

# **Global Federation of Animal Sanctuaries**



**Global Federation of  
Animal Sanctuaries**

## **Standards For Old World Primates**

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## INTRODUCTION

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### GFAS PRINCIPLES

The Global Federation of Animal Sanctuaries (GFAS) will designate an organization as “verified” or “accredited” based upon its substantial compliance with the standards listed below. GFAS recognizes that some organizations under consideration will operate valid rescue and rehabilitation programs with a goal of releasing wildlife to the wild pursuant to IUCN and/or other international or national standards. For those animals, lifetime sanctuary care may not be part of the organization’s mission. While the care for these animals may be provided on an interim basis only, the organization is still expected to meet the standards below with regard to all animals in its care and for purposes of these standards it will be identified as a “sanctuary.”

Consistent with GFAS’ philosophy and the standards below, it is expected that a sanctuary does not adopt policy positions that are in opposition to the welfare of the species of animals in the care of the sanctuary (for example, while it is not required that a primate sanctuary affirmatively promote a policy against laboratory research using primates, it should not promote a policy in favor of such research).

Note: Several standards make reference to a sanctuary’s “Director.” GFAS recognizes that a sanctuary may use a different title, and the term “Director” is intended to reference the sanctuary’s Sanctuary Director, who may be called an Executive Director or Chief Executive Officer, etc.

GFAS also recognizes that sanctuaries may rely on volunteers for certain functions, including some aspects of animal care (such as food preparation). Standards referencing “staff” may take into account appropriately qualified and trained volunteers as well as employees.

### ANIMALS COVERED BY THESE STANDARDS

Family / Genus

Family: Cercopithecidae, Hylobatidae,  
 Genus: Allenopithecus, Cercocebus, Cercopithecus, Chlorocebus, Colobus Erythrocebus,  
 Lophocebus, Hoolock, Hylobates, Macaca, Mandrillus, Miopithecus, Nasalis, Nomascus, Papio,  
 Perodicticus Presbytis, Procolobus, Pygathrix, Rhinopithecus Rungwecebus, Semnopithecus,  
 Simias, Symphalangus, Theropithecus, Trachypithecus

<b>Genus</b>	<b>Species</b>	<b>Common name</b>
<i>Allenopithecus</i>	<i>nigroviridis</i>	Allen's swamp monkey
<i>Cercocebus</i>	<i>agilis</i>	Agile mangabey
<i>Cercocebus</i>	<i>atys</i>	Sooty/white naped mangabey, Red-capped monkey, Sooty mangabey
<i>Cercocebus</i>	<i>chrysogaster</i>	Golden-bellied mangabey
<i>Cercocebus</i>	<i>galeritus</i>	Tana River crested mangabey, Tana River mangabey
<i>Cercocebus</i>	<i>snajei</i>	Sanje mangabey, Sanje crested mangabey, Sanje River mangabey
<i>Cercocebus</i>	<i>torquatus</i>	White-collared mangabey, Collared mangabey, Red-capped mangabey, Sooty mangabey
<i>Cercopithecus</i>	<i>ascanius</i>	Red-tailed monkey, Black-cheeked white-nosed monkey, Red tailed guenon, Redtail monkey, Schmidt's guenon
<i>Cercopithecus</i>	<i>campbelli</i>	Campbell's monkey, Campbell's guenon, Lowe's monkey
<i>Cercopithecus</i>	<i>cephus</i>	Moustached monkey, Moustached guenon
<i>Cercopithecus</i>	<i>diana</i>	Diana/roloway monkey, Diana guenon, Diana monkey, Roloway monkey
<i>Cercopithecus</i>	<i>dryas</i>	Dryad monkey, Dryas guenon, Dryas monkey, Salonga guenon
<i>Cercopithecus</i>	<i>erythrogaster</i>	White-throated monkey, Red-bellied guenon, Red-bellied monkey, White-throated guenon
<i>Cercopithecus</i>	<i>erythrotis</i>	Red-eared monkey, Red-eared guenon, Russet-eared guenon
<i>Cercopithecus</i>	<i>hamlyni</i>	Owl-faced monkey, Hamlyn's monkey, Owl-faced guenon
<i>Cercopithecus</i>	<i>lhoesti</i>	L'hoest's monkey L'hoest's guenon, Mountain monkey
<i>Cercopithecus</i>	<i>mitis</i>	Blue monkey, Diademed monkey, Golden monkey, Samango, Syke's monkey
<i>Cercopithecus</i>	<i>mona</i>	Mona monkey, Mona guenon
<i>Cercopithecus</i>	<i>neglectus</i>	DeBrazza's monkey,
<i>Cercopithecus</i>	<i>nictitans</i>	Putty-nosed monkey, Greater spot-nosed guenon, Greater white-nosed monkey, Spot-nosed guenon, White-nosed guenon
<i>Cercopithecus</i>	<i>petaurista</i>	Lesser spot-nosed monkey, Lesser spot-nosed guenon, Lesser white-nosed monkey, Lesser white-nosed guenon
<i>Cercopithecus</i>	<i>pogonias</i>	Crowned monkey, Crowned guenon, Golden-bellied guenon, Golden-bellied monkey, Wolf's monkey
<i>Cercopithecus</i>	<i>preussi</i>	Pruess's monkey, Preuss's guenon
<i>Cercopithecus</i>	<i>sclateri</i>	Sclater's monkey, Sclater's guenon, White-throated guenon

<i>Cercopithecus</i>	<i>solatus</i>	Sun-tailed monkey, Sun-tailed guenon
<i>Chlorocebus</i>	<i>aethiops</i>	Grivet monkey, Green monkey, Malbrouk monkey, Tantalus, Vervet monkey
<i>Chlorocebus</i>	<i>cynosures</i>	Malbrouck monkey
<i>Chlorocebus</i>	<i>djamdjamensis</i>	Bale monkey, Bale Mountains grivet, Djam-djam
<i>Chlorocebus</i>	<i>pygerythrus</i>	Vervet
<i>Chlorocebus</i>	<i>sabaeus</i>	Green monkey
<i>Chlorocebus</i>	<i>tantalus</i>	Tantalus monkey
<i>Colobus</i>	<i>angolensis</i>	Angola colobus, Black-and-white colobus, Angolan colobus
<i>Colobus</i>	<i>guereza</i>	Guereza, Eastern Black-and-white colobus, Magistrate colobus
<i>Colobus</i>	<i>polykomos</i>	King Colobus, Ursine black-and-white colobus, Western black-and-white colobus, Western Pied Colobus
<i>Colobus</i>	<i>satanas</i>	Black Colobus
<i>Colobus</i>	<i>vellerosus</i>	White-thighed Colobus, Geoffroy's Black-and-white Colobus, White-thighed Black-and-white Colobus
<i>Erythrocebus</i>	<i>patas</i>	Patas monkey
<i>Lophocebus</i>	<i>albigena</i>	Grey-cheeked mangabey White-cheeked mangabey
<i>Lophocebus</i>	<i>aterrimus</i>	Black mangabey, Black crested mangabey
<i>Hoolock</i>	<i>hoolock</i>	Western Hoolock Gibbon, Western Hoolock
<i>Hoolock</i>	<i>leuconedys</i>	Eastern Hoolock Gibbon, Eastern Hoolock
<i>Hylobates</i>	<i>agilis</i>	Agile Gibbon, Dark-handed Gibbon
<i>Hylobates</i>	<i>albibarbis</i>	Bornean White-bearded Gibbon, Bornean Agile Gibbon
<i>Hylobates</i>	<i>klossi</i>	Kloss's Gibbon, Dwarf Gibbon, Mentawi Gibbon
<i>Hylobates</i>	<i>lar</i>	Lar Gibbon, Common Gibbon, White-handed Gibbon
<i>Hylobates</i>	<i>moloch</i>	Silvery Javan Gibbon, Javan Gibbon, Moloch Gibbon, Owa Jawa, Silvery Gibbon
<i>Hylobates</i>	<i>muelleri</i>	Muller's Bornean Gibbon, Bornean Gibbon, Bornean Grey Gibbon, Borneo Gibbon, Grey Gibbon, Muller's Gibbon
<i>Hylobates</i>	<i>pileatus</i>	Pileated Gibbon, Capped Gibbon, Crowned Gibbon
<i>Macaca</i>	<i>pagensis</i>	Pagai Island macaque, Pagai macaque
<i>Macaca</i>	<i>radiata</i>	Bonnet macaque
<i>Macaca</i>	<i>siberu</i>	Siberut macaque
<i>Macaca</i>	<i>silenus</i>	Lion-tailed macaque, Liontail macaque, Wanderoo
<i>Macaca</i>	<i>sinica</i>	Toque macaque
<i>Macaca</i>	<i>sylvanus</i>	Barbary macaque, Barbary ape
<i>Macaca</i>	<i>thibetana</i>	Milne-edwards' macaque, Pere David's macaque, Short-tailed Tibetan macaque, Tibetan macaque
<i>Macaca</i>	<i>tonkeana</i>	Tonkean macaque, Tonkean black macaque
<i>Macaca</i>	X	All hybrid macaques
<i>Mandrillus</i>	<i>leucocephalus</i>	Drill
<i>Mandrillus (or Papio)</i>	<i>sphinx</i>	Mandrill
<i>Miopithecus</i>	<i>ogouensis</i>	Northern Talapoin monkey, Gabon Talapoin
<i>Miopithecus</i>	<i>talopoin</i>	Southern Talapoin monkey, Talapoin

<i>Nasalis</i>	<i>larvatus</i>	Proboscis monkey, Long-nosed monkey
<i>Nomascus</i>	<i>concolor</i>	Black-crested gibbon, Black gibbon, Crested gibbon, Indochinese gibbon,
<i>Nomascus</i>	<i>gabriellae</i>	Red-cheeked gibbon, Buff-cheeked gibbon, Buffy-cheeked gibbon, Yellow-cheeked gibbon
<i>Nomascus</i>	<i>hainanus</i>	Hainan gibbon, Hainan black crested gibbon, Hainan black gibbon, Hainan crested gibbon
<i>Nomascus</i>	<i>leucogenys</i>	Northern white-cheeked gibbon, White-cheeked gibbon
<i>Nomascus</i>	<i>nastus</i>	Cao-vit crested gibbon, Cao-vit black crested gibbon, Eastern black crested gibbon,
<i>Nomascus</i>	<i>siki</i>	Southern white-cheeked gibbon
<i>Papio</i>	<i>anubis</i>	Olive or Anubis baboon
<i>Papio</i>	<i>cynocephalus</i>	Yellow baboon
<i>Papio</i>	<i>hamadryas</i>	Hamadryas baboon, Sacred baboon
<i>Papio</i>	<i>papio</i>	Guinea baboon
<i>Papio</i>	<i>ursinus</i>	Chacma baboon
<i>Papio</i>	X	All hybrid baboons
<i>Perodicticus</i>	<i>potto</i>	Potto, Potto gibbin
<i>Presbytis</i>	<i>chrysomelas</i>	Sarawak surili, Bornea banded langur
<i>Presbytis</i>	<i>comate</i>	Javan surili, Grizzled leaf monkey, Javan leaf monkey, Javan grizzled langur
<i>Presbytis</i>	<i>femoralis</i>	Banded surili, Banded langur, Banded leaf monkey
<i>Presbytis</i>	<i>frontata</i>	White-fronted langur, White-faced langur, White-fronted leaf monkey
<i>Presbytis</i>	<i>hosei</i>	Hose's langur, Gray leaf monkey, Hose's leaf monkey
<i>Presbytis</i>	<i>melalophos</i>	Sumatran surili, Mitred leaf monkey
<i>Presbytis</i>	<i>natuna</i>	Natuna Island surili, Natuna leaf monkey
<i>Presbytis</i>	<i>potenziani</i>	Mentawai langur, Long-tailed langur, Mentawai leaf monkey,
<i>Presbytis</i>	<i>rubicunda</i>	Maroon leaf monkey, Maroon langur,, Maroon sureli, Red leaf monkey
<i>Presbytis</i>	<i>siamensis</i>	White-thighed surili, Pale-thighed langur
<i>Presbytis</i>	<i>thomasi</i>	Thomas' langur, North Sumatran leaf monkey, Sumatran grizzled langur, Thomas' leaf monkey
<i>Procolobus</i>	<i>badius</i>	West African Red Colobus, Bay Colobus, Red Colobus, Western Red Colobus,
<i>Procolobus</i>	<i>gordonorum</i>	Udzungwa Red Colobus, Uhehe Red Colobus
<i>Procolobus</i>	<i>kirkii</i>	Zanzibar Red Colobus, Kirk's Red Colobus
<i>Procolobus</i>	<i>pennantii</i>	Red Colobus, Bouvier's Red Colobus
<i>Procolobus</i>	<i>preussi</i>	Pruess's Red Colobus,
<i>Procolobus</i>	<i>rufomitratu</i>	Eastern Red Colobus, Tana River Colobus
<i>Procolobus</i>	<i>verus</i>	Olive Colobus, Van Beneden's Colobus
<i>Pygathrix</i>	<i>cinerea</i>	Grey-shanked Douc langur
<i>Pygathrix</i>	<i>nemaeus</i>	Red-shanked Douc langur, Red-shanked Douc
<i>Pygathrix</i>	<i>nigripes</i>	Black-shanked Douc langur, Black-shanked Douc, Black-shanked Douc monkey
<i>Rhinopithecus</i>	<i>avunculus</i>	Tonkin snub-nosed monkey
<i>Rhinopithecus</i>	<i>bieti</i>	Black snub-nosed monkey, Yunnan snub-nosed monkey

<i>Rhinopithecus</i>	<i>brelichi</i>	Grey snub-nosed monkey, Guizhou snub-nosed monkey
<i>Rhinopithecus</i>	<i>roxellana</i>	Golden snub-nosed monkey, Sichuan golden snub-nosed monkey
<i>Rungwecebus</i>	<i>kipunji</i>	Kipunji
<i>Semnopithecus</i>	<i>ajax</i>	Kashmir gray langur, Chamba sacred langur, Dark-eyed Himalayan langur, Himalayan gray langur, Western Himalayan langur
<i>Semnopithecus</i>	<i>dussumieri</i>	Southern plains gray langur, Dussumier's Malabar langur, Dussumier's sacred langur
<i>Semnopithecus</i>	<i>entellus</i>	Northern plains gray langur, Bengal Hanuman langur
<i>Semnopithecus</i>	<i>hector</i>	Tarai gray langur, gray langur, Hanuman langur, Lesser hill langur, Tarai sacred langur
<i>Semnopithecus</i>	<i>hypoleucos</i>	Black-footed gray langur, Dark-legged Malabar langur, Malabar sacred langur
<i>Semnopithecus</i>	<i>Priam</i>	Tufted gray langur, Coromandel sacred langur, Madras gray langur
<i>Semnopithecus</i>	<i>schistaceus</i>	Nepal gray langur, Central Himalayan langur
<i>Simias</i>	<i>concolor</i>	Pig-tailed langur, Pig-tailed snub-nosed monkey
<i>Symphalangus</i>	<i>syndactylus</i>	Siamang
<i>Theropithecus</i>	<i>gelada</i>	Gelada baboon
<i>Trachypithecus</i>	<i>auratus</i>	Javan lutung, Ebony leaf monkey, Javan langur
<i>Trachypithecus</i>	<i>barbei</i>	Tenasserim's lutung, Barbe's langur
<i>Trachypithecus</i>	<i>cristatus</i>	Silvery lutung, Silvered langur, Silvered leaf monkey, Silvered monkey
<i>Trachypithecus</i>	<i>delacouri</i>	Delacour's langur, White-rumped black leaf monkey
<i>Trachypithecus</i>	<i>francoisi</i>	Francois' langur, Francois' leaf monkey, Tonkin leaf monkey, White-sideburned black langur
<i>Trachypithecus</i>	<i>geei</i>	Gee's golden langur, Golden leaf monkey
<i>Trachypithecus</i>	<i>germaini</i>	Indochinese lutung, Germain's langur, Germain's silver langur, Indochinese silvered langur
<i>Trachypithecus</i>	<i>hatinhensis</i>	Hatinh langur, Stripe-headed black langur
<i>Trachypithecus</i>	<i>johnii</i>	Nilgiri langur, Black leaf monkey, Hooded leaf monkey, Indian Hooded leaf monkey, John's langur, Nilgiri black langur, Nilgiri leaf monkey
<i>Trachypithecus</i>	<i>laotum</i>	Laotian langur, Lao langur, Laotian black langur, White-browed black langur
<i>Trachypithecus</i>	<i>obscurus</i>	Dusky leaf-monkey, Dusky langur, Spectacled langur, Spectacled leaf monkey
<i>Trachypithecus</i>	<i>phayrei</i>	Phayre's leaf-monkey, Phayre's langur
<i>Trachypithecus</i>	<i>pileatus</i>	Capped langur, Bonneted langur, Capped leaf monkey, Capped monkey
<i>Trachypithecus</i>	<i>poliocephalus</i>	White-headed langur, Cat Ba langur, Golden-headed langur
<i>Trachypithecus</i>	<i>shortridgei</i>	Shortridge's langur, Shortridge's capped langur
<i>Trachypithecus</i>	<i>vetulus</i>	Purple-faced langur, Purple-faced leaf monkey



New and Updated content released on February 2015

- G-1 Nonprofit/ Non-Commercial Status,
- P-3 Disposition Ethics and Responsibility,
- P-4 Disposition of Live Primates,
- P-5 Euthanasia

New and Changed content released on July 2015

- V-7 Breeding/Contraception – section a

Updated content released on July 2016

- H-1 Types of Space and Size
- S-6 General Staff Safety

## OLD WORLD PRIMATE STANDARDS

***GFAS notes that there may be other acceptable ways of meeting the intent of each standard, aside from those detailed below, and that in some instances there may be legal, cultural or other significant barriers to meeting GFAS requirements. The standards are considered mandatory, but GFAS will consider specific exceptions to some of the listed requirements (e.g., exact enclosure size, manner of record keeping, legal requirements that impact a sanctuary's acquisition policy, etc.). GFAS encourages sanctuaries to offer feedback on the standards and to explain any reasons why it believes it cannot meet a particular standard, or why the standard is not applicable and/or appropriate to its situation. Sanctuaries are also welcome to indicate a timeline for meeting a standard if the standard is not yet met at the time of application for accreditation or verification.***

***The exceeding of the standards is encouraged. In addition to meeting these standards, an organization is expected to comply with all applicable international, national, state/province, and local laws and regulations.***

## OLD WORLD PRIMATE HOUSING

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### H-1 Types of Space and Size

**Unless otherwise directed by a veterinarian, Old World primates are provided sufficient opportunity and space to move about freely and rapidly, and to exercise choice in location so as to reduce stress and maintain good physical condition.**

#### General

- a. The habitat and living conditions are species appropriate and replicate, in as much as possible, the primates' wild habitat with a balance between hygiene and the species' physiological and psychological needs. This includes adequate space, both vertical and horizontal, and appropriate space, in terms of diversity and complexity.
- b. The physical space provides varied opportunities for the primates to interact with the environment and key elements are changed often, resulting in a dynamic living space.
- c. A double entry system so that there are two barriers between the animals and escape at all times is recommended for all species and required for any animals posing a safety risk. The two barriers are never open at the same time.
- d. Facility design takes into account caregiver-primate safety and ease of maintaining a positive relationship.



- e. Primates are provided access to as many areas of the enclosures as possible, except during staff maintenance activities, unless security concerns dictate otherwise. All enclosures interconnect without creating 'dead ends' to allow for freedom of movement of subordinate individuals.
- f. In areas where solid barriers are not used, equipment, e.g. machinery and heaters placed outside the enclosure, is positioned far enough away from the enclosure that the primates cannot use sticks or other objects to manipulate them through the barrier.
- g. The habitat ideally provides appropriate visual, olfactory, and acoustic barriers.
- h. The habitat provides security from predators and unauthorized human access.
- i. Sanctuaries that routinely accept infant primates have a nursery unit with separate or easy access to kitchen and bathroom facilities for caregivers.
  - Nursery units include an outdoor play area separate from older animals.
  - Nursery units include sleeping areas for caregivers and infant primates in close proximity.
  - Both indoor and outdoor areas of the nursery unit are designed to allow infant primates to climb, explore and play.

### **Open Space Settings**

- j. Open space settings have enough acreage per animal to accommodate natural individual and group activities, and to ensure that overcrowding does not occur. Particular attention is paid to vertical aspects of their environment, allowing for more natural behaviors.
- k. Where open space settings are the primary enclosure, two other areas may also be provided:
  - Indoor day/night rooms or other means of providing night housing and secure shelter during inclement and extreme weather. This space also provides alternate housing for sick or injured individuals while in close proximity to the social group.
  - Shift yards for use while the primary enclosure is serviced and/or for animal management needs including introduction of new individuals to a group, or temporary separation for health or social reasons. Shift yards should include a small cage area accessible from indoor housing, and a minimum of one door to the primary enclosure.

### **Controlled Access Settings**

- l. While not as extensive as an open space setting, in controlled access areas ideally three enclosures are also provided: outdoor enclosures as the primary living space; indoor day/night rooms; and a shift yard or lock out.

### **Indoor Housing**

- m. Indoor housing provides year-round protection from the elements. For sanctuaries located in northern climates (where freezing temperatures occur regularly during any part of the year), indoor space is large enough to allow for all forms of species-specific behavior (running, climbing, etc.).

### **Mixed Species Enclosures**

- n. Old World primates are not housed with New World primates. This includes shared enclosures, and shared building spaces or rooms.
- o. When an additional species is housed with primates, the enclosure dimensions are adjusted accordingly. Additional space reflects that required for both species if housed separately.
  - Dimensions for indoor areas remain unchanged for each species.
  - For new construction, separate transfer doors are included for each species to be housed.
  - For existing facilities, efforts are made to retrofit the facility with a separate transfer door to indoor areas and outdoor enclosures from the shift yard.

## **Dimensions**

- p. Many factors influence the minimum space required for a group of Old World primates, including, but not limited to: group size, group composition, and enclosure complexity. The following are general minimum requirements. Facilities should provide as much space as is possible and/or practical.
- q. Usable vertical space is equally important as floor space. Open-top outdoor enclosures include furniture and/or vegetation that allow use of vertical space.
- r. Sanctuaries meeting only the minimum requirements for enclosure space employ additional environmental enrichment, focusing on physical and mental exercise rather than food, to compensate for reduced space and complexity.
- s. The following guidelines are minimum recommendations. Facilities should provide as much space as is possible and/or practical.
  - Outdoor enclosures for group housed Old World primates - Enclosure shape may be variable to take in natural features in the landscape such as rock formations, hills and trees. Enclosures include a minimum of one (1) animal transfer door leading to the indoor enclosure.
    - Old World primates should have a minimum of 323 sq. ft./ 30 sq. m per individual; because horizontal space is more important for baboons, those primates should have a minimum of 646 sq. ft./ 60 sq. m per individual. Ideally there is a minimum of 5500 sq. ft. (approximately 75 ft. x 75 ft.) / 511 sq. m (approximately 22.9 m X 22.9 m) per outdoor enclosure for compatible groups of 4 - 8 macaques, 3-10 baboons (dependent on baboon group dynamics), 1-3 gibbon/ siamangs, or 3-8 guenons; and a minimum of 3500 sq. ft. (approximately 60 ft. x 60 ft.)/ 325.2 sq. m (approximately 18.3 m x 18.3 m) for 3-5 group housed colobus monkeys.
    - There should be a minimum vertical dimension of 12ft. (3.7m) for either roofed or open top enclosures. In both designs, Old World primates have access to a minimum height of 8ft. (2.4 m) via climbers, rocks, trees, natural elements or other structures.
    - Where possible, particularly for primarily arboreal species, more vertical space, with appropriate enrichment, is provided.
    - For baboons and other Old World primates who spend significant time on the ground, horizontal space is more important than vertical space. Efforts are focused on providing the maximum possible square footage for these species. Young primates of these species are provided with adequate climbing opportunities.

- An additional 500 sq. ft. (46.4 sq. m) per primate is provided when group exceeds 8-14 in total number.
- Consideration is given to group dynamics within the enclosure when increasing populations beyond 8 animals.
- Regular monitoring of group interactions and space use should be conducted to determine whether enlarging the enclosure or constructing an additional enclosure provides optimum habitat for the primates.
- For monogamous species, additional enclosures are recommended rather than larger enclosures.
- Outdoor enclosures for singly and/or paired housed Old World primates - Enclosure shape may be variable to take in natural features in the landscape such as rock formations, hills and trees. Enclosures should include a minimum of one animal transfer door leading to the indoor enclosure.
  - Ideally, there is a minimum of 1000 sq. ft. (approximately 20 ft. x 50 ft.) / 92.9 sq. m (approximately 6.1 m X 15.2 m) per permanent outdoor enclosure for singly and paired housed Old World primates. Where possible, gibbons and siamangs are housed in larger enclosures.
  - Smaller temporary housing may be appropriate in certain circumstances, particularly when being used for quarantine and introducing animals.
  - Minimum vertical dimension of 8 ft. (2.4 m) for either roofed or open top enclosures. In both designs, Old World primates have access to this minimum height of via climbers, rocks, trees, natural elements or structures.
  - Whenever possible, more vertical space, with appropriate enrichment is provided for arboreal species.
- Indoor day/night rooms for group housed Old World primates should include a minimum of three 'rooms' available per group and a minimum of one transfer door to the primary outdoor enclosure.
  - Includes one large 'day room' minimum dimension of 200 sq. ft. (18.58 sq. m) to 300 sq. ft. (27.87 sq. m), dependent on species and number of animals housed.
  - Includes two adjacent rooms with minimum dimension of 100 sq. ft. (9.3 sq. m) per room.
  - Addition of 100 sq. ft. (9.3 sq. m) of indoor room space per Old World primate when group exceeds 8 in number.
  - Minimum vertical dimension of 8 ft. (2.43 m).
  - Arboreal species have access to as much room height as possible via climbing structures or similar elements.
  - Baboons and other primarily ground dwelling species have access to a minimum of 50% of full room height via climbing structures or similar elements.
  - A larger space is needed for Old World primates who must be housed indoors for significant periods of time due to local climate.
  - All rooms interconnect without creating 'dead ends' for subordinate individuals.
- Indoor day/night rooms for singly and/or pair housed Old World primates should have a minimum of two 'rooms' or one indoor room and one shift yard per single animal or pair to facilitate animal transfer to service enclosures, and include a minimum of one transfer door to an outdoor enclosure.

- Room dimension is dependent on intended purpose/duration of housing.
- Larger space is required for longer-term confinement indoors.
- Includes one large room with a minimum dimension of 100 sq. ft. (9.3 sq. m) to 300 sq. ft. (27.9 sq. m) dependent on species of Old World primate housed.
- Includes at least one adjacent room with a minimum dimension of 100 sq. ft. (9.3 sq. m).
- Minimum vertical dimension of 8 ft. (2.43 m)
- Rooms interconnect without creating 'dead ends' for subordinate individuals.
- Whenever possible, separated Old World primates have visual and tactile access to group members to facilitate reintroduction.
- Shift yards for group housed Old World primates
  - Shift yards are roofed or have a mesh top due to small size of the enclosure and jump distance of Old World primates.
  - Should be a minimum of 600 sq. ft. (55.7 sq. m). Space may be decreased by 50% if primates are managed with concurrent access to indoor rooms.
  - Minimum vertical dimension of 8 ft. (2.43 m)
  - Includes a minimum of two (2) doors to indoor enclosures to prevent dominant individuals from blocking access to shade, sun, food or other desired space, social partners or enrichment items.
- Shift yards for singly or pair housed Old World primates
  - Shift yards are roofed or have a mesh top due to small size of the enclosure and jump distance of the primates.
  - Should be a minimum of 300 sq. ft. (27.87 sq. m) to 400 sq. ft. (37.16 sq. m) dependent on species of primate species housed. Space may be decreased by 50% if primates are managed with concurrent access to indoor rooms.
  - Minimum vertical dimension of 8 ft. (2.43 m) for primarily ground dwelling species and other ground dwelling primates and 12 ft. (3.7m) for arboreal species.
  - Whenever possible, separated Old World primates have visual and tactile access to group members to facilitate reintroduction.
- Mixed species enclosures
  - When an additional species is housed with a group of Old World primates, enclosure dimensions are increased accordingly. Additional space reflects the space required for both species if housed separately.
  - For new construction, separate transfer doors are included for each species to be housed.
  - For existing facilities, efforts are made to retrofit the facility with a separate transfer door to indoor areas and outdoor enclosures from the shift yard.

## **H-2 Containment**

## **Old World primates are safely contained.**

### **General**

- a. Other than when being transported or for medical reasons, Old World primates are kept at all times in secure enclosures or other appropriate areas.
- b. Enclosures are designed to allow for primates' normal defense reactions and appropriate 'flight' or escape distances.
- c. All enclosures are designed, constructed and maintained to securely contain primates and to present no likelihood of harm to them.
- d. Distance or barriers between primates and between enclosures and personnel is sufficient to minimize stress to the animals as well as reduce the risk of disease transmission.
- e. Enclosures are designed to allow for proper, safe cleaning and drainage.
- f. A regular program of sanctuary maintenance is in place.
- g. Materials are appropriate for their particular application and are maintained in good repair.

### **Outdoor Enclosures**

- h. Perimeter containment of outdoor areas is constructed so as to prevent digging under the barrier by native wildlife, domestic species and the enclosure residents.
- i. Fences and enclosures are inspected daily for signs of digging. Where fencing meets hard surfaces such as rock or concrete, the fencing is securely anchored in place.

### **Fencing**

- j. Barbed or razor wire are not used to contain Old World primates.
- k. High tensile electric fencing may be used in conjunction with standard fencing products but is discouraged for use as a primary barrier.
- l. The supporting posts for fences are firmly fixed into the ground.
- m. Fence material is sufficiently secured to supporting posts in such a way that the weight of the primates could not detach it from the support nor dislodge the supporting posts.
- n. Gates and doors are at least as strong, and as effective, in containing the primates as the rest of the enclosure barriers. In particular, gates and doors are designed and maintained so as to prevent animals from lifting them from their hinges or unfastening the securing device.
- o. For open enclosures, a minimum fence height of 15 ft./ 4.6 m is recommended, with the upper 30% of the barrier made of a smooth, non-climbable material.
- p. Mesh can be cattle panel, heavy gauge chain link, or woven wire mesh. Note: chain link must be carefully installed, secured and checked regularly for looseness and buckling.
- q. A maximum mesh dimension of 2 in. x 2 in./ 50.8 mm x 50.8 mm is recommended for most Old World species, although larger mesh (up to 4 in. x 4 in./ 10.2 cm x 10.2 cm) has been used with species such as adult colobus monkeys.
- r. Welded wire mesh is considered less reliable for containment and is not recommended as primary containment of Old World primates.

### **Electric Fencing**

- s. Electric fence energizers emit at least 9,000 V with a joule rating appropriate for the length and condition of the fence (25 joules is recommended).
- t. 20-gauge high-tensile wire is required. A stronger gauge (e.g., 12-gauge) may be more appropriate for some species.
- u. Fences are a minimum of 12 ft. (3.66 m) tall, with a maximum wire spacing of 4 in. (101.6 mm) for the first 4 ft. (1.22 m) and 6 in (152.40 mm) thereafter.
- v. Fence is alternating hot/ground to prevent primates from leaping onto the fence and avoiding shock.
- w. Energizers are connected to battery or generator backup for continuous power supply during outages.
- x. In dry climates, the earth rod area is watered to ensure adequate grounding.
- y. If using electric fence as a primary barrier, two separate complete systems are used to increase effectiveness and reduce the chance of system failure.
- z. Safety signs on hot wire are visible to staff and bystanders.
- aa. A non-electrified barrier is used to keep bystanders and wildlife from coming in contact with the electric fence.

### **Solid Barriers**

- bb. Solid barriers such as concrete block, poured concrete and artificial rock can be used as the sole method of containment or in conjunction with other types of barrier.
- cc. Walls are secured in appropriate footings to ensure wall stability.
- dd. Care is taken, especially with artificial rock, to ensure that contours in the rock do not provide escape routes from the enclosure.
- ee. Design of areas using solid walls allows for sufficient air flow throughout an enclosure.

### **Moats**

- ff. While not required, dry moats used in conjunction with non-climbable barriers may provide an effective means of containing some Old World primate species. Note: they are not recommended for colobus monkeys as their jumping capabilities are significant.
  - When using dry moats, there is a means provided for escape back to the enclosure for animals falling into the moats.
  - Dry moats are surrounded by fences, walls, hedges or shrubbery to prevent others from approaching too close to the edge.
  - Dry moats are of sufficient size and depth to adequately confine the primate species housed.
  - Dry moats are accessible by skid steer or similar small tractor to repair erosion or grade issues and to meet other service or repair needs in the enclosure.
  - Caregivers have safe and easy access to dry moats.
- gg. Water moats have been used successfully for gibbons or siamangs. They are not recommended for macaques, guenons, or colobus monkeys (who can swim and/or jump

across water moats), or for baboons (who cannot swim and are therefore at a risk of drowning). Existing enclosures utilizing water moat containment take into consideration the following criteria:

- Moat width is greater than the usual jump distance for the species.
- Electric wire is not used at the perimeter barrier as a secondary containment.
- The perimeter boundary height exceeds the reach of the largest animal housed if that individual reaches the deepest part of the moat.
- Rescue equipment is readily available at the moat area in the event a primate or human falls into the water and must be safely removed.
- There is a management plan for regions where moats may freeze.
- Unless it is potable water, the moat does not serve as the primary source of drinking water.
- Water quality is measured on a weekly basis, and the sanctuary has established acceptable water quality parameters.

### **Open-Top Enclosures**

- hh. Smooth, solid barriers, such as poured concrete or no climb fences, are a minimum of 17 ft. (5.18 m) tall.
- ii. Solid barriers are properly maintained so that finger holds do not develop.
- jj. If using poured concrete or plate steel, cage or safety glass windows are provided to allow the primates to see outside of their enclosure.
- kk. For added security, one or two strands of hot wire may be added at the top of the wall/fence.
- ll. Enclosures are adequately secured to allow the animals to have 24-hour access without supervision.

### **Safety Glass**

- mm. Unless covered with another appropriate barrier, glass is laminated (glass-clad polycarbonate) with a recommended minimum thickness of 1 in. (2.54cm). Glass is set into a steel or aluminum frame for security.

### **Indoor Enclosures**

- nn. A maximum dimension of 2 in. x 2 in./ 50.8 mm X 50.8 mm for mesh is recommended. A maximum mesh size of 1 in. x 1 in./ 25.4 mm X 25.4 mm is recommended where mesh separates adjacent cages. Woven wire mesh is recommended.
- oo. Walls between enclosures can be constructed of concrete block or poured concrete. When concrete block is used, the voids are filled with sand or soil to strengthen the walls and reduce potential harborage for unwanted species.
- pp. Walls are of sufficient strength to anchor caging and furniture.
- qq. Design of areas using solid walls allows for sufficient air flow throughout the enclosure.
- rr. Solid concrete or concrete block walls are sealed to make them impervious to contaminants and pathogens.

### **Shift Yards**

- ss. A combination of materials including mesh and solid barriers can be used. Shift yards have mesh and solid roofing for containment.
- tt. Mesh dimensions are those used for indoor enclosures. Flexible woven wire mesh, rigid woven wire mesh or chain link are recommended.
- uu. Cage walls allow sufficient air flow throughout the enclosure.
- vv. The requirements and recommendations of “Indoor Enclosures” apply where solid walls are used.

### **H-3 Ground and Plantings**

**Ground cover indoors and out is healthy for Old World primates.  
Plantings are appropriate and safe.**

#### **Vegetation**

- a. All outdoor enclosures for primates include living or fresh vegetation, which can provide visual barriers, shade and resting sites. Enclosures are replanted or rotated as needed.
- b. All plant materials in an enclosure are evaluated for potential toxicity to the species held before use, including leaves, buds, seeds, fruit, bark and flowers.
- c. Enclosures may also be planted with grasses, shrubs etc. that the primates do not tend eat, provisioning the animals with preferred plant material as part of the daily diet.
- d. Any vegetation capable of harming Old World primates is kept out of reach.

#### **Outdoor Enclosures**

- e. All outdoor enclosures have a natural substrate consistent with the site.
  - The substrate provides an easy to clean, dry area for any ground feeding.
  - The substrate can be amended with organic materials, including but not limited to soils, sand, leaf litter, bark mulch, grasses, straw, and hay.
  - Substrate is provided in sufficient amount/depth to cushion falls from perches or climbing structures.
  - The substrate drains well.
- f. Climbers are provided with appropriate three-dimensional environments to accommodate an array of locomotory and foraging behaviors, as well as appropriate sleeping and resting areas, including nesting and bedding materials. Species that dig and root are provided with nesting and bedding materials as required.
- g. Varied topography provides visual barriers, increased enclosure complexity and varied elevations, and can be achieved using naturally occurring topography at a selected construction site or through addition of soils, culverts, rocks, logs etc.
- h. Horizontal and vertical jump distance is considered when developing enclosure topography.
- i. Where natural topography of an enclosure is not varied, it is created through the addition of natural and placed elements.

- j. Trees – Key shade trees within an outdoor enclosure are identified and protected from damage.
- Trees and climbing plants that may be used as an escape route are identified, pruned or removed; or means to prevent primates from accessing them have been identified.
  - Health of trees close to fence lines is checked regularly and any removed if there is fear of it coming down on fence line.
  - Trees, vines and shrubs are checked daily and trimmed or felled as necessary to avoid Old World primates being harmed by falling branches, toxicity or trauma.
  - Access to very tall trees is limited by electric wires, barriers etc.

### **Indoor Enclosures**

- k. All indoor enclosures have a concrete floor and, provided adequate septic service is present, are sloped to a drain.
- l. Existing construction ensures that all floors are sealed. For new construction, the indoor area is designed to accommodate a deep litter substrate.
- Deep litter enclosures are designed to allow appropriate litter depth and drainage for proper functioning.
  - Litter is properly spot-cleaned and maintained.
- m. Bedding materials are provided in sufficient amount/depth to cushion falls from perches or climbing structures.
- Bedding material suitable for use includes, but is not limited to, bark mulch, leaf litter, wood wool, straw hay, shredded paper and wood shavings.
- n. All Old World primates are observed regularly for signs of illness that may be related to ingestion of foreign objects, including wood shavings, bark mulch or other materials that may pose a hazard.

### **Shift Yards**

- o. All outdoor shift yards have a minimum of 50% of the surface area in natural substrate. The remaining 50% may be concrete as appropriate for drainage, sanitation and structural needs.
- p. The substrate can be amended with organic materials including, but not limited to, soils, sand, leaf litter, bark mulch, grasses, straw and hay. The substrate drains well.
- q. Bedding materials are provided in sufficient amount/depth to cushion falls from perches or climbing structures.

## **H-4 Transfer Doors**

**Primate enclosure transfer doors are appropriately designed to ensure both animal and human health and safety.**

### **General**

- a. Animal transfer doors are a key element of facility design. Doors are designed to allow transport crates to safely attach to them.
  - Transport crates should be able to be moved in and out of the enclosure through the transfer doors.
  - Transfer doors for Old World primates can be located at ground level or adjacent to a perch. Transfer doors for other species housed with Old World primates are located at a vertical height appropriate for that species.
- b. Transfer doors are designed to remain functional under all circumstances and are maintained in good working order and free from any encumbrances that may prevent opening and closing.
- c. Doors are designed to allow caregiver view of enclosures while operating the doors.
- d. Doors are designed to allow for normal posture while travelling through doorway, with vertical dimension accommodating the height of adult males.
  - A minimum dimension of 2 ft. x 2 ft./ 0.6 m. x 0.6 m. is recommended for guenons.
  - A minimum dimension of 3 ft. x 3 ft. (0.9 m X 0.9 m) may be appropriate for colobus, gibbons, macaques, baboons and siamangs if used primarily to allow the primates to move as a group, with multiple animals moving through doors together.
  - Smaller transfer doors of 1.5 ft. x 2 ft. (0.46 m x 0.61 m) may function better for isolating individual animals, particularly those who are fearful of the doors.
- e. Transfer doors for macaques, baboons, guenons, siamangs and gibbons can be located at ground level; transfer doors for leaf monkeys and other arboreal species should be located 36 in. (95 cm) above ground.
- f. Doors are designed such that people are out of view when primates are being shifted. If not, no eye contact is made with the primates going through the doors.
- g. Doors and door hardware are properly maintained to ensure proper functioning.

### **Security**

- h. Transfer doors and their frames are constructed of materials similar in strength to those used in the primary enclosure.
- i. Doors are lockable in both the open and closed positions.
- j. For pneumatic or hydraulic doors, pneumatic or hydraulic pressure is sufficient for keeping doors in the open position. A mechanical lock is, however, in place to lock the door in the closed position.
- k. Particular attention is given to preventing hay/shavings from affecting door mechanisms.

### **Animal Safety**

- l. Doors operated via remote control are visible from the control area.
- m. Guillotine doors are not recommended due to risk of animal injury. If used, a backup system should be in place to prevent doors from free falling due to mechanical failure or operator error.
- n. Hydraulic systems use peanut or other food-grade oils to prevent risks to the primates in the event of leakage.
- o. Hydraulic and pneumatic door systems include backup systems to allow for door usage in the event of equipment failure.

### **User Safety**

- p. If door handles or locking mechanisms are in close proximity to the enclosure, a solid barrier is present to protect the user.

## **H-5 Shelter**

**Old World primates have access to man-made shelter that provides each individual with protection from extreme weather (including, but not limited to, prevailing wind, snow, sleet, rain, sun, and temperature extremes).**

- a. Old World primates have space to seek refuge from sun, wind, inclement weather, aerial predators and enclosure mates.
- b. Shelter does not create or result in 'dead ends' in which subordinate individuals can be trapped by more dominant individuals.
- c. Shade and shelter are provided in multiple locations within enclosures to ensure that all troop members have access to shade/shelter throughout the day/night.
- d. Shade and shelter can be created through natural and artificial means including shade trees and shade fabric.
- e. Shelter areas provide dry space during wet weather, as well as protection from wind.

## **H-6 Enclosure Furnishings**

**Old World primates are provided with an appropriately complex and rich habitat to explore, to ensure the animals' physical, nutritional and stimulation needs are met.**

### **General**

- a. Enclosures are equipped in accordance with the needs of the primates with bedding material, branch work, nesting/hide boxes, appropriate substrate, vegetation and other enrichment materials designed to aid and encourage normal behavior patterns and minimize any abnormal behavior.
- b. Appropriate complexity is provided through the use of various natural and artificial materials in the enclosure, using a combination of items including, but not limited to, those listed above.
- c. The date that items are placed in an enclosure is noted, and items are removed when they become soiled, damaged or novelty has diminished.
- d. Arboreal Old World primates are provided access to the vertical space available within the enclosures.

## **Outdoor Enclosures**

- e. Visual barriers can be used to avoid confrontation or aggression, and include climbing structures, fallen logs, walls, shade structures, topography and large enrichment items.
- f. Climbing structures accommodate natural locomotion patterns for the species housed. Metal pipe is not used to construct climbers as it becomes dangerously hot in summer sun and can damage skin during cold weather. Climbing structures should be accessible by staff for routine sanitation, repairs and updates and should include:
  - horizontal and vertical elements and ensure that sufficient pathways exist throughout the enclosure so subordinate individuals do not reach 'dead ends' in the enclosure;
    - Macaques, gibbons, siamangs and leaf monkeys are arboreal, making climbing structures a key part of the enclosure furniture for these species.
    - Climbing structures for less arboreal Old World primates, such as baboons, may focus on complexity rather than height, as these species do naturally travel through a varied environment.
    - When multiple species are housed together, climbing structures created specifically for each species' unique needs are provided.
  - locations and/or mechanisms to provide enrichment above ground level;
  - resting platforms or perches and handholds of varying size that large and small animals can securely grasp for support;
  - a minimum of 50% of total climber space designed to allow access by individuals of all ages and physical capabilities;
  - soft substrate such as soil, bedding material, mulch or leaf litter is installed below climbers to minimize risk of injuries from falls, especially to youngsters and older individuals.
- g. Perching
  - Horizontal perching areas and platforms are provided to allow resting, sleep, social behavior and feeding above ground.
  - Placement of perches or platforms includes consideration for access to animals for close observation, medication or training sessions.
  - Perches and benches are accessible to staff for cleaning.
- h. Other Materials
  - Canvas fire hoses used for climbing elements, runways and hammocks are secured in a manner that prevents animals from becoming entangled in long lengths or trapped in openings.
  - Cargo nets are selected with a diameter that ensures youngsters may not become trapped in the net.
  - Ropes are secured at both ends with sufficient tension to prevent an animal from becoming entangled. Frayed portions of rope are removed immediately.
  - Heavy plastic culvert pipe is secured in the enclosure, and concrete culvert pipe is placed to prevent rolling in the enclosure.
  - Logs are placed and secured in a manner that prevents them from rolling or falling onto animals.

## **Indoor Enclosures**

- i. To the greatest extent possible, all visual barriers, climbing structures and perching surfaces meet outdoor enclosure criteria.
- j. Indoor furniture is constructed of materials that can be sanitized or easily replaced when they become overly soiled. Furniture is accessible to staff for routine cleaning and repair.
- k. Benches, perches, and other structures allow for climbing and for sleeping above ground level.
- l. Where adequate light levels are available, indoor plantings, even those outside the enclosures, serve as acoustic and visual buffers.

### **Shift Yards**

- m. To the greatest extent possible shift yards meet outdoor enclosure criteria for plantings, trees, topography, visual barriers, climbing structures, perching surfaces and materials used.

## **H-7 Sanitation**

**Proper sanitation is practiced to reduce pathogen transmission.**

### **General**

- a. State/province and local laws regarding proper waste removal are observed.
- b. Primates are transferred from enclosures prior to cleaning, disinfection and/or sanitizing.
- c. As fomites (shoes, clothing, etc. which carry infectious materials) may be a source of zoonotic disease, all who may come in contact with such materials are made aware of these risks and trained accordingly. (See also Standard V-8, "Zoonotic Disease Program").
- d. Uneaten perishable food is removed within a timeframe appropriate for the type of foodstuff and size of enclosure, prior to molding or contamination.

### **Removal of Animal Waste**

- e. Animal waste is removed from the habitat as often as necessary to prevent contamination of the primates contained therein, to minimize disease hazards and to reduce odors. This also enables caregivers to collect fecal samples in a timely manner.
- f. Soiled bedding material and substrate are removed and replaced with fresh materials daily, or as needed to prevent buildup. If odorous, bedding is changed regardless of how long in place.
- g. Primate waste is handled with precautions appropriate to bio-hazardous waste, and is not composted.
- h. Damaged and soiled enrichment items are removed daily, or as soon as the primates allow access to the area.
- i. Efforts are made to prevent native wildlife getting access to waste.

### **Tools**

- j. Each enclosure has dedicated tools to prevent cross contamination between enclosures. When resources restrict the ability to have dedicated tools, tools are disinfected between enclosures to prevent the spread of parasites and disease.
  - o Tools for macaques are not used for other primates.
- k. Tools are labeled when use is restricted to specific areas (such as quarantine).
- l. Tools used for Old World primates are not used for New World primates.
- m. Sanitation tools or equipment, including wheelbarrows, are not used for transport or storage of foodstuffs or bedding.

### **Cleaning and Disinfection**

- n. Feeding areas, automatic water devices, water and food containers are cleaned and disinfected daily.
- o. Care is taken to minimize overspray of waste, directly or via aerosolizing, into adjacent cages during cleaning.
- p. Animals are not present in enclosures being cleaned using power hoses. Care is taken to prevent accidental spraying of animals in adjacent enclosures when power hoses are used for cleaning.
- q. Concrete floored enclosures are dried with a squeegee, and as needed fans, to ensure floors are dry before bedding material is replaced.
- r. All hard surfaces including walls, floors, ceilings, benches, climbing structures, cage mesh and caregiver work areas are sanitized regularly to the extent possible. Note that in large outside enclosures with plenty of exposure to sunshine and rain, there may not be a need for scrubbing and cleaning but areas are monitored for potential sanitation problems.
- s. Staff follows proper disinfecting procedures when moving between enclosures.
- t. Cleaning and Disinfection Standard Operating Procedures are developed and followed to address:
  - safe disinfectant use to prevent hazards to the primates, caregivers and the environment;
  - cleaning and disinfecting protocols for food preparation and veterinary care areas using more powerful disinfectants on hard surfaces;
  - daily, weekly, monthly and quarterly cleaning schedules for all hard surfaces including walls, floors, ceiling, benches, cage mesh and staff work areas designed to minimize the risk of disease transmission;
  - disinfectants and other cleaning products stored separately from foodstuffs.
- u. A Material Safety Data Sheet (MSDS) or equivalent is readily available for all cleaning products in use and all containers are properly labeled as to contents.

### **Laundry**

- v. Laundry for Old World primates is done in a washer/dryer used to wash items soiled by animals only (e.g., towels, blankets, enrichment items).
- w. Specific disease exposure of species from research settings is taken into account when handling primate laundry.

## H-8 Temperature, Humidity, Ventilation, Lighting

**Temperature, humidity, ventilation, and lighting are appropriately addressed.**

### Temperature

- a. The temperature is within an acceptable range for the species housed.
  - Weather is considered in addition to temperature.
  - Allowance is made to accommodate individual animals not able to tolerate temperatures above or below the usual range of comfort for the species.
  - Note: all Old World primates can tolerate temperatures up to 95°F (35°C) when there is sufficient shade access for all animals in the enclosure.
- b. For outdoor enclosures and shift yards, Old World primates have access to heated areas when outdoor temperature falls below 55°F (12.8°C), adjusted for wind chill. Exceptions may be as follows: 70° F(21.1°C) for guenons and gibbons; temperatures may fall as low as 30F (-1.1°C) for Snow monkeys, as they are fairly cold tolerant, as long as they have access to heated areas.
  - While some Old World primates can tolerate lower temperatures for short periods of time, they should have access to indoor areas at all times and heated areas when temperatures drop.
  - Great caution is taken with elderly, infant and disabled primates.
  - Windbreaks are sufficient in number to accommodate all primates simultaneously with consideration for social structure and relationships in a group.
  - Shade is available throughout the day in a number of areas, which provides an adequately sized space to accommodate all primates simultaneously with consideration for social structure and relationships within a group.
  - Heat sources in outdoor areas can include radiant heaters in protected areas and heated substrate. Care is taken to prevent direct primate contact with heat sources. Note: Infrared bulbs or 'heat lamps' are not recommended as heat sources due to risks associated with bulb breakage and tissue damage in the primates.
- c. For indoor enclosures, an average ambient temperature range of 70°F (21°C) and 85°F (29.4°C) is recommended. Some colder climate species can tolerate temperatures between 50°F (10°C) and 70°F (21°C) for short periods of time when supplemental bedding and heat is provided.
  - Heat can be provided by forced air or hydronic heating systems. Note: Infrared bulbs or heat lamps are not recommended due to risks associated with bulb breakage and tissue damage to the animals.
  - When ambient temperatures rise above 85°F (29.4°C), fans, air conditioning or similar relief are provided. At these temperatures, many Old World primates, particularly colobus monkeys, should be monitored for signs of heat stress.
  - Cool air can be provided by refrigerant air conditioning, "swamp coolers", fans, or misters.

- Providing primates with opportunities to choose temperature ranges within an enclosure is preferred. This can be achieved by access to areas near heat vents, skylights, or hog warmers for example.
- Even when ambient temperatures are 'warm', bare concrete floors, especially damp floors, are too cold for many individuals and are not considered suitable substrate or housing for primates.
- Any climate control systems include redundancy and back-up power in case of equipment or power failure.

### **Humidity**

- d. Optimal indoor humidity is between 40% and 70% for baboons, macaques, gibbons, vervets and colobines. 65% or greater humidity is recommended for guenons. Humidity should not be kept above 80% in controlled environments to prevent fungal and mold growth.
  - High humidity can be mitigated through proper ventilation or dehumidifier systems.

### **Ventilation**

- e. Proper ventilation of indoor enclosures is critical.
  - In these areas, Heat Recovery Ventilators and Energy Recovery Ventilators can provide fresh outdoor air with minimal heat loss.
- f. Indoor enclosures ideally have a negative air pressure, with regular exchange of non-re-circulated air.
  - A minimum of one complete air exchange per hour is recommended.
- g. To the extent possible, separate air handling systems are maintained between animal areas to prevent disease transmission.
- h. Proper window and door placement can ensure sufficient cross-ventilation in warm climates.

### **Lighting**

- i. Light, natural and artificial, is appropriate for the species housed in terms of intensity, spectrum and duration.
- j. Indoor enclosures - Natural lighting is optimal and can be obtained using skylights, windows, roll-up doors and other means. Glass bricks may be used, taking into account the fact that light intensity will be less than with clear glass.
  - Supplemental lighting is provided to ensure adequate light for caregivers to observe animals, clean enclosures and perform related animal care tasks.
  - When animals are confined indoors overnight, sufficient lighting is used to extend the daylight period to a day/night cycle of 12/12 hours to allow animals time to eat and select sleeping sites.
  - In northern climates, where natural light is less intense and of shorter duration during the winter months, full-spectrum bulbs are used to ensure primate health.
  - Consideration is given to providing nightlights to prevent aggression between social groups that may result from surprise encounters in darkened areas.
- k. Outdoor enclosures and shift yards - While not necessarily required, consideration is given to supplemental lighting or power sources for use in outdoor areas in event of an

emergency. Tamper-proof lighting is used in primate enclosures.

## **NUTRITION REQUIREMENTS**

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### **N-1. Water**

**Fresh clean water is available in sufficient quantity.**

#### **Quantity**

- a. Fresh clean water is available at all times to all individuals.
- b. Multiple water sources are available for group-housed Old World primates to ensure high-ranking individuals do not dominate water sources.

#### **Quality**

- c. Water quality parameters are maintained at a generally acceptable level for primates in terms of turbidity, salts, etc.
- d. Potable water sources are tested for contaminants annually.
- e. All water sources (including water bowls) are cleaned at least daily, and more often if needed.
- f. If automatic water devices are not used in hot climates, water sources are shaded or changed multiple times to avoid overly hot water.

#### **Automatic Water Devices**

- g. Devices are tested daily to ensure water is available.
- h. Devices are easily disabled when animals must be fasted for medical purposes.
- i. When monitoring of water consumption is required, an alternative means of providing water is devised.
- j. In colder climates, steps are taken (such as installation of heat sources) to ensure water consumption does not decrease with lower ambient air temperatures.

### **N-2. Diet**

**A properly balanced and healthy diet is provided appropriately based on the needs of each Old World primate, following veterinary instructions for special needs.**

#### **General**

- a. Many Old World primates are omnivorous, but all are generally offered a grain/fruit/vegetable-based diet in captive settings. In addition to fruit, the omnivorous species will consume insects, small animals, seeds, roots, bark, leaves, flowers and other plant material opportunistically.
- b. A veterinarian or qualified nutritionist periodically reviews all aspects of the primates' diet at the sanctuary.
- c. Diets of individual Old World primates (including vitamin supplementation) are of a quality, quantity and variety to match the physiological and psychological state of the individual as it changes over time, with consideration for the age, life stage, species, condition, and size of the individual.
- d. Food is wholesome, palatable, free from contamination and of sufficient quantity and nutritive value to maintain all primates in good health.
- e. The sanctuary utilizes a feeding regimen that ensures each individual receives adequate nutrition regardless of status in social group.
- f. Where possible and appropriate, each primate's daily dietary needs are documented and made available to animal care staff.
- g. In open space enclosures, routine observation of feeding activity ensures all animals are able to access sufficient food.
- h. Commercially prepared primate diets formulated for Old World primates may be used as the core nutrition of their diet, with leafy greens, vegetables and fruit offered at least every other day (daily for leaf eating species).
  - For colobines, leafy greens, vegetables and fruits represents approximately 50% of the diet. Produce is viewed as "supplemental" to the diet of other Old World primates for the purpose of meeting the behavioral needs associated with finding and consuming food.
  - The fresh produce portion of the diet is not heavily dependent on over-ripe and/or sugary fruits.
  - Dietary supplements of produce are fed free of spoilage, insect pests, mold or other contaminants.
- i. Old World primates should not be fed New World primate diets, as they are not balanced for Old World species.
- j. Nuts and seeds are fed sparingly, ideally by scattering throughout the enclosure to encourage foraging, because of their high fat content.
- k. Commercially available insects including crickets, mealworms and waxworms can be offered occasionally with the diet of macaques, baboons, vervets and guenons.

### **Browse**

- l. Fresh browse is offered daily, particularly to animals housed indoors. If not naturally present in the outdoor enclosure, browse items (*e.g.*, bark, that is easily stripped and consumed, leaves, flowers and shoots, etc.) are provided on a regular basis.
- m. When fresh plant material is not available (seasonally), alternative forage materials can be offered including timothy hay, sudan hay, orchard grass, alfalfa and other locally available grasses or legumes.
- n. All browse items are nontoxic and grown without chemical pesticides. Caregivers are trained to identify safe, non-toxic plant species appropriate for primates.

### **Vitamins/Supplements**

- o. Prior to offering supplemental vitamins, the health and condition of the individual primate, as well as the diet, is reviewed by a nutritionist experienced in primate care and/or the attending veterinarian.

### **Treats/Enrichment items**

- p. Preferred food items from the basic diet can be reserved for enrichment and fed through the use of puzzle feeders and other food enrichment devices/techniques, or used in training or to deliver medications. Feeding seeds, nuts cereals and grains in small amounts when dispersed in substrate encourages forage behaviors. Colobines may be offered sweet potato and flowers as well.
- q. The calories in foods used as enrichment are considered when planning the overall diet.

## **N-3. Food Presentation and Feeding Techniques**

**Food is prepared and presented in a safe and appropriate manner to meet Old World primates' health and social needs.**

### **General**

- a. Old World primates are offered their diet a minimum of once daily, but twice daily is preferred: early in the morning and late in the day, with sufficient daylight hours remaining to allow necessary forage time.
  - If fed once daily, the food items must be of sufficient quantity and quality to ensure that the primates have an opportunity to feed several times throughout the day.
  - Single feeding regimens are carefully monitored and reviewed frequently to ensure they meet the nutritional and psychological requirements of the primates.
  - Ideally, leaf monkeys are fed three times daily to ensure constant access to fresh greens.
- b. Feeding and drinking receptacles are placed in positions that minimize the risks of contamination from soiling by the primates themselves, wild birds, rodents and other potentially invasive species.
- c. Food receptacles, where used, are appropriate for the species housed in terms of number, size and placement, and are cleaned daily.
  - Feeding and drinking receptacles used for macaque species are only used for that genus and are not cleaned or stored with those used for other primate groups.
- d. Receptacles for animal food and water are designed to minimize spillage and are not used for any other purpose.
- e. Feeding chutes or feeding boxes may be used as a means to safely distribute feed. If used, a solid barrier extending several feet in each direction from the opening is used to reduce the risk of primates grabbing staff through mesh wiring.
- f. Food items are placed above floors to minimize contamination from urine and feces.

### **Feeding Techniques**

- g. Caregivers are encouraged to reduce tensions during feeding times by conducting their tasks in a quiet manner; not playing favorites with the food; not making direct or prolonged eye contact with the primates; not accidentally teasing a primate by trying to retrieve or relocate a dropped food item until after all feeding has been completed. Additionally, caregivers refrain from unwittingly rewarding stereotypic or aggressive behavior by simply refusing to acknowledge or react to the behavior.
- h. Variations in food presentation are considered part of the enrichment program for Old World primates. Distributing food throughout an enclosure allows natural foraging behavior and may limit food hoarding and aggression.
- i. Feeding in multiple locations helps to ensure that low-ranking individuals have adequate access to food and water.
- j. To ensure that subordinate individuals receive enough food without overfeeding dominant individuals, cooperative feeding techniques (in which dominant individuals are rewarded for allowing subordinate individuals to obtain food) may be used.

### **Diet Related Health Issues**

- k. Food selections and quantities are managed as much as possible to maintain healthy weight with attention paid to fat, sodium and sugar content.
- l. Food selections are managed to reduce the risk of nutritionally induced diabetes.

### **Diet Changes, Increases or Decreases**

- m. Adjustments made to an already formulated and nutritionally balanced diet are made to the entire diet to ensure continued nutritional balance.
- n. Considerations for diet increase include weight and condition of all animals in the group, overall food consumption, activity level of the group, feeding competition and other medical or behavioral considerations.
- o. Diet increases or decreases are made in modest increments with animal response to the change assessed for a minimum period before additional changes are made.
- p. Underweight individuals experiencing health or behavioral problems may be separated for supplemental feeding as needed to avoid undesirable weight gain in conspecifics.

## **N-4. Food Storage**

**Food is stored appropriately.**

- a. Separate and secure facilities are provided for proper and hygienic storage of food.
- b. Dry goods (*e.g.*, grains and biscuits) are stored in clean, dry storage areas in sealed containers or on pallets. Products are dated and rotated to use oldest stock first, and expired food as well as bags damaged by pests is discarded.
- c. Produce is stored in a clean, dry refrigerator, and is ordered at regular intervals in amounts that can be used prior to spoilage.

- d. Items frozen for use are dated and labeled, and no frozen items are thawed and refrozen. Items that are not fed frozen are thawed in a refrigerator to minimize risk of spoilage.
- e. Browse, grass hay, alfalfa and other baled products are stored in a sheltered area on pallets, and oldest stock is used first.
- f. Insects are housed per instructions from the provider or in appropriate insect colony housing. Insects intended for use as food are housed in appropriate containers to prevent contamination by insect pests. Fruits and vegetables fed to insect colonies are changed often to prevent consumption of spoiled food items.

## **N-5. Food Handling**

**Food is handled and prepared in an appropriate manner to retain nutritional value, freshness, and freedom from spoilage, invasive species or other forms of contamination.**

- a. Food is protected against dampness, deterioration, mold, and/or contamination by insects, birds, rodents or other animals.
- b. No food that is spoiled or otherwise contaminated is served.
- c. Foods not fed frozen are thawed in a refrigerator to minimize risk of spoilage. Frozen foods are not thawed and refrozen.
- d. Fruits and vegetables fed to insect colonies are changed often to prevent consumption of spoiled food items.
- e. Diets are prepared in a safe and hygienic manner to reduce the possibility of contamination or spoilage.
- f. Food preparations meet all local, state/province, and national regulations.
- g. Separate cutting boards, utensils and food preparation surfaces are used when meats, fish and produce diets are prepared in a common kitchen area.
- h. Food preparation surfaces are thoroughly cleaned after use.
- i. Staff and volunteers wash hands thoroughly prior to handling food, and wearing gloves during food preparation is recommended.

## **Veterinary Care**

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### **V-1. General Medical Program and Staffing**

**There is a written veterinary medical program, overseen by a veterinarian, with adequate support staff at the sanctuary, with 24/7 veterinary care available on call.**

- a. The sanctuary has a written veterinary medical program, including long term preventative medical protocols and disease surveillance and containment procedures, that is developed and carried out under the supervision of a licensed veterinarian – the attending veterinarian - who has training or experience in providing medical care for the primate and other species housed at the sanctuary, and who is aware of any specific issues with the health of the primates at the sanctuary.
- b. One or more full-time veterinarians specifically concerned with the veterinary medical program is highly recommended for sanctuaries whose budget will support the salaries of such trained personnel. Sanctuaries unable to employ a full-time veterinarian have access to a part-time veterinarian, under a contractual or other similar arrangement, with training and appropriate experience with the primates housed at the sanctuary.
- c. Veterinary care is available 7 days per week and 24 hours per day for the sanctuary on an on-call basis when a veterinarian is not physically on grounds. When the primary veterinarian is unavailable, there are other suitably experienced veterinarians on call.
- d. There are support staff to carry out the following roles: (1) Husbandry (primate caregivers), (2) Technical (medical technologists, or individuals trained at the sanctuary), and (3) Clerical. The sanctuary has available properly trained and qualified professional and supporting personnel as necessary to implement these roles.
- e. A staff member is trained to serve as a medical program director, dealing with emergencies until a veterinarian arrives or is reached. He or she is able to direct any restraint of the primates, perform basic first aid, be responsible for administration of post-surgical care, and be skilled in maintaining appropriate medical records.
- f. Medications are stored appropriately on site, according to label directions. Medications requiring refrigeration are stored separately from food items.

## **V-2. On-Site and Off-Site Veterinary Facilities**

**Veterinary facilities are appropriately located, designed and equipped.**

- a. Any on-site veterinary facility at the sanctuary meets all local and state/province building regulations
- b. Surfaces in the on-site veterinary facility with which primates can come in contact are non-toxic and can be readily disinfected.
- c. The on-site facility is located away from areas of heavy public use to minimize noise levels for hospitalized primates.
- d. The on-site facility has separate areas for examination and treatment for any of the following functions performed on-site: sterile surgery, necropsy, quarantine, laboratory, radiology, pharmaceuticals storage including, when necessary, a safe for narcotics that meets the standards set by applicable regulations (e.g., the Drug Enforcement Administration [DEA] in the United States), radiology equipment (if done on-site), primate holding areas, capture and restraint equipment, non-absorbent and non-impact resistant

- surfaces, floors sloping toward drains, air handling systems, ceilings, doors, outside primate enclosures as appropriate, hospitalized primate enclosures, furniture, and storage areas.
- e. If the sanctuary does not have an on-site veterinary facility, or only a partially outfitted veterinary facility it has a contract or similar arrangement with a nearby veterinary hospital for off-site treatment as needed. The hospital should have a sterile surgical facility with anesthetic equipment to include radiology equipment, a laboratory, and pharmaceutical storage. If necropsies are performed at the hospital, there is a separate area for necropsies and a separate storage refrigerator for storage of carcasses.
  - f. See also Standard V-4, "Diagnostic Services, Surgical, Treatment and Necropsy Facilities."

### **V-3. Preventative Medicine Program**

**The sanctuary has a complete preventative medicine program.**

- a. Appropriate preventative medicine programs are in place to manage all primates, with special attention paid to geriatric animals.
- b. The preventative medicine program includes quarantine procedures, parasite surveillance and control, immunization, contraception, infectious disease screening, dental prophylaxis, and periodic reviews of diets, husbandry techniques and invasive species control.
- c. When circumstances permit, and as appropriate for the individual animal, an overall examination is performed annually, blood is collected, serum banked as a baseline control and the results are recorded. The attending veterinarian, in consultation with the sanctuary director, determines any schedule for routine physical examinations, including ocular, dental and musculoskeletal assessment, and implements any necessary treatment.
- d. A veterinarian, veterinary technician, or other trained personnel performs regular fecal examinations to look for pathogens (random enclosure sampling is adequate for group-housed primates). Results are recorded. Fecal examinations are repeated following treatment to evaluate efficacy.
- e. All primates are immunized as recommended by the attending veterinarian, using currently recommended procedures and products as appropriate for the country, species and individual. Note: macaques should be immunized against tetanus. Where possible, killed vaccines are utilized to minimize the potential for adverse reactions. Schedules and products are dictated by the disease status of domestic and wild animals in the area surrounding the sanctuary and relevant local and national laws.
- f. When primates are immunized, the type, serial number, and source of product are recorded in the individual animal's medical record.

## **V-4. Diagnostic Services, Surgical, Treatment and Necropsy Facilities**

**Diagnostic services, surgical facilities and services, medical treatment for sanctuary primates and necropsy are all high quality, humane, professional, legal, and safe.**

### **Diagnostic Services**

- a. Diagnostic laboratory services are available on- or off-site to assist with the examination of primates and the diagnosis of disease.
  - Where diagnostic services are performed on-site appropriate safety equipment and training is in place, e.g. as radiation exposure monitoring, personal protective equipment and hazardous material handling equipment; and there is a maintenance program in place for X-ray machines and other laboratory equipment.
  - Diagnostic capabilities include radiology, cytology, microbiology, parasitology, complete blood count, blood chemistry, urinalysis, serology and other appropriate laboratory procedures.

### **Surgical**

- b. The sanctuary has access to surgical facilities (either on-site or at a nearby veterinary hospital) that are clean, free from excessive noise and unnecessary pedestrian traffic, have adequate lighting, ventilation, and temperature controls, and can be easily cleaned and disinfected. For off-site aseptic surgical facilities, an on-site area that can be adapted for occasional or emergency aseptic surgical use is available.)
- c. Surgical facilities have access to appropriate anesthetic equipment including injectable anesthetics, reversal agents, oxygen, sterilized surgical packs, surgical preparation solutions, intravenous fluids, fluid administration equipment, pulse oximetry, heart monitoring equipment (e.g. electrocardiogram, stethoscope), and emergency drugs.. Where gas anesthetic equipment including scavenger units, are used, they are cleaned and calibrated at least annually. Gas cylinders are safely stored and replaced regularly.
- d. If on-site, the sanctuary ensures that surgical equipment is maintained in good working order and is on a program of routine preventive maintenance.
- e. Only a licensed veterinarian performs surgery, using standard operating procedures. (Note: A veterinary technician appropriately trained by a veterinarian in states or provinces where such action is permitted by veterinary practice acts can perform surgical first aid.)
- f. The veterinarian uses aseptic surgical procedures whenever applicable.
- g. Veterinarians and support personnel are compassionate and knowledgeable about the humane aspects of primate treatment, including the proper use of anesthetics, analgesics, and tranquilizers.
- h. Surgical incisions are observed daily, or as frequently as possible while minimizing stress to the primates, for signs of dehiscence or infection. Analgesics are administered post-operatively when appropriate.

### **Treatment**

- i. Medications are maintained and used in accordance with local, state/province, and national laws and regulations and are administered in accordance with the state veterinary practice act, or equivalent outside the US.
- j. The sanctuary has a pharmacy on-site where routinely used drugs, such as emergency resuscitative medications, antibiotics, anthelmintics, fluids, anesthetics, analgesics, tranquilizers, etc. are maintained.
- k. All medications are purchased, prescribed and administered under the guidance of the veterinarian.
- l. When distributed to primate caregivers, medications are properly labeled and packaged, with the contents identified and instructions for the amount, frequency and duration of administration as well as the name and identification of the primate to receive the medication, the expiration date of the medication, prescribing doctor and number of refills if any.
- m. All medical treatments and drug prescriptions are documented in the primate's medical record.
- n. Basic physical capture and restraint equipment to facilitate medical treatment is available at the sanctuary.

### **Necropsy**

- o. Whenever possible, there is an isolated area on the grounds for performing necropsies, or appropriate storage facilities until the deceased primate can be transported to a facility for a postmortem examination as soon as possible, understanding that necropsies performed longer than 24 hours after death may be of limited value due to autolysis of the body. (Note: Any refrigerated area for holding dead primates is physically separate from live primate holding, treatment, and surgery areas and from food supply storage or preparation areas.)
- p. Disposition of dead primates and their parts meet all legal restrictions.
- q. Dead specimens not used are incinerated or disposed of as deemed suitable by the veterinarian in accordance with local, state/province and national regulations.

## **V-5. Quarantine and Isolation of Primates**

**Appropriate quarantine and isolation policies and accommodations are in place and utilized.**

- a. Upon arrival, Old World primates undergo quarantine for a minimum of 30-60 days, according to the protocol established by the attending veterinarian, or for a greater period if required by applicable law. The quarantine period is longer (at least 60-90 days) for those primates that have received minimal screening prior to arrival, such as primates from the wild. Primates previously housed together may be quarantined together.
- b. If the sanctuary does not have an adequate quarantine facility, steps should be taken to have primates undergo quarantine under these guidelines prior to their arrival.
- c. Local, state/province, or national regulations regarding quarantine of newly arrived primates are followed.
- d. All utensils and outer clothing used in quarantine are restricted to that area.

- e. Protective clothing, boots and footbaths are used by all staff entering the quarantine area or areas containing quarantined animals. Quarantine clothing is not removed from the quarantine area, except in a sealed container for cleaning.
- f. Caregivers wear protective gloves and masks when cleaning or handling anything with which the quarantine primates come into contact.
- g. Where possible, staff working in quarantine areas does not work with other sanctuary animals. If this is not possible, work is done in the quarantine areas last.
- h. Quarantine staff cares for newly admitted primates in their quarantine area before caring for sick animals, which are housed in separate isolation enclosures.
- i. The quarantine area allows for daily cleaning and sanitation, either with removable catch trays or a drainage system that allows fecal matter to flush into a septic system; waste is otherwise removed and disposed of properly.
- j. In enclosures housing animals carrying infectious or transmissible diseases, to the extent possible, all surfaces of the enclosure are properly sanitized.
- k. Quarantine areas have adequate ventilation, heat and air conditioning, which are used to ensure optimum conditions, particularly in the case of young, elderly or sick primates who may be more sensitive to environmental changes.
- l. Quarantine animal waste is handled separately from all other manure or compost at the facility. Because of the risk of disease transmission, quarantine waste is not spread on pastures or composted.

## **V-6. Medical Records and Controlled Substances**

**Complete medical records and appropriate statistics are maintained, primates have permanent identification, and controlled substances are prescribed and stored legally.**

### **Medical Records**

- a. An electronic database format is recommended for most record keeping, but in either case, the sanctuary has a back-up system for the records.
- b. Records that, if not required by law, are required by GFAS include but are not limited to:

#### **Individual Records**

- Individual animal records showing origin, age, species, gender, microchip number, tattoo, photo, bio, etc.;
- Individual veterinary record;
- Reproductive history, if known;
- Contraception records;
- Weight, current diet and record of diet changes;
- Food consumption and preferred food items;
- Enrichment dates, items used and primate's response.;

- Where applicable and appropriate, any positive behavioral management records showing completed objectives and those in development;
- Current and historic cage mates, social groups and partners, including response to various phases of introduction and response to other individuals;
- Acquisition documents;

#### Group Records

- Welfare assessment for the primates as a whole including measures of: disease prevalence, morbidity and mortality rates, and activity levels;
  - Inspection reports, as applicable, from international, national, state/province and local agencies, as well as accrediting organizations;
  - Other animal documentation as applicable, such as complaints or police reports pertaining to specific animal and animal escape reports.
- c. Medical records are dated, legible and indicate examination findings, treatments (types of medication, dosage, duration), surgical procedures, anesthetic procedures (type of agent, dosage, effect), results of all laboratory tests (parasitological, hematologic, bacteriologic, etc.) pathology reports, plus immunization records with all relevant dates, primate identification and nutrition/diet information, and, where applicable, necropsy reports.
- d. Copies of medical records accompany any primate who is transferred to another sanctuary.
- e. Medical records are maintained under the direction of the veterinarian or trained primate caregiver. Where possible, duplicate record sets are stored at another site, or in a fire proof or theft proof safe on site or an online storage system.
- f. Statistics are tabulated regularly on the rates and nature of illness and mortality in the sanctuary.

#### Controlled Substances

- g. Only a licensed veterinarian prescribes controlled substances used at the sanctuary, and all such substances are secured in accordance with any applicable laws.
- h. The sanctuary maintains appropriate records and logs for all controlled drugs used. All drug logs are kept up to date and comply with any national or other legal requirements (such as the Drug Enforcement Agency in the U.S.).
- i. Expired controlled drugs are marked as such and stored separately.
- j. Controlled drugs are discarded in accordance with applicable national, state, and local law and regulations (such as the USDA and DEA in the United States).

### **V-7. Breeding**

**No intentional propagation of Old World primates occurs, and sound practices are in place and implemented to prevent propagation and to properly care for infants born at the sanctuary.**

- a. Although GFAS recognizes the importance of appropriate “conservation breeding” programs, they fall outside the mandate of GFAS Accreditation programs unless they adhere to the following guidelines:
- Animals are not brought into captivity for the purpose of breeding. Animals that are allowed to breed should enter a wildlife facility as a result of normal acquisition protocols such as surrender or government confiscation and be considered an endangered or threatened species with available release sites within the state/province, conducted with specific conservation goals, in accordance with local, state/province, national, and international law and regulations.
  - Breeding should not be forced – that is, not the result of artificial insemination or being placed in enclosures of insufficient size or otherwise not in keeping with GFAS standards.
  - Breeders – that is, the parent animals – should be released into the wild with their young. If breeding animals are deemed unreleasable, there should be documented evidence from a qualified professional that the animals cannot be released because of a physical condition or other reason that would make them unable to survive in the wild. Offspring of unreleasable parents should not be released until an age of species-specific maturity for survivability.
  - Unreleasable breeding animals should receive the care required of all animals under the GFAS standards and should not be maintained for the purpose of breeding if they have incurable or unmanageable pain or suffering and do not have an acceptable quality of life.
  - The facility should have an identified release site for the breeding animals and offspring, with any necessary permits or memoranda of understanding in place. While GFAS may consider whether a definite plan (such as ongoing surveys of land for potential release sites and a timeline for releasing animals) is sufficient, it will not be sufficient for a facility to simply say that it hopes or plans to be able to release the animals one day. Thus, a facility may not breed any animals in captivity, even highly endangered animals in order to create a sustainable population, without a definite release plan in place.
- b. The sanctuary has a protocol in place to ensure that all mixed-sex groups are contracepted. Single-sex groups do not require contraception. Choice of method is based on present best practice and attending veterinarian recommendations.
- Vasectomies are the preferred method of male contraception for permanent sanctuary residents, and are performed by a veterinarian experienced in the procedure. Recently vasectomized males are kept isolated from females until it is established that the animal is not capable of reproducing.
  - Castration may be an acceptable form of male contraception, particularly in cases of testicular pathology.
  - While ovariectomy is an effective form of contraception, it is only performed in cases of reproductive tract pathology as the procedure may have significant behavioral implications.

- Female contraception may be considered in some cases. The method of contraception used is based on current best practice and attending veterinarian recommendations.
- If females arrive at the facility pregnant, the sanctuary provides necessary care and the female is allowed to deliver unless there are valid health reasons for terminating the pregnancy, or unless the attending veterinarian feels the pregnancy is in such an early stage that aborting the fetus is an option, if so desired by the sanctuary. After delivery, reproductive control methods are applied after allowing adequate time for weaning as appropriate for that primate, provided there is no further opportunity for breeding during this period of time.
- In range state sanctuaries where the possibility of release back to the wild exists, reversible forms of contraception are preferred.
- Infants born at the sanctuary remain with the mother and social group as appropriate for natural rearing, provided there is no further opportunity for breeding during this period of time.
- Infants are only removed from parents for hand-rearing if there is a threat to the life of the infant or the mother.

## V-8. Zoonotic Disease Program

**The staff and sanctuary veterinarian are knowledgeable about zoonotic diseases that may affect primates at the sanctuary, and implement appropriate policies and procedures as needed to mitigate risk and deal with any exposures that occur.**

- a. The sanctuary's veterinarian is knowledgeable about zoonotic diseases that may affect primates at the sanctuary. The sanctuary has emergency procedures and a defined process to avoid transmission of all potential or emerging diseases through bites, scratches, body fluids, direct contact with primates and other means. (Note: Additional precautions may be necessary for staff classified as increased risk of disease, including those who are immune-compromised.)
- b. Personnel have adequate training to understand the potential risk of disease transmission, including potential sources of disease, modes of disease transmission, and clinical signs associated with disease.
- c. All personnel are informed when a zoonotic disease occurs at the sanctuary.
- d. Staff has tuberculin tests and necessary immunizations prior to employment and annually thereafter, as appropriate for the country, primate species and individual. All attendants, handlers, and/or trainees who have direct contact with primates are tested for tuberculosis or have a chest x-ray taken on at least an annual basis and are continually made aware of the potential threat.
- e. A physician with expertise in infectious diseases is consulted whenever an employee contracts an unusual illness or is exposed to a primate diagnosed with a zoonotic disease.

- f. When a reportable disease is identified, all appropriate local, state/province, and national regulatory officials are contacted.
- g. All areas in which the staff has direct contact with primates have hand-washing facilities available in the immediate vicinity (or an equivalent; e.g., bactericidal hand-wipes)
- h. Human food consumption by the staff does not occur in the immediate area of primate contact.
- i. Wild-caught primates are quarantined for 90 to 180 days to reduce the risk that they carry latent rabies virus. Rabies testing and vaccination protocols are carried out in accordance with national, state/province and local rabies prevention protocols.
- j. Unless extensive testing has been performed for those pathogens likely to be a concern for the region, all staff–primate contact is avoided, reducing risk of cross-transmission of disease.

## V-9. Euthanasia

**Euthanasia is governed by an ethical written policy that includes identification of appropriate personnel and procedures.**

- a. The sanctuary has a written policy addressing the circumstances surrounding euthanasia decisions and procedures, including the following:
- b. Euthanasia is performed in compliance with any national or local law, administered under the strict supervision of a licensed veterinarian. In extreme circumstances of animal suffering when a veterinarian is unable to reach the sanctuary in a timely manner, an emergency method of euthanasia may be required and is performed by a trained and qualified staff member when no other humane option is available.
- c. Euthanasia is in the best interest of the individual animal only used as a final option, and is not used as management tool (such as a means to create space for more animals).
- d. Acceptable reasons for euthanasia include:
  - Incurable disease/injury that is likely to cause unmanageable pain or suffering;
  - Disease/injury where treatment is likely to cause unreasonable pain or suffering;
  - Disease/injury where treatment will not be effective in restoring the primate to an acceptable quality of life;
  - Disease/injury where treatment is beyond the normal community standards of monetary expenditure and would cause an excessive burden on the sanctuary resources, and no other sanctuary can step in, after reasonable efforts to locate such a sanctuary;
  - The process of aging has resulted in an unacceptable quality of life;
  - In the event of presenting an infectious disease risk to some or all of the residents.
  - For facilities engaged in the rehabilitation and reintroduction of wildlife, it is determined in accordance with an appropriate protocol or other “decision tree”

analysis that an animal cannot be reintroduced to its natural habitat and there is no appropriate (consistent with these standards) long-term care option.

- e. Euthanasia is performed so that it avoids distress to the primate, and unless impossible, is performed out of view of other primates.
- g. The species and ecosystems are carefully considered during disposition activities.

## **Well-Being and Handling of Primates**

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### **W-1. Physical Well-Being**

**All Old World primates are routinely monitored to ensure their physical well-being. All aspects of husbandry, including veterinary care, environmental enrichment and diet are designed to optimize the primates' physical well-being.**

- a. The welfare of each individual primate is the overriding consideration in all sanctuary actions.
- b. Primates are able to enjoy lives that are as close as possible to that of their wild counterparts as regards stimulation and interest through adopting husbandry and management procedures, including appropriate housing and enclosure design, environmental enrichment programs, positive reinforcement programs and a balanced diet to meet nutritional requirements.
- c. Primates are provided with opportunities to climb, nest, forage for food and play by providing species-appropriate climbing structures, places to hide and rest in comfort, and a variety of plants and substrates and other enclosure enhancements where food/enrichment items can be hidden.
- d. Regular assessments are performed in an effort to quantify and measure the welfare of individual animals through monitoring of nutritional, physical and social conditions. Qualified personnel conduct daily observations of each primate to monitor for signs of physical abnormalities. Any unusual activities are recorded in a log at each inspection. Sudden changes in food consumption and other behaviors are immediately brought to the attention of supervisory staff. Note: Where it is not possible to observe each animal on a daily basis, time is spent observing all primates on at least a weekly basis, an accurate population count is maintained, and health issues monitored.
- e. Where possible and appropriate, records of individual primates are kept to provide both behavioral and veterinary history.
- f. Veterinarians and staff carefully evaluate the need for physical intervention in cases of health problems, as unnecessary removal of individuals from a stable group may have long-term negative consequences for both the individual and the group.
- g. Where possible, each primate is weighed annually, either during a routine physical or through the use of a built-in scale, to monitor for signs of illness and to determine dosages for chemical anesthetics.

- h. The use of positive reinforcement may be appropriate for some primates who enjoy interacting with people to provide additional enrichment and reduce the need for chemical immobilization and to reduce stress during medical intervention.

## **W-2. Social Housing**

**Old World primates are grouped appropriately with the safety of animals and staff in mind.**

### **General**

- a. Old World primates housed in the same primary enclosure are compatible.
- b. Primates are not housed near animals that interfere with their health or cause them physical or psychological discomfort.
- c. Habitats are of sufficient size to allow appropriate space between individuals within and between social groupings and to allow for temporary isolation from conspecifics.
- d. Primates are housed so that no individual endures constant harassment or suffers physical injury, nor do social behaviors prevent any individual from maintaining proper nutrition and hydration.
- e. Solitary housing is generally temporary and reserved for situations including, but not limited to: quarantine; medical assessment and/or care; lack of appropriate social partners or social tension resulting in disruption to the main troop or physical aggression leading to injuries. Where possible, solitary Old World primates are given a companion or visual and auditory contact with conspecifics.
- f. The sanctuary has the ability to separate and isolate animals to address behavioral concerns. If primates are isolated for social reasons, all efforts are made to find a suitable social group within the facility or at another accredited institution.

### **Social Housing**

- g. The individual developmental and social history of each primate is taken into consideration when determining social groups.
- h. Old World primates are not housed with New World primates. Mixed species housing with other than Old World primates is not recommended.
- i. Considerations for Baboons and Mandrills
  - Captive groups can have varied composition. Most typical would be:
    - Adult male, adult females, juveniles, adolescents
    - Adult male, adult females
    - Adult pair, one male, one female
    - Adult trio, one male, two females
  - All male groups can be attempted if the males come together as juveniles and are housed away from female baboons.
  - Females with infants are housed within the group without disruption.

- Pregnant females are not separated to give birth.
  - Juvenile and adolescent males can be housed in the natal group until forced out by adults.
  - Groups with young males are monitored closely for aggression.
  - Young males forced from a group are not singly housed. A social companion is provided.
  - Baboons are a matrilineal species and females can remain in natal groups indefinitely, in most situations.
- j. Specific considerations for Hamadryas Baboons (*Papio hamadryas*)
- Hamadryas baboons have a complex four- tiered social system based on the one male unit (OMU). In the captive setting, the OMU is typically housed as one male and 2-4 adult females plus offspring.
  - Males have a strong interest in infants and will carry them from a very young age.
  - Appropriately sized outdoor enclosures can accommodate as many as 3-4 compatible OMUs to form a clan of 20-25 animals.
  - Hamadryas baboons are not matrilineal; males remain in their natal clans and females typically emigrate.
  - Hamadryas baboon clans come together at night to rest on cliff faces. In captivity, large groups can be housed compatibly within indoor areas for overnight periods and during inclement weather.
  - It is extremely important to understand Hamadryas baboon social organization to minimize injuries within a group.
    - Hamadryas males aggressively maintain group composition and can injure females separated from them for husbandry or management reasons.
    - Males can form their groups through kidnap of young females.
    - In the absence of a male, competing males will gain control of females and can result in serious aggression and wounding when the male is returned to the troop or band. For this reason, males that are separated for medical reasons are separated with their females.
    - Visual contact between separated groups can create considerable stress and social tension. For this reason, separated individuals are housed beyond visual contact with others. This is an important consideration for facility design.
- k. Specific Considerations for Guenons and Patas Monkeys
- With the exception of the DeBrazza's monkey, the guenons are naturally found in single male – multi female groupings in the wild. Group size varies between species and guenons routinely form associations with other primate species. Captive groupings of varying structure have been successful:
    - Adult male, adult female, juvenile, adolescent.
    - Adult male, multiple adult females.
    - All male groupings when housed away from female guenons.
  - DeBrazza's monkeys are monogamous and do not form associations with other primate species. Monogamous pairs are preferred. Captive groupings of monogamous pairs and their offspring are successful as long as the adults tolerate the presence of their young.

I. Specific Considerations for Colobus Monkeys and Vervets

- Multi male – multi female groups with roughly equal numbers is preferred as this is most similar to natural social structure. One male – multi female groups have also been successful.
- All male groups, while occasionally successful, must be carefully monitored for signs of aggression.

m. Specific Considerations for Langurs and Other Leaf Monkeys

- One male– multi female social structure is optimum for these species. Social housing that includes juvenile and adolescent males should be monitored for aggression as these males are often forced out of their natal group.

n. Specific Considerations for Gibbons and Siamangs

- Gibbons and siamangs of different species have been successfully housed together.
- Gibbon and siamang social structure is typically a monogamous pair and their offspring. In sanctuary settings the following social groups have been successful:
  - Adult male, adult female, juveniles, adolescents. Note: Juveniles and adolescents may be forced out of this grouping. When this occurs, a social companion for any single juvenile or adolescent is provided.
  - Adult male, adult female
  - Adult trio– one male, two females
  - Adult trio–single gender.
- Adult gibbons and siamangs housed with a young male should be monitored closely for aggression.

o. Specific Considerations for Macaques

- Captive groups can have varied composition. Most typical would be as follows:
  - Multi male – multi female with roughly equal numbers
  - Multi male – multi female where females outnumber males and have a matrilineal hierarchy
  - One male – multi female group
- All male groups have been successfully developed in the absence of females but are monitored closely for signs of aggression.
- Females with infants are housed within the group without disruption.
- Pregnant females are not separated to give birth.
- Juvenile and adolescent males can be housed in the natal group until forced out by adults.
- Groups with young males are monitored closely for aggression.
- Individual macaques forced from a group are not singly housed. A social companion is provided.
- Several of the macaque species have a matrilineal social organization and females may remain in natal groups indefinitely.
- Considerations for Japanese Macaque or Snow Monkey (*Macaca fuscata*):
  - The snow monkeys typically live in large multi male – multi female groups where females outnumber males by roughly 3 to 1. Large social troops have been assembled in captive settings.

- Females have a fairly rigid social hierarchy. Infants inherit their mother's social rank.
- Males emigrate to new troops periodically so it is important to observe captive groups for signs of tension that may precede a male move.
- Considerations for Lion-tailed Macaques (*Macaca silenus*)
  - Lion-tailed macaques are unique from other *Macaca* species both in appearance and social structure. The typical social group is single male - multi female.
  - All male groups have been developed in captive settings, although they are observed closely for signs of aggression. Males forced from a group are not singly housed. A social companion is provided.

### **W-3. Introduction of Unfamiliar Individuals**

**Introduction of any new Old World primate to a social group is done according to techniques appropriate for each species, with staff safety**

- a. Introduction of unfamiliar Old World primates is carefully considered. Professionals with experience in social introductions, if not on staff, are consulted whenever possible during these considerations.
  - Introduction of an adult to another adult with offspring takes the age of the offspring into consideration. Note: introduction of an unrelated adult to an established pair of monogamous Old World primates is unlikely to be successful.
- b. As needed and possible, information listed below is gathered for the introduction planning process:
  - A list of individual animals to be introduced, including all that the sanctuary ultimately hopes to integrate into a group.
  - Background of each individual, including but not limited to: age and gender; social experience with other primates; rearing history (hand-reared, parent reared, time spent with mother and siblings); affiliations with other individuals who are also being integrated into the new group; considerations for species-specific behavior and biology including potential for infanticide, cycle status of females, male-male relationships.
- c. As appropriate or needed, benchmarks or desired outcomes are identified for each step in the process. Examples include:
  - physical location of animals during visual contact period;
  - behavioral goals of visual contact period;
  - physical location of animals during tactile contact period (in naturalistic settings, an enclosure within the acreage/hectares allows for exploration without hotwires, etc.);
  - behavioral goals of tactile contact period;
  - benchmarks for proceeding to physical introduction;
  - space and cages to be used for physical introduction;

- reasons location selected: neutral space, ample run around, visual barriers, doors that can be closed to protect animals in trouble etc.;
  - cage set-up for physical introduction, enrichment etc.;
  - emergency equipment that might be needed;
  - time frame necessary to acclimate animals to presence of equipment;
  - criteria for separating animals if physical introduction does not proceed safely;
  - post introduction management and husbandry protocols.
- d. The plan is developed with involvement of all staff involved with care of the species and details a series of steps that will be taken to integrate the individual animals involved. Necessary modifications to enclosures are identified and completed prior to beginning the process.
- e. The plan establishes behavioral goals for introductions and is not driven by schedules, and is open to modification as introduction/integration develops and evolves.
- f. Only normally scheduled caregivers and animal managers are present to directly observe. Individuals who are not routinely present in the animal area, including veterinary and management staff, observe via remote video or receive reports from staff.
- g. All caregivers have a clear understanding of the plan including contingencies for problems that might occur, and are empowered to take appropriate action in the event of perceived emergency.

#### **W-4. Behavioral/Psychological Well-Being**

**The behavioral/psychological well-being of each Old World primate is evaluated and addressed, appropriate enrichment is provided, and where appropriate a welfare plan and report is part of each primate's file.**

- a. There is a formal, written enrichment program that promotes species-appropriate behavioral opportunities and ensures the captive primates' psychological well-being. A complete environmental enrichment program includes the following:
- Structural enrichment - Enclosure design and furniture that add complexity to the environment and promote species-specific behavior (e.g., climbing, perching). Examples include benches, climbing structures, ropes and fire hoses, and hammocks.
  - Object enrichment – Objects that encourage inspection and manipulation and promote species-specific behavior (e.g., nesting, tool-use). Examples include straw, hay, blankets, branches, acrylic mirrors, dolls, and toys.
  - Food enrichment - Varying food choices and food presentation, including the use of puzzles that increase food procurement time. Examples include treat dipping, raisin logs, and smearing peanut butter in hard-to-reach areas.
  - Social enrichment - Affiliative interactions between caregivers and primates (e.g., grooming and playing chase) may be appropriate in some instances. The decision to include social enrichment with caregivers should be made on an individual basis, considering only the social needs of the animal such as primates in poorly bonded or small groups; dependent young; primates in small enclosures; solitary animals,

particularly those hand reared by humans with no conspecific contact; neonatal and juvenile animals in situations where appropriate.

- b. All Old World primate care staff are trained to recognize abnormal behavior and clinical signs of illness. Measures of well-being that are assessed include:
  - species appropriate behavior and interaction with other animals;
  - the animal's ability to respond appropriately to variable environmental conditions, physiological states, developmental stages, and social situations as well as adverse stimuli.
- c. Stereotypic behavior, self-injurious behavior, and inappropriate responses to various stimuli not previously documented or witnessed may be evidence of compromised well-being and are investigated. A plan to address the concerns is developed.
- d. Where possible and appropriate, a behavioral/psychological profile is maintained for each individual primate and updated annually. A copy of the welfare report is kept in the primate's permanent file.

## **W-5. Old World Primate-Caregiver Relationships**

**Positive relationships between Old World primates and caregivers are maintained. Primates are not fearful or aggressive in response to human presence or routine care procedures.**

- a. Primates arrive at sanctuaries with a variety of previous experience with caregivers, which caregivers take into account in their interactions with these species.
- b. A protocol for introducing primates to new caregiver staff has been developed. Where possible, new caregivers accompany a trusted caregiver until the primates become comfortable with the new individual.
- c. A positive relationship between the primates and regular caregivers, animal managers and veterinary staff is one in which the primates are given the freedom to integrate with their conspecific social group with minimal human interference or to interact regularly with caregivers if they choose.
- d. Where possible and appropriate, animals become familiar with the veterinary staff, allowing close observation. Individual primate preference for interaction with caregivers, animal managers and veterinary staff is taken into account.
- e. The animals do not become fearful or overly aggressive in response to human presence or routine care procedures.
- f. Interactions with primates do not cause overheating, excessive cooling, physical harm, or unnecessary discomfort, and minimizes physical and psychological stress or trauma as much as possible.
- g. Negative interactions are avoided. However, when they occur, efforts are made to recover trust and a positive relationship if the primate enjoys regular interaction with people.
- h. Physical abuse, deprivation of food or water, aversive spraying with a hose, and other forms of negative reinforcement or punishment-based training are never used to train, shift or otherwise handle primates. Note: This does not preclude the use of hoses or other watering devices in caring for the primates who enjoy this form of enrichment.

## **W-6. Handling and Restraint**

**Any necessary handling and restraint is done safely and appropriately, with minimal distress to primates, and staff are trained in primate-specific safe handling techniques/practices.**

- a. With few exceptions, humans do not enter enclosures with primates or engage in direct physical interaction. to minimize the risk of injury.
- b. The safest method to capture and restrain an Old World monkey is through simple conditioning to enter a squeeze cage or crate.
  - Attachments for crates and squeeze cages are included in facility design or modifications.
- c. Manual capture poses great risk of injury to the primate and the handler. It is, therefore used with caution.
  - Manual capture is not recommended for macaques or baboons due to their size and strength, and the potential retrovirus transmission risk for macaques. Manual capture and restraint of baboons using catch poles or nets is not attempted.
  - When circumstances require capture of a Old World primate using a net, the following considerations are met:
    - The net mesh is large enough to insure adequate airflow while the animal is captured or restrained.
    - The net width exceeds the arm span of the primate to be netted.
    - The net depth is twice the height (head to rump) of the primate to be netted.
    - The net fabric is dry, soft, has a flexible suspension and does not pose risk of injury to the primate.
    - The net handle is short enough to allow maneuverability within the enclosure.
    - Nets are not used to chase a primate in an enclosure.
    - The animal is allowed to establish a pattern of movement and the net is placed in its path.
    - If a primate is not safely netted within 2-4 minutes, the attempt is aborted and the animal is allowed ample time to recover, usually two or more hours.
    - The net is not twisted around the primate to restrain it as this results in a serious risk of injury or death.
    - When multiple animals are present within the enclosure, net captures are avoided if at all possible to reduce the risk of mobbing behaviors.
    - Three peoples: the net handler, an observer, and a person responsible for the human access door, participate in each net capture.
    - Nets are sanitized following each use.
- d. Direct physical interaction is prohibited unless the Old World primate is appropriately restrained in order to perform essential veterinary or management activities. When such

- handling is deemed necessary by the sanctuary director or the attending veterinarian, only trained personnel are allowed to do so.
- e. Handling for veterinary care is done as expeditiously and carefully as possible in a manner that does not cause trauma, overheating, excessive cooling, physical harm, or unnecessary discomfort, and minimizes physical and psychological stress as much as possible.
  - f. In general, manual restraint is not recommended for primates, and is not attempted when multiple animals are present in an enclosure.
  - g. A written policy for the humane chemical restraint and safe capture of animals housed at the sanctuary is in place, to include:
    - Training and certification in the equipment, humane chemical restraint, immobilization process, and the use of drugs for veterinarian purposes or emergencies;
    - Procedures listing at a minimum those persons authorized to administer animal drugs, situations in which they are to be utilized, location of animal drugs in a safe and secure place, and those persons with access to them, and an emergency procedure in the event of accidental human exposure.
  - h. All chemical restraint equipment is cleaned after each use, maintained in good working order and tested on a regular basis.
  - i. Other than exceptions for dependent young, primates are chemically immobilized by qualified personnel when direct handling is necessary (*i.e.*, physical exams). Chemical immobilization is performed only by a licensed veterinarian or by trained staff under the guidance of a licensed veterinarian, or other qualified individuals authorized by the sanctuary director or veterinarian, following the laws and regulations of country where the animals are housed. Specific anesthetic protocols, including record-keeping, are followed.
  - j. Chemical restraint is not used when multiple animals are in an enclosure except in an emergency situation. In such cases, all possible precautions are taken to prevent threats to the handlers and the animal being sedated.
  - k. Multiple staff members are trained to use a dart gun and other restraint equipment, and to employ safe capture techniques. The staff, and volunteers where appropriate, are aware of who is trained and authorized to use restraint equipment.
  - l. Where possible and appropriate, Positive Reinforcement Training is used to minimize the need for chemical immobilization and to reduce stress during procedures.
    - With appropriate training, many procedures can be performed cooperatively and without anesthesia, such as examination of body parts, treatment of superficial injury, heart rate monitoring – even EKGs and blood draws.
    - Some primates may be trained to accept a manual injection for chemical immobilization, thus avoiding the stress of darting.
    - Some primates may be conditioned to enter a squeeze cage. Where this method of restraint is used, attachments for crates and squeeze cages are included in facility design or modifications.

## **W-7. Animal Transport**

**Old World primates are appropriately transported to maximize safety and minimize stress and in accordance with all local, state/province, national, international requirements and laws.**

- a. Old World primates are transported only when necessary, such as when being transported to the sanctuary, to a medical facility for care or to another accredited sanctuary for reasons as described in acquisition standards.
- b. Pre-transport health examinations ideally include a complete physical exam with attention to parasite checks, necessary vaccinations, and completion of any tests required by regulations of the receiving state/province or country.
- c. Health certificates and any required transport permits accompany the primate when being transported interstate or internationally. All transport abides by local, state/province, national and international law. A veterinarian is responsible for preparing and signing the health certificate.
- d. Prior to transport, the sanctuary ensures that adequate facilities are available at the receiving end and food items that are familiar to the animal are available.
- e. Where possible and appropriate, primates are acclimated to shipping containers/crates prior to transport. Capture, restraint, and transportation methods consider the great primate's temperament and behavior in order to minimize injury, and distress.
- f. At a minimum, transport enclosures meet appropriate animal welfare standards (e.g., IATA, US Animal Welfare Act Transportation Standards or similar).
- g. Transport crates and vehicles are in good condition and meet national and/or international standards. Equipment suitable for lifting, crating and transportation of animals kept within the sanctuary is readily available.
- h. Transport containers:
  - have impervious surfaces, which are cleaned and disinfected after use.
  - are designed to permit safe transfer into a secondary enclosure.
  - are designed to minimize the risk of the great primate reaching through to make contact with personnel.
  - are designed to minimize loss of bedding and waste, reducing the risk of disease transmission.
  - are placed within a secondary container or closed compartment on the transport vehicle.
- i. Any primate taken outside the sanctuary, for an approved reason such as medical treatment or transfer to a more appropriate sanctuary, is in the personal possession of the sanctuary director, or of competent persons acting on his/her behalf and adequate provision is made for the safety and well-being of the animal and public safety.
- j. All primates taken outside the sanctuary are kept securely at all times. Primates are managed outside the sanctuary in such a way that the animal is under control and not likely to suffer distress, cause injury or transmit or contract disease.

Complete medical records, diet and husbandry information, and identifying papers (e.g., describing tattoos, or other identification methods) accompany all transported primates.

## **OLD WORLD PRIMATES BEING RELEASED TO THE WILD**

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GFAS strongly supports the efforts of wildlife rehabilitators and sanctuary managers to return wildlife to its natural environment, provided appropriate steps are taken to ensure that the animals released are likely to survive in the wild.

Facilities releasing primates to the wild must also make every effort to reduce the risk of their having a damaging impact on ecological resources, including other animal species, found naturally in the release area. Examples of risk factors include but are not limited to:

- Displacement of indigenous animals;
- Transmission of novel pathogens - As humans and primates are evolutionarily so close, the risk of transmission of pathogens between primates and their caregivers is particularly high, as is the risk of transmission of human pathogens back to wild individuals or populations via releases;
- Disruption of local human communities, including crop raiding, damage to dwellings and injury or death of local inhabitants;
- Alterations to the environment that disrupt the ecological niche of other species.

For a more detailed discussion of the potential risks, as well as time and financial commitment involved in creating a quality re-introduction project, see the International Union for the Conservation of Nature's (IUCN) "Best Practice Guidelines for the Re-Introduction of Primates" ([www.primatesg.org/storage/pdf/BP.reintro.pdf](http://www.primatesg.org/storage/pdf/BP.reintro.pdf)).

### **R-1. General Considerations**

**The sanctuary has policies, agreements and plans in place to optimize the chances for successful re-introduction of primates into the natural environment.**

- a. The facility has a written policy regarding the handling of any potential problems involving released animals. The policy should include but is not limited to:

- a plan to minimize the risk to human life and property in the area of release;
  - a plan for compensation for or mitigation of damages incurred by the released animals;
  - a deterrent plan to discourage inappropriate activities, *i.e.*, spending time around human habitation or crop raiding.
  - a plan for management or removal of animals who fail to integrate appropriately or who become habitual ‘problem animals.’
- b. In as much as possible, using the latest available information on potential health concerns regarding other species found in the area of release, animals are tested and treated for pathogens that might pose a threat to other wildlife.
- c. The facility has agreements in place with any and all appropriate authorities to allow the release process to proceed as smoothly as possible.
- d. Ideally, permissions, any necessary documentation, site determination, etc. begin as soon as it is determined that there are animals in care that are likely to be suitable for release.
- In particular, facilities obtain any permits or other forms of authorization needed to proceed with the release.
  - Potential release sites are identified and evaluated as early in this process as possible.
- e. Cooperative agreements are in place prior to animals being released which may include, but are not limited to:
- veterinary and scientific involvement in post-release monitoring;
  - community acceptance of the project and involvement in habitat protection and awareness raising;
  - landowner agreements enabling release, including the addressing of specific permissions and permits;
  - involvement of NGOs with similar or conflicting interests that may impact (positively or negatively) the project.

## **R-2. Rescue Of Primates**

**The sanctuary has developed guidelines for rescue work, taking into account staff and animal safety, contingencies for caring for the animal once rescued, and any local, state or national regulations or agency cooperation required.**

- a. Facilities accepting primates from the illegal trade have policies and procedures (ideally in writing) in place with the appropriate authorities that allow for rapid transfer of the animals to the sanctuary or rescue center. These policies and procedures are designed to reduce the risk of:
- disease transmission;

- habituation;
  - Inappropriate or inhumane treatment, due to lack of knowledge, by personnel involved in seizure of wildlife from the illegal trade.
- b. In as much as possible, while respecting local or national cultural/religious tenets, a euthanasia policy is in place to address situations where the animal's prognosis for survival is too low to warrant attempting treatment.
- In situations where field euthanasia is being considered, where possible and appropriate (*e.g.*, the animal is reasonably safe from further human interference and the stress of capture would outweigh the benefit of humane euthanasia), the option of leaving the animal *in situ* may be considered.
  - See also Standard V-9, "Euthanasia."

### **R-3. Evaluation Of Suitability For Release**

**Primates admitted into sanctuary are evaluated for their potential suitability for release.**

- a. The sanctuary has a protocol in place (ideally in writing) to evaluate potential release candidates and to determine which primates are given priority for potential release.
- Animals who have spent little time in captivity and/or who have had little human contact are given priority for potential release.
  - Animals found to be free of diseases and/or parasites of potential concern to the health of the population, particularly in the intended release area, are given priority for potential release.
- b. All primates are treated as potential release candidates, particularly those who have not been kept long term as pets. If primates admitted into sanctuary are determined to be potential release candidates, every effort is made to protect them from exposure to human disease and to keep them as wild as possible.

### **R-4. Quarantine And Prerelease Housing**

*(See also Standards H-1 to H-9, "Old World Primate Housing," and V-5, "Quarantine and Isolation of Primates")*

**The sanctuary has appropriate quarantine facilities and prerelease housing for primates, with consideration given to sick and injured primates.**

### **General**

- a. Non-quarantine housing for primates being considered for release provides as close to natural a setting as possible. The space allows for foraging, climbing, nesting and other actions naturally performed in the wild.
- b. Quarantine facilities and prerelease housing for primates intended for release are situated a minimum of 66 ft. (20m), giving consideration to factors such as wind direction, from resident primate populations to protect them from exposure to pathogens present in the sanctuary population that could compromise their return to the wild. A wall surrounding the quarantine area reduces pathogen transfer risk and aids in restricting access to authorized personnel.
  - Where this is not possible, sanctuary residents are screened for potential pathogens of concern, and pathogen-free animals are housed closest to the animals intended for release to the wild.
  - Sanctuary animals being used as surrogates are screened for pathogens prior to introduction to any orphaned primates.
- c. Where possible and appropriate, sanctuaries follow International Wildlife Rehabilitation Council guidelines (<http://www.nrwildlife.org/content/minimum-standards>) in dividing housing into three types:
  - Restricted activity/mobility – for the initial stages of rehabilitation where the illness or injury requires the animal be treated and/or prevented from activities that would slow the rehabilitation process. At a minimum, the animal is able to maintain normal upright/alert posture and to stretch the body.
  - Limited activity/mobility – for the recovery stage of rehabilitation where the animal is regaining mobility and building strength, and staff does not need access to the animal on a daily basis. The animal is able to move short distances and perform some climbing and perching activities.
  - Unlimited/Prerelease – the final stages of rehabilitation where the main concern is ensuring that the animal is fit for release. In this phase, the enclosure provides the primates with opportunities to demonstrate the skills necessary for survival in the wild.

### **Quarantine Housing**

- d. Sick or injured wildlife is quarantined in such a way that the rehabilitation process is begun during the quarantine phase.
- e. Quarantine facilities have appropriate housing for the treatment of injured or ill primates.
- f. Quarantine facilities are designed to allow for monitoring and, as needed, modification of behavior of primates intended for release.
- g. Healthy primates admitted to quarantine have as large an enclosure as possible to help maintain natural locomotion and foraging behaviors.
- h. Upon arrival, primates are quarantined for an adequate number of days, ideally for a minimum of 90 days in accordance with IUCN guidelines. In some situations, a longer quarantine may be advisable.
- i. The attending veterinarian works closely with regional, national and international experts and authorities to determine appropriate quarantine timing based on health risks to which the newly admitted primates may have been exposed.
- j. Orphaned primates, particularly those who have been kept as pets and potentially exposed to human pathogens, are isolated until any potential health risks are evaluated.

### **Initial Housing for Orphaned, Ill or Injured Primates**

- k. Animals admitted requiring treatment for illness or injury are housed in enclosures that allow for ease of care. These initial care enclosures can be smaller than that which is acceptable for long-term care.
  - Dependent on illness or injury, either Restricted or Limited activity/mobility housing may be utilized.
- l. Enclosures provide visual and acoustic barriers to minimize stress.
- m. Orphaned primates are housed in nursery units, preferably with conspecifics.
  - Where possible, safe, and appropriate, adult primates are utilized as surrogates to care for the orphans, thus reducing human contact. Where this is not possible, human caregivers act in a manner that replicates the behaviors of adult, wild primates as much as possible.
  - While a primary caregiver is designated as a surrogate, for those species where other members of the troop care for and handle the young, other caregivers working with orphaned young provide this role within the 'playgroup'.

### **Intermediate Housing for Orphaned Primates**

- n. As soon as the orphaned primates have reached the stage of spending more time away from primary caregivers, they are moved to intermediate housing, where human contact is decreased and interaction with conspecifics is increased. Where possible, the animals are moved to the release site and cared for in a soft release enclosure.
- o. Animals are provided with adequate opportunity for climbing, nest building and foraging.
- p. In as much as possible, conspecifics are used to teach natural behaviors. Where appropriate releasable conspecifics are not available, and where possible, safe, and appropriate, resident animals with strong natural skills who do not present a disease risk to the wild population, may be used to teach these behaviors.
- q. Intermediate housing is isolated from resident animal areas, ideally within a natural habitat which allows the orphans to adjust to a more wild environment.

### **Intermediate and Prerelease Housing for Sick or Injured Primates**

**Note:** *Adult and independent subadult animals, dependent on their admitting condition, may not require intermediate housing.*

- r. Animals suffering from injuries that may affect their suitability for release are moved to intermediate housing while regaining strength. Animals are regularly evaluated to determine whether they are likely to be releasable. Once the primates are deemed fit, they are moved to prerelease housing.
- s. Independent animals brought in for rehabilitation who can be released back into the environment from which they came are returned as soon as it is determined that the animal has recovered sufficiently to resume its presence in its former area.
  - Consideration is given to social and territorial issues that may affect safe return to the original habitat.
- t. Prerelease housing for adult and independent subadult animals is ideally situated at the intended release site, allowing the animals to acclimate to their new environment before release.

- u. In both intermediate and prerelease housing, sufficient vertical as well as horizontal space is provided to allow the primates to develop strength and display normal wild behaviors.

## **R-5. Diet, Nutrition And Foraging Skills**

**Primates are fed an appropriate diet that approximates that which will be found in the habitat to which they are released, and foraging behavior is encouraged.**

- a. As early in the rehabilitation process as possible, the primates are exposed to the types of foods found naturally within the environment where they will be released and assessed for their ability to find appropriate foods and avoid inedible or poisonous foods.
- b. Release candidates are fed in such a way as to encourage natural foraging behaviors.
- c. Rescued primates admitted in poor physical condition may require specialized diets to recover their health. Nutritional deficiencies are assessed and diets modified to address those deficiencies. Once the primates are back on a normal nutritional plane, any foods not found in their planned release area are no longer fed.

## **R-6. Husbandry And Health**

**All aspects of care, including caregiver-Old World primate relationships, introduction to social groups and overall health evaluation, are focused on preparing primates for return to the wild.**

- a. Once a Old World primate has been evaluated as a potential release candidate, all aspects of care are focused on preparing the animal for the wild.
  - Human activities and noises are minimized in areas housing primates being prepared for reintroduction.
  - Apart from dependent young with no suitable conspecific surrogates, human interaction with primates being prepared for release to the wild is restricted to those activities that will enhance the primates' ability to live in the wild.
- b. The animal is placed in an appropriate social group or paired with a compatible conspecific, depending on species. Where appropriate surrogate conspecifics are not available, dependent young may be reared by human caregivers using approved best practices for the species housed.
  - Care is taken to balance the need to nurture these young animals with their need to develop appropriate survival skills as well as intraspecific social behaviors.
  - Animals are integrated into an appropriate social group, ideally comprised of other conspecifics intended for release, as quickly as possible.
- c. Introductions follow Standard W-3 "Introduction of Unfamiliar Individuals."

- d. Opportunities to explore, climb and learn skills in the natural environment are provided.
- e. Primates admitted into care from the wild at the stage where they are already independent, with recoverable illness or injury problems, are treated and released as quickly as possible, taking into account the potential for the animal not being accepted back into its previous social group.
- f. Caregiver-Old World primate relationships for animals intended for release to the wild, while ensuring the animals' psychological well-being is met, focus on:
  - avoiding any types of interaction that may compromise the primates' chances for release;
  - encouraging the primates to develop appropriate relationships with conspecifics for their social needs.
- g. Veterinary staff evaluate overall health including:
  - recovery from the initial cause for admission to the facility;
  - pathogen surveillance to ensure the animal does not present a risk to the wild population as a result of exposure during the rehabilitation process.
    - In as much as possible, using the latest available information from the OIE-World Organization for Animal Health ([www.oie.int](http://www.oie.int)) and the IUCN's Conservation Breeding Specialist Group (<http://www.cbsg.org>), animals are monitored for human pathogens not found in the wild population.
- h. Primates being cared for in sanctuary for later release back to the wild are managed in such a way as to optimize their chances for successful return to the natural environment.

## **R-7. Health And Safety Of Caregivers Working With Releasable Primates**

*(See also Standard V-8, "Zoonotic Disease Program")*

**No caregiver begins work with releasable primates until routine testing has indicated he or she poses no risk to the primates' release to the wild.**

- a. Caregivers working with primates intended for release to the wild are routinely monitored for potential anthroponoses (diseases that have potential to be transmitted to the animals).
- b. In addition to the required TB testing, vaccinations and fecal cultures for pathogens may be utilized, as appropriate for the region, to ensure the health of both the primates and their caregivers. New caregivers should not have contact with the primates for the first two weeks of employment.
- c. Provision of adequate nutrition for staff is considered as a possible contribution to the continued well-being of both staff and primates.

## **R-8. Assessment of Health and Skills**

**Primates are fully assessed for health and appropriate skills prior to release.**

- a. Primates who have completed the rehabilitation process and have been successfully integrated into a social group or pair, as is species appropriate, are further evaluated for release, with attention to health and the skills attained.
- b. Each animal's skills (e.g. foraging, nest building, appropriate interaction or avoidance behaviors in the presence of conspecifics, avoidance of dangers including poisonous foods, venomous snakes or predators) are evaluated.
- c. A complete health assessment is performed including:
  - Overall fitness as relates to being able to survive in the wild, keep up with a conspecific group, avoid predators, etc.
  - Injuries and limitations that originally caused the animal to be brought into care are resolved, either completely, or to the extent that the primate has a reasonable chance for long term survival.
- d. Primates have been tested, and found free of pathogens that have potential to harm the wild population in the planned release area, based on the latest current knowledge.
- e. Genetic assessment has been done to ensure that the primates being released are of an appropriate subspecies/population/subpopulation for the release site.
- f. Primates are exposed to post-release monitoring equipment prior to release to allow them to acclimate to its presence.

## **R-9. Determining Appropriate Release Sites**

**Release sites are evaluated for health and other threats and for appropriateness for the species.**

- a. The potential release site is evaluated for the presence of appropriate and adequate food sources.
- b. The area is evaluated for potential health concerns.
- c. The potential release site is surveyed to ascertain whether any wild primates are present, either permanently or seasonally.
- d. The area is evaluated to establish carrying capacity of primates to be released. This includes taking into consideration others releases that may have already taken place and issues of territoriality.
- e. The area is evaluated for instances of potential human-wildlife conflict.
- f. IUCN guidelines are, in as much as possible, followed when determining release sites for rehabilitated primates.
- g. Animals are released away from areas where there is potential for or has been a history of human-animal conflict.

- h. Animals are released in an appropriate habitat where carrying capacity for the species has not been reached.

## **R-10. The Release Process And Post Release Monitoring**

**Primates are supported as needed to adapt in their new environment and are monitored post release.**

- a. Once it is determined that the primates have the basic skills for foraging in their new environment, supplemental care is discontinued.
- b. A post-release monitoring program is in place to ensure the rehabilitation program is providing the animals with the skills necessary to survive, that the habitat is adequate and that, as is species appropriate, primates have integrated into the wild.
- c. Ideally, primates are returned to the wild using a soft release process wherein they are housed in an enclosure within the release area or spend time with caregivers in the release area where supplemental food may be provided as needed and observation of their acclimatization may be observed.
- d. Post release monitoring, in conjunction with outside veterinary and scientific personnel, continues for a minimum of one year.
  - Level of monitoring may decrease over time as primates are determined to be acclimating to the environment.
  - Longer term monitoring of the animals and their impact on the habitat is preferred.
- e. Practices used and results obtained, both positive and negative, are shared both within the facility and with others involved in Old World primate reintroduction to aid in the continued improvement of the process.