Global Federation of Animal Sanctuaries

Standards Appendix For Old World Primates

All applicants are expected to comply with the General Animal Care Standards. This Appendix is intended to be read in conjunction with the General Animal Care Standards, and provides additional requirements and recommendations for old world primates.

Version: 1.1

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ANIMALS COVERED BY THESE STANDARDS

Family / Genus

Family: Cercopithecidae, Hylobatidae,
Genus: Allenopithicus, 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

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

Chlorocebus	*pygerythrus*	Vervet
Chlorocebus	*sabaeus*	Green monkey
Chlorocebus	*tantalus*	Tantalus monkey
Colobus	*angolensis*	Angola colobus, Black-and-white colobus, Angolan colobus
Colobus	*guereza*	Guereza, Eastern Black-and-white colobus, Magistrate colobus
Colobus	*polykomos*	King Colobus, Ursine black-and-white colobus, Western black-and-white colobus, Western Pied Colobus
Colobus	*satanas*	Black Colobus
Colobus	*vellerosus*	White-thighed Colobus, Geoffroy's Black-and-white Colobus, White-thighed Black-and-white Colobus
Erythrocebus	*patas*	Patas monkey
Lophocebus	*albigena*	Grey-cheeked mangabey White-cheeked mangabey
Lophocebus	*aterrimus*	Black mangabey, Black crested mangabey
Macaca	*leonine*	Northern Pig-Tailed Macaque
Macaca	*mulata*	Rhesus Macaque
Macaca	*nemestrina*	Southern Pig-Tailed Macaque
Macaca	*pagensis*	Pagai Island macaque, Pagai macaque
Macaca	*radiata*	Bonnet macaque
Macaca	*siberu*	Siberut macaque
Macaca	*silenus*	Lion-tailed macaque, Liontail macaque, Wanderoo
Macaca	*sinica*	Toque macaque
Macaca	*sylvanus*	Barbary macaque, Barbary ape
Macaca	*thibetana*	Milne-edwards' macaque, Pere David's macaque, Short-tailed Tibetan macaque, Tibetan macaque
Macaca	*tonkeana*	Tonkean macaque, Tonkean black macaque
Macaca	*X*	All hybrid macaques
Mandrillus	*leucocephalus*	Drill
Mandrillus (or Papio)	*sphinx*	Mandrill
Miopithecus	*ogouensis*	Northern Talapoin monkey, Gabon Talapoin
Miopithecus	*talopoin*	Southern Talapoin monkey, Talapoin
Nasalis	*larvatus*	Proboscis monkey, Long-nosed monkey
Papio	*anubis*	Olive or Anubis baboon
Papio	*cynocephalus*	Yellow baboon
Papio	*hamadryas*	Hamadryas baboon, Sacred baboon
Papio	*papio*	Guinea baboon
Papio	*ursinus*	Chacma baboon
Papio	*X*	All hybrid baboons
Perodicticus	*potto*	Potto, Potto gibbin
Presbytis	*chrysomelas*	Sarawak surili, Bornea banded langur
Presbytis	*comate*	Javan surili, Grizzled leaf monkey, Javan leaf monkey, Javan grizzled langur
Presbytis	*femoralis*	Banded surili, Banded langur, Banded leaf monkey

Presbytis	*frontata*	White-fronted langur, White-faced langur, White-fronted leaf monkey
Presbytis	*hosei*	Hose's langur, Gray leaf monkey, Hose's leaf monkey
Presbytis	*melalophos*	Sumatran surili, Mitred leaf monkey
Presbytis	*natuna*	Natuna Island surili, Natuna leaf monkey
Presbytis	*potenziani*	Mentawai langur, Long-tailed langur, Mentawai leaf monkey,
Presbytis	*rubicunda*	Maroon leaf monkey, Maroon langur, Maroon sureli, Red leaf monkey
Presbytis	*siamensis*	White-thighed surili, Pale-thighed langur
Presbytis	*thomasi*	Thomas' langur, North Sumatran leaf monkey, Sumatran grizzled langur, Thomas' leaf monkey
Procolobus	*badius*	West African Red Colobus, Bay Colobus, Red Colobus, Western Red Colobus,
Procolobus	*gordonorum*	Udzungwa Red Colobus, Uhehe Red Colobus
Procolobus	*kirkii*	Zanzibar Red Colobus, Kirk's Red Colobus
Procolobus	*pennantii*	Red Colobus, Bouvier's Red Colobus
Procolobus	*preussi*	Pruess's Red Colobus,
Procolobus	*rufomitratus*	Eastern Red Colobus, Tana River Colobus
Procolobus	*verus*	Olive Colobus, Van Beneden's Colobus
Pygathrix	*cinerea*	Grey-shanked Douc langur
Pygathrix	*nemaeus*	Red-shanked Douc langur, Red-shanked Douc
Pygathrix	*nigripes*	Black-shanked Douc langur, Black-shanked Douc, Black-shanked Douc monkey
Rhinopithecus	*avunculus*	Tonkin snub-nosed monkey
Rhinopithecus	*bieti*	Black snub-nosed monkey, Yunnan snub-nosed monkey
Rhinopithecus	*brelichi*	Grey snub-nosed monkey, Guizhou snub-nosed monkey
Rhinopithecus	*roxellana*	Golden snub-nosed monkey, Sichuan golden snub-nosed monkey
Rungwecebus	*kipunji*	Kipunji
Semnopithecus	*ajax*	Kashmir gray langur, Chamba sacred langur, Dark-eyed Himalayan langur, Himalayan gray langur, Western Himalayan langur
Semnopithecus	*dussumieri*	Southern plains gray langur, Dussumier's Malabar langur, Dussumier's sacred langur
Semnopithecus	*entellus*	Northern plains gray langur, Bengal Hanuman langur
Semnopithecus	*hector*	Tarai gray langur, gray langur, Hanuman langur, Lesser hill langur, Tarai sacred langur
Semnopithecus	*hypoleucos*	Black-footed gray langur, Dark-legged Malabar langur, Malabar sacred langur
Semnopithecus	*Priam*	Tufted gray langur, Coromandel sacred langur, Madras gray langur
Semnopithecus	*schistaceus*	Nepal gray langur, Central Himalayan langur
Simias	*concolor*	Pig-tailed langur, Pig-tailed snub-nosed monkey
Symphalangus	*syndactylus*	Siamang
Theropithecus	*gelada*	Gelada baboon

Trachypithecus	*auratus*	Javan lutung, Ebony leaf monkey, Javan langur
Trachypithecus	*barbei*	Tenasserim's lutung, Barbe's langur
Trachypithecus	*cristatus*	Silvery lutung, Silvered langur, Silvered leaf monkey, Silvered monkey
Trachypithecus	*delacouri*	Delacour's langur, White-rumped black leaf monkey
Trachypithecus	*francoisi*	Francois' langur, Francois' leaf monkey, Tonkin leaf monkey, White-sideburned black langur
Trachypithecus	*geei*	Gee's golden langur, Golden leaf monkey
Trachypithecus	*germaini*	Indochinese lutung, Germain's langur, Germain's silver langur, Indochinese silvered langur
Trachypithecus	*hatinhensis*	Hatinh langur, Stripe-headed black langur
Trachypithecus	*johnii*	Nilgiri langur, Black leaf monkey, Hooded leaf monkey, Indian Hooded leaf monkey, John's langur,Nilgiri black langur, Nilgiri leaf monkey
Trachypithecus	*laotum*	Laotian langur, Lao langur, Laotian black langur, White-browed black langur
Trachypithecus	*obscurus*	Dusky leaf-monkey, Dusky langur, Spectacled langur, Spectacled leaf monkey
Trachypithecus	*phayrei*	Phayre's leaf-monkey, Phayre's langur
Trachypithecus	*pileatus*	Capped langur, Bonneted langur, Capped leaf monkey, Capped monkey
Trachypithecus	*poliocephalus*	White-headed langur, Cat Ba langur, Golden-headed langur
Trachypithecus	*shortridgei*	Shortridge's langur, Shortridge's capped langur
Trachypithecus	*vetulus*	Purple-faced langur, Purple-faced leaf monkey

OLD WORLD PRIMATE STANDARDS

The purpose of these standards is to assist sanctuary directors and personnel, other animal welfare agencies and professionals, and the public regarding best practices and appropriate criteria for the effective and efficient operations of an animal sanctuary. These standards are voluntary, but provide the basis for GFAS Accreditation and Verification.

Each standard or each part of every standard may not be applicable to all animal sanctuary and rescue center facilities. Further, these standards do not include every practice, procedure, or policy that might be desirable for or implemented by a sanctuary since the programs, conditions,facilities and objectives of all sanctuaries are not identical. GFAS does not suggest or infer that those who do not follow all of these standards or recommendations engage in unsafe practices.

GFAS recognizes that there may be many acceptable ways of meeting the intent of each standard. In order for a sanctuary to be considered compliant with the GFAS Standards, the sanctuary must be able to demonstrate compliance with the entire standard, as applicable, through the totality of the accreditation process which may include, but is not limited to, submission of required documentation, interviews, and demonstration and/or confirmation of practices during a sanctuary site visit. GFAS encourages sanctuaries to offer feedback on the standards and to explain any reasons why it meets a standard or believes any particular standard is not applicable and/or appropriate to its situation.

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

H-1 Housing

Animals are safely contained. Unless otherwise directed by a veterinarian, and for a specified medical reason, animals are provided sufficient opportunity to move about freely and rapidly, and to exercise choice in location so as to maintain positive welfare.

General

- Facility design takes into account caregiver-primate safety and ease of maintaining a positive relationship.
- Facilities are required to have shifting protocols in place to move primates into separate enclosures (or separate sections of enclosures) prior to personnel entering an enclosure. Additionally, a double entry system is recommended for enclosures so that there are two barriers between the animals and escape; a double entry system must be in place for entries through which vehicles enter and the two barriers are never to be open at the same time.
- 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.
- It is important to provide areas to house geriatric and sick animals separate from main groupings, which meet all their needs.

Outdoor Enclosures

- Particular attention is paid to vertical aspects of their environment, allowing for more natural behaviors.
- Where outdoor enclosures are the primary enclosure, indoor day/night rooms or other means of providing night housing and secure shelter during inclement and extreme weather may also be provided. This space also provides alternate housing for sick or injured individuals while in close proximity to the social group.

Indoor Housing

- Indoor housing can provide year-round protection from the elements. For sanctuaries located in 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

- Ideally, Old World primates should not be housed together or in close proximity with New World primates. In cases where shared enclosures, building spaces, or rooms are considered, careful evaluation of potential risks is necessary to ensure the welfare and health of all primates involved.
- 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.

Recommended Dimensions

Many factors influence the minimum space required for a group of primates, including, but not limited to: group size, group composition, and enclosure complexity. The following are minimum recommendations. Facilities should provide as much space as is possible and/or practical.

- 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.
- Outdoor enclosures for Old World primates - Ideally, are a minimum of 5500 sq. ft. (511 sq. m) per 4 - 8 macaques, 3-10 baboons, 1-3 gibbon/ siamangs, or 3-8 guenons; and a minimum of 3500 sq. ft. (325.2 sq. m) for 3-5 colobus monkeys. An additional 323 sq. ft. (30 sq. m) is recommended for each additional individual. Enclosure shapes may be variable to take in natural features in the landscape such as rock formations, hills and trees. Space includes a minimum of one (1) animal transfer door leading to the indoor enclosure.
    - Enclosure height should support species-specific behavioral expression while maintaining secure containment. Usable vertical space is equally as important as floor space. Enclosures include furniture and/or vegetation that allow use of vertical space.
    - Because horizontal space is more important for baboons, it is recommended that those primates have a minimum of 646 sq. ft. (60 sq. m) per individual.
    - For roofed outdoor enclosures:
        - A minimum vertical height of 10 ft. (3.05 m) is acceptable for small or less agile species, such as guenons or older individuals, provided robust enrichment and climbing structures are present.
        - A minimum vertical height of 12 ft. (3.7 m) is recommended for active or larger species, including macaques, colobus, mandrills, or baboons.
    - For open-top enclosures:
        - A minimum fence height of 15 ft. (4.6 m) is recommended.
        - The upper 30% of the barrier should consist of smooth, non-climbable material or be cantilevered to prevent escape.
        - For high-agility or high-risk species, smooth, solid vertical barriers such as poured concrete or no-climb fencing should be a minimum of 17 ft. (5.18 m).

- Indoor day/night rooms for Old World primates - Room dimensions are dependent on intended purpose/duration of housing. Dependent on species, recommended minimum size is one room with a minimum dimension of 200 sq. ft. (18.58 sq. m) to 300 sq. ft. (27.87 sq. m), with an additional 100 sq. ft. (9.3 sq. m) per primate when group exceeds 8 in number.
    - A larger space is needed for Old World primates who must be housed indoors for significant periods of time due to the local climate.
    - A minimum vertical height of 8 ft. (2.43 m) is recommended, with climbing structures or similar elements that allow use of vertical space, particularly for arboreal species.
    - Rooms interconnect without creating 'dead ends' to allow for freedom of movement for subordinate individuals.
    - Whenever possible, separated Old World primates have visual and tactile access to group members to facilitate reintroduction.
    - With consideration to group size and composition, access from outdoor to indoor enclosures includes a minimum of two (2) doors to prevent dominant individuals from blocking access to shade, sun, food or other desired space, social partners, or enrichment items.
    - Facilities include sub-enclosures so that the primates can be shifted to allow temporary segregation of individuals or subgroups and for secure personnel access to enclosures for cleaning, maintenance, etc.
    - Enclosures are designed to allow for primates' normal defense reactions and appropriate 'flight' or escape distances.
    - All enclosures are designed, constructed and maintained to securely contain primates and to present no likelihood of harm to them.
    - 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.

Fencing

- High tensile electric fencing may be used in conjunction with standard fencing products but is discouraged for use as a primary barrier.
- 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.
- 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, rusting, or buckling.
- A maximum mesh dimension of 2 in. x 2 in. (50.8 mm x 50.8 mm) is recommended for most Old World species, particularly where personnel and/or critical components are nearby, if a solid barrier is not possible in these areas; 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, however, when personnel are working in such areas, primates are shifted.
- Woven wire mesh such as that used for some domestic pet fencing (dog kennels) is considered less reliable for containment and is not recommended as primary containment of Old World primates.

Electric Fencing

- Electric fencing should be inspected daily to ensure it is fully operational and free of any electrical shorts or potential issues that could compromise its functionality. Any damage, vegetation, or other materials causing interference must be promptly addressed to maintain the safety and security of the enclosure.
- Electric fence energizers emit 4,000 - 8,000 V with a joule rating appropriate for the length and condition of the fence (between 0.5 to 2 joules is often sufficient for most primate enclosures). Voltage readings should be taken at both the beginning and end of the fence line.
- A minimum of 20-gauge high-tensile wire is needed, with a stronger gauge (*e.g. 12-gauge*) more appropriate for some species.
- 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.
- Fence is alternating hot/ground to prevent primates from leaping onto the fence and avoiding shock.
- Energizers are connected to battery or generator backup for continuous power supply during outages.
- In dry climates, the earth rod area is watered to ensure adequate grounding.
- If using electric fence as a primary barrier, two separate complete systems are used to increase effectiveness and reduce the chance of system failure.
- It is recommended that electric fencing is not used as a primary barrier. Electric barriers are better utilized as secondary barriers

Solid Barriers

- 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.
- Walls are secured in appropriate footings to ensure wall stability.
- Care is taken, especially with artificial rock, to ensure that contours in the rock do not provide escape routes from the enclosure.
- Design of areas using solid walls allows for sufficient air flow throughout an enclosure.

Moats

- Water moats are generally not recommended as, for some species, they can present a significant risk of accidental drowning. They are not utilized for baboons, macaques, guenons, or colobus monkeys, who can swim and/or jump across water moats). Water moats are also not recommended in locations with a high risk of malaria, dengue, or other mosquito-borne viruses.
- 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.
- Dry moats, if used, are of sufficient size and depth to adequately confine the primate species housed and are used in conjunction with non-climbable barriers. 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 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. Animal caregivers have safe and easy access to dry moats.

Open-Top Enclosures

- Solid barriers are properly maintained so that finger holds do not develop.
- If using poured concrete or plate steel, cage or safety glass windows are provided to allow the primates to see outside of their enclosure.
- For added security, one or two strands of hot wire may be added at the top of the wall/fence.
- Enclosures are adequately secured to allow the animals to have 24-hour access without supervision.
- Consideration is given to the safety of animals from human intrusion.
- Consideration is given to securing primates known to have escaped from enclosures to have 24-hour access.

Safety Glass

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

Indoor Enclosures

- 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. Welded wire mesh is recommended.
- Walls between enclosures can be constructed of concrete block or poured concrete. Where concrete block is used, the voids are filled with sand or soil to strengthen the walls and reduce potential harborage for unwanted species.
- Walls are of sufficient strength to anchor caging and furniture.

- Design of areas using solid walls allows for sufficient air flow throughout the enclosure.
- Solid concrete or concrete block walls are sealed to make them impervious to contaminants and pathogens.

Preferred Practice

✓ A non-electrified barrier is recommended to keep bystanders and wildlife from coming in contact with any electric enclosure fences, and is advisable in areas where the visiting public may come in proximity to fenced enclosures.

H-2 Ground and Plantings

Ground cover indoors and out is healthy for animals. Plantings are appropriate and safe.

Vegetation

- All outdoor enclosures for primates include living or fresh vegetation, which can provide visual barriers, shade and resting sites.
- Enclosures may also be planted with grasses, shrubs etc. that the primates do not tend to eat, provisioning the animals with preferred plant material as part of the daily diet.
- Enclosure design takes into account indigenous endangered vegetation and takes steps so it is not compromised.

Outdoor Enclosures

- Outdoor enclosures should include a substrate bottom which can be supplemented with organic materials, including but not limited to soils, sand, leaf litter, bark mulch, grasses, straw, hay, and wood shavings.
- Primates are provided with appropriate three-dimensional environments to accommodate an array of locomotor 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.
- 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, rocks, logs, etc.
- Horizontal and vertical jump distance is considered when developing enclosure topography.
    - Access to very tall trees is limited by electric wires, barriers etc., if they pose a safety risk to animals or people.
    - Trees, vines, and shrubs, especially around fences and other barriers, are checked daily and trimmed as necessary to ensure that growth does not allow escapes from open-top enclosures. In areas where there may be risk of wild

primates entering the enclosures, the trees on the outside of the enclosure should be trimmed as well.

Indoor Enclosures

- All indoor enclosures have a concrete floor and, provided adequate septic service is present, are sloped to a drain.
- Bedding material suitable for use includes, but is not limited to, bark mulch, leaf litter, wood wool, straw hay, shredded paper and wood shavings.
- For individuals required to spend long periods of time indoors, consideration must be given to sufficient bedding and substrate for the welfare of the animals but taking into consideration practical considerations that do not cause potential problems with facilities - i.e. blocked drainage.
- 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.

H-3 Gates and Doors

Animal enclosure gates and doors, including transfer doors, are appropriately designed to ensure both animal and human health and safety, and are properly maintained to ensure proper functioning.

General

- 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 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.
- Transfer doors allow for normal posture and are positioned appropriately according to a species (e.g., located at ground level or adjacent to a perch).

Security

- Transfer doors and their frames are constructed of materials similar in strength to those used in the primary enclosure.
- Doors are lockable in both the open and closed positions.
- 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.
- Particular attention is given to preventing hay/shavings from affecting door mechanisms.

Animal Safety

- Doors operated via remote control are visible from the control area.
- Sliding doors are preferred. 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.
- Hydraulic and pneumatic door systems include backup systems to allow for door usage in the event of equipment failure.

User Safety

- If door handles or locking mechanisms are in close proximity to the enclosure, a solid barrier or fine, durable mesh is present to protect the user.
- Caregivers have a clear view of the entire area, with no blind spots in the enclosures where animals cannot be seen.

H-4 Shelter

Animals have access to natural or artificial shelter that provides each individual with protection from extreme weather.

- Consideration must be given to the positioning of the shelter within the enclosure according to the type of species - i.e. arboreal, terrestrial
- Enough shelter must be provided so that every individual has access even when the group is not fully cohesive.

H-5 Enclosure Design

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

General

- 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 below.
- Primates are provided access to the vertical space available within the enclosures. This is particularly important for arboreal species and should be applied to indoor and outdoor areas.

Outdoor Enclosures

- Visual barriers can be used to avoid confrontation or aggression, and include climbing structures, fallen logs, walls, shade structures, topography and large enrichment items.
- Climbing structures accommodate natural locomotion patterns for the species housed, and should withstand the height of an adult male. When multiple species are housed together, climbing structures created specifically for each species' unique needs are

provided. Metal pipe is preferably not used to construct climbers as, depending on climate, it becomes dangerously hot in summer sun and can damage skin during cold weather.Climbing structures are placed in such a way that they do not create potential for escape via proximity to fence lines. 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;
- 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;
- where possible, 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.

- 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.
  - The placement of platforms and hanging perches does not cause damage to the enclosure.
  - Perches and benches are accessible to staff for cleaning.
- 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

- To the greatest extent possible, all visual barriers, climbing structures and perching surfaces meet outdoor enclosure criteria.
- 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.

- Benches, perches, and other structures allow for climbing and for sleeping above ground level.

H-6 Sanitation

Proper sanitation is practiced to reduce pathogen transmission.

- 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").
    - Efforts are made to prevent native wildlife from getting access to waste.

- Staff follows proper disinfecting procedures when moving between enclosures
    - Tools for macaques are not used for other primates or are disinfected in between uses.
    - Tools used for Old World primates are not used for New World primates or are disinfected in between uses.
- Sanitation tools or equipment, including wheelbarrows, are not used for transport or storage of foodstuffs or bedding.
- Specific disease exposure of species from research settings is taken into account when handling primate laundry.
- Care is taken to minimize overspray of waste, directly or via aerosolizing, into adjacent cages during cleaning.
- Concrete floored enclosures are dried with a squeegee, and as needed fans, to ensure floors are dry before bedding material is replaced.

Preferred Practice:

✓ Disinfecting foot baths are placed at the entrance to any indoor enclosures to be used when entering and exiting the enclosure. The foot bath solution is changed daily, and foot bath solution is disposed of appropriately, utilizing proper drainage.

H-7 Temperature, Humidity, Ventilation, Lighting

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

Temperature

- For facilities that do not have the means to install climate control systems, it is important to provide an opportunity for temperature control. Various means can be adopted according to species-specific needs and available resources. Examples include the opportunity to cool off in pools, providing appropriate shelter/shade to protect from temperature (hot/cold or wind), and/or providing suitable substrate for protecting against temperature (hot or cold) if primates spend a lot of time on the ground.

- For outdoor enclosures, Old World primates have access to heated areas when ambient temperature falls below 55ºF (12.8ºC), adjusted for wind chill. 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.
- Infrared bulbs or heat lamps are not recommended due to risks associated with bulb breakage and tissue damage to the animals. Portable heaters should only be used with caution and under supervision. Portable heaters must be well out of the primate's reach and to reduce the risk of fire, all substrate and debris should be removed from the vicinity.
- For indoor enclosures, an average ambient temperature range of 70ºF (21ºC) and 85ºF (29.4ºC) is recommended. Some colder climate species can tolerate temperatures between 50ºF (10ºC) and 70ºF (21ºC) for short periods of time when supplemental bedding and heat is provided.
- Heat can be provided by forced air or hydronic heating systems.
- 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

- Optimal indoor humidity is between 40% and 70%. 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

- Heat Recovery Ventilators and Energy Recovery Ventilators can provide fresh outdoor air with minimal heat loss.
- 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.
- Proper window and door placement can ensure sufficient cross-ventilation in warm climates.

Preferred Practice:

- ✓ To the extent possible, separate air handling systems are maintained between animal areas to prevent disease transmission.

Lighting

- Light, natural and artificial, is appropriate for the species housed in terms of intensity, spectrum and duration.

- 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 promote primate health.
- Consideration is given to providing nightlights to prevent aggression between social groups that may result from surprise encounters in darkened areas.
- Outdoor enclosures - 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

N-1. Water

Fresh clean water is available in sufficient quantities at all times to all individuals.

- Multiple water sources are available for group-housed primates to ensure high-ranking individuals do not dominate water sources.
- For primates being rehabilitated for release to the wild, species-specific water sources should be provided.

N-2. Diet

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

General

- Diets should be nutritionally balanced and promote natural feeding behaviors.
- As the natural diet of Old World primates varies from species to species, diets should be developed using the recommendations of nutrition advisory groups, AZA Taxon Advisory Groups, Species Survival Group Programs, as well as veterinarians.
- Commercially prepared primate diets are not the sole diet for Old World primates, but are at most a supplement to a diet of fresh fruits and vegetables, greens, and other whole foods.

Browse

- 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. In areas where it is difficult to source browse year-round, browse may be stored through freezing, drying, storage, etc.
- 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.
- All browse items are nontoxic and grown without chemical pesticides. Caregivers are trained to identify safe, nontoxic plant species appropriate for primates.

Preferred practice:

- ✓ Browse should be offered daily in outdoor enclosures as a part of a high-fiber diet.

N-3. Food Presentation and Feeding Techniques

Food is prepared and presented in a safe and appropriate manner to meet animals' health and social needs.

General

- 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.
- 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.
- Old World primates are offered their diet a minimum of twice daily, with sufficient daylight hours remaining to allow necessary forage time.
- 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.
- Food items are placed above floors to minimize contamination from urine and feces.

Feeding Techniques

- Caregivers are encouraged to reduce tensions during feeding times by conducting their tasks in a quiet manner; not playing favorites with the food; not accidently teasing primates by trying to retrieve or relocate a dropped food item until after all feeding has been completed.
- 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.
- Feeding is done in a manner to ensure that subordinate individuals in group housing receive sufficient food. Observation is key during feeding times to ensure all animals have access to food.

Diet Related Health Issues

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

Diet Changes, Increases or Decreases

- Considerations for diet change 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. Body scoring is one consideration for diet change needs.
- 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.

N-4. Food Storage

Food is stored appropriately to prevent spoilage and contamination.

See General Animal Care Standards.

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.

See General Animal Care Standards.

Veterinary Care

V-1. Veterinary Program Personnel

The sanctuary's veterinary medical program is developed and carried out under the supervision of a licensed veterinarian and with adequate support personnel. Veterinary care is on-site or on-call at all times.

See General Animal Care Standards.

V-2. Veterinary Capabilities

The sanctuary has on-site and/or off-site capabilities for pathology, surgery, and other veterinary procedures and treatments, and any on-site facilities are appropriately maintained.

- 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.

V-3. Preventative Medicine Program

The sanctuary has a complete preventative medicine program, pursuant to a written protocol, appropriate for each species housed.

- 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.
- Animals are observed every day to check their health status and behavior, ideally by caregivers who are familiar with them.
- All primates are assessed for tuberculosis risk at intake, with diagnostic testing conducted as appropriate to species, exposure history, and clinical presentation. Testing methods and frequency are determined by the attending veterinarian and included in the sanctuary's written preventative health protocol.
- All primates are immunized as recommended by the attending veterinarian, using currently recommended procedures and products as appropriate for the country, species

and individuals. 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.

- Rabies testing and vaccination protocols are carried out in accordance with national, state/province and local rabies prevention protocols.

V-4. Quarantine and Isolation Care and Facilities

Appropriate quarantine and isolation policies and facilities are in place for the protection of animals and personnel.

- Upon arrival, Old World primates undergo quarantine for a minimum of 30 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 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.
- When primates are quarantined together, an “all in - all out” rule should apply: if primates are added to a current quarantine group, then the quarantine start date should be reset for all quarantined primates to the arrival date of the newest individuals.

V-5. Medical Records

Complete medical records are maintained, and animals have permanent identification.

See General Animal Care Standards

V-6. Medication Handling and Storage

All medications are purchased, prescribed and administered under the guidance of the veterinarian, and controlled substances are prescribed and stored legally.

See General Animal Care Standards

V-7. Breeding Policy and Contraception

There is no intentional breeding of animals in lifetime care.

- Surgical contraception (vasectomy/castration) may be an option for males, particularly if other options are not feasible for the sanctuary.
    - Surgical contraception has the potential for failure (vasectomies) and post-op complications, and may have profound behavioral and social effects resulting from loss of sex hormones and secondary sex characteristics.
    - Non-reversible sterilization methods, such as castration, should not be used without thorough evaluation due to the behavioral effects on the individual and group as a whole.
    - Where used, they 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.
- Female contraception may be considered in some cases. The method of contraception used is based on current best practice and attending veterinarian recommendations. While ovariohysterectomy is an effective form of contraception, it is only performed in cases of reproductive tract pathology as the procedure may have significant behavioral implications.
- In range state sanctuaries where the possibility of release back to the wild exists, reversible forms of contraception are preferred.

V-8. Zoonotic Disease Program

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

- Caregiver personnel have tuberculin tests and other necessary tests and immunizations at the commencement of employment and annually thereafter, as appropriate for the country, primate species and individual.
- Personnel with a fever or with respiratory signs do not work with primates.
- Personnel-primate contact is generally avoided, reducing risk of cross-contamination of disease. Where contact is necessary for feeding, enrichment, and other care, personnel should always wash hands and/or wear gloves and face masks.

Preferred practice:

- ✓ All work clothes should remain on site.

V-9. Euthanasia

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

See General Animal Care Standards.

Well-Being and Handling of Primates

W-1. Physical Well-Being

Primates should be routinely monitored to ensure their physical well-being, and any unusual activity should be reported and recorded, with appropriate response.

- 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.
    - Primates raised in captivity who are not able to be returned to the wild may benefit from continuing to receive enrichment items that are familiar to them, such as toys.
- Primates are provided with opportunities consistent with their species 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.
- Primates have access to the outdoors as much as possible, ideally daily, with consideration to special physical and behavioral needs.
- Regular assessments are performed in an effort to quantify and measure the welfare of individual animals through monitoring of nutritional, physical and social conditions. 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.
- 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.
- 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 and Group Management

Animals are grouped so that they are compatible, with consideration to their natural social groupings and individual history, and with the safety of animals and sanctuary personnel in mind.

- Social housing and group management is species-specific, considering where possible natural social structures, and special care needs (i.e., health requirements, opportunity for release). The individual developmental and social history of each primate is taken into consideration when determining social groups.

- Specific consideration must be given to the composition of males and females according to the species.

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.

Hamadryas Baboons

- 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 the kidnapping of young females.
  - In the absence of a male, other competing males will gain control of females; this 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.

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.

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.

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.

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.

Japanese Macaque or Snow Monkey

- 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.

Lion-tailed Macaques

- 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.

Infant/Geriatric/Sick

- Provision of separate areas to house and manage animals must be provided if they cannot be housed in main social groups according to specific needs, for example, a nursery for infants, elderly and sick animals.

W-3. Introduction of Unfamiliar Individuals

Introduction of any new animal to a social group is done safely and according to techniques appropriate for each species, under the direction of designated personnel.

- Introduction of unfamiliar primates is carefully considered. Professionals with experience in social introductions, if not on staff, are consulted whenever possible during these considerations.
- A written introduction plan, developed either as part of the sanctuary's Standard Operating Procedures (SOP's) or as a standalone document, guides the introduction process. 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.
  - The plan is developed with involvement of all personnel 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.

- The plan establishes behavioral goals for introductions and is not solely driven by human schedules, and is open to modification as introduction/integration develops and evolves.
- 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 well-being of each animal is monitored and evaluated.

- A comprehensive environmental enrichment program is provided pursuant to a written protocol which includes a framework encompassing goal-setting, planning, implementation, and documentation for both individuals and groups, utilizing tools like calendars or schedules; the allocation of adequate facility resources to support enrichment initiatives; and safety considerations integrated into enrichment activities.
- Categories of enrichment encompass those which are food based, sensory based, cognitive based, physical/habitat based, and social based. Enrichment for Old World Primates is not limited to, but may include 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 - 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. Consideration should be given to whether the primates are in permanent or long-term sanctuary care, and not being rehabilitated for return to the wild.
- Items are removed when they become soiled, damaged or novelty has diminished.
- It is strongly advised to ensure there are no nooses or opportunities to create nooses with provided enrichment or enclosure furniture. These could lead to head and/or limb entrapment causing injury and potentially death. Items that are leaned against walls or stacked to create escape hazards. This can be easily mitigated by anchoring these items in the enclosure away from the walls.
- As appropriate by species, primates are provided with some sort of bedding daily in order to nest.

- Enrichment must be safe for primates. Items should be sturdy enough so as not to break (items that break creating sharp objects can be particularly dangerous). Extra care should be taken with animals that ingest foreign objects.

W-5. Animal-Caregiver Relationships

Positive relationships between animals and caregivers are maintained.

- Positive relationships between caregivers and primates are critical for animal care. However, for individuals being prepared for release, minimizing contact between caregiver-animal is necessary.
- 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.
- 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.
- 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.
- 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 primates who enjoy this type of enrichment.

W-6. Handling and Restraint

Any necessary handling and restraint is done safely and appropriately, with minimal distress to animals, and personnel are trained in species-specific safe handling techniques/practices.

- Manual capture poses great risk of injury to the primate and the handler. It is, therefore, used with caution and by experienced, trained personnel.
    - 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.
- With few exceptions, personnel do not enter enclosures with primates or engage in direct physical interaction, to minimize the risk of injury.
- 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.
- In general, manual restraint is not recommended for primates, and is not attempted when multiple animals are present in an enclosure.

- Other than exceptions for dependent young, primates are chemically immobilized by qualified personnel when direct handling is necessary (*i.e.*, physical exams).
- Unless in an emergency, primates are not darted in an area where they may be able to climb out of reach and risk injury from falling.
- Multiple staff members are trained to use a dart gun and other restraint equipment, and to employ safe capture techniques. Personnel, including volunteers where appropriate, are aware of who is trained and authorized to use restraint equipment.
- Where possible and appropriate, operant conditioning is used to minimize the need for chemical immobilization and to reduce stress during procedures.
    - 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.
    - For animals that are potential release candidates, operant conditioning might not be appropriate.
- As part of their training, personnel are instructed to report any medical conditions or physical limitations that may hinder their ability to employ safe capture techniques.

W-7. Animal Transport

Animals are appropriately transported to maximize safety and minimize stress and in accordance with all applicable laws.

- 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 or qualified facility for reasons as described in GFAS Acquisition and Disposition standards.
- Where possible and appropriate, primates are acclimated to shipping containers/crates prior to transport. Capture, restraint, and transportation methods consider the primate's temperament and behavior in order to minimize injury, and distress.
- If climate controlled transport vehicles are not available, animals should not be transported in severe weather conditions, and vehicles must have adequate ventilation to ensure proper airflow and temperature regulation.
- Where possible, 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 primate reaching through to make contact with personnel.
    - are designed to minimize loss of bedding and waste, reducing the risk of disease transmission.
    - must be securely fastened during transit to prevent and minimize movement or shifting.

OLD WORLD PRIMATES BEING RELEASED TO THE WILD

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.

These standards should be read in addition to, and not in place of, the Housing, Nutrition, Veterinary, and Well-being and Handling standards in the General Animal Care Standards, as well as the primate-specific provisions in this Appendix.

R-1. General Considerations

The sanctuary has policies, agreements and plans in place to optimize the chances for successful reintroduction of Old World primates into the natural environment.

- 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 management or removal of animals who fail to integrate appropriately or who become habitual ‘problem animals.’
- 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.
- The facility has agreements in place with any and all appropriate authorities to allow the release process to proceed as smoothly as possible.
- Post-release monitoring should be conducted during and after the release.
- Cooperative agreements are in place prior to animals being released which may include, but are not limited to:
    - veterinary and scientific involvement in pre- and 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.

Preferred practices:

- 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.
  - A team of experts perform surveys to establish relevant topics including plant phenology, carrying capacity, etc.
  - Facilities that rescue and release primates should work on changes in law enforcement, human attitudes and behaviors toward apes, as improved management of human-primate coexistence is needed to disrupt the cycle of killing and illegal possession followed by rescue and release.

R-2. Evaluation of Suitability for Release

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

- All primates are treated as potential release candidates. 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.
- The sanctuary has a written protocol in place to evaluate potential release candidates and to determine which primates are given priority for potential release.
  - Some animals can be released almost immediately after rescue once they have received care (e.g., small injury after car accident). Where possible, they should be released near the area where they were rescued.
  - Animals who have spent little time in captivity and/or who have had little human contact are given priority for potential release.
  - Overly human-focused individuals or those otherwise not behaviorally suited to survive in the wild should not be released.
  - An animal with an infectious disease should not be released. Gastrointestinal parasites should not be a concern, if those parasites are found in the wild population in the release area.

- 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.

- 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. Quarantine and Pre-Release Housing

The sanctuary has appropriate quarantine facilities and pre-release housing for primates, with consideration given to sick and injured primates.

General

- Non-quarantine housing for primates being considered for release provides as close to a natural setting as possible. The space allows for foraging, climbing, nesting and other actions naturally performed in the wild.
- 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.
- Where possible and appropriate, sanctuaries follow International Wildlife Rehabilitation Council guidelines (https://theiwrc.org/resources/guidelines-for-wildlife-rehabilitation/).

Quarantine Housing

- 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. See also Standard V-4.
    - 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 and to ensure that primates do not bring infectious diseases into the wild.

- Primates are isolated until any potential health risks are evaluated.
- Sick or injured wildlife is quarantined in such a way that the rehabilitation process is begun during the quarantine phase.
- Quarantine facilities are designed to allow for monitoring and, as needed, modification of behavior of primates intended for release.
- Healthy primates admitted to quarantine have as large an enclosure as possible to help maintain natural locomotion and foraging behaviors.
- Primates being translocated can be released directly if they appear healthy. If the state of health is unsure, or the availability of release areas is limited, primates may be taken into quarantine to gain strength and have their health status evaluated.

Prerelease Housing for Primates

- 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.
- 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.

R-4. 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.

- As early in the rehabilitation process as possible, 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.
- Release candidates are fed in such a way as to encourage natural foraging behaviors.
- 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.
- In a rehabilitation setting, feeding strategies should provide optimal stimulation and encourage wild behaviors. An appropriate feeding regime is critical, but there may need to be some compromise between reducing human contact and feeding at a frequency that most closely resembles wild feeding patterns.

R-5. Husbandry and Health

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

- Once a primate has been evaluated as a potential release candidate, all aspects of care are focused on preparing the animal for the wild, and primates are managed in such a way as to optimize their chances for successful return to the natural environment.
    - 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.
- Primates are 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.
    - Primates are integrated into an appropriate social group, ideally comprised of other conspecifics intended for release, as quickly as possible.
- Opportunities to explore, climb and learn skills in the natural environment are provided.
- 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, ideally back to the location where they were found as quickly as possible, taking into account the potential for the animal not being accepted back into its previous social group.
- Caregiver-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.
- A written veterinary protocol is in place to 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) and the IUCN's Conservation Breeding Specialist Group (http://www.cbsg.org), animals are monitored for human pathogens not found in the wild population.

    - See also Section "V" of the General Animal Care Standards and this Appendix.

R-6. Assessment of Health and Skills

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

- 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 mental and physical health and all species-specific skills.
- Each animal's skills (*e.g.* foraging, nest building, appropriate interaction or avoidance behaviors in the presence of conspecfics, avoidance of dangers including poisonous foods, venomous snakes or predators) are evaluated.
- A complete health assessment is performed including:
    - Overall fitness as it 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.
- 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.
- Genetic assessment has been done to ensure that the primates being released are of an appropriate subspecies/population/subpopulation for the release site.
- Primates are exposed to post-release monitoring equipment prior to release to allow them to acclimate to its presence.

R-7. Determining Appropriate Release Sites

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

- Governmental policy toward reintroductions and the taxon concerned must be assessed. This may include checking existing provincial, national, and international legislation and regulations, and working toward the provision of new measures and acquisition of required permits.
- The potential release site is evaluated for the presence of appropriate and adequate food and water sources.
- The area is evaluated for potential health concerns.
- The potential release site is surveyed to ascertain whether any wild primates are present, either permanently or seasonally. See also Standard R-1.
- The area is evaluated to establish carrying capacity of primates to be released. This includes taking into consideration other releases that may have already taken place and issues of territoriality.
- The area is evaluated for instances of potential human-wildlife conflict.
- IUCN guidelines are, in as much as possible, followed when determining release sites for rehabilitated primates.

- Animals are released away from areas where there is potential for or has been a history of human-animal conflict.
- Primates are released in an appropriate habitat where carrying capacity for the species has not been reached.
    - An ecological survey should be executed, and assessments of habitat carrying capacity and threats need to be conducted, including assessment of the presence of indigenous fauna. The release area should be large enough or have suitable connectivity to support a viable population (or meta-population management strategies are in place), with isolation from human populations.
    - Release sites should have protected status, with active patrols focusing on illegal activities.
    - Density of other primates should be assessed in regards to their competition for food and their potential capacity as vectors of anthropogenic infectious diseases.

R-8. The Release Process and Post-Release Monitoring

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

- Once it is determined that primates have the necessary skills for foraging in their new environment, supplemental care like provision of food is gradually decreased over time until it is discontinued altogether.
- A written policy for 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.
- Primates may be returned to the wild using a soft release process where they are housed in an enclosure within the release area where supplemental food may be provided as needed and observation of their acclimatization may be observed. Consideration is given to primate-caregiver interactions, which may result in primates choosing not to leave human caregivers.
- The level of monitoring may decrease over time as primates are determined to be acclimating to the environment.

Preferred practice:

- ✓ Practices used and results obtained, both positive and negative, are shared both within the facility and with others involved in primate reintroduction to aid in the continued improvement of the process.

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