

Global Federation of Animal Sanctuaries



Standards For Ruminant Sanctuaries

Version:

May 2016

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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 ruminant care. These are not requirements but rather provide sanctuaries with access to knowledge gained from experience at other sanctuaries/ruminant care facilities.

ANIMALS COVERED BY THESE STANDARDS

Family / Genus / Common Names

- a. Family: *Antilocapridae, Bovidae, Camelidae, Cervidae, Giraffidae, Moschidae, Tragulidae*
- b. Genus: *Aepyceros, Alces, Alcephus, Ammotragus, Antidorcas, Axis, Beatragus, Bison, Blastocerus, Bos, Boselaphus, Camelus, Capra, Capreolus, Cephalophus, Cervus, Connochaetes, Dama, Damaliscus, Elaphodus, Elaphurus, Gazella, Giraffa, Hippocamelus, Hippotragus, Hydropotes, Kobus, Lama, Mazama, Moschiola, Moschus, Muntiacus, Nesotragus, Odecoileus, Okapia, Oreamnos, Oreotragus, Oryx, Ourebia, Pantholops, Pelea, Philatombam, Procapra, Ovibos, Ovis, Ozotocerus, Przewalskium, Pseudois, Pudu, Rangifer, Raphicerus, Redunca, Rucervus, Rusa, Saiga, Sylvicapra, Syncerus, Tetracerus, Tragelaphus, Tragulus, Taurotragus, Vicugna*
- c. Common names: Addax, Alpaca, Anoa, Antelope, Aoudad, Argali, Banteng, Barashingha, Beira, Bharal, Bison, Blackbuck, Blesbok, Bluebuck, Bongo, Brou, Brouchet, Buffalo, Bushbuck, Camel, Cattle, Chamois, Chevrotain, Chinkara, Chiru, Chital, Deer, Dibatag, Dik-dik, Diuker, Eland, Elk, Gaur, Gazelle, Gemsbok, Gerenuk, Giraffa, Goat, Goral, Grysbok, Guanaco, Hartebeest, Hirola, Huemul, Ibex, Impala, Klipspringer, Kob, Kouprey, Kudu, Lechwe, Llama, Markhor, Moose, Muntjac, Muskdeer, Muskox, Nilgai, Nyala, Okapi, Oribi, Oryx, Pronghorn, Pudu, Puku, Reedbuck, Reindeer, Rhebok, Rusa, Saiga, Sambar, Saola, Serow, Sheep, Sitatunga, Springbok, Steenbok, Suni, Tahr, Takin, Tamarow, Taruka, Topi, Tur, Urial, Vicuna, Waterbuck, Wildebeest, Wisent, Yak,



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 Ruminants, P-6 Euthanasia

New and Changed content released on July 2015

- V-7 Breeding/Contraception – section a.

RUMINANT 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 for 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.

RUMINANT HOUSING

H-1. Types of Space and Size

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

General

- a. The habitat and living conditions are species appropriate and replicate, in as much as possible, the ruminant's 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 ruminant to interact with the environment and key elements are changed often, resulting in a dynamic living space.
- c. Facility design takes into account caregiver-ruminant safety and ease of maintaining a positive relationship.
- d. Ruminants 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. Outdoor enclosures are either covered, with minimum height to allow for natural behaviors, or open roofed with sufficient height to prevent escape (see Housing Dimensions for appropriate measurements).
- f. The habitat provides appropriate visual, olfactory, and acoustic barriers.
- g. The habitat provides security from predators and unauthorized human access.

Open Space Settings

- h. Open space enclosures, which may be indoor or outdoor units, 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.
- i. Where open space settings are the primary enclosure, the following are also provided:
 - 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/pen, shift yard, etc.)
 - Alternate housing for sick or injured individuals.

Controlled access settings

- j. 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/pen, shift yard, etc.)
 - Alternate housing for sick or injured individuals.

Indoor Housing

- k. Indoor housing provides year-round protection from the elements. For sanctuaries located in colder climates (where freezing temperatures occur regularly during any part of the year and temperate or tropical species are housed), indoor space is insulated and is large enough to allow for all forms of species-specific behavior (running, jumping, climbing, swimming, playing, etc. as species appropriate).
 - The indoor space should also include separate pens/units to house sick or injured animals.

Dimensions

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



- The use of a rotation system, which allows groups and/or individual ruminants to regularly spend time in a larger or different space, is strongly encouraged in these circumstances, to rest pasture, increase enrichment and encourage activity.
- Outdoor enclosures for ruminants-Enclosure shape may be variable to take in natural features in the landscape such as rock formations, hills and trees. Space includes a minimum of one (1) animal transfer door leading to indoor shelter and sufficient space for separate areas for feeding and resting.
 - Minimum area of 350 sq. ft. (32.5 sq. m) per cow
 - Minimum area of 700 sq. ft. (65 sq. m) per bison.
 - Minimum area of 150 sq. ft. (14 sq. m) per sheep or goat.
 - Minimum area of 300 sq. ft. (9.3sq. m) per antelope or gazelle.
 - Minimum area of 1076 sq. ft. (100 sq. m) per camel.
 - 538 sq. ft. (50 sq. m) per additional camel.
 - Minimum width of 20 ft. (6 m).
 - Wherever possible more space is provided to allow for movement, grazing and play behaviors.
 - Minimum vertical dimension of 4 ft. (1.2 m) of vertical, non-climbable barrier.
 - 6.6 ft. (2m) for bison, guanaco, cervids, camels and okapi
 - 16 ft. (5m) for giraffe
- n. Indoor enclosures/barns/shift yards for ruminants- Room dimension is dependent on intended purpose and/or duration of confinement, ensuring that ruminants can be housed with at least one other member of their species. Enclosures are large enough to allow all animals to comfortably move around and to lie down.
 - Barns and pens/shift yards interconnect without creating 'dead ends' to allow for freedom of movement for subordinate individuals and include a minimum of one transfer door per barn/pen/shift yard to the main outdoor enclosure.
 - Pens are available inside the barn to house sick/injured animals and accommodate a companion as needed.
 - Ruminants may be familiarized with rooms and shift yards through routine feeding in or transfer through, or by being allowed continuous access.
 - Whenever possible and species appropriate, separated animals have visual and tactile access to group members to facilitate reintroduction.
 - In cattle enclosures ceilings are high enough to accommodate equipment or move downed cows.
- o. Mixed species housing
 - Where multiple species share an outdoor enclosure, the total dimension is adjusted to reflect the minimum spatial requirements of each species housed.
 - Minimum indoor dimensions remain unchanged for each species.
 - Each species has a dedicated transfer door between indoor and outdoor enclosures.
 - Mixed species groupings are appropriately researched to ensure compatibility and to avoid unnecessary stress for all species.



H-2. Containment

Ruminants are safely contained.

General

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

Outdoor Enclosures

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

Fencing

- i. Barbed or razor wire are not used to contain ruminants.
- j. The supporting posts for fences are firmly fixed into the ground.
- k. Fence material is sufficiently secured to supporting posts in such a way that the weight of the ruminants could not detach it from the support nor dislodge the supporting posts.
- l. Gates and doors are at least as strong, and as effective, in containing the ruminants 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.
- m. Recommended fencing materials include but are not limited to:
 - Rigid woven wire mesh or chain link is recommended for most ruminants.
 - Tightlock game fence may be used for bison and large deer species.
 - In large acreage enclosures (15-20 acres/6 hectares) ruminants have been successfully contained using 8 ft. (2.4m) double fencing with hot wires.
 - See also Electric Fencing below.
- n. Dimensions
 - Maximum of 3 in. x 3 in. (7.6 cm x 7.6 cm), 4-6 gauge mesh or chain link.
 - Minimum vertical dimension of 4 ft. (1.2 m) non-climbable fence.
 - 6.6 ft. (2m) for cervids, bison, guanaco, camels and okapi.
 - 16 ft. (5m) for giraffe.



Electric Fencing

- o. 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).
- p. 20-gauge high-tensile wire is required. A stronger gauge (e.g., 12-gauge), may be more appropriate for some species.
- q. Fences height as above, with a maximum wire spacing of 4 in. (101.6 mm) for the first 4 ft. (1.22 m) and 6 in (152.40 mm) thereafter.
 - A 5 wire fence is the minimum for controlling canine predators with more wires providing better predator control.
- r. Energizers are connected to battery or generator backup for continuous power supply during outages. Two circuits with independent power sources may be used so that one fence remains functional should the other short out.
- s. In dry climates, the earth rod area is watered to ensure adequate grounding.
- t. If using electric fence as a primary barrier, two separate complete systems are used to increase effectiveness and reduce the chance of system failure.
- u. Enclosure furniture is placed at a safe distance from the fence to prevent accidental contact by ruminants and animals are appropriately desensitized to the fencing.
 - Where goats are housed using electric fencing, their climbing tendencies are taken into account.
- v. Safety signs on hot wire are visible to staff and bystanders.
- w. A non-electrified barrier is used to keep bystanders and wildlife from coming in contact with the electric fence.

Solid Barriers.

- x. 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.
 - Solid sided ruminant pit style enclosures are avoided.
- y. Walls are secured in appropriate footings to ensure wall stability, and are of sufficient strength to anchor caging and furniture.
- z. Care is taken, especially with artificial rock, to ensure that contours in the rock do not provide escape routes from the enclosure.
- aa. Height of the wall is the same as that for fences.
- bb. Design of areas using solid walls allows for sufficient air flow throughout an enclosure.

Indoor Enclosures/Barns and Shift Yards/Pens

- cc. For mesh size and vertical dimensions see outdoor enclosure section.
- dd. Solid walls may be used, as described above, or in conjunction with other types of barrier.
- ee. Walls are of sufficient strength to anchor caging and furniture.
- ff. Rails are of sufficient strength to withstand pressure from ruminants. Where wooden rails are used, they are regularly inspected for damage from chewing by the ruminants.
- gg. Where stalls are used they are a minimum of 9 ft. (3m) x 20 ft. (6m) for giraffe, 150 sq. ft. (14 sq. m) for most antelope species, with an additional 80 sq. ft. (7.4 sq. m) for each additional animal.



H-3. Ground and Plantings

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

Vegetation

- a. Any vegetation capable of harming ruminants is kept out of reach.
- b. Trees within or near animal enclosures are regularly inspected, trimmed or felled as necessary to avoid ruminants being harmed by falling branches, toxicity, or trauma.
- c. Access to very tall trees which are useful for shade limited by electric wires, barriers etc. to prevent damage
- d. Trees and climbing plants are pruned to prevent their aiding in ruminant, particularly goat, escape.
- e. Any natural materials (e.g., plants and their products, such as seeds or fruit) are assessed for toxicity to the species held before use.
 - Particular care is taken with camels as they tend to be non-discriminatory eaters.

Outdoor enclosures

- f. All outdoor enclosures have a natural substrate consistent with the needs of the species.
 - Where possible, natural pasture or woodland is available to provide ruminants with grazing and browsing opportunities and natural resting surfaces.
 - Browse is provided where animals do not have access to natural browse, as species appropriate.
 - Okapi and giraffe have sufficient trees for browsing and as visual barriers.
 - Male okapi need 2- 3 ft. (60-90 cm) tall bushes for territorial marking. Access to dense, tall vegetation to simulate their natural habitat is recommended.
 - The substrate provides easy to clean, dry areas for ground feeding.
 - Camelids are not maintained on wet or boggy ground, nor on hard abrasive surfaces which may result in injury to footpads or kneeling pads.
 - The substrate can be amended with organic materials, including but not limited to soils, sand, bark mulch, leaf litter, grasses, straw and hay.
 - Sand is not used as substrate for camelid and cervid feeding areas to reduce risk of sand impaction.
 - The substrate drains well.
- g. Ruminants are provided with appropriate three-dimensional environments to accommodate an array of locomotory and foraging behaviors, as well as appropriate sleeping and resting areas, including bedding materials.
- h. Where natural topography of an enclosure is not varied, it is created through the addition of natural and placed elements.

Indoor enclosures/barns/shelters

- i. Indoor enclosures/barns have a non-slip concrete floor and, provided adequate septic service is present, the floor is sloped to a drain.
 - Ruminants are not housed directly on concrete flooring.



- Wooden flooring is not used.
- j. 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.
- k. Existing construction ensures that all floors are sealed.
- l. Bedding materials are provided in sufficient amount/depth to prevent contact with the concrete.
 - Bison are ideally housed on natural substrate with straw or corn stover bedding.
 - Okapis are housed on natural substrate, decomposed granite or non-slip rubber matting.
 - Okapis housed on brushed concrete floors have developed swollen carpal joints.
 - Appropriate substrates include pine shavings, cedar or straw bedding.
- m. Non-slip floors are recommended for all Old World camelids as well as for any other ruminants with mobility problems.
- n. Old World camelids are not housed on hard, abrasive surfaces which may result in injury to foot pads or wearing of the pedestal or kneeling pads.
- o. All ruminants are observed regularly for signs of illness that may be related to ingestion of foreign objects, including bedding or other materials that may pose a hazard.

Shift yards/Pens

- p. All outdoor shift yards have a minimum of 70% of the surface area in natural substrate. The remaining 30% may be concrete as appropriate for drainage, sanitation and structural needs.
- q. The substrate can be amended with organic materials including, but not limited to, soils, grasses, straw and hay. The substrate drains well.
- r. Bedding materials are provided in sufficient amount/depth to prevent direct contact with any concrete surfaces.

H-4. Gates and Doors

Ruminant enclosure gates and doors are appropriately designed to ensure both animal and human health and safety.

General

- a. Animal gates and doors are a key element of facility design.
- b. Enclosure fence lines include at least one drive-in access point for emergency access and enclosure furniture placement is designed to allow easy vehicle access.
- c. 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.
- d. Gates and doors are designed to remain functional under all circumstances, are maintained in good working order and free from any encumbrances that may prevent opening and closing.
- e. Doors are designed to allow caregiver view of enclosures while operating the doors.



- f. Minimum dimensions of transfer doors and gates are such that ruminants can maintain normal posture without touching sides or top when passing through the opening.
- g. Doors are designed such that people are out of view when ruminants are being shifted. If not, no eye contact is made with the animals going through the doors.
- h. Doors and door hardware are properly maintained to ensure proper functioning.

Security

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

Animal Safety

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

User Safety

- q. If door handles or locking mechanisms are in close proximity to the enclosure, a solid barrier is present to protect the user.
- r. Double door systems may be used to prevent animal escape from holding areas.

H-5. Shelter

Ruminants 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. Ruminants 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 animals have access throughout the day.
- d. Shade and shelter can be created through natural and artificial means including rock overhangs, shade trees, shade fabric and three-sided structures.
- e. Shelter areas provide dry space during wet weather, as well as protection from wind.



- f. Shelter design does not result in dead ends in which subordinate individuals can be trapped by dominant animals.

H-6. Enclosure Furniture

Ruminants 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 ruminants with bedding material, water sources such as ponds or streams, appropriate substrate, vegetation and other enrichment materials designed to aid and encourage normal behavior patterns and minimize any abnormal behavior.
- Camelids have sandy areas for sand bathing and trees for scratching and/or browsing.
 - Giraffe have access to trees and shrubs for browsing
 - Goats have rocks, jungle gyms, spools, etc. for playing
 - Sheep have large rocks for scratching and play
- 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.

Outdoor Enclosures

- d. Visual barriers can be used to avoid confrontation or aggression, and include walls, boulders, shade structures, topography and large enrichment items.
- Okapi, giraffe and most cervid species are provided with sufficient visual barriers to reduce the risk of injury from sudden fright.
- e. Sites for resting with grass/pasture substrate or bedding with shelter from sun and wind.
- f. Pasture and woodland, free of large holes or obstructions, are available to allow ruminants to run and play.
- Woodland and browsing species (some bison, okapi, etc.) have access to large areas of wooded space for browsing and other normal activity.
- g. Water sources/wallows such as streams, ponds, mud wallows are provided as species appropriate.
- Water sources have gently sloping access and no quick drop offs so animals can safely walk into and out of the water.
 - Roots, trees and stumps on shore and in the water can provide additional enrichment for ruminants.
 - Mud wallows are provided, as species appropriate, to aid in cooling.
- h. Rocks for rubbing and scratching skin.
- i. Enclosure is designed to allow all animals with physical limitations easy access to indoor enclosures/barns/shelter.



Indoor Enclosures/Barns/Shift Yards/Pens

- j. To the greatest extent possible, all visual barriers, substrate, water features/mud wallows, etc. meet outdoor enclosure criteria, particularly where ruminants must be housed in these limited spaces for extended periods of time.
- k. Indoor furniture is constructed of materials that can be sanitized or easily replaced when they become overly soiled. Furniture is accessible to staff for routine cleaning and repair.
- l. Simple, sturdy toys may be provided to ruminants confined in these spaces for extended periods.

H-7. Sanitation

Proper sanitation is practiced to reduce pathogen transmission.

General

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

Removal of Animal Waste

- e. Animal waste is removed from the habitat as often as necessary to prevent contamination of the ruminants contained therein, to minimize disease hazards and to reduce odors. This also enables caregivers to collect fecal samples in a timely manner.
- f. Soiled bedding material and substrate are removed and replaced with fresh materials daily, or as needed to prevent buildup. If odorous, bedding is changed regardless of how long in place.
- g. Damaged and soiled enrichment items are removed regularly.
- h. Efforts are made to prevent native wildlife getting access to ruminant waste.

Tools

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

Cleaning and Disinfection

- l. Feeding areas, automatic water devices, water and food containers are cleaned and disinfected daily.
- m. Care is taken to minimize overspray of waste, directly or via aerosolizing, into adjacent cages during cleaning.
- n. 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.



- o. Concrete floored enclosures are dried with a squeegee, and as needed fans, to ensure floors are dry before bedding material is replaced.
- p. All hard surfaces including walls, floors, ceiling, benches, fencing/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 must be monitored for potential sanitation problems.
- q. Cleaning and Disinfection Standard Operating Procedures are developed and followed to address:
 - safe disinfectant use to prevent hazards to the animals, 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.
- r. 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. In general, ruminants have access to heated or cooled areas when ambient temperature falls below 40°F (4.5°C), adjusted for wind chill, or rises above 80°F (26.7°C) and all animals are provided with dry, well-bedded space. Great caution is taken with elderly, infant and disabled ruminants.
 - Acceptable temperature range for okapi and most cervids is between 60°F (15°C) and 80°F (26.7°C).
 - Giraffes are kept in heated barns when temperatures fall below 50°F (10°C) or when snow or ice are present.
 - Underfloor heating is recommended to prevent giraffe access. Where that is not possible heat sources are kept out or reach of the giraffes.
 - Acceptable range for Old World camelids is between 100°F (38°C) and 22°F (-30°C) where shelter is constantly available.
 - Heavily coated species such as llama, alpaca and sheep maintained in warm climates are sheared prior to the onset of hot weather to reduce risk of hyperthermia.
 - At temperatures below 15°F (-11°C), frostbite of ears, horns and/or feet is a serious concern for most ruminant species.
 - Bison, who are well-adapted to harsh environments may prefer to remain outdoors even in sub-freezing, wet weather but shelter is always available for these animals.
 - Water sources are regularly checked during winter to ensure no animal has fallen through the ice and become trapped.
 - Care is taken to prevent direct animal 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 to ruminants.
 - Heating blocks/panels, if used, are installed and used so as to ensure they pose no risk to the ruminants.
- c. For temperatures outside the ranges above, heat can be provided by forced air or hydronic heating systems and cool air by refrigerant air conditioning, "swamp coolers", fans, misters or water sources suitable for wading or submerging;
 - Providing ruminants 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.
 - Barns/indoor enclosures may be insulated to increase heat retention provided insulation does not attract rodents and ruminants are unable access and chew insulation.
 - Such well-insulated barns with appropriate bedding may be sufficient, without supplement heat, for those domestic ruminant species particularly prone to pneumonia. Attention is also paid to providing adequate ventilation to reduce disease risk.



- 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 ruminants.
 - Nest areas/deep bedding are provided for all animals in indoor enclosures.
 - Any climate control systems include back-up power in case of equipment or power failure.
- d. Windbreaks are sufficient in number to accommodate all animals simultaneously with consideration for social structure and relationships in a group.
- e. Shade is available throughout the day in a number of areas and adequate size space to accommodate all animals simultaneously with consideration for social structure and relationships within a group.

Humidity

- f. Humidity is maintained within the optimal range for the species housed.
- In general 40-70% is acceptable.
 - 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.
 - Camelids are at high risk of heat stress/hyperthermia when maintained in very humid environments.

Ventilation

- g. 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.
- h. 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.
 - Where negative air pressure is not used, HEPA filters may be installed to maintain re-circulated air quality.
- i. To the extent possible, separate air handling systems are maintained between animal areas to prevent disease transmission.
- j. Proper window and door placement can ensure sufficient cross-ventilation in warm climates.

Lighting

- k. Light, natural and artificial, is appropriate for the species housed in terms of intensity, spectrum and duration.
- l. Indoor enclosures - Natural lighting is optimal and can be obtained using skylights, windows, roll-up doors and other means. Glass bricks may be considered, taking into account the fact that light intensity will be less than with clear glass.
- Supplemental lighting is provided to ensure adequate light, both day and night, for caregivers to observe animals, clean enclosures and perform related animal care tasks.
 - When animals are confined indoors overnight, sufficient lighting is used to extend the daylight period to a natural diurnal rhythm for the species housed to allow animals time to eat and select sleeping sites.
- m. Outdoor enclosures and shift yards - Supplemental lighting is available for use in outdoor areas in event of an emergency.



PHYSICAL FACILITIES AND ADMINISTRATION

PF-1. Overall Safety of Facilities

The premises, tools, equipment, animal care records, and hazardous materials are appropriately kept clean and safe.

- a. The sanctuary is committed to maintaining a safe and healthy environment for all employees, volunteers, visitors and ruminants and conforms to health and safety practices as outlined under applicable national and state/province laws and regulations (e.g., the Occupational Health and Safety Administration [“OSHA”] in the United States or an equivalent international/national occupational safety organization/agency).
- b. Premises (buildings and grounds) are kept clean and in good repair in order to protect employees, volunteers, visitors and ruminants from injury and to facilitate appropriate animal care.
- c. Materials and equipment are safely stored when not in use, and there is an effective system in place for regular inspection and maintenance of tools and equipment.

PF-2. Water Drainage and Testing

Water drainage is rapid and complies with all regulations, and soil and water are tested annually.

- a. A suitable method is provided to rapidly eliminate excess water.
- b. The sanctuary’s method of drainage complies with applicable national, state/province, and local laws and regulations relating to pollution control or the protection of the environment.
- c. Enclosures are checked annually for potential water contamination and soil contaminants.

PF-3. Life Support

There are adequate and reliable utilities, with back up.

- a. Adequate and reliable electric power, potable water, water supplies and plumbing are available on the premises.
- b. An emergency power system, such as a generator, is in place in the event of a power outage.

PF-4. Hazardous Materials Handling

Hazardous materials are appropriately handled according to applicable regulations and laws, protective clothing and other equipment in isolation units are not used elsewhere, and waste is taken care of appropriately.



- a. The method for disposal of sewage, toxic/hazardous materials, garbage, and ruminant wastes follows all guidelines for hazardous materials. All national, state/province and local legal and regulatory requirements are met.
- b. All hazardous materials are labeled with the name of the contents, appropriate hazard warnings, and the name and address of the manufacturer as provided on the Material Safety Data Sheets (MSDS Sheets) or equivalent, if used in the country in which the sanctuary is based.
- c. If applicable, Material Safety Data Sheets for each hazardous material to which employees may be exposed, are kept in the area where the materials are stored. Employees are made aware of, have access to and understand how to interpret the MSDS Sheets.
- d. All employees, and volunteers where appropriate, utilizing hazardous materials are appropriately trained in the use of, and made aware of the potential hazards of using these materials.
- e. Protective equipment and clothing is utilized where required, such as working with hazardous chemicals and potentially infectious ruminant waste.
- f. Accumulations of trash is placed in designated areas and cleared as necessary to protect the health of the ruminants, staff, volunteers, visitors and the surrounding environment.
- g. The sanctuary considers the potential risks of releasing parasites, diseases or non-native plants through effluent water and other routes.
- h. Provision is made for the safe and legal removal and disposal of ruminant and food wastes, bedding, dead animals, trash and debris.
- i. Disposal facilities are so provided and operated to minimize rodent and insect infestation, odors, and disease hazards while complying with applicable international, national, state/province, and local laws and regulations relating to pollution control or the protection of the environment

PF-5. Security: Ruminant Enclosures

Proper security measures are in place to safely contain ruminants at all times, and there is a 24-hour security system in place.

- a. Entry and exit to ruminant enclosures is designed to prevent animal escapes during staff access.
- b. For very large enclosures into which vehicles enter, there are double gates and/or doors located far enough apart to allow the vehicle to be completely enclosed into the area with both gates secured before entering the enclosure.
- c. The sanctuary has 24-hour systems in place to minimize the risks of theft, malicious damage or release of ruminants by intruders entering the grounds.
- d. If the sanctuary has enclosures that should have restricted access (e.g. an enclosure for an aggressive animal or an area for animals carrying transmissible disease) the sanctuary has a key control system and/or signage designed to ensure that only qualified staff have access to those areas of the sanctuary.
- e. Gates and doors to sanctuary perimeter are securely locked so as to prevent unauthorized openings.
- f. An adequate number of clearly visible safety signs, providing warning by means of a symbol, words or a combination of symbol and words, are displayed at each enclosure as needed.



PF-6. Perimeter Boundary and Inspections, and Maintenance

The perimeter boundary is designed to discourage unauthorized entry, with suitable exits, and any enclosures in need of repairs is immediately repaired or replaced, or ruminants are relocated.

- a. The perimeter boundary, including access points, is designed, constructed, and maintained to discourage unauthorized entry and as an aid to the safe confinement of all the ruminants within the sanctuary.
- b. Exits through any perimeter fence are suitably located and adequately designated and secured.
- c. Each exit from the sanctuary is kept clear and is capable of being easily opened from the inside to allow the release of staff.
- d. All such gates are capable of being closed and secured to prevent the escape of ruminants and entry of unauthorized animals and visitors.
- e. Safety signs on any electrified section of the perimeter fence or enclosures are easily visible.
- f. A regular program of sanctuary maintenance is in place.
- g. Any enclosure in need of repair, or any defect likely to cause harm to ruminants, is immediately repaired or replaced, or the animal(s) are relocated to a secure enclosure.

PF-7. Security: General Safety Monitoring

Appropriate fire extinguishers and alarms are in place and in working order, weather is monitored, and all physical features of the sanctuary are designed and maintained to ensure the safety of the ruminants

- a. Adequate fire extinguishers and alarms are installed, regularly tested, maintained in good working order and the staff is trained in their use. Fire alarms can automatically be heard from the permanent residence.
- b. The sanctuary has a system in place to provide early warning of severe temperature extremes and weather patterns. This is communicated directly to the sanctuary Director in case of emergency.
- c. Steps have been taken to protect ruminants as much as possible from fire, flood, and other natural hazards. This includes not storing more than the daily ration of feed and bedding in the same building in which ruminants are housed.
- d. All plant and fixed equipment, including electrical and heating apparatus, are installed and maintained in such a way that they do not present a hazard to ruminants, and their safe operation cannot be disrupted by the animals.
- e. Tools and other portable equipment are not left unattended in places where they could cause ruminants harm.



PF-8. Insect and Rodent Control

An appropriate, effective, humane and safe rodent control program is in place as needed. Insects are safely controlled as needed.

- a. An insect and humane rodent control program is in place, supervised by a veterinarian to determine the degree of toxicity that products in use may pose to ruminants, native wildlife and staff.
- b. Insect and rodent control is implemented in all appropriate areas of the sanctuary, including storage areas for food items.
- c. Any pesticides are used in accordance with government regulations. Whenever possible, less toxic or non-toxic agents such as silica gel, diatomaceous earth or insect growth regulator products are given preference.

PF-9. Record Keeping

Records are maintained appropriately as required by local, state and national regulations and as necessary for good husbandry, management and veterinary care.

- a. Detailed individual and group records are necessary for good husbandry, management and veterinary care. All nationally required records are kept, as well as records required by GFAS to meet other standards in this document (e.g. Standard P-2 “Acquisition Recordkeeping and Monetary Exchange”).
- 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 ruminant’s response;
 - Where applicable and appropriate, any positive reinforcement training 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 ruminants 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.



PF-10. Animal Transport

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

General

- a. Ruminants 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 ruminants when being transported interstate or internationally. All transport abides by local, state/province, federal 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, ruminants are acclimated to shipping container prior to transport. Capture, restraint, and transportation methods consider the animal's temperament and behavior in order to minimize injury, and distress.
 - 3 weeks acclimation time is recommended for okapi.
- 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 federal and/or international standards. Equipment suitable for lifting, crating and transportation of animals kept within the sanctuary is readily available.
- h. Transport containers:
 - have impervious surfaces, which are cleaned and disinfected after use.
 - have sufficient bedding for ruminant comfort.
- i. Where ruminants are transported in vehicles without climate control, animals are not transported in severe weather; transport is timed for the coolest part of the day; there are windows that can be opened to increase ventilation as needed.
- j. Where livestock trailers are used to transport ruminants trailers are fully enclosed; rear doors are not opened during transport to reduce the risk of panic escapes; trailers are set up to provide safe access through side doors to allow staff to provide feed and water; and animals may be safely cooled by misting/spraying with water.
 - Ruminants are not tied off in trailer but are allowed free movement.
 - Bison are best transported in vehicles that do not allow them to see out.
 - Bison are grouped according to size and behavior for safety during transport.
 - Cross ties and cleats are removed or covered in hay/straw when transporting Old World camelids to reduce risk of leg pad and pedestal injuries.
 - Old world camelids' legs are not tied and there is room for all animals to lie down comfortably.
 - Ramps are provided for entering and exiting the trailer.



- o Ramps for loading Old World camelids are covered with sand.
- k. Where pet carriers are used to transport small ruminants the animals are able to stand up and turn around comfortably and carriers have slip proof flooring, in addition to sufficient bedding.
- l. Any ruminant 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.
- m. All ruminants taken outside the sanctuary are kept securely at all times. Ruminants 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.
- n. Complete medical records, diet and husbandry information, and identifying papers (e.g., describing tattoos, or other identification methods) accompany all transported ruminants.

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.
 - Particular attention is paid to ensuring that all Kobus species (water buck and lechwe) have constant access to water during hot weather, as these species are unable to concentrate urine to avoid water loss.
 - Camels, despite being able to survive for long periods without water, have constant water access to ensure their health and welfare
 - o Where camels are fed hay or other dry feeds, they regularly consume 8-10.5 gal. (30-40L) per day.
 - o Should a camel become dehydrated, it is not given free access to water but allowed small quantities every 30 minutes until rehydrated.
- b. Multiple water sources are available for group-housed ruminants to ensure high-ranking individuals do not dominate water sources.

Quality

- c. Water quality parameters are maintained at a generally acceptable level for ruminants in terms of turbidity, salts, etc.
- d. Potable water sources are tested for contaminants annually.
- e. All water sources (including water buckets and bowls) are cleaned at least daily, and more often if needed.
- f. If automatic water devices are not used in hot climates, water sources are shaded or changed multiple times to avoid overly hot water.
- g. If automatic water devices are not used, care is taken to ensure buckets and bowls are secured such that the ruminants cannot tip them over, play with them or hide them from view and that water is available at all times.



- In cold climates water is kept free of ice during winter months.
 - Provision of lukewarm water to alpacas and llamas during cold weather may encourage drinking and prevent dehydration.

Automatic Water Devices

- h. Devices are tested daily to ensure water is available.
- i. Devices are easily disabled when animals must be fasted for medical purposes.
- j. When monitoring of water consumption is required, an alternative means of providing water is devised.
- k. 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 ruminant following veterinary instructions for special needs.

General

- a. A veterinarian or qualified nutritionist periodically reviews all aspects of ruminant diet at the sanctuary.
- b. Diets of individual ruminants (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 animals 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 ruminant'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. Other than commercial diets prepared specifically for ruminants, only food "fit for human consumption" is fed.

Commercially Prepared Complete Feed

- h. While the basic nutritional needs of most ruminant species are met by the use of a high quality commercially prepared complete feed, these diets do not provide for the behavioral needs (foraging, plant variety, etc.) of most ruminants.
 - Complete feeds may be offered as part of a balanced diet that includes sufficient browse or hay to allow for normal foraging behaviors.
 - Giraffe are not fed complete feeds as a primary food source.

Vegetables and Fruits

- i. A variety of vegetables and fruit may be offered as a minor component of the diet of ruminants, as species appropriate.
 - As these foods are generally low in protein they are fed only in moderation to giraffes.



- The fresh produce portion of the diet is not heavily dependent on over ripe and/or sugary fruits.

Pasture and Browse

- j. Where possible ruminants are allowed to browse or graze on pasture, scrub or forest lands, as species appropriate.
 - Where pasture is used as a primary food source, pasture management ensures parasite exposure is minimized and vegetation is healthy.
 - Attention is paid to ensuring the ruminant diet remains balanced in this situation.
- k. Hay feeding areas are cleaned to ensure animals do not consume feeds soiled with feces and urine.
- l. Freshly cut plant material including grasses, leaves and branches may be offered regularly to promote natural feeding behaviors, particularly where grazing or browsing land is not available.

Species Specific Information

- m. American bison may be kept on pasture year round, provided there is sufficient land for pasture rotation and snow/ice depth does not prevent their access to forage.
- n. European and wood bison are fed browse.
- o. Goats are provided with browse in addition to hay and/or pasture.
- p. Llamas and alpacas are fed a high protein (10-15%) pasture or hay.
- q. In as much as possible giraffes have constant access to fresh browse to ensure adequate chewing and ruminating for proper digestion.
- r. Okapis are fed at least 50% of their diet as browse or very leafy alfalfa hay.
- s. Camels are gradually introduced to fresh pasture or browse. Sudden access to rich feeds can result in bloat. Leaf browse, herbs and forbs may be a more appropriate choice for camels. Where they are fed on seed rich grasses, their mouths are checked regularly to ensure seeds are not accumulating under the tongue and in the gums.

Grains

- t. Grain supplementation may not be necessary for ruminants in a sanctuary setting, however, this determination is made by the attending veterinarian or ruminant nutritionist.

Vitamin & Mineral/Supplements

- u. Prior to offering supplemental vitamins, the health and condition of the individual ruminant, as well as the diet, is reviewed by a nutritionist experienced in ruminant care and/or the attending veterinarian.
 - Vitamin/mineral and salt blocks or licks may be provided based on local conditions.
 - Where utilized, loose mineral supplements are recommended for llamas and alpacas.
 - Urea content is considered when determining appropriate salt blocks for camels.
 - Vitamin E and Selenium levels in the local soil play a role in determining vitamin mineral supplement content.

Treats/Enrichment items

- v. Preferred food items from the basic diet can be reserved for enrichment.
- w. 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 ruminant health and social needs.

General

- a. Feeding and drinking receptacles are placed in positions that minimize the risks of contamination from soiling by the ruminants 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. Ruminants are fed the non-browse/grasses portion of their diet a minimum of twice daily during the active feeding time of the species housed.
- e. Ruminants have access to browse or other natural plant material throughout the day and night, to encourage normal foraging behavior and reduce the incident of stereotypy.

Feeding Techniques

- f. Food is provisioned at multiple feeding sites throughout enclosures to ensure all ruminants have access and to reduce or eliminate aggression that results from competition for food resources, especially preferred items.
- g. Where possible integrated individuals are fed together to maintain social relationships, however, it may be necessary to separate animals to prevent aggression over food items and to allow accurate measurement of food consumption.
- h. Old World camelids are fed on hard surfaces or from above ground receptacles such as troughs to reduce the risk of sand or soil ingestion or impaction.
- i. Giraffe foods are offered at a height of 6.6-10 ft. (2-3m).
 - String hay feeders are not used to reduce the risk of ingestion or entanglement.
- j. Food may be offered in shift yards/pens and indoor areas/barns to increase the ruminants' comfort with those areas and improve reliability in transferring from one area to another.

Diet Changes, Increases or Decreases

- k. Adjustments made to an already formulated and nutritionally balanced diet are made to the entire diet to ensure continued nutritional balance.
- l. Considerations for diet increase include weight and condition of the individual ruminant, food consumption, activity level and other medical or behavioral considerations.
- m. Diet increases or decreases are made in modest increments with animal response to the change assessed for a minimum period before additional changes are made.
- n. 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.

General

- a. Separate and secure facilities are provided for proper and hygienic storage of food.
- b. Dry goods are stored in clean, dry storage areas in sealed containers or on pallets. Products are dated and rotated to use oldest stock first. Expired foods, as well as bags damaged by pests, are discarded.
- c. Perishable foods are kept under refrigeration.
- 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.

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.

General

- 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. Diets are prepared in a safe and hygienic manner to reduce the possibility of contamination or spoilage.
- d. Separate cutting boards, utensils and food preparation surfaces are used when meats, fish and produce diets are prepared in a common kitchen area.
- e. Food preparation techniques meet all local, state/province, and national regulations.
- f. Food preparation surfaces are thoroughly cleaned after use.
- g. 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 ruminants and other species housed at the sanctuary, and who is aware of specific health concerns regarding the ruminants 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 ruminants 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 (ruminant caregivers), (2) Technical (medical technologists, veterinary nurses, 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 ruminant, 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 ruminants 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 the noise levels for hospitalized ruminants.
- d. The on-site facility has separate areas for any of the following veterinary functions performed on-site: physical examinations and medical treatments, enclosures for hospitalized ruminants, sterile surgery, necropsy, medical quarantine, laboratory, radiology and pharmaceuticals storage which includes, 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).



- Food preparation areas, storage areas and staff locker room/housing with showers are separate from the medical facility.
- 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 ruminants, with special attention paid to geriatric animals.
- b. The preventative medicine program includes quarantine procedures, parasite surveillance and control, immunization, contraception, infectious diseases 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 person performs regular fecal examinations to look for parasites and other pathogens (random enclosure sampling is adequate for group-housed ruminants). Results are recorded. Fecal examinations are repeated following treatment to evaluate efficacy.
- e. All ruminants 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 ruminants are immunized, the type, serial number, and source of product are recorded in the individual animal's medical record.

V-4. Clinical Pathology, Surgical, Treatment and Necropsy Facilities

Clinical pathology, surgical facilities and services, medical treatment for sanctuary ruminants and necropsy are all high quality, humane, professional, legal, and safe.

Clinical Pathology

- a. Diagnostic laboratory services are available on- or off-site to assist with the examination of ruminants and the diagnosis of disease.
- 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 that can be easily cleaned and disinfected. For sanctuaries utilizing 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 anesthetics including injectable and inhalant anesthetics, reversal agents, etc. Where gas anesthetic equipment, including scavenger units, is used equipment is cleaned and calibrated and filters are replaced, annually at a minimum. Gas cylinders are safely stored and replaced regularly.
- e. Facilities have sterilized surgical packs, surgical preparation solutions, intravenous fluids, fluid administration equipment, pulse oximetry, heart monitoring equipment (e.g. electrocardiogram, stethoscope), and emergency drugs on-site with appropriate maintenance and/or replacement schedules for each.
- f. If on-site, the sanctuary ensures that surgical equipment is maintained in good working order and is on a program of routine preventive maintenance.
- g. 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.)
- h. The veterinarian uses aseptic surgical procedures whenever applicable.
- i. Veterinarians and support personnel are compassionate and knowledgeable about the humane aspects of ruminant treatment, including the proper use of anesthetics, analgesics, and tranquilizers.
- j. Surgical incisions are observed daily, or as frequently as possible while minimizing stress to the ruminants for signs of dehiscence or infection. Analgesics are administered post-operatively when appropriate.

Treatment

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

Necropsy

- q. Whenever possible, there is an isolated area on the grounds for performing necropsies, or appropriate storage facilities until the deceased ruminant can be transported to a facility for a postmortem examination, as soon as possible, understanding that necropsies performed longer than 24 hours after death be of limited value due to autolysis. (Note: Any refrigerated area for holding dead



ruminants is physically separate from live animal holding, treatment, and surgery areas and from food supply storage or preparation areas.)

- r. Disposition of dead ruminants and their parts meet all legal restrictions.
- s. 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 Ruminants

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

- a. Upon arrival, all ruminants undergo quarantine for a minimum of 30 days or according to the protocol established by the attending veterinarian, or for a greater period if required by applicable law. The quarantine period should be longer (at least 60-90 days) for those ruminants that have received minimal screening prior to arrival, such as animals from the wild. Ruminants previously housed together may be quarantined together.
- b. If the sanctuary does not have an adequate quarantine facility, steps should be taken to have ruminants undergo quarantine under these guidelines prior to their arrival.
- c. Local, state/province, or national regulations regarding quarantine of newly arrived ruminants 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 animals 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 ruminants 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 ruminants 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 are maintained, appropriate statistics maintained, ruminants have permanent identification, and controlled substances are prescribed and stored legally.

Medical Records

- a. Complete medical records are maintained on all ruminants individuals or groups.
- b. 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, ruminant identification and nutrition/diet information, and, where applicable, necropsy reports.
- c. Copies of medical records accompany any ruminant who is transferred to another sanctuary.
- d. Medical records are maintained under the direction of the veterinarian or trained ruminant 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.
- e. 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 drugs are marked as such and stored separately.
- i. When disposing of drugs, they 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 ruminants 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 ruminant-appropriate contraceptive programs in place with the method of contraception used based on current best practice and attending veterinarian recommendations. (See *Appendix 1 for further information on contraception methods for ruminants*).
- 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 ruminants, 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 ruminants 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 ruminants at the sanctuary. All potential or emerging diseases have emergency procedures and a defined process to avoid transmission of diseases through bites, scratches, body fluids, direct contact with animals and other means. (Note: Additional precautions may be necessary for staff classified as increased risk of disease, including those who are immune-compromised.)
- b. A physician with expertise in infectious diseases is consulted whenever an employee contracts an unusual illness or is exposed to a ruminant diagnosed with a zoonotic disease.
- c. When a reportable disease is identified, all appropriate local, state/province, and national regulatory officials are contacted.



- d. All areas in which the staff has direct contact with ruminants have hand-washing facilities available in the immediate vicinity (or an equivalent; e.g., bactericidal hand-wipes)
- e. Human food consumption by the staff does not occur in the immediate area of ruminant contact.
- f. Rabies testing and vaccination protocols vary by location. Federal, state or province and local rabies prevention protocols supersede recommendations made in this document.
- g. See also Standard S-8 (“ First Aid and Zoonotic Disease Training, and Staff First Aid ”).

Well-Being and Handling of Ruminants

W-1. Physical Well-Being

All ruminants 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 animals’ physical well-being.

- a. The welfare of each individual ruminant is the overriding consideration in all sanctuary actions.
- b. Ruminants are able to enjoy lives that are as close as possible to that of their wild counterparts as regards stimulation and interest. This is achieved by adopting husbandry and management procedures, including appropriate housing and enclosure design, environmental enrichment programs, positive reinforcement training programs and a balanced diet to meet nutritional requirements.
- c. Ruminants are provided with species appropriate opportunities to bathe, wallow, forage for food, and play by providing species-appropriate, water features and/or mud wallows, bedding materials, a variety of plants, logs and substrates and other enclosure enhancements and there are places to hide and rest in comfort.
 - In Open Space settings, with a variety of foraging and habitat options, there is often adequate enrichment for ruminants. In Controlled Access settings further enrichment and stimulation may be needed to ensure adequate mental and physical activity.
- 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 ruminant 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: In open space enclosures, it may not be possible to observe each animal on a daily basis. In such habitats, it is important to get an accurate count and to spend time observing all ruminants on a weekly basis.
- e. Where possible and appropriate, records of individual ruminants are kept to provide both behavioral and veterinary history.
- f. Where possible and appropriate, each animal 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.
- g. Positive reinforcement training may be appropriate for ruminants that enjoy interacting with people, to provide additional enrichment, to reduce the need for chemical immobilization and to reduce stress during medical intervention.



W-2. Social Housing

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

General

- a. Ruminants housed together are compatible and all animals have ample space to retreat and hide as needed while social tensions are resolved.
- b. Ruminants 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 in social groupings and to allow for temporary isolation from conspecifics.
- d. Ruminants are housed so that no individual endures constant harassment or suffers physical injury, and so social behaviors do not prevent any individual from maintaining proper nutrition and hydration.
- e. Close attention is paid to ruminants in social housing, with age, species, and sex of animals housed together taken into account.

Social Housing

- f. The individual development and history of each ruminant is taken into account when determining social groups.
- g. Territorial species are monitored for aggression.
- h. Goat herds are developed and groups modified to address the species' natural strong hierarchical structure, with attention paid to ensuring subordinate animals have access to food and shelter.
- i. Bison are not housed near sheep or goats in areas where malignant catarrhal fever is a concern.
 - American bison are housed in such a way as to allow for the natural fission-fusion of small herds within the larger herd.
 - Wood bison and wisent are housed as small herds or pairs.
- j. Okapi are naturally solitary but may be housed with a few other compatible animals provided these social groupings are regularly monitored for aggression. Typical groups may include:
 - 1 male and 1 or more females
 - multiple females
 - immature males may be housed with adult males until they reach maturity
- k. Giraffes are gregarious and non-territorial, however, attention is paid to individual preferences for social partners and groups.
- l. Old World camelids may be housed as one male/multiple female, all male or all female groups. If males are neutered mixed herds may be possible.
- m. Deer, antelope and gazelles of some species are highly aggressive during breeding season. Non-neutered males may need to be isolated at this time.
- n. South American camelid males may be territorial, requiring separate housing. These animals are housed within sight of other camelids.
 - Crias (animals of less than 6 months of age) requiring bottle feeding for medical reasons are fed within the herd to ensure they develop appropriate social behaviors.



Solitary Housing

- o. In general is temporary and reserved for situations including but not limited to quarantine, medical assessment or care, lack of appropriate social partners, or social tension resulting in disruption to the main herd or physical aggression leading to injuries.
 - As possible and appropriate, ruminants housed alone temporarily are given visual, olfactory and auditory contact with their social group.
 - Mirrors may also be used to provide social stimulation to ruminants housed alone.
 - Solitary species may be housed alone provided they are regularly monitored for behavioral issues.

W-3. Introduction of Unfamiliar Individuals

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

General

- a. Introduction of unfamiliar ruminants is carefully considered.
 - Introducing new animals or regrouping animals may lead to aggression until a new social dominance order is established.
- b. Food and water consumption is monitored carefully to ensure that all ruminants are able to access food/water. Staff ensures ruminants are not hiding, unable to approach/access food and water.
- c. Ruminants have access to separate shelter, ample room to move away from each other and no opportunities for an animal to be cornered.
- d. 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 ruminants, rearing history (hand-reared, parent reared, time spent with mother and siblings).
- e. As appropriate or needed, benchmarks or desired outcomes are identified for each step in the process. Examples include:
 - physical location of animals during initial contact period;
 - behavioral goals of initial 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.;
 - 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.



- f. 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.
- g. The plan establishes behavioral goals for introductions and is not driven by schedules, and is open to modification as introduction/integration develops and evolves.
- h. If the ruminants are not comfortable with human presence, only normally scheduled caregivers and animal managers are present to directly observe.
- i. 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.
- j. If the introduction is not successful, no attempt is made to reunite the individuals until housing or social circumstances can be changed or other factors that may have contributed to the problems, such as breeding season, have been resolved.

W-4. Behavioral/Psychological Well-Being

The behavioral/psychological well-being of each ruminant is evaluated and addressed, and a welfare plan and report is part of each animal's file.

General

- a. There is a formal, written enrichment program that promotes species-appropriate behavioral opportunities and ensures the ruminants' 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, manipulation and problem solving, and promote species-specific behavior.
 - Food enrichment - Varying food choices and food presentation.
 - Social enrichment - Affiliative interactions between caregivers and ruminants 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 solitary animals, particularly those hand reared by humans with no conspecific contact or neonatal and juvenile animals in situations where appropriate.
- b. All ruminant 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 welfare plan to address the concerns is developed.
- d. Where possible and appropriate, a behavioral/psychological profile is maintained for each individual, pair or herd of ruminants and updated annually and a copy is kept in the animal's permanent file.



W-5. Ruminant-Caregiver Relationships

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

General

- a. Ruminants arrive at sanctuaries with a variety of previous experience with caregivers, which caregivers take into account in their interactions with these species.
- b. Facility design plays a key role in caregiver-ruminant safety and the ability to maintain a positive relationship.
- c. A protocol for introducing ruminants to new caregiver staff has been developed, where species appropriate. Where possible, new caregivers accompany a trusted caregiver until the animals become comfortable with the new individual.
- d. A positive relationship between the ruminants and regular caregivers, animal managers and veterinary staff is one in which the animals are given the freedom to integrate with their conspecific social group with minimal human interference or to interact regularly with caregivers if they choose.
- e. Where possible and appropriate, animals become familiar with the veterinary staff, allowing close observation. Individual ruminant preference for interaction with caregivers, animal managers and veterinary staff is taken into account.
- f. The animals do not become fearful or overly aggressive in response to human presence or routine care procedures. (See also 'Appendix 1' for species specific information).
- g. Interactions with ruminants do not cause overheating, excessive cooling, physical harm, or unnecessary discomfort, and minimizes physical and psychological stress or trauma as much as possible.
- h. Negative interactions are avoided. However, when they occur, efforts are made to recover trust and a positive relationship if the ruminant enjoys regular interaction with people
- i. Physical abuse, deprivation of food or water, aversive spraying with a hose, and other forms of negative reinforcement or punishment-based training are never used to train, shift or otherwise handle ruminants. Note: This does not preclude the use of hoses or other watering devices in caring for the ruminants who enjoy this form of enrichment.

W-6. Handling and Restraint

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

General

- a. 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.
- b. Direct physical interaction with some ruminants, e.g. some camelids, range cattle and bison unaccustomed to humans, may pose a risk to caregivers.



- In these cases the sanctuary director, veterinarian or animal care manager determines the appropriate restraint methods to be used to perform essential veterinary or management activities.
- Only fully trained personnel participate in these activities.
- c. Where possible and appropriate, Positive Reinforcement Training is used to minimize the need for chemical immobilization and to reduce stress during procedures.
 - With appropriate training, many procedures can be performed cooperatively and without anesthesia, such as examination of body parts, treatment of superficial injury, heart rate monitoring, injection administration, etc.
 - Some ruminants may be conditioned to enter a squeeze cage/chute. Where this method of restraint is used, attachments for crates and squeeze cages/chutes are included in facility design or modifications.
 - Where cattle chutes are used, they are designed to minimize stress and fear. Areas leading into the chutes are safe and in working order to minimize risk of injury to animals and staff.
- d. If physical restraint or drug delivery systems must be used, the lightest and least stressful methods that are appropriate are chosen, bearing in mind the safety of staff and animal.
 - If an animal appears distressed during physical restraint, it is allowed to rest and recover before continuing the procedure.
 - Where possible, barns have pens where ruminants can be restrained and treated away from the rest of their group.
 - Where halters are used, quick release knots are employed and halters are tied to a structural beam of the enclosure. Halters are only used on animals accustomed to being handled.
 - Camels are tied low to the ground as they are at risk of strangling should they begin to sit down (these animals must sit all the way down before starting to rise again).
- e. 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.
 - When anesthesia is required for giraffes, the animals are sedated in an area where the substrate prevents slipping and is thick enough to cushion the animal as it falls. Hazards that cannot be removed from the area are appropriately padded.
- f. 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.
- g. 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.
- h. As part of their training, staff members are instructed to report any medical conditions or physical limitations that may hinder their ability to employ safe capture techniques.

STAFFING

GENERAL STAFFING



S-1. General Staffing Considerations

The sanctuary has a sufficient number of staff and volunteers, adequately supervised, to provide humane care, with clear job duties and equitable compensation.

- a. The sanctuary employs or enlists a sufficient number of qualified employees or volunteers to provide the appropriate level of care for the ruminants and to ensure adequate supervision of all employees and volunteers. (Note: Staff-to-animal ratio will vary greatly given the nature of the facility and the type of ruminants and other animals at the sanctuary.)
- b. As described in Standard G-3 (Succession Planning), there is a written job description for the sanctuary director and other senior management positions at the sanctuary, providing a clear description of their duties and responsibilities.
- c. A list is maintained of all staff/volunteers authorized to work with ruminants, indicating lines of responsibility. Staff receives fair compensation commensurate with their skills. At a minimum, each salary complies with generally accepted standards of compensation for employees of the sanctuary.
- d. There is a clear management structure within the sanctuary, which is communicated to all employees, and to volunteers as appropriate.

S-2. Security and Emergency Coverage

Staff is available at all times to respond to emergencies.

- a. A qualified senior staff member or the sanctuary director should live on the sanctuary grounds. If no one lives on sanctuary grounds, then at least one trained and qualified staff member or trained volunteer is on the sanctuary grounds at all times, and a staff member is immediately reachable via telephone, radio or pager, 24 hours a day, 7 days a week.
- b. The director is generally available to the sanctuary on a full-time basis (40 hours per week); when the director is not available due to vacation or another reason, there is a designated back-up from among the senior staff. Staff has various means to contact the director at all times in case of emergency.
- c. A qualified veterinarian trained in the care of the ruminants housed is available in person or via phone at all times in case of emergency.

S-3. Volunteer and Internship Programs

Volunteers and Interns are appropriately supervised, and those playing an integral role in the sanctuary receive the manuals, training and safety protocols.

- a. Any volunteers/interns and community workers have a specific employee/staff member assigned with directing their recruitment, training and supervision.
- b. Any volunteers/interns and community service workers allowed to work with or around ruminants do so only under the appropriate level of supervision of a fully trained ruminant caregiver.
- c. Volunteers/interns who play an integral role in the sanctuary are treated as an employee would be treated, regarding the provision of manuals, training, and safety.



S-4. Manuals

The sanctuary has a current employee manual, standard operating procedure manual, and, if applicable, manuals for volunteer and internship programs. Manuals are reviewed and updated regularly.

- a. The sanctuary has a written employee manual that includes information pertaining to topics including: personnel practices, employee benefits, leave of absence, sick leave, personal appearance and conduct, environmental concerns, filing complaints, and performance evaluation. The employee manual is given to all new employees.
- b. A standard operating procedure (SOP) manual is available on the premises and in a location accessible to the staff at all times. The manual contains a detailed outline of all daily procedures, as well as emergency protocols and other policies relating to the care and safety of the ruminants.
- c. Care procedures for each ruminant species at the sanctuary, as well as other animals at the sanctuary, are written down (either in the SOP manual or elsewhere) and include detailed information specific to that species or individual.
- d. If the sanctuary has a volunteer and/or intern program, it has prepared manuals outlining volunteer and/or intern responsibilities. Copies of the manuals are given to all new volunteers and/or interns.
- e. All manuals are reviewed at least annually and updated as necessary, and employees, volunteers and interns are advised of any changes.

S-5. Employee Training and Continuing Education

Training and supervision are carried out in a manner to ensure the highest and safest level of care for the ruminants, including during unforeseen changes in personnel.

- a. New employees participate in a probationary training period suitable to the species in question and under the strict supervision of a fully trained senior staff member before working directly with ruminants at the sanctuary.
- b. At least one staff member and backup are trained in all aspects of ruminant care for all species housed at the sanctuary to ensure that an experienced caregiver is always available to care for all ruminants in case of personnel changes; and that staff member and backup are noted in writing.
- c. The sanctuary Director ensures that plans for continuing education to improve ruminant care and management techniques are in place.
- d. Continuous in-house staff training and development (including availability of relevant literature) is offered to employees, and volunteers as appropriate, including such topics as: ruminant husbandry, ruminant welfare, health and safety, first aid, action in emergencies or escapes or illness, safety procedures, emergency euthanasia, basic sampling for health monitoring and diagnosis, food hygiene, disease prevention.

SAFETY POLICIES, PROTOCOLS AND TRAINING



S-6. General Staff Safety

Ruminant caregivers have a thorough understanding of the potential risks of working with ruminants and are appropriately trained in safety procedures.

- a. All sanctuaries housing ruminants have a thorough understanding of the potential risks of working with these species.
- b. Protocols involving potential risk (e.g., unlocking enclosures, shifting ruminants to previously unlocked areas) include redundancies to reduce the risk of equipment failure and human error.
- c. All staff working with or near ruminants maintain verbal contact. Radios, cell phones, etc. are used as needed to ensure safe contact is maintained.
- d. All slides, doors and gates in ruminants areas are kept closed and securely fastened at all times unless needed for ruminant access.
 - Ideally a double-gated system is in place with an escape route for staff in the event of a ruminant escape into human areas.
- e. Designated senior members of staff are responsible for holding keys to restricted areas and supervising staff in those areas.
- f. Locks and the security of slides, gates and doors are double-checked after each use and inspected regularly to ensure proper functioning.
- g. Any areas where staff and potentially dangerous ruminants are in close proximity have clear safe zones such as clearly delineated lines over which staff does not cross, or a protective barrier, such as lexan, plexiglas or fine mesh fencing.
- h. All personnel working with ruminants are trained to recognize and respond appropriately to threat displays and other behaviors that could signal an impending attack, scratch or bite.
- i. Appropriate protective equipment is used by all personnel working with ruminants.
- j. Caregivers have established a predictable protocol for servicing enclosures to minimize stress for the enclosure occupants. In as much as possible the cages are serviced from outside.
- k. Staff are encouraged to maintain their work clothes separate from their everyday clothing.

S-7. Communication System

The sanctuary has a reliable communication system in place.

- a. A reliable communication system, with back ups such as pagers, 2-way radios, cell phones, intercoms, or other electronic devices is in place, with a back-up system.

S-8. Emergency Response Plans and Protocols

The sanctuary has appropriate written disaster preparedness plans in place, needed information is posted, and appropriate coordination takes place with community emergency services.



- a. The sanctuary has a written disaster preparedness plan in place to cover emergency procedures in the event of a natural disaster, fire, injury, etc. The plan has taken into account all necessary ruminant handling under situations of extreme stress.
- b. The written plan is provided to staff and, where appropriate, volunteers.
- c. Emergency information is posted throughout the sanctuary indicating emergency contacts and phone numbers including the local police department, fire department, attending veterinarian, sanctuary director, supervising staff members, location of nearest hospital and other important information.
- d. A detailed outline of communication lines, procedures and locations of all exits and entrances to the sanctuary are clearly defined and known by the entire staff. This information is reviewed for needed updates periodically. Maps are posted throughout the sanctuary indicating the best evacuation route.
- e. All emergency plans are coordinated with local community emergency services as appropriate including fire, police, hospitals, and ambulance services. Appropriate community personnel and agencies are aware that ruminants are housed at the sanctuary.
- f. The location of the sanctuary does not pose any undue hazards and minimizes risk from natural disasters (e.g. flood zone, riverbed). If such risks are present, the sanctuary has addressed this in the written disaster plan.
- g. The sanctuary is located in an area that is removed from heavily developed areas to the extent possible. If the sanctuary is near heavily developed areas, it has taken steps to address problems this may cause for the surrounding community or the ruminants.
- h. A secure location is identified where ruminant records (i.e., acquisition, transport, medical, welfare assessment reports) are protected from fire, flood, and other hazards. (Note: Backed up offsite storage and web-based storage of electronic records is one method.) Governance documents, financial records, and permits and licenses are also stored securely.
- i. Provisions are made for long-term archiving in a secure format. A regularly backed-up copy should be stored in a separate location or online.

S-9. Escaped Ruminant Protocol

A detailed and appropriate written escaped ruminant protocol is in place and understood by staff and local emergency services; and any escapes are detailed in reports.

- a. A detailed written escaped ruminant protocol is in place addressing situations in which animals escape from their enclosures, regardless of whether the ruminants have escaped sanctuary property, and is reviewed and understood by all staff, and volunteers as appropriate.
- b. The protocol is shared with local emergency services such as the fire and police departments.
- c. The protocol includes the following:
 - A clearly defined chain of command in an emergency situation;
 - A notification hierarchy, indicating who to contact first, second, third and so on in case of an escape;
 - Possible ruminant escapes occurring during off-hours, when staff may not be immediately available.
 - A communication system allowing for clear communication with sanctuary staff of all pertinent ruminant information including the type of escaped by species, age, sex and location;



- d. Clear plans and routes for personnel safety are plotted and displayed throughout the sanctuary.
- e. All escapes are recorded and detailed reports made.

S-10. Emergency Training

Staff participates in ongoing training for emergency response, and drills are conducted regularly.

- a. All staff, and volunteers where appropriate, participates in ongoing training on all emergency, escape, and disaster preparedness procedures consistent with the sanctuary's written protocols, with drills held at a minimum of every 6 months.
- b. Records of training are maintained, including a list of those staff and volunteers who participated in training. Drills are evaluated to ensure that procedures are being followed, that the sanctuary's communication system is effective, that staff training is effective, and that improvements to protocols are made where appropriate.

S-11. Firearm Policy

The sanctuary has a written firearm policy, including identified personnel, and covering proper care and storage of firearms.

(Note: Not applicable for sanctuaries that do not need or use firearms.)

- a. A written firearm policy exists in compliance with all applicable laws; and personnel qualified to use firearms are identified and made known to sanctuary staff.
- b. Firearms, ammunition, where provided, are available for immediate use, used by licensed and trained operators only, cleaned and maintained and tested as recommended by the manufacturer, and kept securely under lock and key when not in use or under maintenance.

If the sanctuary has firearms, appropriate staff are identified for weapons training, and receive documented and up-to-date training.

S-12. Firearm Training

(Note: This standard may be waived when firearms are not needed or used at the sanctuary.)

- a. All staff qualified and licensed to use firearms undergo training and periodic refresher training and practice, including a review of current sanctuary protocols and policies. Such training is recorded.



S-13. Chemical Restraint

The sanctuary has a written chemical restraint policy, which covers appropriate use, maintenance and storage of chemical restraint equipment and attendant drugs.

- a. A written policy for the humane chemical restraint and safe capture of ruminants housed at the sanctuary is in place and in compliance with the Drug Enforcement Agency (or comparable agency outside the United States), to include:
 - Training and certification in the equipment, humane chemical restraint, immobilization process, and the use of drugs for veterinary purposes or emergencies;
 - Procedures listing at a minimum those persons authorized to administer animal drugs, situations in which they are to be utilized, location of animal drugs in a safe and secure place, and those persons with access to them, and an emergency procedure in the event of accidental human exposure.
- b. The sanctuary's policy provides for qualified personnel to partake in appropriate training programs on the safe and humane use of chemical restraint and immobilization equipment.
- c. All chemical restraint equipment is cleaned after each use, maintained in good working order and tested on a regular basis.

S-14. First Aid and Zoonotic Disease Training, and Staff First Aid

An appropriate written first-aid plan is in place, staff (and volunteers where appropriate) is informed when a zoonotic disease occurs at the sanctuary, and training is provided to staff and, as appropriate, volunteers.

- a. The sanctuary has a written first-aid plan that is accessible to all staff on the premises, and to volunteers as appropriate.
- b. Staff, and volunteers as appropriate, are trained in basic first aid.
- c. Written instructions are provided for staff (and volunteers as appropriate) on the provision of emergency health care and the procedures to be followed in the event of an incident involving any ruminant and a visitor, volunteer or staff member, including (when appropriate) handouts with any special information that any attendant health care professional, on site or off, should know to help the victim and/or keep health care attendants safe from potential zoonotic diseases. First-aid stations that are readily and easily accessible and are located throughout the sanctuary.
- d. Employees, and volunteers where appropriate, 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. Each signs a form that clearly states that he/she has been fully trained in these procedures. Training and attendance are logged.
- e. All staff and active volunteers are informed when a zoonotic disease occurs at the sanctuary.
- f. See also Standard V-8, Zoonotic Disease Program.



GOVERNANCE AND FINANCE

GOVERNING AUTHORITY

Note: The term “Board of Directors” is used in this section to reference the governing authority for the sanctuary. In some instances, another term may be used (e.g., “Trustees”).

G-1. Nonprofit/ Non-Commercial Status

The sanctuary and/or its governing organization has a national legal nonprofit status, or is operated as a non-commercial entity by a national or local government.

- a. A facility and/or its governing body (if the facility is a program of one or more organizations) satisfies one of the following:
- A sanctuary, or its governing organization has obtained national nonprofit status in the country of governance or operation. For example, sanctuaries located in or operated by organizations in the United States or its territories should have 501(c)(3) status, and sanctuaries located in or operated by organizations in the United Kingdom should have registered charity status.
 - A facility (such as a wildlife rescue center) is operated as a non-commercial entity by a national or local government.
- b. An exception to this standard will be made if non-profit registration is not available in the country of governance or operation.

G-2. Ownership of Sanctuary Property and Contingency Planning

Sustainability of the sanctuary is promoted by ownership of the sanctuary property or a proper written lease agreement.

- a. All property on which the sanctuary sits is held in the name of the sanctuary (or its governing organization) as either owner or lessee.
- b. The sanctuary’s governing body has confirmed that the sanctuary is located on property for which it is allowable (by law or regulation, such as zoning laws) to operate the facility and the activities conducted by the organization.
- c. If the sanctuary is on another person’s property [e.g., housed in someone’s home or on their land, including government land], there needs to be a written lease agreement between the property owner and the sanctuary (or its governing organization).
- d. If property is leased, a long-term (ten years or longer) contractual lease is in place, with a termination clause requiring sufficient notice (a minimum of a year) to allow the sanctuary to relocate or transfer its animals to another appropriate facility that has committed to providing their lifetime care.
- e. If property is leased, the sanctuary should have a written contingency plan describing the steps to take to relocate or transfer its animals to another appropriate facility at the end of the lease, or upon an unexpected termination of the lease.





G-3. Succession Planning

The sanctuary has a written succession plan for its continuance should the director or other key management be unable to continue in their positions.

- a. The sanctuary has a written plan outlining succession scenarios for key positions within the sanctuary, covering at a minimum the sanctuary director. Depending on the structure of the sanctuary management, this may also cover the assistant director, director of operations, director of finance, etc.
- b. For the director position as well as other key management, written job descriptions should exist outlining the primary functions and responsibilities of each position.
- c. The succession plan should include an emergency plan outlining who will carry out the key responsibilities in the event of a sudden and unexpected absence by the director or other key management in both short- and long-term scenarios.
- d. A succession plan should also define the role of the Board of Directors/Trustees in overseeing transition in the event of a planned departure of the sanctuary's director, including functions such as hiring and oversight of an interim director, determining salary ranges, re-assignment of responsibilities, and the appointment of a transition committee.

G-4. Board of Directors/Trustees

The Board of Directors/Trustees organizes itself and carries out its duties in an appropriate, legal and responsible manner, and has appropriate relationships with staff and volunteers.

- a. A Board of Directors/Trustees is in place with a minimum of three (3) members, or a greater number if required by law, where at least one board member is not a family member.
- b. The Board of Directors/Trustees has organized itself in a manner that allows its duties to be carried out in a timely and responsible manner and in accordance with all relevant non-profit regulations.
- c. Bylaws, in accordance with applicable law, have been developed and adopted as the general policies and rules that govern the sanctuary and define the Board's composition and structure.
- d. The Board of Directors/Trustees has regularly scheduled meetings, and minutes are kept. The Board has a written position description describing the responsibilities of its members, and members are knowledgeable of their legal obligations and accept responsibility for self-regulation, accountability, ethical practice of the sanctuary, and sound financial management and oversight.
- e. The Board is supportive of the sanctuary abiding by GFAS standards.



G-5. Ethics and Grievance Procedures

The sanctuary's policies and actions of the Board and staff reflect adherence to a high code of professionalism and ethics.

- a. Business and related activities, including outreach and interactions with other sanctuaries, are conducted in a professional manner, with honesty, integrity, compassion and commitment, realizing that an individual's behavior reflects on the sanctuary and greater humane communities as a whole. A code of ethics/conduct for the sanctuary has been adopted by the Board of Directors/Trustees.
 - The code of ethics/conduct addresses the core values of: integrity, openness, accountability, service and charity, and reinforces standards of professional behavior. (Note: In recognition that some animals are used for food, and sanctuaries are in the business of protecting animals, all sanctuaries should ensure that their sanctuary events are conducted in a manner that is consistent with their mission.)
 - All personnel associated with the sanctuary, including volunteers, have been provided with access to the code of ethics/conduct and have agreed to adhere to it.
- b. The sanctuary has a written Conflict of Interest policy prohibiting any Board member, Director, or key employee from approving or voting on a transaction in which he or she has a monetary or other interest. Members of the Board of Directors and the Director, as well as key employees as appropriate, are asked to sign written acknowledgements of receipt of the policy and have disclosed potential conflicts of interest.
- c. The sanctuary has a written anti-discrimination policy, specifically referring to any protected class under law.
- d. There is a written grievance process that is clearly communicated to the staff and volunteers to communicate the procedure for reporting a concern regarding workplace-related issues, including ethics complaints; includes an alternate pathway if the normal person to whom one should take concerns is non-responsive or the focus of the concern; and allows for fair, prompt and meaningful resolution.

G-6. Required Licenses and Permits

The Sanctuary has all legally required licenses and permits (or other necessary government approval) to operate as a sanctuary and to house each animal.

- a. The sanctuary obtains and maintains all permits and licenses required under city, county, state/province, country and international laws and statutes for each animal housed at the sanctuary.

G-7. Strategic Planning

The sanctuary has at least a three-year strategic plan in writing, to provide a structure upon which to base the fundamental actions that guide and shape operations.

- a. The sanctuary has a written strategic plan in place, developed by the Board of Directors and Director, with input from other sanctuary management and staff where appropriate, that provides a structure



within which fundamental actions of the sanctuary are based to shape and guide sanctuary operation. The strategic plan addresses at a minimum three years.

FINANCIAL RECORDS AND STABILITY

F-1. Budget and Financial Plan

The sanctuary maintains an annual operating budget and a long-term financial plan.

- a. An annual operating budget exists and reflects estimated future expenditures. The budget includes expenses related to staffing salaries and benefits, overhead expenses, supplies, capital improvements, ongoing maintenance, etc. The budget is approved by the Board of Directors/Trustees.
- b. Periodically during the year, the estimated budget is compared to the actual expenses of the sanctuary and where necessary, appropriate adjustments are reflected in future estimated expenditures.
- c. The sanctuary has a long-term (minimum of three years) financial plan that projects future revenue and expenses, consistent with priorities set out in the strategic plan. The plan builds in protection for the care of the animals (such as creating a “bare bones” budget; seeking endowments for lifetime care of animals; building up increased operating reserves; entering into written agreements with other facilities to take animals in the event of closure of the sanctuary; or other such “safety nets”) in the event that significant decreases in operating income occur.

F-2. Financial Reports

The sanctuary keeps accurate and complete financial records.

- a. Detailed, accurate periodic financial reports are kept on file. The sanctuary produces on a regular basis (at least annually) the following financial statements:
 - A Statement of Financial Position (also known as the Balance Sheet);
 - A Statement of Activities (also known as the Statement of Revenues and Expenses, or Operating Statement, or Income Statement, or Profit and Loss Statement); and
 - A Statement of Cash Flows.
- b. Other pertinent information, such as loan amortization schedules and lease commitments, are also maintained and updated at least annually.
- c. Copies of IRS Forms 990 (or comparable documents required to be filed to maintain non-profit status outside of the United States) and other tax documents, such as exempt status determination letters, are kept on file with other sanctuary documents and are available for public review, as required by law.



F-3. Financial Stability

The sanctuary has a strategy in place for securing and maintaining at least minimal financial reserves.

- a. The sanctuary has a strategy in place, as reflected in strategic and financial plans, to maintain reserves equal to at least three months (or one month to achieve GFAS verification) of those operating costs essential to the proper care and welfare of the sanctuary animals.
- b. Consideration may also be given to cash equivalents as well as advance purchases of food, supplies, etc.
- c. See also Standard F-1(c).

F-4. Banking Responsibilities and Financial Transactions

The sanctuary maintains a bank account, keeps personal and sanctuary business separate, and properly records all contributions, petty cash transactions, and loans to the sanctuary.

- a. There is a checking account registered in the sanctuary's name that is used only for sanctuary financial transactions.
- b. Personal business is kept completely separate from the sanctuary's business (e.g., staff and Board members cannot use sanctuary funds to pay for personal expenses or take loans from sanctuary funds).
- c. If the sanctuary is being funded through personal loans, loan documents are signed and maintained in the accounting record. Repayment schedules are developed and followed.
- d. All contributions from donors are properly documented and promptly deposited. Donors are provided with receipts as required in accordance with applicable laws or regulations.
- e. If petty cash is kept on hand, transactions are documented and receipts are kept on file substantiating the related expenditures.

F-5. Fundraising Activities and Disclosures

Fundraising is conducted in a legal, ethical and transparent manner.

- a. Fundraising techniques conform to applicable tax regulations for maintaining non-profit status (e.g., sec. 501(c)(3) status in the United States) and conform to the spirit as well as the letter of all applicable laws and regulations.
- b. Fundraising activities are conducted with honesty and integrity, and put the charitable mission of the sanctuary above personal gain.
- c. All fundraising and soliciting materials are accurate, do not exaggerate financial needs nor incorrectly claim sole credit for joint efforts, correctly reflect the sanctuary's mission and use of solicited funds, and do not threaten to betray the mission by making misleading and unprofessional statements (e.g., claiming animals will have to be euthanized if donations are not received immediately).



- d. The sanctuary ensures proper stewardship of charitable contributions, including timely reports (e.g., tax filings, annual reports, reports required by funders) on the use and management of funds. Restricted funds are expended in accordance with donor's intentions. Explicit consent by the donor is obtained before altering restrictions or conditions of a gift.
- e. Fundraising expenses are reasonable, and total fundraising expense is disclosed on financial reports and any required tax filings.
- f. Fundraisers for the sanctuary ensure that all information provided to donors is accurate and complete. Any statements about the taxable nature of donations indicate that all or part of the donation may be tax deductible as a charitable contribution under applicable law.

F-6. Insurance and Waivers

The sanctuary has adequate insurance coverage and secures signed waivers from visitors and volunteers all who enter the sanctuary property.

- a. Insurance policies, where available, are in place that protect the financial resources of the sanctuary and staff, as well as protect the community from harm that the sanctuary might cause. The amount of coverage is commensurate with the size of the sanctuary and the implied risk associated with the animals housed at the sanctuary. Where available, this includes General Liability insurance and a management liability policy (often called Directors & Officers or "D & O").
- b. Visitors and volunteers sign waivers that acknowledge the potential risks of being on sanctuary property.

EDUCATION AND OUTREACH

E-1. Education Programs

Education programs are thoughtfully designed and overseen to promote a humane ethic, with careful respect and protection of all aspects of the individual welfare of the ruminants involved, and ensuring public safety.

(Note: Not applicable for sanctuaries that do not have an education program.)

- a. Any education program is designed to promote awareness, empathy, and respect for all life through education and advocacy insofar as resources permit, and portray the issues surrounding why individual ruminants reside at the sanctuary, the ruminants' natural history and conservation status, and how the highest welfare of each individual animal is ensured.
- b. An education program is conducted in accordance with a written Education and Outreach Policy that articulates and evaluates program benefits, under the direction of qualified staff and/or volunteers.
- c. The education program is evaluated periodically for effectiveness and content, ideally on an annual basis, by the Director.
- d. Ruminants are not taken out of enclosures/habitats or off the grounds of the sanctuary for incorporation into the education program. Ruminants may be incorporated into education programs utilizing non-invasive educational methods/tools, such as audio-visual presentations, webcasts, or other forms of multi-media. In such cases, they are treated in a respectful, safe manner that does not



misrepresent or degrade them, does not cause them distress, and does not put ruminants or humans at risk.

- e. See also Standards P-8 and P-9.

E-2. Tours

Any tours are monitored and conducted in a careful manner that minimizes the impact on the ruminants and their environment, does not cause them stress, and gives them the ability to seek undisturbed privacy and quiet.

- a. Non-guided tours are prohibited in wild ruminant sanctuaries and tour groups are of a size that allows for close monitoring and vary based on the size and staff of the sanctuary. In domestic ruminant sanctuary/rescues, unescorted public visitation may be allowed if the visitors are outside the primary fence and the interaction is safe and does not cause distress for the animals. Visitors are evaluated by rescue/sanctuary caregivers in these cases.
- b. Tours, if allowed, are for an educational purpose consistent with the sanctuary's education policy and not used for entertainment (see E-1).
- c. All tours are conducted to minimize the impact on the ruminants and their environment.
- d. Ruminants are confined within a secure environment or under direct control of trained personnel. Wild ruminants are provided the opportunity to escape from public view. Ruminants are not in enclosures or habitats specifically designed to minimize their privacy and all ruminants have the ability to seek undisturbed privacy and quiet.
- e. Ruminants that are easily stressed are excluded from tours.
- f. Physical contact between domestic ruminants and the public ensures such interactions do not cause distress and are safe for both animals and humans. Contact is supervised. All tours prohibit the public from any physical contact with wild ruminants residing at the sanctuary.
- g. Public feeding of domestic animals may occur under the guidance and supervision of qualified, trained caregivers. Any feed given must be nutritious and be considered as part of the daily requirements for the animals. Members of the public cannot feed wild ruminants during tours.

E-3. Outreach

Sanctuary staff are appropriate advocates for ruminant protection and welfare, and work cooperatively with other sanctuaries and the community.

- a. The sanctuary works cooperatively with other sanctuaries as applicable, keeping the ruminants' welfare as the first priority. (For instance, best practices are shared, sanctuaries collaborate to arrange best placements for ruminants, etc.).
- b. Any community outreach is conducted in an ethical and professional manner.
- c. The sanctuary does not adopt policies in opposition to the welfare of ruminants (e.g., endorsing the use of ruminants for entertainment).



POLICIES

POLICIES: ACQUISITION AND DISPOSITION OF RUMINANTS

P-1. Acquisition Ethics and Commercial Trade Prohibition

Acquisition of ruminants by the sanctuary is legal and ethical.

- a. The sanctuary has relevant legal documentation (including any required permits and licenses) for, and is in legal possession of, all animals in its care.
- b. The sanctuary has a written policy governing its acquisition of ruminants, including the following provisions:
 - Ruminants are only accepted if the sanctuary has the financial resources to provide appropriate professional care.
 - Ruminants are only accepted if they will not jeopardize the health, quality of care or maintenance of ruminants currently housed at the sanctuary.
 - All acquisitions of animals by the sanctuary are consistent with its mission and in the best interest of the individual animals.
 - Acquisition of ruminants occurs through donation or rescue. No commercial trade in sanctuary animals occurs (included, but not limited to, the sale of animals, animal parts, by-products, or offspring), and the sanctuary does not knowingly engage a third party to purchase a ruminant on its behalf. (*Note: if animals have been purchased, or if the sanctuary has a policy in place that allows purchase under certain circumstances, the sanctuary must provide GFAS with this information, indicating why such purchases are consistent with the sanctuary's mission and why they do not sustain or promote the commercial exploitation of the species.*)
 - No acquisition results from the intentional breeding of animals for or at the sanctuary. An exception may be made for rehabilitation and release centers engaged in a bona fide breeding-for-release-program of endangered 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.
- c. Safe and humane transport is used for all acquisitions.

P-2. Acquisition Recordkeeping and Monetary Exchange

Acquisition contracts are clear, with ultimate responsibility for acquisitions clearly

- a. An acquisition contract is in place that clearly identifies the sanctuary as the "responsible party" for the ruminant and when such responsibility takes effect; whenever possible, the contract includes information on the "surrendering party" as well as any intermediary parties (rescue groups, zoos, etc.). This written contract is kept as part of the permanent record for each ruminant entering and housed at the sanctuary.

Financial expenses associated with acquisition of a ruminant may be received in order to enable the sanctuary to be able to responsibly take in the animal and may include medical testing, behavioral



assessment, crate construction costs, quarantine costs, shipping and transport costs. Lifetime care costs may be factored in as appropriate.

P-3. Disposition Ethics and Responsibility

The sanctuary assumes lifelong responsibility for the sanctuary ruminants, with some noted exceptions, with ultimate responsibility for dispositions clearly defined.

- a. The sanctuary assumes lifelong responsibility for the ruminants acquired and only in very rare circumstances does a ruminant permanently or semi-permanently leave the sanctuary, with the exception of releasable wildlife reintroduction as detailed in the Ruminants Being Released to the Wild section.
 - A rehabilitation center assumes responsibility (in accordance with national and local law) for the appropriate disposition of animals it acquires, with the goal of reintroducing native wildlife, where possible, to its natural habitat.
- b. Acceptable reasons for disposition, when movement of ruminants to another sanctuary does not compromise the welfare of that individual or the other ruminants with which s/he will be housed, include:
 - health concerns that cannot be adequately addressed by the sanctuary, where another accredited sanctuary or comparable facility is better equipped to provide care for the ruminant.
 - another accredited sanctuary or comparable sanctuary can provide a better long-term environment (such as creating a suitable social group of conspecifics).
- c. Other reasons for disposition include: financial insolvency or closure of the sanctuary, return of confiscated wildlife to its country of origin, or death of the ruminant.
- d. Detailed records of ruminant disposition are logged and maintained, including the details of all body parts.

P-4. Disposition of Live Ruminants

Responsible steps are taken to ensure that any disposition of a live ruminant is in the life-long best interests of that individual.

- d. The sanctuary has a written disposition policy that adopts substantially the language of this standard.
- e. Ruminants are not transferred to individuals, sanctuaries or other facilities that lack the appropriate expertise and/or resources and/or facilities to care for them appropriately. Before transfers, the sanctuary is convinced that the recipient has the expertise, records management capabilities, financial stability and facilities required to properly care for the animals. Ruminants are not “loaned” to other facilities.
- f. Ruminants are not disposed of at auctions or to breeders, dealers, brokers, “kill buyers”, slaughterhouses or private pet owners.
- g. For sanctuaries engaged in rescue, rehabilitation and release of ruminants, subject to all pertinent regulations and laws, animals are released within native ranges, in accordance with local, state, national and international regulations.
- h. If a ruminant, especially one housed individually (to be avoided whenever possible except for naturally solitary species), shows signs of self-mutilation and/or apathy, is uncontrollable, has a highly



aggressive disposition, and/or is suffering physically or psychologically, and if the sanctuary cannot remedy the situation, then, if possible, the ruminant is transferred to another accredited sanctuary or other appropriate facility, if it appears that environment will better suit the individual.

- i. See also Standard P-5 “Euthanasia” below.

P-5. Adoptions

Ruminant adoptions, accompanied by appropriate legal documents, are designed to provide a lifetime safety net for the animal and to insure responsible and humane care via placement in conditions close to that provided in sanctuary. Adoptions are only considered where it is legal, where there is a lack of capacity, and where rehabilitation and release is illegal or inappropriate.

- a. In general, with few exceptions, only domestic ruminants determined to be comfortable with human interaction are considered for adoption.
- b. Adopted ruminants are provided with physical facilities and levels of care equal to or above that of the primary ruminant sanctuary/rescue facility. No ruminant will endure less than adequate housing and husbandry as a result of being adopted.
- All facilities adopting ruminants will be inspected prior to animals being placed.
- c. All ruminant adoptions are accompanied by a legally binding document which:
- Prohibits the adopter from selling or placing the ruminant in question with another owner or facility without first contacting the facility from which the ruminant was adopted
 - The original owner agrees to allow the sanctuary first right to reassume possession of the ruminant
 - Prohibits the adopter from allowing the ruminants to reproduce
 - Specifies the duties and expectations of each party and contains wording related to the recovery of the ruminant should the adopting party fail to abide by such duties and expectations
 - Specifies the methods by which the primary ruminant sanctuary/rescue facility may inspect the adopted ruminant and its habitat to insure compliance with the terms of the agreement
 - Specifies the length of time such agreement is binding

P-6. Euthanasia

Euthanasia is governed by an ethical humane euthanasia policy, and deceased ruminant are handled appropriately.

- a. The sanctuary has and maintains a written humane euthanasia policy (as part of the disposition policy) for ruminants and other animals at the sanctuary, and in compliance with any national or local law, administered under the strict supervision of a licensed veterinarian.
- b. Euthanasia is only be used as a final option. Euthanasia is not used as management tool (such as a means to create space for more animals).
- c. Examples of cases where euthanasia may be accepted are:
- 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 ruminant 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.
- d. A licensed veterinarian or his/her authorized representative, or a trained staff member who is knowledgeable and skilled in performing euthanasia in a compassionate and professional manner and ideally with an established relationship with the sanctuary and the ruminant, recommends and performs humane euthanasia. However, in extreme circumstances of animal suffering when a veterinarian is unable to reach the sanctuary in a timely manner, a method such as the use of a firearm to euthanize a ruminant may be required and is performed by a trained and qualified staff member when no other humane option is available.
- e. Euthanasia is performed so that it avoids distress to the ruminant, and unless impossible, is performed out of view of other ruminants.
- f. With regard to deceased ruminants:
- Personnel conduct themselves in such a manner that is respectful during disposition activities;
 - Body parts are never sold, traded or donated (see exception at Standard P-11 “Ethics in Research”);
 - Disposition of deceased ruminants meets the requirements of all acceptable practices along with applicable local, state, national, and international regulations and laws.
- g. The species and ecosystems are carefully considered during disposition activities.

POLICIES: PUBLIC CONTACT AND RESTRICTIONS ON USE AND HANDLING OF RUMINANTS

P-7. Public Contact

Contact between ruminants and the public is not allowed or is restricted appropriately.

- a. Where wild ruminants reside, no unescorted public visitation occurs. This is not to exclude discrete, nonintrusive observation by a carefully evaluated person as allowed by the appropriate decision-making body of the sanctuary.
- b. No direct contact between the public and wild ruminants occurs.
- c. See also Standard E-3 “Tours.”



P-8. Removal from Sanctuary for Non-Medical Reasons

Non-domestic ruminants at the sanctuary are not removed from the sanctuary for non-medical reasons.

- a. Wild ruminants are not taken from the sanctuary for exhibition, education, or research purposes. Suitable domestic ruminants may be removed for non-medical purposes approved by the appropriate decision making body of the rescue/sanctuary, if the activities are deemed to be safe and not to be distressing to the ruminants.

P-9. Public Viewing of Human/Ruminant Interaction

Human contact with domestic ruminants occurring within public view must be safe and appropriate for handler and ruminant. With few exceptions, the sanctuary does not allow unprotected contact between humans and wild ruminants to occur within public view.

- a. Handling of wild ruminants in public view is not allowed. Handling of domestic ruminants within public view must be safe and appropriate. Where possible, visitors are educated regarding appropriate interactions with ruminants during this time.
- b. Handling of any ruminants for purposes of providing medical care) is performed out of public view, except in cases of emergency.

P-10. Appropriate Portrayal of Ruminant and Tractability

The rescue/sanctuary portrays all ruminants appropriately in any text, photos, video, or other media. With few exceptions, the sanctuary rarely portrays wild ruminants as tractable.

- a. The rescue/sanctuary does not publish material that portrays ruminants inappropriately.
- b. The sanctuary rarely publishes material that portrays wild ruminants as tractable. In situations where text, photos, video or other media are published portraying tractability of wild ruminants, steps should be taken to add text to the publication (website, brochure, etc.) that explains the reason for the contact and discouraging the idea that the animals would make suitable pets.

P-11. Non-Harmful, Non-Exploitive Fundraising

Fundraising activities are not distressing or negatively disruptive to ruminants, nor do the activities involve improper use of the animals.

- a. Fundraising activities approved by an appropriate decision-making body of your sanctuary are allowed provided the following:



- The activities do not violate any of the other GFAS Standards, including those regarding contact with the public, handling of ruminants, and removal from the sanctuary or enclosures/habitats;
- The activities are deemed to not be distressing or in any way negatively disruptive to the ruminants and their normal routine, nor are normal routines designed specifically for fundraising needs;
- Ruminants are not in enclosures or habitats specifically designed to minimize their privacy, and all animals have the ability to seek undisturbed privacy and quiet;
- Ruminants are not being used as entertainment, which includes the performance of “tricks” for public display;
- Ruminants are not raffled or sold.



P-12. Ethics in Research

Any research conducted is devoted to benefiting the health and welfare of the individual ruminants involved, and does not cause pain or distress.

- a. No resident ruminants are made available for participation in research studies unless the studies are strictly observational and do not interfere with the normal daily activities of the individual animals. Interventions that cause pain or distress are not acceptable.
- b. An exception may be made, with approval of an appropriate decision-making body of the sanctuary, if:
 - It is determined that the health and welfare interests of the individual ruminant are best served by participating in a new treatment study;
 - There is reason to believe that outcome of the study will be a tangible benefit for the individual animal involved;
 - The study does not prevent normal activities of daily living.
- c. An exception may also be made for research involving biological sampling if it will have a demonstrable health, conservation, or genetic benefit to captive ruminant management and/or wild ruminant population conservation. In such cases, samples are only to be taken during routine examinations of the animal (which are otherwise needed for the welfare of the individual) or routine cleanings of enclosures, or during a necropsy that does not violate any other GFAS standards. Sanctuaries should ensure that any biological samples are used ethically by the receiving institution or laboratory, and that any applicable CITES regulations are followed.

RUMINANTS 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 ruminants to the wild must also make every effort to reduce 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 damage to dwellings, crop raiding and injury to 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 ruminants into the natural environment.

- a. The facility has a written policy regarding the handling of any potential problems involving released animals. The policy should include but is not limited to:
 - a plan to minimize the risk to human life and property in the area of release;
 - a plan for compensation for or mitigation of damages incurred by the released animals;
 - a deterrent plan to discourage inappropriate activities, i.e., spending time around human habitation, crop damage.
 - 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 Ruminants

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 ruminants 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

Ruminants 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 ruminants 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 ruminants are treated as potential release candidates, particularly those who have not been kept long term as pets. If animals 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

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

(See also Standards H-1 to H-9, "Ruminant Housing," and V-5, "Quarantine and Isolation of Ruminants")

General

- a. Non-quarantine housing for ruminants being considered for release provides as close to natural a setting as possible. The space allows for foraging, rooting, nesting, wallowing, bathing and other actions naturally performed in the wild.
- b. Quarantine facilities and prerelease housing for ruminants intended for release are situated a minimum of 66 ft. (20m), giving consideration to factors such as wind direction, from resident ruminant 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 National Wildlife Rehabilitators Association guidelines (<http://www.nwrawildlife.org/content/minimum-standards>) in dividing housing into three types:
- Restricted activity/mobility – for the initial stages of rehabilitation where the illness or injury requires the animal be treated and/or prevented from activities that would slow the rehabilitation process. At a minimum, the animal is able to maintain normal upright/alert posture and to stretch the body.
 - Limited activity/mobility – for the recovery stage of rehabilitation where the animal is regaining mobility and building strength, and staff does not need access to the animal on a daily basis. The animal is able to move short distances and perform some climbing and perching activities.
 - Unlimited/Prerelease – the final stages of rehabilitation where the main concern is ensuring that the animal is fit for release. In this phase, the enclosure provides the ruminants with opportunities to demonstrate the skills necessary for survival in the wild.

Quarantine Housing

- d. Sick or injured wildlife is quarantined in such a way that the rehabilitation process is begun during the quarantine phase.
- e. Quarantine facilities have appropriate housing for the treatment of injured or ill ruminants.
- f. Quarantine facilities are designed to allow for monitoring and, as needed, modification of behavior of ruminants intended for release.
- g. Healthy ruminants admitted to quarantine have as large an enclosure as possible to help maintain natural locomotion and foraging behaviors.
- h. Upon arrival, ruminants are quarantined for an adequate number of days, ideally for a minimum of 60 days. 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 ruminants may have been exposed.
- j. Orphaned ruminants, particularly those who have been kept as pets and potentially exposed to human pathogens, are isolated until any potential health risks are evaluated.

Initial Housing for Orphaned, Ill or Injured Ruminants

- 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 ruminants are housed in nursery units, preferably with conspecifics, as species appropriate.
 - Where human caregivers must act as surrogates they perform all duties in a manner that preserves the natural behaviors of wild ruminants as much as possible.

Intermediate Housing for Orphaned Ruminants

- n. As soon as the orphaned ruminants have been weaned, they are moved to intermediate housing, where human contact is decreased or ended and interaction with conspecifics, as species



appropriate, is increased. Where possible, the animals are moved to the release site and cared for in a soft release enclosure.

- o. Animals are provided with adequate opportunity for wallowing, nesting, rooting and foraging, as species appropriate.
- p. In as much as possible, conspecifics are used to teach natural behaviors, as species appropriate. Where appropriate releasable conspecifics are not available, and where possible, safe, and appropriate, resident animals with strong natural skills who do not present a disease risk to the wild population, may be used to teach these behaviors.
- q. Intermediate housing is isolated from resident animal areas, ideally within a natural habitat which allows the orphans to adjust to a more wild environment.

Intermediate and Prerelease Housing for Sick or Injured Ruminants

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

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

R-5. Diet, Nutrition And Foraging Skills

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



R-6. Husbandry And Health

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

- a. Once a ruminant has been evaluated as a potential release candidate, all aspects of care are focused on preparing the animal for the wild.
 - Human activities and noises are minimized in areas housing animals being prepared for reintroduction.
 - Apart from dependent young with no suitable conspecific surrogates, human interaction with ruminants being prepared for release to the wild is restricted to those activities that will enhance the animals' ability to live in the wild.
- b. The animal is placed in an appropriate social group or paired with a compatible conspecific, depending on species. Where appropriate surrogate conspecifics are not available, dependent young may be reared by human caregivers using approved best practices for the species housed.
 - Care is taken to balance the need to nurture these young animals with their need to develop appropriate survival skills as well as intraspecific social behaviors.
 - Animals are integrated into an appropriate social group, ideally comprised of other conspecifics intended for release, as quickly as possible.
- c. Introductions follow Standard W-3 "Introduction of Unfamiliar Individuals."
- d. Opportunities to explore, root, wallow, forage and learn skills in the natural environment are provided.
- e. Ruminants admitted into care from the wild at the stage where they are already independent, with recoverable illness or injury problems, are treated and released as quickly as possible, taking into account the potential for the animal not being accepted back into its previous social group or territory.
- f. Caregiver-ruminant relationships for animals intended for release to the wild, while ensuring the animals' psychological well-being is met, focus on:
- g. avoiding any types of interaction that may compromise the animals' chances for release;
- h. encouraging the animals to develop appropriate relationships with conspecifics for their social needs.
- i. Veterinary staff evaluate overall health including:
 - recovery from the initial cause for admission to the facility;
 - pathogen surveillance to ensure the ruminant 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.
- j. Ruminants being cared for in sanctuary for later release back to the wild are managed in such a way as to optimize their chances for successful return to the natural environment.



R-7. Health And Safety Of Caregivers Working With Releasable Ruminants

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

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

- a. Caregivers working with ruminants intended for release to the wild are routinely monitored for potential anthroponoses (diseases that have potential to be transmitted to the animals).
- b. Testing, vaccinations and fecal cultures for pathogens may be utilized, as appropriate for the region, to ensure the health of both the ruminants and their caregivers. New caregivers should not have contact with the animals 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 ruminants.

R-8. Assessment of Health and Skills

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

- a. Ruminants who have completed the rehabilitation process and have been successfully integrated into a social group or pair, as is species appropriate, are further evaluated for release, with attention to health and the skills attained.
- b. Each animal's skills (e.g. foraging, nesting, 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 ruminant has a reasonable chance for long-term survival.
- d. Ruminants have been tested, and found free of pathogens that have potential to harm the wild population in the planned release area, based on the latest current knowledge.
- e. Genetic assessment has been done to ensure that the ruminants being released are of an appropriate subspecies/population/subpopulation for the release site if their origin is not known.
- f. Ruminants are exposed to post-release monitoring equipment prior to release to allow them to acclimate to its presence.



R-9. Determining Appropriate Release Sites

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

- a. The potential release site is evaluated for the presence of appropriate and adequate food sources.
- b. The area is evaluated for potential health concerns.
- c. The potential release site is surveyed to ascertain whether any wild ruminant are present, either permanently or seasonally.
- d. The area is evaluated to establish carrying capacity for ruminants to be released. This includes taking into consideration others releases that may have already taken place and issues of territoriality. Animals are released in an appropriate habitat where carrying capacity for the species has not been reached.
- e. The area is evaluated for instances of potential human-wildlife conflict.
- f. IUCN guidelines are, in as much as possible, followed when determining release sites for rehabilitated ruminants.
- g. Animals are 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

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

- a. Once it is determined that the ruminants have the basic skills for foraging in their new environment, supplemental care is discontinued.
- b. A post-release monitoring program is in place to ensure the rehabilitation program is providing the animals with the skills necessary to survive, that the habitat is adequate and that, as is species appropriate, ruminants have integrated into the wild.
 - Use of radio and satellite telemetry is recommended whenever possible and appropriate.
- c. Ideally, ruminants are returned to the wild using a soft release process wherein they are housed in an enclosure within the release area or spend time with caregivers in the release area where supplemental food may be provided as needed and observation of their acclimatization may be observed.
- d. Post release monitoring, in conjunction with outside veterinary and scientific personnel, continues for a minimum of one year.
 - Level of monitoring may decrease over time as ruminants are determined to be acclimating to the environment.
 - Longer term monitoring of the animals and their impact on the habitat is preferred.



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



Appendix 1

General

The ruminant species include domestic animals— alpaca, dromedary (camel), cattle, llama, sheep and goats— and wildlife—African buffalo, antelope, bison, bactrian camels, caribou, chevrotains (mouse deer), banteng, deer, elk, gaur, giraffe, guanaco, antelope, moose, muntjac, pudu, water buffalo, wild sheep and goats.

Ruminants are generally social, grazing animals often found in large flocks or herds. These animals benefit from access to pasture and browse for grazing and walking in pairs or groups. Many species are prone to stress related illness and injury. Habitat design and husbandry techniques should take this into account.

American buffalo (bison) and wisent (European bison) are distinct from the true buffalo of Asia and Africa (members of the genus *Bubalus*). The wisent, and to some extent the wood bison of Canada, are primarily browsers, while the American bison is a true grazer. All bison are well-adapted to colder climates and thrive in outdoor enclosures with plenty of space to move around and access to water sources for swimming or mud wallowing. Throughout this document these species will be referred to as bison.

It is believed that dromedary camels are descended from Bactrian camels. Bactrian camels continue to exist in the wild but there are no wild dromedaries. Old World camelids, are large, potentially dangerous species, with an ability to kick out in multiple directions. Camels can also inflict serious bite wounds. Although their ability to spit foul smelling stomach contents long distances can be unpleasant, it is not a danger.

The South American camelids, alpacas, llamas, vicunas and guanacos, are smaller and generally less aggressive, but they do spit when threatened. Vicunas are wild do not adapt well to attempts at domestication, although there are small numbers maintained in captivity. There are both wild and domesticated guanacos. It is postulated that the alpaca is descended from wild vicuna and the llama from the guanaco. Alpaca and llama survive only as domestic species.

The giraffe presents special concerns for sanctuaries for several reasons. Their extremely long neck and legs are prone to injury during handling or sedating, while their diet must be carefully monitored to ensure balanced nutrition. In addition this species is easily upset by small changes in the environment, thus consistency is critical to minimizing their stress. The okapi, a close relative of the giraffe, is found only in deep forest. And, unlike their giraffe cousins, okapi are largely solitary.

Enclosure Furniture

Okapi, giraffe and most cervid species have a very strong flight response and they are capable of running at 30 mph (48.3 k/h) to 40 mph (64.4 k/h). When frightened they often run blindly, increasing the risk of injury. Design of enclosures and use of visual barriers as furnishings is important in reducing these risks.

Goats and sheep benefit from simple climbing structures where topography doesn't naturally provide climbing opportunities.

Health Considerations

Old World camelids may need to be monitored for *Trichuris* infestations after being treated with ivermectin/avermectin for other internal parasites.

Giraffe may need to be monitored for problems including pancreatitis and rumen dysfunction, urolithiasis and chronic wasting, particularly if concentrated feeds form a significant portion of the diet.

Attention is paid to foot care, as ruminants are prone to foot rot, excessive growth and abnormal wear.



Attention is paid to dental care of camelids as molar and premolar abscesses occur and “fighting teeth” in males may pose a risk to other members of the herd.

Attention is paid to skin condition, particularly in dry climates. Access to bathing water is provided as species appropriate.

Immunization

Dependent on location some vaccines which might be appropriate for ruminants include:

Clostridium and tetanus vaccines for sheep, goats, giraffe and South American camelids

Leptospirosis and Equine Herpes Virus for camelids

Infectious Bovine Rhinotracheitis (IBR), Bovine Viral Diarrhea (BVD), Leptospirosis, Vibriosis and Brucellosis for bison and cattle, dependent on local disease risks

Contraception

Single sex herds or flocks are one method of contraception.

Castration of male ruminants of many species provides optimum health and welfare. In addition to preventing reproduction, castration reduces aggression. Animal to animal injuries, as well as risks to caregivers are minimized when there are no intact male ruminants at the sanctuary.

- Old World camels are not castrated when in rut due to the increased risk of fatal hemorrhage.

MGA, PZP, GnRH agonists and Depo-Provera provide options for contraception in female ruminants.

Ruminant-Caregiver Relationships

Previous interactions with humans will have an effect on how bison interact with caregivers. Caregivers are aware of activities that may the bison may perceive as a threat and avoid them where possible.

Hand reared guanacos may pose a threat to caregivers due to lack of fear of humans.

Giraffe may develop preferences and dislikes among staff. These preferences and dislikes are respected.

Spitting is used by camelids to respond to threats, establish and maintain social order and to express displeasure. Camelids do not normally spit at humans if a positive relationship has been developed. Calm, quiet experiences with caregivers decrease the likelihood of kicking, spitting or biting.