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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 monotreme/marsupial/small insectivore care. These are not requirements but rather provide sanctuaries with access to knowledge gained from experience at other sanctuaries/monotreme, marsupial and small insectivore care facilities.

ANIMALS COVERED BY THESE STANDARDS

Note: Many mammal species consume insects as part of their diet. The species included in this standard are, however, primarily insectivorous. Aardwolves, although largely insectivorous, are included in the Feliform standards, along with the other hyenas.

Family / Genus/Common Names

a. Family: Acrobatidae, Bradypodidae, Burramyidae, Caenolestidae, , Chrysochloridae, Cyclopedidae, Dasyopodidae, Dasyuridae, Didelphidae, Erinaceidae, Hypsiprymnodontidae, Macropodidae, Manidae, Megalonychidae, Microbiotheriidae, Myrmecobiidae, Myrmecophagidae, Nyctibidae, Notoryctidae, Ornithorhynchidae, Orycteropodidae, Peramelidae, Petauridae, Phalangeridae, Phascolarctidae, Pseudocheiridae, Tachyglossidae, Talpidae, Tarsipedidae, Tenrecidae, Thylocomyidae, Tupaiidae, Vombatidae

b. Genus: Acrobates, Ailurops, Amblysomus, Anathana, Anourosores, Antechinomys, Antechinus, Atelerix, Blarina, Blarina, Bradypus , Burramys, Cabassous, Caenolestes, Calyptophractus, Calocochloris, Caluromys, Calurmysios, Carpitila, Cercartetus, Chaodelphys, Chaetophractus, Chlamyphorus, Chimarrogale, Chironectes, Chlorotalpa, Chodsiga, Choloepus, Chrysocloris, Chrisopalax, Cryptochloris, Condylura, Conosorex, Crocidura, Cryptonanus, Cryptotis, Cyclopes, Dactylonax, Dactylorina, Dasyercus, Dasykaluta, Dasyptus, Dasyuroidea, Dasyurus, Denurogale, Dendrolagus, Desmana, Didelphis, Diplomesodon, Distoechurus, Dorcopsis, Dorcopsulus,

c. Common names: aardvark, anteater, antechinus, armadillo, bandicoot, bilby, caenolestid, cuscus dasyure, desman, dibleer, dorcospis, dunnart, echida, echymiperu, elephant shrew, four-eyed opossum, glider, gliding possum, gracie opossum, gymnure, hare wallaby, hedgehog, kaluta, kangaroo, koala, kowari, kultarr, marsupial mole, mouse opossum, mole, mole-tenrec, monito del monte, moonrat, mullara, naitall wallaby, ningau, numbat, opossum, otter-shrew, pademelon, pangolin, phascogale, pichi, planigale, platypus, possum, potoroo, pygmy possum, Quokka, quoll, rat kangaroo, ringtail, rock wallaby, sengi, shrew, shrew-mole, shrew-opossum, shrew tenrec, short-tailed opossum, slender opossum, sloth, sugar glider, striped opossum, swamp wallaby, tamandua, Tasmanian devil, tenkile, tenrec, tree kangaroo, treeshrew, trick, water opossum, water shrew, wallaby, wallaroo, wombat
MONOTREME, MARSUPIAL AND SMALL INSECTIVORE 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.

MONOTREME, MARSUPIAL AND SMALL INSECTIVORE HOUSING

H-1. Types of Space and Size

Unless otherwise directed by a veterinarian, monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores’ 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 monotremes, marsupials and small insectivores to interact with the environment and key elements are changed often, resulting in a dynamic living space.

c. Facility design takes into account caregiver-animal safety and ease of maintaining a positive relationship.

d. Monotremes, marsupials and small insectivores 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 cantilever angle or 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, shift yard, transfer tunnels, 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, shift yard, transfer tunnels, 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, climbing, swimming, digging, playing, etc.).

**Dimensions**

l. Many factors influence the minimum space required for a group of monotremes, marsupials and small insectivores, 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 monotremes, marsupials and small insectivores to regularly spend time in a larger or different space, is strongly encouraged in these circumstances to increase enrichment and encourage activity.
   - Outdoor enclosures for monotremes, marsupials and small insectivores—Enclosure shape may be variable to take in natural features in the landscape such as rock formations, hills and trees. Particular attention is paid to providing hiding places, including access to indoor space, burrows,
nests and plantings for security from predators. Space includes a minimum of one (1) animal transfer door leading to indoor shelter.

- Minimum of 3800 sq. ft. (350 sq. m) per pair of large macropods, with a minimum vertical dimension of 10 ft. (3 m) for either roofed or open top enclosure.
  - 81 sq. ft. (7.5 sq. m) per additional animal.
  - 1.7 ft. (0.5 m) overhang recommended for macropod enclosures.
- Minimum of 440 sq. ft. (40 sq. m) per pair of bilby, sloth, anteater, aardvark, small macropod and medium carnivorous marsupial species with minimum vertical dimension of 6.6 ft. (2 m) for either roofed or open top enclosure
  - 35 sq. ft. (3.2 sq. m) per additional animal.
  - 8 ft. (2.6 m) minimum vertical dimension for sloths.
- Minimum of 225 sq. ft. (20.9 sq. m) per compatible group of monotremes (generally no more than 3 animals) with minimum vertical dimension of 3.3 ft. (1m) for either roofed or open topped enclosures.
- Minimum of 161 sq. ft. (15 sq. m) per pair of small carnivorous marsupials, numbats, bandicoots, koala, possum, rat-kangaroo and glider with a minimum vertical dimension of 6.6 ft. (2 m) for either roofed or open top enclosure.
- Minimum of 140 sq. ft. (13 sq. m) per group of 10 small insectivores with a minimum 6.6 ft. (2 m) for either roofed or open top enclosures.
- Enclosures for macropods and bandicoots should be round, oval or randomly shaped to avoid tight corners or right angles to avoid animals becoming trapped or injured when startled.
- Includes water features for aquatic or semi-aquatic species:
  - Minimum of 65 sq. ft. (6 sq. m), 1.5 ft. (0.4 m) deep, for platypus.
  - Multiple waterbodies are included in each platypus group enclosure to accommodate natural solitary behavior.

n. Indoor enclosures/shift yards for monotremes, marsupials and small insectivores- A minimum of two indoor areas or one indoor enclosure and one shift yard per compatible group of monotremes, marsupials or small insectivores with a minimum of two doors to adjacent enclosures, waterbodies and/or tunnels, as species appropriate. Room dimension is dependent on intended purpose and/or duration of confinement. Space includes pool or other water feature for aquatic or semi-aquatic species being housed long term. Shift yards, if utilized, are roofed or have mesh covering.

- Minimum vertical dimension of 6 ft. (1.8 m) for most species, 8 ft. (2.4 m) for red kangaroo and sloths.
- Includes two rooms or one room and a shift yard with minimum dimensions of 700 sq. ft. (65 sq.m) per pair of large macropods.
- Includes two rooms or one room and a shift yard with minimum dimensions of 200 sq. ft. (18.6 sq. m) per pair of medium macropod, wombat, tree kangaroo or forest wallaby.
- Includes two rooms or one room and a shift yard with minimum dimensions of 60 sq. ft. (5.5 sq. m) (1.8 m) per pair of compatible monotremes, sloths, aardvarks, anteaters, bilby, small macropod or medium carnivorous marsupial species.
- An additional 10 sq. ft. (0.9 sq. m) per additional animal.
- Includes one large nestbox per pair of adult monotremes.
Global Federation of Animal Sanctuaries – Standards for Monotreme, Marsupial and Small Insectivore Sanctuaries

- Includes one room with a minimum dimension of 20 sq. ft. (1.9 sq. m) per pair of small carnivorous marsupials, numbats, bandicoots, koala, possum, rat kangaroo, glider or per group of 10 small insectivores.
- Rooms and shift yards interconnect without creating ‘dead ends’ to allow for freedom of movement for subordinate individuals and include a minimum of two transfer doors per room/shift yard to the main outdoor enclosure.
- Where animals are housed indoors long term, e.g. in northern climates where freezing temperatures occur regularly, indoor space is large enough to accommodate all forms of species specific behavior (running, jumping, hopping, burrowing, wading, swimming, climbing, etc.)
- Monotremes, marsupials and small insectivores 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.

o. Mixed species housing
- Where multiple species share an 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

Monotremes, marsupials and small insectivores are safely contained.

General

a. Other than when being transported or for medical reasons, monotremes, marsupials and small insectivores are kept at all times in secure enclosures or other appropriate areas.

b. Enclosures are designed to allow for animals' normal defense reactions and appropriate 'flight' or escape distances.

c. All enclosures are designed, constructed and maintained to securely contain monotremes, marsupials and small insectivores and to present no likelihood of harm to them.

d. Distance or barriers between animals and between enclosures and personnel is sufficient to minimize stress to the animals, as well as reduce the risk of disease transmission.
- Clear markings delineate safe zones or transparent barrier such as plexiglass or lexan is used in areas where caregivers must work in close proximity to cages.

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

- Perimeter containment of outdoor areas is constructed so as to prevent digging under the barrier by native wildlife, domestic species and the enclosure residents.
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.

i. Design takes into account climbing, digging, and other natural behaviors of species housed.

**Fencing**

j. Barbed or razor wire are not used to contain monotremes, marsupials and small insectivores.

k. The supporting posts for fences are firmly fixed into the ground.

l. Fence material is sufficiently secured to supporting posts in such a way that the weight of the monotremes, marsupials or small insectivores could not detach it from the support nor dislodge the supporting posts.

m. Gates and doors are at least as strong, and as effective, in containing the animals 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.

- All containment barriers have a mechanism to prevent monotremes, marsupials and small insectivores from gaining access to dig under gates.

n. Dimensions

- Woven wire is recommended.
  - Maximum dimension of 2 in. x 2 in. (50.8 mm x 50.8 mm) for medium and large macropods, 1 in. x 1 in. (25.4 mm x 25.4 mm) for all other species.
  - Welded wire mesh is susceptible to breaks by large and medium macropods or local wildlife.
  - Chain link, if used, is constructed so that attachments do not protrude into enclosures and fencing is regularly checked for looseness and buckling.

- Minimum vertical dimension of 6 ft. (1.8m) for roofed enclosures, 8 ft. (2.4 m) recommended for open top enclosures, particularly those housing arboreal, jumping or climbing species.
  - Upper 30% of barrier should be made of smooth, non-climbable material or cantilevered.

**Electric Fencing**

o. Electric fence is not used to confine monotremes, marsupials and small insectivores but may be used as perimeter fencing to discourage predators.

**Solid Barriers**

p. 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.

q. Walls are secured in appropriate footings to ensure wall stability, and are of sufficient strength to anchor caging and furniture.

r. Care is taken, especially with artificial rock, to ensure that contours in the rock do not provide escape routes from the enclosure.

s. Height of the wall is the same as that for fences.

t. Design of areas using solid walls allows for sufficient air flow throughout an enclosure.

**Moats**

u. Moats are not recommended for containment of monotremes, marsupials and small insectivores.
Indoor Enclosures and Shift Yards

v. Mesh or solid walls may be used for construction of indoor enclosures and shift yards. Where mesh is used, size recommendations are the same as for outdoor enclosures.

w. Shift yards are topped with mesh or roofing due to their small size, which increases the possibility of escapes.

x. Walls are of sufficient strength to anchor caging and furniture.

H-3. Ground and Plantings

Vegetation

a. Any vegetation capable of harming monotremes, marsupials and small insectivores is kept out of reach.

b. Trees within or near animal enclosures are regularly inspected, trimmed or felled as necessary to avoid animals being harmed by falling branches, toxicity, or trauma.

c. Trees and climbing plants are pruned to prevent their aiding animal escape.

d. Access to very tall trees which are useful for shade limited by electric wires, barriers etc. to prevent their aiding animal 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.

Outdoor enclosures

f. All outdoor enclosures have a natural substrate consistent with the needs of the species.

   • The substrate provides easy to clean, dry areas for ground feeding and digging.
   • The substrate can be amended with organic materials, including but not limited to soils, sand, leaf litter, bark mulch, grasses, straw and hay.
      o Leaf litter is not used in wombat enclosures to reduce risk of fungal infections of the feet.
      o Sand is recommended in dasyurid (mulgara, kultarr, etc.) enclosures.
      o Substrate is provided in sufficient amount/depth to cushion falls from climbing structures, where species appropriate.
   • The substrate drains well.

g. Monotremes, marsupials and small insectivores are provided with species appropriate environments to accommodate an array of locomotory and foraging behaviors, as well as appropriate sleeping and resting areas, including nesting and bedding materials.

   • Arboreal species are provided with sleeping and resting areas, with bedding and nesting materials, above ground.
   • Trees in koala enclosures provide at least 2 appropriately sized forks for each animal a minimum of 6 ft. (1.8 m) above ground.
      o Trees should be 3 ft. (1m) to 6.5 ft. (2 m) apart to allow for koalas to move from tree to tree.
Global Federation of Animal Sanctuaries – Standards for Monotreme, Marsupial and Small Insectivore Sanctuaries

- Forks are separated from each other by at least 3 ft. (0.9m).

h. Natural areas for burrowing are provided as species appropriate. Where this is not possible, artificial tunnels of appropriate size and complexity for the species housed are created.
  - Artificial tunnels are a minimum of 6 in. x 6 in. (15 cm x 15 cm)

i. Aquatic and semi-aquatic species are provided with appropriate water sources and water quality is monitored where water sources are not ‘dump and fill’.
  - Water features are designed such that animals are not at risk of being unable to safely enter and exit the water and are of a species appropriate depth.
  - Platypus are provided with tunnel access, in addition to above ground access into their water features.

j. Where natural topography of an enclosure is not varied, it is created through the addition of natural and placed elements.
  - Horizontal and vertical jump or ‘gliding’ distance is considered when developing enclosure topography.

Indoor enclosures

k. Indoor enclosures have a non-slip concrete floor and, provided adequate septic service is present, the floor is sloped to a drain. Natural substrate, which is routinely replaced, is used as species appropriate.
  - Wombats should be provided with soil or sand to a depth of 1.6 ft. (0.5 m) to 3.3 ft. (1m) to allow for normal burrowing behavior.
  - Arboreal species have access to above ground perching, foraging and resting areas.
  - Bandicoots and rat kangaroos have access to dense vegetation or other means for hiding.
  - In terrestrial marsupial and monotreme enclosures rubber mats may be used to provide traction and reduce risk of pressure sores.
    - Easily cleanable flooring other than concrete may be considered for these species.

l. For new construction, the indoor area is designed to accommodate a deep litter substrate for monotremes, dasyurids and small insectivores.
  - Deep litter enclosures are designed to allow appropriate litter depth and drainage for proper functioning.
  - Litter is properly spot-cleaned and maintained.

m. Existing construction ensures that all floors are sealed.

n. Bedding materials are provided in sufficient amount/depth to prevent contact with the concrete.
  - Bedding material suitable for use includes, but is not limited to, bark mulch, leaf litter, wood wool, straw hay, shredded paper and wood shavings.
    - Leaf litter is not used for wombats.
    - Sand is recommended for dasyurids.

-o. Aquatic and semi-aquatic species are provided with water sources when climate requires them to be housed indoors for extended periods.

p. All animals are observed regularly for signs of illness that may be related to ingestion of foreign objects, including wood shavings, bark mulch or other materials that may pose a hazard.
Shift yards
q. All outdoor shift yards have a minimum of 50% of the surface area in natural substrate. The remaining 50% may be concrete as appropriate for drainage, sanitation and structural needs.
r. The substrate can be amended with organic materials including, but not limited to, soils, sand, leaf litter, bark mulch, grasses, straw and hay, as species appropriate. The substrate drains well.
s. Bedding materials are provided in sufficient amount/depth to prevent direct contact with any concrete surfaces.
t. Appropriately sized trees, branchwork or climbing structures are provided for arboreal species.
u. Dense vegetation or other means for hiding are provided for bandicoots and rat kangaroos.
v. Shift yards are secured with buried fencing or a poured concrete pad or apron.
w. Shift yards which house aquatic and semi-aquatic species for extended periods include a species appropriate water features.

H-4. Transfer Doors

Monotreme, marsupial and small insectivore transfer doors are appropriately designed to ensure both animal and human health and safety.

General
a. Animal transfer doors are a key element of facility design.
b. 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.
c. Transfer 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.
d. Doors are designed to allow caregiver view of enclosures while operating the doors.
e. Minimum dimensions of transfer doors are such that the largest animals in the enclosure can maintain normal posture when passing through the opening.
f. Doors are designed such that people are out of view when animals are being shifted. If not, no eye contact is made with the animals going through the doors.
g. Doors and door hardware are properly maintained to ensure proper functioning.

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

Animal Safety
l. Doors operated via remote control are visible from the control area.
m. Guillotine doors are not recommended due to risk of animal injury. If used, a backup system should be in place to prevent door from free falling due to mechanical failure or operator error.

n. Hydraulic systems use peanut or other food-grade oils to prevent risks to the monotremes, marsupials and small insectivores in the event of leakage.

o. Hydraulic and pneumatic door systems include backup systems to allow for door usage in the event of equipment failure.

User Safety

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

q. Double door systems may be used to prevent monotreme, marsupial and small insectivore escape from holding areas.

H-5. Shelter

Monotremes, marsupials and small insectivores 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. Monotremes, marsupials and small insectivores 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 hollow logs, rock overhangs, underground dens, shade trees and shade fabric.

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

Monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores with bedding material, water features, nesting or hide boxes, tunnels, appropriate substrate, vegetation and other enrichment materials designed to aid and encourage normal behavior patterns and minimize any abnormal behavior.
b. Appropriate complexity is provided through the use of various natural and artificial materials in the enclosure, using a combination of items including, but not limited to, those listed above.

c. The date that items are placed in an enclosure is noted, and items are removed when they become soiled, damaged or novelty has diminished.

d. Enclosure furnishings for monotremes are chosen to be as non-abrasive as possible.

e. Climbing species are provided access to the vertical space available within the enclosures.

f. Ground dwelling and tunneling species have access to areas for digging/tunneling and/or are provided with artificial tunnels and nest/hide boxes as species appropriate.

g. Aquatic species have access to species appropriate water features.

Outdoor Enclosures

h. Visual barriers can be used to avoid confrontation or aggression, and include climbing structures, fallen logs, natural or artificial tunnels, walls, shade structures, topography and large enrichment items.

i. Burrowing/tunneling sites are provided, as species appropriate, along with suitable nesting materials.

j. Climbing structures accommodate natural locomotion patterns where species appropriate natural climbing opportunities are not present. When multiple species are housed together, climbing structures created specifically for each species’ unique needs are provided. Metal pipe is not used to construct climbers as it becomes dangerously hot in summer sun and can damage skin during cold weather. Climbing structures should be accessible by staff for routine sanitation, repairs and updates and should include:

   • horizontal and vertical elements
   • locations and/or mechanisms to provide enrichment above ground level
   • resting/perching platforms
   • soft substrate such as soil, bedding material, mulch or leaf litter installed below climbers to minimize risk of injuries from falls, especially to youngsters and older individuals.

k. Water sources such as pools, streams or ponds are provided as species appropriate. Permanent pool structures, where present, have an adequate filtration system to maintain institutional water quality parameters or are designed to allow easy draining, cleaning and refilling at suitable intervals to ensure water remains potable.

   • Roots, trees and stumps on shore and in the water provide additional enrichment for aquatic/semi-aquatic species.

   • Multiple pools at least 64.5 sq. ft. (6 sq. m) across and 1.3 ft. (0.4 m) deep with sloping sides is recommended for playpus enclosures.

   • In excessive heat, fountains and misters may also be used to cool the air.

Species Specific Enclosure Furnishing Recommendations

l. Branches in monotreme enclosures are weathered or soaked to remove tanins.

m. Small insectivores are provided with decaying logs, which are likely to have insects within them.

n. Wombats and platypus are provided with nest boxes, large rocks and hollow logs
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o. Where possible, kultarrs are provided with highly scented branches such as eucalyptus weekly for new scent sources.
p. Wallabies are provided with tussocks or other nesting materials to encourage them to create natural hip holes.
q. Swamp wallabies are provided with a water source or multiple sprinklers.
r. Multiple nest boxes per animal are provided for denning and tree nesting species.

Indoor Enclosures/Shift Yards

s. To the greatest extent possible, all visual barriers, digging/tunneling spaces, nest boxes, water features and climbing structures meet outdoor enclosure criteria, particularly where monotremes, marsupials and small insectivores must be housed in these limited spaces for extended periods of time.
t. 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.
u. Benches and other structures allow for climbing and for sleeping above ground level as species appropriate.
v. Dens and water features are provided, as species appropriate.

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, monotremes, marsupials and small insectivores are transferred from enclosures prior to cleaning, disinfection and/or sanitizing.
c. Enclosures are designed to promote sanitation and maintenance as appropriate for the health and well-being of the animals housed, without resulting in undue disturbance or stress.
d. 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”).
e. 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

f. Animal waste is removed from the habitat as often as necessary to prevent contamination of the animals contained therein, to minimize disease hazards and to reduce odors. This also enables caregivers to collect fecal samples in a timely manner.
g. 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, taking into account the social aspects of olfactory cues where species appropriate.
h. Damaged and soiled enrichment items are removed regularly.
i. Efforts are made to prevent native wildlife getting access to waste.
Tools
j. Each enclosure has dedicated tools to prevent cross contamination between enclosures. When resources restrict the ability to have dedicated tools, tools are disinfected between enclosures to prevent the spread of parasites and disease.
k. Tools are labeled when use is restricted to specific areas.
l. Sanitation tools or equipment, including wheelbarrows, are not used for transport or storage of foodstuffs or bedding.

Cleaning and Disinfection
m. Feeding areas, automatic water devices, water and food containers are cleaned and disinfected daily.
n. Care is taken to minimize overspray of waste, directly or via aerosolizing, into adjacent cages during cleaning.
o. Animals are not present in enclosures being cleaned using power hoses. Care is taken to prevent accidental spraying of animals in adjacent enclosures when power hoses are used for cleaning.
p. Concrete floored enclosures are dried with a squeegee, and as needed fans, to ensure floors are dry before bedding material is replaced.
q. All hard surfaces including walls, floors, ceiling, benches, climbing structures, cage mesh and caregiver work areas are sanitized regularly to the extent possible. Note that in large outside enclosures with plenty of exposure to sunshine and rain, there may not be a need for scrubbing and cleaning but areas must be monitored for potential sanitation problems.
r. Cleaning and Disinfection Standard Operating Procedures are developed and followed to address:
   ● safe disinfectant use to prevent hazards to the 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.
s. A Material Safety Data Sheet (MSDS) or equivalent is readily available for all cleaning products in use and all containers are properly labeled as to contents.

H-8. Temperature, Humidity, Ventilation, Lighting

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

Temperature
a. The temperature is within an acceptable range for the species housed.
   ● Weather is considered in addition to temperature.
   ● Allowance is made to accommodate individual animals not able to tolerate temperatures above or below the usual range of comfort for the species.

b. For outdoor enclosures and shift yards, in general, monotremes, marsupials and small insectivores have access to heated or cooled areas when ambient temperature falls below 50°F (10°C), adjusted for wind chill, or rises above 77°F (25°C) and are provided with dry, well-bedded resting space. Great
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caution is taken with elderly, infant and disabled animals. Species which depend on evaporative cooling, such as koala, are provided with misters as a cooling source.

- Monotremes are at risk of heat stress when temperatures risk above 90°F (32°C).
  - Access to water sources or cooling devices is provided when temperatures approach 86°F (30°C).

- Boreal hedgehog species may tolerate lower temperatures and tropical species may tolerate higher.

- Sloths and anteaters are protected from extremes of, and sudden changes in, temperature.

- Gliders are provided with heat sources when temperatures fall below 41°F (5°C)

- Wallabies are provided with cooling sources when temperatures rise above 86°F (30°C).
  - Swamp wallabies may be provided with water sources which allow them to stand or dangle their forearms in the water.

- Tree kangaroos are maintained at temperatures between 65°F (18°C) and 72°F (22°C).

- Brushtail possums are maintained at temperatures between 65°F (18°C) and 95°F (35°C).

- Tasmanian devils are maintained at temperatures between 59°F (15°C) and 77°F (25°C).
  - Misters or water sources for wading are recommended when cooling is required.

- Wombats are best maintained at temperatures between 50°F (10°C) and 81°F (27°C).
  - Higher temperatures can be tolerated when animals have access to cooler burrows.

- Aardvarks are provided with heat sources when temperatures fall below 60°F (16°C) with den temperatures maintained at 72°F (22°C).

- Bandicoot are maintained at temperatures between 66°F (19°C) and 77°F (25°C).

- Rat kangaroos, including potoroo are maintained at temperatures between 41°F (5°C) and 95°F (35°C) with an average temperature of 77°F (25°C) being ideal.

- Kultarr are maintained at temperatures between 66°F (19°C) and 72°F (22°C).

- Mulgara are maintained at temperatures between 72°F (22°C) and 81°F (27°C)

- Access to 150W infrared basking lamps for several hours each day is recommended when kultarr and mulgara have limited access to sunlight.
  - Animals are able to move away from the lamps and have constant access to water sources to prevent dehydration.

- Windbreaks are sufficient in number to accommodate all animals simultaneously with consideration for social structure and relationships in a group.

- 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.

- 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 animals.
  - Heating blocks/panels, if used, are installed and used so as to ensure they pose no risk to the animals.

- For temperatures outside recommended ranges heat can be provided by forced air or hydronic heating systems and cool air by refrigerant air conditioning, "swamp coolers", fans, or misters;
• Providing animals with opportunities to choose temperature ranges within an enclosure is preferred. This can be achieved by access to areas near heat vents, skylights, or hog warmers for example.
• Even when ambient temperatures are ‘warm’, bare concrete floors, especially damp floors, are too cold for many individuals and are not considered suitable substrate or housing for monotremes, marsupials and small insectivores.
• Den/nest areas are provided for all animals, as species appropriate, in indoor enclosures.
• Any climate control systems include back-up power in case of equipment or power failure.

**Humidity**

d. Optimal indoor humidity is between 40% and 70%. Humidity should not be kept above 80% in controlled environments to prevent fungal and mold growth. High humidity can be mitigated through proper ventilation or dehumidifier systems.
  • Lower humidity is better tolerated by desert species.
  • Wombats are ideally maintained at 60–70% humidity but can tolerate lower humidity if provided with burrows which provide higher humidity.
  • Tree kangaroos are ideally maintained at humidity levels above 50% to reduce the risk of dry skin problems.

**Ventilation**

e. Proper ventilation of indoor enclosures is critical.
  • In these areas, Heat Recovery Ventilators and Energy Recovery Ventilators can provide fresh outdoor air with minimal heat loss.

f. Indoor enclosures ideally have a negative air pressure, with regular exchange of non-re-circulated air.
  • A minimum of one complete air exchange per hour is recommended.
  • Where negative air pressure is not used, HEPA filters may be installed to maintain re-circulated air quality.

**Lighting**

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

j. Indoor enclosures - Natural lighting is optimal and can be obtained using skylights, windows, roll-up doors and other means. Glass bricks may be 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.
  • For nocturnal species, attention is paid to ensuring sufficient hours without artificial illumination.

k. 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 animals, 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 animals 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 monotreme, marsupial and small insectivore 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 animals.

f. Accumulations of trash is placed in designated areas and cleared as necessary to protect the health of the animals, 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 monotreme, marsupial and small insectivore waste 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: Monotreme, Marsupial and Small Insectivore Enclosures**

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

a. Entry and exit to animal enclosures is through a system of double gates and/or doors, with sufficient space between to allow each gate to be securely closed prior to opening the other.

b. For very large enclosures into which vehicles enter, the double gates and/or doors are 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 animals by intruders entering the grounds.

d. The sanctuary has a key control system designed to ensure that only qualified staff are allowed into certain areas of the sanctuary, such as animal enclosures. Gates and doors to enclosures are securely locked so as to prevent unauthorized openings.

e. 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 monotremes, marsupials and small insectivores 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 animals 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 resident animals 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 monotremes, marsupials and small insectivores, 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 monotremes, marsupials and small insectivores. |

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 monotremes, marsupials and small insectivores as much as possible from fire, flood, and other natural hazards. This includes not storing more than a small amount of bedding/forage in the same building in which animals 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 monotremes, marsupials and small insectivores, 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 animals harm.

**PF-8. Insect and Rodent Control**

An appropriate, effective, humane and safe pest 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 resident animals, native wildlife and staff.

b. Insect and non-resident 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;
   - Weight, current diet and record of diet changes;
   - Food consumption and preferred food items;
   - Where applicable and appropriate, any positive reinforcement training records showing completed objectives and those in development;
   - For species not housed in large groups, 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 monotremes, marsupials and small insectivores 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**

<table>
<thead>
<tr>
<th>Monotremes, marsupials and small insectivores are appropriately transported to maximize safety and minimize stress and in accordance with all local, state/province, national, international requirements and laws.</th>
</tr>
</thead>
</table>

**General**

a. Monotremes, marsupials and small insectivores 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 monotreme, marsupial or small insectivore 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, animals 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.

f. At a minimum, transport enclosures meet appropriate animal welfare standards (e.g., IATA, US Animal Welfare Act Transportation Standards or similar).

g. Transport containers 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.
   - are designed to permit safe transfer into a secondary enclosure.
   - are placed within a secondary container or closed compartment on the transport vehicle.

i. Any monotreme, marsupial or small insectivore taken outside the sanctuary, for an approved reason such as medical treatment or transfer to a more appropriate sanctuary, is in the personal possession of the sanctuary director, or of competent persons acting on his/her behalf and adequate provision is made for the safety and well-being of the animal and public safety.

j. All animals taken outside the sanctuary are kept securely at all times. Animals 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.
k. Complete medical records, diet and husbandry information, and identifying papers (e.g., describing tattoos, or other identification methods) accompany all transported monotremes, marsupials and small insectivores.

**NUTRITION REQUIREMENTS**

**N-1. Water**

> Fresh clean water is available in sufficient quantity.

**Quantity**

a. Fresh clean water is available at all times to all individuals.

b. Multiple water sources are available for group-housed monotremes, marsupials and small insectivores to ensure high-ranking individuals do not dominate water sources.

**Quality**

c. Water quality parameters are maintained at a generally acceptable level for monotremes, marsupials and small insectivores in terms of turbidity, salts, etc.

d. Potable water sources are tested for contaminants annually.

e. All water sources (including water bowls, bottles, tubs and lixits) 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 bowls are secured such that the animals cannot tip them over, play with them or hide them from view and that water is available at all times.

**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 monotreme, marsupial and small insectivore following veterinary instructions for special needs.

**General**

a. A veterinarian or qualified nutritionist periodically reviews all aspects of monotreme, marsupial and small insectivore diet at the sanctuary.

b. Diets of individual animals (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 monotremes, marsupials and small insectivores 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 animal’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 monotremes, marsupials and small insectivores, only food “fit for human consumption” is fed.

**Commercially Prepared Complete Feeds**

h. While the basic nutritional needs of most monotreme, marsupial and small insectivore species may be met by the use of a high quality commercially prepared complete feed, most species’ behavioral and foraging needs are not met using such diets alone. When combined with fruits, vegetables, browse, animal protein and other whole foods, these diets can help ensure balanced nutrition.

- High quality herbivore complete feeds may serve as the core of marsupial diets
- Insectivores, other than sloths, may be fed a balanced, low fat commercial dog or cat diet.
  - Anteaters may be fed a combination of commercial cat food and primate or insectivore complete feed when supplemented with fruit and vegetables.

**Animal Protein**

i. Commercially available insects including crickets, mealworms and waxworms form the basis for insectivore, carnivorous marsupial and echidna diets and may be used as part of the diet, when combined with the items listed below, of platypus.

j. Animals in outdoor enclosures on natural substrate may consume naturally occurring insects.

- The use of pesticides near enclosures takes this into account.

k. Fish and freshwater shrimp are a regular part of platypus basic diet.
l. Insectivores may occasionally be fed small amounts of eggs or cheese but careful attention is paid to maintaining proper calcium:phosphorus ratio in the overall diet.

m. Carnivorous marsupials may be offered small rodents and birds as part of a balanced diet.

n. Sloth diets include protein sources such as eggs and insects.

o. Bones, eggs and various meat sources, such as rabbit and other mammals, are routinely fed to Tasmanian devils and quolls.
   • Feeding of whole carcasses to groups of Tasmanian devils is recommended to promote natural social behavior.

Vegetables and Fruits
p. A variety of leafy greens, vegetables and fruit are offered as species appropriate as a component of the basic diet.
   • Possum and tree and rat kangaroos, in particular, benefit from a varied vegetable and fruit component in their diet.

q. Sloth diets include regular portions of fruit.

r. Anteaters are offered fruits and vegetables including avocado, where available, as part of their overall diet.

s. Pygmy possum, which are primarily nectivores, are provided with fresh flowers and/or nectar mix to supplement their basic diet.

Browse
t. Koalas are entirely dependent on eucalyptus leaves for nutrition.
   • Seasonally appropriate species and types of eucalyptus are provided for these animals, based on the individual animal’s condition.
   • Whole branches of a variety of species are offered and replaced daily.

u. Leaves, twigs, shoots and buds are provided as a main component of sloth diets.

v. Herbivorous marsupials are offered fresh cut plant material daily, particularly for those animals housed indoors with no access to natural browse. Seeds are not offered to reduce the risk of disease.

Diet for Most Insectivores and Opossum
w. Low calorie, high quality dog or cat diets, fruits, vegetables, insects, cottage cheese or eggs.
   • Due to a tendency toward obesity in captivity cheese and or eggs are fed only in small quantities.
   • Tenrecs are not offered citrus fruit.
   • See Animal Protein and Complete Feed sections for anteater dietary needs.

Vitamins/Supplements
x. Prior to offering supplemental vitamins, the health and condition of the individual animal, as well as the diet, is reviewed by a nutritionist experienced in monotreme, marsupial and small insectivore care and/or the attending veterinarian.

y. Mineral blocks may be needed for tree kangaroos and grazing marsupials kept largely on pasture following veterinarian or nutritionist recommendations based on the individual animals housed, local conditions and pasture type.
Treats/Enrichment items

z. Preferred food items from the basic diet can be reserved for enrichment.

aa. 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 monotreme, marsupial, and small insectivore health and social needs.

General

a. Feeding and drinking receptacles are placed in positions that minimize the risks of contamination from soiling by the monotremes, marsupials and small insectivores themselves, wild birds, non-resident 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. Monotremes, marsupials and small insectivores are offered food a minimum of once daily during the active feeding time of the species housed. For most species, at least two feedings are recommended.
   ● If fed once daily, items are of sufficient quantity and quality to ensure that animals have the opportunity to feed several times throughout the day.
      o Nocturnal species are fed late in the day to ensure freshness of food during normal feeding hours.
      o Single feeding regimens are carefully monitored and reviewed frequently to ensure they meet the nutritional and psychological needs of the species housed.

Feeding Techniques

e. Food is provisioned at multiple feeding sites throughout enclosures to ensure all animals have access and to reduce or eliminate aggression that results from competition for food resources, especially preferred items.
   ● Arboreal species are fed above ground, as species appropriate.

f. Food may be offered in shift yards and indoor areas to increase monotreme, marsupial and small insectivore comfort with those areas and improve reliability in transferring from one area to another.

Diet Changes, Increases or Decreases

g. Adjustments made to an already formulated and nutritionally balanced diet are made to the entire diet to ensure continued nutritional balance.

h. Considerations for diet increase include weight and condition of the animal, food consumption, season, activity level and other medical or behavioral considerations.

i. 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.

j. 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**

**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 and expired food, as well as bags damaged by pests, are discarded.

c. Perishable foods are kept under refrigeration and ordered in increments that can be used prior to spoilage.

d. Items frozen for use are dated and labeled, and no frozen items are thawed and refrozen. Items that are not fed frozen are thawed in a refrigerator to minimize risk of spoilage. Fish may be thawed in cold water.

N-5. **Food Handling**

**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 monotremes, marsupials and small insectivores, and other species housed at the sanctuary, and who is aware of specific health concerns regarding the monotremes, marsupials and small insectivores housed 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 monotremes, marsupials and small insectivores 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 (monotreme, marsupial and small insectivore 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 monotremes, marsupials and small insectivores, 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 monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores.
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 animals, 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 monotremes, marsupials and small insectivores, 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 monotremes, marsupials and small insectivores). Results are recorded. Fecal examinations are repeated following treatment to evaluate efficacy.

e. All monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores 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 monotreme, marsupial and small insectivore 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 animals, 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.
I. 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 animal 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 monotreme, marsupial or small insectivore 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 monotreme, marsupial or small insectivore 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 animals is physically separate from live animal holding, treatment, and surgery areas and from food supply storage or preparation areas.)

r. Disposition of dead monotremes, marsupials or small insectivores 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 Monotremes, Marsupials and Small Insectivores

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

a. Upon arrival, all monotremes, marsupials and small insectivores 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 animals that have received minimal screening prior to arrival, such as animals from the wild. Animals previously housed together may be quarantined together.

b. If the sanctuary does not have an adequate quarantine facility, steps should be taken to have monotremes, marsupials and small insectivores undergo quarantine under these guidelines prior to their arrival.

c. Local, state/province, or national regulations regarding quarantine of newly arrived monotremes, marsupials and small insectivores 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 animals 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 monotremes, marsupials and small insectivores 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, monotremes, marsupials and small insectivores have permanent identification, and controlled substances are prescribed and stored legally.

Medical Records
a. Complete medical records are maintained on all monotremes, marsupials and small insectivores.

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, animal identification and nutrition/diet information, and, where applicable, necropsy reports.

c. Copies of medical records accompany any animal who is transferred to another sanctuary.

d. Medical records are maintained under the direction of the veterinarian or trained monotreme, marsupial and small insectivore 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 monotremes, marsupials or small insectivores occurs, and sound practices are in place and implemented to prevent propagation and to properly care for infants born at the sanctuary.

a. No intentional monotreme, marsupial or small insectivore breeding occurs, and sound practices are in place to prevent propagation. An exception may be made for rehabilitation and release centers engaged in a bona fide breeding-for-release-program 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.

b. The sanctuary has species-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 monotremes, marsupials and small insectivores).

c. If females arrive at the facility pregnant, the sanctuary provides necessary care and the female is allowed to deliver unless there are valid health reasons for terminating the pregnancy, or unless the attending veterinarian feels the pregnancy is in such an early stage that aborting the fetus is an option, if so desired by the sanctuary. After delivery, reproductive control methods are applied after allowing adequate time for weaning as appropriate for that animal, provided there is no further opportunity for breeding during this period of time.

d. Infants born at the sanctuary remain with the mother as appropriate for natural rearing, provided there is no further opportunity for breeding during this period of time. Infants are only removed from females for hand-rearing if there is a threat to the life of the infant or the mother.

V-8. Zoonotic Disease Program

The staff and sanctuary veterinarian are knowledgeable about zoonotic diseases that may affect monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores 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 monotreme, marsupial or small insectivore 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 monotremes, marsupials or small insectivores 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 animal 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 Monotremes, Marsupials and Small Insectivores

W-1. Physical Well-Being

All monotremes, marsupials and small insectivores 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 monotreme, marsupial and small insectivore is the overriding consideration in all sanctuary actions.

b. Monotremes, marsupials and small insectivores 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. Monotremes, marsupials and small insectivores are provided with species appropriate opportunities to tunnel, climb, swim, forage for food, and play by providing species-appropriate climbing structures, tunnels/burrowing/digging areas, water features, a variety of plants, logs and substrates and other enclosure enhancements and there are places to hide and rest in comfort.

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 monotreme, marsupial and small insectivore 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 animals on a weekly basis.

e. Where possible and appropriate, records of individual monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores who 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

Monotremes, marsupials and small insectivores are grouped appropriately with the safety of animals and staff in mind.

**General**

a. Monotremes, marsupials and small insectivores housed together are compatible and all animals have ample space to retreat and hide as needed while social tensions are resolved.

b. Monotremes, marsupials and small insectivores 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. Monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores 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 monotreme, marsupial and small insectivore is taken into account when determining social groups.

g. Many of the solitary species in these groups will tolerate others provided there is sufficient space in the enclosure for animals to naturally separate.

h. Territorial species are monitored for aggression.

i. Wallaby social structure varies from solitary to small group situations but many species congregate in feeding areas, sometimes forming groups of 100 or more animals.

- Open space enclosures are designed to allow for this fission-fusion behavior by providing areas for individuals and small groups to move away from the main group as desired.

**Solitary Housing**

j. Is generally 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 group or physical aggression leading to injuries.

- As possible and appropriate, monotremes, marsupials and small insectivores housed alone temporarily are given visual, olfactory and auditory contact with their social group.

- Solitary species may be housed alone provided they are regularly monitored for behavioral issues.
W-3. **Introduction of Unfamiliar Individuals**

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

**General**

a. Introduction of unfamiliar monotremes, marsupials and small insectivores are monitored closely for tension, aggression, etc.

b. Food and water consumption is monitored carefully to ensure that all animals are able to access food/water. Staff ensures monotremes, marsupials and small insectivores are not hiding, unable to approach/access food and water.

c. Monotremes, marsupials and small insectivores 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 monotremes, marsupials or small insectivores; 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 visual and/or tactile contact period;
   - Behavioral goals of visual and/or tactile contact period;
   - Benchmarks for proceeding to physical introduction;
   - Space and enclosures to be used for physical introduction;
   - Reasons location selected: neutral space, ample run around, visual barriers, doors that can be closed to protect animals in trouble etc.;
   - 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. Only normally scheduled caregivers and animal managers are present to directly observe. Individuals who are not routinely present in the animal area, including veterinary and management staff, observe via remote video or receive reports from staff.

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 monotreme, marsupial and small insectivore 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 captive animals’ 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 monotremes, marsupials or small insectivores 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 monotreme, marsupial and small insectivore 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 (see Appendix 1 for details of stress related behaviors in various monotreme, marsupial and small insectivore species.).

d. Where possible and appropriate, a behavioral/psychological profile is maintained for each individual/pair or group of monotremes, marsupials and small insectivores and updated annually and a copy is kept in the individual/pair/group’s permanent file.
W-5. **Monotreme, Marsupial, Small Insectivore-Caregiver Relationships**

| Positive relationships between monotremes, marsupials and small insectivores and caregivers are maintained. Animals are not fearful or aggressive in response to human presence or routine care procedures. |

**General**

a. Monotremes, marsupials and small insectivores 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-animal safety and the ability to maintain a positive relationship.

c. A protocol for introducing animals to new caregiver staff has been developed.

d. A positive relationship between the animals and regular caregivers, animal managers and veterinary staff is one in which the monotremes, marsupials and small insectivores 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 animal 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.

g. Interactions with monotremes, marsupials and small insectivores 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 animal 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 monotremes, marsupials and small insectivores. Note: This does not preclude the use of hoses or other watering devices in caring for the animals 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 monotreme, marsupial and small insectivore, 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. 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.

c. 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.

d. 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.

e. 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.

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 monotremes, marsupials and small insectivores 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 monotremes, marsupials or small insectivores 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 monotremes, marsupials and small insectivores; 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 species 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 monotremes, marsupials and small insectivores do so only under the appropriate level of supervision of a fully trained monotreme, marsupial or small insectivore 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 monotremes, marsupials and small insectivores.

c. Care procedures for each monotreme, marsupial and small insectivore 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 monotremes, marsupials and small insectivores, 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 monotremes, marsupials and small insectivores at the sanctuary.

b. At least one staff member and backup are trained in all aspects of monotreme, marsupial and small insectivore care for all species housed at the sanctuary to ensure that an experienced caregiver is always available to care for all animals 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 monotreme, marsupial and small insectivore 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: monotreme, marsupial and small insectivore husbandry, monotreme, marsupial and small insectivore 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

Monotreme, marsupial and small insectivore caregivers have a thorough understanding of the potential risks of working with the animals and are appropriately trained.

a. All sanctuaries housing monotremes, marsupials and small insectivores have a thorough understanding of the potential risks of working with these species.

b. Protocols involving potential risk (e.g., unlocking enclosures, shifting animals to previously unlocked areas) include redundancies to reduce the risk of equipment failure and human error.

c. All staff working with or near monotremes, marsupials and small insectivores maintain verbal contact. Radios, cell phones, etc. are used as needed to ensure contact is maintained.

d. All slides, doors and gates in monotreme, marsupial and small insectivore areas are kept closed and securely fastened at all times unless needed for animal access.

e. Designated senior members of staff are responsible for holding keys to animal 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. All personnel working with monotremes, marsupials and small insectivores are trained to recognize and respond appropriately to threat displays and other behaviors that could signal an impending attack, scratch or bite.

h. 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.

i. 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.


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 monotreme, marsupial and small insectivore 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 monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores.

h. A secure location is identified where animal 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 Monotreme, Marsupial and Small Insectivore Protocol

A detailed and appropriate written escaped monotreme, marsupial and small insectivore protocol is in place and understood by staff and local emergency services; and any escapes are detailed in reports.

a. A detailed written escaped monotreme, marsupial and small insectivore protocol is in place addressing situations in which animals escape from their enclosures, regardless of whether the animals 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 animal 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 monotreme, marsupial and small insectivore 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.

S-12. Firearm Training

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

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

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 monotreme, marsupial and small insectivore 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 monotreme, marsupial or small insectivore 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 Status

The sanctuary and/or its governing organization has a national legal nonprofit status.

a. A sanctuary, or its governing organization (for example, if the sanctuary is a program of another organization), has obtained national nonprofit status in the country of governance or operation. For example, sanctuaries located in the United States or its territories have 501(c) 3 status, and
sanctuaries located in or operated by organizations in the United Kingdom have registered charity status.

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**

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<td><strong>Sustainability of the sanctuary is promoted by ownership of the sanctuary property or a proper written lease agreement.</strong></td>
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</table>

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**

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<tr>
<td><strong>The sanctuary has a written succession plan for its continuance should the director or other key management be unable to continue in their positions.</strong></td>
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</table>

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**

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<tr>
<th><strong>Fundraising is conducted in a legal, ethical and transparent manner.</strong></th>
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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**

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<tr>
<th><strong>The sanctuary has adequate insurance coverage and secures signed waivers from all who enter the sanctuary property.</strong></th>
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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, volunteers, and employees 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 monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores reside at the sanctuary, the species’ 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. Monotremes, marsupials and small insectivores are not taken out of enclosures/habitats or off the grounds of the sanctuary for incorporation into the education program. Animals 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 animals 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 monotremes, marsupials and small insectivores 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, and tour groups are of a size that allows for close monitoring and vary based on the size and staff of the sanctuary.

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 monotremes, marsupials and small insectivores and their environment.

d. Monotremes, marsupials and small insectivores are confined within a secure environment and provided the opportunity to escape from public view. Animals are not in enclosures or habitats specifically designed to minimize their privacy and all wild animals have the ability to seek undisturbed privacy and quiet.

e. Monotremes, marsupials and small insectivores that are easily stressed are excluded from tours.
f. All tours prohibit the public from any physical contact with the animals residing at the sanctuary.
g. Members of the public cannot feed sanctuary animals during tours.

**E-3. Outreach**

Sanctuary staff are appropriate advocates for monotreme, marsupial and small insectivore protection and welfare, and work cooperatively with other sanctuaries and the community.

a. The sanctuary works cooperatively with other sanctuaries as applicable, keeping the animals’ welfare as the first priority. (For instance, best practices are shared, sanctuaries collaborate to arrange best placements for animals, 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 monotremes, marsupials and small insectivores (e.g., endorsing the use of animals for entertainment).

**POLICIES**

**POLICIES: ACQUISITION AND DISPOSITION OF MONOTREMES, MARSUPIALS AND SMALL INSECTIVORES**

**P-1. Acquisition Ethics and Commercial Trade Prohibition**

Acquisition of monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores, including the following provisions:
   - Animals are only accepted if the sanctuary has the financial resources to provide appropriate professional care.
   - Animals are only accepted if they will not jeopardize the health, quality of care or maintenance of monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores 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 an animal 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 defined.

- An acquisition contract is in place that clearly identifies the sanctuary as the “responsible party” for the monotremes, marsupials, and small insectivores 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 animal entering and housed at the sanctuary.

- Financial expenses associated with acquisition of a monotreme, marsupial or small insectivore 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 monotremes, marsupials and small insectivores, with some noted exceptions, with ultimate responsibility for dispositions clearly defined.

- The sanctuary assumes lifelong responsibility for the monotremes, marsupials, and small insectivores acquired and only in very rare circumstances does an animal permanently or semi-permanently leave the sanctuary, with the exception of releasable wildlife reintroduction.

- Acceptable reasons for disposition, when movement of monotremes, marsupials and small insectivores to another sanctuary does not compromise the welfare of that individual or the other animal(s) 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 animal.
  - another accredited sanctuary or comparable sanctuary can provide a better long-term environment (such as creating a suitable social group of conspecifics).

- Other reasons for disposition include: financial insolvency or closure of the sanctuary, or death of the animal.

- Detailed records of monotreme, marsupial or small insectivore disposition are logged and maintained, including the details of all body parts.
P-4. Disposition of Live Monotremes, Marsupials and Small Insectivores

Responsible steps are taken to ensure that any disposition of a live monotreme, marsupial or small insectivore is in the life-long best interests of that animal.

a. The sanctuary has a written disposition policy that adopts substantially the language of this standard.

b. Monotremes, marsupials and small insectivores are not transferred to individuals, nor are they transferred to sanctuaries 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. Animals are not “loaned” to other facilities.

c. Monotremes, marsupials and small insectivores are not disposed of at auctions or to breeders, dealers, brokers, “kill buyers”, slaughterhouses or private pet owners.

d. For sanctuaries engaged in rescue, rehabilitation and release of monotremes, marsupials and small insectivores, subject to all pertinent regulations and laws, animals are released within native ranges, in accordance with local, state, national and international regulations.

e. If a monotreme, marsupial or small insectivore, 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 animal is transferred to another accredited sanctuary or other appropriate facility, if it appears that environment will better suit the animal.

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

P-5. Euthanasia

Euthanasia is governed by an ethical humane euthanasia policy, and deceased monotremes, marsupials and small insectivores are handled appropriately.

a. The sanctuary has and maintains a written humane euthanasia policy (as part of the disposition policy) for monotremes, marsupials, small insectivores and other animals at the sanctuary, 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 animal to an acceptable quality of life;
• Disease/injury where treatment is beyond the normal community standards of monetary expenditure and would cause an excessive burden on the sanctuary resources, and no other sanctuary can step in, after reasonable efforts to locate such a sanctuary;

• The process of aging has resulted in an unacceptable quality of life;

• In the event of presenting an infectious disease risk to some or all of the residents.

d. A licensed veterinarian or his/her authorized representative, 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 monotreme, marsupial or small insectivore 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 an animal 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 monotreme, marsupial or small insectivore, and unless impossible, is performed out of view of other animals.

f. With regard to deceased monotremes, marsupials and small insectivores:

• 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 animals 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 MONOTREMES, MARSUPIALS AND SMALL INSECTIVORES

P-6. Public Contact

Contact between monotremes, marsupials, small insectivores and the public is not allowed or is restricted appropriately.

a. No unescorted public visitation occurs. This is not to exclude discrete, nonintrusive observation by a carefully evaluated person, such as a wildlife student, as allowed by the appropriate decision-making body of the sanctuary.

b. No direct contact between the public and monotremes, marsupials or small insectivores occurs.

c. See also Standard E-3 “Tours.”
P-7. **Removal from Sanctuary or Enclosures/Habitats for Non-Medical Reasons**

Monotremes, marsupials and small insectivores at the sanctuary are not removed from the sanctuary or enclosures/habitats for non-medical reasons.

a. Monotremes, marsupials and small insectivores are not taken from the sanctuary or enclosures/habitats for exhibition, education, or research purposes.

P-8. **Public Viewing of Human/Animal Interaction**

The sanctuary does not allow unprotected human/animal contact to occur within public view.

a. Any unprotected contact with monotremes, marsupials and small insectivores (e.g., for purposes of providing medical care) is performed out of public view, except in cases of emergency.

P-9. **Non-Portrayal of Monotremes, Marsupials and Small Insectivores as Tractable**

With few exceptions, the sanctuary rarely portrays monotremes, marsupials and small insectivores as tractable in text, photos, video, or other media.

a. The sanctuary rarely publishes material that portrays monotremes, marsupials and small insectivores as tractable. This includes but is not limited to: photos in which staff or others are shown holding or petting animals and animals on leashes or dressed in human clothing. In situations where text, photos, video or other media are published portraying the above, 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-10. **Non-Harmful, Non-Exploitive Fundraising**

Fundraising activities are not distressing or negatively disruptive to monotremes, marsupials or small insectivores nor do the activities involve improper use of bears.

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 animals, and removal from the sanctuary or enclosures/habitats;
The activities are deemed to not be distressing or in any way negatively disruptive to the monotremes, marsupials and small insectivores and their normal routine, nor are normal routines designed specifically for fundraising needs;

Monotremes, marsupials and insectivores are not in enclosures or habitats specifically designed to minimize their privacy, and all animals have the ability to seek undisturbed privacy and quiet;

Monotremes, marsupials and small insectivores are not being used as entertainment, which includes the performance of “tricks” for public display;

Animals are not raffled or sold.

P-11. Ethics in Research

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

a. No resident monotremes, marsupials and small insectivores 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 animal 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 monotreme, marsupial or small insectivore management and/or wild species population conservation. In such cases, samples are only to be taken during routine examinations of the monotreme, marsupial or small insectivore (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.

MONOTREMES, MARSUPIALS AND SMALL INSECTIVORES 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 monotremes, marsupials and small insectivores 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 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 monotremes, marsupials and small insectivores 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., crop raiding, spending time around human habitation.
   ● 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 Monotremes, Marsupials and Small Insectivores**

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 monotremes, marsupials and small insectivores 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**

Monotremes, marsupials and small insectivores 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 animals 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 monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores, with consideration given to sick and injured animals.

(See also Standards H-1 to H-9, “Monotreme, Marsupial and Small Insectivore Housing,” and V-5, “Quarantine and Isolation of Monotremes, Marsupials and Small Insectivores”)

General

a. Non-quarantine housing for monotremes, marsupials and small insectivores being considered for release provides as close to natural a setting as possible. The space allows for foraging, digging, climbing, nesting/tunneling, swimming and other actions naturally performed in the wild.

b. Quarantine facilities and prerelease housing for monotremes, marsupials and small insectivores intended for release are situated a minimum of 66 ft. (20m), giving consideration to factors such as wind direction, from resident animal 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 monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores.

f. Quarantine facilities are designed to allow for monitoring and, as needed, modification of behavior of animals intended for release.

g. Healthy monotremes, marsupials and small insectivores admitted to quarantine have as large an enclosure as possible to help maintain natural locomotion and foraging behaviors.
h. Upon arrival, animals 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 monotremes, marsupials and small insectivores may have been exposed.

j. Orphaned monotremes, marsupials and small insectivores, 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 Monotremes, Marsupials and Small Insectivores**

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 monotremes, marsupials and small insectivores are housed in nursery units, preferably with conspecifics, as species appropriate.

**Intermediate Housing for Orphaned Monotremes, Marsupials and Small Insectivores**

n. As soon as the orphaned animals have been weaned, they are moved to intermediate housing, where human contact is decreased 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 climbing, nesting, swimming, tunneling and foraging, as species appropriate.

p. 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 Monotremes, Marsupials and Small Insectivores**

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

q. Monotremes, marsupials and small insectivores 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.

r. Independent animals brought in for rehabilitation who can be released back into the environment from which they came are returned as soon as it is determined that the animal has recovered sufficiently to resume its presence in its former area.

s. Consideration is given to social and territorial issues that may affect safe return to the original habitat.

t. Prerelease housing for adult and independent subadult animals is ideally situated at the intended release site, allowing the animals to acclimate to their new environment before release.

u. In both intermediate and prerelease housing, sufficient vertical as well as horizontal space is provided, as species appropriate, to allow the animals to develop strength and display normal wild behaviors.
R-5. **Diet, Nutrition And Foraging Skills**

Monotremes, marsupials and small insectivores 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, monotremes, marsupials and small insectivores 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 animals 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-animal relationships, introduction to social groups and overall health evaluation, are focused on preparing the monotremes, marsupials and small insectivores for return to the wild.

a. Once a monotreme, marsupial or small insectivore 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.
   - Human interaction with animals 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. Dependent young may be reared by human caregivers using approved best practices for the species housed.
   - Care is taken to balance the need to nurture these young animals with their need to develop appropriate survival skills as well as intraspecific social behaviors.
   - Animals are integrated into an appropriate social group, ideally comprised of other conspecifics intended for release, as quickly as possible.

c. Introductions follow Standard W-3 “Introduction of Unfamiliar Individuals.”

d. Opportunities to explore, climb, dig, forage and learn skills in the natural environment are provided.

e. Monotremes, marsupials and small insectivores 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-animal relationships for animals intended for release to the wild, while ensuring the animals’ psychological well-being is met, focus on:
   ● avoiding any types of interaction that may compromise the animals’ chances for release;
   ● encouraging the monotremes, marsupials and small insectivores to develop appropriate relationships with conspecifics for their social needs.

g. Veterinary staff evaluate overall health including:
   ● recovery from the initial cause for admission to the facility;
   ● pathogen surveillance to ensure the animal does not present a risk to the wild population as a result of exposure during the rehabilitation process.
      o 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.

h. Monotremes, marsupials and small insectivores 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 Monotremes, Marsupials and Small Insectivores

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

a. Caregivers working with animals 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 monotremes, marsupials, small insectivores 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 animals.

R-8. Assessment of Health and Skills

Monotremes, marsupials and small insectivores are fully assessed for health and appropriate skills prior to release.

a. Monotremes, marsupials and small insectivores 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 animal has a reasonable chance for long-term survival.

d. Monotremes, marsupials and small insectivores 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 monotremes, marsupials or small insectivores being released are of an appropriate subspecies/population/subpopulation for the release site if their origin is not known.

f. Monotremes, marsupials and small insectivores are exposed to post-release monitoring equipment prior to release to allow them to acclimate to its presence.

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

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<th>Release sites are evaluated for health and other threats and for appropriateness for the species.</th>
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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 monotremes, marsupials or small insectivores are present, either permanently or seasonally.

d. The area is evaluated to establish carrying capacity for monotremes, marsupials or small insectivores 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 monotremes, marsupials and small insectivores.

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

Monotremes, marsupials and small insectivores are supported as needed to adapt in their new environment and are monitored post release.

a. Once it is determined that the monotremes, marsupials and small insectivores 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, animal have integrated into the wild.
   - Use of radio and satellite telemetry is recommended whenever possible and species appropriate.

c. Ideally, monotremes, marsupials and small insectivores 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 monotremes, marsupials and small insectivores 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 monotreme, marsupial and small insectivore reintroduction to aid in the continued improvement of the program.
Appendix 1

General
The monotremes, egg bearing mammals are comprised of the echidnas and the platypus. The platypus is largely aquatic and must have appropriate access to water for swimming. All monotreme species burrow. Largely solitary, the monotremes may be housed in small groups provided the space is large and varied enough to allow all animals to be solitary as they chose.

The marsupials, from kangaroos to wombats to possums, are mainly found in Australia and South America, with one species, the Virginian opossum, found in North America. There is tremendous variety in the habitats and natural histories of these species. Tree dwelling carnivores and arid land grazers are found in this group, with corresponding variation in their needs when maintained in sanctuary.

The insectivores – hedgehogs, moles, shrews, tenrecs, sloths, armadillos etc. – tend to be shy and secretive. They are often viewed as pest species because their burrowing activities damage property.

Enclosure Furnishings/Enrichment
Decaying logs, and the insects within, may provide enrichment for small insectivores
Logs and leafy branches provide extra roughage, enrichment and additional privacy for marsupials.
Hanging plant holders with moss may be used as hiding places for gliders.
Cardboard tubes or pvc pipes may be provided to kultarrs.
Thick ropes may be hung in the enclosure of possums.
Tasmanian devils benefit from old stumps/logs large enough to hide in, a climbing apparatus, perching points for viewing outside the enclosure and a water source for bathing/swimming.

Contraception Information
Single sex groups may be considered, based on social structure of the species involved. Naturally solitary species may be maintained alone or in single sex groupings.
Vasectomy has been used in some marsupial species.
Hormone disruptors are being tested for use on possum species.
Female contraception may be considered for some macropod species: GnRH Agonists - Gonadotropin Releasing Hormone Agonists, synthetic progestins and surgical sterilization are all potential methods.

Behavioral/Psychological Well-being
Signs of stress in monotreme, marsupial and small insectivore species
Possums:
• Constant paw cleaning
• Excessive drinking
• Lack of appetite
• Overly aggressive or submissive behavior
• Dropping of laying ears flush with the head

Bandicoots:
• Increased vocalization
• Escape attempts
• Reduced food intake
• Weight loss
• Poor coat condition or hair loss

Kultarr:
• Trembling
• Retreating into nest box
• Distress vocalizations
• Biting

Giders:
• Loss of appetite and lack of thirst
• Diarrhea
• Pacing
• Lack of activity
• Biting

Koalas:
• Not sitting in trees, coming to ground and walking around
• Continuous ear flicking
• Hiccups, low whining vocalization
• Alarm posture
  o Wide eyes
  o Ears forward
  o Spine held vertical