

Global Federation of Animal Sanctuaries



Standards For Elephant Sanctuaries

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Table of Contents

INTRODUCTION	I
GFAS PRINCIPLES	I
ANIMALS COVERED BY THESE STANDARDS	II
ELEPHANT STANDARDS.....	1
ELEPHANT HOUSING	1
H-1 TYPES OF SPACE AND SIZE	1
H-2 CONTAINMENT	3
H-3 GROUND AND PLANTINGS	6
H-4 TRANSFER DOORS.....	7
H-5 SHELTER	8
H-6 ENCLOSURE FURNISHINGS	9
H-7 SANITATION.....	10
H-8 TEMPERATURE, HUMIDITY, VENTILATION, LIGHTING	11
NUTRITION REQUIREMENTS	13
N-1. WATER.....	13
N-2. DIET.....	14
N-3. FOOD PRESENTATION AND FEEDING TECHNIQUES.....	16
N-4. FOOD STORAGE.....	16
N-5. FOOD HANDLING.....	17
VETERINARY CARE	17
V-1. GENERAL MEDICAL PROGRAM AND STAFFING	17
V-2. ON-SITE AND OFF-SITE VETERINARY FACILITIES.....	18
V-3. PREVENTATIVE MEDICINE PROGRAM	19
V-4. DIAGNOSTIC SERVICES, SURGICAL, TREATMENT AND NECROPSY FACILITIES	20
V-5. QUARANTINE AND ISOLATION OF ELEPHANTS	21
V-6. MEDICAL RECORDS AND CONTROLLED SUBSTANCES.....	22
V-7. BREEDING/CONTRACEPTION	23
V-8. ZOO NOTIC DISEASE PROGRAM.....	25
V-9. EUTHANASIA	25
WELL-BEING AND HANDLING OF ELEPHANTS	26
W-1. PHYSICAL WELL-BEING	26
W-2. SOCIAL HOUSING.....	27
W-3. INTRODUCTION OF UNFAMILIAR INDIVIDUALS	28
W-4. BEHAVIORAL/PSYCHOLOGICAL WELL-BEING	29
W-5. ELEPHANT-CAREGIVER RELATIONSHIPS	30
W-6. HANDLING AND RESTRAINT	31
W-7. ANIMAL TRANSPORT	32

ELEPHANTS BEING RELEASED TO THE WILD	33
R-1. GENERAL CONSIDERATIONS.....	34
R-2. RESCUE OF ELEPHANTS.....	35
R-3. EVALUATION OF SUITABILITY FOR RELEASE.....	35
R-4. QUARANTINE AND PRERELEASE HOUSING	36
R-5. DIET, NUTRITION AND FORAGING SKILLS	37
R-6. HUSBANDRY AND HEALTH.....	38
R-7. HEALTH AND SAFETY OF CAREGIVERS WORKING WITH RELEASABLE ELEPHANTS	38
R-8. ASSESSMENT OF HEALTH AND SKILLS.....	39
R-9. DETERMINING APPROPRIATE RELEASE SITES	39
R-10. THE RELEASE PROCESS AND POST RELEASE MONITORING.....	40
APPENDIX 1	41

INTRODUCTION

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.

Appendix I of this document provides further guidance/suggestions on facility design and elephant care. These are not requirements but rather provide sanctuaries with access to knowledge gained from experience at other sanctuaries/felid care facilities.

GFAS Standards for Elephant Care are based in part on the Coalition for Captive Elephant Well-being’s Best Practices for Captive Elephant Well-being, as found at http://www.elephantcare.org/protodoc_files/new%2006/CCEWBCoreBestPractices.2.pdf.

ANIMALS COVERED BY THESE STANDARDS

Family / Genus

Family: Elephantidae

Genus	Species	Common Names
<i>Elephas</i>	<i>maximus</i>	Asian elephant
<i>Loxodonta</i>	<i>africana</i>	African elephant

Version Updates:

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 Elephants, P-5 Euthanasia

This is a summary of the new and changed content released on January 2015.

H-1 Types of Space and Size

Indoor housing (l) – Access to outdoor space

Dimensions (o) – Outdoor enclosures for elephants sufficient for natural travel habits

Dimensions (p) – Indoor enclosures/shift yards for elephants with expanded room/stall minimums

H-2 Containment

Electric Fences – Access to electrical installations limited

New Restraint chutes

H-6 Enclosure Furnishings

General (e) - Outdoor enclosure space heterogeneous

ELEPHANT 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.

ELEPHANT HOUSING

H-1 Types of Space and Size

Unless otherwise directed by a veterinarian, elephants are provided sufficient opportunity and space to move about freely and comfortably, 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 elephants' 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 elephants to interact with the environment and key elements are changed often, resulting in a dynamic living space.
- c. Facility design takes into account caregiver-elephant safety and ease of maintaining a positive relationship.
- d. Elephants 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.

- e. 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 elephants cannot manipulate them through the barrier.
- f. The habitat ideally provides appropriate visual, olfactory, and acoustic barriers.
- g. The habitat provides security from predators and unauthorized human access.
- h. Sanctuaries that routinely accept infant elephants have a nursery unit.
 - Nursery units include sleeping areas for caregivers and elephants in close proximity.
 - Both indoor and outdoor areas of the nursery unit are designed to allow infant great elephants to explore and play.

Open Space Settings

- i. Open space enclosures are designed to provide the maximum possible freedom and complexity for enclosure residents. The enclosures have sufficient area per animal to accommodate natural individual and group activities. While it may not be possible to monitor every animal in an open space enclosure on a daily basis, design allows for regular inspection of animals and facility maintenance as needed.
- j. Where open space settings are the primary enclosure, two other areas may also be provided:
 - Indoor enclosure 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 pen area accessible from indoor housing, and a minimum of one entrance to the primary enclosure.

Controlled Access Settings

- k. Controlled access enclosures, which may be indoor or outdoor units, provide sufficient space for natural activities but are also designed to allow caregivers to monitor each individual animal on a daily basis, to easily shift individuals, pairs or small groups as needed and to isolate animals for individual care. As with open space enclosures, design also includes:
 - Shelter which can serve as night housing and/or secure space during inclement and extreme weather.
 - Space 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. (Note: This space might also be night housing, lockout, shift yard, etc.)
 - Alternate housing for sick or injured individuals.

Indoor Housing

- l. Elephants must be allowed to stay outdoors as much as possible. Elephants should have free access to the outdoors day and night, in the absence of adverse weather, safety or health conditions [E1].
- 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.

Note: GFAS strongly recommends against creating elephant sanctuaries in climates where temperature extremes would require extended periods without access to outdoor enclosures.

Dimensions

- n. Many factors influence the minimum space required for a group of elephants, 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.
- o. 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.
- p. Outdoor enclosures for elephants Healthy elephants shall have sufficient space to travel a minimum of 10km (7 miles) on a daily basis while engaged in natural behaviors like foraging, feeding, exploring, socializing and the like. Enclosure shape may be variable to take in natural features in the landscape such as rock formations, hills and trees, and for roofed enclosures there should be a minimum vertical dimension of 20 ft. (6 m). Space includes a minimum of one (1) animal transfer door leading to the indoor enclosure, where applicable.
- q. Indoor enclosures/shift yards for elephants have a minimum of two 'rooms' or one indoor room and one shift yard per group of compatible elephants. Room dimension is dependent on intended purpose and/or duration of confinement. Minimum dimension of 2600 sq. ft. (240 sq. m) per 4 adult females, with an additional 860 sq. ft. (80 sq. m) per additional animal.
 - Bull stalls/rooms, where used, are a minimum of 1200 sq. ft. (110 sq. m) per animal.
 - A minimum vertical height of 24 ft. (7.3 m) is recommended for all roofed elephant spaces.
 - Rooms interconnect without creating 'dead ends' to allow for freedom of movement for subordinate individuals.
 - Rooms include a minimum of one transfer door to an outdoor enclosure.
 - Whenever possible, separated elephants have visual and tactile access to group members to facilitate reintroduction.

H-2 Containment

Elephants are safely contained.

General

- a. Other than when being transported or for medical reasons, elephants are kept at all times in secure enclosures or other appropriate areas.
- b. Enclosures and buildings are designed to allow for elephants' normal defense reactions and appropriate 'flight' or escape distances.

- c. All enclosures and buildings are designed, constructed and maintained to securely contain elephants and to present no likelihood of harm or injury to them.
- d. Distance or barriers between elephants and between enclosures and personnel is sufficient to minimize stress to the animals as well as reduce the risk of disease transmission.
 - Clear markings delineating safe zones or safety wall mesh with a maximum dimension of 2 in. x 2 in. (5 x. 5 cm) are used in areas where caregivers must work in close proximity to enclosures.
- e. Enclosures are designed to allow for proper, safe cleaning and drainage.
- f. Materials are appropriate for their particular application and are maintained in good repair.
- g. A regular program of sanctuary maintenance is in place.
- h. Elephants shall not come into close contact with toxic materials, surfaces or fumes, such as paint, preservatives or disinfectants.

Outdoor Enclosures

- i. Perimeter containment of outdoor areas is constructed so as to prevent digging under the barrier by native wildlife, domestic species and the enclosure residents.
- j. 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.
- k. There should be no angles less than 90 degrees for any part of the perimeter of the main enclosure, to avoid animals getting trapped.

Fencing

- l. Barbed or razor wire are not used to contain elephants.
- m. High tensile electric fencing may be used in conjunction with standard fencing products but is discouraged for use as a primary barrier.
- n. The supporting posts for fences are firmly fixed into the ground.
- o. Fence material is sufficiently secured to supporting posts in such a way that the weight of the elephants could not detach it from the support nor dislodge the supporting posts.
- p. Gates and doors are at least as strong, and as effective, in containing the elephants 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.
- q. For open enclosures, a minimum fence height of 6.6 ft. (2 m) is recommended. Where solid or slack cable horizontal railing is used, 10 ft. (3m) is recommended.
- r. Enclosures are adequately secured to allow the animals to have 24-hour access without supervision.
- s. Vertical post construction is recommended, as elephants are adept at climbing solid horizontal fences and solid barriers may limit air exchange.
 - Vertical post barriers may be constructed of steel reinforced concrete or steel pipe.

Electric Fencing

- t. 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).
- u. 20-gauge high-tensile wire is required. A stronger gauge (e.g., 12-gauge) may be more appropriate.
 - v. Energizers are connected to battery or generator backup for continuous power supply during outages.
 - w. In dry climates, the earth rod area is watered to ensure adequate grounding.
 - x. Safety signs on hot wire are visible to staff and bystanders.
 - y. A non-electrified barrier is used to keep bystanders and wildlife from coming in contact with the electric fence.
 - z. With the exception of the hot wire, electrical installations shall be inaccessible to the elephants

Solid Barriers

- aa. 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.
- bb. Walls are secured in appropriate footings to ensure wall stability.
- cc. Care is taken, especially with artificial rock, to ensure that contours in the rock do not provide escape routes from the enclosure.
- dd. Design of areas using solid walls allows for sufficient airflow throughout an enclosure.
 - Gunnite and similar artificial rock, which may interfere with normal thermoregulation, are used with caution in elephant enclosures.

Moats

- ee. The use of moats, other than HaHa (half) moats is not recommended for elephant enclosures due to risk of injury or escape.
- ff. Haha moats, constructed with one steep side and one gently sloping side which is designed for easy access, may be used provided the elephants do not have access to the steep side.

Indoor Enclosures and Shift Yards

- gg. Construction materials as described for outdoor enclosures may be used for indoor enclosures and shift yards.
- hh. Design of areas using solid walls allows for sufficient airflow throughout the enclosure.
- ii. Solid concrete or concrete block walls are sealed to make them impervious to contaminants and pathogens.

Restraint chutes

- jj. Each elephant facility shall be equipped with an elephant restraint device subject to routine maintenance, testing and inspection. The restraint device should offer protection from extreme weather conditions. The restraint device should open widely enough to allow an elephant to lie down if necessary. The device should be accessible from multiple elephant living spaces, especially quarantine or isolation/sick enclosures.

H-3 Ground and Plantings

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

Vegetation

- a. Any vegetation capable of harming elephants is kept out of reach.
- b. All outdoor enclosures for elephants include living or fresh vegetation, which can provide visual barriers, shade and resting sites.
- c. All plant materials in an enclosure are evaluated for potential toxicity before use, including leaves, buds, seeds, fruit, bark and flowers.

Outdoor Enclosures

- d. All outdoor enclosures have a natural substrate consistent with the needs of the elephants.
 - The substrate can be amended with organic materials, including but not limited to clean soils, sand or grasses.
 - The substrate drains well.
- e. Elephants are provided with appropriate environments to accommodate an array of locomotor and foraging behaviors, as well as appropriate sleeping and resting areas, including nesting and bedding materials.
- f. 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.
- g. Where natural topography of an enclosure is not varied, it is created through the addition of natural and placed elements.
- h. Trees - Key shade trees within an outdoor enclosure are identified and protected from damage.
 - Health of trees close to fence lines is checked regularly and any removed if there is fear of it coming down on fence line.
 - Access to very tall trees is limited by electric wires, barriers etc.

Indoor Enclosures

- i. Indoor enclosures in as much as possible have a concrete floor and, provided adequate septic service is present, are sloped to a drain.
- j. 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.
 - Where earthen floors are used, soiled surfaces are removed and replaced as needed

to maintain sanitation.

- Floors drain well.
- Where deep litter substrate is not used, floor surfaces are smooth enough to prevent foot irritation but are not slippery.
- Floors are impervious to water and quick drying.
- k. Bedding materials are provided in sufficient amount/depth to cushion resting elephants.
 - Bedding material suitable for use includes, but is not limited to, clean soils, sand or grasses.
- l. All elephants are observed regularly for signs of illness that may be related to ingestion of bedding materials that may pose a health hazard.

Shift Yards

- m. 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.
- n. The substrate can be amended with organic materials including, but not limited to, clean soils, sand and grasses. The substrate drains well.
- o. Bedding materials are provided in sufficient amount/depth to cushion falls resting elephants.

H-4 Transfer Doors

Elephant 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.
- 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 the doorway. A minimum dimension of 8 ft. x 16 ft. (2.4 m x 4.8 m) is recommended.
- e. Doors are designed such that people are out of view when elephants are being shifted. If not, no eye contact is made with the elephants going through the doors.
- f. Doors and door hardware are properly maintained to ensure proper functioning.

Security

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

Animal Safety

- k. Doors operated via remote control are visible from the control area.
- l. 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.
- m. Hydraulic systems use peanut or other food-grade oils to prevent risks to the elephants in the event of leakage.
- n. Hydraulic and pneumatic door systems include backup systems to allow for door usage in the event of equipment failure.

User Safety

- o. 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

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

H-6 Enclosure Furnishings

Elephants 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 elephants with appropriate substrate, vegetation, bedding 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. Elephant enclosures that provide sufficient space with appropriate natural features (trees, grasslands, ponds, wooded areas and varying terrain) minimize the need for artificial materials.
- e. Outdoor enclosure space must include a variety of slopes and terrain sufficient to allow and encourage significant muscular activity

Outdoor Enclosures

- e. Visual barriers can be used to avoid confrontation or aggression, and include walls, shade structures, topography and large enrichment items.
 - Variations in topography, including gentle and steep slopes encourage movement, providing additional physical benefits to elephants moving about the enclosure.
- f. Water features such as ponds, streams/rivers, lakes or manmade pools are provided to allow for bathing and thermoregulation.
 - Water features are large enough to allow complete submersion when the elephant is standing or lying on its side.
 - Where possible, the water features are large enough to accommodate all elephants in a group simultaneously.
 - Multiple, sloped entry points are preferred for easy access and to prevent individuals being trapped by other elephants.
- g. Other Materials
 - Dry wallows for dust bathing are also provided.
 - Rocks, trees, stumps or other large sturdy objects are provided for rubbing and scratching.

Indoor Enclosures

- h. To the greatest extent possible, all visual barriers and enrichment features meet outdoor enclosure criteria.

- Where elephants are confined to indoor enclosures for extended periods (more than one month), access to water features are provided.

Shift yards

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

H-7 Sanitation

Proper sanitation is practiced to reduce pathogen transmission.

General

- State/province and local laws regarding proper waste removal are observed.
- Elephants are transferred from enclosures prior to cleaning, disinfection and/or sanitizing.
- 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").
- 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

- Animal waste is removed from the habitat as often as necessary to prevent contamination of the elephants contained therein, to minimize disease hazards and to reduce odors. This also enables caregivers to collect fecal samples in a timely manner.
- 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.
- Damaged and soiled enrichment items are removed daily, or as soon as the elephants allow access to the area.
- Efforts are made to prevent native wildlife getting access to waste.

Tools

- 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.
- Tools are labeled when use is restricted to specific areas.
- Tools used for Asian elephants are not used for African elephants.
- Sanitation tools or equipment, including wheelbarrows, are not used for transport or storage of foodstuffs or bedding.

Cleaning and Disinfection

- m. Feeding areas, automatic water devices, water and food containers are cleaned and disinfected daily.
- n. Care is taken to minimize overspray of waste, directly or via aerosolizing, into adjacent cages during cleaning.
- o. 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.
- p. Concrete floored enclosures are dried with a squeegee, and as needed fans, to ensure floors are dry before bedding material is replaced.
- q. 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.
- r. Cleaning and Disinfection Standard Operating Procedures are developed and followed to address:
 - safe disinfectant use to prevent hazards to the elephants, 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.
- s. 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.

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.
- b. For outdoor enclosures and shift yards, elephants have access to heated or cooled areas when ambient temperature falls below 40°F (4.5°C), adjusted for wind chill, or rises above 74°F (23°C). Great caution is taken with elderly, infant and disabled elephants.

- Elephants moved from warmer climates are gradually acclimated to local weather before being exposed to temperatures lower than 60°F (16°C).
 - Windbreaks are sufficient in number to accommodate all elephants 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 elephants simultaneously with consideration for social structure and relationships within a group.
 - Care is taken to prevent direct elephant 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 elephants.
- c. For indoor enclosures, an average temperature of no less than 60°F (16°C) is maintained. At least one enclosure of the facility can be maintained at 70°F (21°C) to accommodate very young, elderly, sick or debilitated animals.
- 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.
 - Cool air can be provided by refrigerant air conditioning, "swamp coolers", fans, or misters. As appropriate, access to water features or outdoor enclosures may provide for necessary thermoregulation, particularly in the evening when elephants normally release heat accumulated during the day.
 - Providing elephants 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 elephants.
 - Consideration is given to providing heated flooring in at least half of the indoor enclosure in cooler climates.
 - All animals have access to the heated portion of the floor.
 - Flooring temperature is maintained such that over-drying or burning of feet, nails and other potentially vulnerable parts of the elephants' bodies is prevented.
 - 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%. 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.
- e. Elephants have access to water features or are bathed as needed to prevent skin becoming too dry when humidity is low.

Ventilation

- f. 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.

- g. 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.
- h. To the extent possible, separate air handling systems are maintained between animal areas to prevent disease transmission,
- i. Proper window and door placement can ensure sufficient cross-ventilation in warm climates.

Lighting

- j. Light, natural and artificial, is appropriate for the species housed in terms of intensity, spectrum and duration.
- k. 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 safely observe animals, clean enclosures and perform related animal care tasks.
 - Dimmer systems which allow the enclosure to be gradually darkened to a low-level, full spectrum light approximating moonlight are recommended where elephants must be confined indoors overnight.
 - 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 elephant health.
- l. 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 elephant enclosures.

NUTRITION REQUIREMENTS

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 elephants to ensure high-ranking individuals do not dominate water sources.

Quality

- c. Water quality parameters are maintained at a generally acceptable level for elephants in terms of turbidity, salts, etc.
- d. Potable water sources are tested for contaminants annually.
- e. All water sources (including water buckets) 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 elephant, following veterinary instructions for special needs.

General

- a. A veterinarian or qualified nutritionist periodically reviews all aspects of the elephants' diet at the sanctuary.
- b. Diets of individual elephants (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.
- c. Food is wholesome, palatable, free from contamination and of sufficient quantity and nutritive value to maintain all elephants in good health.
- d. The sanctuary utilizes a feeding regimen that ensures each individual receives adequate nutrition regardless of status in social group.
- e. Where possible and appropriate, each elephant's daily dietary needs are documented and made available to animal care staff.
- f. In open space enclosures, routine observation of feeding activity ensures all animals are able to access sufficient food.
- g. Hay, browse, grain and produce are appropriately combined to provide a complete low protein/high fiber diet.

- Hay or browse are available for at least 12-16 hours every day with 24 hour access to these food items recommended.
- Year round access to high quality pasture and browse is preferred.
- h. Commercially prepared complete diets are not the sole diet for elephants, as behavioral and dietary needs are not met using these feeds alone.
 - Where commercial diets are used, they are formulated for herbivores.
 - Simple grains are preferred over compressed, dehydrated grain pellets and cubes which deliver nutrients at a higher concentration than elephants can appropriately utilize.

Leafy Greens, Vegetables and Fruit

- i. A variety of leafy greens, vegetables and fruit are offered as a component of the basic diet.
- j. Leafy greens, including fresh bamboo may aid in increasing fiber content.
- k. Rotation of seasonally available fruits and vegetables contributes to variety in the diet.
- l. The fresh produce portion of the diet is not heavily dependent on over ripe and/or sugary fruits.

Browse

- m. Fresh browse is offered daily to promote natural feeding behaviors.
- n. Materials offered may include bark that is easily stripped and consumed, leaves, seeds, flowers and shoots.
- o. All browse items are nontoxic and grown without chemical pesticides. Caregivers are trained to identify safe, non-toxic plant species appropriate for elephants.

Vitamins/Supplements

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

Treats/Enrichment items

- q. Preferred food items from the basic diet can be reserved for enrichment through the use of hanging hay feeders and other food enrichment devices/techniques.
- r. 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 elephants' health and social needs.

General

- a. Feeding and drinking receptacles are placed in positions that minimize the risks of contamination from soiling by the elephants themselves, wild birds, rodents and other potentially invasive species.
- b. Food receptacles, where used, are appropriate for the species housed in terms of number, size and placement, and are cleaned daily.
- c. Receptacles for animal food and water are designed to minimize spillage and are not used for any other purpose.
- d. Hygiene concerns are balanced with natural grazing needs when determining food presentation for Asian elephants, which are grazing animals.
- e. Elephants are offered the grain and produce portion of their diet a minimum of twice daily, early in the morning and late in the day to accommodate natural night foraging behavior.
- f. Elephants have access to hay and/or natural plant browse a minimum of 12, and preferably 24 hours a day to accommodate natural foraging behavior.

Feeding Techniques

- g. Variations in food presentation are considered part of the enrichment program for elephants. Distributing food throughout an enclosure allows natural foraging behavior.
- h. Feeding in multiple locations helps to ensure that low-ranking individuals have adequate access to food and water.

Diet Changes, Increases or Decreases

- i. Adjustments made to an already formulated and nutritionally balanced diet are made to the entire diet to ensure continued nutritional balance.
- j. 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.
- k. 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.
- l. 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 (*grains*) 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.

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

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 elephants and other species housed at the sanctuary, and who is aware of any specific issues with the health of the elephants 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 elephants 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 (elephant 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 elephants, 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 elephants 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 elephants.
- 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),

elephant holding areas, capture and restraint equipment, non-absorbent and non-impact resistant surfaces, floors sloping toward drains, air handling systems, ceilings, doors, outside elephant enclosures as appropriate, hospitalized elephant 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, "Clinical Pathology, 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 elephants, 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 elephants). Results are recorded. Fecal examinations are repeated following treatment to evaluate efficacy.
- e. All elephants are immunized as recommended by the attending veterinarian, using currently recommended procedures and products as appropriate for the country, species and individual. 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 elephants 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 elephants 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 elephants 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.
- b. Diagnostic capabilities include radiology, cytology, microbiology, parasitology, complete blood count, blood chemistry, urinalysis, serology and other appropriate laboratory procedures.

Surgical

- c. 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.
- d. 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 elephant 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 elephants, for signs of dehiscence or infection. Analgesics are administered post-operatively when appropriate.

Treatment

- j. 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.

- k. 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.
- l. All medications are purchased, prescribed and administered under the guidance of the veterinarian.
- m. When distributed to elephant 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 elephant to receive the medication, the expiration date of the medication, prescribing doctor and number of refills if any.
- n. All medical treatments and drug prescriptions are documented in the elephant's medical record.
- o. Basic physical capture and restraint equipment to facilitate medical treatment is available at the sanctuary.

Necropsy

- p. Whenever possible, there is an isolated area on the grounds for performing necropsies, or appropriate storage facilities until the deceased elephant 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 elephants is physically separate from

live elephant holding, treatment, and surgery areas and from food supply storage or preparation areas.)

- q. Disposition of dead elephants and their parts meet all legal restrictions.
- r. 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 Elephants

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

- a. Upon arrival, all elephants 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 may be longer (at least 60-90 days) for those elephants that have received minimal screening prior to arrival, such as elephants from the wild. Elephants previously housed together may be quarantined together.
- b. If the sanctuary does not have an adequate quarantine facility, steps should be taken to have elephants undergo quarantine under these guidelines prior to their arrival.
- c. Local, state/province, or national regulations regarding quarantine of newly arrived

elephants 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 elephants 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 elephants 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 elephants 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, elephants 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 recommended by GFAS include but are not limited to:
 - 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 elephant's response;
 - Where applicable and appropriate, any positive behavioral management records showing completed objectives and those in development;
 - Current and historic enclosure mates, social groups and partners, including response to various phases of introduction and response to other individuals;
 - Acquisition documents (see Standard P-2, "Acquisition Recordkeeping and Monetary Exchange");
 - Welfare assessment for the elephants 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.
- d. 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 (parasitologic, hematologic, bacteriologic, etc.) pathology reports, plus immunization records with all relevant dates, elephant identification and nutrition/diet information, and, where applicable, necropsy reports.
- e. Copies of medical records accompany any elephant who is transferred to another sanctuary.
- f. Medical records are maintained under the direction of the veterinarian or trained elephant 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.
- g. Statistics are tabulated regularly on the rates and nature of illness and mortality in the sanctuary.

Controlled Substances

- f. Only a licensed veterinarian prescribes controlled substances used at the sanctuary, and all such substances are secured in accordance with any applicable laws.
- g. 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.).
- h. Expired controlled drugs are marked as such and stored separately.
- i. 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/Contraception

No intentional propagation of elephants 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 species appropriate contraceptive programs in place (which may include physical separation of genders) with the method of contraception based on current best practices and attending veterinarian recommendations.
- c. 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 animal, provided there is no further opportunity for breeding during this period of time.
- d. Infants born at the sanctuary remain with the mother as appropriate for natural rearing, provided there is no further opportunity for breeding during this period of time. Infants are only removed from females 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 elephants 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 elephants 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 elephants 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, elephant species and individual. All attendants, handlers, and/or trainees who have direct contact with elephants are tested regularly for tuberculosis or have a chest x-ray taken (annual testing or x-ray recommended in areas with a high incidence of tuberculosis) 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 an elephant 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 elephants 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 elephant contact.
- i. Testing and vaccination protocols vary by location. Federal, state or province and local rabies prevention protocols supersede recommendations made in this document.
- h. See also Standard S-14, "First Aid and Zoonotic Disease Training, and Staff First Aid."

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 animal 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 testudines, and unless impossible, is performed out of view of other animals.
- f. The species and ecosystems are carefully considered during disposition activities.

WELL-BEING AND HANDLING OF ELEPHANTS

W-1. Physical Well-Being

All elephants 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 elephants’ physical well-being.

- a. The welfare of each individual elephant is the overriding consideration in all sanctuary actions.
- b. Elephants 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. Elephants are provided with opportunities to explore their environment, forage for food, rest and play by providing species-appropriate places to hide and rest in comfort, and a variety of plants, trees and substrates and other enclosure enhancements where food/enrichment items can be hidden.

33Global Federation of Animal Sanctuaries – Standards for Elephant Sanctuaries

- 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 elephant 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 elephants on at least a weekly basis, an accurate population count is maintained, and health issues monitored.
 - Particular attention is paid to skin care particularly where there is limited access to bathing water and dry and wet wallows.
 - Attention is also paid to foot care where there is a history of chronic problems and/or or a lack of variety of natural substrates to result in normal foot wear.
- e. Where possible and appropriate, records of individual elephants are kept to provide both behavioral and veterinary history.
- f. Where possible, each elephant 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. Body condition scoring provides another option for assessing elephant weight and condition.
- g. The use of positive reinforcement may be appropriate for elephants who enjoy interacting with people, to provide additional enrichment, reduce the need for chemical immobilization and reduce stress during medical intervention.

W-2. Social Housing

Elephants are grouped appropriately with the safety of animals and staff in mind.

General

- a. Elephants housed in the same primary enclosure are compatible.
- b. Elephants 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. Elephants 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 herd or physical aggression leading to injuries.
- f. The sanctuary has the ability to separate and isolate animals to address behavioral concerns. If elephants 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 elephant is taken into consideration when determining social groups.
- h. Elephants are provided with the opportunity to exercise choice and interact socially with other elephants.
- i. Asian and African elephants are not housed together, as behavioral differences between the species often lead to dominance or aggression problems and endemic disease in one species may be fatal to the other.
- j. Herd dynamics are taken into account in developing social groups as elephants are highly social and develop complex relationships among themselves. Sanctuaries have the ability to manage introductions, separations and social compatibility concerns within each herd.
 - Staff is aware of each elephant's social compatibility and of the dominance hierarchies within the herd.
- k. Where possible, sanctuaries hold no less than three female elephants, recognizing that some captive adult females exhibit aberrant behavior which may require their being housed singly if the anti-social behavior does not improve within a new social group.
- l. In as much as possible, female offspring are not separated from their mothers.
 - An exception may be made in cases of maternal rejection or where a female infant cannot be re-established into her original social group.
- m. Juvenile males may remain with their natal herd until they are rejected by the herd or begin to show signs of sexual maturity. Age of maturity is highly variable thus young males must be closely monitored.
- n. Adolescent males may be housed as a group until adulthood at which point they may be integrated into a bachelor herd. Males are housed at facilities with the capability of dealing the aggressive behaviors exhibited during musth.

W-3. Introduction of Unfamiliar Individuals

Introduction of any new elephant to a social group is done according to techniques appropriate for each species, with staff safety ensured.

- a. Introduction of unfamiliar elephants is carefully considered. Professionals with experience in social introductions, if not on staff, are consulted whenever possible during these considerations.
- 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 elephants; rearing history (hand-reared, parent reared, time spent with mother and siblings); dominance rank in previous groups and rank relative to other elephants who are also being integrated into the new group; affiliations with other individuals who are also being integrated into the new group; considerations for species-specific behavior and biology.
- 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;
 - behavioral goals of tactile contact period;
 - benchmarks for proceeding to physical introduction;
 - space and enclosures 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.;
 - enclosure 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 elephant is evaluated

and addressed, appropriate enrichment is provided, and where appropriate a welfare plan and report is part of each elephant's file.

- a. There is a formal, written enrichment program that promotes species-appropriate behavioral opportunities and ensures the captive elephants' 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.
 - Object enrichment – Objects that encourage inspection and manipulation and promote species-specific behavior.
 - Food enrichment - Varying food choices and food presentation, including the use of hanging feeders, that increase food procurement time.
 - Social enrichment - Affiliative interactions between caregivers and elephants 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 dependent young; elephants 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 elephant 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 elephant and updated annually. A copy of the welfare report is kept in the elephant's permanent file.

W-5. Elephant-Caregiver Relationships

Positive relationships between elephants and caregivers are maintained. Elephants are not fearful or aggressive in response to human presence or routine care procedures.

- a. Elephants 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 elephants to new caregiver staff has been developed. Where possible, new caregivers accompany a trusted caregiver until the elephants become comfortable with the new individual.
- c. A positive relationship between the elephants and regular caregivers, animal managers

and veterinary staff is one in which the elephants 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 elephant 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 elephants do not cause overheating, excessive cooling, physical harm, or unnecessary discomfort, and minimize 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 elephant enjoys regular interaction with people.
- h. Physical abuse, deprivation of food or water, and other forms of negative reinforcement or punishment-based training are never used to train, shift or otherwise handle elephants.

W-6. Handling and Restraint

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

- a. In general, humans do not enter enclosures with elephants. Direct physical interaction is, with few exceptions, limited to protected forms of contact, by experienced personnel, to minimize the risk of injury.
 - Protected contact is defined as handling of an elephant where the caregiver and elephant are separated by a barrier or an established safety space.
 - Typically in this system, the elephant is not spatially confined and is free to leave the work area at will. The caregiver has contact through a protective barrier.
 - Protected contact also includes situations where the elephant is handled through a protective barrier but is also spatially confined by an Elephant Restraint Device (ERD).
 - Free contact may be appropriate for elephants being hand-reared for release to the wild, provided personnel involved in caring for the calves are appropriately trained in positive reinforcement techniques and safety procedures.
- b. A management plan is developed for each elephant that includes caregiver safety, elephant behaviors volunteered upon request, emergency protocols, and staff training.
- c. Where possible and appropriate, Positive Reinforcement Training (PRT) is used to minimize the need for chemical immobilization and to reduce stress during procedures. With appropriate training, many procedures can be performed cooperatively, without anesthesia, such as examination of body parts and treatment of superficial injury.
- d. Some elephants may be conditioned to enter an elephant restraint device (ERD) using PRT.

- e. In general, the following items are not used when working with elephants:
- Chains - In circumstances where the use of chains may significantly improve elephant safety, such as during transport, their use is limited to the shortest time possible. Elephants are never chained simply for convenience.
 - Sticks, bats or any other devices used to poke at or strike the elephant; electrical devices designed for use on livestock, such as commercially manufactured electric prods; and shocking collars/belts.
 - Any physical abuse, deprivation of food or water and other forms of negative reinforcement or punishment-based training.
- f. 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. Manual restraint is not recommended for elephants, and is not attempted when multiple animals are present in an enclosure.
- g. 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.
- h. 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.
- i. 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.

W-7. Animal Transport

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

- a. Elephants 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 elephant 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, elephants are acclimated to shipping container/crate

prior to transport. Capture, restraint, and transportation methods consider the elephant'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. Where transport vehicles are not climate controlled, water is available to cool animals as needed and transport occurs during cooler hours in hot climates. In cooler climates, extra bedding is provided and every effort is made to reduce drafts in the transport vehicle.
- i. 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 elephant reaching through to make contact with personnel.
 - are designed to minimize loss of bedding and waste, reducing the risk of disease transmission.
- j. Elephants are provisioned with hay or browse throughout the transport, and water is provided at regular intervals during long transports.
- k. Any elephant 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.
- l. All elephants taken outside the sanctuary are kept securely at all times. Elephants 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.
- m. Complete medical records, diet and husbandry information, and identifying papers (*e.g.*, describing tattoos, or other identification methods) accompany all transported elephants.

ELEPHANTS 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 elephants 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;
- 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 Species Survival Commission (IUCN/SSC) Reintroduction Specialist Group's "Guidelines for Re-Introductions".

R-1. General Considerations

The sanctuary has policies, agreements and plans in place to optimize the chances for successful re-introduction of elephants 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 or injury 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 Elephants

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 elephants 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-5, "Euthanasia."

R-3. Evaluation of Suitability for Release

Elephants 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 elephants 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 juvenile elephants are treated as potential release candidates, particularly those who have not been kept long term as pets. If elephants 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, “Elephant Housing,” and V-5, “Quarantine and Isolation of Elephants”)

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

General

- a. Non-quarantine housing for elephants being considered for release provides as close to natural a setting as possible. The space allows for foraging, bathing and other actions naturally performed in the wild.
- b. Quarantine facilities and prerelease housing for elephants intended for release are preferably situated a minimum of 66 ft. (20m), giving consideration to factors such as wind direction, from resident elephant 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.
- 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 general, this phase involves walking juvenile elephants in a natural environment, where caregivers monitor their skills and safety.

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 elephants.

- f. Quarantine facilities are designed to allow for monitoring and, as needed, modification of behavior of elephants intended for release.
- g. Healthy elephants admitted to quarantine have as large an enclosure as possible to help maintain natural locomotion and foraging behaviors.
- h. Upon arrival, elephants are quarantined for an adequate number of days, ideally for a minimum of 30 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 elephants may have been exposed.
- j. Orphaned elephants, particularly those who have been potentially exposed to human pathogens, are isolated until any potential health risks are evaluated.

Initial Housing for Orphaned, Ill or Injured Elephants

- 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 elephants are housed in nursery units, preferably with conspecifics, with human caregivers acting as surrogates to provide necessary nurturing.

Intermediate Housing for Orphaned Elephants

- n. As the orphaned elephants gain strength caregivers walk them in the wild during the day, allowing them to explore their natural habitat, returning to night enclosures, which now may be outdoor units.

Intermediate and Prerelease Housing for Sick or Injured Subadult Elephants

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

- o. 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. Where possible they are integrated into social groups with other juveniles being reared for release.

R-5. Diet, Nutrition and Foraging Skills

Elephants 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, elephants are taken out into the wild on a daily basis and assessed for their ability to find appropriate foods and avoid inedible or poisonous foods. Supplemental feeding continues as needed.

- b. Release candidates are fed in such a way as to encourage natural foraging behaviors.

R-6. Husbandry and Health

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

- a. Once an elephant has been evaluated as a potential release candidate, all aspects of care are focused on preparing the animal for the wild.
 - Animals are integrated into an appropriate social group, ideally comprised of other conspecifics intended for release, as quickly as possible.
- c. Opportunities to explore and learn skills in the natural environment are provided.
- d. Caregiver-elephant 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 elephants' chances for release;
 - encouraging the elephants to develop appropriate relationships with conspecifics for their social needs.
- e. 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) and the IUCN's Conservation Breeding Specialist Group (<http://www.cbsg.org>), animals are monitored for human pathogens not found in the wild population.

R-7. Health and Safety of Caregivers Working with Releasable Elephants

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

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

- a. Caregivers working with elephants intended for release to the wild are routinely monitored for potential anthroponoses (diseases that have potential to be transmitted to the animals).
- b. TB testing, vaccinations and fecal cultures for pathogens may be utilized, as appropriate for the region, to ensure the health of both the elephants and their caregivers. New

caregivers should not have contact with the elephants 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 elephants.

R-8. Assessment of Health and Skills

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

- a. Elephants who have completed the rehabilitation process and have been successfully integrated into a social group, are further evaluated for release, with attention to health and the skills attained.
- b. Each animal's skills (e.g. foraging, appropriate interaction or avoidance behaviors in the presence of conspecifics, avoidance of dangers including poisonous foods 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 elephant has a reasonable chance for long-term survival.
- c. Elephants 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.
- d. Genetic assessment has been done to ensure that the elephants being released are of an appropriate subspecies/population/subpopulation for the release site, if their site of origin is unknown.
- e. Elephants 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 area is evaluated to establish carrying capacity of elephants. Animals are released habitat where carrying capacity for the species has not been reached.
- d. The area is evaluated for instances of potential human-wildlife conflict.

- e. IUCN guidelines are, in as much as possible, followed when determining release sites for rehabilitated elephants.
- f. Animals are, in general, released away from areas where there is potential for or has been a history of human-animal conflict.

R-10. The Release Process and Post Release Monitoring

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

- a. Once it is determined that the elephants 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 the elephants have integrated into the wild.
- c. Ideally, elephants are returned to the wild using a soft release process wherein they 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 elephants 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 elephant reintroduction to aid in the continued improvement of the process.

Appendix 1

General

Intelligent and long-lived, elephants in the wild are highly migratory animals who live within a complex social structure, making it very difficult to provide an appropriate captive environment. The extreme size of elephants (often weighing in excess of 12,000 lb. (5440 Kg.) and standing over 15 ft. tall (3.1 m.) at the shoulder) also contributes to the substantial human, financial, and ethical commitments needed to appropriately maintain these potentially dangerous species.

Diet

Elephants naturally spend 20 hours per day selecting, collecting and eating various foods. Decreases in stereotypy have been noted in elephants confined indoors at night when they have constant access to browse or hay.

A full-grown African elephant requires 75-100 lbs. (34-45.5 kg) of fresh browse daily for optimum health.

Rotation of food items, including seasonally available fruits and vegetables, provides variety and enrichment.

At present (2013), Vitamin E and mineral deficiencies in captive elephants, particularly in non-range states, is being examined as a contributing factor in some health problems.