, 1708,	
1516	50033	F	10	SEND TO	FRESNO	BREED WITH	1150	
1708	100017	F	5	HOLD	DISNEY AK	BREED WITH	1403	
2119	120310	M	2	SEND TO	YULEE	DO NOT BREED		
T001		F	0	HOLD	DISNEY AK	DO NOT BREED		juvenile
T002		M	0	HOLD	DISNEY AK	DO NOT BREED		

ERIE

Erie Zoological Gardens
Erie, PA

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
1080	813	M	19	HOLD	ERIE	DO NOT BREED		
1081	814	M	19	HOLD	ERIE	DO NOT BREED		

FOSSILRIM

Fossil Rim Wildlife Center
Glen Rose, TX

Institutional notes: Animals 38 years of age and older are considered post-reproductive and not recommended for breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
391	12391	F	46	HOLD	FOSSILRIM	DO NOT BREED		age exclusion
612	12612	F	35	HOLD	FOSSILRIM	BREED WITH	1222	
1222	12060	M	24	HOLD	FOSSILRIM	BREED WITH	612, 1276, 2070	
1276	12054	F	15	HOLD	FOSSILRIM	BREED WITH	1222	
2070	12059	F	3	HOLD	FOSSILRIM	BREED WITH	1222	

Population Analysis & Breeding and Transfer Plan

Siamang (*Symphalangus syndactylus*) AZA Species Survival Plan® Green Program

AZA Species Survival Plan® Siamang Species Coordinator
Jay Petersen, Chicago Zoological Society/Brookfield Zoo
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18 February 2015

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

COLUMBIA

Riverbanks Zoo and Garden
Columbia, SC

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
468	9199	M	13	HOLD	COLUMBIA	DO NOT BREED		
486	7846	F	10	HOLD	COLUMBIA	DO NOT BREED		Excluded - Health/behavior
487	7470	F	15	HOLD	COLUMBIA	DO NOT BREED		

COLUMBUS

Columbus Zoo and Aquarium
Powell, OH

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
292	204012	F	25	HOLD	COLUMBUS	DO NOT BREED		
374	204011	M	23	HOLD	COLUMBUS	DO NOT BREED		
516	209104	M	5	SEND TO	LOWRY	DO NOT BREED		

DICKERSON

Dickerson Park Zoo
Springfield, MO

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
473	6413	F	12	HOLD	DICKERSON	BREED WITH	500	Well matched demographic pair
500	6414	M	8	HOLD	DICKERSON	BREED WITH	473	

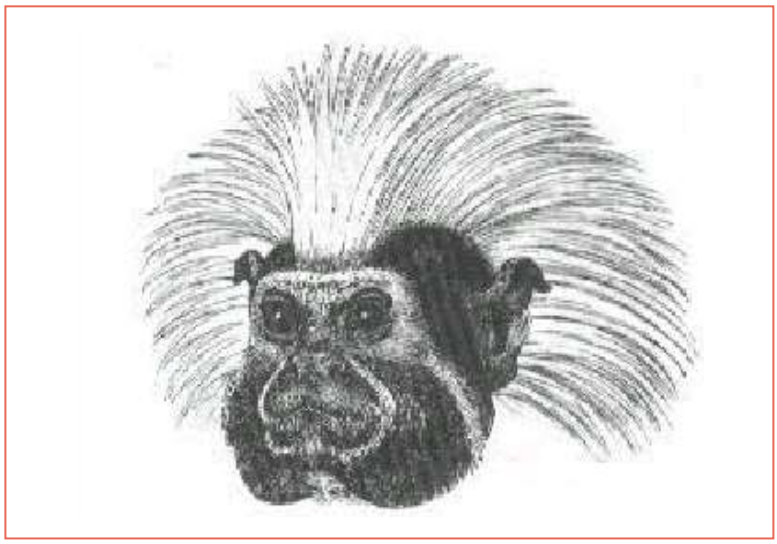
DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
114	981741	M	40	HOLD	DISNEY AK	DO NOT BREED		Related to females
155	060447	F	36	HOLD	DISNEY AK	DO NOT BREED		Excluded - request to sterilize
588	110704	F	3	HOLD	DISNEY AK	DO NOT BREED		
589	110705	F	3	HOLD	DISNEY AK	DO NOT BREED		

Population Analysis & Breeding and Transfer Plan

Cotton-top Tamarin (*Saguinus oedipus*)
AZA Species Survival Plan®
Green Program



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23 August 2016

PMC
Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums

Disney's Animals, Science and Environment

DALLAS

Dallas Zoo

Dallas, TX

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
11405	05F830	F	17	Medusa	HOLD	DALLAS	BREED WITH	11812	A	Genetically valuable pair
11812	11L494	M	15	Elliot	HOLD	DALLAS	BREED WITH	11405	A	

DALLAS WA

Dallas World Aquarium

Dallas, TX

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
11744	10M009	M	15	Ibsen	HOLD	DALLAS WA	BREED WITH	12557	A	Genetically valuable pair
12557	3M012	F	15	Twikki	HOLD	DALLAS WA	BREED WITH	11744	A	

DICKERSON

Dickerson Park Zoo

Springfield, MO

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
11399	5369	M	17	Josh Anthony	HOLD	DICKERSON	DO NOT BREED		A	
13039	6045	F	13	Nina	HOLD	DICKERSON	DO NOT BREED		A	
13825	6096	M	8	Super Cutie	HOLD	DICKERSON	DO NOT BREED		A	
15935	6268	M	7		HOLD	DICKERSON	DO NOT BREED		A	
15936	6269	F	7		SEND TO	SANTA ANA	DO NOT BREED		A	
15950	6366	M	5	Jaxon	HOLD	DICKERSON	DO NOT BREED		A	
15951	6367	F	5	Carleigh	~~HOLD~~ SEND TO	~~DICKERSON~~ JOHN BALL	DO NOT BREED		A	

DISNEY AK

Disney's Animal Kingdom

Lake Buena Vista, FL

Note: ~~Continue discussions with SSP Coordinator for future breeding options~~.

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
11332	000808	F	18	Gemma	~~HOLD~~ SEND TO	~~DISNEY AK~~ JNGLARY F	DO NOT BREED		A	~~Do not contracept~~
11749	000350	F	16	Priscilla	HOLD	DISNEY AK	DO NOT BREED		B	
13717	150594	M	11	Eddy	HOLD	DISNEY AK	DO NOT BREED		B	
16023	140565	M	4	Draco	HOLD	DISNEY AK	~~DO NOT BREED~~ BREED WITH	16958	A	
16958	A14008	F	2		~~HOLD~~ RECEIVE FROM	STONEHAM	~~DO NOT BREED~~ BREED WITH	16023	A	

DREHER PA

Palm Beach Zoo at Dreher Park

West Palm Beach, FL

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
8949	96194	F	21	Lucy	HOLD	DREHER PA	DO NOT BREED		A	Excluded due to age
12548	200057	s	14	Kieran	HOLD	DREHER PA	DO NOT BREED		A	Excluded, sterile

Population Analysis & Breeding and Transfer Plan for the

Sumatran Tiger (*Panthera tigris sumatrae*)
AZA Species Survival Plan®
Yellow Program

NOTE: As a member of the WAZA Sumatran Tiger Global Species Management Plan (GSMP), the AZA Sumatran Tiger SSP is anticipating a reclassification to a GREEN PROGRAM in the future. The SSP will remain a YELLOW program for the 2016-2017 breeding season.

Photo courtesy of Sumatran Tiger Project

AZA SUBSPECIES VICE COORDINATOR
Karen Goodrowe Beck, Point Defiance Zoo & Aquarium (karen.goodrowe@pdza.org)

AZA SPECIES COORDINATOR
Tara Harris, Minnesota Zoo (tara.harris@state.mn.us)

AZA STUDBOOK KEEPER / SPMAG ADVISOR
Kathy Traylor-Holzer, Minnesota Zoo/IUCN SSC CBSG (kathy@cbsg.org)

Data Current through: 1 May 2016

AUGUST 2016

DALLAS

Dallas Zoo

Animals currently at the institution:

SB#	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
1281	DALLAS	15Q538	Male	11	Hold		Breed	1636	Carryover recommendation
1329	DALLAS	12M001	Male	9	Hold		Breed	1335 or 1336	Breed with one of these two females (carryover recommendation)
1335	DALLAS	15Q017	Female	9	Hold		Breed	1329	Carryover recommendation
1336	DALLAS	09J930	Female	9	Hold		Breed	1329	Carryover recommendation
1636	DALLAS	15Q471	Female	2	Hold		Breed	1281	Carryover recommendation

DISNEY AK

Disney's Animal Kingdom

Animals currently at the institution:

SB#	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
1406	DISNEY AK	140722	Male	7	Hold		Breed	1572	Carryover recommendation
1572	DISNEY AK	140253	Female	4	Hold		Breed	1406	Carryover recommendation

FT WAYNE

Fort Wayne Children's Zoological Garden

Animals currently at the institution:

SB#	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
1545	FT WAYNE	98622	Female	4	Hold		DoNotBreed		
1546	FT WAYNE	98621	Male	4	Hold		DoNotBreed		Permanent non-breeder

HATTIESBG

Hattiesburg Zoo

Animals currently at the institution:

SB#	Location	Local ID	Sex	Age	Disposition	New Location	Breeding	With	Notes
1619	HATTIESBG	433	Male	4	Hold		DoNotBreed		
1621	HATTIESBG	432	Male	4	Hold		DoNotBreed		

HONOLULU

Population Analysis & Breeding and Transfer Plan

Egyptian Tortoise (*Testudo kleinmanni*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator & AZA Studbook Keeper
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AZA Population Advisor
Sara Sullivan, Population Management Center, Lincoln Park Zoo
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6 May 2014

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums

DETROIT

Detroit Zoological Society
Royal Oak, MI

Institution Notes: Please **contact the SSP Coordinator after the first successful clutch** to determine if additional clutches will be beneficial or detrimental to the population's demographic stability.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
66	11497	F	42	HOLD	DETROIT	BREED WITH	511 or 554	Potential founder
67	11498	F	41	HOLD	DETROIT	BREED WITH	511 or 554	Potential founder
511	974368	M	17	RECEIVE FROM	FORTWORTH	BREED WITH	66 or 67	
519	7010	M	16	SEND TO	SEATTLE	BREED WITH	634	Genetically valuable, may also breed with new potential founder transferring into SEATTLE
537	7012	M	16	SEND TO	FORTWORTH	BREED WITH	654 or 655	
554	7013	M	16	HOLD	DETROIT	BREED WITH	66 or 67	

DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL

Institution Notes: This pair is genetically valuable. Please **contact the SSP Coordinator after the first successful clutch** to determine if additional clutches will be beneficial or detrimental to the population's demographic stability.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
615	020029	M	12	SEND TO	SEATTLE	BREED WITH	634	Genetically valuable, may also breed with new potential founder transferring into SEATTLE
616	020030	M	12	HOLD	DISNEY AK	BREED WITH	619	
619	020031	F	12	HOLD	DISNEY AK	BREED WITH	616	

DOWNER B

Barry Downer
Tulsa, OK

Institution Notes: High relatedness exists between individuals of this group.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
685	F2	F	6	HOLD	DOWNER B	DO NOT BREED		
690	200/F3	F	5	HOLD	DOWNER B	DO NOT BREED		
691	F1	F	5	HOLD	DOWNER B	DO NOT BREED		
716	M1	M	2	HOLD	DOWNER B	DO NOT BREED		
718	M2	M	2	HOLD	DOWNER B	DO NOT BREED		

Population Analysis & Breeding and Transfer Plan

Radiated Tortoise (*Astrochelys radiata*)
AZA Species Survival Plan®
Green Program

AZA Species Survival Plan® Coordinator & Studbook Keeper
Michael Ogle, Zoo Knoxville
(mogle@zooknoxville.org)

AZA Studbook Keeper
Stephen Nelson, Zoo Knoxville
(snelson@zooknoxville.org)

AZA Population Advisor
Sara Sullivan, Population Management Center, Lincoln Park Zoo
(ssullivan@lpzoo.org)

6 December 2016

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

DISNEY AK

Disney's Animal Kingdom
1200 N. Savannah Circle E., Bay Lake, FL 32830-1000, USA

Institution Notes: Keep in contact with the SSP Coordinator about the number of eggs laid per clutch in order to avoid filling space within the SSP too quickly.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
219	R10046	M	44	RECEIVE FROM	ATASCADER	BREED WITH	220	
220	R13007	F	44	RECEIVE FROM	ATASCADER	BREED WITH	219	
42	90711	M	54	SEND TO	CHATTANOO	DO NOT BREED		Potential founder
64	90712	M	44	SEND TO	CHATTANOO	DO NOT BREED		Potential founder

DURHAM MS*, new SSP participant*

N C Museum of Life and Science
433 Murray Ave., Durham, NC, 27704, USA

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
919	S02063	F	13	RECEIVE FROM	NY BRONX	DO NOT BREED		
920	RADI01	F	13	RECEIVE FROM	OJAI	DO NOT BREED		
922	RADI01	F	13	RECEIVE FROM	OJAI	DO NOT BREED		
1002	RADI02	F	12	RECEIVE FROM	OJAI	DO NOT BREED		Currently valuable to the SSP
1052	RADI01	M	12	RECEIVE FROM	OJAI	DO NOT BREED		

EL PASO

El Paso Zoo
4001 East Paisano, El Paso, TX 79905-4223, USA

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
1419	201026	M	10	HOLD	EL PASO	DO NOT BREED		
1420	201027	U	10	HOLD	EL PASO	DO NOT BREED		

Population Analysis & Breeding and Transfer Plan

Grevy's Zebra (*Equus grevyi*)
AZA Species Survival Plan®
Green Program

AZA Species Survival Plan® Coordinator
Martha Fischer, Saint Louis Zoo (fischer@stlzoo.org)

AZA Regional Studbook Keeper
Martha Fischer, Saint Louis Zoo (fischer@stlzoo.org)

Adjunct Population Advisor
Edward Spevak, Ph.D., Saint Louis Zoo (spevak@stlzoo.org)

February 10, 2016

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums

Saint Louis Zoo
Animals Always®

DISNEY AK
Disney's Animal Kingdom, 1200 N. Savannah Circle E., Bay Lake, FL 32830-1000
Contact: Steve Castillo, phone 407-938-2385, fax 407-939-6391, email Steve.castillo@disney.com

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
23134	120149	F	8	HOLD	DISNEY AK	BREED	24262	
24262	130041	M	6	HOLD	DISNEY AK	BREED	23134, 26114, 27523	
26114	140167	F	5	HOLD	DISNEY AK	BREED	24262	
27523	140307	F	3	HOLD	DISNEY AK	BREED	24262	
TBD	150644	F	0	HOLD	DISNEY AK	DO NOT BREED		

Summary:
Before transfers: 1 male, 4 females, 0 unknowns
After transfers: 1 male, 4 females, 0 unknowns

FOSSILRIM
Fossil Rim Wildlife Center, PO Box 2189, Glen Rose, Texas, 76043-2189, USA.
Contact: Adam Eyres, phone 254-898-4230, fax 254-897-3785, email adame@fossilrim.org

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
3264	36	F	26	HOLD	FOSSILRIM	BREED	18164	
15162	52	F	15	HOLD	FOSSILRIM	BREED	18164	
16124	53	F	15	HOLD	FOSSILRIM	BREED	18164	
18164	59	M	12	HOLD	FOSSILRIM	BREED	3264, 15162, 16124, 26519, 28813	
26519	58	F	4	HOLD	FOSSILRIM	BREED	18164	
28813	57	F	2	HOLD	FOSSILRIM	BREED	18164	

Summary:
Before transfers: 1 male, 5 females, 0 unknowns
After transfers: 1 male, 5 females, 0 unknowns

Population Analysis & Breeding and Transfer Plan

Hartmann's Mountain Zebra (*Equus zebra hartmannae*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator & Studbook Keeper
Tommy Jordan, Disney's Animal Kingdom®
(Thomas.T.Jordan@Disney.com)

Adjunct Population Advisor
Gina M. Ferrie, Disney's Animal Kingdom®
(Gina.M.Ferrie@disney.com)

20 December 2016

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums

Disney's Animals, Science and Environment

CALGARY

Calgary Zoo, Garden & Prehistoric Park

Calgary, Alberta, Canada

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
2054		F	17	HOLD	CALGARY	BREED WITH	9568	Genetically valuable
8518	10939	F	5	HOLD	CALGARY	BREED WITH	9568	
9568	109392	M	3	HOLD	CALGARY	BREED WITH	2054, 8518	Genetically valuable

CLEVELAND

Cleveland Metroparks Zoo

Cleveland, OH

Note: One or both males may be requested to be available to breed in the future.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
9666		M	2	HOLD	CLEVELAND	DO NOT BREED		
9671		M	2	HOLD	CLEVELAND	DO NOT BREED		Genetically valuable

DALLAS

Dallas Zoo

Dallas, TX

Note: This is a new institution to the SSP. This institution is planning on receiving ~~up to 0.3~~ 0.2 from outside of AZA in early spring. Please continue discussions with SSP Coordinator on this acquisition.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
9577	8126	M	3	RECEIVE FROM	FOSSILRIM	BREED WITH	SEE NOTES	Transfer occurred during draft period

DISNEY AK

Disney's Animal Kingdom

Lake Buena Vista, FL

Note: Receive new male to breed from outside of AZA or from other organization as determined by SSP Coordinator. Discuss with SSP Coordinator which male(s) would be the best option(s) for current females.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
1972	110313	F	18	HOLD	DISNEY AK	BREED WITH	SEE NOTES	Genetically valuable
2028	110314	F	17	HOLD	DISNEY AK	BREED WITH	SEE NOTES	Genetically valuable
3578	110316	F	14	HOLD	DISNEY AK	BREED WITH	SEE NOTES	Genetically valuable
9592	130857	F	2	HOLD	DISNEY AK	BREED WITH	SEE NOTES	
9596	130983	F	2	HOLD	DISNEY AK	BREED WITH	SEE NOTES	
9794	150771	F	0	HOLD	DISNEY AK	BREED WITH	SEE NOTES	Genetically valuable
9796	150734	M	0	SEND TO	NORRISTOW	BREED WITH	SEE NOTES	Send in 2017
9834	160070	F	0	HOLD	DISNEY AK	DO NOT BREED		~~SB# to be assigned~~, foal reported while writing draft

Addendum C
Published AZA Documentation

Population Analysis & Breeding and Transfer Plan

Somali Wild Ass (*Equus africanus somalicus*)
AZA Species Survival Plan®
Yellow Program

AZA Regional Studbook Keeper
Tim Thier, Saint Louis Zoo (tthier@stlzoo.org)

Adjunct Population Advisor
Edward Spevak, Ph.D., Saint Louis Zoo (spevak@stlzoo.org)

December 3, 2015

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums
Saint Louis Zoo Animals Always®

DISNEY AK

Disney's Animal Kingdom, 1200 N. Savannah Circle E., Bay Lake, FL 32830-1000
Contact: Greg Peccie, ph. 407-938-7107, fax 407-939-6391, e-mail: Greg.D.Peccie@disney.com

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
607	120660	M	4	HOLD	DISNEY AK	DO NOT BREED		
608	120661	M	4	HOLD	DISNEY AK	DO NOT BREED		

Summary:
Before transfers: 2 males, 0 females
After transfers: 2 males, 0 females

MADISON

Henry Villas Zoo, 702 S. Randall Avenue, Madison, WI 53715
Contact: Jeffrey Stafford, 608-266-4732, e-mail: stafford.jeffrey@countyofdane.com

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
678	2966	F	2	HOLD	MADISON	DO NOT BREED		
680	2965	F	2	HOLD	MADISON	DO NOT BREED		

Summary:
Before transfers: 0 males, 2 females
After transfers: 0 males, 2 females

Population Analysis & Breeding and Transfer Plan

Bontebok (*Damaliscus pygargus pygargus*)
AZA Species Survival Plan®
Yellow Program

AZA Studbook Keeper and Species Survival Plan® Coordinator
Lissa McCaffree, San Diego Zoo Safari Park
lmccaffree@sandiegozoo.org

Adjunct Population Advisor
Jamie Ivy, PhD, San Diego Zoo Global
jivy@sandiegozoo.org

10 August 2015

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS
SAN DIEGO ZOO GLOBAL

This Animal Program is currently a Yellow Program and recommendations proposed are non-binding – Participation is voluntary. Dispositions to non-AZA institutions should comply with each institution's acquisition/disposition policy.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
399	10027	U	6	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
416	10437	F	5	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
417	10509	F	6	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
418	10550	U	4	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
419	10551	U	4	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
433	10803	U	3	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
434	10804	U	3	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
435	10834	U	3	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
436	10835	U	3	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree
438	10890	F	9	HOLD	BROWNSVIL	SEE NOTES		unknown pedigree

CLEVELAND

Cleveland Metroparks Zoo
Cleveland, OH

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
343	100224	M	11	HOLD	CLEVELAND	BREED WITH	356, 362, 366	
356	140532	F	10	HOLD	CLEVELAND	BREED WITH	343	
362	M80702	F	7	HOLD	CLEVELAND	BREED WITH	343	
366	M60607	F	8	HOLD	CLEVELAND	BREED WITH	343	
474	140902	M	0	SEND TO	SD-WAP	BREED WITH	439, 459	

DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL

Institutional notes: The SSP recommends that you contact Gladys Porter Zoo (BROWNSVIL) to inquire about the availability of unpedigreed males to neuter for exhibit. While the SSP will continue to search for suitable males for you, all available males are currently needed for breeding.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
358	50240	M	9	HOLD	DISNEY AK	DO NOT BREED		neutered
374	60442	M	8	HOLD	DISNEY AK	DO NOT BREED		neutered
465	130739	M	1	SEND TO	JACKSONVL	DO NOT BREED		

FOSSILRIM

Fossil Rim Wildlife Center
Glen Rose, TX

Institutional notes: The SSP appreciates and recognizes the valuable contribution Fossil Rim is making to the SSP by holding bachelor males.

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
426	unknown	M	4	RECEIVE FROM	MICANOPY	DO NOT BREED		

Population Analysis & Breeding and Transfer Plan

Cheetah (*Acinonyx jubatus*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator
Adrienne Crosier, Smithsonian's Conservation Biology Institute – Center for Species Survival (CrosierA@si.edu)

AZA North American Regional Studbook Keeper
Erin Moloney, Busch Gardens (Erin.Moloney@BuschGardens.com)

AZA Population Advisor
Sarah Long, Population Management Center, Lincoln Park Zoo (slong@lpzoo.org)

4 May 2016

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

DISNEY AK

Disney's Animal Kingdom, PO Box 10000, Lake Buena Vista, FL 32830-1000
Contact: Gary Noble, phone: 407-938-2879. e-mail: gary.noble@disney.com

SB ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
6185	60372	F	10	HOLD	DISNEY AK	DO NOT BREED		excluded from genetic analyses - age, medical
6187	60374	F	10	HOLD	DISNEY AK	DO NOT BREED		excluded from genetic analyses - age, medical
8285	146071	F	4	HOLD	DISNEY AK	DO NOT BREED		
8286	140670	F	4	HOLD	DISNEY AK	DO NOT BREED		

FORTWORTH

Fort Worth Zoo, 1989 Colonial Parkway, Fort Worth, TX 76110-6640
Contact: Ron Surratt, phone: 817-759-7160, e-mail: rsurratt@fortworthzoo.org
Notes: Fort Worth cheetahs need to be relocated during construction of a new enclosure.

SB ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
3961	200154	F	16	HOLD	FORTWORTH	DO NOT BREED		excluded from genetic analyses - age/never bred
7002	206681	M	6	SEND TO	DICKERSON	BREED WITH	8461	
7003	206682	M	6	SEND TO	DICKERSON	BREED WITH	8461	
8462	207603	F	3	SEND TO	FOSSIL RIM	BREED WITH	6473, 6486, 8040, or 8041	

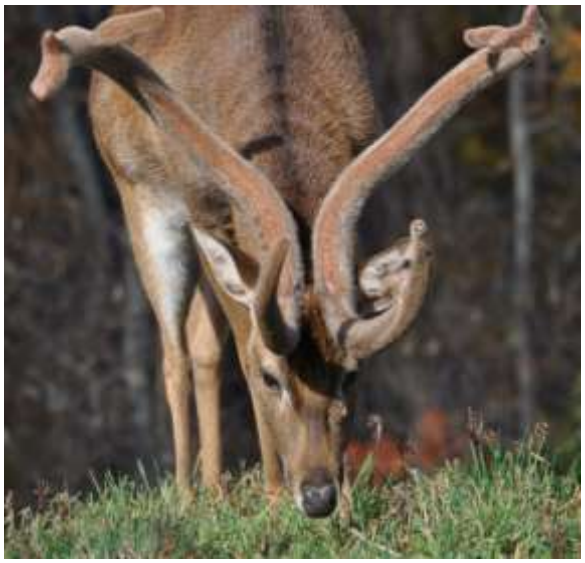
FOSSILRIM

Fossil Rim Wildlife Center, 2155 County Road 2008, Glen Rose, TX 76043-2189
Contact: Mary Jo Stearns, phone 254-898-4235, e-mail: maryjos@fossilrim.org
Note: Specific breeding recommendations for many animals are listed below but see MateRx for all breeding options (breed 1s, 2s, 3s, or 4s).

SB ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
4559	1111	F	15	HOLD	FOSSILRIM	DO NOT BREED		excluded from genetic analyses - age
5615	1157	F	13	HOLD	FOSSILRIM	DO NOT BREED		excluded from genetic analyses - age
6473	1129	M	10	HOLD	FOSSILRIM	BREED	8462	
6486	1149	M	9	HOLD	FOSSILRIM	BREED	8462	
6492	1151	M	9	HOLD	FOSSILRIM	BREED	6473	
6805	1180	F	6	HOLD	FOSSILRIM	SEE MATERX		
6992	1194	F	6	HOLD	FOSSILRIM	SEE MATERX		
8003	1220	F	5	SEND TO	WINSTON	SEE MATERX		
8084	1176	F	5	HOLD	FOSSILRIM	SEE MATERX		
8037	1221	F	5	HOLD	FOSSILRIM	BREED	8040, 8041	

Population Analysis & Breeding and Transfer Plan

Eld's Deer (*Rucervus eldii thamin*)
AZA Species Survival Plan®
Yellow Program




AZA Species Survival Plan® Coordinator & AZA Studbook Keeper
Dolores Reed, Smithsonian Conservation Biology Institute
(reeddm@si.edu)

AZA Population Advisor
John Andrews, Population Management Center, Lincoln Park Zoo
(jandrews@lpzoo.org)

14 July 2016

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

Breeding and Transfer Recommendations by Institution

DISNEY AK

Disney's Animal Kingdom

Bay Lake, FL

SB ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
687	522	M	15	HOLD	DISNEY AK	DO NOT BREED		Excluded - Sterile
751	20497	F	13	HOLD	DISNEY AK	DO NOT BREED		
752	20498	F	13	HOLD	DISNEY AK	DO NOT BREED		

NY BRONX

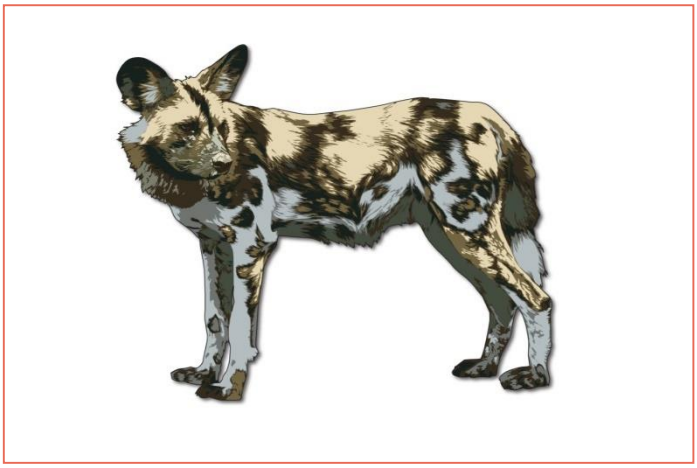
Bronx Zoo/Wildlife Conservation Society

Bronx, NY

SB ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
604	961193	F	19	HOLD	NY BRONX	DO NOT BREED		Excluded - Post Reproductive
714	M01240	F	14	HOLD	NY BRONX	SEE MATERX		
721	M01202	F	14	HOLD	NY BRONX	SEE MATERX		
744	M02174	F	13	HOLD	NY BRONX	SEE MATERX		
773	M03198	F	12	HOLD	NY BRONX	SEE MATERX		
779	M05162	F	10	HOLD	NY BRONX	SEE MATERX		
782	M05234	F	10	HOLD	NY BRONX	SEE MATERX		
788	M05186	F	10	HOLD	NY BRONX	SEE MATERX		
789	M05235	F	10	HOLD	NY BRONX	SEE MATERX		
802	UNK	F	9	HOLD	NY BRONX	SEE MATERX		
803	UNK	F	9	HOLD	NY BRONX	SEE MATERX		
805	M06207	M	9	HOLD	NY BRONX	SEE MATERX		
806	M06222	F	9	SEND TO	SD-WAP	SEE MATERX		
807	M06223	F	9	HOLD	NY BRONX	SEE MATERX		
811	M07181	F	8	HOLD	NY BRONX	SEE MATERX		
827	M09123	F	6	HOLD	NY BRONX	SEE MATERX		
830	M13029	M	6	HOLD	NY BRONX	SEE MATERX		
836	UNK	F	6	HOLD	NY BRONX	SEE MATERX		
853	M12238	F	3	SEND TO	SD-WAP	SEE MATERX		
854	M12240	M	3	HOLD	NY BRONX	SEE MATERX		
867	M14138	F	1	HOLD	NY BRONX	SEE MATERX		
869	M14141	M	1	HOLD	NY BRONX	SEE MATERX		
871	M14154	M	1	HOLD	NY BRONX	SEE MATERX		
874	M14162	M	1	HOLD	NY BRONX	SEE MATERX		
875	M15153	M	0	HOLD	NY BRONX	SEE MATERX		

Population Analysis & Breeding and Transfer Plan

African Painted (Wild) Dog (*Lycaon pictus*)
AZA Species Survival Plan®
Yellow Program



AZA Species Survival Plan® Program Coordinator
Mike Quick, Sedgwick County Zoo (Michael.quick@scz.org)

AZA Studbook Keeper
Stephanie Rhodes, Chicago Zoological Society–Brookfield Zoo (stephanie.rhodes@czs.org)

AZA Population Advisor
Sara Sullivan, Population Management Center, Lincoln Park Zoo (ssullivan@lpzoo.org)

24 January 2017

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

DISNEY AK
Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
8364	150793	M	1	HOLD	DISNEY AK	DO NOT BREED		
8365	150794	M	1	HOLD	DISNEY AK	DO NOT BREED		
8366	150795	M	1	HOLD	DISNEY AK	DO NOT BREED		
8367	150796	M	1	HOLD	DISNEY AK	DO NOT BREED		
8368	150797	M	1	HOLD	DISNEY AK	DO NOT BREED		
8372	115010	M	1	HOLD	DISNEY AK	DO NOT BREED		

EL PASO, *new SSP participant*
El Paso Zoo
El Paso, TX

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
8400	782113	M	1	RECEIVE FROM	OKLAHOMA	DO NOT BREED		
8401	782114	M	1	RECEIVE FROM	OKLAHOMA	DO NOT BREED		
8402	782115	M	1	RECEIVE FROM	OKLAHOMA	DO NOT BREED		
8403	782116	M	1	RECEIVE FROM	OKLAHOMA	DO NOT BREED		

ERIE
Erie Zoological Gardens
Erie, PA

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
2385	1694	F	10	HOLD	ERIE	DO NOT BREED		Excluded - spayed
2387	1696	F	10	HOLD	ERIE	DO NOT BREED		Excluded - spayed
2389	1697	F	10	HOLD	ERIE	DO NOT BREED		Excluded - spayed

HONOLULU*, non-AZA*
Honolulu Zoo
Honolulu, HI

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
2456	210053	M	6	HOLD	HONOLULU	BREED WITH	8363	
8363	216015	F	1	HOLD	HONOLULU	BREED WITH	2456	

Population Analysis & Breeding and Transfer Plan

Collared Lemur (*Eulemur collaris*)
AZA Species Survival Plan®
Red SSP

AZA Species Survival Plan® Coordinator & Studbook Keeper
Kris Becker, Disney's Animal Kingdom®
(Kris.K.Becker@disney.com)

AZA PMC Adjunct Population Advisor
Gina M. Ferrie, Disney's Animal Kingdom®
(Gina.M.Ferrie@disney.com)

21 December 2016

PMC
Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

Disney's ANIMALS, SCIENCE and ENVIRONMENT

Breeding and Transfer Recommendations by Institution

BATTLE CR

Binder Park Zoo
Battle Creek, MI

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Notes
1421	M05004	F	23	Gertie	HOLD	BATTLE CR	BREED WITH	1439	Genetically valuable pair, unlikely based on age
1439	M08001	M	22	Georges	HOLD	BATTLE CR	BREED WITH	1421	

DALLAS

Dallas Zoo
Dallas, TX
Note: Male may be sent out to breed at a different location in 2017 based on the needs of the population.

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Notes
1442	13M547	F	21	Gigi	HOLD	DALLAS	BREED WITH	1533	Genetically valuable but related pairing, unlikely based on female's age
1533	05F569	M	11	Pierre	HOLD	DALLAS	BREED WITH	1442	

DISNEY AK

Disney's Animal Kingdom
Lake Buena Vista, FL

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Notes
1240	990477	s	29	Thierry	HOLD	DISNEY AK	DO NOT BREED		Excluded, sterile
1502	990479	s	20	Pepe	HOLD	DISNEY AK	DO NOT BREED		Excluded, sterile

DUKE PRIM

Duke Primate Center
Durham, NC

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Notes
1241	6145	F	29	Martine	HOLD	DUKE PRIM	DO NOT BREED		Excluded due to age
1431	6899	s	23	Pascal	HOLD	DUKE PRIM	DO NOT BREED		Excluded, sterile
1574	7218	F	3	Collins	HOLD	DUKE PRIM	BREED WITH	1575	Over-represented and related pairing, breed for demographics
1575	7219	M	3	AJ	HOLD	DUKE PRIM	BREED WITH	1574	
1597	7249	M	0		HOLD	DUKE PRIM	DO NOT BREED		

Population Analysis & Breeding and Transfer Plan

Ring-tailed Lemur (*Lemur catta*) AZA Species Survival Plan® Green Program

AZA Species Survival Plan® Coordinator
Gina M. Ferrie, Disney's Animal Kingdom®
(Gina.M.Ferrie@disney.com)

AZA Species Survival Plan® Vice Coordinator
Elena Less PhD, Cleveland Metroparks Zoo
(eah@clevelandmetroparks.com)

AZA Studbook Keeper
Alison Grand PhD, Lemur Conservation Foundation
(agrand@lemurreserve.org)

AZA Adjunct Population Advisor
Gina M. Ferrie, Disney's Animal Kingdom®
(Gina.M.Ferrie@disney.com)

5 April 2016

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums

Disney's Animals, Science and Environment

DETROIT

Detroit Zoological Society

Royal Oak, MI

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
3615	12540	s	UNK	Finnegan	HOLD	DETROIT	DO NOT BREED		A	Excluded, sterile
3616	12541	F	UNK	Molly	HOLD	DETROIT	DO NOT BREED		A	Contracept, excluded due to unknown pedigree
3721	12647	s	5	Fajiry	HOLD	DETROIT	DO NOT BREED		A	Excluded, sterile
3722	12648	s	5	Dallas	HOLD	DETROIT	DO NOT BREED		A	Excluded, sterile
4010	13314	M	15	Warren	HOLD	DETROIT	DO NOT BREED		A	Excluded due to unknown pedigree

DICKERSON

Dickerson Park Zoo

Springfield, MO

Note: Genetically valuable pairing.

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
3623	6490	M	6	Alastor	HOLD	DICKERSON	BREED WITH	3639	A	Genetically valuable
3639	6971	F	5	Edelweiss	HOLD	DICKERSON	BREED WITH	3623	A	Genetically valuable

DISNEY AK

Disney's Animal Kingdom

Bay Lake, FL

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
3632	100753	s	23	Chip	HOLD	DISNEY AK	DO NOT BREED		A	Excluded, sterile
3633	100754	s	21	Dale	HOLD	DISNEY AK	DO NOT BREED		A	Excluded, sterile

DREHER PA

Palm Beach Zoo at Dreher Park

West Palm Beach, FL

ID	Local ID	Sex	Age	House Name	Disposition	Location	Breeding	With	Group	Notes
3727	214019	M	4	Milo	HOLD	DREHER PA	DO NOT BREED		A	Excluded due to unknown pedigree
3728	214020	M	4	Otis	HOLD	DREHER PA	DO NOT BREED		A	Excluded due to unknown pedigree
3833	214018	M	2		HOLD	DREHER PA	DO NOT BREED		A	Genetically valuable
3834	214021	M	2		HOLD	DREHER PA	DO NOT BREED		A	Genetically valuable

Population Analysis & Breeding and Transfer Plan

Lion (*Panthera leo*)
AZA Species Survival Plan®
Green Program

AZA Species Survival Plan® Coordinator
Hollie Colahan, Denver Zoo
(hcolahan@denverzoo.org)

AZA Species Survival Plan® Vice-Coordinator
David Hagan, Indianapolis Zoo
(dhagan@indyzoo.com)

AZA Studbook Keeper
Sue Ellen Pfaff, Riverbanks Zoo and Garden
(suepfaff@riverbanks.org)

AZA Population Advisor
Sara Sullivan, Population Management Center, Lincoln Park Zoo
(ssullivan@lpzoo.org)

28 October 2016

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

DETROIT
Detroit Zoological Society
Royal Oak, MI

ID	Local ID	Sex	MK	Age	Disposition	Location	Breeding	With	Notes
473	13030	M	0.0048	7	HOLD	DETROIT	DO NOT BREED		Valuable
T5027	12277	F	--	15	HOLD	DETROIT	DO NOT BREED		Excluded - Generic

DICKERSON
Dickerson Park Zoo
Springfield, MO

ID	Local ID	Sex	MK	Age	Disposition	Location	Breeding	With	Notes
273	6172	M	0.0176	9	HOLD	DICKERSON	DO NOT BREED		Valuable
300	6174	F	0.0242	9	HOLD	DICKERSON	DO NOT BREED		

DISNEY AK
Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	MK	Age	Disposition	Location	Breeding	With	Notes
388	120010	M	0.0233	7	HOLD	DISNEY AK	DO NOT BREED		
400	110898	F	0.0280	5	HOLD	DISNEY AK	DO NOT BREED		
402	_____	F	0.0280	5	HOLD	DISNEY AK	DO NOT BREED		

DULUTH
Lake Superior Zoological Gardens
Duluth, MN

ID	Local ID	Sex	MK	Age	Disposition	Location	Breeding	With	Notes
T5059	100320	M	--	8	HOLD	DULUTH	DO NOT BREED		Excluded - Generic
T5060	100321	F	--	8	HOLD	DULUTH	DO NOT BREED		Excluded - Generic
T5061	100322	F	--	8	HOLD	DULUTH	DO NOT BREED		Excluded - Generic

Population Analysis & Breeding and Transfer Plan

Hyacinth Macaw (*Anodorhynchus hyacinthinus*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator / Studbook Keeper
Fred Beall, Zoo New England
(fbeall@zoonewengland.com)

AZA Population Advisor
Jessica Ray, Population Management Center, Lincoln Park Zoo
(jray@lpzoo.org)

14 April 2015

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

DISNEY AK

Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
727	980846	M	17	HOLD	DISNEY AK	DO NOT BREED		Education bird

DREHER PA

Palm Beach Zoo at Dreher Park
West Palm Beach, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
604	96227	M	20	HOLD	DREHER PA	BREED WITH	715	
715	97B476	F	17	RECEIVE FROM	SANFORD	BREED WITH	604	

EVANSVLLE

Mesker Park Zoo
Evansville, IN

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
477	290026	F	27	HOLD	EVANSVLLE	BREED WITH	478	
478	290025	M	26	HOLD	EVANSVLLE	BREED WITH	477	

FLUSHINGP

Queens Zoo
Flushing, NY

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
672	922460	F	28	HOLD	FLUSHINGP	DO NOT BREED		Excluded from genetic analyses - Unknown pedigree
676	922464	F	28	HOLD	FLUSHINGP	DO NOT BREED		Excluded from genetic analyses - Unknown pedigree

Population Analysis & Breeding and Transfer Plan

Scimitar-horned Oryx (*Oryx dammah*) AZA Yellow Program

AZA Program Coordinator
Sheri Horiszny, Santa Barbara Zoo, SHoriszny@sbzoo.org

International Studbook Keeper
Tania Gilbert, PhD, Marwell Wildlife, TaniaG@marwell.org.uk

Adjunct Population Advisor
Andrea Putnam, PhD, California AZA Population Biologist
aputnam@sandiegozoo.org

3 February 2015

PMC Population Management Center
Lincoln Park Zoo
Association of Zoos & Aquariums

Santa Barbara Zoo

DISNEY AK

Disney's Animal Kingdom

Lake Buena Vista, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
34349	63769	F	7	RECEIVE FROM	BUSCH TAM	DO NOT BREED		Excluded: Unknown pedigree
34350	63768	F	7	RECEIVE FROM	BUSCH TAM	DO NOT BREED		Excluded: Unknown pedigree

DISNEY AK (Disney Lodge)

Disney's Animal Kingdom Lodge

Kissimmee, FL

Institutional Note: Males 35664 and 36258 are over-represented and non-essential to the genetic and demographic management of the SSP population at this time. Please continue to hold 34228 and 36346 as they may receive breeding recommendations in the future.

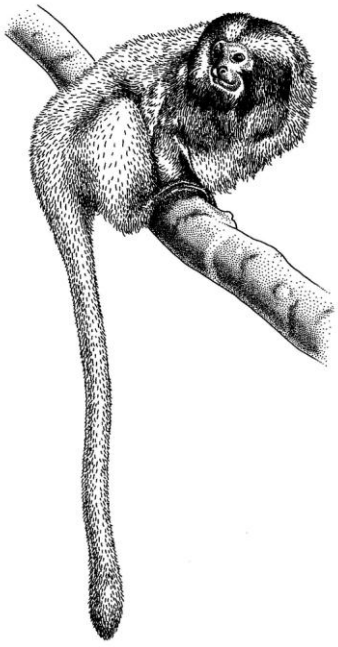
ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
34228	120304	M	7	HOLD	DISNEY AK	DO NOT BREED		
35664	120306	M	5	SEE NOTE	SEE NOTE	SEE NOTE		See Inst. Note
36258	120307	M	4	SEE NOTE	SEE NOTE	SEE NOTE		See Inst. Note
36346	120308	M	4	HOLD	DISNEY AK	DO NOT BREED		

FINAL

Population Management Recommendations for the North American *Ex-situ* Population of Golden Lion Tamarins (*Leontopithecus rosalia*)

April 15, 2013

Based on the International Studbook for Golden Lion Tamarins
Current through 15 Mar 2012



Jennifer Mickelberg[2] (International Studbook Keeper) and
Jonathan D. Ballou[1] (SPMAG Advisor)

[1]National Zoological Park, Smithsonian Institution, Washington, D.C.
[2]Zoo Atlanta, Atlanta, GA

For questions or corrections contact: Jennifer Mickelberg, jmickelberg@zooatlanta.org, 404-624-5957.

Illustration by Karina H. McInnes, Inkbyte, Melbourne

Studbook Number	Sex	Sire	Dam	Date	Event	Location	ISIS No.	Name or House No.	Tattoo/ Transponder	Comments Implant/Rearing/Infant Experience/Group/Hernia
Numero No Studbook	Sexo	Pai	Mãe	Data	***Evento***	Local	N(no ISIS	Nome or N(na Colônia	Tatuagem/ Transponder	Coment(rios Implante /Cuidado Parental/Experiência infantes/ Groupo/Hérnia

DISNEY AK, Group: 2002

3474	M	1572	2994	14 Mar 2004	Birth	DREHER PA	204049	CARLOS	IE=??/MK=.000/GRP=2002I
				31 Jul 2009	Transfer	DISNEY AK	090434		
				RECOMMENDATION: 6/12 HOUSE NONBREEDING WITH SIB 3596					
3596	F	1572	2994	16 Mar 2006	Birth	DREHER PA	206009	GABRIELLA	IE=??/MK=.000/GRP=2002I
				31 Jul 2009	Transfer	DISNEY AK	090435		
				RECOMMENDATION: 6/12 KEEP IMPLANTED AND HOUSE NONBREEDING WITH SIB 3474					

COOPERATIVE RESEARCH AND MANAGEMENT AGREEMENT FOR LEONTOPITHECUS ROSALIA ROSALIA

Revised Nov. 1984

WHEREAS the signatories named below recognize that under certain circumstances the research, data and management capability for a captive-bred population is optimal when that population, although researched and maintained by different owners at different sites, is studied and managed as one unit; and

WHEREAS the signatories desire to participate in the joint management of golden lion tamarins, *Leontopithecus rosalia rosalia*, for the purposes of propagating the population and investigating the biology of the species.

THEREFORE, the signatories hereto agree as follows:

1) Except as otherwise specified in Paragraph 20, infra, no specimen subject to this agreement shall be sold, traded or otherwise used in a commercial transaction.

2) Signatories which own lion tamarins at the time this agreement is signed shall pool their specimens to form a founding stock which, although located at several sites, shall be managed as a single unit.

3) The founding stock and their progeny shall be managed by a Management Committee, composed of seven (7) representatives elected by all signatories of this memorandum, two (2) of which shall be holders and four (4) of which shall be owners. The Species Coordinator of the Golden Lion Tamarin Species Survival Plan shall be the seventh member and permanent Chairperson of the Committee. Committee members shall be elected for three-year terms, with two members (one owner, one holder/ or two owners) alternately elected every year by all signatories which at the time of the election currently house Golden lion tamarins for the purpose of long-term propagation. Those institutions whose primary interest is exhibition and/or research will not vote. Committee members may be re-elected. At initial election of the Management Committee, two members (one owner, one holder) shall be elected for a one-year term, two (owners) for a two-year term, and two for a three-year term. All actions by signatories requiring the Management Committee's approval will be by a simple majority vote.

4) Responsibility for daily maintenance rests with each signatory holding a part of the founding stock or its progeny. Each signatory agrees to provide necessary housing, food, and veterinary care for the specimens and their progeny according to the highest acceptable standards prevailing at its facilities. Procedures for housing, diet, and veterinary care, will be in accordance with a separate Management Plan protocol agreed to by all signatories in furtherance of this Agreement, and developed and updated as necessary by the Management Committee.

5) Research of a behavioral, clinical, or physical nature is encouraged, and takes second place only to the breeding and maintenance of the animals. All research projects (as opposed to routine management or veterinary care) which involve physical manipulations of animals shall be proposed in writing and must be approved by the Management Committee prior to initiation.

6) Publications dealing with research on the specimens must acknowledge the origin of the animals. One copy of each manuscript will be sent to the Chairperson of the Management Committee who will maintain a file on all manuscripts and publications relating to the founding stock or their progeny, for distribution to signatories and other interested parties, at their request.

7) First preference is to natural breeding and rearing of specimens. If artificial reproduction or curtailment of reproduction is considered, it must be approved by the Management Committee.

8) For purposes of pathological, physiological, and other related laboratory investigations, parts and products of animals covered by this agreement are to be used to the fullest. Such materials include, but are not limited to carcasses, blood and other tissue samples, milk and other glandular secretions. Recommendations for carcass disposition will be considered by the Management Committee which will determine the final disposition. Signatories must inform the Management Committee when carcasses are available, if a repository is not designated in advance.

9) The placement or transfer of animals from one institution to another will be in accordance with the Management Plan and based on the decisions of the Management Committee. If a specimen is to be transferred as a loan, a formal Agreement is to be negotiated by all directly-involved parties prior to shipment and must take into account the Cooperative Research and Management Agreement, the Management Plan, and the recommendations of the Management Committee.

10) Copies of each loan agreement must be sent to the Chairperson of the Management Committee for the Committee's files and Studbook Keeper's.

11) Institutions which neither hold nor own specimens must become a signatory to this Cooperative Research and Management Agreement prior to receiving animals and must agree to adhere to the Management Plan and decisions of the Management Committee.

12) If a signatory (holder or owner) does not adhere to the Management Plan or Management Committee decisions regarding a specific aspect of a project or program, the Management Committee may recommend corrective action. This action can be in the form of specimens being removed from the non-adhering institution, if a holder, or no further exchanges, loans, or transfers, being made with the institution, if an owner.

13) All signatories are guaranteed first priority of access to surplus specimens as long as they have adhered to the Cooperative Research and Management Agreement, the Management Plan, and the Management Committee's recommendations.

14) Each signatory will designate one person as the primary point of contact for all correspondence and telephone consultation on matters of implementation of the Management Plan, discussion of progress, and problems which may arise. Frequent consultation and discussion will be encouraged. It will be the responsibility of the designated person to make written record of oral communications and to keep others in his institution informed of both oral and written communications. This designatee will be considered as the designated candidate for the Golden Lion tamarin Management Committee and shall be the only candidate for that signatory institution.

15) Each party will designate one person as the primary point of contact for all correspondence and telephone consultation on matters of a medical nature. Frequent consultation and discussion will be encouraged. It will be the responsibility of the designated person to make written record of oral communications and to keep others in his institution informed of both oral and written communications.

16) Each party will designate one person as the primary records keeper who will be responsible for maintenance of the files pertaining to this Cooperative Research and Management Agreement and all Agreements on the stock and who will regularly provide information to the Chairperson and the owners. The files will include, but not necessarily be limited to, individual specimen inventory records, transfer documents, necropsy reports and genealogy, as well as copies of all reports, proposals, correspondence and other communications.

17) Signatories agree to notify immediately the owner and the Management Committee through the Studbook Keeper, followed by a complete written report, in case of non-routine diseases suffered by, or death of, injury to, or birth to, any animals in the stock under their respective physical control.

18) All signatories agree that in the event of disease, injury or death of any of the specimens, the party will be held harmless by the others for such affliction, injury, or death, in the absence of gross negligence.

19) All signatories agree to hold each other, their respective officers and employees, harmless from any damage, loss, death, or injury occurring by reason of anything done or omitted to be done by one party under or in connection with the execution of this Agreement while such acts or omissions are under the direct supervision and control of that party.

20) This Cooperative Research and Management Agreement will remain in effect for the lifetime of the specimens and their progeny. Each signatory hereto reserves the right to terminate this Agreement unilaterally by giving the other signatories ninety (90) days prior written notice. In the event this Agreement is terminated by a signatory owner, the non-terminating parties represented by the Management Committee have the first right of refusal to obtain through direct donation or in the alternative, a negotiated purchase price, the terminating Party's interests in all or any specimens of the stock, consistent with the need for ongoing related management and breeding programs. Management Committee approval is required for any commercial transaction by a signatory involving the founding specimens or their progeny.

21) Neither this Agreement, nor any rights or privileges granted hereunder shall be assigned without prior written consent of all parties hereto.

22) All official permits which may be required for the sending, receiving, movement, purchase, housing and management of any specimens covered by this Agreement must be honored and executed fully by each signatory, as appropriate.

23) Final resolution of any conflicts arising from implementation of this Cooperative Research and Management Agreement or the Management Plan shall be construed solely in the interest of the welfare of the species by decision of the Management Committee.

24) This Agreement may be amended or modified in writing by the Management Committee, subject to approval by the signatories. Such amendments shall be incorporated into this Agreement as addenda.

25) Within two (2) years from the effective date hereof, a complete review shall be made of this Cooperative Research and Management Agreement, and any addenda, including the Management Plan and research plans, to determine the effectiveness of said Agreement and whether it should be modified, amended, terminated, or extended.

26) The Management Committee shall attempt to meet annually to discuss matters relating to this Cooperative Research and Management Agreement and the Management Plan.

Cooperative Research and Management Agreement for
Leontopithecus rosalia rosalia

June 1981
Revised November 1984

The Disney's Animal Kingdom (Institutional name) agrees to participate in the Cooperative Research and Management Agreement for *Leontopithecus rosalia rosalia,* to follow the guidelines established in the Management Plan, and the recommendations of the elected Management Committee.

Signed by | Position Title | Date and

[signature] | Vice President

Designated individual for management problems:

[signature] (name) | Curator Conservation Station (position title)

Designated individual for medical problems:

[signature] (name) | Veterinary Services Director (position title)

Designated individual for primary contact:

[signature] (name) | Curator Conservation Station (position title)

Please sign both copies and return one to the Management Committee Chairperson:

Dr. Devra G. Kleiman
Department of Zoological Research
National Zoological Park
Smithsonian Institution
Washington, D.C. 20008
USA

Creating the Nation's first BioPark

National Zoological Park · Smithsonian Institution · Washington, D.C. 20008

DATE: 15 March, 1991

TO: Institutions holding NZP-owned Golden Lion Tamarins

FROM: Judith A. Block, Registrar

SUBJECT: Transfer of ownership of Golden Lion Tamarins to IBAMA

In July of 1989, the Golden Lion Tamarin Management Committee recommended that ownership of all captive golden lion tamarins (GLT's) be transferred to the Brazilian government. This recommendation was made in light of the strong spirit of cooperation within the international zoo community for the conservation of this species, and recognition of the importance of Brazil's involvement in conservation efforts for their native species. January 1, 1991 was the culmination of 18 months of negotiations among the Committee, the Brazilians and owning institutions. As of that date, the National Zoological Park turned over ownership of its GLT's (approximately 400) to the Brazilian government - specifically to the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA). Six of the 7 other zoos outside of Brazil which owned GLT's followed suit (Monkey Jungle, which owns 10 animals at their facility, was unable to do so). Since the Los Angeles Zoo could not donate their 74 GLT's directly to Brazil, the National Zoo "purchased" them first and then donated them to IBAMA along with the rest of their collection. As a result, all but 10 of the GLT's outside of Brazil (about 500) are now owned by IBAMA.

This transfer of ownership will not have any immediate effect on the management of the GLT's in captivity. The Management Committee will continue to oversee the population and make recommendations according to the demographic and genetic goals of the SSP Masterplan.

The Cooperative Research and Management Agreement (CRMA), which all participating institutions signed prior to their acceptance into the Program will serve in lieu of a formal loan agreement with IBAMA. Thus, all loan agreements with the National Zoo are hereby canceled. However, we expect all provisions of the CRMA to continue to be adhered to and all recommendations made by the GLT Management Committee to be followed.

Enclosed are individual ARKS Specimen Reports for those GLT's your institution holds (or held on 1 Jan. 1991) that were owned by NZP or Los Angeles prior to this transaction. For your ARKS or ISIS paper records, you will need to add the 2 transactions "Loan returned to NZP-DZR" followed by "Loan from IBAMA" (both dated 01.01.91). Those holding L.A. GLT's will have to add 4 transactions rather than 2: "Loan returned to LA" (17.12.90), "Loan from NZP-DZR" (17.12.90), "Loan returned to NZP-DZR" (01.01.91) and "Loan from IBAMA" (01.01.91). The ISIS Institution code for IBAMA is: 310507901. Please use the animal's Studbook Number as the legal (IBAMA's) ISIS Number. If you are not a participant in ISIS, your records system should reflect the above changes and dates.

(Note: You might hold other GLT's - not represented by the enclosed ARKS Reports - that were owned by the Brookfield, San Antonio, Oklahoma City, Fort Worth or Houston Zoos. These animals were also donated to IBAMA on 1 Jan. 1991 and thus would be treated in the same manner. You should be hearing from those other zoos whose GLT's you hold if you haven't already).

If you have any questions, please contact Jon Ballou at (202) 673-4815 (FAX: 673-4686), Dept. of Zoological Research, National Zoological Park.

1889-1989
"...for the advancement of science and the education and recreation of the people."

Population Analysis & Breeding and Transfer Plan

Galápagos Tortoise (*Chelonoidis nigra*)
AZA Species Survival Plan®
Yellow Program

AZA Species Survival Plan® Coordinator & AZA Studbook Keeper
Dr. Edward Louis, PhD, Omaha's Henry Doorly Zoo & Aquarium
(kelynews1@yahoo.com or edlo@omahazoo.com)

AZA Species Survival Plan® Vice-Coordinator
Colette Adams, Gladys Porter Zoo
(cadams@gpz.org)

AZA Population Advisors
John Andrews, Population Management Center, Lincoln Park Zoo
(jandrews@lpzoo.org)
Sarah Long, Population management Center, Lincoln Park Zoo
(slong@lpzoo.org)

1 July 2016

PMC Population Management Center

Lincoln Park Zoo

ASSOCIATION OF ZOOS & AQUARIUMS

DISNEY AK

Disney's Animal Kingdom

Bay Lake, FL

Chelonoidis nigra becki

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
112	LEFTY	M	--	RECEIVE FROM	GALPRIV 4	DO NOT BREED		

Chelonoidis nigra vandenburghi

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
350	980391	F	109	SEND TO	OKLAHOMA	BREED WITH	80	

EL PASO

El Paso Zoo

El Paso, TX

Chelonoidis nigra vandenburghi

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
355	913754	M	65	HOLD	EL PASO	DO NOT BREED		
397	317	M	68	RECEIVE FROM	PHOENIX	DO NOT BREED		Companion animal

Chelonoidis nigra vicina

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
354	913753	M	64	SEND TO	PHOENIX	BREED WITH	499	

FRESNO

Fresno Chaffee Zoo

Fresno, CA

Chelonoidis nigra nigrita

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
63	10008	F	92	SEND TO	HONOLULU	BREED WITH	78	

Chelonoidis nigra vandenburghi

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
365	6020	M	53	HOLD	FRESNO	DO NOT BREED		

Hybrid & Unknown subspecies

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
127	850252	F	46	RECEIVE FROM	HONOLULU	DO NOT BREED		Excluded - Hybrid or unknown subspecies

Population Analysis & Breeding and Transfer Plan

Madagascar Spider Tortoises
(Pyxis arachnoides arachnoides & brygooi)
AZA Species Survival Plan®
Yellow Program
(*Pyxis arachnoides oblonga*)
AZA Species Survival Plan®
Red Program

AZA Studbook Keeper and Species Survival Plan® Coordinator
Michael Ogle, Zoo Knoxville
(mogle@zooknoxville.org)

AZA Population Advisor
Sara Sullivan, Population Management Center, Lincoln Park Zoo
(ssullivan@lpzoo.org)

9 December 2016

PMC Population Management Center
Lincoln Park Zoo
ASSOCIATION OF ZOOS & AQUARIUMS

CHICAGOLP
Lincoln Park Zoological Gardens
Chicago, IL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
353	21977	M	10	HOLD	CHICAGOBR	DO NOT BREED		Excluded - Unknown Pedigree

DETROIT
Detroit Zoological Society
Royal Oak, MI

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
22	8492	M	--	HOLD	DETROIT	DO NOT BREED		
622	12706	U	5	HOLD	DETROIT	DO NOT BREED		

DISNEY AK
Disney's Animal Kingdom
Bay Lake, FL

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
387	070359	U	10	HOLD	DISNEY AK	DO NOT BREED		Excluded - Unknown Pedigree

EMPORIA
David Traylor Zoo of Emporia
Emporia, KS

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
505	221715	M	7	HOLD	EMPORIA	DO NOT BREED		
723	221915	F	11	HOLD	EMPORIA	DO NOT BREED		Excluded - Unknown Pedigree
870	221815	M	8	HOLD	EMPORIA	DO NOT BREED		

EVANSVLLE
Mesker Park Zoo
Evansville, IN

ID	Local ID	Sex	Age	Disposition	Location	Breeding	With	Notes
619	313002	U	6	HOLD	EVANSVLLE	DO NOT BREED		Excluded - hybrid
621	313001	U	5	HOLD	EVANSVLLE	DO NOT BREED		Excluded - Unknown Pedigree

Addendum D
Research Publications

Addendum D
Scientific Publications for Relevant Species to the CBW Registration

Mammalia

Bontebok

Berner S. 2005. Bontebok (Damaliscus pygargus dorcas): North American Regional Studbook and Population Management Plan. Lake Buena Vista, FL: Disney's Animal Kingdom.

Christman J. 2009. Bontebok (Damaliscus pygargus dorcas): North American Regional Studbook and Population Management Plan. Lake Buena Vista, FL: Disney's Animal Kingdom.

King L. 2008. Bontebok (Damaliscus pygargus dorcas): North American Regional Studbook and Population Management Plan. Lake Buena Vista, FL: Disney's Animal Kingdom.

King L. 2008. Bontebok (Damaliscus pygargus dorcas): North American Regional Studbook and Population Management Plan. Lake Buena Vista, FL: Disney's Animal Kingdom.

Miller M, Terrell S, Lyashchenko K, Greenwald R, Harris B, Thomsen BV, Fontenot D, Stetter M, Neiffer D, Fleming G. 2011. Mycobacterium kansasii Infection in a Bontebok (Damaliscus pygaragus dorcas) Herd: Diagnostic Challenges in Differentiating from the Mycobacterium tuberculosis Complex. Journal or Zoo and Wildlife Medicine Vol 42(3): 468-472

Cheetah

Adkins A, Wellehan J, Childress A, Archer L, Fraser W, Citino S. 2008. Astroviral diarrhea in a group of captive cheetah (Acinonyx jubatus) description of a novel pathogen. Proceedings of the 40th Annual Conference of the American Association of Zoo Veterinarians; Los Angeles (CA)

Neiffer DL, Pardo AD, Klein EC. 2000. Use of pyloroplasty (Y-U) to treat presumed delayed gastric emptying in a cheetah (Acinonyx jubatus). Journal of Zoo and Wildlife Medicine 31(4): 552-7.

Terrell SP, Fontenot DK, Miller M, Weber MA. 2003. Chylous ascites in a cheetah (Acinonyx jubatus) with venoocclusive liver disease. Journal of Zoo and Wildlife Medicine, 34(4): 380-4.

Dog, African Hunting

McAloose D , Raske M, Moore R, Rodriguez CE. 2012. Multitilobulur Tumor of Bone in an African Wild Dog (Lycaon pictus). Journal of Zoo and Wildlife Medicine, 43(4): 950-952

Gibbon, White-cheeked

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Gorilla, Western Lowland

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Tortoise, Galapagos

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Osteichthyes

None

Addendum E
Mortalities

Addendum F
Mortalities of Requested or Similar Species 2012 - Present

Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Bovidae	*Addax*	*nasomaculatus*		Addax	1			12/17/2012	120725	Euthanized due to acute pelvic fracture	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		99
Bovidae	*Addax*	*nasomaculatus*		Addax	1			12/24/2014	100226	Trauma with neck fracture	No management change	3	
Bovidae	*Addax*	*nasomaculatus*		Addax	1			9/23/2016	100227	Euthanized due to complications from severe mineralization and concretions associated with infected salivary gland duct and facial swelling	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Aepyceros*	*melampus*	*rendilis*	Kenyan impala		1		4/21/2014	981383	Euthanized due to liver cancer	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Aepyceros*	*melampus*		Impala		1		6/16/2012	120464	Euthanized due to intestinal bacterial infection	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Aepyceros*	*melampus*		Impala	1			10/19/2012	010224	Euthanized due to chronic non-responsive lameness due to osteoarthritis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Aepyceros*	*melampus*		Impala		1		1/13/2013	120926	Neck trauma with vertebral luxation	Modified facility		
Bovidae	*Aepyceros*	*melampus*		Impala		1		9/14/2014	140617	Stillborn	Stillborn: No management change		
Bovidae	*Aepyceros*	*melampus*		Impala	1			9/19/2014	140505	Trauma with cervical dislocation	Modified facility		
Bovidae	*Aepyceros*	*melampus*	*rendilis*	Kenyan impala		1		9/25/2014	981382	Euthanized due to cancer	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Aepyceros*	*melampus*	*rendilis*	Kenyan impala		1		3/15/2015	981379	Euthanized due to multiple age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	13	
Bovidae	*Aepyceros*	*melampus*		Impala	1			12/6/2015	140549	Euthanized due to cervical trauma with neck fracture	Modified facility		
Bovidae	*Aepyceros*	*melampus*	*rendilis*	Kenyan impala		1		2/15/2016	981378	Euthanized due to multiple age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Aepyceros*	*melampus*		Impala		1		6/28/2016	990529	Euthanized due to severe chronic degenerative joint disease and uterine cancer	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Aepyceros*	*melampus*		Impala		1		7/10/2016	000006	Euthanized due to severe conspecific trauma with rib fractures	Monitor group: No agression seen		
Bovidae	*Aepyceros*	*melampus*	*rendilis*	Kenyan impala		1		10/16/2016	981381	Euthanized due to advanced age-related pathologies and cancer	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Antidorcas*	*marsupialis*	*marsupialis*	Springbok	1			9/17/2012	120640	Euthanized due to open right rear leg fracture	Baby: No management change		
Bovidae	*Antidorcas*	*marsupialis*	*marsupialis*	Springbok		1		11/28/2012	100185	Euthanized due to trauma to limbs and back and acute renal failure	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.	4	
Bovidae	*Antidorcas*	*marsupialis*	*marsupialis*	Springbok		1		4/1/2014	110882	Euthanized due to conspecific trauma with abdominal gore wound	Moved the male that caused these wounds to a different exhibit		
Bovidae	*Antidorcas*	*marsupialis*	*marsupialis*	Springbok		1		1/8/2017	140197	Euthanized due to acute and chronic self-trauma	Changed housing companions		

Addendum F
Mortalities of Requested or Similar Species 2012 - Present

Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Bovidae	*Antilope*	*cervicapra*		Blackbuck	1			2/26/2012	981515	Euthanized due to severe degenerative joint disease and vertebral spondylosis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Antilope*	*cervicapra*		Blackbuck		1		11/12/2012	990189	Uterine cancer with metastasis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Antilope*	*cervicapra*		Blackbuck		1		3/6/2013	981523	Euthanized due to trauma	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Antilope*	*cervicapra*		Blackbuck		1		5/29/2013	981521	Euthanized due to chronic degenerative changes and declining condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	8	
Bovidae	*Antilope*	*cervicapra*		Blackbuck		1		2/12/2015	090267	Euthanized due to leg fracture	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Antilope*	*cervicapra*		Blackbuck		1		10/11/2015	090272	Euthanized due to non-repairable tendon injury to right, rear leg	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Antilope*	*cervicapra*		Blackbuck		1		11/6/2015	090271	Euthanized due to declining quality of life	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Antilope*	*cervicapra*		Blackbuck		1		1/29/2016	110047	Euthanized due to severe intussusception and developing peritonitis	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Bos*	*javanicus*	*javanicus*	Javan banteng		1		12/11/2012	980478	Euthanized due to chronic severe arthritis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	1	
Bovidae	*Bos*	*taurus*	*taurus ankole*	Ankole cow		1		12/9/2013	120785	Euthanized due to ruminal bloat	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Bos*	*taurus*	*taurus ankole*	Ankole cow		1		7/22/2016	010004	Euthanized due to severe chronic degenerative joint disease	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	4	
Bovidae	*Bos*	*taurus*	*taurus ankole*	Ankole cow	1			10/1/2016	000265	Omasal impaction and splenic abscess, complicating age-related systemic changes	Age related: No management change		
Bovidae	*Bos*	*taurus*	*taurus ankole*	Ankole cow		1		12/22/2016	010003	Age-related euthanasia	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Connochaetes*	*taurinus*	*albojubatus*	Eastern white-bearded wildebeest		1		5/3/2015	980009	Euthanized due to age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Connochaetes*	*taurinus*	*albojubatus*	Eastern white-bearded wildebeest	1			10/10/2015	030184	Aspiration pneumonia	Age related: No management change	4	
Bovidae	*Connochaetes*	*taurinus*	*albojubatus*	Eastern white-bearded wildebeest		1		1/24/2016	980097	Euthanized due to decreased quality of life and severe arthritis	Age related: No management change		

Addendum F
Mortalities of Requested or Similar Species 2012 - Present

Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Bovidae	*Connochaetes*	*taurinus*	*albojubatus*	Eastern white-bearded wildebeest		1		2/17/2016	980333	Cause of death was unclear - anesthetic death	Age related: No management change		
Bovidae	*Damaliscus*	*pygargus*	*pygargus*	Bontebok	1			12/17/2013	090302	Pneumonia	Species has been removed from collection at Disney's Animal Kingdom Lodge	2	
Bovidae	*Damaliscus*	*pygargus*	*pygargus*	Bontebok		1		6/30/2014	090304	Euthanized due to cancer	Species has been removed from collection at Disney's Animal Kingdom Lodge		
Bovidae	*Eudorcas*	*thomsonii*	*thomsonii*	Thomson's gazelle		1		2/24/2012	980004	Euthanized due to declining condition due to advanced age	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	20	
Bovidae	*Eudorcas*	*thomsonii*	*thomsonii*	Thomson's gazelle		1		3/6/2012	970139	Euthanized due to declining condition with chronic pathology in multiple organ systems	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		3/16/2012	990239	Euthanized due to chronic kidney disease and degenerative joint disease	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		7/6/2012	030336	Euthanized due to fractured right hind leg	We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		7/19/2012	030212	Euthanized due to abdominal infection associated with deep stomach ulcer	We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		2/27/2013	990485	Euthanized due to age-related arthritis and declining condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		4/15/2013	000121	Euthanized due to acute trauma	We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle			1	4/28/2013	130351	Stillborn	Stillborn: No management change		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		5/17/2013	060513	Cancer	Phasing species out of collection at Disney's Animal Kingdom Lodge		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		5/17/2013	130432	Stillborn	Stillborn: No management change		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		5/30/2013	000105	Euthanized due to chronic age-related degenerative changes	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		5/30/2013	990240	Euthanized due to chronic age-related degenerative changes	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		8/26/2013	990281	Euthanized due to chronic progressive degenerative joint disease and declining condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle	1			8/31/2013	130342	Secondary to acute trauma with jaw fracture	Phasing species out of collection at Disney's Animal Kingdom Lodge		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle			1	12/14/2013	131010	Stillborn	Stillborn: No management change		
Bovidae	*Eudorcas*	*thomsonii*	*thomsonii*	Thomson's gazelle		1		1/23/2014	980008	Euthanized due to advanced degenerative joint disease and age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		

Addendum F
Mortalities of Requested or Similar Species 2012 - Present

Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		4/23/2014	000096	Euthanized due to aspiration pneumonia	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle	1			8/6/2014	140159	Euthanized due to congenital heart defect	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		2/13/2015	000110	Euthanized due to multiple tumors	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Eudorcas*	*thomsonii*		Thomson's gazelle		1		1/11/2016	000013	Dystocia	Phasing species out of collection at Disney's Animal Kingdom Lodge		
Bovidae	*Hippotragus*	*equinus*	*cottoni*	Angolan roan antelope		1		3/2/2015	090072	Euthanized due to disseminated cancer	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.	2	
Bovidae	*Hippotragus*	*equinus*	*cottoni*	Angolan roan antelope	1			1/5/2017	090071	Aspiration pneumonia and hemothrorax	Anesthetic related pneumonia while treating age related lameness		
Bovidae	*Hippotragus*	*niger*		Sable antelope		1		5/16/2012	960027	Euthanized due to chronic arthritis and persistent loss of condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Hippotragus*	*niger*		Sable antelope		1		3/20/2014	960028	Euthanized due to severe degenerative joint disease and age-related decline	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Hippotragus*	*niger*		Sable antelope		1		1/13/2015	150010	Hepatic dysfunction (cause undetermined)	Baby: Born and died same day - No management change		
Bovidae	*Hippotragus*	*niger*		Sable antelope		1		7/14/2015	120626	Aspiration pneumonia	Moved herd to a different pasture		
Bovidae	*Hippotragus*	*niger*		Sable antelope		1		8/12/2015	000016	Euthanized due to advanced osteoarthritis and loss of body condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	7	
Bovidae	*Hippotragus*	*niger*		Sable antelope		1		11/9/2015	070100	Euthanized due to trauma with pelvic fracture	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Hippotragus*	*niger*		Sable antelope	1			6/14/2016	960054	Euthanized due to advanced age-related pathology	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Kobus*	*ellipsiprymnus*		Common waterbuck		1		1/9/2014	970044	Euthanized due to multiple advanced age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Kobus*	*ellipsiprymnus*	*ellipsiprymnus*	Common waterbuck		1		10/3/2014	090642	Euthanized due to cancer	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.	5	
Bovidae	*Kobus*	*ellipsiprymnus*	*ellipsiprymnus*	Common waterbuck			1	7/13/2015	150502	Stillborn - pre-term abortion	Stillborn: No management change		
Bovidae	*Kobus*	*ellipsiprymnus*		Common waterbuck		1		2/13/2016	160042	Stillborn, possibly associated with dystocia	Stillborn: No management change		
Bovidae	*Kobus*	*ellipsiprymnus*		Common waterbuck		1		6/28/2016	970048	Euthanized due to severe chronic degenerative joint disease, infected wound on right leg, and uterine cancer	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		

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Mortalities of Requested or Similar Species 2012 - Present

Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Bovidae	*Litocranius*	*walleri*	*walleri*	Southern gerenuk		1		6/1/2012	040481	Severe parasitism	Species has been removed from collection at Disney's Animal Kingdom	1	
Bovidae	*Oryx*	*dammah*		Scimitar-horned oryx		1		6/5/2012	060421	Euthanized due to chronic arthritis and vertebral spondylosis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	3	
Bovidae	*Oryx*	*dammah*		Scimitar-horned oryx	1			9/23/2013	960069	Euthanized due to severe fat mineralization and declining body condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Oryx*	*dammah*		Scimitar-horned oryx		1		5/27/2016	150207	Anesthetic complications	Died during immobilization for hoofwork - No management change		
Bovidae	*Raphicerus*	*campestris*	*campestris*	Steenbok	1			10/16/2015	150751	Stillborn (twin)	Stillborn: No management change	1	
Bovidae	*Taurotragus*	*oryx*		Common eland	1			8/23/2013	981686	Euthanized due to chronic progressive degenerative joint disease and declining condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	8	
Bovidae	*Taurotragus*	*oryx*		Common eland		1		9/3/2013	970080	Euthanized due to progressively worsening degenerative joint disease	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Taurotragus*	*oryx*		Common eland		1		6/28/2014	990183	Suspected heat stroke	Removed Waterbuck from Exhibit to alleviate social stress		
Bovidae	*Taurotragus*	*oryx*		Common eland		1		7/20/2015	150482	Decompensation during anesthesia	No management change		
Bovidae	*Taurotragus*	*oryx*		Common eland	1			9/25/2015	990445	Euthanized due to severe chronic arthritis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Taurotragus*	*oryx*		Common eland		1		11/16/2015	990430	Euthanized due to uterine tumor with torsion and necrosis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Taurotragus*	*oryx*		Common eland		1		12/13/2015	150481	Cause of death unclear, possibly related to peracute exertional myopathy	No longer allow one female out by herself on exhibit		
Bovidae	*Taurotragus*	*oryx*		Common eland	1			4/25/2016	000135	Euthanized due to multiple age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Tragelaphus*	*angasii*		Nyala	1			11/6/2012	120752	Euthanized due to vertebral fracture	No management change	5	
Bovidae	*Tragelaphus*	*angasii*		Nyala	1			5/23/2013	120212	Developmental vascular abnormality	Congenital issue - No management change		
Bovidae	*Tragelaphus*	*angasii*		Nyala		1		8/6/2013	130682	Acute aspiration pneumonia	Aspiration during medical procedure - No management change		
Bovidae	*Tragelaphus*	*angasii*		Nyala		1		3/17/2014	080184	Necropsy was unclear - severe hemorrhage around kidney	No management change		
Bovidae	*Tragelaphus*	*angasii*		Nyala		1		5/30/2016	110194	Complications from an artificial insemination procedure	Discontinuing AI project at this time		
Bovidae	*Tragelaphus*	*eurycerus*	*isaaci*	Eastern bongo	1			4/24/2013	110472	Colonic impaction and aspiration pneumonia	No prevention available	5	
Bovidae	*Tragelaphus*	*eurycerus*	*isaaci*	Eastern bongo		1		9/16/2014	970403	Euthanized due to chronic age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Bovidae	*Tragelaphus*	*eurycerus*	*isaaci*	Eastern bongo		1		12/3/2015	110473	Euthanized due to post-surgical complications post sand impaction removal	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		

Addendum F
Mortalities of Requested or Similar Species 2012 - Present

Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Bovidae	*Tragelaphus*	*eurycerus*	*isaaci*	Eastern bongo		1		12/11/2015	150828	Euthanized due to inappropriate nursing (milk in rumen) and terminal aspiration	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Bovidae	*Tragelaphus*	*eurycerus*	*isaaci*	Eastern bongo		1		5/17/2016	150826	Post-surgical complications from a resected colonic intussusception	No prevention available		
Bovidae	*Tragelaphus*	*spekii*		Sitatunga	1			3/12/2015	150123	Head trauma	Trauma caused by dam. Change in neonate procedure	1	
Bovidae	*Tragelaphus*	*strepsiceros*		Greater kudu		1		3/12/2014	120213	Euthanized due to chronic degenerative joint disease and age-related decline	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	2	
Bovidae	*Tragelaphus*	*strepsiceros*		Greater kudu		1		9/9/2014	050202	Euthanized due to chronic age-related pathologies	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Canidae	*Vulpes*	*zerda*		Fennec fox		1		11/7/2015	150112	Euthanized due to intestinal lymphoma and declining body condition	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.	1	1
Cebidae	*Callithrix*	*geoffroyi*		White-fronted marmoset			1	1/28/2015	150069	Trauma from parent after birth	No prevention available		8
Cebidae	*Callithrix*	*geoffroyi*		White-fronted marmoset			1	1/28/2015	150070	Stillborn	Stillborn: No management change		
Cebidae	*Callithrix*	*geoffroyi*		White-fronted marmoset		1		5/12/2015	120245	Euthanized due to chronic colitis	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.	3	
Cebidae	*Saguinus*	*imperator*	*subgrisescens*	Emperor tamarin		1		5/19/2013	100489	Euthanized due to kidney infection and age-related degenerative changes	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	1	
Cebidae	*Saguinus*	*oedipus*		Cotton-top tamarin	1			3/4/2012	000263	Congestive heart failure	No prevention available		
Cebidae	*Saguinus*	*oedipus*		Cotton-top tamarin		1		9/22/2012	000289	Euthanized due to progressive heart disease	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Cebidae	*Saguinus*	*oedipus*		Cotton-top tamarin	1			5/17/2014	000797	Euthanized due to severe liver pathology and hepatic failure	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.	4	
Cebidae	*Saguinus*	*oedipus*		Cotton-top tamarin	1			3/27/2015	000288	Euthanized due to heart failure	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Cercopithecidae	*Colobus*	*angolensis*	*paliates*	Black-and-white colobus	1			5/28/2013	130459	Head trauma	Monitor maternal aggression and make changes as needed.	1	9
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill	1			6/3/2013	130062	Euthanized due to kidney infection and meningitis	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill	1			3/13/2014	100055	Euthanized due to severe verebral spondylosis with limited mobility and age-related decline	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill		1		4/2/2015	110903	Euthanized due to mammary cancer and severe vertebral fusion	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill		1		2/29/2016	970177	Conspecific trauma	Group composition will be alterred to maximize group cohesion.	8	

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Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill		1		3/15/2016	100056	Euthanized due to severe osteoarthritis with vertebral fusion (age-related pathology)	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill		1		3/19/2016	160081	Stillborn due to trauma (conspecific) sustained by dam	Group composition will be alterred to maximize group cohesion.		
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill		1		6/17/2016	100456	Conspecific trauma	Group composition will be alterred to maximize group cohesion.		
Cercopithecidae	*Mandrillus*	*sphinx*		Mandrill			1	7/17/2016	160332	Cause of death remains undetermined; body was decomposed when retrieved from mother	Will continue to closely monitor animal health.		
Cervidae	*Axis*	*axis*		Spotted deer		1		2/23/2012	980367	Euthanized due to capture myopathy	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		5
Cervidae	*Axis*	*axis*		Spotted deer		1		4/22/2013	980365	Euthanized due to otitis interna and chronic arthritis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	3	
Cervidae	*Axis*	*axis*		Spotted deer		1		3/31/2015	980368	Euthanized due to age-related degenerative joint disease	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Cervidae	*Rucervus*	*eldii*	*thamin*	Burmese brow-antlered deer		1		7/3/2012	981530	Euthanized due to severe chronic arthritis	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	2	
Cervidae	*Rucervus*	*eldii*	*thamin*	Burmese brow-antlered deer		1		7/12/2013	010544	Trauma from enclosure-mate	No preventative measure		
Equidae	*Equus*	*grevyi*		Grevy's zebra		1		5/8/2016	150644	Acute trauma with neck fracture	Behavioral study has been started to track young zebra development	2	13
Equidae	*Equus*	*grevyi*		Grevy's zebra	1			10/30/2016	160049	Severe acute trauma with cervical vertebral fracture	Behavioral study has been started to track young zebra development		
Equidae	*Equus*	*quagga*		Plains zebra		1		11/23/2012	120132	Euthanized due to cervical fracture	Management changes: moved exhibits, diet changes, hydrohay addition		
Equidae	*Equus*	*quagga*		Plains zebra		1		12/17/2012	120135	Colic and cecal rupture	Management changes: moved exhibits, diet changes, hydrohay addition		
Equidae	*Equus*	*quagga*		Plains zebra		1		12/19/2012	120134	Colic and cecal rupture	Management changes: moved exhibits, diet changes, hydrohay addition	5	
Equidae	*Equus*	*quagga*		Plains zebra		1		1/23/2013	120051	Colic and cecal rupture	Management changes: moved exhibits, diet changes, hydrohay addition		
Equidae	*Equus*	*quagga*		Plains zebra		1		10/10/2014	960034	Euthanized due to laminitis and hoof abscesses	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Equidae	*Equus*	*zebra*	*hartmannae*	Hartmann's mountain zebra	1			3/16/2012	080079	Severe trauma	Change in housing location for breeding males		
Equidae	*Equus*	*zebra*	*hartmannae*	Hartmann's mountain zebra		1		3/24/2012	070521	Anesthesia related aspiration	Change in anesthetic protocol		
Equidae	*Equus*	*zebra*	*hartmannae*	Hartmann's mountain zebra		1		8/4/2012	100626	Secondary to aspiration pneumonia	Procedure related		
Equidae	*Equus*	*zebra*	*hartmannae*	Hartmann's mountain zebra	1			2/11/2013	120653	Acute trauma and neck fracture	Change in housing location for breeding males	6	
Equidae	*Equus*	*zebra*	*hartmannae*	Hartmann's mountain zebra	1			1/11/2014	140009	Conspecific trauma	Changes made to enclosure		
Equidae	*Equus*	*zebra*	*hartmannae*	Hartmann's mountain zebra	1			9/4/2015	130555	Presumed to anesthetic death at time of induction	No management change		

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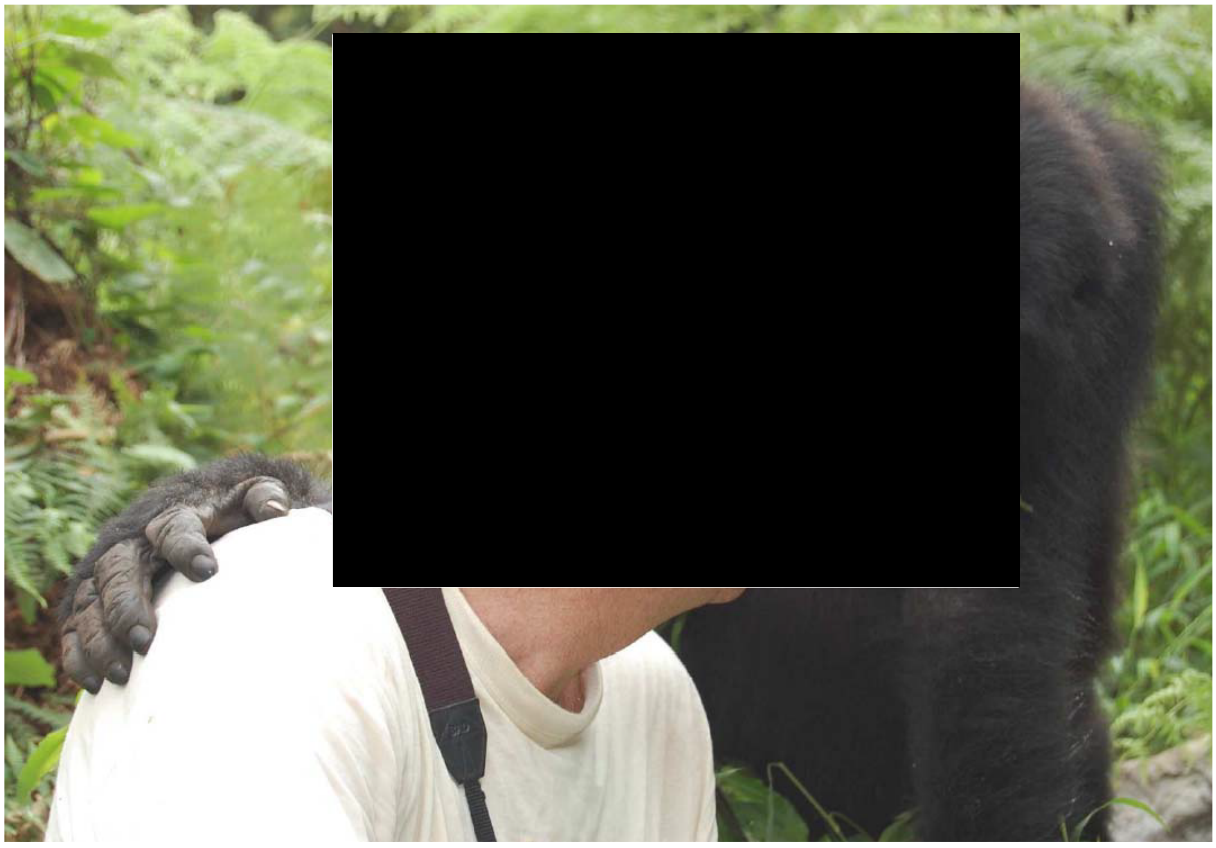
Family	*Genus*	*Species*	*Subspecies*	Common name	Sex M	Sex F	Sex U	Death date	Local ID	Cause of death	Measures to Prevent	Total mort. per species	Total mort. per family
Felidae	*Acinonyx*	*jubatus*		Cheetah		1		3/3/2013	120277	Euthanized due to chronic gastritis and declining condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	2	5
Felidae	*Acinonyx*	*jubatus*		Cheetah		1		7/8/2013	060373	Kidney infection	Age related: No management change - evaluated all cheetah in the collection to understand their state of gastritis		
Felidae	*Panthera*	*leo*		Lion	1			5/19/2014	990446	Euthanized due to suspected kidney disease and age-related decline	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.	1	
Felidae	*Panthera*	*tigris*		Tiger		1		6/4/2012	981682	Euthanized due to chronic kidney failure and loss of condition	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.	2	
Felidae	*Panthera*	*tigris*		Tiger		1		12/24/2012	981680	Euthanized due to chronic kidney disease	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Gruidae	*Balearica*	*pavonina*	*pavonina*	West African black crowned-crane		1		12/27/2013	980382	Suspect trauma	No management change	2	5
Gruidae	*Balearica*	*pavonina*	*pavonina*	West African black crowned-crane	1			8/18/2015	000301	Complications from open humeral fracture	Management change: protocols tightened, adjustments to exhibit		
Gruidae	*Balearica*	*regulorum*	*gibbericeps*	East African grey crowned-crane		1		11/3/2013	130890	Yolk sac infection	No management change	3	
Gruidae	*Balearica*	*regulorum*	*gibbericeps*	East African grey crowned-crane	1			5/17/2015	100577	Trauma and intestinal infection	No management change		
Gruidae	*Balearica*	*regulorum*	*gibbericeps*	East African grey crowned-crane	1			6/22/2015	140535	Trauma and secondary complications (displaced by adults)	No management change		
Psittacidae	*Ara*	*militaris*		Military macaw		1		12/11/2014	980062	Acute blunt trauma with hemocoelom	No management change	1	1
Rhinocerotidae	*Ceratotherium*	*simum*	*simum*	Southern white rhinoceros			1	11/9/2012	120873	Stillborn due to severe developmental malformation in-utero	Stillborn: No management change	2	2
Rhinocerotidae	*Ceratotherium*	*simum*	*simum*	Southern white rhinoceros	1			8/27/2013	981700	Euthanized due to chronic progressive degenerative joint disease and declining condition	Age related: We will not prevent euthanasia from occuring if that is the best course of action considering quality of life.		
Suidae	*Phacochoerus*	*africanus*	*sundevallii*	Warthog	1			11/29/2013	090567	Euthanized due to non-resolving colonic impaction	This individual was being treated for dental issues	2	2
Suidae	*Phacochoerus*	*africanus*		Warthog		1		6/29/2015	150432	Aspiration pneumonia	Infant-Reviewed handrearing information		
Testudinidae	*Chelonoidis*	*nigra*		Galapagos tortoise	1			11/21/2013	980390	Chronic liver failure	No management change	1	7
Testudinidae	*Geochelone*	*sulcata*		African spurred tortoise		1		1/5/2015	990390	Pneumonia and sepsis	No management change	1	
Testudinidae	*Malacochersus*	*tornieri*		African pancake tortoise	1			6/29/2014	090584	Intestinal impaction and necrosis	No management change	1	
Testudinidae	*Manouria*	*emys*	*phayrei*	Burmese black tortoise		1		7/31/2013	090583	Pneumonia, chronic and hepatic lipidosis	Management change: Relocated to a dryer environment	3	
Testudinidae	*Manouria*	*emys*	*phayrei*	Burmese black tortoise			1	9/27/2013	130825	Euthanized due to external yolk sac at hatching	Will continue to use euthanasia as a welfare tool for medicaly compromised animals, with an unlikely prognosis for recovery.		
Testudinidae	*Manouria*	*emys*	*phayrei*	Burmese black tortoise	1			11/3/2014	120593	Pneumonia	Management change: Relocated to a dryer environment		
Testudinidae	*Pyxis*	*arachnoides*	*arachnoides*	Common spider tortoise			1	5/12/2015	070358	Chronic liver failure and hepatic lipidosis	No management change	1	
Varanidae	*Varanus*	*komodoensis*		Komodo dragon/Ora	1			3/19/2012	981742	Infection and suspected terminal trauma	No management change	2	5
Varanidae	*Varanus*	*komodoensis*		Komodo dragon/Ora	1			12/31/2013	981745	Complications from suspected neck trauma	No management change		
Varanidae	*Varanus*	*prasinus*		Emerald monitor			1	6/21/2014	110450	Intestinal infection and sepsis	No management change	2	
Varanidae	*Varanus*	*prasinus*		Emerald monitor		1		3/19/2016	150637	Blunt trauma and yolk coelomitis	No management change		
Varanidae	*Varanus*	*salvator*		Water monitor	1			11/15/2012	000339	Degenerative joint disease	Age related: No management change	1	

Addendum F
Resumes

CURRICULUM VITAE

Dr. Mark Raymond Penning
January 2017



CURRENT FORMAL EMPLOYMENT

Vice President: Animals, Science and Environment for Walt Disney World Parks and Resorts

Responsibilities:

- Strategic and direct leadership for animal care, animal husbandry, animal health, science and guest engagement/education wherever exotic animals are housed at Walt Disney Parks and Resorts (WDPR), including Walt Disney World (Disney's Animal Kingdom, Disney's Animal Kingdom Lodge, Epcot's The Seas and Land, and the Ranch at Fort Wilderness), Castaway Cay, and Aulani Resort in Oahu.
- Strategic leadership for all other WDPR animal areas (e.g., Disneyland Paris, Disneyland Resort), and any others under development.
- Provide subject matter expertise regarding animal use to all facets of The Walt Disney Company (TWDC), including media partners such as film and television.
- Serve as the environmental integration leader for WDPR, including facilitating efforts of each of the site teams to develop and achieve environmental targets, as well as to develop strategic/tactical plans to meet these targets. Provide direct leadership for the overall environmental sustainability efforts at the Walt Disney World Resort.
- Serve as the voice for Animals, Science and Environment to all aspects of The Walt Disney Company. Be a passionate, committed champion of animal welfare, environmental sustainability, conservation, and the importance of telling our stories.
- Ensure strategic alignment and partnership with TWDC Environment and Conservation team and TWDC Corporate Citizenship's Strategic Philanthropy.
- Provide vision, leadership and direction to all aspects of Animals, Science and Environment LOB, including all levels of Cast. Achieve Animal Welfare, Conservation, Environmental, Guest, Cast Member, and financial objectives. Create an environment that focuses first on safety, while also ensuring an inclusive work environment, focusing on animal welfare and conservation, and driving inspirational high quality Guest and Animal experiences.
- Manage positive and open partnerships with external zoological and conservation entities. Ensure we are serving as a positive force for change in the broader zoological community.

Previous role with WDPR - Director: Animal and Science Operations for Walt Disney World Parks and Resorts 2012-2015

This role carries responsibility for all operational elements of the Disney animal facilities and storytelling to our Guests - the amazing Disney Animal Kingdom (with wonderful creatures like elephants, gorillas, okapis etc.), the Animal Kingdom Lodge (a guest lodge with all rooms looking onto sweeping savannahs with sable and roan antelope, eland, cranes, hornbills etc.), the Living Seas aquarium at Epcot (with sharks, dolphins etc.), The Land Pavilion at Epcot, all the Disney horse facilities (draught horses and ponies to pull Cinderella's carriage etc.), and the snorkel and stingray-touch facilities in the Bahamas and Hawaii. The responsibilities include cutting edge research and education programs, agricultural and water sciences, field conservation work, a dynamic team of highly skilled professionals and incredible animals.

ACADEMIC HISTORY / QUALIFICATIONS:

[redacted]

1986 [redacted]

- Awarded Honours Blazer for Exceptional Service to the School

[redacted] of

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1994 Completed a course on Assisted Reproduction Techniques in Theriogenology, and a Wildlife Immobilization and Translocation Course in the Kruger National Park.

2013 Received the South African Veterinary Association's Citation for outstanding contribution to the veterinary profession.

PREVIOUS FORMAL EMPLOYMENT

Chief Executive Officer of the **South African Association for Marine Biological Research (SAAMBR)**

South African Association for Marine Biological Research, Tel: +27 (31) 328 8222 Fax: +27 (31) 328-8200; 1 King Shaka Avenue, Durban, RSA, 4000, PO Box 10712, Marine Parade, 4056, South Africa

The SAAMBR is a registered Non Profit Company based in Durban, and was founded in 1951 for the purposes of contributing to marine conservation. The Chief Executive Officer is the link between the operations team and the Board of Directors (known as the SAAMBR Council), and is responsible for overall strategy and policy of the Association, while coordinating and managing the activities of the three operating divisions, aiding each to contribute significantly toward this end:

- The **Oceanographic Research Institute (ORI)**, which employs 27 full-time scientific personnel, provides strategic decision support to government departments, agencies and other NGO's in thirteen countries on the African continent and in surrounding waters. It is affiliated to the University of KwaZulu-Natal, and has produced over 100 post-graduate students and over 1000 scientific publications in peer-review journals. The ORI is widely regarded as the premier marine research institute in the Western Indian Ocean;

- **Sea World at uShaka Marine World**, one of the largest public aquaria in the world, it is the premier man-made tourist destination in KwaZulu-Natal. With a total water volume of some 22 million litres, it offers dolphin presentations, seal pantomimes and a host of interactive activities, together with a 500-metre meander through a series of simulated shipwrecks, from which one views the marine life; and

- The **Sea World Education Centre**, which employs 37 full-time education staff and a team of 50 volunteer guides, who interpret the marine exhibits to a million visitors per year, and present curriculum-based marine life courses and educational presentations to over 100 000 learners from all walks of life each year.

Dr. Penning was a member of the executive team tasked with the design and construction of uShaka Marine World, an urban regeneration project incorporating a large modern aquarium and water park, with a shipwreck theme. At a cost of over US$110 million, the new Sea World was built to showcase the marine biodiversity of the south-eastern seaboard of Africa, and provide Durban with a world-class tourist attraction. It opened to the public in May 2004.

A crucial role of the SAAMBR CEO is to link the organization to the facilities management company and the owner of uShaka Marine World, namely the Durban Marine Theme Park (DMTP) Pty Ltd. In this capacity, Dr. Penning must liaise closely with the DMTP Board, the City Treasury, the City Manager, the Mayor of Durban, the park Operations team and the Development Bank of South Africa to balance the interests of the animals, the personnel and the visitors, with the commercial realities of operating a theme park.

Dr. Penning is a hands-on CEO, making time to do clinical work on the variety of animals kept at uShaka, exploring new techniques for immobilizing dangerous sharks and reptiles, planning new exhibits and developing new dolphin and seal presentations.

ZOO AND AQUARIUM ASSOCIATION INVOLVEMENT

1) WAZA

The World Association of Zoos and Aquariums (WAZA) is an association representing around 300 leading zoological institutions in 46 countries or territories, along with 22 regional, sub-regional or national zoo and aquarium associations on all continents, representing another 1 000 zoos and aquariums. With its headquarters in Gland, Switzerland, the Council (governing body) meets twice each year. The WAZA brings together the collective expertise of responsible zoo and aquarium directors of the world, to facilitate optimum animal care and welfare, sound environmental education and appropriate scientific research, in the interests of preserving global biodiversity.

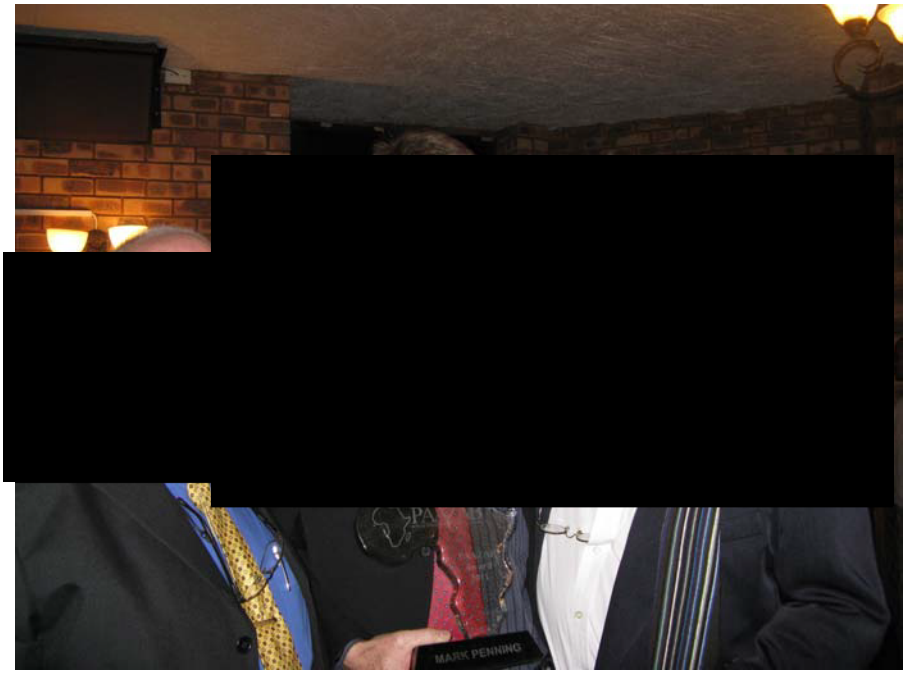
- Member of **WAZA** since 1997.
- Elected to the **Council** of **WAZA** in 2005.
- Following a two-year term, was re-elected to the Council in 2007.
- Elected Chairman of the **Aquarium Committee** of **WAZA** in 2006.
- Elected **President** of the **World Association of Zoos and Aquariums (WAZA)** at the Conference and Annual General Meeting in St. Louis, USA in October 2009, and served a full term of two years.

2) PAAZAB

The African Association of Zoos and Aquariums (PAAZAB) represents the interests of more than fifty zoological institutions in nine African countries, promoting high standards of animal husbandry in the African zoo and aquarium community, together with sound education programmes and effective exhibit interpretation.

- Member of **PAAZAB** since 1997;
- Elected to the Executive Committee of **PAAZAB** in 1997, and served there until 2009;
- Elected Vice-Chairman in 2000 of the **African Preservation Programme (APP)** of **PAAZAB** – a coordinated captive management programme for small populations of animals, operating throughout the continent of Africa.
- Elected Chair of the Veterinary Clinicians Working Group of **PAAZAB** in 1998.
- Elected Chair of the **PAAZAB** Ethics and Welfare portfolio in 1999.
- Elected Vice Chairman of **PAAZAB** in 2004.
- Elected Chairman of **PAAZAB** in 2006 and served two full terms of office.
- Dr. Penning was awarded the **PAAZAB** Chairman's Award in 2011 in Pretoria, South Africa for his contribution to the zoo and aquarium industry in Africa.

- Also in 2011, Dr. Penning's efforts were considered to be of such a nature that he became only the third recipient of the **PAAZAB Award,** the Association's highest award for Outstanding Contribution to the Zoo and Aquarium Community.



3) ISIS

The International Species Information System (ISIS) represents 650 zoo and aquarium institutions in more than 70 countries. ISIS maintains computer-based information systems used by the worldwide zoological community, using basic biologic information (age, sex, parentage, place of birth, circumstance of death, etc.) to manage genetic and demographic programs for their animal collections. The ISIS central database contains information on 2 million animals from almost 15,000 taxa, representing 10,000 species.

- Elected member of the International Board of Trustees of **ISIS** in 2005 and served until 2012.

OTHER ACTIVITIES AND MEMBERSHIPS:

- Member of **NOAA's Sanctuary System Business Advisory Council (BAC**), the first ever program-focused advisory council. The BAC was created to provide advice and recommendations to the Director regarding the relationship of the ONMS with the ocean business community. 2013-2016.

- Board member of the **Dian Fossey Gorilla Fund**, dedicated to the conservation, protection and study of gorillas and their habitats in Africa, since 2016.

- Board member of **The National Elephant Center** in Fellsmere, Florida, USA, a registered 501©3 non-profit corporation established to contribute to the sustainability of elephants in human care in the USA, from 2013 to 2016.

- Represented the interests of **SAAMBR** on the Board of the **Durban Marine Theme Park (PTY) Ltd**, the owner and major shareholder of uShaka Marine World in Durban, South Africa, from 2003-2012.

- Appointed member of the Veterinary Clinical Committee of the **Medicines Control Council**, National Department of Health, Republic of South Africa, from 2010 to 2012.

- Director of the **Elephant Population Management Program (EPMP)**, a registered non-profit corporation in the USA, from 2010 to current. The purpose of the EPMP is to benefit ecosystem health by providing wildlife managers with a safe, effective and humane tool for managing their free ranging African elephant populations. The EPMP attains this mission through the development and utilization of new surgical technologies in reproductive sterilization including laparoscopic vasectomies, which will help manage elephant population growth and, in turn reduce the need for lethal control. To date, the team has conducted successful vasectomies on over 50 wild African elephant bulls *in situ* in Southern Africa.

- Appointed to the Board of Advisors of the **International Crane Foundation (ICF)** in 2010**.** Based in Baraboo, Wisconsin in the USA, the International Crane Foundation (ICF) works worldwide to conserve cranes and the wetland and grassland ecosystems on which they depend. ICF is dedicated to providing experience, knowledge, and inspiration to involve people in resolving threats to these ecosystems.

- Member of the Board of Trustees of the **Cheetah Conservation Foundation**, a Not-For-Profit organization dedicated to the preservation of African animals, with emphasis on Cheetah and African Wild Dog.

- Member of the IUCN South Africa Regional Committee (**World Conservation Union**).

- Member of the Advisory Board of the **Wattled Crane Recovery Programme.** Played a lead role in the establishment of the Wattled Crane Recovery Programme, a project that links *in situ* and *ex situ* conservation bodies under the auspices of the African Association of Zoos and Aquaria (PAAZAB) and the Endangered Wildlife Trust (EWT).

- Member of the **South African Veterinary Association**. In 2005, Dr. Penning received the Stuart Downes Award for his contribution to the veterinary profession in KwaZulu-Natal. In 2013 at the SAVA Gala Dinner, was awarded a citation by the SAVA for an outstanding contribution to the profession.

- Member of the **South African National Veterinary Clinicians Group** and the **KZN Veterinary Clinicians Group.**

- In October 2009, invited to be the African representative on the **American Association of Zoo Veterinarians (AAZV).**

PREVIOUS FORMAL EMPLOYMENT HISTORY

[redacted]

Co-owner (50%) Monument Park Veterinary Hospital, Lyttleton Veterinary Clinic, Olifantsfontein Veterinary Clinic and Monument Park Game Capture Services cc.

- A small animal veterinary practice specializing in the treatment of birds and reptiles, and in the translocation of wildlife, based in Pretoria, South Africa.

[redacted]

Employed by Leisure Themes (PTY) Ltd to develop and manage animal collections for Tsogo Sun (PTY) Ltd. This included the development of models for small zoological gardens in several centres around South Africa. Most notable projects include:

a) Umgeni River Bird Park:

- Chief Executive Officer of this public bird park in Durban, South Africa, displaying a large collection of rare and endangered birds.
- Achieved rare breeding success with species like Palm Cockatoo, Caninde Macaw and Wattled Crane, and many other endangered or CITES-appendixed species.
- Responsible for all aspects of animal collection management, administration, human resources, animal health, marketing, display and conservation breeding programmes.

b) Montecasino Bird Gardens:

- Member of the planning team for the design and construction of Montecasino Bird Gardens in Fourways, Johannesburg.
- Exhibits include large multi-species aviaries, a free-flight bird show and a collection of venomous reptiles and small mammals, all set in a magnificent garden of some 800 indigenous cycads.
- Responsibilities included collection planning, exhibit design, financial planning, human resources development and planning, animal health, animal acquisition and training, and all aspects of the free-flight bird show.

c) Children's Animal Farm:

- Charged with winding up of a small animal farm in Durban, due to development of the site.
- Responsibilities included daily operations management, financial controls, animal health, human resource management, development and expedition of redundancy packages for personnel, and translocation of all the animals.

OTHER BUSINESS INTERESTS

[redacted]

Owner (100%) of ReptiMed:

- Developed and produced a range of 10 different vitamin and mineral supplements, and health and hygiene products for pet reptiles.
- Responsible for all aspects of product development, manufacture, packaging, marketing and financial controls.
- Products available at quality pet stores country-wide.

Co-owner (50%) of Fancy Feathers:

- A business supplying feathers for the fly-fishing industry.
- Based on a chicken farm on the KZN north coast, keeping and breeding 13 varieties of ornamental chickens.
- Responsibilities included all aspects of management and financial controls, marketing and sales countrywide.

LECTURES, PAPERS AND PRESENTATIONS:

- Presented the **Keynote Address** at the Zoo Registrars Association Annual Conference in October 2012 in Tampa, Florida, USA entitled **"Painting by Numbers – Our Role in the Global Conservation Effort."**

- Editor and co-author of **"Turning the Tide: A Global Aquarium Strategy for Conservation and Sustainability"**. This document is the response of the international aquarium community to the World Zoo and Aquarium Conservation Strategy published by WAZA in 2005, and is formally endorsed by the International Aquarium Forum (IAF), International Aquarium Congress (IAC), European Union of Aquarium Curators (EUAC), IUCN Species Survival Commission, The RAMSAR Convention on Wetlands, Conservation International, Wetlands International and the World Wildlife Fund-US. It has been translated into traditional Chinese, Japanese, Spanish and German, with almost a dozen more in progress.

- Launched the Japanese version of **"Turning the Tide: A Global Aquarium Strategy for Conservation and Sustainability"** at the Conference of Parties to the Convention on Biodiversity in Nagoya, Japan in 2010.

- Author of a chapter entitled "Aquariums and the conservation of water dependent species" in a book **"Building a Future for Wildlife: Zoos and Aquariums committed to conservation"**, published in Switzerland in 2009.

- Presented the prestigious **Smith Memorial Lecture** in 2011 at the South African Institute for Aquatic Biodiversity (SAIAB).

- Member of a small editorial committee mandated to produce a draft "best practice" document laying down the requirements for the optimum management and operation of zoos and aquaria. This landmark document has recently been promulgated as the **South African National Code of Zoo and Aquarium Practice (SANS 10379)**, and includes provisions for management systems, the husbandry and welfare of animals, conservation and research practices, and educational and recreational aspects.

- Developed the **PAAZAB Accreditation Standard** together with colleagues, an assessment tool to recognize the exceptional zoo and aquarium institutions on the continent of Africa. Only four institutions have successfully completed the Accreditation process – the National Zoological Gardens of South Africa, the Cango Wildlife Ranch, uShaka Sea World and the Johannesburg Zoo.

- Contributed to the development of the **PAAZAB Operational Standard**, a compulsory requirement of Institutional Membership of the Association, in order to regulate and improve the professional standards of the industry on the continent of Africa.

- Member of an editorial team tasked by the **African Association of Zoos and Aquaria (PAAZAB)** with developing tertiary qualifications in zoo and aquarium animal husbandry at National Qualifications Framework levels 2 and 4. These qualifications have been registered with the South African Qualifications Authority (SAQA). A third has been submitted at an NQF level 6.

- Presented an address entitled **"Training Zoo and Aquarium Animals for Health Checks"** at the 2009 PAAZAB Veterinary Working Group Symposium on Wildlife Diseases, a Continuing Professional Development symposium recognized by the SAVA.

- Presented an address entitled **"Maintaining Animal Health in a Large Public Aquarium"** at the 4th South African Veterinary and Para-Veterinary Congress at Sun City in 2008.

- Presented an address entitled **"Animal Health and Epidemiology in Public Aquariums"** at the twelfth Conference of the International Society for Veterinary Epidemiology and Economics (ISVEE) in August 2009 in Durban. Also member of the organizing committee.

- Presented an address entitled **"Turning the Tide: The WAZA Aquarium Strategy"** at the 7th International Aquarium Congress in Shanghai, China in 2008.

- Presented the keynote address at the annual conference of the **Animal Keepers Association of Africa** in Durban in 2007.

- Presented an address entitled **"Fish and Marine Mammal Health"** at the 2008 conference of the South African Association for Laboratory Animal Science (SAALAS) in Durban.

- Presented an address entitled **"Dangerous Creatures – from Fear to Fascination"** at the 2010 conference of the African Association of Zoos and Aquaria (PAAZAB) in Cape Town.

- Presented a paper entitled **"The Use of Immobilizing Agents for Relocation or Surgery in Marine Fish"** at the World Veterinary Conference in Cape Town, South Africa in 2011.

- Presented a paper entitled "**Diet Supplementation in Reptiles: Diagnosis and Treatment of Common Disorders"** at the North American Veterinary Conference in Orlando, Florida, USA in 2012.

- Presented a paper entitled **"Dolphins, Sharks and Other Patients: Primary Health Care in a Large Public Aquarium"** at the North American Veterinary Conference in Orlando, Florida, USA in 2012.

- Presented a paper entitled **"Immobilizing Marine Fishes for Transport or Surgery"** at the North American Veterinary Conference in Orlando, Florida, USA in 2012.

- Presented a paper entitled **"Leopard Tortoises in the Wild: What they really need."** at the North American Veterinary Conference in Orlando, Florida, USA in 2012.

- Presented a paper entitled **"Making a Splash: The School of Hard Knocks"** at the North American Veterinary Conference in Orlando, Florida, USA in 2012.

- Presented a paper entitled **"Too Hot to Handle: Training Reptiles for Medical Examinations and Treatment"** at the North American Veterinary Conference in Orlando, Florida, USA in 2012.

- Presented a paper entitled **"Treating Respiratory Disease in Snakes"** at the North American Veterinary Conference in Orlando, Florida, USA in 2012.

- Scientific Journal publication: Vaughan, D.B., Penning, M.R., Christison, K.W. 2008. **2-Phenoxyethanol as anesthetic in removing and relocating 102 species fishes representing 30**

families from Sea World to uShaka Marine World, South Africa. *Onderstepoort Journal of Veterinary Research, 75:189-198.*

- Co-authored a paper entitled **"Health checks of rehabilitated leopard tortoise, *Stigmochelys pardalis*, before release into the wild"** with K. Wimberger and A.J. Armstrong in the South African Journal of Wildlife Research 31(2): 00–00 (October 2001).

- Presented numerous talks on the diagnosis and treatment of diseases in exotic pets, in birds and in reptiles to colleagues throughout South Africa;

- Presented lectures on snakes and snake-bite to students of the Faculty of Veterinary Science at Onderstepoort, University of Pretoria, by invitation on several occasions;

- Wrote many public interest articles on snakes, birds, snakes as pets, diseases of birds, diseases of snakes, animal behaviour, training methods, and the like. These have appeared in a broad spectrum of publications in the printed media. Similar submissions have been featured on several television programmes ranging from news broadcasts to actuality programmes, and on radio talk shows.

CONFERENCE ATTENDANCE

Dr. Mark Penning has attended the following international conferences as a speaker, organizer, session chair, host, chairman, workshop facilitator and various combinations thereof:

- Convention on Biological Diversity (CBD) Conference of Parties (COP-10) in Nagoya, Japan, in 2010.
- 7th International Aquarium Congress in Shanghai, China, 2008.
- 12th Conference International Society for Veterinary Epidemiology & Economics, Durban, 2009.
- 4th South African Veterinary and Para-Veterinary Congress, Sun City, 2008.
- American Association of Zoo Veterinarians (AAZV) Conference, Omaha, Nebraska, USA, 1997.
- American Association of Zoos and Aquariums Conference, Philadelphia, USA, 2008.
- 5th SA Veterinary and Paraveterinary Congress, Drakensberg, SA, 2010.
- 30th World Veterinary Congress, Cape Town, SA in 2011.
- North American Veterinary Congress in Orlando, Florida, USA in 2012.
- American Association of Zoos and Aquariums Conference, Phoenix, Arizona, USA, 2012.
- Zoo Registrars Association Annual Conference in Tampa, Florida, USA, 2012.
- American Association of Zoo Veterinarians (AAZV) Conference, Oakland, California, USA, 2012.

- 56th World Association of Zoos and Aquariums (WAZA) Conference and AGM, Pretoria in 2001.
- 57th World Association of Zoos and Aquariums (WAZA) Conference and AGM, Perth, Australia in 2002.
- 58th World Association of Zoos and Aquariums (WAZA) Conference and AGM, Costa Rica in 2003.
- 59th World Association of Zoos and Aquariums (WAZA) Conference and AGM, Taipei in 2004.
- 60th World Association of Zoos and Aquariums (WAZA) Conference and AGM, New York, USA, in 2005.
- 61st World Association of Zoos and Aquariums (WAZA) Conference and AGM, Leipzig, Germany in 2006.
- 64th World Association of Zoos and Aquariums (WAZA) Conference and AGM, St. Louis, USA in 2009.
- 65th World Association of Zoos and Aquariums (WAZA) Conference and AGM, Köln, Germany in 2010.
- 66th World Association of Zoos and Aquariums (WAZA) Conference and AGM, Prague, Czech Rep. in 2011.
  Chaired Köln and Prague conferences and AGM's as President of WAZA
- 67th World Association of Zoos and Aquariums (WAZA) Conference and AGM, Melbourne, Australia in 2012.

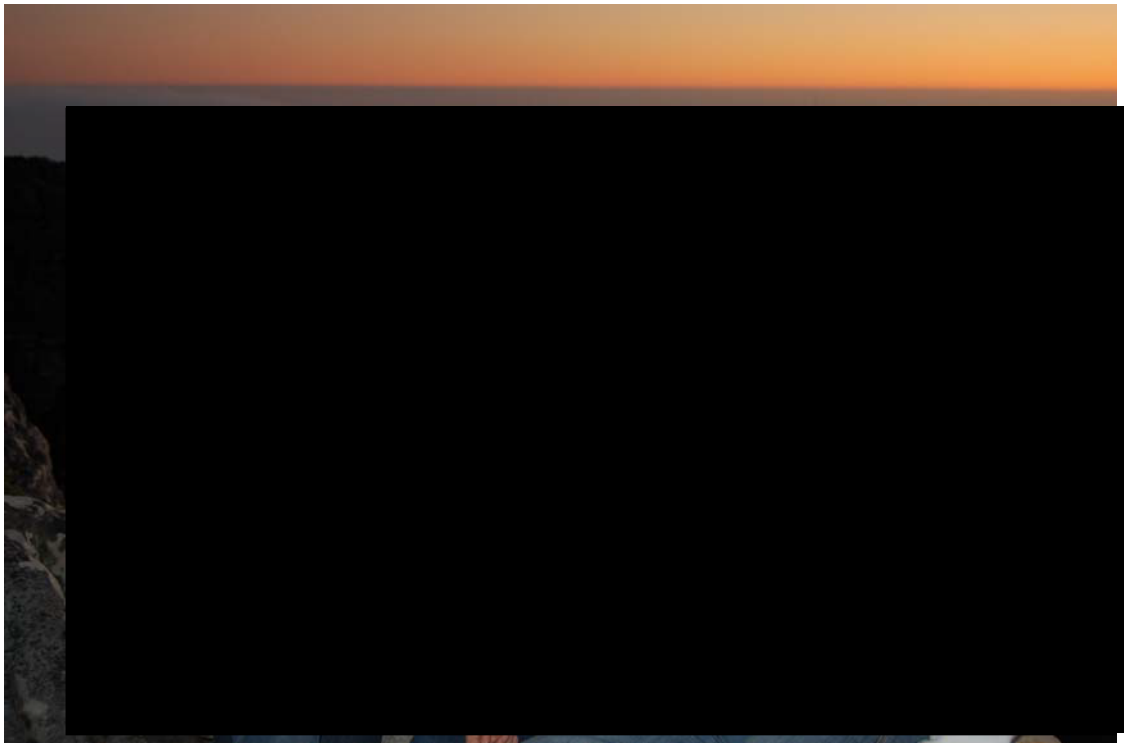
- 8th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Cape Town in 1996.
- 9th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, East London in1997.

- 10th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Bloemfontein in 1998.
- 11th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Cape Town in 1999.
- 12th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Pretoria in 2000.
- 13th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Plettenberg Bay in 2001.
- 14th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Johannesburg in 2002.
- 15th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Oudtshoorn in 2003.
- 16th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Johannesburg in 2004.
- 17th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Pretoria in 2005.

- 18th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, East London in 2006.
- 19th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Plettenberg Bay in 2007.
- 20th African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Durban in 2008.
- 21st African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Entebbe, Uganda in 2009.
- 22nd African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Cape Town in 2010.
- 23rd African Association of Zoos and Aquaria (PAAZAB) Conference and AGM, Pretoria in 2011.
  Chaired four of the conferences and AGM's as Chairman of PAAZAB

- South African Association for Laboratory Animal Science (SAALAS), Conference, Durban, 2008.
- Animal Keepers Association of Africa Conference, Durban, 2007.
- PAAZAB Veterinary Working Group Symposium on Wildlife Diseases, Johannesburg, 2009.

HOBBIES AND INTERESTS



- [redacted].
- Scuba diving.
- Bird-watching, looking for reptiles.
- Taking walks in nature.
- Playing electric guitar (Fender Stratocaster).

- Reading anything from *The Complete Works of Rudyard Kipling* to biographies to cheap novels.

Curriculum Vitae
Scott Paul Terrell

Disney's Animal Programs, Bay Lake, FL 32830 Phone: (407) 938-2746
Scott.P.Terrell@disney.com

Specialty Certification: Diplomate, American College of Veterinary Pathologists, 2001
State of Florida Veterinary Medical License: VM-0008252

[redacted]

National / International science and conservation appointments

Animal welfare committee, Assoc of Zoos and Aquariums (AZA)
Member services committee, Leadership and management, AAZV
Ethics committee, AAZV
Certifying exam board, American College of Veterinary Pathologists
Certifying Exam Task Force, American College of Veterinary Pathologists
Scholarship committee, American College of Veterinary Pathologists
Exam committee, American College of Veterinary Pathologists
Anatomic and General chairman, 2008
Associate editor, Journal of Zoo and Wildlife Medicine

[redacted]

Associate pathology editor, Journal of Herpetological Medicine and Surg
Pathology and scientific advisor, Turtle Survival Alliance
Pathology advisor, Elephant species survival plan
Pathology advisor, Micronesian kingfisher
Pathology advisor, Guam Rail
Pathology advisor, Cotton-top tamarin species survival plan

Honors / Awards

Keynote Address: "Leadership in veterinary medicine", Zoetis Equine Forum, 2014
Keynote Address "Client service in veterinary medicine), Zoetis Companion Animal Executive Forum, 2013
Featured Speaker, Pfizer Elites Lecture Series, 2013
Keynote Address, Banfield Pet Hospitals Disney Leadership Institute, 2013
CL Davis Foundation, Samuel Thompson Award, 2010
Teacher of the Year, UF College of Veterinary Medicine, 2007
Outstanding Young Alumni Award, UF College of Veterinary Medicine, 2007
UF College of Veterinary Medicine Merit Teaching Award, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2011
C.L. Davis Student Scholarship Award, 1999
Wildlife Disease Association Student Research Recognition Award, 1999
UF College of Veterinary Medicine Resident Seminar of the Year, 1999
Resident of the Year, Support Services, 1999
UF College of Veterinary Medicine Resident Seminar of the Year, 1998
Amy K. Swisher Scholarship, 1996
National Park Service Quality Performance Award, 1993
Letter of Commendation, Badlands National Park, 1993
African Safari Club of Florida Leadership Scholarship, 1993
Auburn University Presidents Honor Roll, 1989

Peer Reviewed Publications

A.L. Weeden, K.R. Taylor, S.P. Terrell, A.E. Gallagher, H.L. Wamsley. 2016. SUSPECTED MYELODYSPLASTIC/MYELOPROLIFERATIVE NEOPLASM IN A FELINE LEUKEMIA VIRUS-NEGATIVE CAT. Vet Clin Pathol, 1-10.

C. Molter, D.K. Fontenot, and S.P. Terrell. 2015. USE OF DESLORELIN ACETATE IMPLANTS TO MITIGATE AGGRESSION AND PLASMA TESTOSTERONE CONCENTRATIONS IN TWO ADULT MALE DOMESTIC TURKEYS *(MELEAGRIS GALLOPAVO).* Journal of Avian Medicine and Surgery 29(3): 224-230.

K.E. Sullivan, G. Fleming S.P. Terrell, D. Smith F. Ridgley, E.V. Valdes. 2014. VITAMIN A VALUES OF WILD CAUGHT CUBAN TREE FROGS (*OSTEOPILUS SEPTENTRIONALIS*) AND MARINE TOADS (*RHINELLA MARINA*) IN WHOLE BODY, LIVER, AND SERUM., Journal of Zoo and Wildlife Medicine 45(4): 892-895.

J.L. Lankton, D.J. VanderHart, and S.P. Terrell. 2014. SCHISTOSOMUS REFLEXUS-LIKE MALFORMATION IN A SOUTHERN WHITE RHINOCEROS (*CERATOTHERIUM SIMUM SIMUM).* Journal of Zoo and Wildlife Medicine. 45(3): 708-711.

J.M. Sykes IV, D.L. Neiffer., S.P. Terrell, A. Newton. 2013. Review of 23 cases of post-intubation tracheal obstruction in birds. Accepted, Journal of Zoo and Wildlife Medicine.

Toplon, D, S.P. Terrell, L. Sigler, and E.R. Jacobson. 2012. Dermatitis and Cellulitis in

Leopard Geckos (*Eublepharis macularius*) Caused by the Chrysosporium Anamorph of Nannizziopsis vriesii, In Press, Veterinary Pathology, *Vet Pathol* published online 16 November 2012

Terrell, S.P. F.C. Origgi, D. Agnew. 2012. Glomerulonephropathy in Aged Captive Key Largo Woodrats, (*Neotoma floridana smalli*). Veterinary Pathology, Volume 49 Issue 4, pp. 711 - 717

Wiedner, E.B., J. Peddie, L.R. Peddie, N. Abou-Madi, G.V. Kollias, W.A. Lindsay, R. Isaza, S.P. Terrell, T.M. Lynch, C. Doyle, G. Jacobson, K. Johnson, G. Johnson, C. Sammut, B. Daft, F. Uzal. 2012. Strangulating intestinal obstructions in four captive elephants (*Elephas maximus*). Journal of Zoo and Wildlife Medicine 43(1): 125-130.

Miller M., S.P. Terrell, K. Lyashchenko, R. Greenwald, B. Harris, B.V. Thomsen, D.K. Fontenot, M. Stetter, D. Neiffer, and G. Fleming. 2011. MYCOBACTERIUM KANSASII INFECTION IN A BONTEBOK (DAMALISCUS PYGARAGUS DORCAS) HERD: DIAGNOSTIC CHALLENGES IN DIFFERENTIATING FROM THE MYCOBACTERIUM TUBERCULOSIS COMPLEX, Journal of Zoo and Wildlife Medicine 42(3), 468-472.

Petty, D.A. and S.P. Terrell. 2011. Cardiac tamponade in a largemouth bass, *Micropterus salmoides*. Journal of Zoo and Wildlife Medicine 42(2), 351-353.

Sim, R.R., Sullivan, K.E., Valdes, E.V., Fleming, G.J. and S.P. Terrell. 2010. A Comparison of Oral and Topical Vitamin A Supplementation in African Foam Nesting Frogs. Journal of Zoo and Wildlife Medicine 41(3):456-460.

Wellehan Jr, James F. X., Greenacre, Cheryl B., Fleming, Gregory J., Stetter, Mark D., Childress, April L. and Terrell, Scott P. 2009 Siadenovirus infection in two psittacine bird species, Avian Pathology,38:5, 413 — 417

Cunningham, M. W., D. B. Shindle, A. B. Allison**,** S. P. Terrell, D. G. Mead, and M. Owen,, 2009. Canine Distemper Epizootic in Everglades Mink. In press, Journal of Wildlife Diseases

Robbins, P.K., S.P. Terrell, D. Bradway, F. Wier. 2009. Mycobacterial infection in a Fairy Bluebird (Irena puella): A diagnostic conundrum. Journal of Zoo and Wildlife Medicine 40(1):189-92

Dale C. Honeyfield, J. Perran Ross, Dwayne A. Carbonneau, Scott P. Terrell, Allan R. Woodward, Trenton R. Schoeb, H. Franklin Perceval and Joy P. Hinterkopf**.** 2008**.** PATHOLOGY, PHYSIOLOGIC PARAMETERS, TISSUE CONTAMINANTS, AND TISSUE THIAMINE IN MORBID AND HEALTHY CENTRAL FLORIDA ADULT AMERICAN ALLIGATORS (*ALLIGATOR MISSISSIPPIENSIS*). J Wildlife Diseases 44(2): 280-294

Cunningham, M.W., Brown, M.A., Shindle, D.B., Terrell, S.P., Hayes, K.A., Ferree, B.C., McBride, R.T., Blankenship, E.L., Jansen, D., Citino, S.B., Roelke, M.E., Kiltie, R.A., Troyer, J.L., O'Brien, S.J. 2008. Epizootiology and management of feline leukemia virus in the Florida puma. Journal of Wildlife Diseases 44(3): 537-552.

Russo, R, R.P.E. Yanong, and S.P. Terrell. 2007. Preliminary morphometrics of spleen and kidney macrophage aggregates in clinical normal blue gourami and freshwater angelfish. Journal of Aquatic Animal Health 19: 60-67

Travis, E., R.E. Junge, and S.P. Terrell. 2007. Mycobacterium simiae infection in captive Micronesian kingfishers, Journal of American Veterinary Medical Association 230(10): 1534-1539

Terrell, S.P. 2006. Procedures Pro – Collection and submission of surgical biopsies. NAVC Clinicians Brief Vol 4(6): 59-62

Terrell, S.P. 2006. How to refer – Wildlife Rehabilitation. NAVC Clinicians Brief Vol 4(11): 79-81

Fontenot, DK; S.P. Terrell, M.A. Miller, P.K. Robbins, M.D. Stetter, and M.Weber. 2006. CLOSTRIDIUM SEPTICUM MYOSITIS IN A WESTERN LOWLAND GORILLA (GORILLA GORILLA GORILLA). Journal of Zoo and Wildlife Medicine.

Fontenot, D.K; S.P. Terrell; K. Malakooti; S. Medina 2006. HEALTH ASSESSMENT OF THE GUAM RAIL (*Gallirallus owstoni*) RECOVERY PROGRAM POPULATION, Journal of Avian Medicine and Surgery 20(4): 225-233

Odongo, NE; Alzahal O; Lindinger MI; Duffield, TF; Valdes, EV; Terrell, SP; and McBride BW. 2006. Effects of mild heat stress and grain challenge on acid-base balance and rumen tissue histology in lambs. J. Anim. Sci. 84:447-455.

Garner, M.M.., C.H. Gardiner, J.F.X. Wellehan, A.J. Johnson, T. McNamara, M. Linn, S.P. Terrell, A. Childress and E. Jacobson. 2006. Intranuclear Coccidiosis in tortoises, 9 cases. Veterinary Pathology, 43: 311-320.

Weber, M.A., M.A. Miller, D.L. Neiffer, and S.P. Terrell. 2006. Presumptive fenbendazole toxicosis in North American Porcupines. Journal of the American Veterinary Medical Association 228(8): 1240-1242.

Kim Y, EW Howerth, NS Shin, SW Kwon, S.P. Terrell, and DY Kim. 2005. Disseminated visceral coccidiosis and cloacal cryptosporidiosis in a Japanese white-naped crane (Grus vipio). J Parasitol. Feb;91(1):199-201

Wellehan, J.F.X., L.L. Farina, C.G. Keoughan, M. Lafortune, A.M. Grooters, , L. Mendoza, M. Brown, S.P. Terrell, E. R. Jacobson, and D.J. Heard. 2004. Pythiosis in a dromedary camel (*CAMELUS DROMEDARIUS*). Journal of Zoo and Wildlife Medicine 35(4):564-568.

Lafortune, M., J.F.X. Wellehan, S.P. Terrell, E.R. Jacobson, D. Heard, J.W. Kinbrough. 2005. Shell and systemic hyalohyphomycosis in Fly River turtles (*Carettochelys insculpta*) caused by *Paecilomyces lilacinus.* In Press. Journal of Herpetological Medicine and Surgery

Royes, J., D.J. Murie, R. Francis-Floyd, and S.P. Terrell. 2004. An evaluation of two commercially prepared feeds in growth and performance and liver condition in juvenile African cichlids *Pseudotropheus socolofi* and *Haplochromis ahli.* North American Journal of Aquaculture 66: 285-292.

Wellehan, J.F.X., Johnson, A.J., Latimer, K.S., Whiteside D.P., Crawshaw, G.J., Detrisac, C.J., Terrell, S.P., Heard, D.J., Childress, A., Jacobson, E.R., 2004. Varanid herpesvirus 1: a novel herpesvirus associated with proliferative stomatitis in green tree monitors (Varanus prasinus). In Press, Veterinary Microbiology

Casimire-Etzioni, A.L., J.F.X. Wellehan, J.E. Embury, S.P.Terrell, R.E. Raskin. 2004. Synovial fluid from an African spur-thighed tortoise. Veterinary Clinical Pathology 33 (1):43-46.

Terrell, S.P. A.M.S. Chandra, L.S. Pablo and D.D. Lewis. 2004. Fat intraoperative pulmonary fat embolism in a dog undergoing cemented total hip arthroplasty, Journal of the American Animal Hospital Association 40: 345-348.

K.M. Leong, S.P. Terrell, and A. Savage. 2003. Causes of Mortality in Captive Cotton-top Tamarins (*Saguinus oedipus*), In Press, Zoo biology

Terrell, S.P., D.K. Fontenot, M.A. Miller and M.A. Weber. 2003. Chylous ascites in a cheetah with veno-occlusive liver disease. Journal of Zoo and Wildlife Medicine 34(4): 38-384

Terrell, S.P., E. Uhl and R.E. Funk. 2003. Proliferative enteritis in leopard geckos (Eublepharis macularius) associated with Cryptosporidium sp. infection. Journal of Zoo and Wildlife Medicine Mar;34(1):69-75

Yanong, R.P.E., E.W. Curtis, S.P. Terrell, and G. Case. 2003. Atypical presentations of Mycobacteriosis in a Collection of Frogfish (Antennarius striatus). Journal of Zoo and Wildlife Medicine 34(4):400-407

Foster, G.W., M.B. Main, J.M. Kinsella, L.M. Dixon, S.P. Terrell and D.J. Forrester. 2003. Parasitic helminths and arthropods from coyotes (Canis latrans) from Florida, USA., Comparative parasitology, 70(2): 162-166

Weber, M.A., S.P. Terrell, D.L. Neiffer, M.A. Miller, and B.J. Mangold. 2002. Bone marrow hypoplasia and intestinal crypt cell necrosis with fenbendazole administration in five painted storks. Journal of the American Veterinary Medical Association 221(3): 417-419

Neiffer, D.L., E.C. Klein, P.P. Calle, M. Linn, S.P. Terrell, R.L. Walker, D. Todd, C.K. Vice, and S.K. Marks. 2002. Mortality associated with melarsomine dihydrochloride administration in two North American river otters and a red panda. Journal of Zoo and Wildlife Medicine 33(3): 242-248.

Terrell, S.P., D.J, Forrester, H. Mederer and T.W. Regan. 2002. An epizootic of fibromatosis in gray Squirrels (Sciurus carolinensis) in Florida. Journal of Wildlife Diseases 38(2): 305-312.

Mariani, C.L., S.R. Platt, S.M. Newell, S.P. Terrell, C.L. Chrisman and R.M. Clemmons. 2001. Magnetic Resonance imaging of cerebral cortical necrosis (polioencephalomalacia) in a dog. Veterinary Radiology and Ultrasound. 42 (6): 524-31.

Pye, G.W., S.P. Terrell, L.M. McSherry, and R.A. Bennett. 2001. Disseminated Tcell rich Bcell lymphoma in a ring-tailed lemur. Journal of Zoo and Wildlife Medicine 31(3): 388-393.

Terrell, S.P., S.R. Platt, C.L. Chrisman, B.L. Homer, A. de Lahunta, and B.L. Summers. 2000. Possible intraspinal metastasis of a canine spinal cord nephroblastoma. Veterinary Pathology 37:94-97.

Chandra, A.M.S., P.E. Ginn, S.P. Terrell, A. Adjiri-Awere, B.L. Homer, and P. Dennis. 2000. Canine distemper infection in Binturongs (Arctictus binturong). Journal of Veterinary Diagnostic Investigation. 12(1): 88-91

Foster, G.W., P.E. Moler, J.M. Kinsella, S.P. Terrell, and D.J. Forrester. 2000. Parasites of eastern indigo snakes (*Drymarchon corais couperi*) from Florida. Comparative Parasitology 67(1):124-128.

Pye, G.W., R.A. Bennett, G.D. Roberts and S.P. Terrell. 2000. Thoracic chordoma in a domestic ferret (Mustela putorius furo). Journal of Zoo and Wildlife Medicine. 31(1): 107-111

Terrell, S.P., M.G. Spalding and D.J. Forrester. 1998. Diagnosis and management of a small epizootic of Salmonellosis in Passeriforms. Florida Field Naturalist 26(4):114-116.

Terrell, S.P. and C.H. Courtney. 1998. Prevalence of heartworms in Alaskan domestic dogs and wild canids. Recent advances in Heartworm Disease , Symposium proceedings pp, 83-86.

Deem, S.L., S.P. Terrell, and D.J. Forrester. 1998. A retrospective study of morbidity and mortality of raptors in Florida: 1988-1994. Journal of Zoo and Wildlife Medicine 29(2): 160-164.

Non-refereed manuscripts / book chapters

Terrell, S.P. Zoonotic diseases. *In:* Zookeeping: An Introduction to Science and Technology. MD Irwin (ed.). University of Chicago Press

Terrell S.P., Stacy BA. Reptile Necropsy Techniques. *In*: Infectious Diseases and Pathology of Reptiles: Color Atlas and Text. ER Jacobson (ed.). 2006.

Terrell, S.P, S. Gamo, and T.I. Ifland. 1992. The status of Bighorn Sheep in Badlands National Park, National Park Service Internal Report, Badlands National Park, Interior, South Dakota.

Teaching

CL Davis Foundation, Gross Morbid Pathology Course (2010, 2011)
3-hour lecture, "Pathology of Zoo Animals"
St. Petersburg, FL

Clinical service faculty, surgical pathology and necropsy service (2001-present)
Seven 4 day blocks as the faculty pathologist
University of Florida Veterinary Medical Teaching Hospital

Introduction to fish and shellfish histologic interpretation FAS 6932: (2001, 2003, 2005)
Two 3 hour lecture / labs entitled
"Histology of the kidney, spleen, and hematopoietic systems"
"Histology of the blood, lymph, reticuloendothelial, and cardiovascular systems"

Immunology: VEM CVM2010 (2003-present)
Two - six 1 hour lecturs covering hypersensitivity reactions, primary immunodeficiencies, and secondary immunodeficiencies, cytokines, effector mechanisms, and cytokine therapy

Systemic Pathology VEM 5162: (2001-present)
Four 1-hour lectures and two 3-hour labs entitled "Gastrointestinal Pathology"
Course Coordinator: Dr. Calvin Johnson

Diseases of free-ranging wildlife WIS 5323C: (1995, 1997, 1999, 2001, 2003)
2 1-hour lectures entitled "Diseases of Wild Canids"
2 hour laboratory entitled "Techniques for the necropsy of a white-tailed deer"
Course Coordinator: Dr. Donald J. Forrester, University of Florida

Advanced small animal medicine VEM 5173: (1998, 1999)
3- 1 hour lectures entitled "Cellular Adhesion Molecules, Their Role in Health and Disease" and "Mechanisms of Bacterial Pathogenesis"
Course Coordinator: Dr. Robert King, University of Florida

National Board Exam Preparation, Senior Veterinary Students (1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006)
Three 3-hour lectures involving comprehensive overview of "Swine Diseases and Pathology"

Small animal pathology VEM 5164: (1999-2007)
Two- 2 hour lectures entitled “Small Animal Gastrointestinal Pathology” and “Small Animal Cardiovascular pathology”
Course Coordinator: Drs. Pamela Ginn and Jeff Abbot, University of Florida

Veterinary Microbiology VEM 4883: (1999)
1 hour lecture entitled “Mechanisms of Bacterial Pathogenesis”
Course Coordinator: Dr. Paul Nicoletti, University of Florida

Professional memberships

American College of Veterinary Pathologists
American Association of Zoo Veterinarians
Wildlife Disease Association
American Association of Wildlife Veterinarians
Association of Zoos and Aquariums

Curriculum Vita
TAMARA LYNN BETTINGER
August 2016

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WORK ADDRESS:

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Disney's Animal Kingdom
P.O. Box 10,000
Lake Buena Vista, FL 32830
[redacted]
Email: Tammie.Bettinger@Disney.com

EDUCATION:

[redacted]

[redacted]

January 2016-present — Animal Operations Director for Animal Care, Health, and Science, Disney's Animal Kingdom
[redacted] — Animal Operations Director for Husbandry, Disney's Animal Kingdom
Sr. Research Biologist (Science Director), Disney's Animal Kingdom
Associate General Curator, Zoo Atlanta
Curator of Conservation and Research, Cleveland Metroparks Zoo
Science Curator, Tulsa Zoo
Financial Accountant, Public Service Company of Oklahoma

RELATED WORK EXPERIENCE:

Tea[redacted]

Zoo and Aquarium Biology and Management. University of Central Florida

[redacted]

Human Anatomy and Physiology. Northern Virginia Community College

Zoo Biology and Management. Senior/graduate level course, Oklahoma State University

Conservation Biology. Senior/graduate level course, Cleveland State University

Field Expereince in Tropical Ecology. Senior/graduate level course, Cleveland State University (One-month field course in Venezuela)

PROFESSIONAL ACTIVITIES:

AZA Committees:

2009 - 2013	Chair, Research and Technology Committee
2008 - 2010	AZA Animal Welfare Committee
2001 - 2006	Co-coordinator of the AZA Course on Developing Institutional Strategies for Conservation (DIISC)
1996 - 2002	Chimpanzee SSP Management Group, Vice-chair 1999-2002
2002 - present	Sanctuary and Research Advisor, Chimpanzee SSP
1998 - 2010	Prosimian TAG (VC for 2008-2010)
1998 – 2008	Mongoose Lemur then Eulemur SSP Coordiantor

NON-AZA Committees:

2013-current	GRACE BOD, Advisor
2012-2014	Chair, BOD – Pan African Sanctuary Alliance
2011-2014	Board of Director – Pan African Sanctuary Alliance
2004-2011	Board of Directors, Chimp Haven, 2004-2011; Advisory Board 1995-2014
2004-2006	Chair, Scientific Program Committee, International Primatological Society
2002- 2005	Conservation Committee, American Society of Primatologists
2002-2013	Education Committee, International Primatological Society
1996-2002	Program Committee, American Society of Primatologists; Program Chair 2000-2002.

PUBLICATIONS:

Bettinger T, Wallis J, Carter T. 1994. Spatial selection in captive adult female chimpanzees. Zoo Biol 13:167-176.

Bettinger T. 1994. Effects of Norplant implants on behavior and physiology of captive chimpanzees [dissertation]. Oklahoma State University.

Bettinger T, Wallis J, Morris A. 1995. Reproductive parameters of mandrill baboons at the Tulsa zoo. Zoo Biol 14:115-121.

Bettinger T, Cougar D, Lee R, Lasley B, Wallis J. 1997. Ovarian hormone concentrations and genital swelling patterns in female chimpanzees with Norplant implants. Zoo Biol 16:209-223.

Bettinger T, DeMatteo K. 2001. Reproductive management of captive chimpanzees. In: Brent L, editor. The care and management of captive chimpanzees. American Society of Primatologists. p 119-145.

Bettinger T, guest editor. 2002. Am J Primatol 57 (suppl 1). Wiley-Liss Publisher.

Kuhar C, Bettinger T, Sironen A, Lasley B. 2003. Hormonal and behavioral factors influencing reproductive success in captive Geoffroy's tamarins. Zoo Biol 22:545-559.

Kuhar CW, Bettinger TL, Sironen AL, Shaw JH, Lasley BL. 2004. Factors affecting reproduction in zoo housed Geoffroy's tamarins (Saguinus geoffroyi). Zoo Biol 22:545-559.

Kuhar CW, Bettinger TL, Laudenslager M. 2005. Salivary cortisol and behavior in an all-male group of western lowland gorillas. Anim Welfare 14: 187-193.

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Laudenslager M, Bettinger T, Sackett G. 2006. Saliva as a medium for assessing cortisol and other compounds in nonhuman primates: collection, assay, and examples. In: Sacket G, Ruppenthal G, Elias K, editors. Nursery rearing of nonhuman primates in the 21ST century. New York (NY): Springer Publisher. p. 403-427.

Bettinger T, Leighty K, guest editors. 2006. Int J Primatol (suppl). Kluwer Academic/Plenum Publishers.

Ross S, Bloomsmith M, Bettinger T, Clay A, Anderson U. 2006. Adolescent male chimpanzees: a scientific study with management implications. Communiqué, October.

Elston J, Carney J, Quinones G, Sky C, Plasse C, Bettinger T. 2007. Use of novel nest boxes by carmine bee-eaters (Merops nubicus) in captivity. Zoo Biol 26:27-39.

Kuhar C, Bettinger T, Lehnhardt K, Townsend S, Cox D. 2007. Evaluating the impact of a conservation education program in the Kalinzu Forest Reserve, Uganda. Journal of the International Zoo Educators Association 43:12-15.

Kuhar C, Bettinger T, Lehnhardt K, Townsend S, Cox D. 2007. Into the forest: the evolution of a conservation education program at Kalinzu Forest Reserve, Uganda. Applied Environmental Education and Communication 6:159-166.

Smith K, Canigla B, Bettinger T, Carter T, Shaw J. 2007. Evaluating successful conservation partnerships between zoos and aquariums, federal and state agencies and non-governmental organizations. Zoo Biol 26:471-486.

Bettinger T, Bielitzki J, editors. 2008. The well-being of animals in zoo and aquarium sponsored research…putting best practices forward. Greenbelt (MD): Scientists Center for Animal Welfare. 150 p.

Kuhar C, Bettinger T, Laudenslager M. 2008. Using cortisol to assess well-being: limitations and daydreams. In: Bettinger T, Bielitzki J, editors. The well-being of animals in zoo and aquarium sponsored research…putting best practices forward. Green Belt (MD): Scientists Center for Animal Welfare. p. 55-70.

Bettinger T, Savage A. 2008. Zoos and aquariums gone wild: connecting to in situ conservation. In: Bettinger T, Bielitzki J, editors. The well-being of animals in zoo and aquarium sponsored research…putting best practices forward. Green Belt (MD): Scientists Center for Animal Welfare. p. 119-132.

Miller L, Bettinger T, Mellen J. 2008. The reduction of stereotypic pacing in Asian tigers (Panthera tigris) by obstructing the view of neighboring individuals. Anim Welfare 17: 255-258.

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Elston J, Carney J, Quinones G, Sky C, Plasse C, Bettinger T. 2008. Unprecedented use of a nest log by a female lesser green broadbill (Calyptomena viridis). Aviculture Magazine 114:172-179.

Ross SR, Bloomsmith MA, Bettinger T, Wagner KE. 2009. The influence of captive adolescent male chimpanzees on wounding: management and welfare implications. Zoo Biol. 28:623-634.

Miller A, Leighty KA, Maloney MA, Kuhar CW, Bettinger TL. 2010. How access to exhibit space impacts the behavior of female tigers (Panthera tigris). Zoo Biology 29:1-8.

Kuhar CW, Miller L, Mellen J, Lehnhardt J, Christman J, Bettinger T. 2010. A system for monitoring and improving animal visibility and its implications for zoological parks. Zoo Biol. 29:68-79.

Bettinger TL, Kuhar CW, Lehnhardt K, Cox D, Cress D. 2010. Discovering the unexpected: lessons learned from evaluating conservation education programs in Africa. Am J Primatol.72:445-449.

Kuhar CW, Bettinger TL, Lehnhardt K, Tracy Osuo, Cox D. 2010. Evaluating for long-term impact of an environmental education program at the Kalinzu Forest Reserve, Uganda. Am J Primatol. 72:407-413.

Blowers TE, Waterman JM, Kuhar CW, Bettinger TL. 2010. Social behaviors within a group of captive female *Hippopotamus amphibious.* J Ethol 28:287-294.

Ferrie GM, Becker KK, Wheaton CJ, Fontenot D, Bettinger T. 2011. Chemical and surgical interventions to alleviate intraspecific aggression in male collared lemurs (Eulemur collaris). J Zoo Wildlife Med. 42(2):214-221.

Maloney MA, Leighty KA, Kuhar CW, Bettinger TL. 2011. Behavioral responses of silverback gorillas (Gorilla gorilla gorilla) to videos. J Appl Anim Welf Sci. 14:96-108.

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Leighty KA, Maloney MA, Kuhar CW, Phillips RS, Wild JM, Chaplin MS, Bettinger TL. 2011. Use of a touchscreen-mediated testing system with mandrill monkeys. International J Compar Psych 24 60-75.

Miller A, Leighty KA, Maloney MA, Kuhar CW, Bettinger, TL. 2011. How Access to Exhibit Space Impacts the Behavior of Female Tigers (Panthera tigris). Zoo Biology 30:479-486.

Kuhar CW, Bettinger TL, Lehnhardt K, Cartwright B, Cress D. 2012. Education program evaluation at primate sanctuaries. International Journal of Primatol. 33:208-217.

Blowers TE, Waterman JM, Kuhar CW, Bettinger TL. 2012. Female Nile hippopotamus (Hippopotamus amphibious) space use in a naturalistic exhibit. Zoo Biology 31:129-136.

Leighty KA, Pittman VL, Grand AP, Alford V, Brown J, Bettinger TL. 2012. Disney's Animal Kingdom's Turtle Cognition Program. Animal Keeper's Forum 39:329-333.

Grand AP, Kuhar, CW, Leighty, KA, Bettinger, TL, Laudenslager, ML 2012. Using personality ratings and cortisol to characterize individual differences in African elephants (*Loxodonta africana*). Applied Animal Behaviour Science, 142, 69-72.

Ferrie GM, Cohen OR, Schutz P, Leighty KA, Plasse C, Bettinger TL, Hoffman EA. 2013. Identifying parentage using molecular markers: improving accuracy of studbook records for a captive flock of marabou storks (*Leptoptilus crumeniferus*). Zoo Biology 32: 556-564.

Grand AP, Cory LJ, Maloney MA, Phillips RS, Leighty KA, Bettinger TL 2013. The neighbor effect in bachelor and breeding groups of western lowland gorillas (*Gorilla gorilla gorilla*). International Journal of Comparative Psychology, 26, 26-36.

Leighty KA, Grand AP, Courte VLP, Maloney MA, Bettinger TL 2013. Relational responding by Eastern box turtles (*Terrapene carolina*) in a color discrimination task. Journal of Comparative Psychology, 127, 256-264.

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Alba, AC, Leighty, KA, Courte VLP, Grand, AP, Bettinger TL (in review). A turtle cognition research demonstration enhances visitor engagement and keeper-animal relationships. Zoo Biology.

Ferrie GM, Hether T, Cohen O, Brusilow E, Sky C, Breeding S, Leighty KA, Schutz P, Plasse C, Bettinger TL, Hoffman EA. (In review). Using behavioral observations and genetic markers to characterize the flexible reproductive system in an *ex situ* flock of carmine bee-eaters (*Merops n. nubicus*).

[redacted] [redacted]
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Joe Christman

Experience

2[redacted] Disney's Animal Kingdom, Lake Buena Vista, FL
Director

- Responsible for the strategic oversight of Disney Animal Kingdom Kilimanjaro Safari Ride and Disney's Animal Kingdom Lodge animal collections
- Responsible for policy and regulatory oversight for the areas, assisting Curators
- Oversees four Curators
- Acts as Director of Animal Operations in absence of the Director
- Assists in coverage / management of the remainder of the animal collection in the absence of the co- Animal Operations Director
- Member and inspector for Disney's Animal Kingdom Animal Care and Welfare Committee (DACWC).
- Firearms team oversight and instructor
- Member of Animal Science and Environment Review Team (ASERT), charged with reviewing Animal interaction safety protocols and applying Guiding Principles to standardize these safety protocols for Disney's Animal Kingdom

[redacted] Disney's Animal Kingdom, Lake Buena Vista, FL
ons Manager

- Inclusive of all duties of Curator of Mammals
- Act as Animal Operations Director as assigned in the absence of the Director
- Disney Worldwide Conservation Fund (DWCF) Vice Chair / Africa
- AZA Rhino Studbook Keeper
- RAG steering committee
- SPMAG member and advisor
- Lion SSP Management Group
- International Rhino Foundation (IRF) Advisory Board Member
- AZA Animal Health Committee

[redacted]sney's Animal Kingdom, Lake Buena Vista, FL

- Member of opening team management staff opening Disney's fourth Florida theme park
- Design and development of exhibits
- Management of 10 zoological managers and 71 keepers
- Management and planning pertaining to all aspects of the mammal collection
- Involvement with regional conservation programs
- Liaison with local, national and international agencies
- International transport of animals
- Budget formulation and tracking
- Acquisitions and dispositions
- North American Studbook Keeper/PMP coordinator for Greater Kudu
- North American Studbook Keeper/PMP for Klipspringer
- Antelope TAG Sub-chair for Giraffe
- Antelope TAG Steering Committee
- Rhino TAG Steering Committee
- SSP/PMP Coordinator for Giraffe
- SPMAG member and advisor
- Lion SSP Management Group

[redacted] Phoenix Zoo, Phoenix, AZ

als

- Management of staff of 28
- Management and planning pertaining to all aspects of the mammal collection
- Involvement with regional conservation programs
- Liaison with local, national and international agencies
- SSP coordinator and international Studbook Keeper for Arabian Oryx

[redacted] a Park Wildlife Trust, Christchurch, New Zealand

- Management of staff of 12
- Training
- Communication
- Policy development and implementation
- Oversaw all aspects of animal husbandry within the collection
- Acquisitions and dispositions
- Exhibit design, development and renovation
- Budget formulation
- Media liaison
- Acting Director in Director's absence
- International transport of animals
- Regional studbook keeper and regional species coordinator for Scimitar horned oryx and Rothschilds giraffe
- Member of Taxon Advisory Group (TAG) for carnivores, artiodactylids, perrissodactylids and primates
- Sub TAG coordinator the for families Giraffidae and Hippotraginae

[redacted] Dallas Zoo, Dallas, TX

[redacted]of Mammals

- Day to day management of staff of 18
- Development and implementation of policies relating to the collection and its management
- Design and development of exhibits
- Computer records keeping utilizing ARKS and SPARKS
- Acquisition and disposition of specimens

[redacted] Dallas Zoo, Dallas, TX

Senior Keeper – Primates

- Assistant supervisor for primates
- Daily supervision of work crew
- Day to day care of animals

[redacted] Dallas Zoo, Dallas, TX

Senior Keeper – Elephants

- Assistant supervisor for large mammals
- Daily supervision of work crew
- Day to day care of animals

[redacted] Dallas Zoo, Dallas, TX

[redacted]mmals

- Basic day to day care and feeding of all mammal specimens at the Dallas Zoo over the course of time
- Hand rearing orangutans, gorillas, leopards, etc.
- Extensive work with hoof stock, primates, and carnivores

Education [redacted]

Professional [redacted]

NRA Fire Arms Instructor Certificate – Rifle and Shotgun

NRA Range Safety Officer certificate

Courses

AZA Professional Training Program Managing Animal Enrichment and Training

Advanced Population Management Course
Ft. Worth, TX

AZA Conservation Academy Studbook School

Conservation Academy
Small Population Biology and Management

AZA Management School

Publications

- Prepucial Gland in Klipspringer *Oreotragus oreotragus*, AAZPA Regional Conference, 1985, Oklahoma City Zoo, OK
- Environmental Enrichment for Captive Primates, First Annual Conference for Mesoamerican Zoos, 1988 La Aurora Zoo, Guatemala City, Guatemala
- The Sister Zoo Project – La Aurora Zoo and The Dallas Zoo, AAZPA Annual Conference, 1989, Pittsburgh, PA
- Restraint Devices for Management and Research Procedures for Ungulates, Bruce Read, Bruce Williams, Joe Christman, International Zoo Yearbook 1993, 32: 148-154
- Cheetah Management at Orana Park, Joe Christman, Lorraine Jolly, ARAZPA (Australasian Association of Zoological Parks) Conference, 1994, Darwin, Australia (presentation given by Larraine Jolly)
- International Studbook for Arabian Oryx – December 1995
- Land, Sea and Air – Giraffe Transport in Australasia, AZA Western Regional Conference, 1996, Denver, CO
- Building Conservation Partnerships – Expanding Disney's Role, Joe Christman, Dr. Beth Stevens, AZA Western Regional Conference 1997, Phoenix, AZ
- North American Regional Studbook, Greater Kudu – Oct. 1999
- Greater Kudu PMP – April 2000
- North American Regional Studbook, Greater Kudu (update) – May 2001
- AZA Husbandry Standards for Giraffe – November 2001
- North American Regional Studbook and PMP, Greater Kudu (update) – March 2002
- Co-Author Giraffe SSP Master plan 2002
- North American Regional Studbook and PMP for Klipspringer – March 2003
- North American Regional Studbook and PMP for Greater Kudu (historic update) – March 2003
- North American Regional Studbook and PMP for Klipspringer – March 2004
- North American Regional Studbook and PMP for Greater Kudu – March 2004
- The Giraffe Husbandry Resource Manual – American Zoo and Aquarium Association – co-authored, published in 2004
- Giraffe SSP – Shining Example or Dismal Failure? – AZA Communique, July 2004. Co-authored with Laurie Bingaman Lackey.
- Regional Antelope Taxa Status and Species Summary – Antelope TAG 2004 Co-authored with Laurie Bingaman Lackey.
- North American Regional Studbook for Springbok – March 2005
- North American Regional PMP for Springbok – March 2005
- North American Regional Studbook and PMP for Klipspringer – March 2005
- North American Regional Studbook and PMP for Klipspringer – September 2006
- AZA Rhino Comprehensive Studbook update – March 2007, February 2008, February 2009, February 2010

- AZA Eastern Black Rhino Studbook update – January 2013
- Sumatran Rhino International Studbook - June 2008, August 2010
- Physical Methods of Capture, Handling and Restraint (book chapter) Wild Mammals in Captivity - University of Chicago Press, September 2010

References Available upon request.

KATHERINE A. LEIGHTY, PH.D.
Animal Operations Director
Disney's Animal Kingdom
[redacted]

[redacted]
Animal Operations Director - Animals, Science and Environment, Disney's Animal Kingdom, [redacted]

Science Operations Manager - Animals, Science and Environment, Disney's Animal Kingdom, [redacted]

Research Manager – Behavior and Education Studies, Science Team, Disney's Animal Kingdom, [redacted]

[redacted]

Post-Doctoral Fellow, Bioacoustics, Disney's Animal Kingdom, [redacted]

[redacted]

PROFESSIONAL SERVICE

Association of Zoos and Aquariums
- Research and Technology Committee
  - Chair (2013-present)
  - Vice-Chair (2012-2013)
  - Committee Member (2009-present)
- Behavioral Advisory Group – Steering Committee Member (2006-2016)

Chimp Haven
- Vice Chair of the Board of Directors (2013-present)
- Member of the Board of Directors (2012-present)
- Governance Committee Chair (2014-present)
- Education and Research Committee (2012-present)

Council of the International Primatological Society
- Vice President for Communications (2000–2012)
- Editor of Societal Newsletter, Constitutional Review Committee, Congress Scientific Committee, Awards Committee

Grant Review Panelist
- AZA Conservation Grants Fund (2006-present)
- Disney's Worldwide Conservation Fund (2005-present)
  - Co-chair Central South America Review Committee
- NSF East Asia and Pacific Summer Program (2003-present)

Manuscript Reviewer
- American Journal of Primatology, Animal Cognition, Animal Welfare, Behavioural Processes, Folia Primatologica, Frontiers in Comparative Psychology, International Journal of Primatology, PLoS One, Zoo Biology

RESEARCH PUBLICATIONS

Alba AC, **Leighty KA**, Courte VLP, Grand AP, Bettinger TL (in review). A turtle cognition research demonstration enhances visitor engagement and keeper-animal relationships. Zoo Biology.

Bettinger TL, **Leighty KA**, Daneault RD, Richards EA, Bielitzki JT (in press) Behavioral Management: the Environment and Animal Welfare. S. Schapiro, editor. Handbook of Primate Behavioral Management, CRC Press.

Freeman, H. D., Valuska, A. J., Taylor, R. R., Ferrie, G. M., Grand, A. P. and **Leighty, K. A.** (2016), Plumage variation and social partner choice in the greater flamingo (*Phoenicopterus roseus*). Zoo Biology, 35, 409-414. doi:10.1002/zoo.21321

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Beran MJ, Evans TA, **Leighty KA**, Harris EH, & Rice D. (2008). Summation and quantity judgments of sequentially presented sets by capuchin monkeys (*Cebus apella*). American Journal of Primatology*, 70*, 191-194.

Leighty KA, Fragaszy DM, & Brown JM. (2006). Darwin in cyberspace: advances in technology give us new avenues to study the continuity of cognition across species. In David A. Washburn (Ed.), Primate Perspectives on Behavior and Cognition (pp. 37-46) Washington, DC: American Psychological Association.

Brown JM, Breitmeyer BG, **Leighty KA**, & Denney HI. (2006). The path of visual attention. Acta Psychologica*, 121,* 199-209.

Andersen JR, Kuwahata H, Kuroshima H, & **Leighty KA**, Fujita K. (2005). Are monkeys aesthetists? Rensch (1957) revisited. Journal of Experimental Psychology: Animal Behavior Processes, *31*, 71-78.

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Leighty KA & Fragaszy DM (2003). Primates in cyberspace: Using interactive computer tasks to study perception and action in nonhuman animals. Animal Cognition*, 6*, 137-139.

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OTHER PUBLICATIONS

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Visalberghi E, **Leighty KA**, & Schapiro SJ. (2008). Proceedings of the XXIst congress of the International Primatological Society, Entebbe, Uganda, June 25-30, 2006. International Journal of Primatology*, 29,* 273-287.

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SCIENTIFIC PRESENTATIONS

Leighty KA, Tolliday C, Kahlenberg S, Kabuyaya JM, Santman L, & Bettinger TL (2014, August). *How zoo behavioral monitoring programs can contribute to reintroduction efforts.* Paper presented at the biannual meeting of the International Primatological Society, Hanoi, VIETNAM.

Leighty KA, Grand AP, Courte VLP, Bettinger TL (2012, September). *Operational benefits of an animal cognition research program*. Poster presented at the annual meeting of the Association of Zoos and Aquariums, Phoenix, AZ.

Leighty KA, Grand AP, Bettinger TL (2012, August). Determining how exhibit design and housing practices influence the behavior of zoo-living gorillas. Paper presented at the biannual meeting of the International Primatological Society, Cancun, MEXICO.

Leighty KA & Mellen JD (2011, September). *Using science to understand elephant welfare*. Poster presented at the annual meeting of the Association of Zoos and Aquariums, Atlanta, GA.

Leighty KA (2011, August). *Multiple benefits of studying the minds of zoo animals*. Paper presented at the annual meeting of the American Psychological Association, Washington, DC.

Leighty KA, Maloney MA, Kuhar CW & Bettinger T (2010, September) *Developing a cognitive research program for mandrill monkeys (Mandrillus sphinx).* Paper presented at the biannual meeting of the International Primatological Society, Kyoto, JAPAN.

Leighty KA, Maloney MA, Pittman-Courte VL & Bettinger T (2010, March). *Use of stimulus relations to solve a visual discrimination task by Eastern box turtles (Terrapene carolina).* Paper presented at the International Conference on Comparative Cognition, Melbourne, FL.

Leighty KA, Maloney MA, Pittman-Courte VL & Bettinger T (2009, October). *Follow the Rules!!! Eastern box turtles (Terrapene carolina) use stimulus relations to solve a visual discrimination task.* Poster presented at the annual conference of the Southeastern Association of Behavior Analysis, Wilmington, NC.

Leighty KA, Fellner W, Harley HE, Maloney MA, Stamper A & Bettinger T. (2009, September). *Investigating the minds of animals in zoos and aquaria: benefiting our animals, our visitors, and scientific knowledge.* Poster presented at the annual conference of the Association of Zoos and Aquariums, Portland, OR.

Bettinger TL, Maloney MA, Leighty KA, & Kuhar CW. (2009, September). *Investigations of the cognitive abilities of mandrills (Mandrillus sphinx)*. Poster presented at the annual conference of the American Society of Primatologists, San Diego, CA.

Maloney MA & Leighty KA. (2009, March). *Investigating the cognitive abilities of mandrills using a touchscreen system.* Paper presented at the International Conference on Comparative Cognition, Melbourne, FL.

Leighty KA, Soltis J, & Savage A. (2008, March). *Rumble vocalizations function to mediate the movements of social partners in African elephants (Loxodonta africana)*. Paper presented at the International Conference on Comparative Cognition, Melbourne, FL.

Soltis J, Leighty KA, & Savage A. (2008, March). *Rumble vocalizations signal submission to dominant social partners among adult female African elephants (Loxodonta africana)*. Paper presented at the International Conference on Comparative Cognition, Melbourne, FL.

Savage A, Leighty K, Stamper M A, & Bolton A. (2008, January). *Long-term tracking of a juvenile green sea turtle (Chelonia mydas)*. Poster presented at the annual meeting of International Sea Turtle Society, Loreto, Mexico.

Leighty KA, Soltis J, Savage A, Mellen J & Lehnhardt J. (2007, September). *GPS determination of walking distances and correlated factors in African elephants (Loxodonta africana) at Disney's Animal Kingdom*. Paper presented at the annual meeting of the Association of Zoos and Aquariums, Philadelphia, PA.

Leighty KA, Soltis J, Wesolek CM, & Savage A. (2007, July). *Evaluation of the functions of rumble vocalizations in African elephants (Loxodonta africana)*. Paper presented at the annual meeting of The Animal Behavior Society, Burlington, VT.

Leighty KA, Soltis J, Savage A, & Leong K. (2007, March). *Elephant vocal communication research at Disney's Animal Kingdom*. Paper presented at the International Conference on Comparative Cognition, Melbourne, FL.

Kuroshima H, Leighty KA, Fragaszy DM, & Fujita K. (2007, March) Capuchin monkeys can understand the context of other's action. Poster presented at the International Conference on Comparative Cognition, Melbourne, FL.

Leighty KA, Soltis J, Savage A, & Leong K. (2006, November). *Antiphonal exchanges in female African elephants*. Paper presented at the semiannual meeting of the joint meeting of the Acoustical Society of America and the Acoustical Society of Japan, Honolulu, HI.

Jeyaraj T, Iversen I., Leighty KA, & Fragaszy D. (2006, August). *Interactions between reward expectation and sweeping across a linear array of dots in an automated touchscreen drawing task by a captive capuchin monkey.* Poster presented at the annual meeting of the American Society of Primatologists, San Antonio, TX.

Iversen IH, Jeyaraj T, Leighty KA, Fragaszy, D. (2006, July). *An automated touchscreen drawing task for captive capuchin monkeys (Cebus apella).* Paper presented at the annual meeting of the European Association for Behaviour Analysis, Milan, ITALY.

Leighty KA. (2005, March). *A comparative analysis of 2D object perception in chimpanzees (Pan troglodytes) and young children.* Poster presented at the International Conference on Comparative Cognition, Melbourne, FL.

Leighty KA. (2004, August). *Cross-dimensional object recognition by chimpanzees (Pan troglodytes).* Paper presented at the biannual meeting of the International Primatological Society, Torino, ITALY.

Leighty KA. (2004, August). *Laboratory advances in the assessment of space and object perception by capuchin monkeys.* Paper presented at the Capuchin: State of the Art Precongress Workshop, Radicondoli, ITALY.

Leighty KA. (2004, June). *Cross-dimensional object perception in chimpanzees (Pan troglodytes).* Poster presented at the annual meeting of the American Society of Primatology, Madison, WI.

Leighty KA. (2004, March). *Object recognition from 2D images in chimpanzees (Pan troglodytes).* Poster presented at the International Conference on Comparative Cognition, Melbourne, FL.

Leighty KA. (2003, July). *Cross-dimensional object recognition.* Paper presented at the First International Workshop for Young Psychologists: Evolution and Development of Cognition, Kyoto, JAPAN.

Leighty KA, Kuroshima H, & Fujita K. (2003, March). *The influence of familiarity on the recognition of object images from novel perspectives in capuchin monkeys.* Paper presented at t International Conference on Comparative Cognition, Melbourne, FL.

Leighty KA, Kuroshima H, & Fujita K. (2003, March). *Object familiarity and the recognition of objects from novel views in capuchin monkeys (Cebus apella).* Paper presented at the annual meeting of Psi Chi, Athens, GA.

Fragaszy DM, & Leighty KA. (2002, October). *Future directions in cyberspace.* Paper presented at the Conference on Emergents and Rational Behaviorism, tribute to Duane Rumbaugh, Atlanta GA.

Fragaszy DM, Landau K, & Leighty KA. (2002, August). *Inducing traditions in captive capuchins: part I.* Poster presented at the biannual conference of the International Primatological Society, Beijing, CHINA.

Breitmeyer BG, Brown JM, Leighty KA & Denney HI. (2002, May). *Configuration and distance interact to determine object- or space-based attentional deployment.* Poster presented at the annual meeting of Vision Sciences, Sarasota, FL.

Leighty KA, Denney H, Brown JM, & Breitmeyer BG. (2002, March). *Interaction of configuration and distance in object- versus space-based shifts of attention.* Poster presented at the annual meeting of Psi Chi, Athens, GA.

Leighty KA & Fragaszy DM. (2001, August). *Body-tilting during skilled use of a joystick.* Poster presented at the annual conference of the American Society of Primatology, Savannah, GA.

Branch K., Leighty KA., & Fragaszy DM. (2001, February). *Changes in sociability during the aging process.* Poster presented at the annual conference of Psi Chi, Athens, GA.

Grand AP, Leighty KA & Fragaszy DM. (2001, February). *Trajectory prediction in tufted capuchins (Cebus apella).* Poster presented at the annual conference of Psi Chi, Athens, GA.

Leighty KA, Fragaszy DM, & Branch K. (2001, April). *Social networks and exploratory behavior of aged vs. younger capuchin monkeys (Cebus apella).* Paper presented at the annual Symposium of the Georgia Gerontology Center, Athens, GA.

Leighty KA, & Fragaszy DM. (2001, January). *Learning to navigate in two dimensions: joystick acquisition in tufted capuchins (Cebus apella).* Paper presented at the biannual conference of the International Primatological Society, Adelaide, AUSTRALIA.

Leighty KA, & Byrne G. (2000, August). *Instances of twinning in tufted capuchins (Cebus apella).* Poster presented at the annual meeting of The Animal Behavior Society, Atlanta, GA.

Leighty KA, & Fragaszy DM. (2000, April). *Rates of motor skill acquisition in tufted capuchins (Cebus apella): the monkey and the joystick.* Paper presented at the annual meeting of Psi Chi, Athens, GA.

Leighty KA, McCormack K, & Fragaszy DM. (1999, August). *How to get from here to there: mastery of a joystick by naive capuchins (Cebus apella) - updated.* Poster presented at the annual meeting of the American Society of Primatologists, New Orleans, LA.

Leighty KA, McCormack K, & Fragaszy DM. (1999, April). *How to get from here to there: mastery of a joystick by naive capuchins (Cebus apella) - preliminary data.* Poster presented at the annual meeting of Psi Chi, Athens, GA.

WORKSHOPS AND ROUNDTABLES

Savage A, Thomas L, Leighty K, Soto L, Causado J, Medina F. (2008, August) *Developing new census techniques to estimate the cotton-top tamarin (Saguinus oedipus) population in Colombia*. Presented as a part of the IUCN/SSC Primate Specialist Group workshop "Assessing the conservation status of the world's primates: key issues and challenges". XXIInd Congress of the International Primatological Society, Edinburgh, SCOTLAND.

Savage A & Leighty KA. (2008, August) – *Professional development for young primatologists: the keys to success*. Workshop held at the XXIInd Congress of the International Primatological Society, Edinburgh, SCOTLAND.

Kuhar C & Leighty KA. (2007, September) – *AZA Pre-conference statistics workshop*. Annual meeting of the Association of Zoos and Aquariums, Philadelphia, PA.

Leighty KA. (2006, June) – *Roundtable - Developing effective presentations: a discussion for students and field assistants.* XXIst Congress of the International Primatological Society, Entebbe, UGANDA.

TEACHING EXPERIENCE

Zoo Biology and Aquarium Management = Instructor, University of Central Florida, Disney's Animal Kingdom (2008-present).

Research Methods = Instructor, Disney's Animal Kingdom (2008-2013).

Developing Informative Abstracts and Effective Conference Presentations = Instructor, Disney's Animal Kingdom (2006-2013).

General Psychology = Instructor, Valencia Community College, Orlando, FL (2008-2009)

Research Analysis in Psychology – Statistics = Instructor, University of Georgia, Athens, GA (2002, 2003)

Psychology of Learning and Motivation = Instructor, University of Georgia, Athens, GA (2002, 2003)

Research Design in Psychology = Instructor, University of Georgia, Athens, GA (2001)

Psychology of Learning and Motivation Laboratory = Teaching Assistant, University of Georgia, Athens, GA (1999, 2000, 2001).

Laboratory for Research Design in Psychology = Teaching Assistant, University of Georgia, Athens, GA (1999).

FUNDING AND AWARDS

Fellowship, National Institutes of Health, Pre-Doctoral National Research Service Award, **$79,024** (2003-2005).

Fellowship, P.E.O. Scholar's Award, **$8000** (2003-2004).

Herbert Zimmer Scholar Award, Neuroscience and Behavior, Department of Psychology, University of Georgia (2004).

University-Wide Graduate Fellowship, University of Georgia (2003-2004).

University of Georgia Travel Award (2003, 2004)

Best Graduate Paper Presentation, Psi Chi Convention for the Behavioral Sciences (2003).

Research Grant, Sigma Xi, **$950** (2003)

Fellowship, National Science Foundation, Summer Program in Japan (2002).

Outstanding Teaching Assistant Award, Department of Psychology, University of Georgia (2002).

Best Graduate Paper Presentation, Psi Chi Convention for the Behavioral Sciences (2000).

Intramural Research Training Award, Summer Intern at National Institutes of Health, NICHD Laboratory of Comparative Ethology, NIH Animal Center, Poolesville, MD. (1997, 1998).

SKILLS TRAINING

Bioacoustics Software:
Adobe Audition, PRAAT, RAVEN, SIGNAL
Data Processing and Statistical Software:
Adobe Premiere, Noldus Observer, SPSS, Statistica/Neural Networks
Geographic Information Systems (GIS) – ESRI:
Intro to ArcGIS I, Intro to ArcGIS II, Working with Map Projections and Coordinate Systems in ArcGIS
Sharepoint
WebCT

SOCIETAL MEMBERSHIPS

American Society of Primatologists
Animal Behavior Society
Association of Zoos and Aquariums – Professional Fellow
Comparative Cognition Society
International Primatological Society

GEOFF PYE

[redacted]

PROFILE

[redacted]

[redacted] AND DEGREES

[redacted]

USDA Federal Accreditation, CA, USA
California Veterinary Medical Board Examination, USA
ECFVG Certificate, USA
Clinical Proficiency Examination, USA
North American Veterinary Licensing Examination, USA
Diplomate of the American College of Zoological Medicine, USA
Residency in Zoological Medicine, University of Florida, USA
Internship in Zoological Medicine, Kansas State University, USA
Master of Science in Wild Animal Health, University of London, United Kingdom
Bachelor of Veterinary Science, University of Melbourne, Australia

PROFESSIONAL EXPERIENCE

[redacted]

t Animal Health Director, Disney's Animal Kingdom, USA
t Committee member, AZA Animal Health Committee
t Committee member, AZA Monotreme and Marsupials TAG
t Veterinary Co-advisor, AZA Monotreme and Marsupials TAG
Senior Veterinarian, San Diego Zoo, USA
t Veterinary Advisor, AZA Koala SSP
Veterinarian, Werribee Open Range Zoo, Australia
Clinical Instructor, Disney's Animal Kingdom, USA
Veterinary Resident, White Oak Conservation Center, USA
t Consultant (Exotic mammals), Veterinary Information Network (VIN), USA
Associate Editor, Journal of Avian Medicine and Surgery, USA
Resident in Zoological Medicine, University of Florida, USA
Intern in Zoological Medicine, Kansas State University, USA
Acting Senior Veterinarian, Currumbin Sanctuary, Australia
Veterinarian (Relief), Western Plains Zoo, Australia
Veterinarian (Fixed term contract), Melbourne Zoo, Australia
Masters Degree Student, London Zoo, United Kingdom
Veterinarian, private practice, Australia and the United Kingdom

PUBLICATIONS – JOURNALS (*mentor of primary author)

1. *Bercier M, K Alexander, A Gorow, and **GW Pye**. Magnetic resonance imaging, computed tomography, and gross cross-sectional views of the normal anatomy of the koala (*Phascolarctos cinereus*) nasal cavity and paranasal sinuses. Submitted J. Zoo Wildl. Med.
2. *Phair KA, M Sutherland-Smith, **GW Pye**, AP Pessier, and TL Clippinger. 2014. Esophageal dissection and hematoma associated with obstruction in an Indian elephant (*Elephas maximus indicus*). Accepted J. Zoo Wildl. Med.
3. *Rivas AE, **GW Pye**, and R Papendick. 2014. Dermal hemangiosarcoma in a sugar glider (*Petaurus breviceps*). Accepted J. Exotic Pet Med.
4. *Perry SM, **GW Pye**, and DA Fagan. 2014. Dental onlay bridge-like prosthesis in three northern koalas (*Phascolarctos cinereus*): The use of Premis™ trimodal composite to prevent interproximal *Eucalyptus* spp. retention and infection. In press J. Zoo Wildl. Med.
5. *Joyce-Zuniga NM, J Roesler, C Hamlin-Andrus, M Sutherland-Smith, B Rideout, **GW Pye**. 2014. Gastrointestinal torsion and intussusception in the northern koala (*Phascolarctos cinereus*) at the San Diego Zoo (1976-2012). J. Zoo Wildl. Med. 45(1):118-126.
6. D Schmidt, **GW Pye**, CH Andrus, W Ellis, MR Ellersieck, T Chen, and M Holick. 2013. Fat-soluble vitamin and mineral comparisons between zoo-based and free-ranging koalas (*Phascolarctos cinereus*). J. Zoo Wildl. Med. 44(4):1079-1082.
7. *Belasco-Zeitz M, **GW Pye**, RE Burns, and AP Pessier. 2013. Clinical Challenge: Cobra renal adenocarcinoma. J. Zoo Wildl. Med. 44(3):807-810.
8. Xu W, CK Stadler, K Gorman, N Jensen, D Kim, H Zheng, S Tang, WM Switzer, **GW Pye**, and MV Eiden. 2013. An exogenous retrovirus isolated from koalas with malignant neoplasias in a US Zoo. Proc. Nat. Acad. Sci. 110(28):11547-11552
9. **Pye GW**, W Ellis, S Fitzgibbon, B Opitz, L Keener, and B Hollis. 2013. Vitamin D reference values in free-ranging koalas (*Phascolarctos cinereus*). J. Zoo Wildl. Med. 44(2):480-483.
10. **Pye GW**, SC Gait, B Mulot, M Delclaux Real de Asua, E Martinez-Nevado, CJ Bonar, EA Baines. 2013. Metabolic bone disease in juvenile koalas (*Phascolarctos cinereus*). J. Zoo Wildl. Med. 44(2):273-279.
11. *Bercier M, J Wynne, S Klause, CK Stadler, A Gorow, and **GW Pye**. 2012. Nasal mass removal in the koala (*Phascolarctos cinereus*). J. Zoo Wildl. Med. 43(4):898-908.
12. Wynne J, S Klause, CK Stadler, **GW Pye**, W Meyer, JE Sykes. Pre-shipment testing success: Resolution of a nasal sinus granulomas in a captive koala (*Phascolarctos cinereus*) caused by *Cryptococcus gatti*. J. Zoo Wildl. Zoo. 43(4):939-942.
13. *Burgdorf-Moisuk A, **GW Pye**, J Smith, R Papendick, J Ivy, and C Hamlin-Andrus. 2012. A retrospective and prospective study of megaesophagus in parma wallabies (*Macropus parma*). J. Zoo Wildl. Med. 43(1):89-94.
14. **Pye GW**, W Ellis, S Fitzgibbon, B Opitz, L Keener, K Arheart, and C Cray. 2012. Serum protein electrophoresis values for free-ranging and zoo-based koalas (*Phascolarctos cinereus*). J. Zoo Wildl. Med. 43(1):177-180.
15. *Burgdorf-Moisuk A, I Stalis, and **GW Pye**. 2012. Disseminated coccidoidomycosis in a koala (*Phascolarctos cinereus*). J. Zoo Wildl. Med. 43(1):197-199.
16. **Pye GW**. 2010. Preventive medicine success – Thymoma removal in a spot-necked otter (*Lutra maculicollis*) J. Zoo Wildl. Med. 41(4):732-734.
17. **Pye GW**. 2009. Shoulder dysplasia in koalas (*Phascolarctos cinereus*) at the San Diego Zoo. J. Zoo Wildl. Med. 40(3):453-457.
18. Robbins PK, **GW Pye**, M Sutherland-Smith, R Papendick, M Greenberg, D Levy, and M Madani. 2009. Successful transabdominal subxyphoid pericardiostomy to relieve chronic pericardial effusion in a Sumatran orang-utan (*Pongo abelli*). J. Zoo Wildl. Med. 40(3):564-567.
19. **Pye GW**, C Hamlin-Andrus, and J Moll. 2008. Hip dysplasia in koalas (*Phascolarctos cinereus*) at the San Diego Zoo. J. Zoo Wildl. Med. 39(1):61-68.
20. **Pye GW**. 2007. Intestinal entrapment in the pulmonary ostium following castration in a juvenile ostrich (Struthio camelus). J. Avian Med. Surg. 21(4):290-293.

21. Neiffer DL, MA Miller, M Weber, M Stetter, DK Fontenot, PK Robbins, and **GW Pye**. 2005. Standing sedation events in African elephants (Loxodonta africana) using detomidine-butorphanol combinations. J. Zoo Wildl. Med. 36(2):250-256.
22. **Pye GW**, DR Brown, MF Nogueira, KA Vliet, TR Schoeb, ER Jacobson, RA Bennett. 2001. Experimental inoculation of Mycoplasma alligatoris in broad-nosed caimans (Caiman latirostris) and Siamese crocodiles (Crocodylus siamensis). J. Zoo Wildl. Med. 32(2):196-201.
23. Brown DR, MF Nogueira, TR Schoeb, KA Vliet, RA Bennett, **GW Pye**, and ER Jacobson. 2001. Pathology of experimental Mycoplasma alligatoris infection in American alligators. J. Wildl. Dis. 37(4):671-679.
24. **Pye GW**, RA Bennett, R Plunske, and J Davidson. 2001. Endoscopic salpingohysterectomy in juvenile cockatiels (Nymphicus hollandicus). J. Avian Med. Surg. 15(2):90-94.
25. **Pye GW**, RA Bennett, SM Newell, J Kindred, and R Johns. 2000. Magnetic resonance imaging in psittacines with chronic sinusitis. J. Avian Med. Surg. 14(4):243-256.
26. **Pye GW**, RA Bennett, SP Terrell, P Ginn, LJ McSherry, and R Alleman. 2000. A T-cell-rich, B-cell lymphoma in a ring-tailed lemur, Lemur catta. J. Zoo Wildl. Med. 31(3):388-393.
27. **Pye GW**, RA Bennett, G Roberts, and S Terrell. 2000. Thoracic vertebral chordoma in a domestic ferret, Mustela furo putorius. J. Zoo Wildl. Med. 31(1):107-111.
28. **Pye GW**, ER Jacobson, SM Newell, T Skase, D Heard, and P Dennis. 2000. Serratia marcescens infection in a gopher tortoise, Gopherus polymerus and magnetic resonance imaging for diagnosing systemic disease. Bulletin of the Association of Amphibian and Reptilian Veterinarians 9(4):8-11.
29. **Pye GW**, and JW Carpenter. 1999. Clinical medicine and surgery of the sugar glider, Petaurus breviceps. Veterinary Medicine (10):891-905.
30. **Pye GW**, JW Carpenter, J Goggin, and C Bacmeister. 1999. Metastatic squamous cell carcinoma in a Moluccan cockatoo, Cacatua moluccensis. Journal of Avian Medicine and Surgery 13(3):192-200.
31. **Pye GW**, JW Carpenter, P Hayes, J Goggin, and BL Fickbohm. 1999. What is your diagnosis? Nephroblastoma in a Moluccan cockatoo, Cacatua moluccensis. Journal of the American Veterinary Medical Association 214(7):1003-1004.
32. Carpenter JW, **GW Pye**, B Debey, and D Cornwell. 1998. What is your diagnosis? Leukocytozoonosis in a Common Crow. Journal of Avian Medicine and Surgery 12(3):211-213.
33. **Pye GW**, and JW Carpenter. 1997. Ketamine sedation followed by propofol anesthesia in a slider, Trachemys scripta, to facilitate removal of an esophageal foreign body. Bulletin of the Association of Reptilian and Amphibian Veterinarians 8(1):16-17.
34. *Middleton S, A Fitzgerald, and **GW Pye**. 1997. Captive breeding of the frilled lizard, Chlamydosaurus kingii. Monitor 9(1):6-7.

PUBLICATIONS – BOOK CHAPTERS

1. Booth R and **GW Pye**. Marsupials, In: Clinical Pathology of Exotic Animals. Submitted second review
2. **GW Pye**. 2012. Zoo based conservation: collection-driven koala health research. In: Flint, N. and Melzer, A. (eds). 2012. Conserving central Queensland's koalas. Koala Research Centre of Central Queensland, CQ University Australia, Rockhampton, Qld.
3. Brust D and **GW Pye**. 2012. Sugar Gliders. In: Exotic Animal Formulary 4th edition. Carpenter JW (ed). Elsevier. Pp. 438-454.
4. Bennett RA and **GW Pye**. 2007. General Surgery. In: Ferret husbandry, medicine, and surgery. 2nd edition. Lewington JH (ed). WB Saunders. Pp. 330-339.
5. **Pye, GW**. 2004. Sugar Gliders. In: Exotic Animal Formulary 3rd edition. Carpenter JW (ed). WB Saunders Pp. 345-358.
6. **Pye GW**. 2003. Apodiformes and Coliiformes. In: Zoo and Wildlife Medicine. 5th Ed. Fowler M and E Miller (eds). WB Saunders. Pp. 239-245.
7. **Pye GW**. 2001. Marsupial, Insectivore, and Chiropteran Anesthesia. Veterinary Clinics of North America: Exotic Animal Practice: Anesthesia. 4(1):211-237.
8. **Pye, GW**. 2001. Sugar Gliders. In: Exotic Animal Formulary 2nd edition. Carpenter JW et al. (eds). WB Saunders. Pp. 251-259.
9. Bennett RA and **GW Pye**. 2000. General Surgery. In: Ferret husbandry, medicine, and surgery. Lewington JH (ed). Butterworth and Heinemann, Oxford. Pp. 240-250.
10. **Pye GW**. 2000. Surgery of the avian respiratory tract. Veterinary Clinics of North America: Exotic Animal Practice: Soft-tissue Surgery. 3(3):693-713.

PUBLICATIONS – PROCEEDINGS, CONFERENCES, AND CONTINUING EDUCATION (*mentor of primary author)

1. **Pye GW**. 2014. There's a tiger in my clinic: Big kitty medicine & surgery. Proc. Western Vet. Conf.
2. **Pye GW**. 2014. Preventive medicine in zoos: 500 species in 50 minutes. Proc. Western Vet. Conf.
3. **Pye GW**. 2014. Behavioral conditioning: Easier medical management in zoos. Proc. Western Vet. Conf.
4. **Pye GW**. 2014. Everybody loves koalas: Veterinary care for charismatic creature. Proc. Western Vet. Conf.
5. **Pye GW** and A Gillett. 2014. Veterinary assessment and care of wild koalas for rehabilitation. Veterinary Information Network.
6. *Kinney M and **GW Pye**. 2013. Current understanding and health implications of koala retrovirus in zoologic collections. Ann. Conf. Am. Assoc. Zoo Vet. P. 57.
7. *Perry SM, **GW Pye**, and DA Fagan. 2013. Dental onlay bridge-like prosthesis in three koalas (*Phascolarctos cinereus*): The use of Premis™ trimodal composite to prevent interproximal *Eucalyptus* spp. retention and infection. Ann. Conf. Am. Assoc. Zoo Vet. P. 63 (Second place student presentation).
8. *Bercier M, K Alexander, A Gorow, and **GW Pye**. Magnetic resonance imaging, computed tomography, and gross cross-sectional views of the normal anatomy of the koala (*Phascolarctos cinereus*) nasal cavity and paranasal sinuses. Ann. Conf. Am. Assoc. Zoo Vet. Poster.
9. *Joyce-Zuniga NM, J Roesler, C Hamlin-Andrus, M Sutherland-Smith, B Rideout, **GW Pye**. 2012. Gastrointestinal torsion and intussusception in the northern koala (*Phascolarctos cinereus*) at the San Diego Zoo. Ann. Conf. Am. Assoc. Zoo Vet. P. 50.
10. **Pye GW**. 2012. Surgery and medicine of primates for the private practitioner. Proc. Western Vet. Conf.
11. **Pye GW**. 2012. Sugar glider medicine and surgery. Proc. Western Vet. Conf.
12. **Pye GW**. 2012. Kangaroo and wallaby for the private practitioner. Proc. Western Vet. Conf.
13. **Pye GW**. 2012. You belong in a zoo – how to deal with unusual species in your practice. Proc. Western Vet. Conf.
14. Xu W, CK Stadler, D Kim, M Alemaheyu, W Switzer, **GW Pye**, and MV Eiden. 2011. Identification of a novel gammaretrovirus in koalas (Phascolarctos cinereus) in US zoos. 23rd Workshop on Retroviral Pathogenesis, Montpellier, France.
15. *Burgdorf-Moisuk A, **GW Pye**, R Papendick, J Ivy, C Hamlin-Andrus, and J Smith. 2011. A retrospective and prospective study of megaesophagus in parma wallabies (*Macropus parma*). Proc. Amer. Assoc. Zoo Vet. Conf. P.
16. **Pye GW** and D Brust. 2011 (Aug). Sugar Glider Medicine and Surgery. Veterinary Information Network.
17. **Pye GW**. 2011. Koala Medicine and Surgery. International Conference on Diseases of Zoo and Wild Animals, Lisbon, Portugal.
18. **Pye GW** and D Brust. 2011 (Jan). Sugar Glider Medicine and Surgery. Veterinary Information Network.
19. **Pye GW**. 2010. Avian Anesthesia and Surgery. Proc. Assoc. Zoo Vet. Tech. Conf.
20. **Pye GW**. 2010. Reptile Anesthesia and Surgery. Proc. Assoc. Zoo Vet. Tech. Conf.
21. **Pye GW**. 2010. Koala Anesthesia and Surgery. Proc. Assoc. Zoo Vet. Tech. Conf.
22. **Bicknese E**, A White, A Pessier, and GW Pye. 2010. Cryptococcal meningitis and optic nerve neuritis in a Chinchilla (*Chinchilla lanigera*). Proc. Assoc. Exotic Mammal Vet. Conf.
23. **Pye GW**. 2010. Marsupial Medicine. Veterinary Information Network.
24. **Pye GW**. 2010. Primate Medicine for the Private Practitioner. Proc. 25th Annual Avian Exotic Med. Symposium. Pp. 65-72.
25. **Pye GW**. 2009. Koala Medicine. Veterinary Information Network.
26. Robbins PK., **GW Pye**, M Sutherland-Smith, R Papendick, and M Madani. 2008. Successful transabdominal subxyphoid pericardiostomy to relieve chronic pericardial effusion in a 46-year-old female Sumatran orangutan (*Pongo abelli*). Proc. Amer. Assoc. Zoo Vet. Conf. P. 153.
27. **Pye GW**. 2008. The radiographic development of severe hip and shoulder dysplasia in a juvenile koala (*Phascolarctos cinereus*). Proc. Amer. Assoc. Zoo Vet. Conf. P. 65.
28. D Schmidt, **GW Pye**, CH Andrus, W Ellis, F Bercovitch, Z Lu, T Chen, M Holick. 2008. Vitamin and mineral comparisons between zoo-based and free-ranging koalas (*Phascolarctos cinereus*) and the implications for the development of hip and shoulder dysplasia. Proc. Amer. Assoc. Zoo Vet. Conf. P. 23.
29. **Pye GW**. 2008. Marsupial Medicine and Surgery. Proc. Exotic Animal Medicine for the Clinical Practitioner CE Conf.

30. **Pye GW**. 2008. Primate Medicine and Surgery. Proc. Exotic Animal Medicine for the Clinical Practitioner CE Conf.
31. **Pye GW**. 2008. Hip dysplasia in koalas (*Phascolarctos cinereus*) at San Diego Zoo. Proc. Vet. Nurses Council of Australia Conference: Zoo and Wildlife Forum. P. 33.
32. **Pye GW**. 2007. Hip dysplasia in northern koalas (*Phascolarctos cinereus adjustus*). Proc. Amer. Assoc. Zoo Vet. Conf. P. 204.
33. **Pye GW** and N Lamberski. 2007. Immobilization of Exotic Hoofstock. Veterinary Information Network.
34. **Pye GW**. 2007. The Safe Use of Ultrapotent Opioids. Veterinary Information Network.
35. **Pye GW** and M Sutherland-Smith. 2006. Primate Medicine and Surgery. Veterinary Information Network.
36. **Pye GW**. 2006. Preventive Medicine in Zoos. Veterinary Information Network.
37. **Pye GW**, M Johnston, and N. Antinoffl. 2004. Basic ferret medicine. Veterinary Information Network.
38. **Pye GW**. 2004. Intestinal entrapment in the pulmonary ostium following castration in a juvenile ostrich (Struthio camelus). Proc. Amer. Assoc. Zoo Vet. Conf. p. 261.
39. **Pye GW**, S Accime, S Citino, and L Penfold. 2004. Semen characterization and cryopreservation in eastern giant eland (Taurotragus derbianus gigas). Proc. Amer. Assoc. Zoo Vet. Conf. p.124.
40. **Pye GW**. 2004. Avian Anaesthesia and Analgesia. Veterinary Nurses Council of Australia & Association of Zoo Veterinary Technicians Conference.
41. **Pye GW**. 2004. Reptile Anaesthesia and Analgesia. Veterinary Nurses Council of Australia & Association of Zoo Veterinary Technicians Conference.
42. **Pye GW**. 2003. Ferret basics. Proc. North Amer. Vet. Conf. pp.1257-1258.
43. **Pye GW**. 2003. Rabbit basics. Proc. North Amer. Vet. Conf. pp. 1259-1261.
44. **Pye GW**. 2003. Emerging issues / controversy – small mammals: Wild Animals as Pets. Proc. North Amer. Vet. Conf. pp. 1262-1263.
45. **Pye GW**. 2003. Wallabies - the basics. Proc. North Amer. Vet. Conf. pp. 1290-1292.
46. **Pye GW**, SB Citino, M Bush, L Klein, and W Lance. 2001. Anesthesia of eastern giant eland (Taurotragus derbianus gigas) at White Oak Conservation Center. Proc. Amer. Assoc. Zoo Vet. pp. 226-231.
47. *Kimber K, **Pye GW**, Dennis PM, Citino SB, Heard DJ, and RA Bennett. 2001. Diaphragmatic hernias in cheetah (Acinonyx jubatus). Proc. Amer. Assoc. Zoo Vet. p. 151.
48. **Pye GW**, RA Bennett, R Plunske, J Davidson, and E Rooney. 2001. Endoscopic salpingohysterectomy in juvenile cockatiels (Nymphicus hollandicus). Proc. Assoc. Avian Vet. pp. 207-209.
49. **Pye GW**, RA Bennett, R Plunske, J Davidson, and E Rooney. 2001. The effect of endoscopic salpingohysterectomy in juvenile cockatiels (Nymphicus hollandicus) on ovulation. Proc. European Assoc. Avian Vet. pp. 66-69.
50. **Pye GW**. 2000. Anesthesia and manual restraint of marsupials and monotremes. Proc. Amer. Assoc. Zoo Vet. Tech. pp. 89-96.
51. **Pye GW**, RA Bennett, R Plunske, and J Davidson. 2000. The effect of endoscopic salpingohysterectomy in juvenile cockatiels (Nymphicus hollandicus) on ovulation: A preliminary report. Proc. Amer. Assoc. Zoo Vet. Conf. p. 83.
52. *Hart S, **Pye GW**, and RA Bennett. 2000. Subtotal colectomy in a tiger (Panthera tigris). Proc. Amer. Assoc. Zoo Vet. Conf. pp. 78-79.
53. **Pye GW**, DR Brown, M Nogueira, K Vliet, T Schoeb, ER Jacobson, and RA Bennett. 2000. Experimental inoculation of a Mycoplasma in broad nosed caiman (Caiman latirostris) and Siamese crocodiles (Crocodylus siamensis). Proc. Amer. Assoc. Zoo Vet. Conf. pp. 48-49
54. **Pye GW**, RA Bennett, LJ McSherry, and SP Terrell. 1999. A disseminated round cell tumor in a ring-tailed lemur (Lemur catta). Proc. Amer. Assoc. Zoo Vet. Conf. p. 104.
55. **Pye GW**, RA Bennett, SM Newell, and R Johns. 1999. Magnetic resonance imaging for the localization of lesions in psittacines with chronic sinusitis. Proc. Amer. Assoc. Zoo Vet. Conf p. 196.
56. **Pye GW**. 1999. Small exotic felid anesthesia. Proceedings of the pre-congress short course. III Congress e V111 Encontro da Associação Brasileira de Veterinários de Animais Selvagens (Third Conference and Eighth Meeting of the Brazilian Association of Wildlife Veterinarians).
57. MF Nogueira, K Vliet, **GW Pye**, RA Bennett, ER Jacobson, TR Schoeb, and DR Brown. 1999. Inoculação experimental de crocodilianos com Mycoplasma (Experimental inoculation of crocodilians with Mycoplasma). Proceedings of the III Congress e V111 Encontro da Associação Brasileira de Veterinários de Animais Selvagens (Third Conference and Eighth Meeting of the Brazilian Association of Wildlife Veterinarians).

58. **Pye GW**, and RJ Booth. 1998. Medetomidine-ketamine immobilization and atipamezole reversal of eastern grey kangaroos (Macropus giganteus). Proceedings of the American Association of Zoo Veterinarians Conference, Omaha, Nebraska, USA. pp. 306-309.
59. **Pye GW**. 1998. Exotic pets: husbandry and clinical techniques. Proceedings of the Annual Veterinary Technician Conference, Kansas State University, Manhattan, Kansas, USA.
60. **Pye GW**. 1998. Common diseases of hamsters and gerbils. Proceedings of the 6th Annual Mid-Western Exotic Animal Medicine Conference, Kansas State University, Manhattan, Kansas, USA. pp. 34-47.
61. Booth RJ, J McKee, **GW Pye**, W Caton, K Dowsett, and T Trigg. 1997. Potential immunocontraception using GnRH vaccine in eastern grey kangaroos (Macropus giganteus): preliminary report. Proceedings of the Australian Veterinary Association conference, Brisbane, Australia.

PUBLICATIONS – OTHER

1. **Pye GW**. 2008. AZA Koala SSP Veterinary Manual
2. **Pye GW**. 2006. Guidelines for the humane euthanasia of monotremes. American Association of Zoo Veterinarians and the American Veterinary Medical Association Panel for Euthanasia. Pp. 50-51.
3. **Pye GW**. 2006. Guidelines for the humane euthanasia of marsupials. American Association of Zoo Veterinarians and the American Veterinary Medical Association Panel for Euthanasia. Pp. 52-56.
4. **Pye GW**. 1995. Propofol as an induction agent for reptilian anaesthesia. Thesis for Master of Science in Wild Animal Health, Royal Veterinary College, University of London, United Kingdom.

WORKSHOPS / WETLABS

1. **Pye GW**. 2013. Koala Retrovirus. San Diego, California, USA.
2. Bennett RA, **GW Pye**. 2012. Avian Orthopedics. American Association of Zoo Veterinarians. Oakland, California, USA.
3. **Pye GW**, C Hamlin, J Turnage. 2011. Koalas. International Conference on Diseases of Zoo and Wild Animals, Lisbon, Portugal.
4. Bennett RA, **GW Pye**, R Nye. 2010. Avian Surgery. Association of Avian Veterinarians Annual Conference, San Diego, California, USA.
5. Bennett RA, **GW Pye**, R Nye. 2009. Avian Surgery. Association of Avian Veterinarians Annual Conference, Milwaukee, Illinois, USA.
6. Bennett RA, **GW Pye**. 2005. Avian Surgery. Association of Avian Veterinarians Annual Conference, Monterey, California, USA.
7. Sutherland-Smith M, K Kearns, S Vitale, and **GW Pye**. 2004. Koalas. American Association of Zoo Veterinarians Annual Conference, San Diego, California, USA
8. Bennett RA, **GW Pye**. 2001. Avian Surgery. Association of Avian Veterinarians Annual Conference, Orlando, Florida, USA.
9. Bennett RA, **GW Pye**. 2000. Avian Surgery. The North American Veterinary Conference. Orlando, Florida, USA.
10. Rosenthal K, JW Carpenter, N Morales, and **GW Pye**. 1998. Anesthesia and clinical techniques in the rabbit. 6th Annual MidWestern Exotic Animal Medicine Conference, Manhattan, Kansas, USA.

ADDITIONAL PROFESSIONAL ACTIVITIES – RESEARCH PROJECTS

1. Effects of disease and health on reproductive success in free-ranging koalas (co-investigator) 2013-2014 SDZKECP grant $80,000
2. The use of acupuncture for the relief of pain associated with degenerative joint disease in koalas (primary investigator). 2014 SDZKECP grant $15,000
3. The use of Streck Cell Preservative on extending complete blood count accuracy for remote field research (primary investigator) 2013 CHRI grant $5,000
4. Koala retrovirus (co-investigator). 2012-2013 SDZKECP grant $40,000
5. Dental attrition in free-ranging and zoo-based koalas (primary investigator) 2012 CHRI grant $8,500
6. Vitamin D levels in free-ranging koalas (primary investigator) 2010 SDZKECP grant $15,000
7. Serum protein electrophoresis in zoo-based and free-ranging koalas (primary investigator) 2010 SDZKECP grant $10,000
8. Metabolic bone disease in zoo-based koalas (primary investigator)
9. Megaesophagus in parma wallabies (co-investigator) 2011 CHRI grant $3000

10. Koala artificial insemination, estrus synchronization, and semen cryopreservation (co-investigator / collaborator)
11. Hip and shoulder dysplasia in koalas (primary investigator) 2010 CHRI grant $17,000; 2010 SDZKECP grant $15,000
12. Capture, mark, and release research program on growling grass frogs, Litoria raniformis (collaborator).
13. Incidence of feline coronavirus in captive exotic cats in Australia using fecal PCR techniques (collaborator).
14. Characterization and cryopreservation of eastern giant eland semen (primary investigator).
15. Anesthesia of eastern giant eland (co-investigator).
16. The effect of endoscopic salpingohysterectomy in juvenile cockatiels on ovulation (primary investigator). 1998 AAV grant $8,500
17. Transmission of Mycoplasma sp. in alligators, crocodiles, and caimans (co-investigator).
18. Magnetic resonance imaging for lesion localization in psittacines with chronic sinusitis (primary investigator).
19. Propofol as an induction agent for reptilian anesthesia (primary investigator).

AWARDS RECEIVED

- Zooper Hero Award, San Diego Zoo, 2013
- Distinguished Service Award, Association of Avian Veterinarians, 2003

[redacted]

[redacted]

[redacted]

- [redacted] upon request

Samuel K. Berner

Objective

To continue to grow in my career within Animals, Science and environment in a position that will utilize my experience and provide opportunities for growth and learning in all aspects of management.

Education

[redacted]

Professional Experience

Disney's Animal Kingdom

Animal Operations Manager – DAK Lodge [redacted]
Direct supervision of the DAK Lodge Zoological managers. Responsible for *collection planning and animal acquisition/disposition. Oversight of animal husbandry, diets and behavioral husbandry program for the area.* Works closely with the Lodge leadership team to ensure an excellent guest experience.

Animal Operations Project Manager ([redacted]
Animal operations liaison for park expansion work. Drive project development and project management for our line of business. Coordinate the development of the annual Integrated Facilities Plan (capitol improvement) for our line of business. Act as liaison to our Facilities maintenance partners. Work closely with our park Operations partners and WDI to ensure an excellent guest experience and animal welfare.

Assistant Animal Operation Manager ([redacted]
Direct supervision of Elephant and Ituri Forest Zoological Managers. Indirect supervision of Savannah Zoological Managers. Assists Animal Operation Manager with collection planning and animal acquisition/disposition. Oversight of animal husbandry, diets and behavioral husbandry program for the area. Act as liaison to our Facilities maintenance partners. Coordinates the development of the annual Integrated Facilities Plan (capitol improvement) for our line of business. Assist with project development and project management. Work closely with our park Operations partners and WDI to ensure an excellent guest experience.

Curator of Mammals ([redacted], temporary assignment)
Direct supervision of Elephant and Ituri Forest Zoological Managers. Assists Animal Operation Manager with collection planning and animal acquisition/disposition. Oversight of animal husbandry, diets and behavioral husbandry program for the area. Act as liaison to our Facilities maintenance partners. Coordinates the development of the annual Integrated Facilities Plan (capitol improvement) for our line of business. Assist with project development and project management. Work closely with our park Operations partners and WDI to ensure an excellent guest experience.

Zoological Manag [redacted]
Supervise a team [redacted]e a diverse collection of animals. Partner with the Veterinary staff, Curators, Behavioral Husbandry team, WDI, Operations, Horticulture, and Maintenance departments to provide Animal care excellence and the best possible show for our guests.

[redacted]
Access and facilitate next steps of global training and enrichment programs. Assist in evaluation and development of cast training and resources. Assist in BH website design.

Hospital Manager ([redacted]
Supervise a team of Veterinary Technicians. Partner with the Veterinary and Animal Care staff for procedure scheduling. Responsible for inventory, purchasing, and regulatory issues as they relate to day to day and long term operation of the hospital facility.

Zoological Manager [redacted]
Supervise a team of animal keepers. Manage a diverse collection of animals. Partner with the Veterinary staff, Curators, WDI, Operations, Horticulture, and Maintenance departments to provide Animal care excellence and the best possible show for our guests.

Zoological Society of San Diego **San Diego Wild Animal Park**

Lead Keeper ([redacted]
Assist animal care managers and curators regarding management of the animal collection. Supervise a team of animal keepers. Coordinate exhibit maintenance with horticulture and construction departments. Perform all the duties of a Senior Field Keeper.

Senior Field Keeper ([redacted]
Feed, observe and maintain records on a variety exotic hoof stock, primates and carnivores. Process newborns, assist the veterinary staff, train new keepers, and maintain exhibits.

Professional Activities

American Zoo and Aquarium Association Professional Member,
Antelope Taxon Advisory Group steering committee
International Elephant Foundation Board of Directors (Dec 2012-present)
Served as Bontebok studbook/PMP manager
Served on Equid Taxon Advisory Group steering committee

[redacted]

Jerry Brown

Objective

Utilize my skills to lead others in providing excellent animal care and inspiring Guest interaction that promote responsible behavior toward wild places and their resources.

Experience

[redacted] **Disney's Animal Kingdom Lake Buena Vista, FL**

Animal Programs Operations Manager

- Leadership of two Animal Programs Husbandry teams at Disney's Animal Kingdom Conservation Station comprising of 6 Zoological Managers and 36 Animal Keepers, and over 100 different species of Mammals, Birds, Herptofauna, and Invertebrates used for educational and exhibition purposes.
- Recruit, build, develop and recognize a team that embraces diversity of experiences, backgrounds and thinking "outside the box". Build relationships and provide guidance to utilize Santa Fe Teaching School, Gainesville, FL, (Zoo Technology) as a recruiting base for new animal keepers.
- Ensure accountability for quality Guest Experience expectations through tools such as Guest Service Measurement scores, Park Show Quality audits, manager audits, peer audits, coaching, training, etc.
- Member of the Disney's Animal Kingdom Animal Welfare Committee, which reviews all proposed research proposals, inspects all animal areas and reviews/advises potential animal welfare concerns. Deliver regularly scheduled Conservation Updates at Info-sessions for Animal Programs staff.
- Ensure animal care excellence through animal training, enrichment, safety awareness, emergency preparedness, staff training, behavioral observations, record keeping, research, and effective partnerships with the Veterinary service team and the Animal Nutrition team.
- Ensure compliance with Company standards, U.S.D.A. guidelines, Florida FWC, C.D.C. guidelines, A.Z.A. guidelines and keeping current on Industry standards and benchmarks for animal care.
- Regularly attending and participating in conferences, workshops, etc to gain knowledge and share best practices and information that will assist in managing captive collections, while keeping a direct link to our colleagues working with wild populations. Member of the Disney Wildlife Conservation Fund – Asia committee, which reviews all grant proposals from Asia, Middle East, and Europe.
- Assisted in developing Institutional Collection Plan database to assist with organizing information utilized in decision making with our animal collections.
- Fiscal responsibility for labor and expense budget formulation and spending.

[redacted] **Disney's Animal Kingdom Lake Buena Vista, FL**

Attractions and Animal Programs Operations Manager

- Continue responsibilities as Animal Programs Operations Manager (above) AND
- Assume the Park Operations-Attractions role of Operations Manager for the Disney's Animal Kingdom area that is known as Rafiki's Planet Watch, which includes Conservation Station.
- Key partners include: Horticulture, Environmental Initiatives, Operations, Labor Management, Finance, Entertainment, Custodial, Merchandise, Food and Beverage, Maintenance, Security, Animal Programs Husbandry, Education, Veterinary Services, Animal

Nutrition Services, Animal Programs Research and Science, WDW Ride and Show, and Walt Disney Imagineering.

- The Key role is to ensure an operation where the Guest Experience is consistent and exceptional for each and every Guest that visits. To meet this goal of providing exceptional personalized attention, great Guest service expectations are communicated to all the different lines of businesses and stakeholders. Training, measurements, recognition and accountability follow along with regular check-ins to discuss measurements, successes and opportunities.
- Leadership over the Attractions Guest Service Managers and Hosts/Hostesses team to provide direction, set goals, provide resources to meet goals, ensure recognition, accountability, and provide personal and professional development of that staff. Fiscal Responsibility for all operational expenses, paying detailed attention to labor work loads compared to projected park hours and attendance forecasts and making adjustments as needed.
- Assist planning and host/participate in celebrations such as: Earth Day, Arbor Day, Plant Conservation Day, International Migratory Bird Day, Endangered Species Day, World Oceans Day, and Epcot's Flower and Garden Festival.
- Lead tours and provide special assistance where needed for VIPs, Media, Company Executives, and other colleagues from around the World.

[redacted] **Disney's Animal Kingdom** **Lake Buena Vista, FL**

Zoological Manager –Team 2 Ituri Forest

- Oversee day-to-day management of an animal keeper team, the animal collection and the facilities of this area that supported the African-themed areas of the Kilimanjaro Safari Ride and the Pangani Exploration Trail.
- Daily interface with all partners, staff and collection to ensure seamless operation and while providing excellence in animal care. Very heavy interface with Horticulture team, Veterinary Services, Animal Nutrition, Animal Behavior, Education and Science and Attractions.
- Staff recognition, retention, recruitment, hiring, and performance management. A large focus devoted to developing staff both personally and professionally. Manage and ensure quality Guest interactions the staff provided in Guest areas, both formally and informally, and special VIP programs and tours.

[redacted] **Phoenix Zoo** **Phoenix, AZ**

Curator

- Overall management of the animal collection (mammals), the animal care staff involved, and the facilities where the animals were cared for and exhibited. Key collaborative partners included Association of Zoos and Aquariums (AZA), International zoological community, Arizona State University, U.S. Fish and Wildlife Service, International Union for Conservation of Nature and Natural Resources (IUCN), Arizona Game and Fish Department, other government and non-government organizations.
- Actively participated in exhibit planning for The Forest of UCO, The Arizona Trail, the Great Deserts of the World, the Children's Trail re-design and the Tropics Trail master plan.
- Developed strong relationship with Development team to enhance donor recruitment, cultivation and recognition. Developed key partnerships with Membership, Marketing and Special Events, which led to new untapped resource areas. Horticulture partnership was vital.
- Management of education animals and care staff that supported all education programs off-site and on-site, special events, etc. Partnered with Education team to ensure appropriate use, message content, and program growth.
- Perform functions in, and development of budgets, payroll, exhibit design, project management, animal health, conservation committee, and long-term planning.

[redacted] **Phoenix Zoo** **Phoenix, AZ**

Assistant Lead Keeper

Provide daily leadership and management for staff and collection in the Tropics Trail area. This included: husbandry, training, enrichment, staff development, medical issues, scheduling, record keeping and interfacing with the daily operation of the zoo.

[redacted] [redacted] [redacted]

[redacted] Keeper

Animal Keeper for all animal areas of the zoo. Proficient in all aspects for all taxa in these areas. Responsibilities included: Daily husbandry, diet preparation, training, record keeping, procedures, restraint, basic maintenance, research, Guest interactions, exhibit modifications, assist with veterinary procedures, assist Development team, support Special Events/Conventions, support Membership and Marketing with tours, interviews, presentations, etc.

[redacted] **Grand Isle Heritage Zoo** **Grand Island NE**

Administrator/Curator

Management of all aspects of the Zoo with oversight from the Board of Directors. This included: animal care, retail, food service, horticulture, membership, accounting, development, public relations, volunteer coordination, maintenance, education outreach to public schools, exhibit planning and construction oversight.

Accomplishments

[redacted] **Disney's Animal Kingdom** **Lake Buena Vista, FL**

- 2006. Received the Walt Disney World Resort's "Partners in Excellence Award", the highest award given.
- 2006. Received the Walt Disney World Resort's "Environmental Excellence".
- Developed a business case to utilize Compact Fluorescent Bulbs at Disney's Animal Kingdom that will save money in reduced electrical energy bills, reduced service calls to replace bulbs (labor, gasoline, bulbs) and reduced GHG (Green House Gas) emissions. Developed business case to purchase all Animal Programs cleaning/sanitation agents in concentrated bulk, reducing overall cost and reducing the amount of smaller plastic containers going to the landfill.
- Partnered with Reedy Creek Energy Services (Electricity provider) to perform "building tune-ups" that adjusts automated temperature heating/cooling set points to match Guest/Staff needs, reducing the demand and usage to save money and reduce GHG emissions.
- Re-aligned and re-organized workloads and responsibilities for 6 Animal Programs teams to provide a more efficient operation and increased productivity.

Related Experience

- Disney's Animal Kingdom Leadership Advisory team (2003-2005).
- Association of Zoos and Aquariums (AZA), member (1997-current).
- AZA Antelope Taxon Advisory Group-Oryx multi-taxa management group (1999-2008).
- AZA Species Survival Plan Coordinator, Arabian oryx (1997-2008).
- AZA Regional Studbook Keeper, Key Largo wood rat (2003-2007).
- International Studbook Keeper, Arabian oryx (1997-2008).
- Sahara-Sahara Interest Group, member (2000-Current).
- AZA National Conference, 2005, Chicago, IL. Panel Session – Measuring Guest Experience, author.

- AZA East Regional Conference, 1998, Cleveland, OH. Bear Taxon Advisory Group meeting, author, The Forest of Uco, The Phoenix Zoo's Spectacle bear habitat.
- USFWS reintroduction programs for Mexican grey wolf and Black-footed ferret, subcommittee member (1996-2001). Key Largo wood rat (2003-Current).
- AZA West Regional Conference, 1997, Phoenix, AZ., Host Committee.
- Phoenix Zoo Membership Travel Program, 1995, Kenya and Tanzania, tour leader.

Disney University On-line and Instructor-led courses:

Business Results
Productivity and You
Guest Experience
Cast Excellence
Compensation Awareness
Community Relations
Performance Development
Performance Coaching and Feedback
Employee/Labor Relations
Legal
HR Compliance
Risk Management
Working with Integrity
Safety for Leaders
FMLA Awareness
Performance Management
Leadership Casting Call
Approaching Conflict with Confidence
Facilitation Skills Development
Building Social Capital for Success
Communicating Strategy to Your Teams
Time Management
Feedback and Action Planning
Reward and Recognition
Recognition Guide for Leaders
Emergency Preparedness
Disability Etiquette and Service
Preventing Workplace Harassment
Compliance with Standards of Business Conduct
Safe Harbor Vendor Training
Diversity – Attitudes Toward Difference

References are available upon request.

Robert C. Carlson

[redacted]

QUALIFICATIONS:

- Fourteen years of leadership experience
- Twenty-nine years of animal care experience
- Experienced leader and manager
- Strong interpersonal communication skills
- Ability to work independently and as a cooperative team member
- Skilled in timely project management and attention to detail
- Ability to adapt to progressively more complex and difficult duties

EMPLOYMENT EXPERIENCE:

[redacted]

Animal Operations Manager
Disney's Animal Kingdom
Lake Buena Vista, Florida

Zoological Manager
Disney's Animal Kingdom
Lake Buena Vista, Florida

Substitute Teacher
Lake County Schools
Tavares, Florida

Animal Keeper/Trainer
Disney's Animal Kingdom
Lake Buena Vista, Florida

Senior Animal Care Specialist
Sea World of Ohio
Aurora, Ohio

PROFESSIONAL EXPERIENCE:

- Involved in a captive breeding project for the endangered Key Largo wood rat in partnership with the United States Fish and Wildlife Service and the State of Florida
- Conducted sea turtle nest monitoring as part of Cast Conservation Program in collaboration with the State of Florida Department of Fish and Wildlife
- Participated in a population census of local alligators in partnership with the State of Florida Department of Fish and Wildlife
- Involved with the rehabilitation of marine mammals stranded along the Atlantic coastline
- Developed training plans to prepare small North American mammals, birds, and rodents to appear and interact with characters in a stage production
- Trained marine mammals, African hoofed stock, birds, and reptiles in behaviors that aided veterinarians with examinations, including body part presentation, mouth exam, and voluntary blood draw
- Developed and implemented enrichment plans for marine mammals, African hoofed stock, birds, and reptiles
- Conducted and documented neonatal observations of marine mammals, African hoofed stock, and birds
- Planned, prepared, and executed transports and medical procedures of marine mammals, African hoofed stock, and birds

ADDITIONAL TRAINING:

- Technical Large Animal Emergency Rescue training
- Florida Animal Control Association certification in wild animal euthanasia and chemical immobilization
- Orange County Sheriff - rifle and shotgun training
- National Rifle Association – rifle instructor and Range Safety Officer training
- American Zoo and Aquarium Association School – Organizational Management for Leaders (year 1 & 2)
- Disney University – Foundations for Leaders, curriculum designed to enhance leadership abilities
- Disney's Animal Kingdom Animal Programs Training– Training Methods, Enrichment Methods, Research Methods, and Basic Reproductive Endocrinology
- Fleishman-Hilliard media training

PUBLICATIONS:

- **"**Pup Development and Maternal Behavior in Captive Key Largo Woodrat", Zoo Biology 2008.
- **"**Behavioral Predictors of Copulation in Captive Key Largo Woodrat", Behavioral Processes 2009.
- **"**Development of Husbandry Practices for the Captive Breeding of KLWR", Zoo Biology 2011.
- AZA Studbook for the Key Largo Woodrat.

[redacted]

1988

1991

Curriculum Vitae

[redacted]

Education

[redacted]

[redacted]

Professional Background

[redacted]

Animal Operation Manager at Disney's Animal Kingdom, Lake Buena Vista, Florida 32830

Responsibilities: Supervision of 4 Zoological Managers and 36 full-time keepers on the Savanna Team. Responsible for the acquisition and disposition of collection, hiring and disciplining keeper staff, evaluations, keeper safety, record keeping, guest interactions, ordering and purchasing, exhibit designing, master planning, overseeing animal training and corresponding with other zoological facilities. Duties also include managing an annual budget of $55,000 not including salaries. Duties also include reviewing plans for multimillion dollar exhibits. Assists veterinary staff in neonatal exams, scheduling pre-shipment tests and restraining animals. Also involved in the North American Disney Wildlife Conservation Proposal

[redacted]

Zoological Manager at Disney's Animal Kingdom
Lake Buena Vista, Florida 32830

Responsibilities: Opening Team for Disney's Animal Kingdom. Supervision of 21 full-time keepers, in three areas, in White Rhinos, Carnivores, and Hoofstock. Responsible for the acquisition and disposition of collection, hiring and disciplining keeper staff, evaluations, keeper safety, record keeping, guest interactions, ordering and purchasing, exhibit designing, master planning, overseeing animal training and corresponding with other zoological facilities. Duties also include managing an annual budget of $55,000 not including salaries. Duties also include reviewing plans for multimillion dollar exhibits. Assists veterinary staff in neonatal exams, scheduling pre-shipment tests and restraining animals. Also involved in the North American Disney Wildlife Conservation Proposal Committee, Disney Wildlife Excursions and Guest Audits for DAK.

[redacted]

Associate Curator of Mammals at the San Francisco Zoo
San Francisco, California 94132

Responsibilities: Supervision of 14 full-time keepers, in seven areas, in Pachyderms, Hoofstock, and Marsupials. Initiated protective contact program with African Elephants and Asian Rhinos. Responsible for the acquisition and disposition of collection, hiring and disciplining keeper staff, evaluations, work schedules, keeper safety, guest interactions, record keeping, ordering and purchasing, exhibit designing, master planning, overseeing animal training and corresponding with other zoological facilities. Duties also include managing an annual budget of $750,000, designing and reviewing plans for multimillion dollar mix species bio-climatic exhibits with the senior staff, designing a master plan for the Pachyderm, Hoofstock and Marsupial collection. Assists veterinary staff in neonatal exams, scheduling pre-shipment tests and restraining animals. Responsible for designing with the senior staff a million dollar mammal holding and quarantine facility.

[redacted]

Lead Mammal Keeper at the San Diego Zoo
San Diego, California 92112

Responsibilities: Supervision of 8 full-time keepers, five areas and over 40 species and 350 animals. Assists the veterinary staff in neonatal exams including tattooing, notching and tagging hoofstock, medicating, treating, scheduling pre-shipment tests and restraining animals. Responsible for animal transfers and moves within the zoo and also preparing crates for shipping animals to other zoological facilities. Duties also include work schedules, keeper safety, evaluations, record keeping, exhibit design and corresponding with other zoological facilities.

[redacted]

Senior Mammal Keeper at the San Diego Zoo
San Diego, California 92112

Responsibilities: Feeding, cleaning, medicating and maintaining heath and behavior records on 90+ animals. Exhibit design and repair, recording keeping, general exhibit maintenance and communicating with public. Assists the veterinary staff in treating animals and the Animal Care Staff in moves and transfers.

[redacted]

Keeper II at Sunset Zoo
Manhattan, Kansas 66502

Responsibilities: Supervision of five full-time keepers, three seasonal keepers, one full-time maintenance person and one full-time veterinary technician. Assisted the Curator and the Director in managing the zoo and animal collection, including acquisitions and dispositions, designing a master plan, AAZPA accreditation. Duties also included record keeping, guest interactions, work schedules, interviewing applicants and managing the zoo
on the Director's and Curator's days off.

[redacted]

Volunteer Keeper at the Folsom City Zoo
Folsom City, California 95630

Responsibilities: Feeding, cleaning, medicating and behavorial observation of 50+ animals. Exhibit design, repair, record keeping, general exhibit maintenance and communicating with the public.

AZA Involvement

Cervid Taxon Advisory Group-Vice Chair

Caprid Taxon Advisory Group-Steering Committee Member

Publications

Castillo, S. 2013. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and SSP

Castillo, S. 2013. White-lipped Deer, *Przewalskium albirostris,* AZA Regional Studbook and SSP

Castillo, S. 2011. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and SSP

Castillo, S. 2010. White-lipped Deer, *Przewalskium albirostris,* AZA Regional Studbook

Castillo, S. 2010. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 2009. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook

Castillo, S. 2008. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 2006. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 2005. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 2004. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 2003. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 2002. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 2001. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook and PMP

Castillo, S. 1999. Tufted Deer, *Elaphodus cephalophus.* AZA Regional Studbook.

Castillo, S. 1990. Sichuan Takins, *Budorcas taxicolor tibetana,* at the San Diego Zoo. AAZPA Regional Conference Proceedings. Sacramento, California

Castillo, S. 1990. Sichuan Takins, *Budorcas taxicolor tibetana,* at the San Diego Zoo. Proceedings of the 16th National AAZK. New Orleans, Louisiana.

Andre (Andy) Daneault

[redacted]

Professional Experience

[redacted] **Disney's Animal Kingdom** **Lake Buena Vista, FL**

Animal Operations Manager / Curator of Ectotherms ([redacted]

- Manage the Tree of Life animal husbandry team and operation of 4 Zoological Manangers and 30 keepers. In addition supervise all aspects of the ectotherm collection at Disney's Animal Kingdom and Animal Kingdom Lodge.

Assistant Animal Operations Manager / Assistant Curator of Ectotherms [redacted])

- Assisted in the curatorial management of Conservation Station and Tree of Life/Oasis animal husbandry teams and operations of 8 Zoological managers and 56 keepers.

TA Animal Curator [redacted])

- Managed the Colors area animal husbandry operation and team of 3 Zoological Managers and 15 Animal keepers caring for various North American animals in a show setting and guest experiences on and off property

Assistant Curator of Ectotherms / Nights Husbandry Team ([redacted]

- Manage the Night animal husbandry team and operation of 3 Zoological Managers and 14 Keepers. In addition supervised all aspects of the ectotherm collection at Disney's Animal Kingdom and Animal Kingdom Lodge.

Zoological Manger ([redacted]

- Responsibilities include co-managing a 16 animal keeper team at Conservation Station which include birds, reptiles, amphibians and invertebrates.

Oasis Keeper ([redacted]

- Responsible for daily guest experience, husbandry, enrichment and training of various species of small mammals, birds, reptiles, amphibians and invertebrates

[redacted] **Lowry Park Zoo** **Miami, FL**

Zookeeper

- Responsible for the daily husbandry, enrichment and training of twenty-four species of venomous and nonvenomous reptiles, nine amphibian species as well as Indian rhino, Malayan tapirs, sloth bears and Sumatran tigers

[redacted] **Miami Metro Zoo** **Miami, FL**

Zookeeper

- Responsible for daily husbandry, enrichment and training of Himalayan black bears, African lions, Cape hunting dogs, Grevy's Zebra, Sable antelope, black rhinos and Komodo dragons, five species of crocodilians, 15 species of aquatic turtles and tortoises.

[redacted] **Natural Selections** **Miami, FL**

Herp Keeper

- Responsible for daily husbandry of a large and diverse reptile (venomous and non-venomous) and amphibian collection of over 125 species. Assisted in animal film productions.

[redacted]

AZA Courses

May 2001	AZA Crocodilian Biology and Captive Management Course
May 2001-2003	AZA CBCMC Presenter "Case Study in Crocodile Training"
April 2004	AZA Amphibian Biology and Management Course

Related Positions

[redacted]
AZA Chelonian TAG Steering Committee Member
AZA Radiated tortoise SSP Vice Coordinator
International Iguana Board Member
Turtle Survival Alliance Species Coordinator for African Pancake Tortoises
AZA SSP Coordinator for African Pancake Tortoises
Turtle Survival Alliance animal holding member
Turtle Survival Alliance Animal Management Committee Member

Conservation

[redacted]
Co-Principle Investigator, Determination of site fidelity in relocated Gopher Tortoises *(Gopherus polyphemus)* on Walt Disney World's property
Team member, Walt Disney World's Sea Turtle Conservation Program
Curator Lead, Disney's Animal Kingdom Key Largo Woodrat *(Neotoma floridana smalli)* propagation program
Co-Principle Investigator, Walt Disney World's Key Largo Woodrat Reintroduction Project
Co-Team Leader for Disney's Animal Kingdom's field team, Key Largo Woodrat population and demography study
Team Leader, Sea turtle rehabilitation (3 species) for cold stunned and oil spill event
Recipient of Edward H. Bean Significant Achievement Award for Disney Animal Kingdom's Key Large Woodrat Breeding Program
Field Assistant for Biologist Joe Wasilewski, Florida Power & Light American Crocodile (*Crocodylus acutus)* conservation program and Eastern Diamondback Rattlesnake (*Crotalus adamanteus)* population and demography study at Turkey Point Nuclear Power Plant in Homestead, Florida.
Field Assistant for Biologist Kenneth Crisco/Master Student in Biology examining differences between the Florida kingsnakes (*Lampropeltis getula floridana* and *Lampropeltis getula brooksi)*

Publications

Christina A. Alligood, Andre J. Daneault, Robert C. Carlson, Thomas Dillenbeck, Catharine J. Wheaton, and Anne Savage. (2011) Development of Husbandry Practices for the Captive Breeding of Key Largo Woodrats (Neotoma floridana smalli). *Zoo Biology* 30 : 318–327

Alligood, C.A., Wheaton, C.J., Daneault, A.J., Carlson, R.C., & Savage, A. (2009) Behavioral predictors of copulation in captive Key Largo woodrats (Neotoma floridana smalli). *Behavioural Processes* 81:337–342

Alligood, C.A., Savage, A., & Daneault, A.J. (2008). The Rat Race: Protecting the Key Largo woodrat. AZA *Connect* magazine, August 2008.

Alligood, C.A., Wheaton, C.J., Forde, H.M., Smith, K.N., Daneault A.J., Carlson, R.C., & Savage, A. (2008). Pup development and maternal behavior in captive Key Largo woodrats (Neotoma floridana smalli). *Zoo Biology 27*, 394-405.

[redacted]

EDUCATION

[redacted]

[redacted]

PROFESSIONAL EXPERIENCE

Disney' Animal Kingdom [redacted]

CURATOR OF MAMMALS / ANIMAL OPERATIONS MANAGER

- Manage the Ituri Forest and Elephant collections.

Disney' Animal Kingdom [redacted]

ANIMAL OPERATIONS DIRECTOR

- Co-managed 260 person husbandry team responsible for Disney's Animal Kingdom and Animal Kingdom Lodge animal collections.

Disney' Animal Kingdom [redacted]

CURATOR OF MAMMALS / ANIMAL OPERATIONS MANAGER

- Manage the Ituri Forest and Elephant collections. This collection includes 7.9 Nile Hippos (*Hippopotamus amphibius)*

Disney's Animal Kingdom [redacted]

ZOOLOGICAL MANAGER

- Co-managed team of 19 Keepers that care for diverse collection of mammals, birds, reptiles and fish.

Peace River Refuge [redacted]

COLLECTIONS MANAGER

- Responsible for collection consisting of 45 species of mammals, two species of birds and three species of reptiles.

San Diego Wild Animal Park [redacted]

MAMMAL KEEPER / SENIOR MAMMAL KEEPER

PROFESSIONAL AFFILIATIONS / RESPONSIBILITIES

- Member – IUCN /SSC Pigs, Peccaries & Hippos Specialist Group
- Vice Chair – Okapi SSP

Lynn S. McDuffie

[redacted]

CURRICULUM VITAE

PROFESSIONAL EXPERIENCE

[redacted]

Animal Records and Regulatory Affairs Manager
Disney's Animals, Science and Environment Line of Business
Responsibilities:
-Oversee the maintenance of all animal core records for AZA accredited institution holding in excess of 2000 specimens including: daily keeper reports, SSP/Studbook/Taxon Reports, et al, maintain ISIS records and reports, and weekly and annual animal inventories.
-Assists with animal core records for all Disney animal collections under Disney Parks and Resorts including Disney's Animal Kingdom, The Seas (including Castaway Cay and Aulani Resort and Spa and Ranch Operations (including Tri-circle D Ranch, Circle D Ranch and Paris Disneyland)
-Supervise the Assistant Registrar and interact with staff and managers to maintain animal records.
-Oversee the initiation of all animal transaction paperwork.
-Maintain all federal and state permits; fulfill all reporting requirements. Advise zoo management on required permits for collection.
-Initiate and write international, federal and state permits.
-Assist and advise other AZA institutions on permit related matters.
-Serve as the AZA Legislative Contact.
-Assist staff, as needed, in the compilation and the formulation of AZA studbook.
-Assist with international animal shipments

[redacted]

Assistant Curator of Records
Disney's Animal Kingdom, Lake Buena Vista, FL
Responsibilities:
-Oversee the maintenance of all animal core records for AZA accredited institution holding in excess of 2000 specimens including: daily keeper reports, SSP/Studbook/Taxon Reports, et al, maintain ISIS records and reports, and weekly and annual animal inventories.
-Assists with animal core records for all animals at the Walt Disney World Resort including The Seas and Tri-circle D Ranch.
-Interact with staff and managers to maintain animal records.
-Oversee the initiation of all animal transaction paperwork.
-Maintain all federal and state permits; fulfill all reporting requirements. Advise zoo management on required permits for collection.
-Initiate and write international, federal and state permits.
-Assist and advise other AZA institutions on permit related matters.
-Serve as the AZA Legislative Contact.
-Assist staff in the compilation and the formulation of AZA studbook.
-Assist with international animal shipments
-Evaluate new ISIS record keeping programs – ZIMS

[redacted]

Zoological Manager/Registrar
Disney's Animal Kingdom, Lake Buena Vista, FL
Responsibilities:
-Develop, implement and maintain all animal records for AZA accredited institution holding in excess of 2000 specimens including: daily keeper reports, SSP/Studbook/Taxon Reports, et al, maintain ISIS records and reports, and weekly and annual animal inventories.
-Interact with staff and managers to maintain animal records.
-Initiate all animal transaction paperwork.
-Assist veterinary staff with veterinary record keeping system including MedArks.
-Maintain all federal and state permits; fulfill all reporting requirements. Advise zoo

management on required permits for collection.
-Initiate and write international, federal and state permits.
-Assist and advise other AZA institutions on permit related matters.
-Serve as the AZA Legislative Contact.
-Assist staff in the compilation and the formulation of AZA studbook.
-Assist with animal shipments
-Evaluate new ISIS record keeping programs – ZIMS

[redacted]

Registrar
Discovery Island, Lake Buena Vista, FL
Responsibilities:
-Develop, implement and maintain all animal records for AZA accredited institution holding in excess of 800 specimens including: daily keeper reports, SSP/Studbook/Taxon Reports, et al, maintain all ISIS records and reports, and weekly and annual animal inventories.
-Interact with Animal Care staff and supervisors to maintain all animal records of collection.
-Develop, implement and maintain veterinary record keeping system including MedArks.
-Maintain all federal and state permits; fulfill all reporting requirements. Advise zoo management on required permits for collection.
-Serve as the Legislative Contact.
-Assist with the formulation of 2 AZA studbooks:
  -Toco Toucan (Mary Healy, Discovery Island)
  -White-winged Wood Duck (Laura Duckworth, Sea World of Texas)
-Administrative support:
  -Arrange and coordinate all animal shipments
  -Work with veterinarian and hospital staff to coordinate animal quarantine
  -Maintain personnel records
  -Serve as staff photographer
  -Assist with preparation and monitoring of budget
  -Assist with production of "Animal Talk" series, 52 TV spots about Discovery Island
  -Maintain Education Department attendance and revenue reports
  -Contribute to in-house newsletters with articles and photographs
  -Develop animal fact sheets for Education Department training manual

[redacted]

-Evaluate new ISIS record keeping programs.
-Serve as consultant for Louisiana Purchase Gardens & Zoo

Zoo Supervisor
Louisiana Purchase Gardens & Zoo, Monroe, LA
Responsibilities:
-Supervised zoo keepers and visitor service employees.
-Monitored budgets, prepared budget proposals, maintained employee records, prepared payroll and inventory, acted as purchasing agent.
-Maintained ARKS records and reports.
-Maintained and fulfilled permit requirements for the collection.
-Assisted City Computer Department in developing computerized animal record keeping system.
-Prepared weekly and annual animal inventories.
-Managed zoo nursery and commissary.
  -Hand raised infant animals of varied species including cats, hoofstock, primates, ratites, waterfowl, and reptiles.
  -Developed forms for animal hand rearing records.
-Assisted director with collection management and acted as director in his absence. The collection included large felines, elephant, hippopotamus, rhinoceros, primates including great apes, hoofstock ratites, reptiles (including venomous and alligators)
-Ex officio member of zoological society board of directors.
-Member of zoo master plan committee.
-Wrote and presented material for newsletters, newspapers, radio and television. Performed public presentations for visitor tours, civic groups and educational programs, including live animal demonstrations.
-Provided emergency medical care and assisted veterinarian with treatment and surgery.

Experienced in capture and restraint of birds and small mammals.
-Designed, constructed, and remodeled animal enclosures.
-Acted as consultant on animal records to Alexandria Zoo.

[redacted] - **Veterinary Hospital Bookkeeper**
AAA Animal Hospital, Monroe, LA
Responsibilities:
-Monthly billing of outstanding accounts

EDUCATION

[redacted]

PROFESSIONAL ORGANIZATIONS

Zoological Registrars Association – Professional member
Treasurer
Training Committee – member
Strategic Planning Committee -- member
Association of Zoos and Aquariums – Professional Fellow member
Annual Conference Program Committee -- Member
Government Affairs Committee – Member
Government Affairs Committee – Permit Advisor
Institutional Records Keeping Course – Instructor
Institutional Data Management Advisory Group – Steering Committee member
IDMAG Government Ownership Committee -- Advisor
Clouded Leopard SSP IR
Fishing Cat SSP IR
Snow Leopard SSP IR

HOBBIES

Photography, theatre and dancing

REFERENCES

Available upon request.

Rebecca Sellin Phillips

Curriculum Vitae

[redacted]

Work
PO Box 10,000
Lake Buena Vista, FL 32830
Phone: 407-939-7342
Fax: 407-939-6391
Email: Rebecca.S.Phillips@Disney.com

Education

[redacted]

Research Experience

Behavioral research on captive mandrill troop, Principle Investigator, Disney's Animal Kingdom. Designed ethogram and data collection methodology, collected and analyzed data, 1999-2009.

Endocrine analysis of female mandrill urine to determine hormonal fluctuations during estrous, Disney's Animal Kingdom. Collected urine, validated hormonal assay for single antibody system for mandrill species, ran PdG, E1C, creatinine, used both single and double antibody system enzyme immunoassays, 2000-2009.

Polar bear research in Churchill Manitoba with Dr. Jane Waterman, 2003. Recorded behavioral data on polar bear social interactions. Trained Earth Watch volunteers appropriate research methodology. Photo documented bears for individual identification.

Cape ground squirrel research, Namibia. Trapped, pit tagged, marked and measured ground squirrels for behavioral study conducted by Dr. Jane Waterman, 2002.

Cotton-top tamarin behavioral study, Dr.Charles Snowdon's lab, University of Wisconsin-Madison. Assisted Ph.D. students with collection of behavioral data, weights, and urine for hormonal analysis, 1995-1996.

Mycogen Plant Science/Agrigenetics, Madison, WI. Used sterile techniques, maintenance of plant tissue cultures, prepared plant media, planned and conducted corn and cotton experiments, 1992, 1993, 1994, 1995.

Publications

The Lesser-Known Ape: Husbandry Training of Gibbons and Siamangs. Beth Richards, Linda Owen, Shaunna Mullins-Cordier, Rebecca Sellin. Presented at The Apes: Challenges for the Twentieth Century. Chicago, IL 2000.

Complete Analysis and Breeding Plan for Cotton-top Tamarins. January 2002.

Complete Analysis and Breeding Plan for Cotton-top Tamarins. January 2003.

Assessment of the bushmeat message at Disney's Animal Kingdom. Kathy Lehnhardt, Devan Hauck, Stephanie Wilson, Rebecca Sellin, Chris Kuhar, Lance Miller. Journal of International Zoo Educators
Association. (40), 2004.

Philosophy of bachelor gorilla management at Disney's Animal Kingdom. Rebecca Sellin, Beth Richards, Barb Weber. Presented at the 2004 Rocky
Mountain Gorilla Workshop in Calgary. June 2004.

Managing wounds in gorillas through husbandry training. Beth Richards, Rebecca Sellin, Matt Goeben. Presented at the 2004 Rocky
Mountain Gorilla Workshop in Calgary. June 2004.

Complete Analysis and Breeding Plan for Cotton-top Tamarins. November 2004.

Strategies for managing supportive care and reintroduction of infant hylobatidae Poster. Beth Schaefer, Beth Richards, Rebecca Sellin, Audra Sharp. Presented at 2004 AZA conference. New Orleans, LA.

Using a Problem-solving model to manage gorilla husbandry challenges. Beth Richards, Rebecca Sellin Phillips. Presented at the 2006 Gorilla workshop in Paignton England. June 2006.

Complete Analysis and Breeding Plan for Cotton-top Tamarins. October 2006.

Complete Analysis and Breeding Plan for Cotton-top Tamarins. Aug 2008.

Complete Analysis and Breeding Plan for *Mandrillus sphinx*. April 2008.

Urinary steroid hormone analysis of ovarian cycles and pregnancy in mandrills (Mandrillus sphinx) indicate that menses, copulatory behavior, sexual swellings and reproductive condition are associated with changing estrone conjugates (E1C) and pregnanediol-3-glucuronide (PdG). Rebecca Sellin Phillips and Catharine Wheaton. Zoo Biology 27:320-330 2008.

Cardiac ultrasound on Western Lowland Gorilla video writer and editor. 2010.

Complete Analysis and Breeding Plan for *Mandrillus sphinx*. June 2010.

Complete Analysis and Breeding Plan for Cotton-top Tamarins. 2012.

Complete Analysis and Breeding Plan for *Mandrillus sphinx*. 2012.

Presentations

Philosophy of bachelor gorilla management at Disney's Animal Kingdom. Rocky Mountain Gorilla Workshop in Calgary. June 2004.

Managing wounds in gorillas through husbandry training. Rocky Mountain Gorilla Workshop in Calgary. June 2004.

Husbandry class on callitrichids. Callitrichid husbandry and training workshop. Chicago IL, 2004.

Using a Problem-solving model to manage gorilla husbandry challenges. 2006 Gorilla workshop in Paignton England. June 2006.

Husbandry class on callitrichids. Callitrichid husbandry and training workshop. Houston, TX, 2006.

Medical Mystery: Diagnosing a Developmentally-Delayed Gorilla. Gorilla Workshop Apenheul Primate Park. June 2012.

Husbandry class on callitrichids. Callitrichid husbandry and training workshop. West Palm Beach, FL 2012

Work Experience

Disney's Animal Kingdom, Walt Disney World, Florida, [redacted]

Animal operations manager savannah TA

Duties included developing collection plans for the savannah team. Managing 6 leaders of leaders. Overseeing compliance for the savannah animal collection. Developing and implementing safety practices for a diverse collection of animals.

Zoo manager-East and West Savannah TA

Duties included developing professionalism in salaried keepers. Supervise a team of 39 keepers. Lead the development and implementation of the safari night experience. Assisted in restructuring the savannah team. Assisted in creating global safety protocols for animal husbandry teams working with dangerous animals. Created training plans for the safari night experience new keeper hires. Developed leadership skills in co-managers

Zoo Manager-Primate-Carnivore

Duties include developing professionalism in salaried keepers. Assisting global ASE with safety review practices. Assisting in creating a culture of inclusion while combining two teams.

Zoo Manager-Primates

Duties included scheduling, facilitating meetings, assisting keepers in their day to day projects. Working as a liaison between the Primate Team and other departments throughout Walt Disney World. Assisting keepers with professional development. Participating in construction projects. Participating in animal management decision-making. Assist keepers with research design and analysis. Assist with Disney Wildlife Conservation Fund proposal reviews. Assisting keepers with training and enrichment projects.

Animal Keeper-Primates

Duties included assisting with the development and participation in a research project on mandrills. Assisting with the development of the keeper associate program. Mentoring for the keeper associate program. Monitoring mandrill swellings for cycle analysis. Implementing new training and enrichment techniques to increase the welfare of the collection of projects. Work as cotton-top tamarin SSP coordinator. Development of education classes for cast members through Centers of Excellence.

Animal Keeper-Conservation Station

Duties included development of protocols for the exhibit team. Scheduling presentations for conservation station. Participated in public presentations of a variety of animal species in both formal and informal settings.

Discovery Island, Walt Disney World, Florida, [redacted]

Animal Care Specialist-Bird Show

Duties included training a variety of bird species to perform natural behaviors in a bird show. Working with several departments to complete improvements of the back stage bird holdings. Daily care of a variety of bird species. Filled in for primate routine as needed. Trained new keepers in area.

Sea World, Orlando, Florida, September [redacted]

Education Department

Duties include giving public presentations about the animals. Giving guided tours to the park guests as well as school groups. Taking care of animals used for educational classes. Worked as a liaison between the education department and animal services.

Cypress Gardens, Winter Haven, Florida, September [redacted]

Wildlife Department

Duties include designing animal exhibits, including a multi-species primate, bird exhibit. Created new animal guest experiences by training animals to be familiar with handling and presentations. Assisting in setting up protocols and record keeping for a variety of animal species. Responsible for monitoring USDA compliance in animal areas. Assisting in the design of animal diets. Trained the staff husbandry techniques for mammals.

Snowdon's Callitrichidae Lab, University of Wisconsin-Madison, May 1995-[redacted] colony maintenance of cotton-top tamarins and pygmy marmosets. Participated in habitat planning and construction of primate environments. Research duties include gathering behavioral data, entering data on computers, weighing infants, conditioning animals for husbandry behaviors, and collecting urine for hormonal assays.

Mycogen Plant Sciences (formerly Agrigenetics), Madison, Wisconsin, Summers [redacted] *Assistant*

Professional Service and Organizations

[redacted]

Teaching Experience

Designed and taught class on gorillas
Designed and taught class on primate taxonomy

Designed and taught class on population management
Designed and taught class on Callitrichid husbandry and taxonomy

[redacted]

Rochelle D Plasse

Objective

Seeking a position that utilizes my extensive experience and knowledge in the field of zoology.

Experience

Supervisor Bi[redacted] Houston Zoological Gardens
[redacted] Houston, Texas

Curator of Birds
[redacted]

Specialist in passerines and other softbilled birds. Assisted in field collection and transport of Hawaiian endangered honeycreepers.
Initiated and managed USFWS captive breeding program for endangered Attwater's Prairie Chicken
Department was awarded two AZA Bean Awards and two Significant Achievement Awards by AZA for Avian accomplishments during my management.

Disney's Animal Kingdom
Zoological Manager Lake Buena Vista, Florida

[redacted]

- Manage a large collection of avian species, notably Micronesian Kingfishers, an endangered Guam kingfisher –this is a cooperative program between USFWS, AZA and the Commonwealth of the Northern Marianas Islands-steering committee

[redacted]

- Committee member for WCMC [redacted]

Recent Publications & Appearances

• . Use of Novel Nest Boxes by Carmine
Bee-Eaters *Merops nubicus* in Captivity (Zoo Biology 26:27–39 (2007)
Jennifer J. Elston, Chelle Plasse, and Tammie Bettinger
Disney's Animal Kingdom, Lake Buena Vista, Florida

- Organized and led AZA Workshop on Avian Sustainability-OKC Regional Conference [redacted]
- Cracid TAG Chair from 1[redacted] until it merged with the Galliformes TAG
- Columbiformes TAG Chair [redacted]nt

Relevant experience with Pigeons and Doves:

- [redacted] developed hand rearing protocols for Columbiformes at Houston as well as a foster dove program for assisting incubation
- [redacted] assisted in behavioral project for Mauritius Pink Pigeon at Jersey Wildlife Trust
- Managed a significant collection of pigeons and doves including Mauritius Pink Pigeons (SSP), Marianas fruit doves, Victoria crowned pigeons (SSP)at the Houston Zoo, and presently manage 16 species and 111 specimens of Columbiformes at Disney's Animal Kingdom
- Developed, produced and distributed to colleagues a DVD presentation on hand rearing pigeons
- Have made several presentations at AZA Avian Workshops and American Federation of Aviculture on Columbiformes husbandry.

[redacted]

Related AZA courses taken :

- Population Management I and II
- Management School I and II

References

References are available on request.

Jay Therien

[redacted]

Experience

[redacted]

- Oversea mixed taxa collection including, tigers, meerkat, Burmese black mountain tortoise, Malayan flying fox, Rodrigues flying fox, lowland gorilla, white-cheeked gibbon, siamang, mandrill and Angolan colobus.
- Supervise a team of 4 Zoological Managers, including staff development, performance feedback, and implementation of team goals and oversight of 23 full time keepers.
- Responsible for the Primate-Carnivore teams operational budget.
- Coordinated all facilities improvement and construction projects for the animal areas under my oversight.
- Representing Animal Programs in the park enhancement in development process, ensuring optimal animal welfare, cast safety and guest experience.
- Contribute to the development and implementation of policy and global operating guidelines for Disney's Animal Programs.
- Member of the animal programs safety review committee.

[redacted]

Assistant Animal Operations Manager

- Oversee a dynamic animal collection including mixed taxa of primates, rodents, pteropids, reptiles, ungulates and invertebrates. Primate species includes; siamang, white-cheeked gibbons, mandrill, Angolan colobus and western lowland gorilla.
- Co supervise a team of 8 Zoological Managers, including staff development, performance feedback, implementation of team goals and oversight of 44 full time keepers.
- Ensured animal habitats exceed show qulaity standards.
- Responsible for Mahagani teams operational budget.
- Coordinated all facilities improvement and construction projects for the animal areas under my oversight.
- Serve a liaison between park operations and the animal areas on Pangani Trail and Maharajah Jungle Trek/ Asia animal areas.
- Served on the Disney's Wildlife Conservation Fund grant review board for Africa.
- Responsible for non-avian animal transactions pertaining to my areas collections.

[redacted]

- Member of Disney's Animal Kingdom's opening team.
- Manage a diverse collection of ungulates, birds, crocodilians, and fish.
- Member of a 3 manger team that supervises a staff of 19 zookeepers with a strong emphasis on teamwork.
- Oversee area construction and maintenance projects.
- Develop and implement standard operating guidelines.
- Coordinate vet procedures.

[redacted]

Zoo Keeper

- Member of Disney's Animal Kingdoms pre-opening team.
- Assisted in the acclimation and introductions of the animals within my work area.
- Maintained and cared for okapi, black rhino, hippopotamus, several species of African antelope as well as storks, cranes, pelicans and waterfowl.
- Assisted with veterinary procedures.

[redacted]

Lead Keeper

- Supervise all aspects of housing, care, transportation and exhibition of animals in zoo collection.
- Supervised and assigned tasks to all zoo keeping and maintenance staff.
- Supervised the maintenance of zoo grounds.
- Maintained and cared for a large variety of taxa including; paserines, felids, ursids, ungulates and primates. Primate species included **lion-tailed macaque**, Sykes guenon, black and white ruffed lemurs, fat tailed dwarf lemurs and guereza colobus monkeys.
- Assisted in the development, planning and the construction of new exhibits.
- Responsible for the enforcement of safety regulations.
- Maintained inventory of supplies and equipment.

[redacted]

Farm Manager

- Maintained and cared for a large variety of exotic hoofstock and ratites.
- Supervised farm staff.
- Bottle raised neonatal hoofstock when necessary.
- Logged over 350,000 miles transporting exotic animals within the U. S.
- Artificially incubated and reared ostrich, rhea, emu, and cassowary.

Education

[redacted]orfolk County Agricultural High School Walpoe, Ma
(Majored in Production Animal Science, recipient of the Willis H. Hoyt Award for excellence in Animal Science)

- AZA's "Professional Management Development For Zoo and Aquarium Personnel" years 1 and 2 (2000-2001)
- AZA's "Creating Successful Exhibits" (2003)
- Cornell Laboratory of Ornithology's "Home Study Course in Bird Biology" (2003)
- Sylvan Heights Waterfowl Center "Avian Husbandry and Management Program" (2004)
- University of Florida's "Master Hoof Care Program" (2006)
- Zimbabwe Veterinary Associations "Chemical and Physical Restraint of Wildlife" (2008)

[redacted]

Addendum G
Facilities

Red-collared Brown Lemur (*Eulemur collaris*) and Ring-tailed Lemur (*Lemur cata*)

Holding:

Both species of lemurs are housed together in a concrete building with one keeper entry door and one access door for shifting the animals on and off exhibit. The holding stalls within the building are made of welded steel and 1 inch x 1 inch mesh. Each stall is 73 inches wide x 144 inches long x 97 inches high. The room is heated and cooled by a window unit.

Figure 1 Lemur Holding

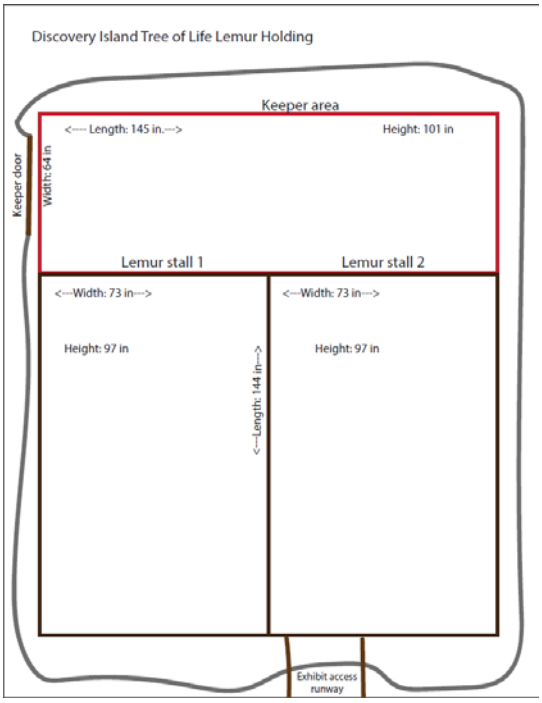

Figure 2 Lemur Holding Diagram

Exhibit:

The lemur exhibit is an open-air exhibit consisting of two large, well-planted islands connected by natural perching. A waterway surrounds the island. The animals have access to the building via a themed bridge over the waterway. The exhibit is surrounded by six foot Plexiglas viewing areas and themed rockwork. The exhibit is approximately 88 feet long x 16 feet wide.

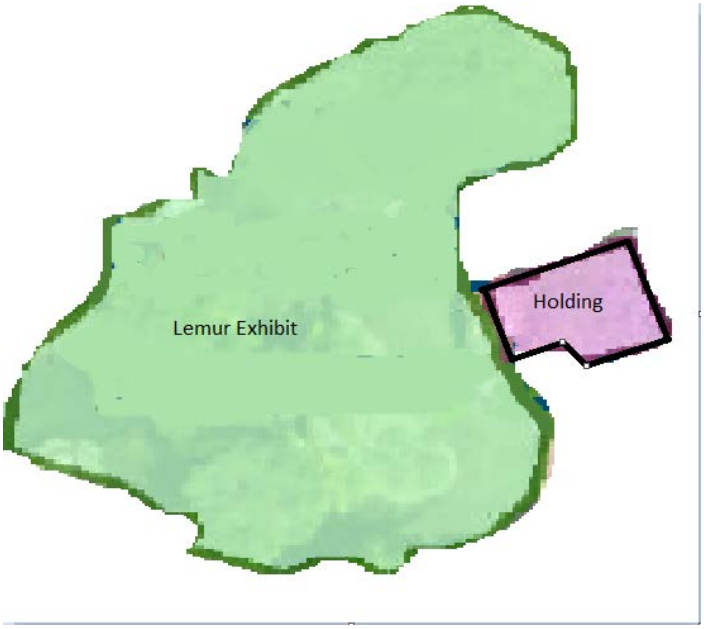

Figure 3 Lemur Exhibit Diagram

Figure 4 Lemur Exhibit

Golden Lion Tamarin (*Leontopithecus rosalia)*

Holding/Exhibit:

The golden lion tamarins are housed at Conservation Station. The enclosure is built with a steel frame on concrete footings and covered with welded wire ½ inch x 3 inch on the top, front and back. The walls are concrete. The substrate is small gravel/Texas grit mixture. A complex perching system is made of both man-made and natural materials. For protection from the elements, the top of the enclosure is covered, there is an external heater and a temperature controlled nest box. There is a shift door for the tamarins to move in and out of the nest box area for routine maintenance and the ability to move animals when needed. There is a rear service area that is also secure, providing a secondary barrier.

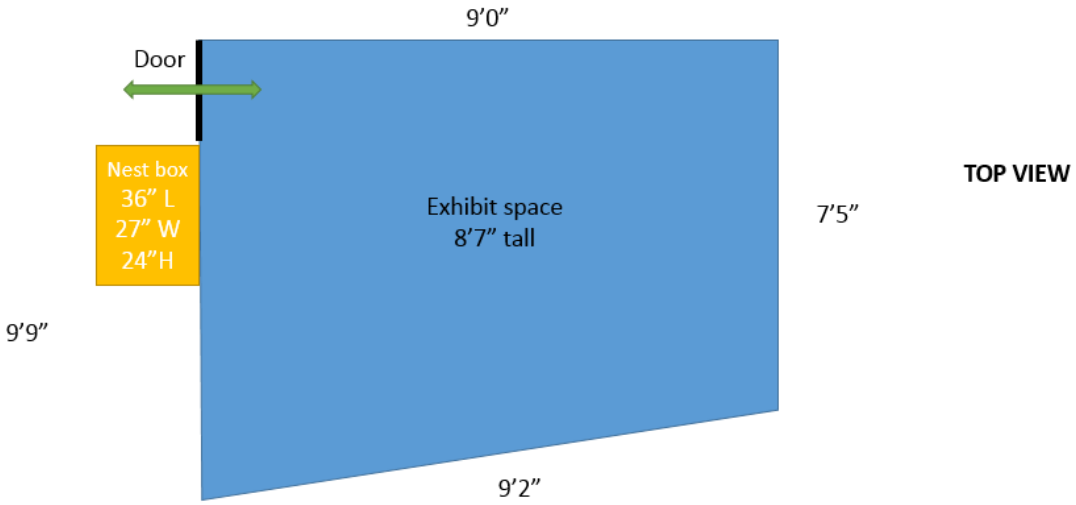

Figure 5 Golden Lion Tamarin Holding

Figure 6 Golden Lion Tamarin Exhibit 1

Figure 7 Golden Lion Tamarin Exhibit 2

Cotton-top Tamarin (*Saguinus oedipus*)

Conservation Station Holding/Exhibit:

The cotton-top tamarins are housed in two separate locations at Disney's Animal Kingdom. Their enclosure at Conservation Station is built with a steel frame on concrete footings and covered with welded wire ½ inch x 3 inch on the top, front and back. The walls are concrete. The substrate is small gravel/Texas grit mixture. A complex perching system is made of both man-made and natural materials. For protection from the elements, the top of the enclosure is covered, there is an external heater and a temperature controlled nest box. There is a shift door for the tamarins to move in and out of the nest box area for routine maintenance and the ability to move animals when needed. There is a rear service area that is also secure, providing a secondary barrier.

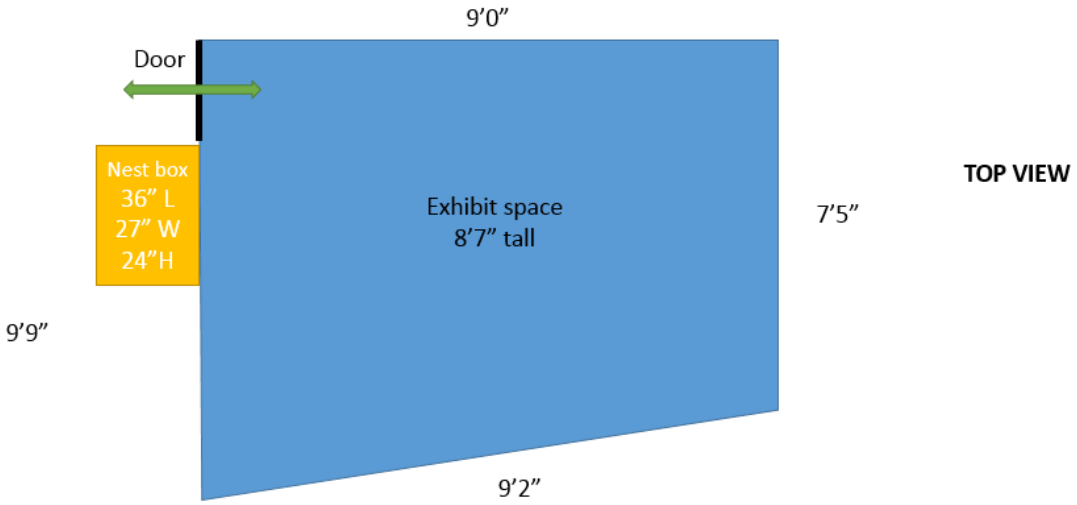

Figure 8 Tamarin Holding - Conservation Station

Figure 9 Tamarin Exhibit Front - Conservation Station

Figure 10 Tamarin Exhibit Back - Conservation Station

Tree of Life Holding:

The off-exhibit holding area for cotton-top tamarins at the Tree of Life area consists of two enclosures made of tubular aluminum framing and are covered in 1 inch x ¼ inch galvanized steel wire mesh. The holding also has an insulated night house measuring 45 inches long x 45 inches wide x 97 inches high. This night house is supplied with heat panels and a thermostat. The two enclosures have a shift/runway between them that is used for new animal introductions. One enclosure is 83 inches long x 80 inches wide x 97 inches high and the other is 69 inches long x 69 inches wide x 97 inches long. Both can be access through a secure keeper access area.

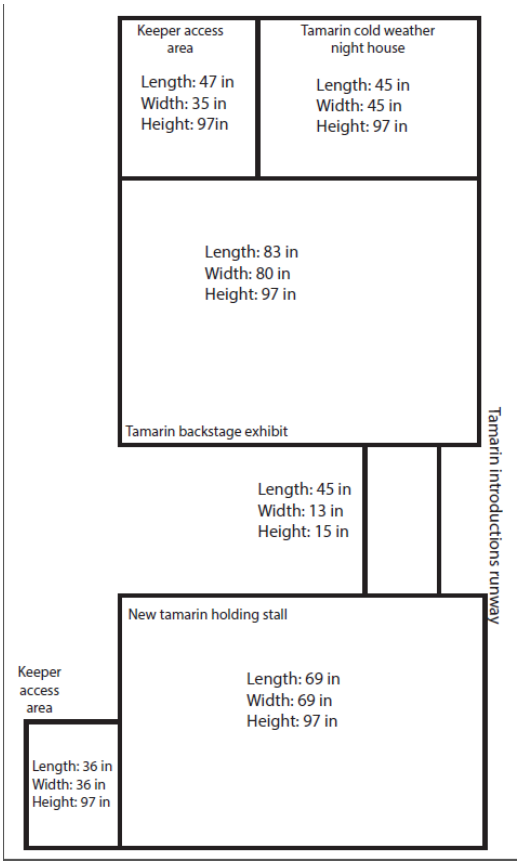

Figure 11 Tamarin Holding Diagram - Tree of Life

Figure 12 Tamarin Holding 1 - Tree of Life

Figure 13 Tamarin Holding 2 - Tree of Life

Tree of Life Exhibit:

The cotton-top tamarins that are housed at the Tree of Life area live in an aluminum framed, PVC insulated board house measuring 67 inches long x 58 inches wide x 71 inches high situated in the middle of their planted exhibit. This night house has two radiant heat panels that are controlled by a thermostat.

The exhibit consists of six steel pillars in a hexagon-like shape with concrete footers. Stainless steel cables are pulled between the pillars and footers to form a frame on which woven wire mesh is attached and pulled across. A keeper entryway is provided for safe entrance/exit into the enclosure. The exhibit is approximately 34 feet wide x 24 feet long x 12 feet high.

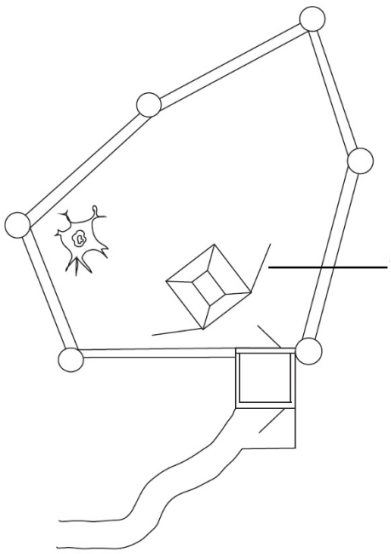

Figure 14 Tamarin Holding Diagram - Tree of Life

Figure 15 Tamarin Exhibit - Tree of Life

Lion-tailed Macaque (*Macaca silenus*)

Holding:

Holdings consist of four conjoined holding spaces 6 feet wide x 12 feet long x 9 to 11 feet high (72 square feet each x 4 = 288 square feet). The pens are constructed from 10 gauge 1 inch x 1 inch stainless steel mesh. Each of the common mesh walls between the holding spaces has 2 elevated sliding shift doors allowing for versatility in managing the group, including full access between all 4 holding spaces to individual stall isolation. Each holding space has: several perching benches mounted at multiple levels, a Lixit water valve, multiple tie-off rings for mounting a variety of climbing apparatuses and environmental enrichment.

There is an overhead transfer chute for shifting animal to and from the exhibit space. The transfer chute includes a sliding shift door into each of the 4 holding spaces. It also has several shift doors throughout the length of the chute to control the travel of the monkeys (see attached drawings for details).

The building includes a food prep area with a combo refrigerator freezer, stainless steel sink, countertop and shelves and an eye wash station. Fifty percent of the building's exterior walls are constructed from chain-link fence (secondary containment). The chain-link walls include a sliding curtain system allowing for fully enclosing the building for heat retention during periods of cold weather. The building is equipped with a heat and air conditioning system. The compound also includes a room for donning, doffing and storing personal protective equipment (PPE).

Komodo dragons are housed within this same building but their holding and service area are separated from primate areas including a separate entrance and an impermeable wall isolating the 2 areas. This space also has a separate heat source.

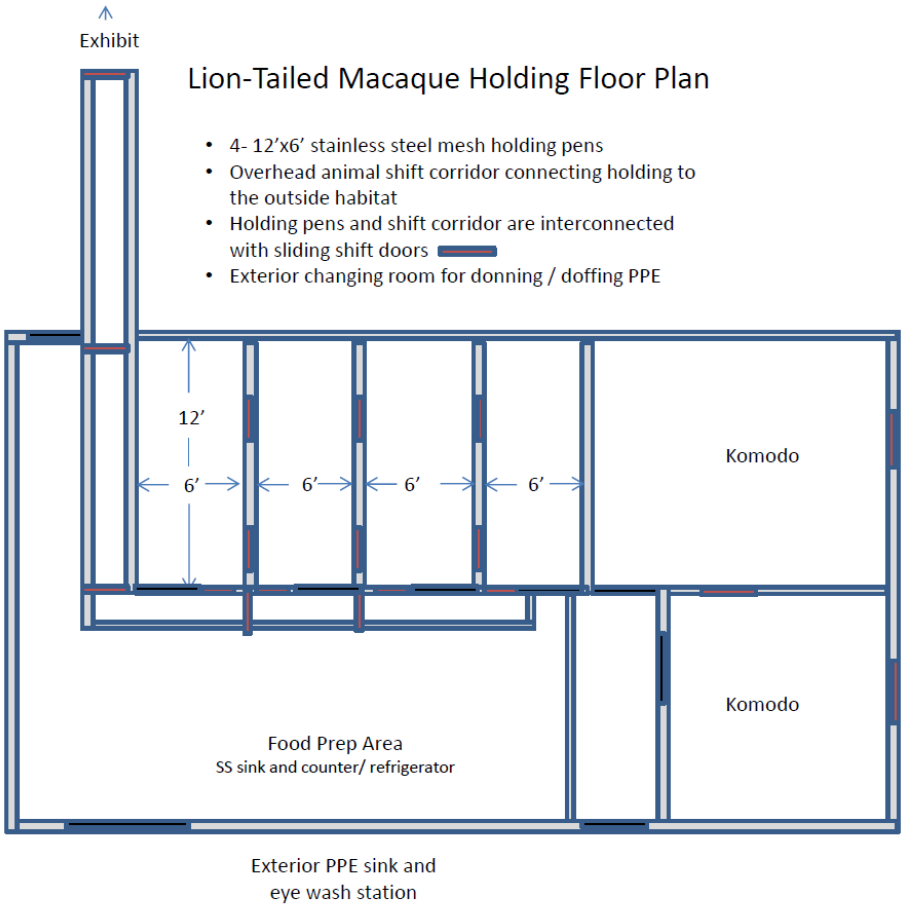

Figure 16 Macaque Holding Diagram

Figure 17 Macaque Holding

Exhibit:

This is an irregular shaped naturalistic Asian themed exhibit. At its widest and highest points it is 85 feet long x 40 feet wide x 25 feet high (approximately 3200 square feet) (see attached drawings).

Animal containment consists of a combination of concrete gunite walls, invisa-mesh and glass viewing windows. The public is separated from the animals with the concrete gunite and glass viewing windows. All invisa-mesh is a minimum of 6 feet away from guest areas. Vertical sections of mesh are angled away from guest areas for sanitary reasons. The mesh is constructed from 3/32 inch stainless steel aircraft cable hand woven into 2 inch square mesh.

The animal space includes a wide variety of naturalistic climbing structures, including artificial rock structures, living trees, natural and artificial standing dead fall, and themed Asian architectural ruins. Tie-off rings are mounted throughout the habitat for securing interchangeable climbing structures and enrichment devices. The climate is controlled via natural foliage for shade, several fans directed in towards the animals areas. The viewing structure's roof overhangs into the exhibit providing shelter from the rain.

The public view the exhibit through two 25 feet wide x 10 feet high sheltered glass viewing areas. The viewing area includes locked feed chutes that can be utilized by the keepers to safely deliver food reinforcement to the monkeys during keeper talks and husbandry behavior demonstrations.

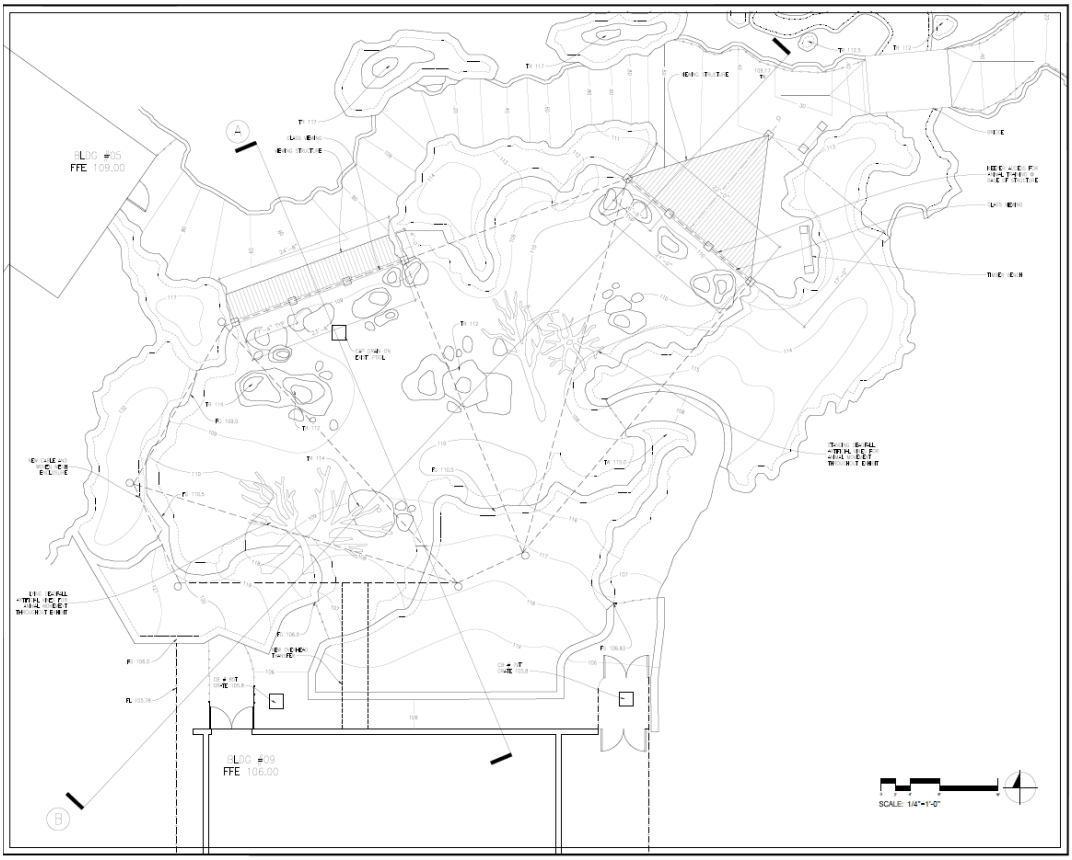

Figure 18 Macaque Exhibit Diagram

Figure 19 Macaque Exhibit 1

Figure 20 Macaque Exhibit 2

Feed Chute

Figure 21 Macaque Exhibit 3

Figure 22 Macaque Exhibit 4

Mandrill (*Mandrillus sphinx*)

Holding:

The mandrill holding area consists of a series of indoor enclosures and a connected outside enclosure. The indoor enclosure is 370 meters (1213 feet) squared and consists of 5 conjoined rooms made of 2x2 inch 3 gauge steel mesh with a series of transfer hallways that utilize hydraulic and manual doors. The rooms are set up with a variety of permanent benches and movable furniture and ropes. The moveable objects are changed frequently and animals are provided with different behavioral enrichment items daily to create complexity in their environment.

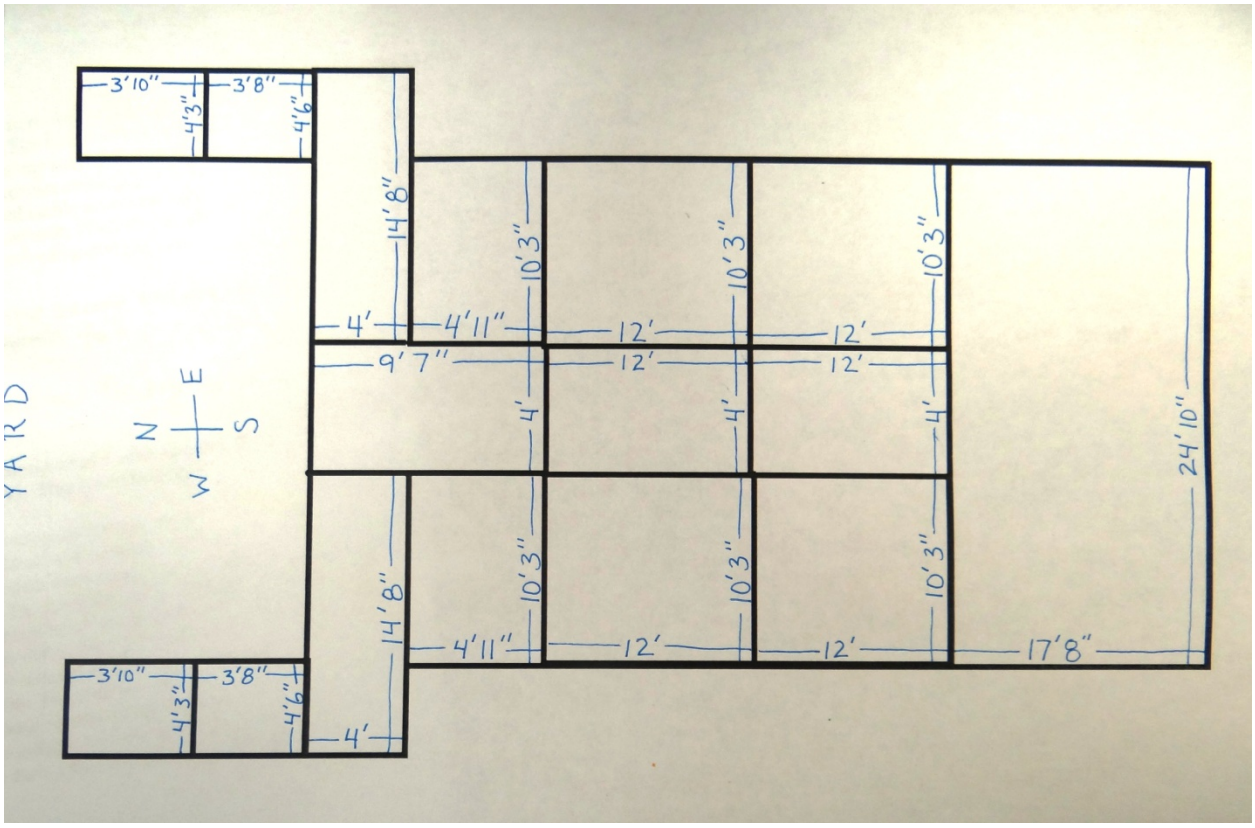

Figure 23 Mandrill Holding Diagram

Figure 24 Mandrill Holding 1

Figure 25 Mandrill Holding 2

Figure 26 Mandrill Holding 3

Figure 27 Mandrill Holding 4

Figure 28 Mandrill Holding 5

Figure 29 Mandrill Holding 6

Figure 30 Mandrill Holding 7

Figure 31 Mandrill Holding 8

Exhibit:

The outdoor exhibit measures 6,220 meters (20,401 feet) squared and consists of trees, rocks, various natural substrates, as well as, cave type locations and overhangs to protect the mandrills from the elements.

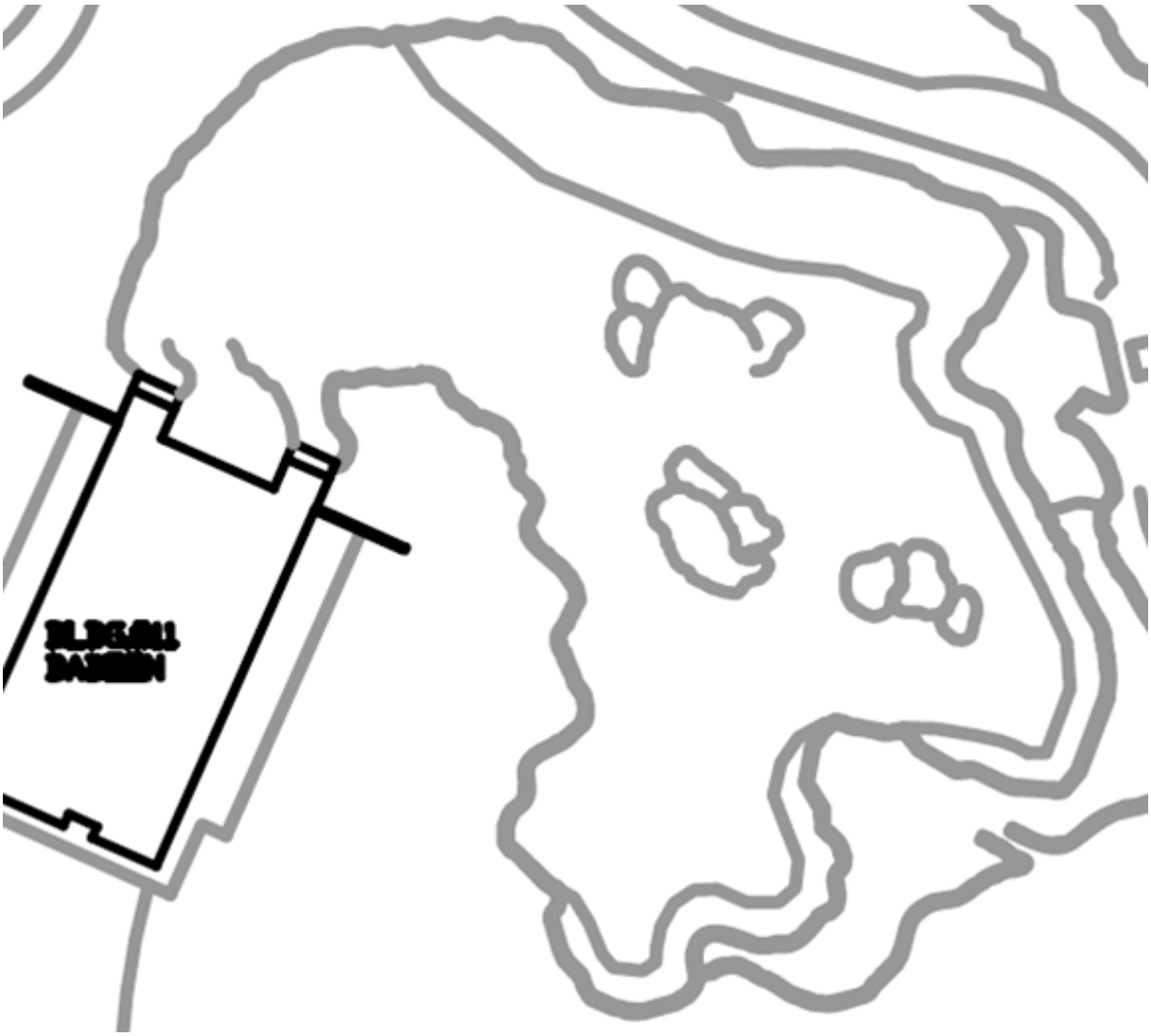

Figure 32 Mandrill Exhibit Diagram

Figure 33 Mandrill Exhibit 1

Figure 34 Mandrill Exhibit 2

Figure 35 Mandrill Exhibit 3

Figure 36 Mandrill Exhibit 4

Figure 37 Mandrill Exhibit 5

Figure 38 Mandrill Exhibit 6

Figure 39 Mandrill Exhibit 7

Figure 40 Mandrill Exhibit 8

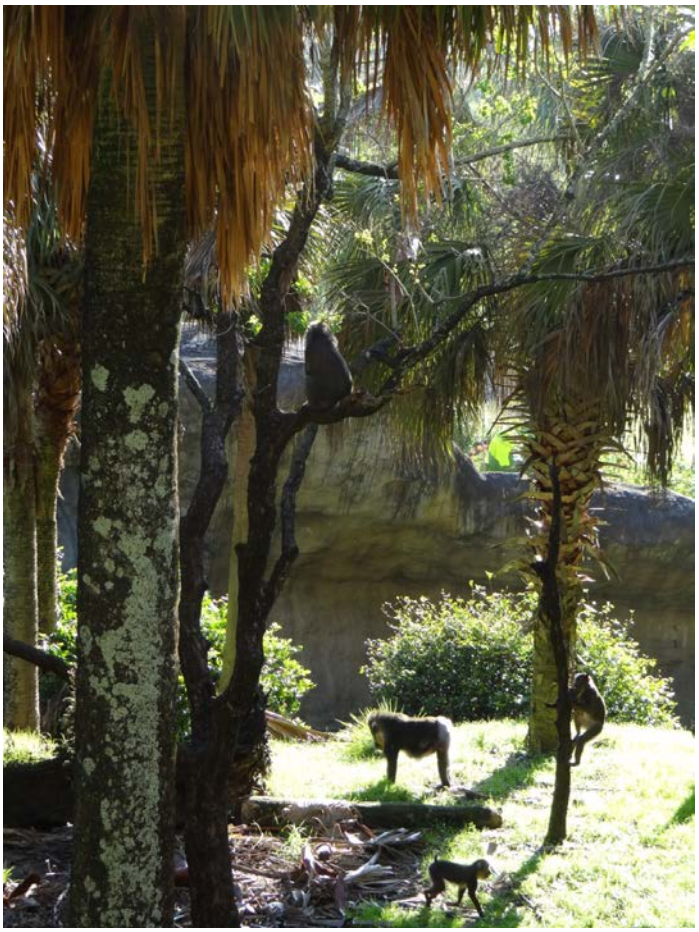

Figure 41 Mandrill Exhibit 9

Figure 42 Mandrill Exhibit 10

Figure 43 Mandrill Exhibit 11

Figure 44 Mandrill Exhibit 12

White-cheeked Gibbon (*Nomascus leucogenys)*

Holding:

The White-cheeked Gibbon holding area consists of an indoor enclosure and a connected outside enclosure. The indoor enclosure is 216 feet squared and consists of 2 conjoined rooms made of 1”x1”, 9 gauge galvanized steel mesh. The 2 rooms are interconnected with 2 manually operated shift doors. In addition, each room has a manually operated shift door leading out into the outside habitat. The rooms are set up with a variety of permanent benches and movable furniture and ropes. The moveable objects are changed frequently and animals are provided with different behavioral enrichment items daily to create complexity in their environment. This building has both electric heat and air conditioning.

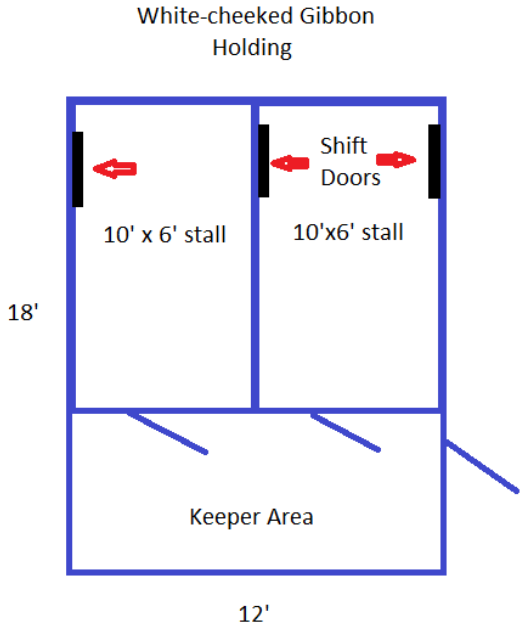

Figure 45 Gibbon Holding Diagram

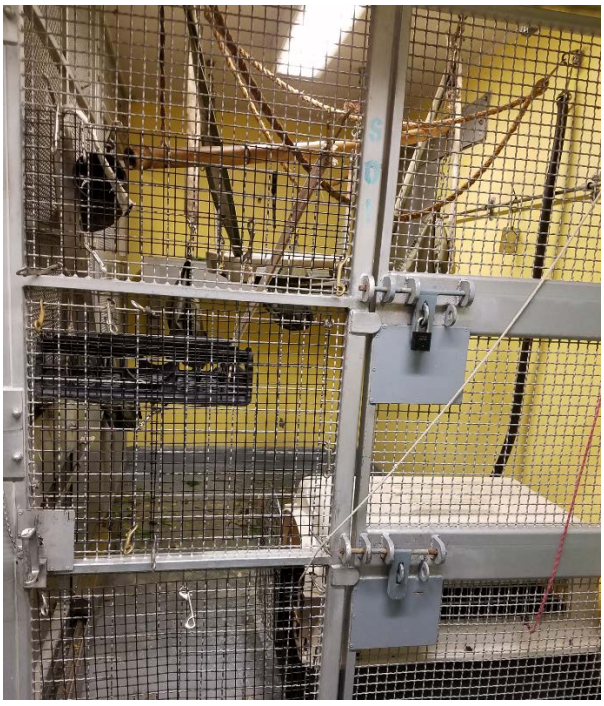

Figure 46 Gibbon Holding 1

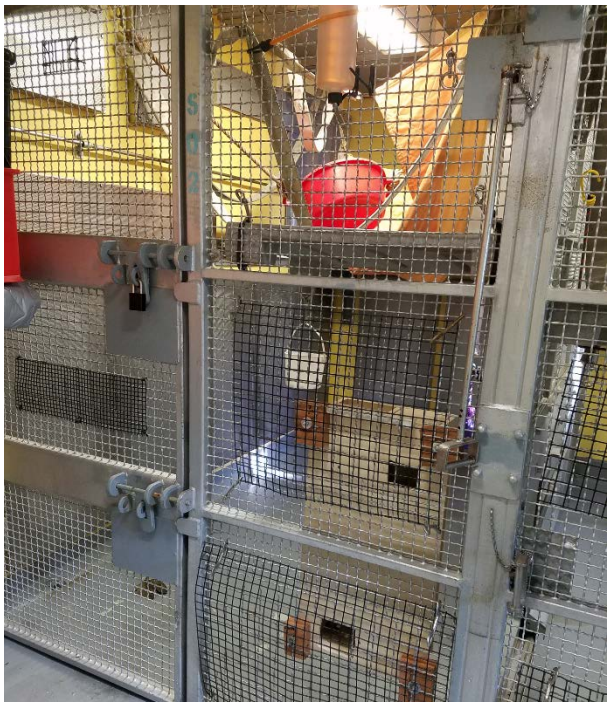

Figure 47 Gibbon Holding 2

Exhibit:

The outdoor exhibit consist of 2 Islands (2200 square feet). The holding building is located on one of the islands and themed to resemble an Asian temple. The temple is surrounded by a faux bamboo scaffolding/climbing structure. The second Island has a central themed column and faux scaffolding as well. The islands are interconnected with dead fall logs and artificial vines. The landscape consists of tall trees, rocks, themed ruins and various natural substrates. The trees and structures offer a variety of shade options and the animals can go into the temple to escape severe weather. This exhibit offers a wide assortment of climbing options for this highly arboreal species.

The primary animal containment feature for this exhibit is a water moat with a minimum horizontal jump distance of 20 feet.

Figure 48 Gibbon Exhibit

Siamang (*Symphalangus syndactylus*)

Holding:

The Siamang holding area consists of an indoor enclosure and a connected outside enclosure. The indoor enclosure is 216 feet squared and consists of 2 conjoined rooms made of 1”x1”, 9 gauge galvanized steel mesh. The 2 rooms are interconnected with 2 manually operated shift doors. In addition, each room has a manually operated shift door leading out into the outside habitat. The rooms are set up with a variety of permanent benches and movable furniture and ropes. The moveable objects are changed frequently and animals are provided with different behavioral enrichment items daily to create complexity in their environment. This building has both electric heat and air conditioning.

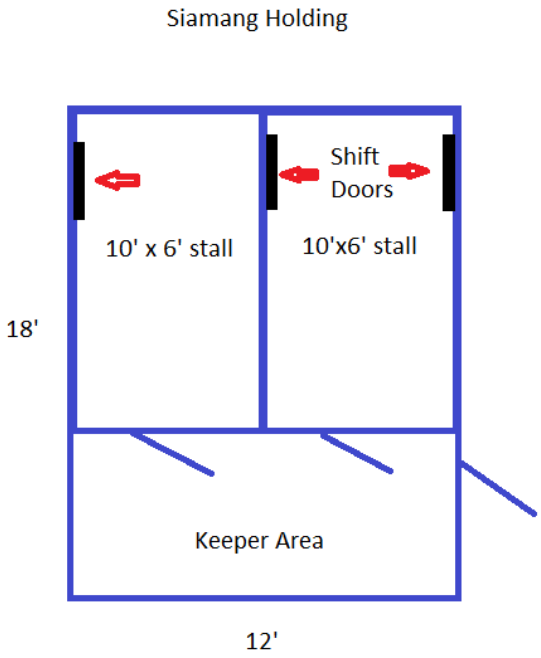

Figure 49 Siamang Holding Diagram

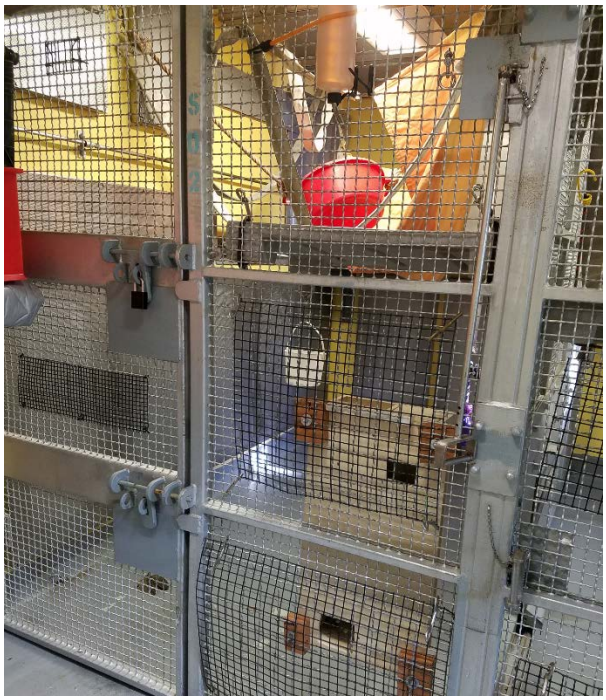

Figure 50 Siamang Holding

Exhibit:

The outdoor exhibit consists of an Island (1800 square feet). The holding building is located on the Island and themed to resemble an Asian temple. The temple is surrounded by a faux bamboo scaffolding/climbing structure. The landscape consists of tall trees, rocks, themed ruins and various natural substrates. The trees and structures offer a variety of shade options and the animals can go into the temple to escape severe weather. This exhibit offers a wide assortment of climbing options for this highly arboreal species. The primary animal containment feature is a water moat with a minimum horizontal jump distance of 20 feet. There are two 40 feet tall towers located outside the water moat. The siamang have access to the tower platforms via overhead cables wrapped in rope. Two levels of rope are 4 feet apart and go from the temple to each tower and the towers are also interconnected with ropes. This creates a 208 feet long overhead pathway for the siamang.

Figure 51 Siamang Exhibit 1

Figure 52 Siamang Exhibit 2

Figure 53 Siamang Exhibit 3

Western Lowland Gorilla *(Gorilla gorilla gorilla)*

Holding:

The gorilla holding area consists of a series of indoor enclosures. The indoor enclosures consist of 8 conjoined rooms constructed of 2 inch x 2 inch square x 3/8 inch thick steel mesh cage fronts. The side and back walls are constructed from solid 12 inch thick concrete. The ceilings are concrete with large skylights covered with the same material as the cage fronts. It has a series of transfer hallways that utilize hydraulic and manual doors. Each room has a minimum area of 108 square feet. The rooms are set up with a variety of permanent benches and movable furniture and ropes. The moveable objects are changed frequently and animals are provided with different behavioral enrichment items daily to create complexity in their environment. See the chart below with the building floor plan and specific dimensions for each animal space.

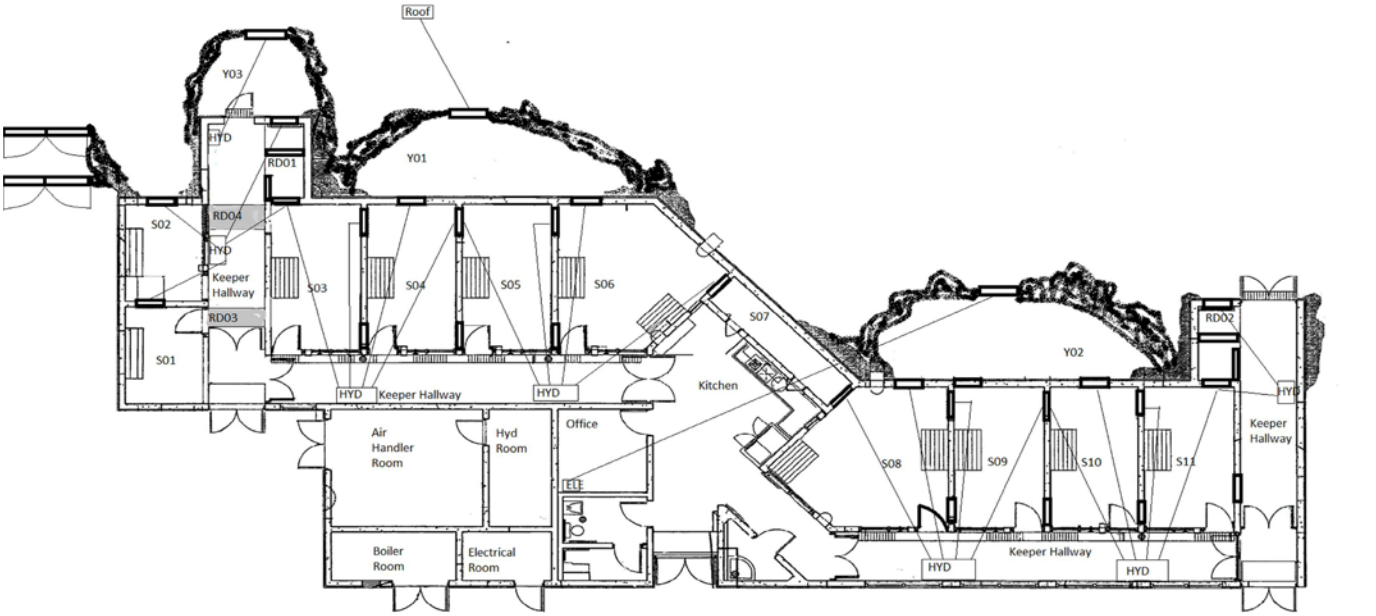

Figure 54 Gorilla Holding Diagram

Primate Enclosure Dimensions - ft^2 / m^2 / length x width x height

Gorilla

S01	(Bedroom 1)	108 ft^2 / 10.0 m^2 (12’ x 9’ x 11’ 6”)
S02	(Bedroom 2)	108 ft^2 / 10.0 m^2 (12’ x 9’ x 11’ 6”)
S03	(Bedroom 3)	180 ft^2 / 16.7 m^2 (10’ x 18’ x 10’)
S04	(Bedroom 4)	180 ft^2 / 16.7 m^2 (10’ x 18’ x 10’)
S05	(Bedroom 5)	180 ft^2 / 16.7 m^2 (10’ x 18’ x 10’)
S06	(Bedroom 6 / East Dayroom)	270 ft^2 / 25.1 m^2 (irregularly shaped x 10’ high)
S07	(Tunnel)	76 ft^2 / 7.1 m^2 (19’ x 4’ x 10’)
S08	(Bedroom 8 / West Dayroom)	270 ft^2 / 25.1 m^2 (irregularly shaped x 10’ high)
S09	(Bedroom 9)	180 ft^2 / 16.7 m^2 (10’ x 18’ x 10’)
S10	(Bedroom 10)	180 ft^2 / 16.7 m^2 (10’ x 18’ x 10’)
S11	(Bedroom 11)	180 ft^2 / 16.7 m^2 (10’ x 18’ x 10’)
RD01	(East Scale)	31.5 ft^2 / 2.9 m^2 (9’ x 3’ 6” x 3’ 6”)
RD02	(West Scale)	31.5 ft^2 / 2.9 m^2 (9’ x 3’ 6” x 3’ 6”)
RD03	(Overhead Tunnel S01 to S03)	24.5 ft^2 / 2.3 m^2 (7’ x 3’ 6” x 3’ 6”)

RD04	(Overhead Tunnel S02 to S03)	24.5 ft^2 / 2.3 m^2 (7’ x 3’ 6” x 3’ 6”)
Y01	(East Large Patio)	225 ft^2 / 20.9 m^2 (irregularly shaped)
Y02	(West Patio)	271 ft^2 / 25.2 m^2 (irregularly shaped)
Y03	(East Small Patio)	98 ft^2 / 9.1 m^2 (irregularly shaped)
Total Indoor Holding Space		2024 ft^2 / 187.9 m^2
Total Outdoor Off-Exhibit Holding Space		594 ft^2 / 55.2 m^2

Figure 55 Gorilla Holding 1

Figure 56 Gorilla Holding 2

Figure 57 Gorilla Holding 3

Exhibits:

There are two separate gorilla exhibits, one is for the family group and the other is for the bachelor group. Both large naturalistic outdoor exhibits consists of trees, rocks, various natural substrates, as well as, cave type locations and overhangs to protect the gorilla from the elements. They each have filtered water features including moats streams and small waterfalls. The primary containment in each exhibit consists of steep gunite walls. The family yard has a viewing window constructed from 1-13/16 inch thick 4 ply Starfire glass.

Family Yard (irregular shape)

240 feet long x 134 feet wide (1900 square feet)

Figure 58 Gorilla Exhibit - Family Yard

Bachelor Yard (irregular shape)

360 feet long x 135 feet wide (2800 square feet)

Figure 59 Gorilla Exhibit - Bachelor Yard

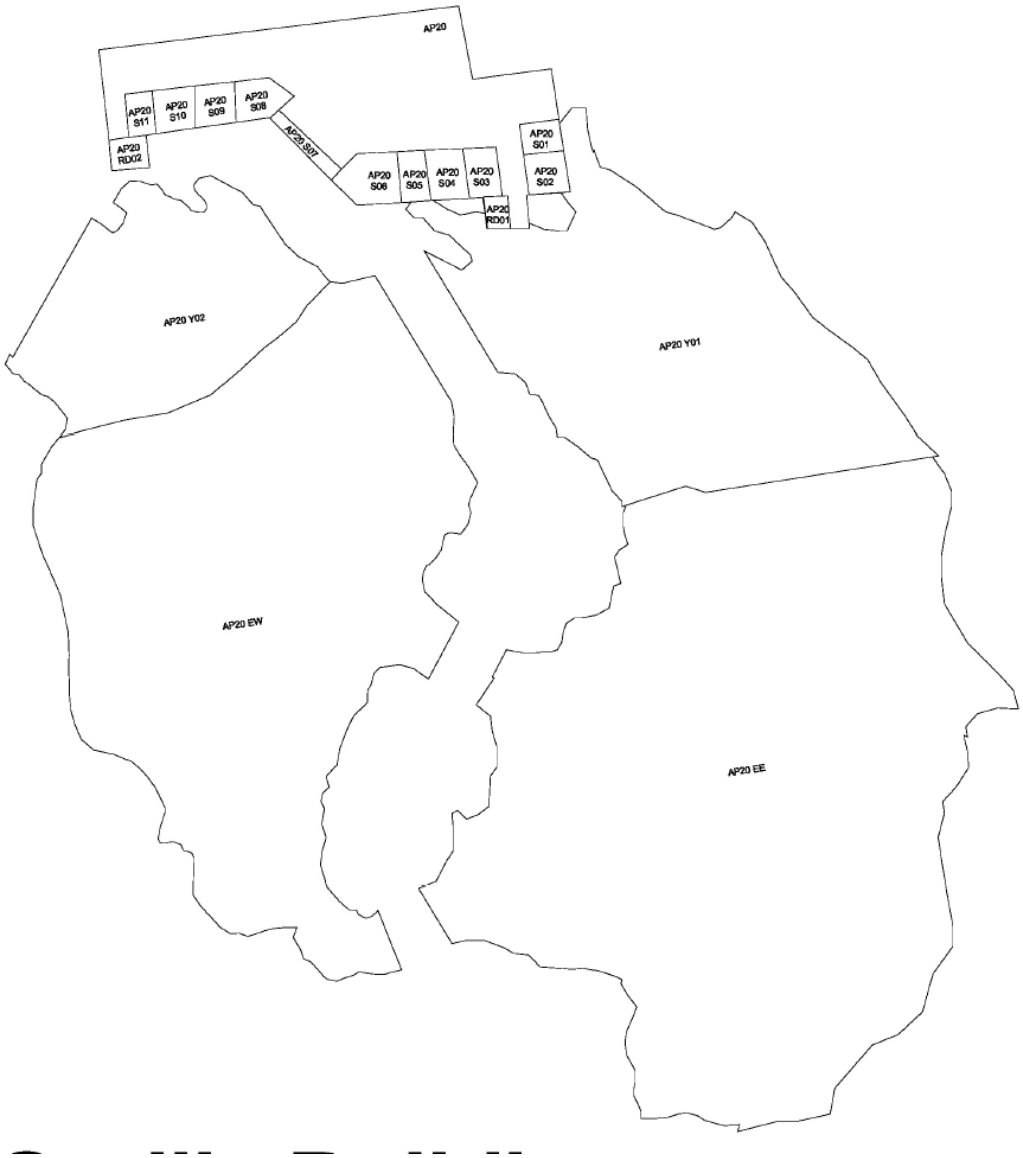

Figure 60 Gorilla Exhibits Diagram

Figure 61 Gorilla Exhibit 1

Figure 62 Gorilla Exhibit 2

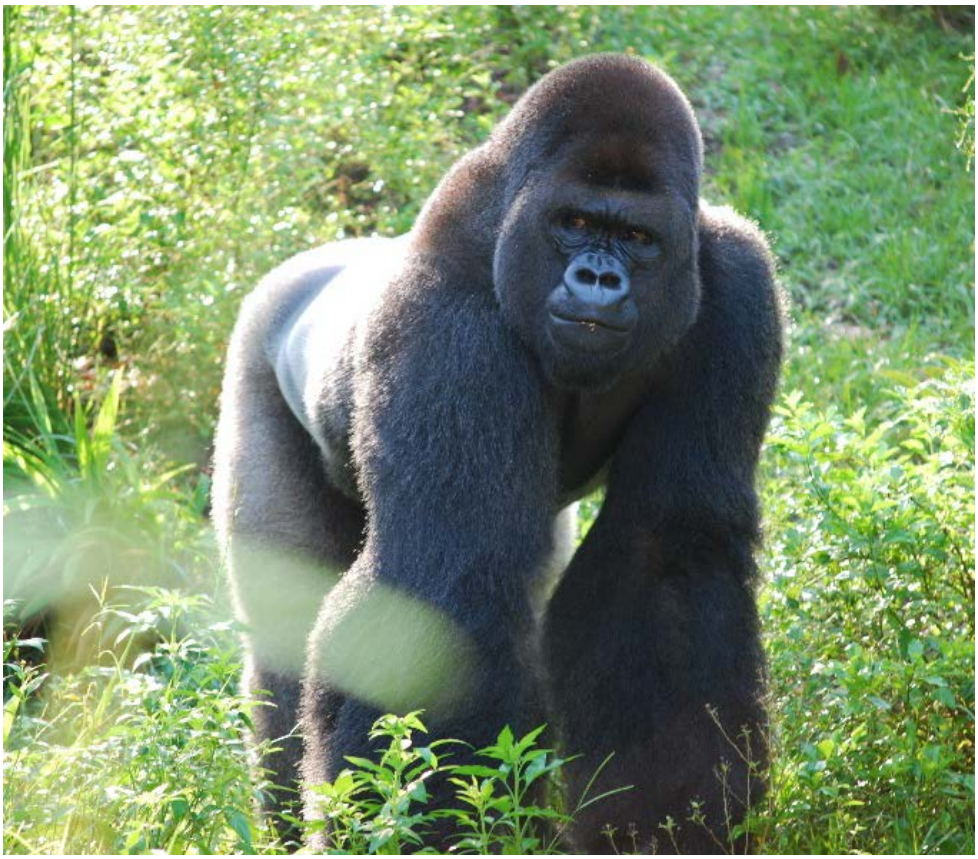

Figure 63 Gorilla Exhibit 3

Cheetah (*Acinonyx jubatus*)

Holding:

The Cheetah building is a concrete block building with a skylight that can be opened or closed depending on the weather. The individual stalls are separated by concrete block and two x two inch welded wire mesh. Each stall is 64 square feet. Yard 1 is approximately 38 square feet, Yard 2 is 70 square feet, Yard 3 is approximately 361 square feet and Yard 4 is approximately 318 square feet. The transfer chute between exhibit and building consists of two x two inch welded wire.

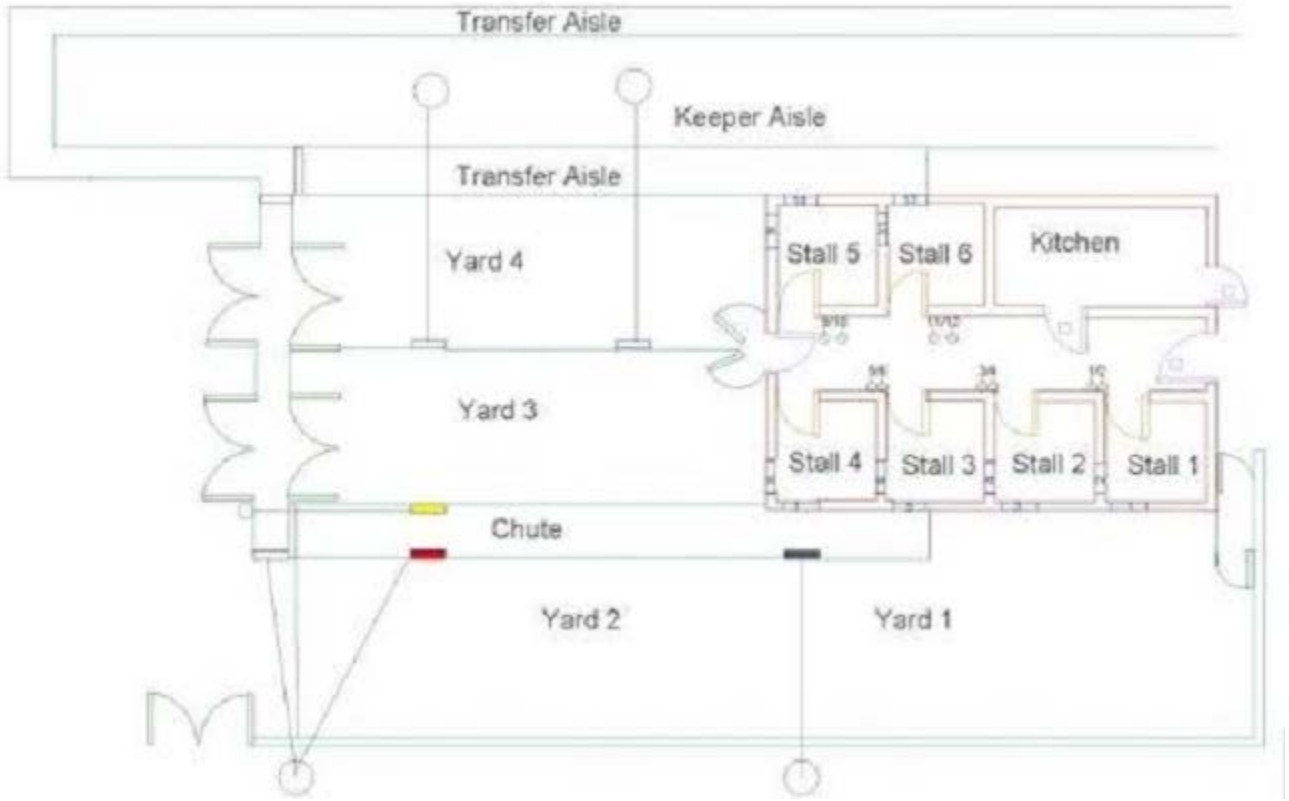

Figure 64 Cheetah Holding Diagram


Cheetah building (inside/outside)

Figure 65 Cheetah Holding 1

Figure 66 Cheetah Holding 2

Exhibit:

Each cheetah group uses an exhibit space of over ¾ acres. The outside exhibit consists of grass, dirt, trees and a den/shelter. In addition to the building they have heated shelter den boxes adjacent to their exhibit space.

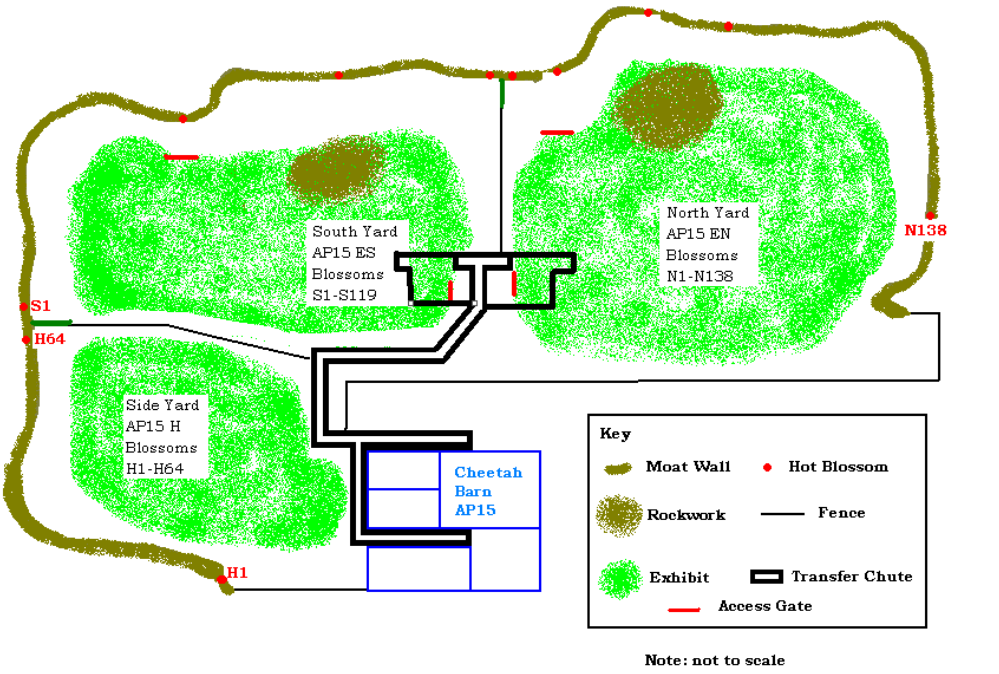

Figure 67 Cheetah Exhibit Diagram

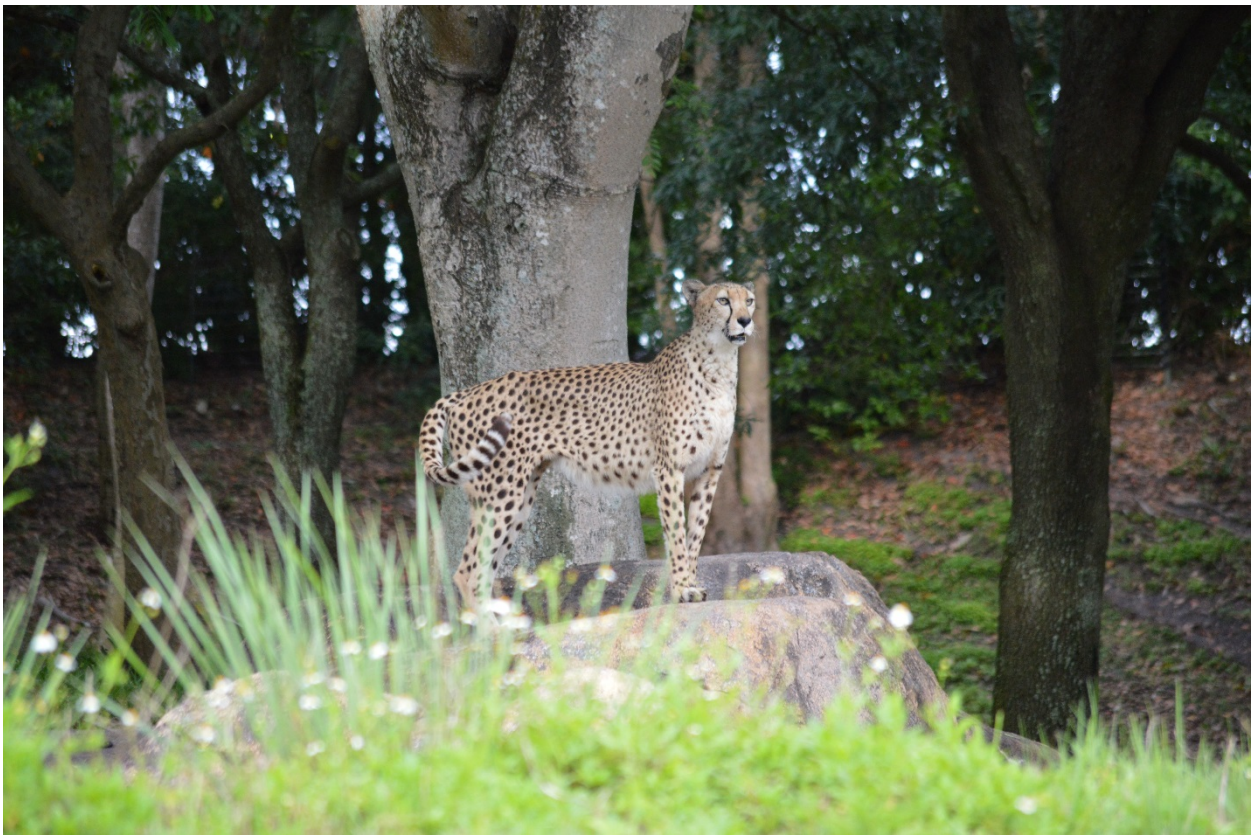

Figure 68 Cheetah Exhibit

Lion (*Panthera leo*)

Holding:

The Lion building is a concrete block building with a skylight roof, that can opened and closed depending on weather. The individual stalls are separated by concrete block and or two x two inch welded wire mesh. The building has heat and fans for temperature control. The lions move from their outside exhibit space to their inside holding area using a two x two inch welded wire transfer chute. Each of the holding stalls is approximately 117 square feet.

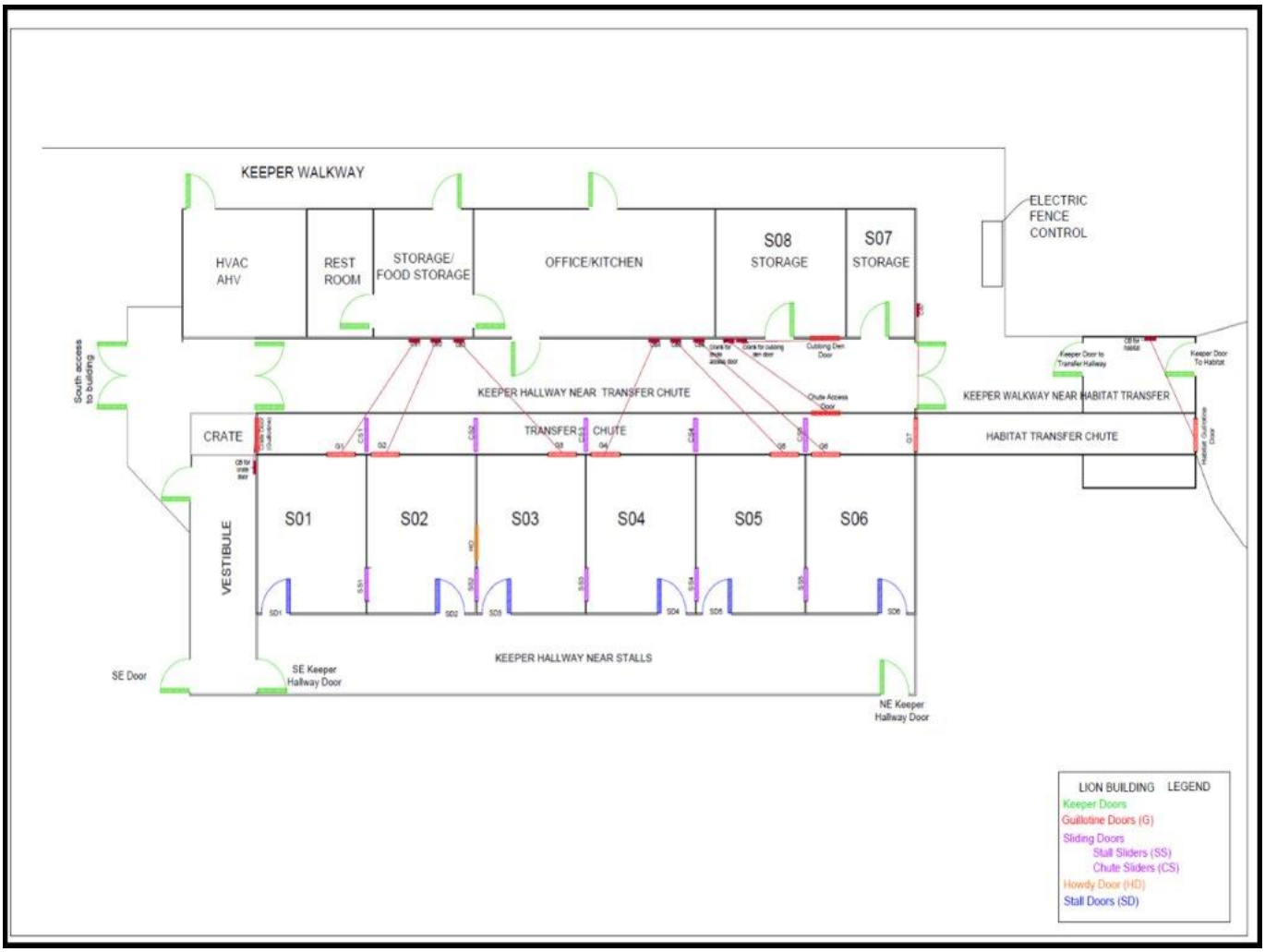

Figure 69 Lion Holding Diagram

Figure 70 Lion Holding 1

Figure 71 Lion Holding 2

Figure 72 Lion Holding 3

Exhibit:

The exhibit space consists of resting rocks, dirt, trees, deadfall and a temperature control resting surface (cool or hot). This exhibit is approximately 8,500 square feet.

Figure 73 Lion Exhibit

Sumatran Tiger (*Panthera tigris sumatrae*)

Holding:

The tiger holding area consists of a series of indoor enclosures and is connected to the outside enclosure with a transfer chute. The indoor enclosures total 936 square feet of animal space. This space consists of 8 conjoined rooms constructed from solid masonry blocks and 2x2 inch 3 gauge steel mesh. All animal shift doors are manually operated, via push bars or cables and counter weights. The rooms are set up with an elevated bench for the tigers to rest on. They also have stainless steel feed chutes for safely delivering food and other small enrichment items. Logs and other moveable objects are secured in the stalls. These are changed frequently and animals are provided with different behavioral enrichment items daily to create complexity in their environment.

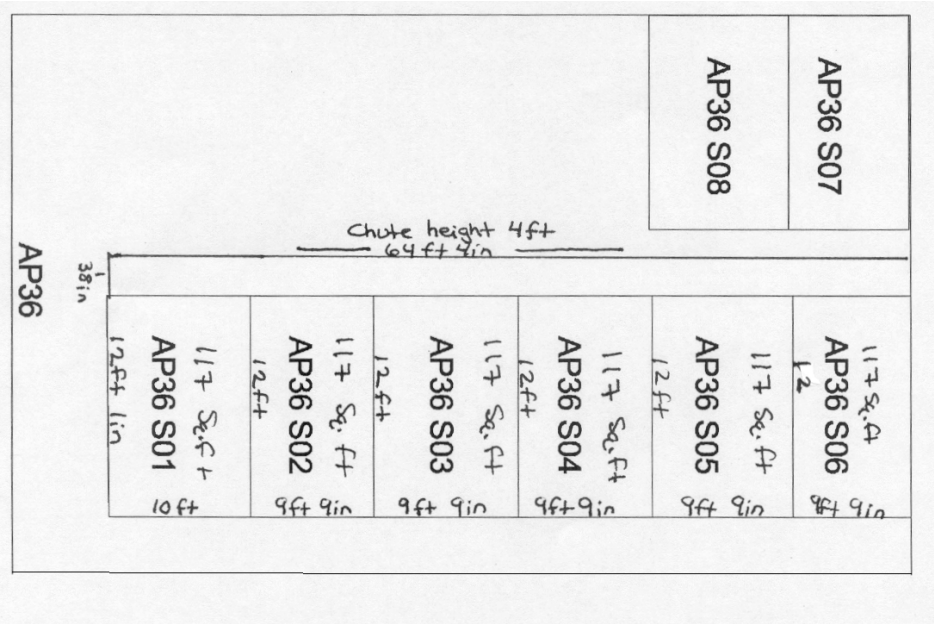

Figure 74 Tiger Holding Diagram

Figure 75 Tiger Holding 1

Figure 76 Tiger Holding 2

Exhibits:

The West Tiger exhibit is 15,300 square feet. The East Tiger exhibit is 10,200 square feet. Both yards consist of trees, shrubs, deadfall logs, and a variety of natural substrate, as well as overhangs to protect the tigers from the elements. Each yard has a large pool and themed flowing water features. Primary containment is a >12 foot tall concrete wall with an overhang. In addition, both exhibits also have viewing windows constructed from 1 ¾ inch thick, 3 ply laminated tempered glass.

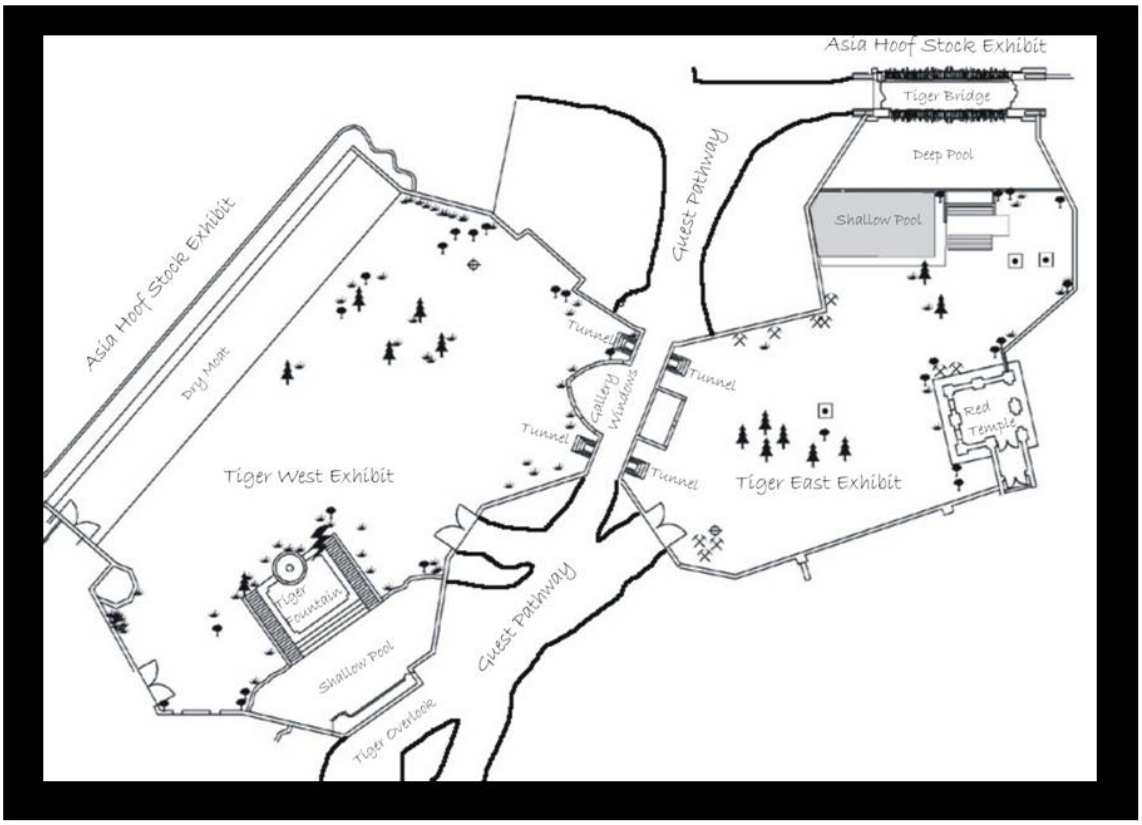

Figure 77 Tiger Exhibits Diagram

Tiger West Exhibit:

Figure 78 Tiger Exhibit – West 1

Figure 79 Tiger Exhibit - West 2

East Tiger Exhibit:

Figure 80 Tiger Exhibit - East

African Hunting Dog (*Lycaon pictus*)

Holding:

The hunting dog building is a concrete block building with concrete floors. The inside stalls are separated with concrete block and two by two inch welded wire. The building has heat and fans for temperature control. The building has two side yards attached outside that are made of chain link fence. The outside yards have dirt substrate. There are five stalls total in the building; three stalls are approximately 100 square feet each and the two remaining stalls are 175 square feet each. One of the outside yards is 437 square feet and the other is 371 square feet. The animals access the outdoor exhibit space from these side yards.

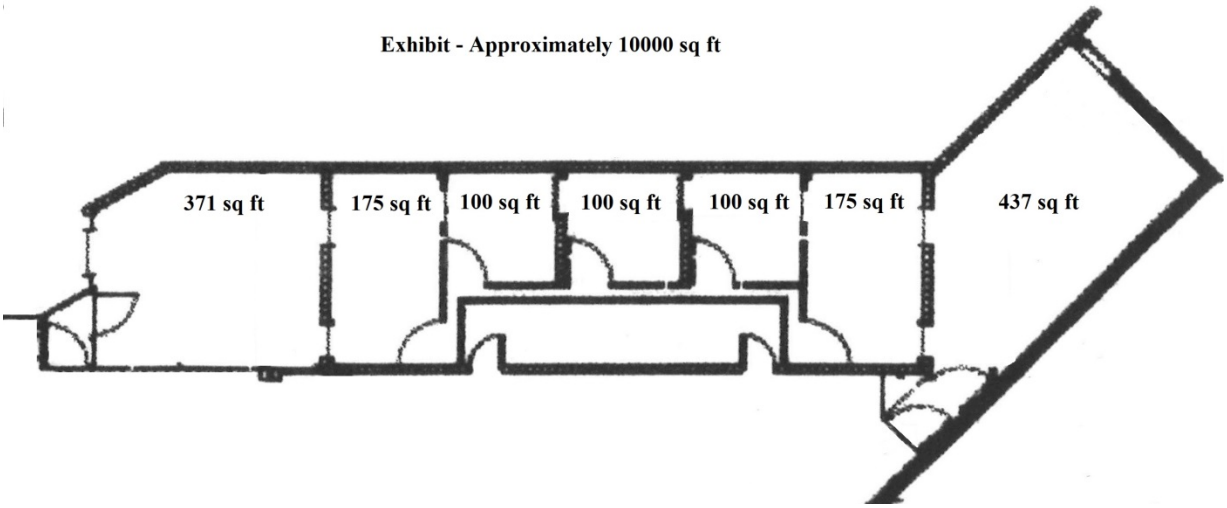

Figure 81 Hunting Dog Holding Diagram

Figure 82 Hunting Dog Holding 1

Figure 83 Hunting Dog Holding 2

Figure 84 Hunting Dog Holding 3

Exhibit:

The Hunting dog exhibit is approximately 10,000sq ft. The outside yard has dirt, grass, trees as well as a wading pool and heated den space.

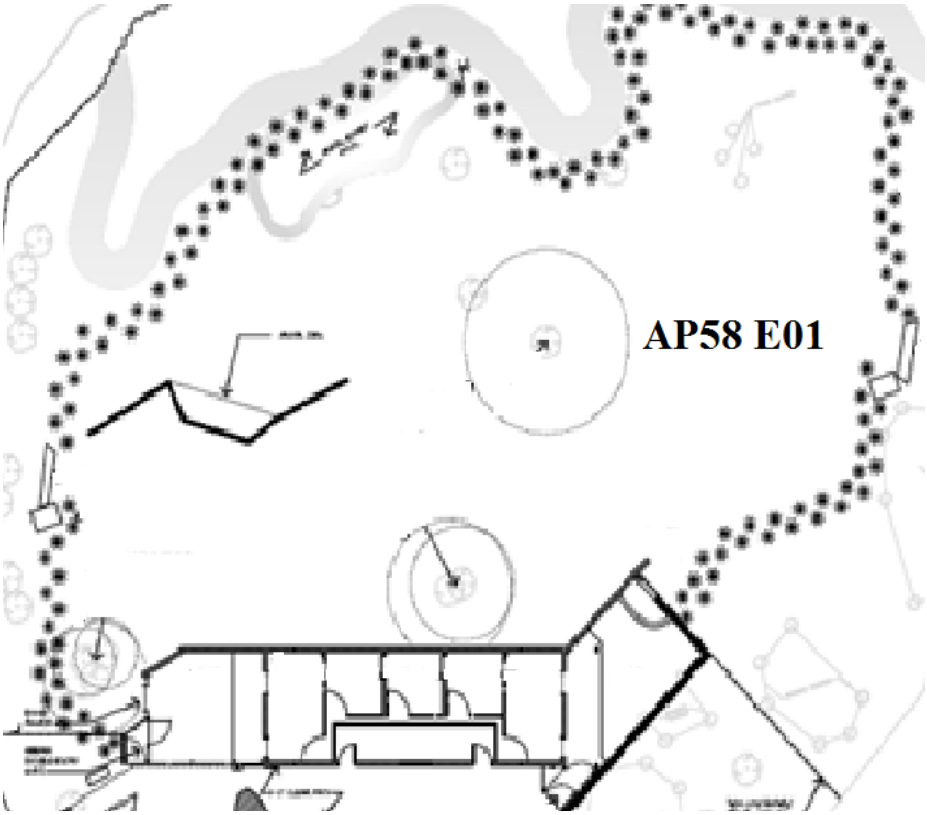

Figure 85 Hunting Dog Exhibit Diagram

Figure 86 Hunting Dog Exhibit 1

Figure 87 Hunting Dog Exhibit 2

Grevy's Zebra (*Equus grevyi*) and Scimitar-horned Oryx (*Oryx dammah*)

At Disney's Animal Kingdom

Holding:

The finale barn is currently used for Grevy's Zebra and Scimitar-horned Oryx. It is constructed of wood and chain link with concrete and dirt flooring. It is a covered open-air barn with a metal roof. There are fans and heaters for temperature control in the covered spaces. Each of the holding stalls are 660 square feet. There are three holding yards: one is 2165 square feet, one is 1606 square feet and the last is 1980 square feet.

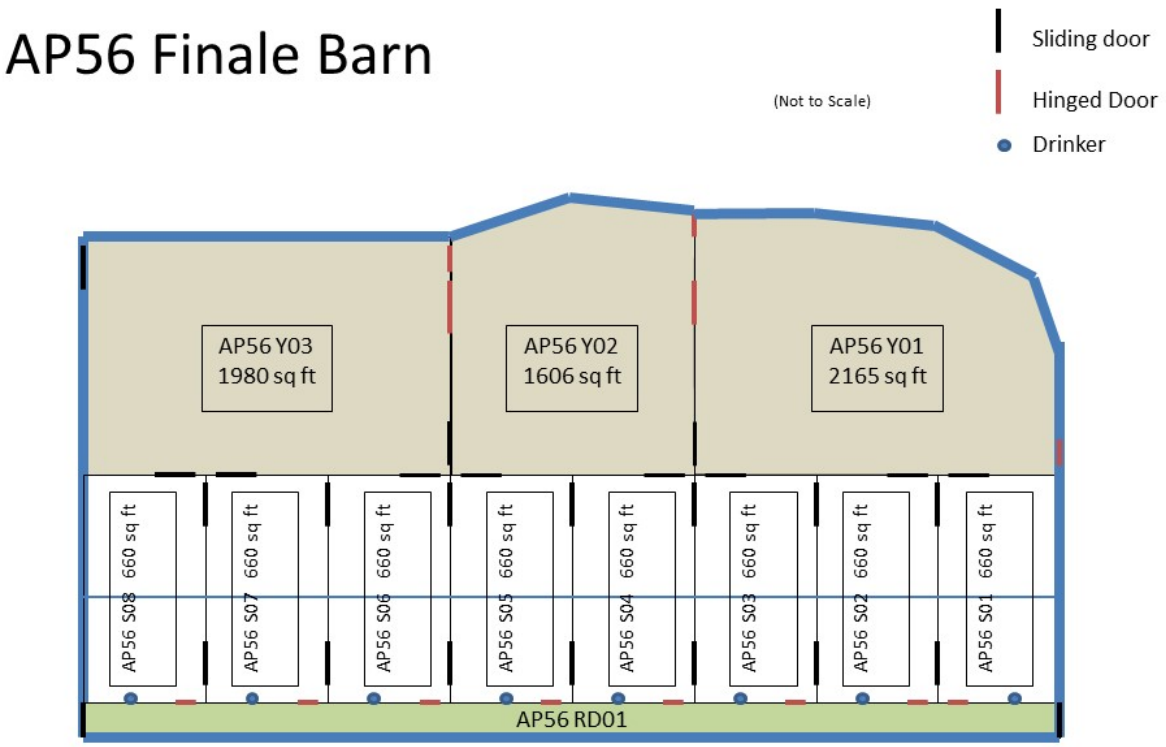

Figure 88 Zebra/Oryx Holding Diagram

Figure 89 Zebra/Oryx Holding 1

Figure 90 Zebra/Oryx Holding 2

Figure 91 Zebra/Oryx Holding 3

Exhibit:

The exhibit that the Grevy's Zebra go into is approximately 3 acres. The exhibit the oryx use is approximately 1 acre. Both exhibits consist of grass, dirt, trees and deadfall.

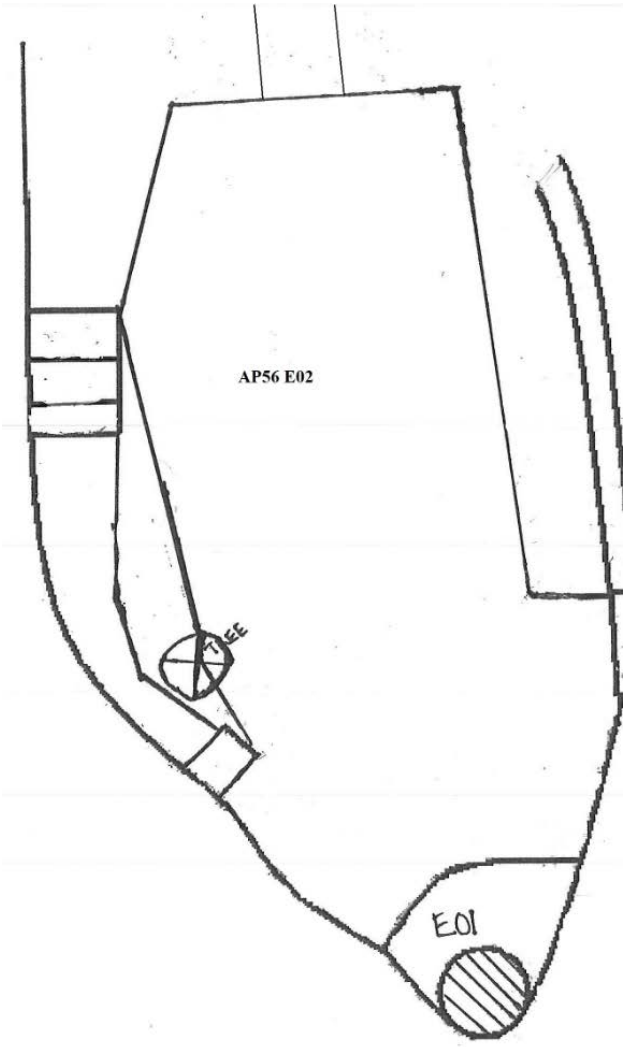

Figure 92 Grevy's Zebra Exhibit Diagram

Figure 93 Grevy's Zebra Exhibit

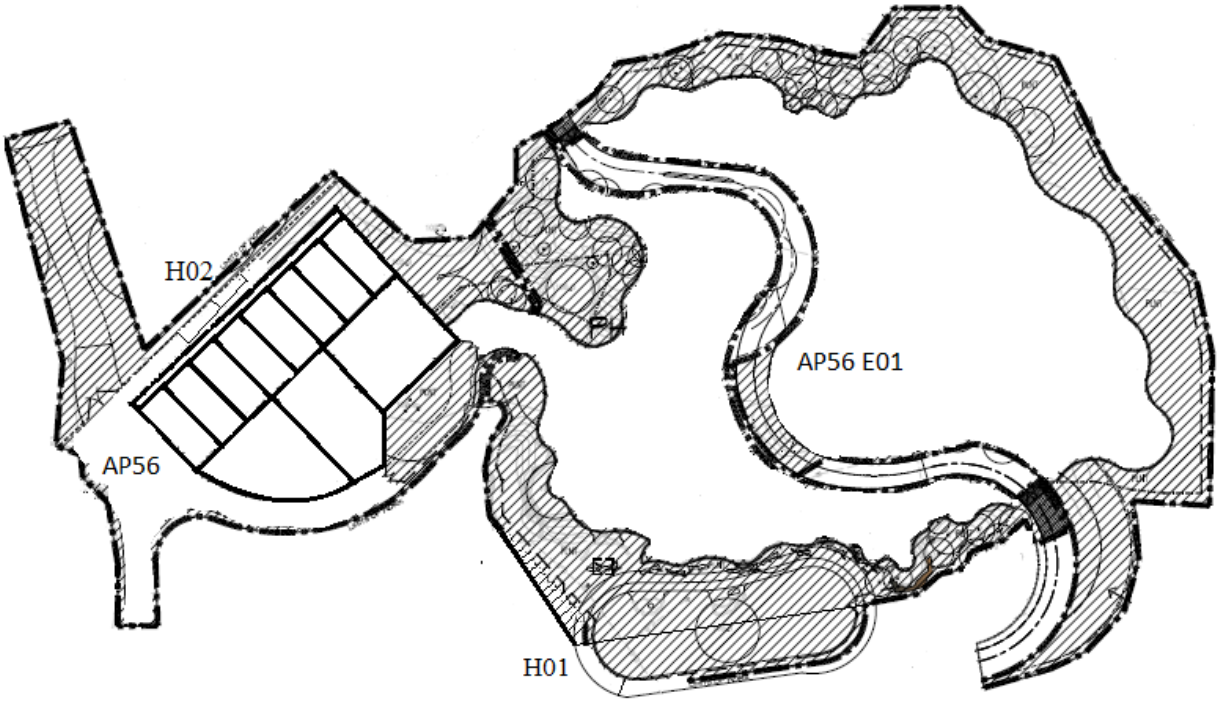

Figure 94 Oryx Exhibit Diagram

Figure 95 Oryx Exhibit

Hartmann’s Mountain Zebra (*Equus zebra hartmannae*)

Holding:

The Hartmann’s Mountain Zebra holding consists of three yards Y07 (711 square feet), Y08 (588 square feet) and Y09 (735 square feet) and indoor stalls. The stalls are wood with steel frames or 9 gauge chain link fence. Each yard or stall has shade structures or roofs available. This barn also has heaters and fans available for temperature control.

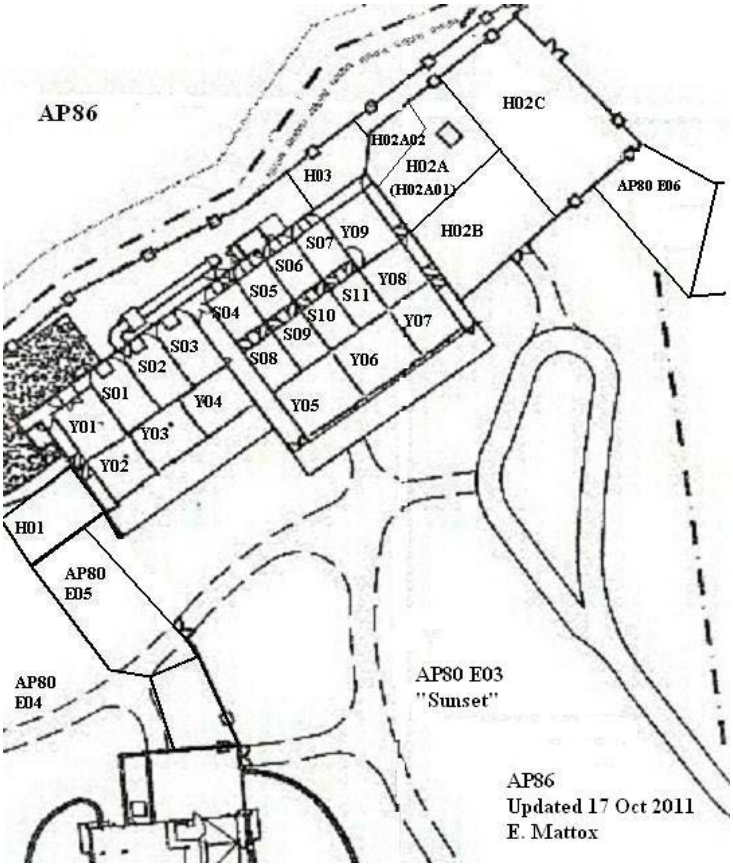

Figure 96 Hartmann's Mountain Zebra Holding Diagram

Figure 97 Hartmann's Mountain Zebra Holding 1

Figure 98 Hartmann's Mountain Zebra Holding 2

Exhibit:

These animals are currently exhibited at the Disney's Animal Kingdom Lodge on the "Sunset" and "Pembe" Savannas. These mixed-species exhibits have many trees and plantings for shelter from the elements. The Sunset Savanna is approximately 18 acres and the Pembe Savannah is approximately 2.5 acres.

Sunset Savanna

Figure 99 Hartmann's Mountain Zebra Exhibit Sunset

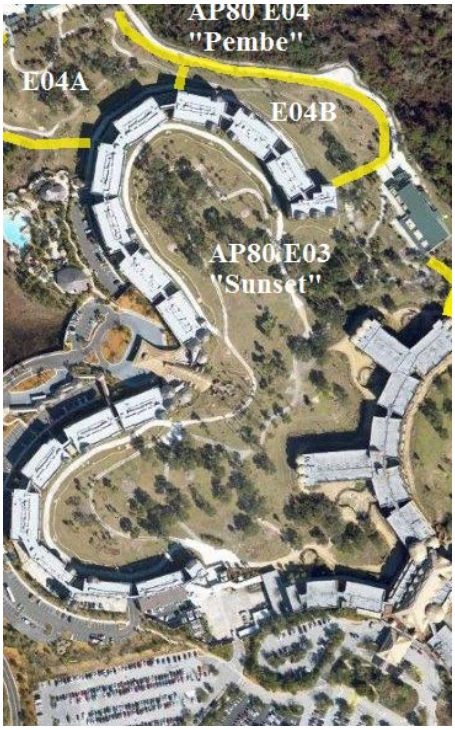

Figure 100 Hartmann's Mountain Zebra Exhibit Diagram Sunset

Pembe Savanna

Figure 101 Hartmann's Mountain Zebra Exhibit Pembe

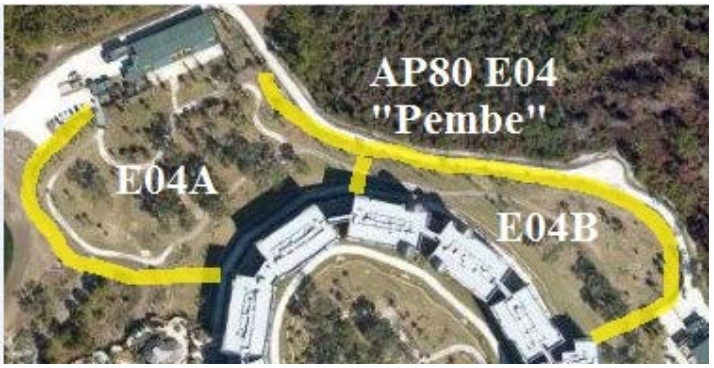

Figure 102 Hartmann's Mountain Zebra Exhibit Diagram Pembe

Somali Wild Ass (*Equus africanus somaliensis*)

Holding:

These animals are currently housed at North Savannah. North Savannah consists of 2 barns that are made of concrete block and wood. The flooring is concrete, soil cement, or grass/dirt. These barns have fans and heaters for temperature regulation. All the pens and barns are connected with gates and sliders that allow the space to be expanded and contracted depending on use and need of the animal.

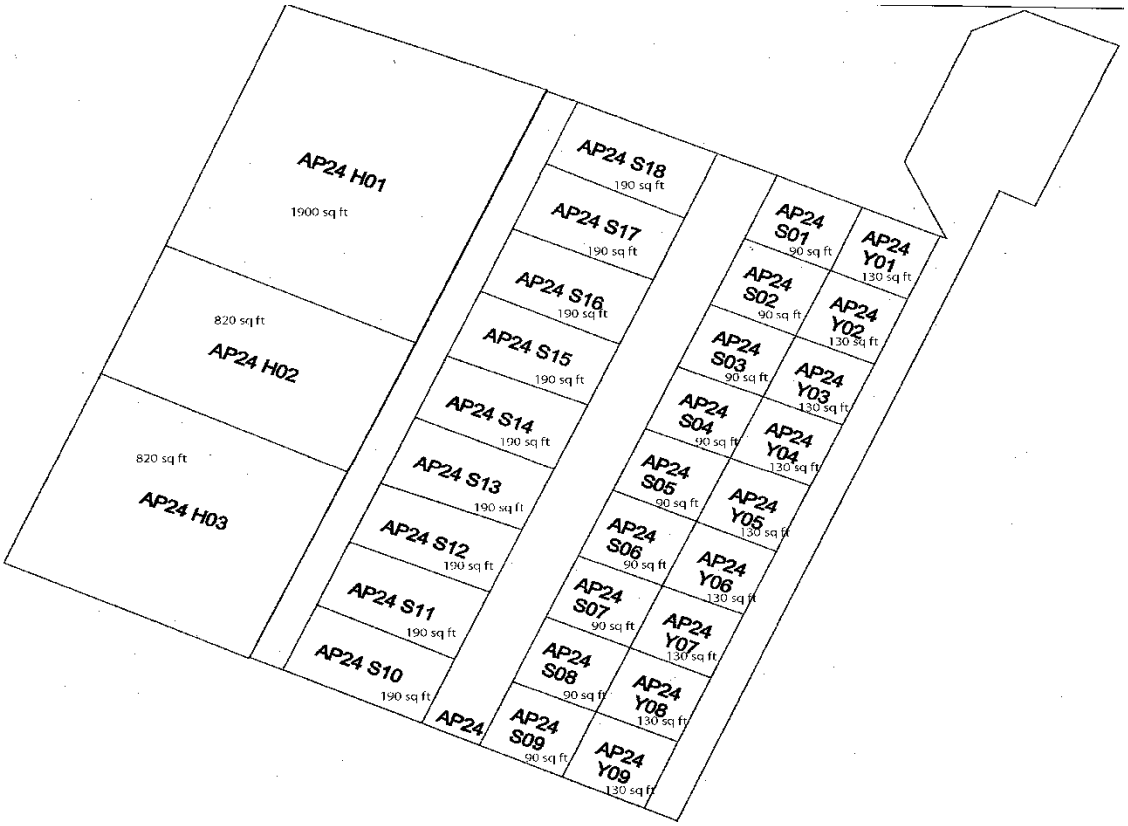

Figure 103 Somali Wild Ass Holding Diagram 1

This barn has nine small stalls, each 90 square feet, with adjacent 130 square foot yards. There are also nine large stalls, each 190 square feet which have access to holding yards outside. There are two 820 square foot holding yards and one 1900 square foot yard.

Figure 104 Somali Wild Ass Holding Diagram 2

This barn has three 550 square foot stalls. The smaller yards are approximately 1000 square feet total and the large yard is 1500 square feet.

Exhibit:

The outside exhibit area is 15 acres divided into several different sections. The outside exhibit area has a shelter consisting of a structure with a metal roof.

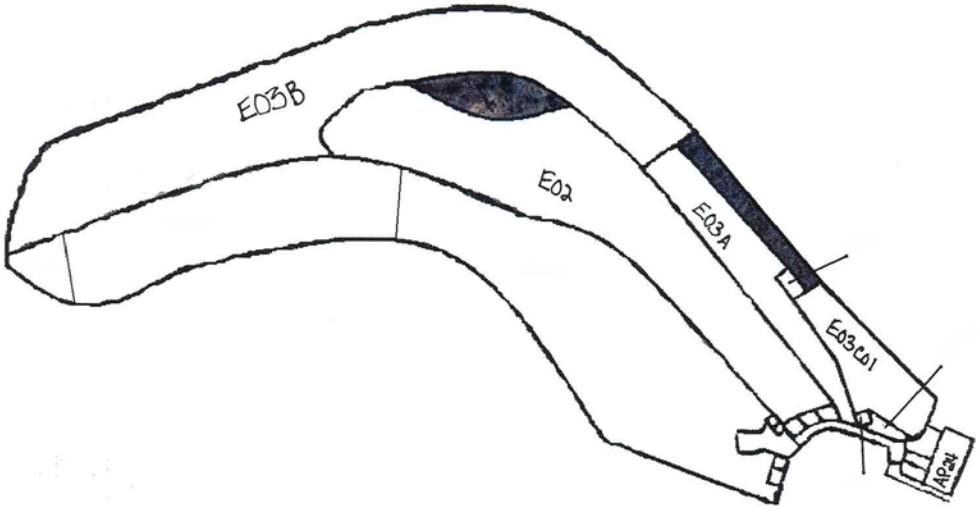

Figure 105 Somali Wild Ass Exhibit Diagram

Figure 106 Somali Wild Ass Exhibit 1

Figure 107 Somali Wild Ass Exhibit 2

Shelter area in North Savannah exhibits.

Southern White Rhinoceros (*Ceratotherium simum simum*)

Holding:

The rhinos are housing in Building 16 which is a concrete block building. It has concrete floors and metal bollards. The yards consist of metal bollards and dirt/clay mixture paddocks. This building has fans and heaters for temperature control. Each of the stalls is 353 square feet and there are two outdoor holding yards; one is 1191 square feet and the other is 1400 square feet. Each stall and yard also have drinkers.

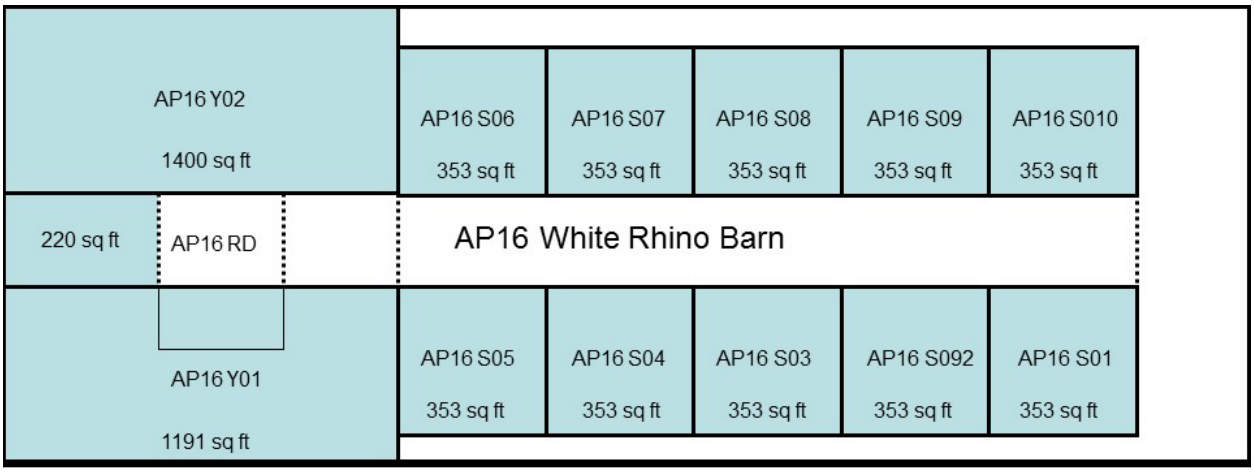

Figure 108 Rhinoceros Holding Diagram

Figure 109 White Rhinoceros Holding 1

Figure 110 White Rhinoceros Holding 2

Exhibit:

The white rhino's exhibit is a mixed species savannah that is approximately 11 acres. It consists of dirt, rocks, clay, grass, trees and deadfall.

Figure 111 White Rhinoceros Exhibit 1

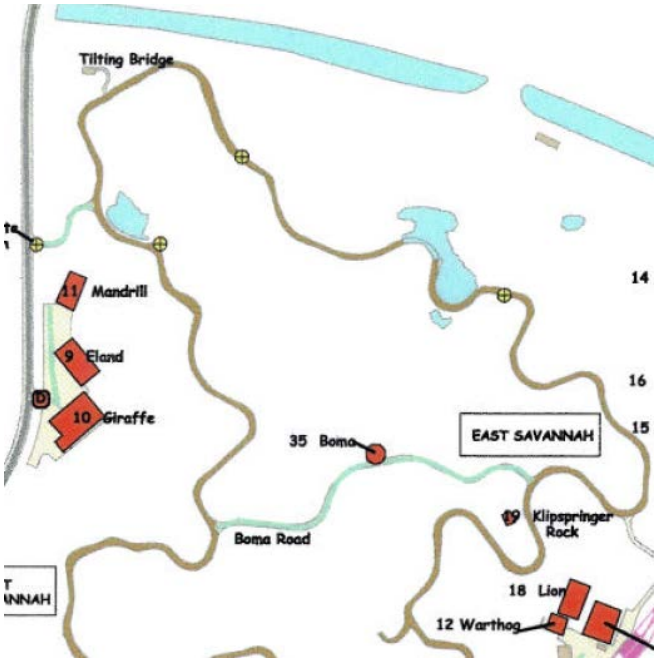

Figure 112 White Rhinoceros Exhibit Diagram

Figure 113 White Rhinoceros Exhibit 2

Black Rhinoceros (*Diceros bicornis ssp.*)

Holding:

The Black rhino holding area consists of an indoor enclosure with adjoining outside holding yards and three connected outside exhibits. The indoor enclosure consists of six stalls (1-6 below) measuring approximately 379 square feet each. The six stalls and two outside holding yards (East and West) are interconnected with hydraulically operated shift doors. Each stall has a large drinker in one corner. The interior facility is constructed of concrete floors, concrete walls between stalls and 8 inch steel bollards on the perimeter of each stall.

1 379 sq'	2 379 sq'	3 379 sq'	East holding yard 742 sq'
Center Hall			Scale
6 379 sq'	5 379 sq'	4 379 sq'	West holding yard 896 sq'

Figure 114 Black Rhinoceros Holding Diagram

Figure 115 Black Rhinoceros Holding 1

Figure 116 Black Rhinoceros Holding 2

The two outside yards are 742 square feet (East yard) and 896 square feet (West Yard). These yards of constructed of dirt floors surrounded by concrete aprons. 8 inch square steel tubing make up the perimeter containment. Two-thirds of each outside holding area is covered by the barn roof structure.

Figure 117 Black Rhinoceros Holding 3

Exhibit:

The outdoor exhibits consist of three yards (Yards 1, 2, 3). Yards 1 and 2 (outlined in black) border a moat (blue section): yard 3 (outlined in blue) does not. Perimeter containment includes a concrete wall exceeding 8 feet in height, 8 inch steel bollards, and chain link fence.

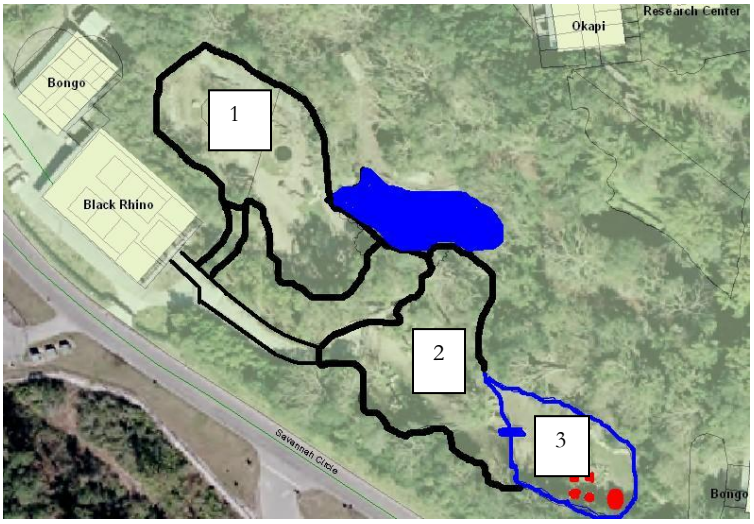

Figure 118 Black Rhinoceros Exhibit Diagram

Approximate sizes of outdoor exhibit yards:

Yard 1 – approximately 1 ½ acres

Yard 2 – approximately 1 acre

Yard 3 – approximately ½ acre

Yard 1

Figure 119 Black Rhinoceros Y1 1

Figure 120 Black Rhinoceros Y1 2

Yard 2

Figure 121 Black Rhinoceros Y2 1

Figure 122 Black Rhinoceros Y2 2

Yard 3

Figure 123 Black Rhinoceros Y3

Bontebok (*Damaliscus pygargus pygargus*) and Addax (*Addax nasomaculatus*)

At Disney's Animal Kingdom

Holding:

The Bontebok and Addax building at Disney's Animal Kingdom is constructed of concrete block and wood. There are dividing sliders between each section. The flooring consists of Mondo, concrete, soil cement and soil. Each stall has a different flooring and animals are shifted into the proper area depending on each animal's need. Each of the holding stalls are 154 square feet. There are nine semi-covered yards ranging from 62.5 square feet to 770 square feet and one holding yard adjacent to the building that is 1166 square feet.

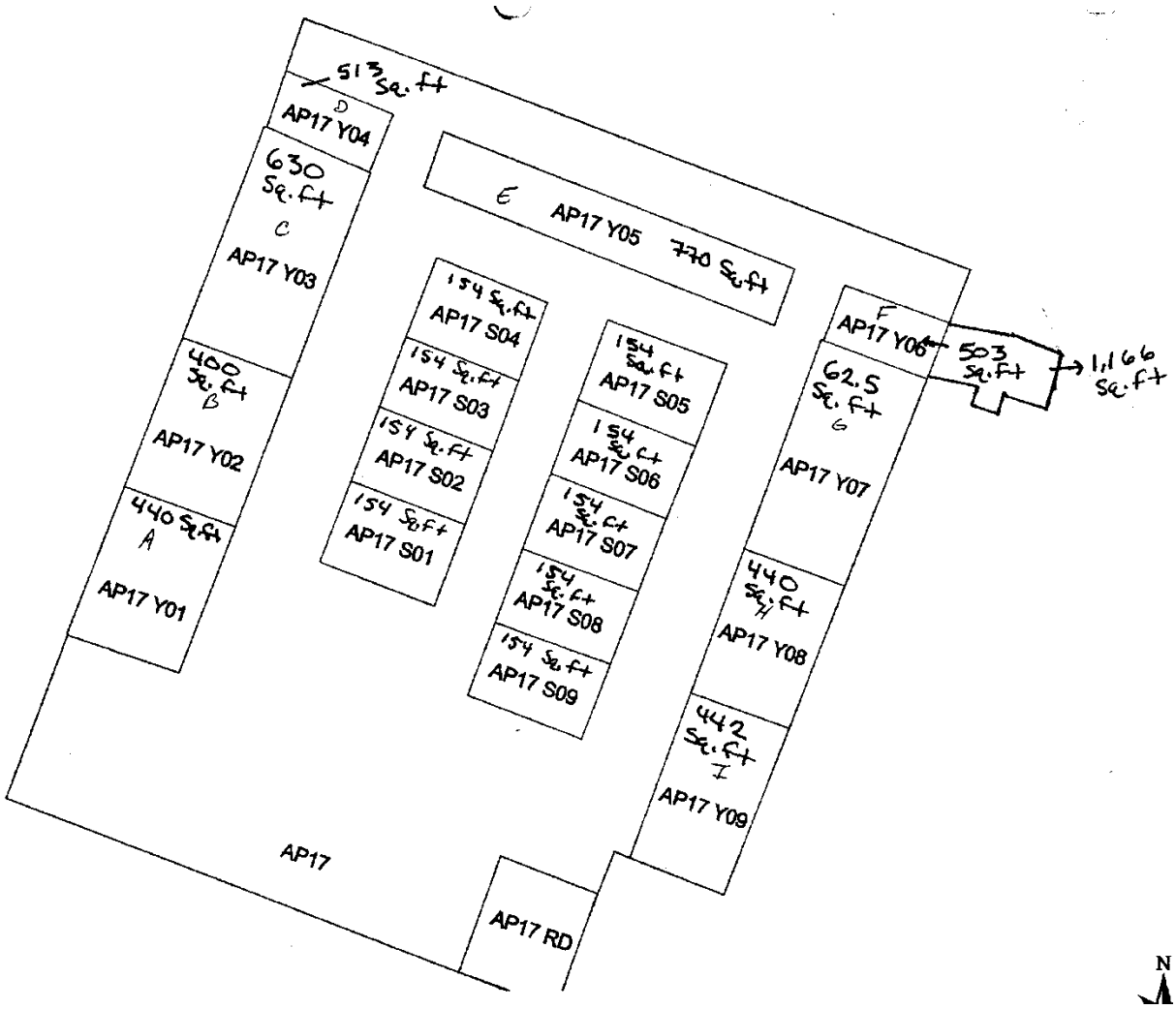

Figure 124 Bontebok/Addax Holding Diagram

Figure 125 Bontebok/Addax Holding 1

Figure 126 Bontebok/Addax Holding 2

Exhibit:

They live in a mixed species savannah that is approximately 11 acres. It consists of dirt, rocks, clay, grass, trees and deadfall. We refer to this savannah as “East Savannah”.

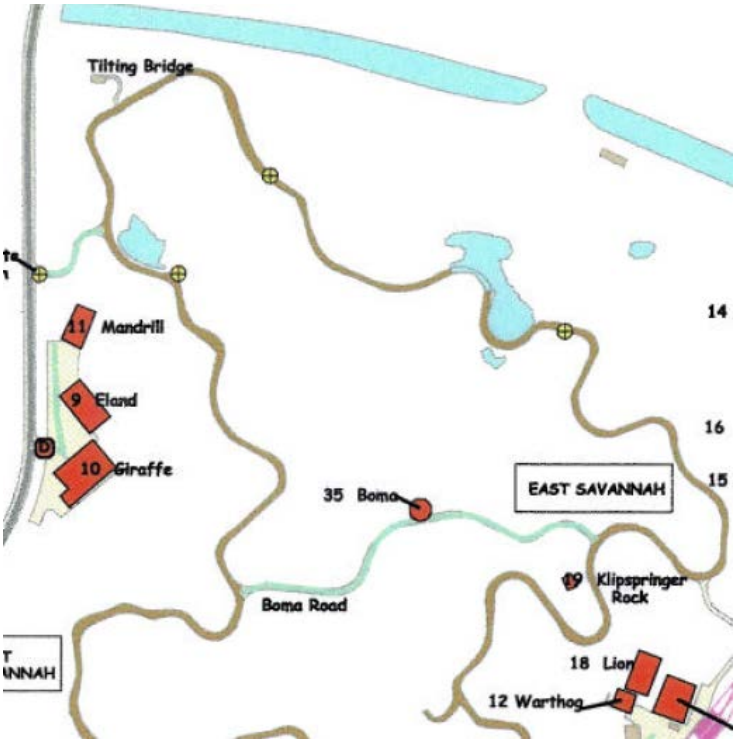

Figure 127 Bontebok/Addax Exhibit Diagram

Figure 128 Bontebok/Addax Exhibit 1

Figure 129 Bontebok/Addax Exhibt 2

Addax (*Addax nasomaculatus*)

At Disney's Animal Kingdom Lodge

Holding:

The Addax are also held at Disney's Animal Kingdom Lodge in an open-air barn in Yards 1 (1,063 square feet), 2 (1,265 square feet), and 3 (1,063 square feet). These yards are enclosed by 9 gauge chain link fencing with metal roofing.

Figure 130 Addax Holding 1

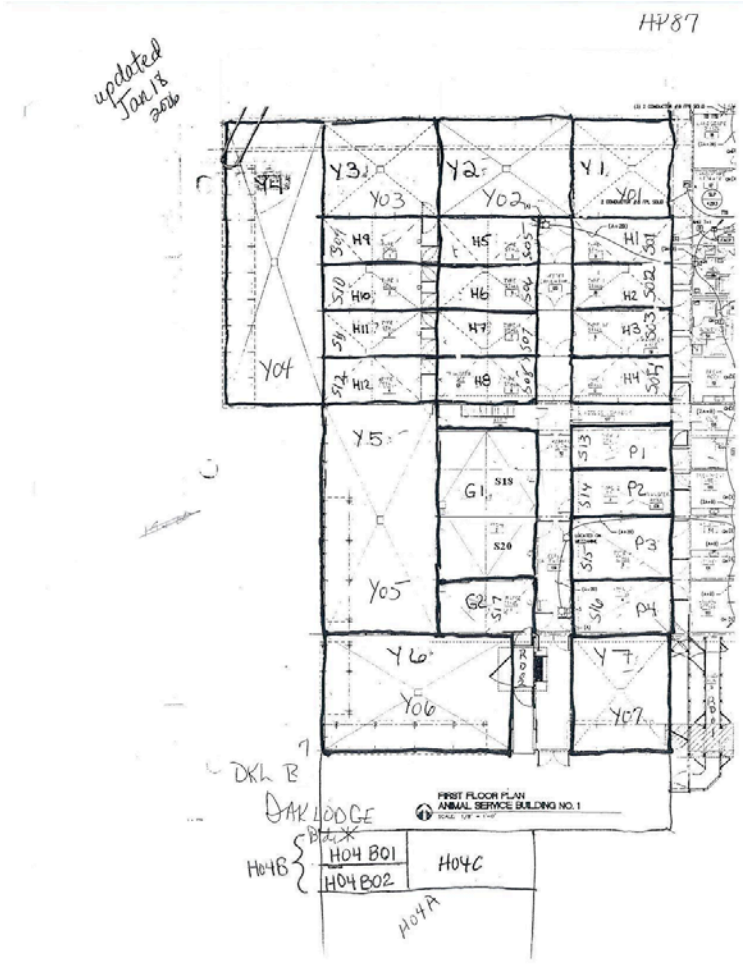

Figure 131 Addax Holding Diagram

Exhibit:

The Addax are exhibited at the Lodge in a mixed-species exhibit referred to as “Uzima” Savanna. This exhibit is approximately 10 acres. The exhibit has many trees and plantings for shelter from the elements.

Figure 132 Addax Exhibit

Figure 133 Addax Exhibit Diagram

North Sulawesi Babirusa (*Babyrousa celebensis*)

Holding:

The babirusa are held in a cinder block building. This building has a steel roof and two air conditioning units. There are three holding stalls with sliding barn doors giving access to each stall and to the outside runway that leads into the exhibit. The stalls are concrete up to four feet in height and continue from there up as 8 gauge 2 inch x 2 inch woven wire mesh. Two of the stalls are 12 feet x 12 feet and the third stall is 12 feet by 24 feet.

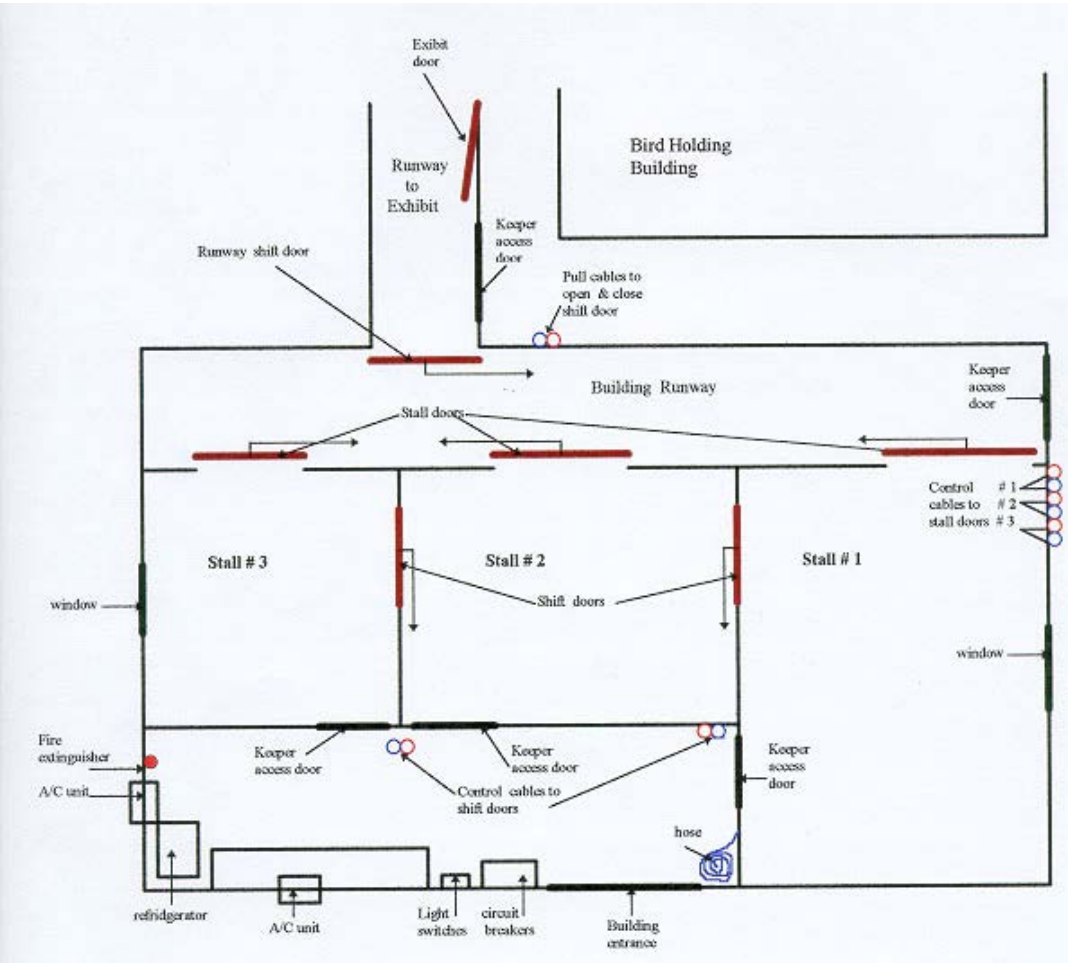

Figure 134 Babirusa Holding Diagram

Figure 135 Babirusa Holding

Exhibit:

The babirusa exhibit is a three-tiered soil exhibit on an incline with trees, plantings and a water feature flowing through the exhibit. The exhibit space is approximately 60 feet long x 52 feet wide. The perimeter of the exhibit is made of formed gunite walls six feet in height.

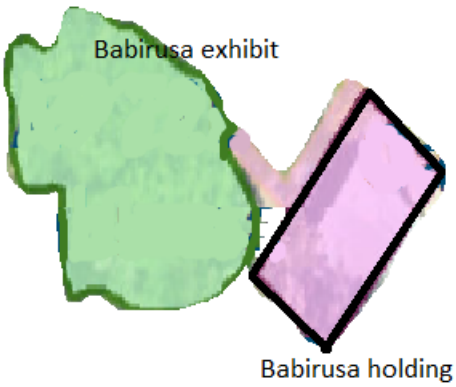

Figure 136 Babirusa Exhibit Diagram

Figure 137 Babirusa Exhibit

Burmese Brow-antlered Deer (*Rucervus eldii thamin*)

Holding:

The Burmese brow-antlered deer barn is set behind the exhibit and has multiple stalls for the animals to use. The barn is a covered panel barn that is made of wafer aluminum/wood panels and welded onto a 4 inch square tubing framework structure. There are Nelson drinkers in each stall and half of the barn has Mondo floor padding. They can be separated into single stalls as needed but rarely need this unless for medical procedures.

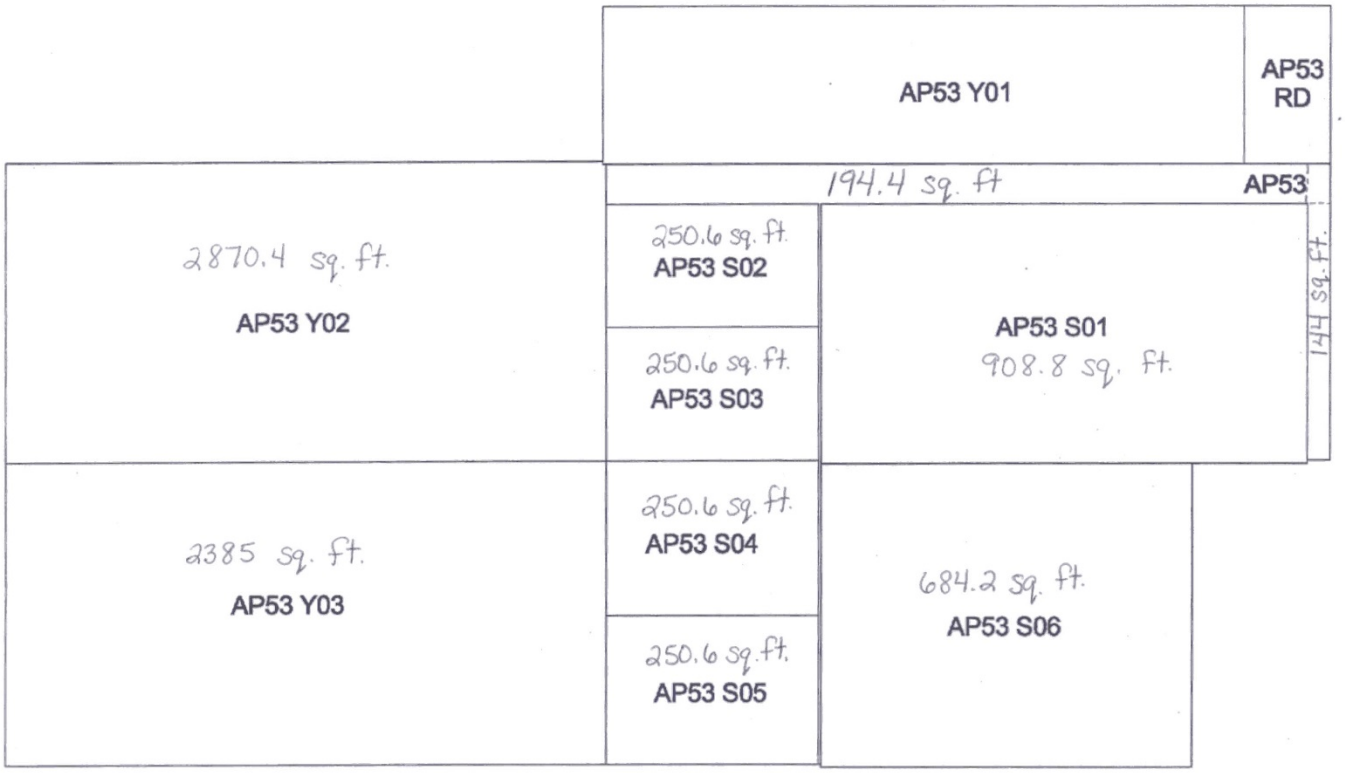

Figure 138 Deer Holding Diagram

Figure 139 Deer Holding 1

Figure 140 Deer Holding 2

Figure 141 Deer Holding 3

Exhibit:

The Burmese brow-antlered deer live in the Asia area of Disney's Animal Kingdom and are exhibited in the Asia yard. The exhibit is approximately 480 feet x 200 feet at its deepest area. The area has a mixture of chain-link fencing with a turn back, concrete walls and railings for containment. There is a hill in the middle of the exhibit that helps hide the holding barn from the Guest view. There is a large pool and three drinkers in the yard, as well as two hay pad feeding areas. The area is covered with a variety of grasses and trees are dispersed throughout the exhibit.

Figure 142 Deer Exhibit

Scimitar-horned Oryx (*Oryx dammah*)

At Disney's Animal Kingdom Lodge

Holding:

The Scimitar-horned oryx are also held at Disney's Animal Kingdom Lodge in two separate open-air barns. One barn (86) has block walls on the exterior, chain link fences, wood with steel frames separating stalls and a metal roof. The yard the animals are held in (Y04) is 400 square feet. The other barn's (87) holding area (H11) is made from 9 gauge chain link with a metal roof for shelter and is 420 square feet. These barns have heaters and fans available for temperature control.

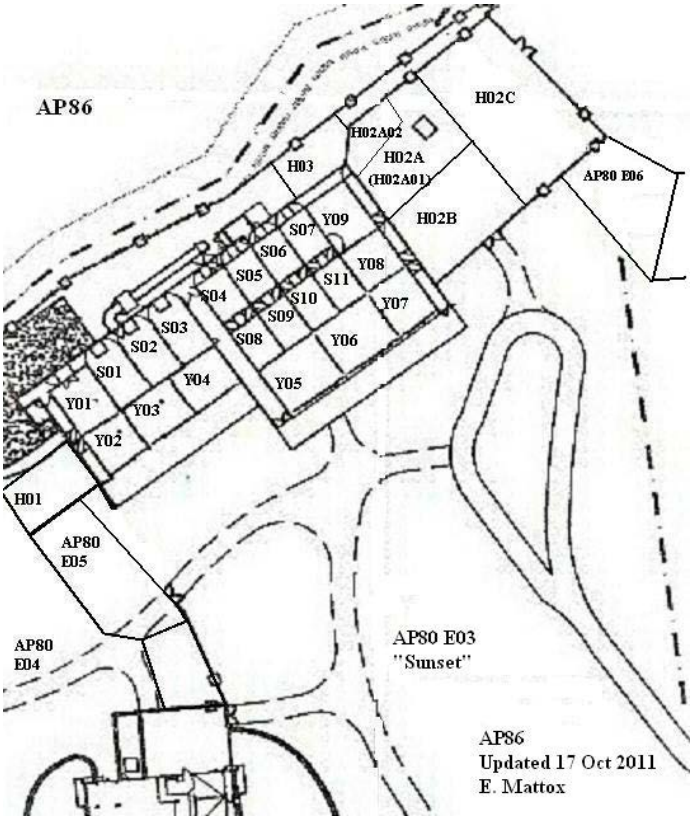

Figure 143 Oryx Holding Diagram - 86

Figure 144 Oryx Holding - 86

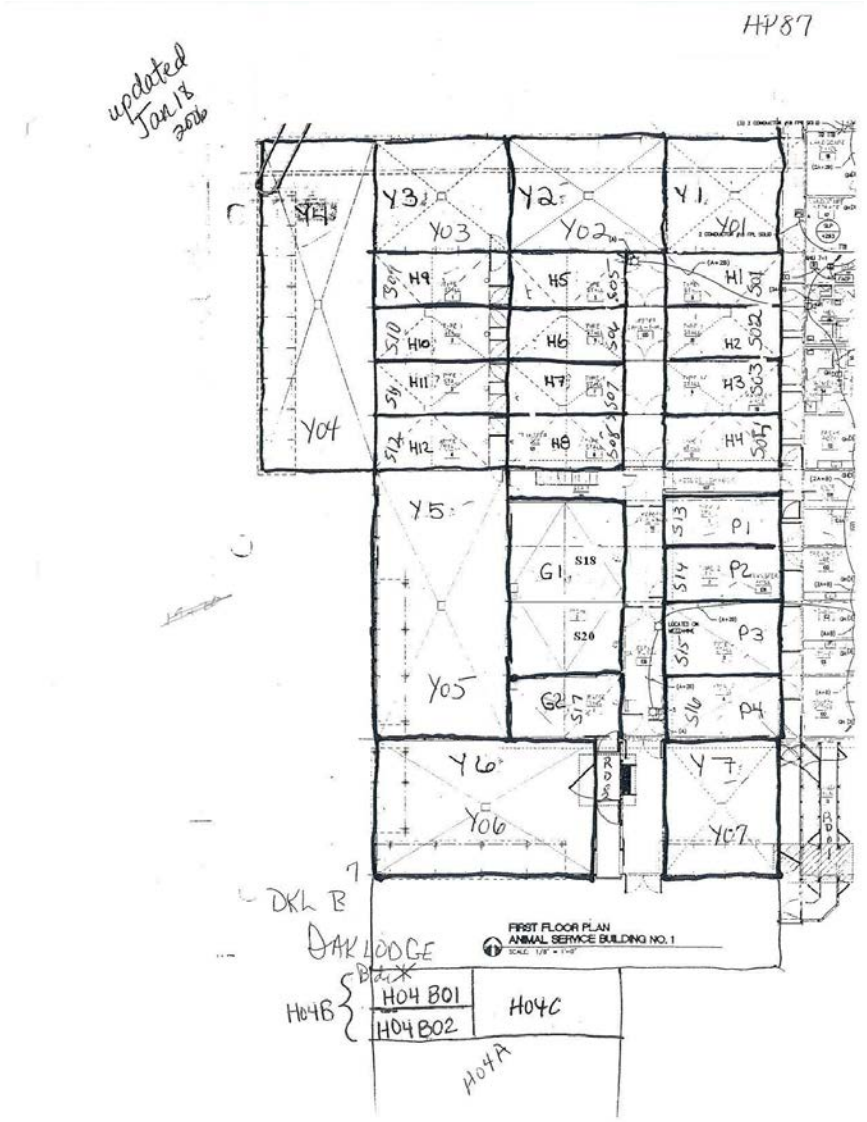

Figure 145 Oryx Holding Diagram - 87

Figure 146 Oryx Holding - 87

Exhibit:

The Oryx are exhibited at the Lodge in two mixed-species exhibits referred to as “Sunset” and “Uzima” Savannas. Sunset Savanna is approximately 18 acres and Uzima Savanna is approximately 10 acres. These exhibits have many trees and plantings for shelter from the elements.

Figure 147 Oryx Exhibit Diagram

Figure 148 Oryx Exhibit - Sunset

Figure 149 Oryx Exhibit - Uzima

Red Lechwe (*Kobus leche leche*)

Holding:

The Red Lechwe are housed at Disney's Animal Kingdom Lodge in two holding pens and a yard at Barn 85: H03 (approximately 1,000 square feet), H05 (1,500 square feet) and Y02 (718 square feet). The holding pens and the yard are contained with 9 gauge chain link and also have metal shelters available. These areas can also have heating elements or fans added to control temperature.

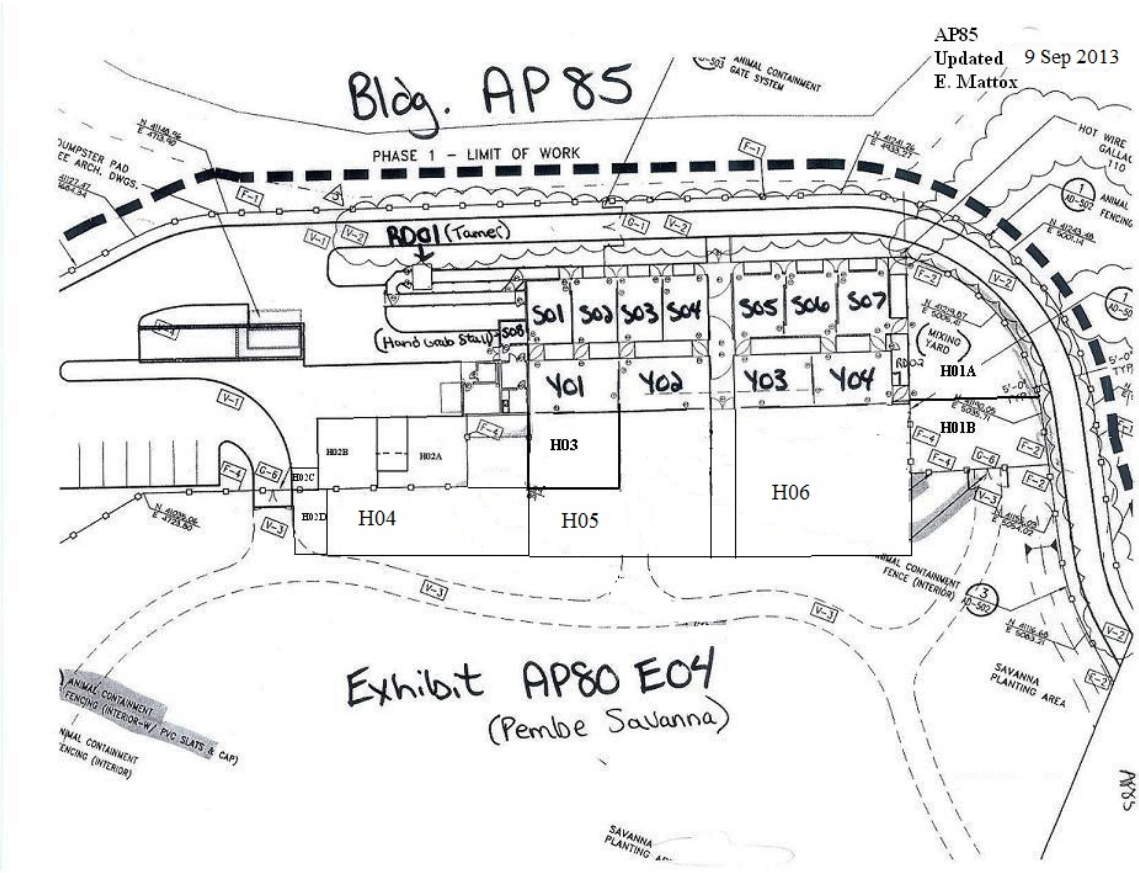

Figure 150 Lechwe Holding Diagram

Figure 151 Lechwe Holding 1

Figure 152 Lechwe Holding 2

Exhibit:

The Lechwe are exhibited at the Lodge in a mixed-species exhibit referred to as “Pembe” Savanna. Pembe Savanna is approximately 3.5 acres. This exhibit has many trees and plantings for shelter from the elements.

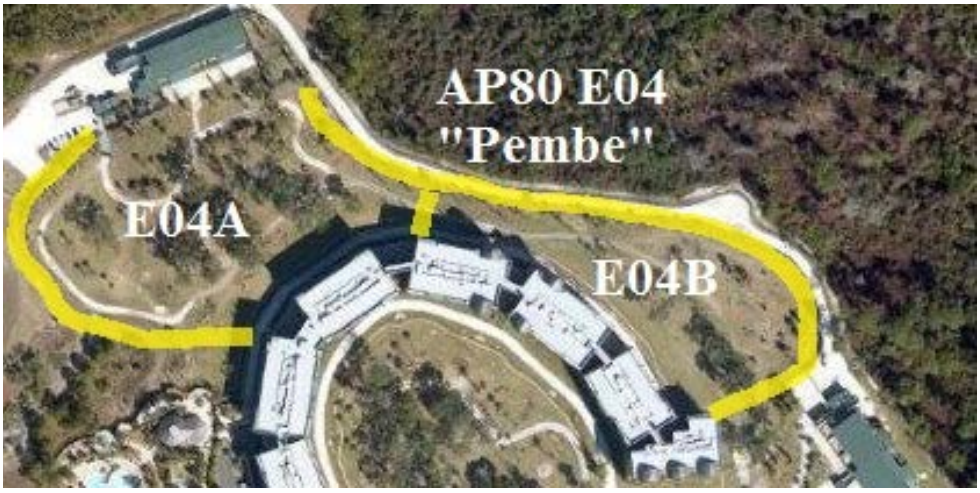

Figure 153 Lechwe Exhibit Diagram

Figure 154 Lechwe Exhibit

White-naped Crane (*Grus vipio*)

Holding:

The white-naped cranes are housed at our on-site breeding facility known as the “Wing”. This structure is made of four inch metal tubing with angle iron supports and ½ inch x 3 inch wire mesh covering the framework of the holding area. The area the cranes currently live in (S03B04 in the diagram below) is a 40 foot x 60 foot holding area with a ceiling height of 12 feet. This area has 2 separation stalls that are 10 foot x 20 foot attached to them if we need to separate or hold the birds in a smaller area. The area has a small oval shaped pool that is approximately 4 foot x 6 foot and 12 inches deep at the deepest section. Substrate is a combination of soil and grasses with the holding areas covered in “Texas grit” pebbles. There are shade tarps covering approximately 30% of the roof area to provide shade.

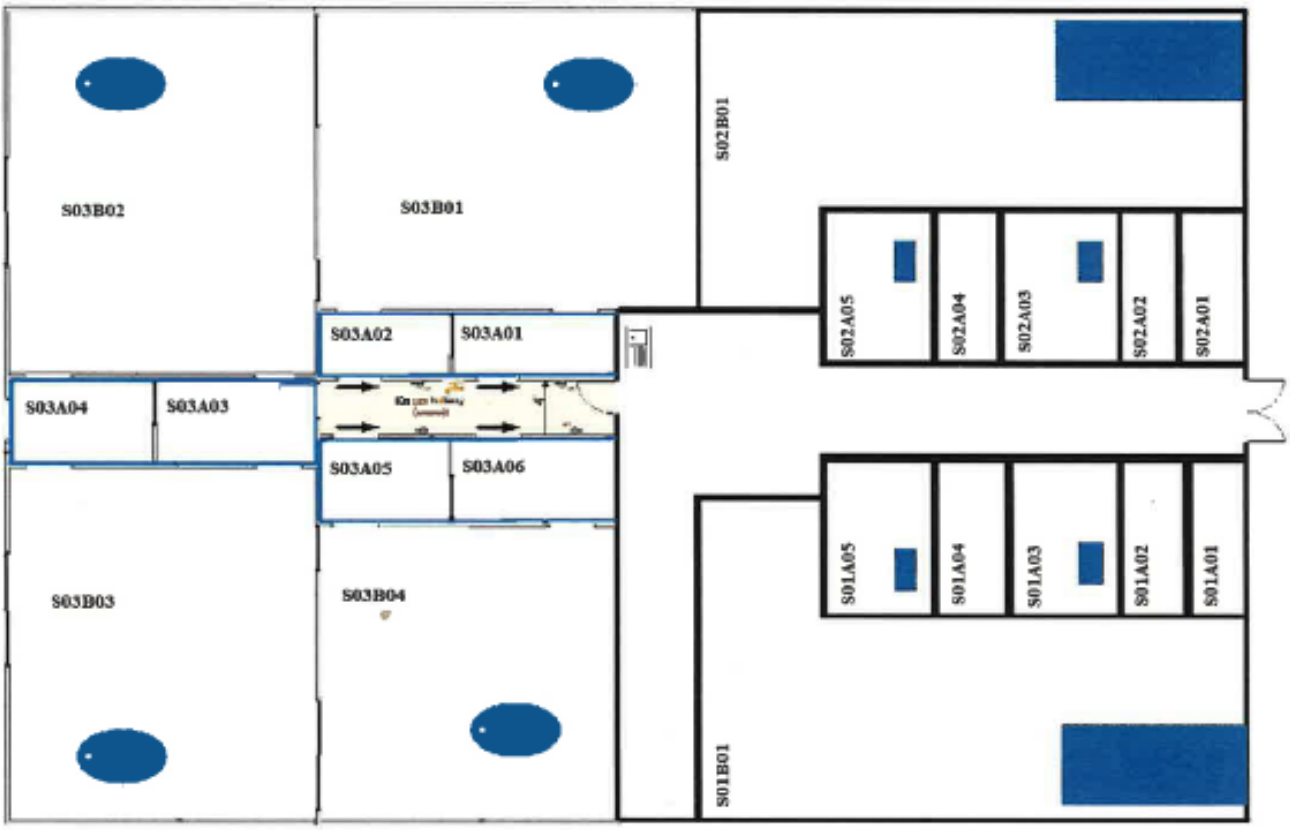

Figure 155 Crane Holding Diagram

Figure 156 Crane Holding

Hyacinth Macaw (*Anodorhynchus hyacinthinus*) and Scarlet Macaw (*Ara macao*)

Holding:

The hyacinth macaws and scarlet macaws are held inside of a structure that has concrete sides and flooring, a metal roof with skylights. The upper portion of the side walls becomes 10 gauge chain link for the last four feet above the concrete walls, reaching the roof. This provides an open-air environment. Drop tarps are available the entire surrounding portions of the structure, allowing for protection from the elements. There are heaters, fans and electricity if needed to assist with environmental controls. The daytime enclosure provides filtered sunlight through bamboo and mesh fabric and have a sprinkler system the animals can enjoy (by choice) during the warmer weather. Each of the personal night enclosures is 6 feet 8 inches tall and the day enclosure is 9 feet 2 inches tall.

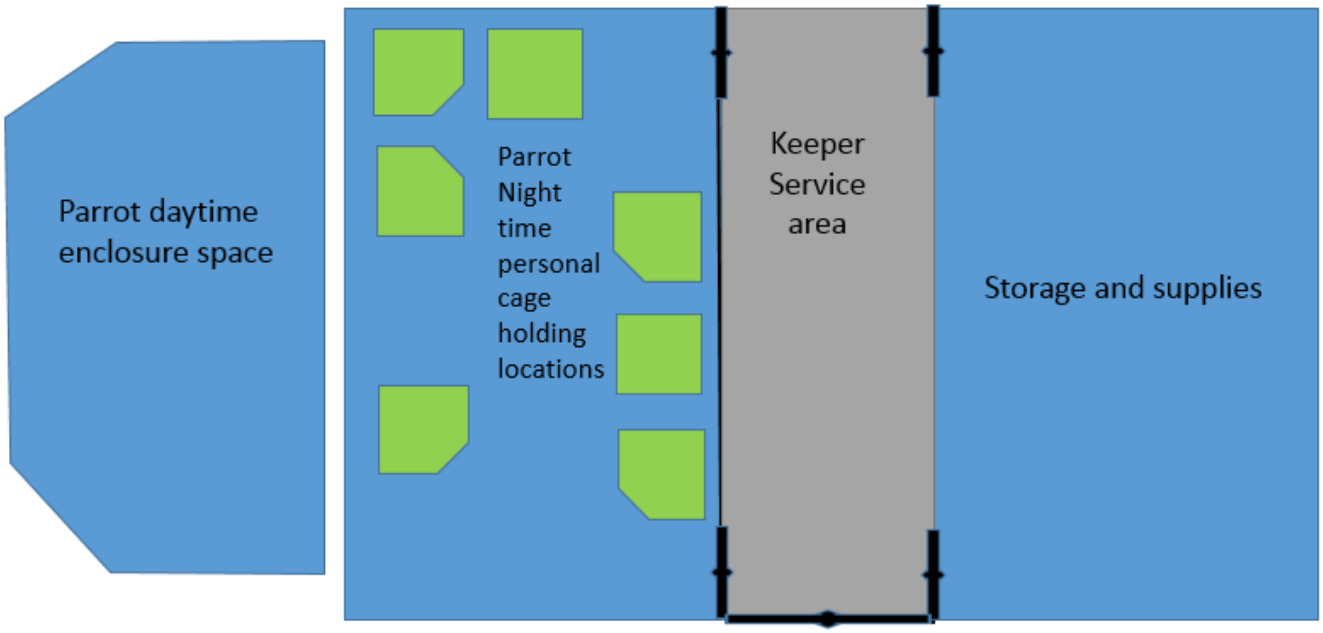

Figure 157 Macaw Holding Diagram 1

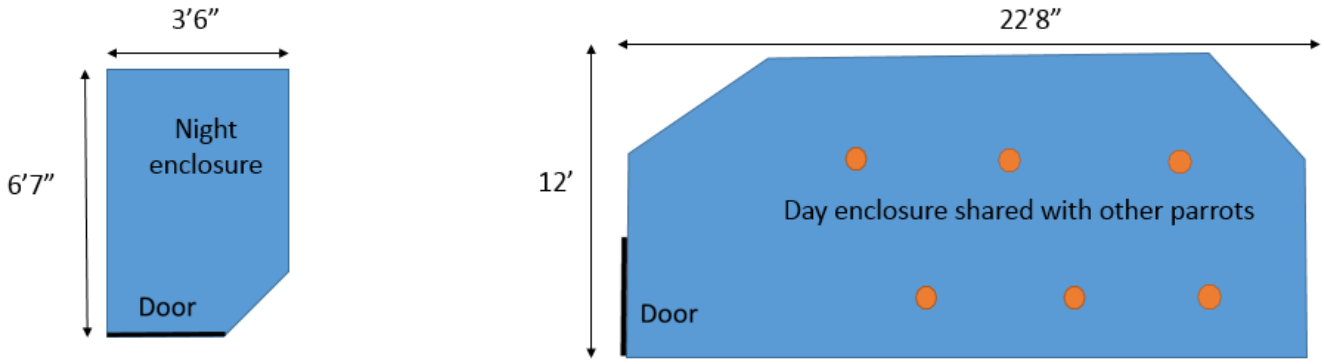

Figure 158 Macaw Holding Diagram 2

Figure 159 Macaw Holding 1

Figure 160 Macaw Holding 2

Figure 161 Macaw Holding 3

Additional Scarlet Macaw Holding:

The scarlet macaws are also held in the Tree of Life area of the park. Their holding is a two room concrete building. Each room has one window. The main holding room has five cages made of treated steel and 1 inch by ¼ inch wire. The building is heated and cooled by a window air conditioning unit.

Figure 162 Scarlet Macaw Holding 1 - TOL

Figure 163 Scarlet Macaw Holding 2 - TOL

Exhibit:

The scarlet macaws are exhibited on an artificial themed tree that is designed to hold both water and food bowls. Natural limbs and 2 inch rope are used as perching. The tree is designed to allow perching to be attached at different angles. The tree is free-standing within an open-air waterfowl exhibit.

Figure 164 Scarlet Macaw Exhibit - TOL

Radiated Tortoise (*Astrochelys radiata*)

Holding:

The radiated tortoises are held at Disney's Animal Kingdom Lodge in two approximately 100 square foot pens. Each has a closable den box with access to a heating element.

Figure 165 Radiated Tortoise Holding

Exhibit:

The radiated tortoises are exhibited in smaller off-shoot pens of the Sunset Savanna at Disney's Animal Kingdom Lodge. The larger enclosure (AP80 E07B) is approximately 1,000 square feet and the other exhibit is approximately 800 square feet. The perimeter of the exhibit is partially fenced over a four foot concrete footer/retaining wall, one side of the exhibit is the side of the hotel building. The main uprights are Euclid poles on a metal frame for theming.

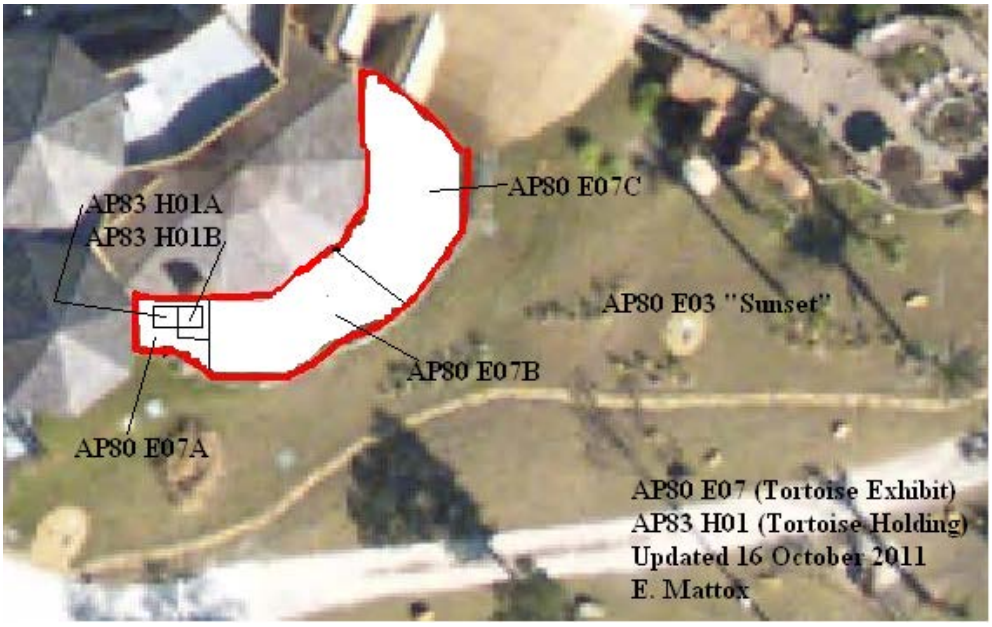

Figure 166 Radiated Tortoise Exhibit Diagram

Figure 167 Radiated Tortoise Exhibit 1 - AP80 E07C

Figure 168 Radiated Tortoise Exhibit 2 - AP80 E07B

Galapagos Tortoise (*Chelonoidis nigra*)

Holding:

The Galapagos Tortoise holding area consists of two holding spaces and an outdoor enclosure with an adjoining runway. One of the holding areas is 17 feet x 7 feet, the other is 12 feet x 7 feet and they are both constructed of concrete walls greater than 7 feet high. The holding spaces have 11 ½ gauge wire fencing and plastic roof covers to protect the tortoises from weather elements. There is overhead radiant heat provided with dirt substrate in the runway and holding areas.

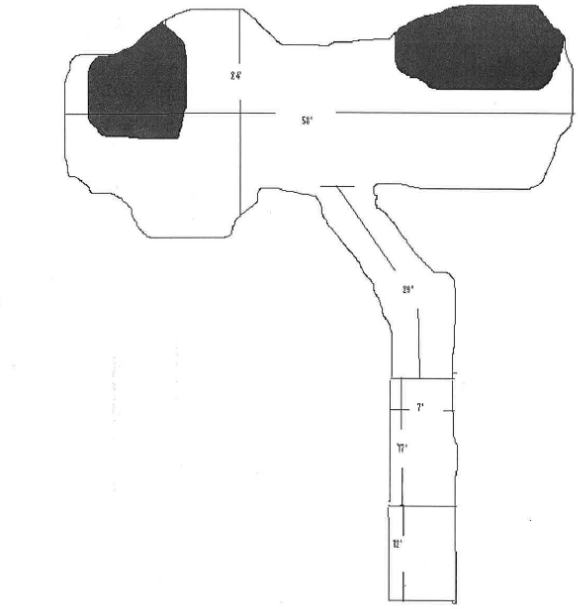

Figure 169 Galapagos Tortoise Holding Diagram

Figure 170 Galapagos Tortoise Holding

Exhibit:

The exhibit space for this species is approximately 58 feet x 24 feet and is constructed of concrete walls and 2 inch x 2 inch 14 gauge wire fencing with wood poles. Within the enclosure are two concrete pools about 8 feet in circumference and 12 inches in depth. The substrate is grass and dirt.

Figure 171 Galapagos Tortoise Exhibit

Common Spider Tortoise (*Pyxis arachnoides arachnoides*)

Holding/Exhibit:

The common spider tortoise enclosure (AP08 E16) is located within the African Research Center display. This area is temperature controlled and protected from outside weather elements. The enclosure is constructed of ¼ inch tempered glass and measures 37 inches x 25 inches x 25 inches. The enclosure is supplied with overhead heat and full spectrum lighting. At least 2 inches of mulch substrate is provided, as well as a water bowl.

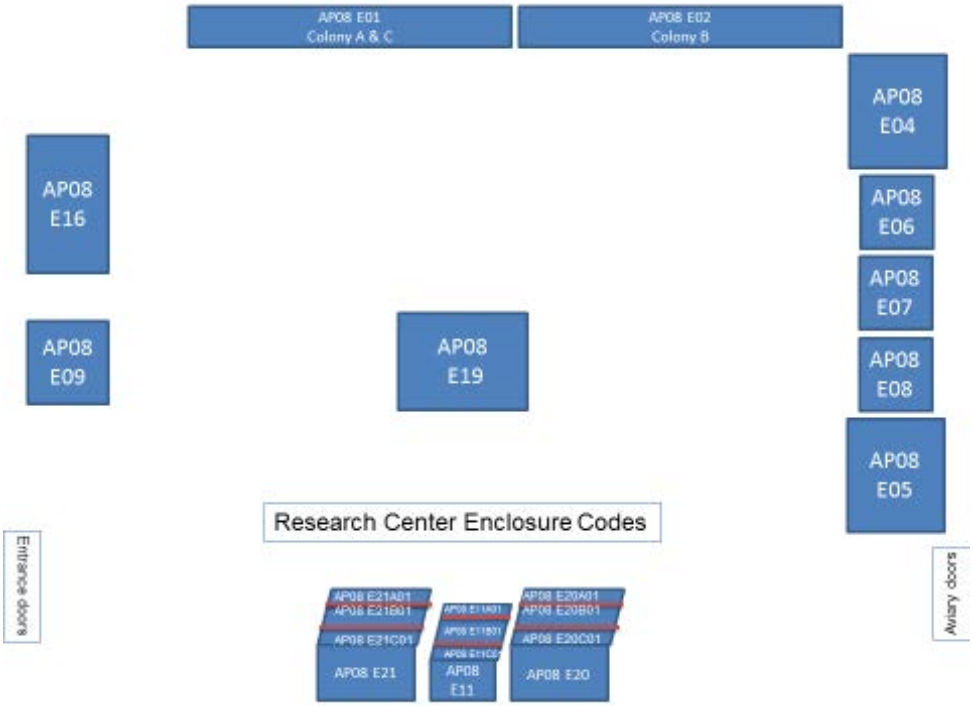

Figure 172 Spider Tortoise Exhibit Diagram

Figure 173 Spider Tortoise Exhibit.

Egyptian Tortoise (*Testudo kleinmanni*)

Holding/Exhibit:

The Egyptian tortoise enclosure (AP40 E05) is located within the Conservation Station building in the reptile window display. This room is temperature controlled and protected from outside weather elements. The enclosure is constructed of ¼ inch tempered glass and measures 36 inches x 36 inches x 24 inches. The enclosure is supplied with overhead heat and full spectrum lighting. Between 2 and 4 inches of sand/clay substrate is provided, as well as a water dish.

Figure 174 Egyptian Tortoise Exhibit Diagram

Figure 175 Egyptian Tortoise Exhibit

Komodo Dragon/Ora (*Varanus komodoensis*)

Asia Holding:

The komodo dragons in the Asia area of the park have two indoor holding stalls which are constructed of block walls and metal bards with a steel roof that protects the lizards from weather elements. Each stall has a small pool, radiant heat, and an animal hide with mulch substrate over concrete floors. One of the stalls measures 12 feet x 16 feet and the other stall measures 12 feet x 12 feet.

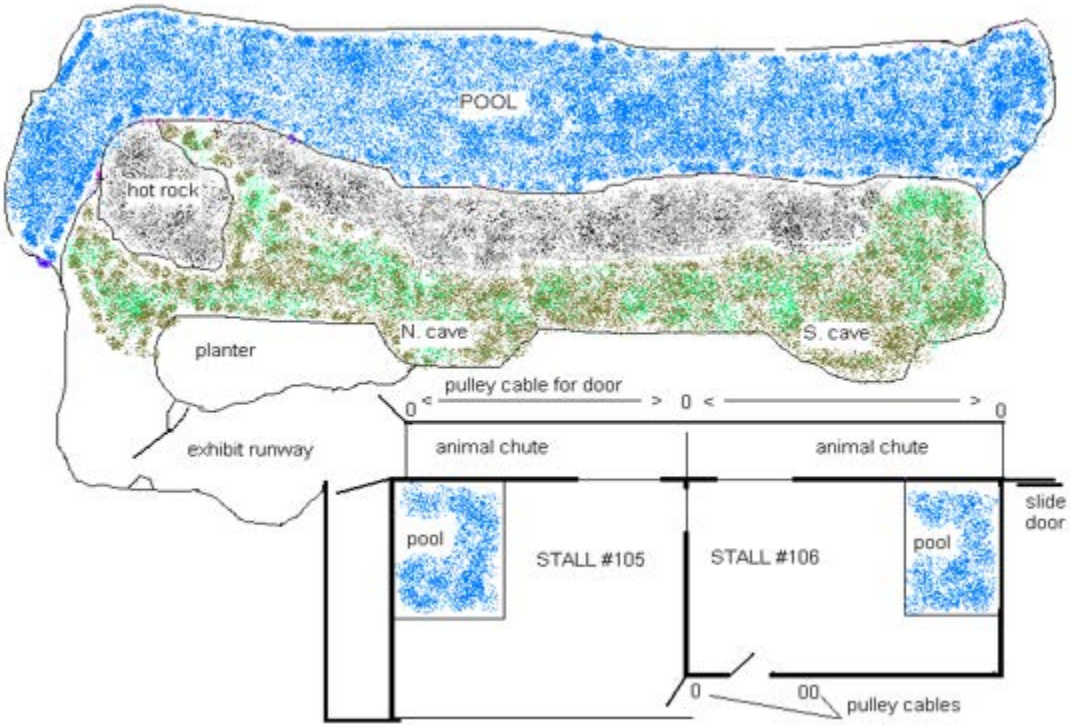

Figure 176 Komodo Dragon Exhibit/Holding Diagram

Figure 177 Komodo Dragon Holding 1

Figure 178 Komodo Dragon Holding 2

Exhibit:

The Asia outdoor exhibit is approximately 80 feet x 50 feet. The exhibit is constructed of concrete rockwork walls greater than 6 feet tall with a 4 foot dig barrier of 2 inch x 2 inch stainless steel mesh. There are two radiant heated caves and one electric heat rock (5 feet x 10 feet) within the enclosure. The front of the enclosure has a pool/moat area as shown in the diagram above.

Figure 179 Komodo Dragon Asia Exhibit

Conservation Station Holding:

The Conservation Station holding area measures 8 feet 10 inches x 8 feet 8 inches and consists of one holding stall with a half roof to protect the lizards from weather elements. There is an overhead radiant heater and a heated nest box which also protects the lizards. The holding area is constructed of 2 inch steel tubing with ½ inch x 4 inch welded wire mesh on 48 inch concrete footers and ½ inch x 4 inch welded wire mesh dig barrier.

Figure 180 Komodo Dragon Holding 1

Figure 181 Komodo Dragon Holding 2

Conservation Station Exhibit:

The Conservation Station exhibit (AP40 E02) is a room enclosure protected from weather elements within the conservation station building. The building is constructed of concrete walls. The exhibit is 13.6 feet x 16 feet and has a guest facing glass viewing area. There are two radiant heaters, a small pool, and mulch substrate covering the concrete floors.

Figure 182 Komodo Dragon Exhibit Diagram 1

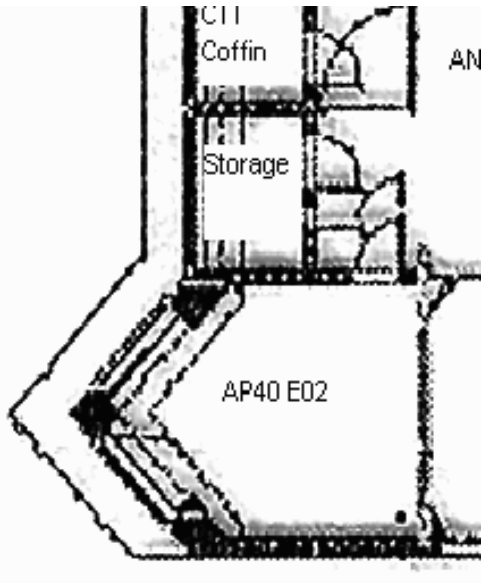

Figure 183 Komodo Dragon Exhibit Diagram 2

Figure 184 Komodo Dragon Exhibit

Giant Thai Catfish (*Pangasius sanitwongsei*)

Holding/Exhibit:

The catfish enclosure pool is constructed of concrete and partially covered by a wooden guest walkway. This space measures approximately 40 feet x 12 feet x 4 feet. The enclosure is supported by a full life support system to maintain water quality and temperature control.

Figure 185 Giant Thai Catfish Exhibit

Addendum H
Permits

USDA

United States Department of Agriculture

Marketing and Regulatory Programs

Animal and Plant Health Inspection Service

Animal Care

EXPIRATION DATE: JANUARY 18, 2018

This is to certify that

WALT DISNEY PARKS & RESORTS US INC/WWS INC

is a licensed under the

CLASS C EXHIBITOR

Animal Welfare Act

(7 U.S.C. 2131 et seq.)

Certificate No.

58-C-0076

Customer No.

3096

Deputy Administrator

APHIS FORM 7007 (NOV 99)

Previous editions are obsolete.

Addendum A
Disney's Animal Kingdom Inventory
As of January 19, 2017

Code:
1.0 Male
0.1 Female
0.0.1 Sex Unknown

MAMMALIA

PRIMATES

Lemuridae

	Red-collared Brown Lemur *Eulemur collaris*	2.0
	Ring-tailed Lemur *Lemur catta*	2.0

Cebidae

	Golden Lion Tamarin *Leontopithecus rosalia*	1.1
	Cotton-top Tamarin *Saguinus oedipus*	2.2

Cercopithecidae

	Lion-tailed Macaque *Macaca silenus*	1.3
1	Mandrill[1] *Mandrillus sphinx*	6.9

Hylobatidae

2	White-cheeked Gibbon[2] *Nomascus leucogenys*	3.4
3	Siamang[3] *Symphalangus syndactylus*	1.4

[1] 1.0 Mandrill out on loan to Cleveland Metroparks Zoo, Cleveland, OH. 1.0 Mandrill out on loan to Peoria Zoo, Peoria, IL. 1.2 Mandrill out on loan to Jacksonville Zoo, Jacksonville, FL. 1.0 Mandrill out on loan to the Bronx Zoo, Bronx, NY. 0.1 Mandrill out on loan to Rolling Hills Zoo, Salina, KS. 2.6 Mandrill currently residing at Disney's Animal Kingdom.
[2] 0.1 White-cheeked Gibbon out on loan to Smithsonian National Zoological Park, Washington, DC. 0.1 White-cheeked Gibbon out on loan to Turtle Back Zoo, West Orange, NJ. 3.2 White-cheeked Gibbon currently residing at Disney's Animal Kingdom.
[3] 0.1 Siamang out on loan to Dakota Zoo, Bismarck, ND. 1.3 Siamang currently residing at Disney's Animal Kingdom.

	Hominidae	
4	Western Lowland Gorilla[4] *Gorilla gorilla gorilla*	9.7
	CARNIVORA	
	Felidae	
5	Cheetah[5] *Acinonyx jubatus*	1.2
6	Southern African Cheetah[6] *Acinonyx jubatus jubatus*	0.3
7	Lion[7] *Panthera leo*	0.1
	African Lion *Panthera leo krugeri*	1.2
8	Tiger[8] *Panthera tigris*	0.3
	Sumatran Tiger *Panthera tigris sumatrae*	1.1
	Canidae	
	African Hunting Dog *Lycaon pictus*	6.0
9	African Hunting Dog[9] *Lycaon pictus pictus*	4.0
	PERISSODACTYLA	
	Equidae	
	Grevy's Zebra *Equus grevyi*	1.3
	Hartmann's Mountain Zebra *Equus zebra hartmannae*	1.7

[4] 0.1 Western Lowland Gorilla out on loan to Kansas City Zoo, Kansas City, MO. 0.2 Western Lowland Gorilla out on loan to Knoxville Zoo, Knoxville, TN. 2.0 Western Lowland Gorilla out on loan to Los Angeles Zoo, Los Angeles, CA. 7.4 Western Lowland Gorilla currently residing at Disney's Animal Kingdom.
[5] 1.0 Cheetah out on loan to San Diego Zoo Safari Park, Escondido, CA. 0.2 Cheetah currently residing at Disney's Animal Kingdom.
[6] 0.1 Southern African Cheetah out on loan to San Diego Zoo Safari Park, Escondido, CA. 0.2 Cheetah currently residing at Disney's Animal Kingdom.
[7] 0.1 Lion out on loan to White Oak Conservation Holdings, Yulee, FL.
[8] 0.3 Tiger out on loan to White Oak Conservation Holdings, Yulee, FL.
[9] 2.0 African Hunting Dog out on loan to Cincinnati Zoo & Botanical Gardens, Cincinnati, OH. 2.0 African Hunting Dog out on loan to Zoo Miami, Miami, FL.

Somali Wild Ass *Equus africanus somaliensis*	2.0
Rhinocerotidae	
Southern White Rhinoceros *Ceratotherium simum simum*	2.5
Southern Black Rhinoceros *Diceros bicornis minor*	2.1
Eastern Black Rhinoceros *Diceros bicornis michaeli*	0.0
ARTIODACTYLA	
Suidae	
North Sulawesi Babirusa *Babyrousa celebensis*	1.1
Cervidae	
Burmese Brow-antlered Deer *Rucervus eldii thamin*	1.2
Bovidae	
Bontebok *Damaliscus pygargus pygargus*	2.0
Addax *Addax nasomaculatus*	8.2
Scimitar-horned Oryx *Oryx dammah*	3.5
Red Lechwe *Kobus leche leche*	0.2
AVES	
GRUIFORMES	
Gruidae	
White-naped Crane *Antigone vipio*	1.1
PSITTACIFORMES	
Psittacidae	
Hyacinth Macaw *Anodorhynchus hyacinthinus*	1.0

	Scarlet Macaw *Ara macao*	1.2

REPTILIA

TESTUDINES

Testudinidae

	Radiated Tortoise *Astrochelys radiata*	2.0
	Common Spider Tortoise *Pyxis arachnoides arachnoides*	0.0.1
10	Egyptian Tortoise[10] *Testudo kleinmanni*	2.1

SQUAMATA

Varanidae

	Komodo Dragon/Ora *Varanus komodoensis*	1.3

PISCES

SILURIFORMES

Pangasiidae

	Giant Thai Catfish *Pangasius sanitwongsei*	0.0.1

[10] 1.0 Egyptian Tortoise out on loan to Woodland Park Zoo. 1.1 Egyptian Tortoise currently residing at Disney's Animal Kingdom.