Global Federation of Animal Sanctuaries

Standards For
Marine Mammal Sanctuaries

Version:

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

ANIMALS COVERED BY THESE STANDARDS

Note: Great whale species not covered in this document due to their unique needs include the Balaenidae (bowhead and right whales), the Balaenopteridae (minke, sei, Bryde's, blue, Omura's, fin and humpback whales), the Physeteridae (sperm whale) and Eschrichtiidae (gray whale). Polar bears (Ursus maritimus) also present unique concerns and are not covered in this document. Sanctuaries caring for these great whales or polar bears are encouraged to contact GFAS to discuss appropriate care standards for them.

Family/Genus/ Species/Common Names

Family: *Delphinidae, Dugongidae, Iniidae, Monodontidae, Mustelidae, Neobalaenidae, Odobendidae, Otariidae, Phocidae, Phocoenidae, Physeteridae, Platanistidae, Trichechidae, Ziphiidae*

Genus	***Species***	**Common Name**
Arctocephalus	*australis*	South American fur seal, southern fur seal
Arctocephalus	*forsteri*	New Zealand fur seal, Antipodean fur seal, Australasian fur seal, black fur seal, South Australian fur seal
Arctocephalus	*galapagoensis*	Galapagos fur seal, Galapagos Islands fur seal
Arctocephalus	*gazella*	Antarctic fur seal, Kerguelen fur seal
Arctocephalus	*philippii*	Juan Fernandez fur seal
Arctocephalus	*pusillus*	Afro-Australian fur seal, brown fur seal, Cape fur seal, South African fur seal
Arctocephalus	*townsendi*	Guadalupe fur seal Lower California fur seal

Genus	***Species***	**Common Name**
Arctocephalus	*tropicalis*	Subantarctic fur seal, Amsterdam Island fur seal
Berardius	*amuxii*	Arnoux's Beaked whale, southern four-toothed whale
Berardius	*bairdii*	Baird's beaked whale, giant bottle-nosed whale, northern four-toothed whale, North Pacific bottlenose whale
Callorhinus	*ursinus*	Northern fur seal
Caperea	*marginata*	pygmy right whale
Cephalorhynchus	*commersonii*	Commerson's dolphin, piebald dolphin
Cephalorhynchus	*eutropia*	Chilean dolphin, black dolphin, white-bellied dolphin,
Cephalorhynchus	*heavisidii*	Heaviside's dolphin, Benguela dolphin
Cephalorhynchus	*hectori*	Hector's dolphin, New Zealand dolphin, white-headed dolphin
Cystophora	*cristata*	hooded seal,
Delphinapterus	*leucas*	beluga, white whale
Delphinus	*capensis*	long-beaked common dolphin
Delphinus	*delphis*	short-beaked common dolphin, Atlantic dolphin, Pacific dolphin, saddle-backed dolphin, short-beaked saddleback dolphin
Dugong	*dugon*	dugong, sea cow
Enhydra	*lutris*	sea otter
Erignathus	*barbatus*	bearded seal
Eumetopias	*jubatus*	Steller sea lion, Northern sea lion, Steller's sea lion
Feresa	*attenuata*	pygmy killer whale, slender blackfish
Globicephala	*macrorhynchus*	short-finned pilot whale, Pacific pilot whale
Globicephala	*melas*	long-finned pilot whale
Grampus	*griseus*	Risso's dolphin, grey dolphin
Halichoerus	*grypus*	gray seal, grey seal
Histriophoca	*fasciata*	ribbon seal
Hydrurga	*leptonyx*	leopard seal
Hyperoodon	*ampullatus*	North Atlantic bottlenose whale, bottlehead, Northern bottlenose whale
Hyperoodon	*planifrons*	Southern bottlenose whale, flatheaded bottlenose whale,
Indopacetus	*pacificus*	Indo-pacific beaked whale, Longman's beaked whale, tropical bottlenose whale
Inia	*geoffrensis*	Boto, Amazon river dolphin, pink river dolphin
Kogia	*breviceps*	pygmy sperm whale
Kogia	*sima*	dwarf sperm whale
Lagenodelphis	*hosei*	Fraser's dolphin, Sarawak dolphin
Lagenorhynchus	*acutus*	Atlantic white-sided dolphin
Lagenorhynchus	*albirostris*	white-beaked dolphin
Lagenorhynchus	*australis*	Peale's dolphin, blackchin dolphin
Lagenorhynchus	*cruciger*	Hourglass dolphin
Lagenorhynchus	*oblquidens*	Pacific white-sided dolphin
Lagenorhynchus	*obscurus*	dusky dolphin
Leptonychotes	*weddelli*	Weddell seal
Lobodon	*carcinophaga*	Crabeater seal
Lissodelphis	*borealis*	Northern right whale dolphin
Lissodelphis	*peronii*	Southern right whale dolphin
Mesoplodon	*bidens*	Sowerby's beaked whale, North Atlantic beaked whale
Mesoplodon	*bowdoini*	Andrew's beaked whale, splaytooth beaked whale
Mesoplodon	*carlhubbsi*	Hubbs' beaked whale, arch-beaked whale,
Mesoplodon	*densirostris*	Blainville's beaked whale
Mesoplodon	*europaeus*	Gervais' beaked whale, Gulf Stream beaked whale
Mesoplodon	*ginkgodens*	Ginko-toothed beaked whale
Mesoplodon	*grayi*	Gray's beaked whale, southern beaked whale
Mesoplodon	*hectori*	Hector's beaked whale, skew-beaked whale

Genus	***Species***	**Common Name**
Mesoplodon	*layardii*	strap-toothed whale, Layard's beaked whale
Mesoplodon	*mirus*	True's beaked whale
Mesoplodon	*perrini*	Perrin's beaked whale
Mesoplodon	*peruvianus*	pygmy beaked whale, lesser beaked whale, Peruvian beaked whale
Mesoplodon	*stejnegeri*	Stejneger's beaked whale, Bering Sea beaked whale, saber-toothed whale
Mesoplodon	*traversii*	spade-toothed whale, Bahamondi's beaked whale, Traver's beaked whale
Mirounga	*angustirostris*	Northern elephant seal
Mirounga	*leonine*	Southern elephant seal, South Atlantic elephant seal,
Monachus	*monachus*	Mediterranean monk seal
Monachus	*schauinslandi*	Hawaiian monk seal
Monodon	*monoceros*	narwhal, unicorn whale
Neophoca	*cinerea*	Australian sea lion
Neophocaena	*asiaeorientalis*	narrow-ridged finless porpoise, finless porpoise
Neophocaena	*phocaenoides*	Indo-pacific finless porpoise
Odobenus	*rosmarus*	Walrus
Ommatophoca	*rossii*	Ross seal
Orcaella	*brevirostris*	Irrawaddy dolphin, snubfin dolphin
Orcaella	*heinsohni*	Australian snubfin dolphin
Orcinus	*orca*	killer whale, orca
Otaria	*flavescens*	South American sea lion, Southern sea lion
Pagophilus	*groenlandicus*	harp seal, Greenland seal
Peponocephala	*electra*	melon-headed whale
Platanista	*gangetica*	South Asian river dolphin, blind river dolphin, Ganges River dolphin, Ganges susu, Indus River dolphin
Phoca	*larga*	spotted seal, Larga seal
Phoca	*vitulina*	harbour seal, harbor seal, common seal
Phocarctos	*hookeri*	New Zealand sea lion, Hooker's sea lion,
Phocoena	*dioptrica*	spectacled porpoise
Phocoena	*phocoena*	harbor porpoise, common porpoise
Phocoena	*sinus*	vaquita, Cochito, Gulf of California harbor porpoise, Gulf porpoise
Phocoena	*spinipinnis*	Burmeister's porpoise, black porpoise
Phocoena	*dalli*	Dall's porpoise, white-flanked porpoise
Pontoporia	*blainvillei*	Franciscana, La Plata River dolphin
Pseudorca	*crassidens*	false killer whale
Pusa	*caspica*	Caspian seal
Pusa	*hispida*	ringed seal, fjord seal, jar seal
Pusa	*sibirica*	Baikal seal
Sotalia	*fluviatilis*	Tucuxi, estuarine dolphin, gray dolphin, Guianian river dolphin,
Sotalia	*guianensis*	Guiana dolphin
Sousa	*chinensis*	Indo-pacific hump-backed dolphin, Chinese white dolphin, Indo-pacific humpback dolphin
Sousa	*teuszii*	Atlantic humpbacked dolphin, Teusz's dolphin
Stenella	*attenuata*	pantropical spotted dolphin, bridled dolphin, narrow-snouted dolphin
Stenella	*clymene*	Clymene dolphin, Atlantic spinner dolphin, helmet dolphin
Stenella	*coeruleoalba*	striped dolphin, Euphrosyne dolphin
Stenella	*frontalis*	Atlantic spotted dolphin, bridled dolphin
Stenella	*longirostris*	spinner dolphin, long-beaked dolphin, long-snouted dolphin
Steno	*bredanensis*	rough-toothed dolphin

Genus	***Species***	**Common Name**
Tasmacetus	*shepherdi*	Shepherd's beaked whale, Tasman beaked whale, Tasman whale
Trichechus	*inunguis*	Amazonian manatee, South American manatee
Trichechus	*manatus*	West Indian manatee, American manatee
Trichechus	*senegalensis*	African manatee, West African manatee
Tursiops	*aduncus*	Indo-pacific bottlenose dolphin, Indian Ocean bottlenose dolphin,
Tursiops	*truncatus*	common bottlenose dolphin
Zalpohus	*californianus*	California sea lion
Zalophus	*japonicus*	Japanese sea lion
Zalophus	*wollebaeki*	Galapagos sea lion
Ziphius	*cavirostris*	Cuvier's beaked whale, goose-beaked whale, goosebeak whale

Version Updates:

New and Updated content released on February 2015

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

New and Changed content released on July 2015

- V-7 Breeding/Contraception – section a.

MARINE MAMMAL 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.

MARINE MAMMAL HOUSING

H-1. Types of Space and Size

Unless otherwise directed by a veterinarian, marine mammals 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 marine mammal's wild habitat with a balance between hygiene and the species' physiological and psychological needs. This includes adequate and appropriate space, in terms of diversity and complexity.

b. The physical space provides varied opportunities for the marine mammals to interact with the environment and key elements are changed often, resulting in a dynamic living space.

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

d. Marine mammals are provided access to as many areas of the enclosures as possible, except during staff maintenance activities, unless security concerns dictate otherwise. All enclosures interconnect without creating 'dead ends' to allow for freedom of movement of subordinate individuals.

e. Outdoor enclosures are either covered, with minimum height to allow for natural behaviors, or open roofed with sufficient height to prevent escape (see Housing Dimensions for appropriate measurements).

f. The habitat provides appropriate visual, olfactory, and acoustic barriers.

g. The habitat provides security from predators and unauthorized human access.

Open Space Settings

h. Open space enclosures, which may be indoor or outdoor units, are designed to provide the maximum possible freedom and complexity for enclosure residents. The enclosures have sufficient area per animal to accommodate natural individual and group activities. While it may not be possible to

monitor every animal in an Open Space enclosure on a daily basis, design allows for regular inspection of animals and facility maintenance as needed.

i. Where open space settings are the primary enclosure, the following are also provided:

- Shelter which can serve as night housing and/or secure space during inclement and extreme weather.
- Space for use while the primary enclosure is serviced and/or for animal management needs including introduction of new individuals to a group, or temporary separation for health or social reasons. (Note: This space might also be night housing, holding areas, shift yard/pool, 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, holding areas, shift yard/pool, 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 (swimming, basking, climbing, playing, etc.).

Dimensions

l. Many factors influence the minimum space required for a group of marine mammals, 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 marine mammals to regularly spend time in a larger or different space, is strongly encouraged in these circumstances to increase enrichment and encourage activity.

n. Outdoor enclosures for marine mammals-Enclosure shape may be variable to take in natural features in the landscape such as rock formations and sandy or grassy areas. Recommended pool design includes variation in pool shape to reduce the incidence of stereotypic swimming. Space includes a minimum of one (1) animal transfer gate/door leading to indoor shelter.

- Minimum pool area of 280 sq. ft. (26 sq. m) for 2 larger cetaceans (up to 15 ft. (4.6 m) body length nose to tail) with a minimum depth of 8 ft. (2.4 m).
    - Additional 3,000 cu. ft. (85 cu. m) per additional animal.
- Minimum pool area of 120 sq. ft. (11.2 sq. m) per 2 small cetaceans (less than 10 ft. (3 m) body length nose to tail) with a minimum depth of 6 ft. (1.8 m).

- Additional 1,000 cu. ft. (28 cu. m) per additional animal.

- Minimum pool diameter per pair of pinnipeds or sirenians is 3 x the length of the larger animal with a minimum depth of 5 ft. (1.5 m).
  - Minimum depth for Steller sea lions, all elephant seals, Cape fur seals, leopard seals and walrus is 8 ft. (2.4 m).
  - Minimum dry resting area is equal to or greater than the area of the pool space.
  - Additional volume of 475 cu. ft. (13.5 cu. m) per additional animal.
- Minimum pool diameter per pair of sea otters is 3 x the length of the largest animal with a minimum depth of 5 ft. (1.5 m) and minimum volume of 175 cu. ft. (5 cu. m)
  - Additional volume of 90 cu. ft. (2.5 cu. m) per additional animal.
  - Additional dry resting area of 7 sq. ft. (0.66 sq. m) per additional animal.

o. Indoor enclosures/holding pools for marine mammals- A minimum of two indoor areas/pools or one indoor area and one shift yard/pool per pair of adult marine mammals, with a minimum of two doors to adjacent enclosures. Room dimension is dependent on intended purpose and/or duration of confinement.

- Space for marine mammals kept indoors for extended periods meets the minimum standards for outdoor enclosures.
- Space for short-term confinement is at least one third the size of the outdoor enclosures.
- Pinnipeds have access to a pool at least large enough for all animals in the enclosure to submerge simultaneously when held in these areas for more than 12 hours.
- 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 gates/doors per room/shift yard/pool 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 (basking, swimming, etc.)
- Marine mammals may be familiarized with rooms, holding pools 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.

p. 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 gate/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

Marine Mammals are safely contained.

General

a. Other than when being transported or for medical reasons, marine mammals are kept at all times in secure enclosures or other appropriate areas.

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

c. All enclosures are designed, constructed and maintained to securely contain marine mammals 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 delineating safe zones or transparent barrier such as plexiglass or lexan are used in areas where caregivers must work in close proximity to enclosures/pools.

e. Enclosures/pools are designed to allow for proper, safe cleaning and drainage.

f. A regular program of sanctuary maintenance is in place.

g. Materials are appropriate for their particular application and are maintained in good repair.

Outdoor Enclosures/Pools

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

i. Fences and enclosures are inspected daily for signs of digging. Where fencing meets hard surfaces such as rock or concrete, the fencing is securely anchored in place.

j. Design takes into account natural behaviors of species housed.

Pools

k. Pools may be constructed of concrete, Plexiglas, fiberglass or a combination of these materials.

- Non-abrasive surfaces are used in cetacean and sirenian pools.
- For pinniped and sea otter dry resting/haulout area construction see fencing and solid barrier information below.
- A walkway is provided that is wide enough for staff to safely access all areas around the pool.
- Walkways are constructed of materials that are impervious to water and will not be damaged by chemical disinfection.

Fencing

l. Barbed or razor wire are not used to contain marine mammals.

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

n. Fence material is sufficiently secured to supporting posts in such a way that the weight of the pinnipeds or sea otters could not detach it from the support nor dislodge the supporting posts.

o. 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.

p. Dimensions

- Minimum vertical dimension of 6 ft. (1.8 m) for barriers between marine mammals and the public
    - 8 ft. (2.4 m) for pinnipeds including a smooth, non-climbable surface for the top one-fourth, or a vertical overhang, to prevent escape.

Solid Barriers

q. Solid barriers such as poured concrete, fiberglass, Plexiglas, artificial rock can be used as the sole method of containment or in conjunction with other types of barrier.

- Where Plexiglas is used in sea otter enclosures it is of sufficient strength to withstand being hit with rocks or other solid objects that the otters use as tools.
- Barriers take into account the climbing ability of pinnipeds and sea otters.

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

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.

Indoor Enclosures, Pools and Shift Yards

u. Pools may be constructed of concrete, fiberglass, Plexiglas or a combination of these materials provided they are of sufficient strength to contain the marine mammals without damage.

- Pinniped and sea otter dry resting/haulout area containment may be constructed of any of the above materials or wire mesh.
    - Pinniped enclosures may be constructed of chain link.

H-3. Ground and Plantings

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

Vegetation

a. Any vegetation capable of harming marine mammals 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. 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

d. All outdoor pinniped and sea otter enclosures have a natural substrate consistent with the needs of the species, in addition to an appropriately sized water body.

- The substrate can be amended with organic materials, including but not limited to soils, sand, grasses and rocks.
- The substrate drains well.

e. Cetacean and sirenian pools may be enhanced with sea grasses and algae

f. Water quality is monitored and water features for pinnipeds and sea otters 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.

g. Naturally occurring bays, lagoons, etc. used to contain marine mammals are carefully monitored to maintain water quality.

- Water bodies allow for staff access to the animals.

h. Marine mammals are provided with species appropriate environments to accommodate an array of locomotory and foraging behaviors, as well as species appropriate sleeping and resting areas.

Indoor enclosures

i. Indoor enclosures for pinnipeds and sea otters 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.

- Sand is recommended.

j. Existing construction ensures that all floors are sealed.

k. Indoor enclosures used for long term housing of pinnipeds and sea otters include a pool of at least the minimum dimensions specified for the outdoor enclosures.

l. Indoor pools for cetaceans housed short term are at least one-third the minimum dimensions specified for outdoor enclosures.

- Where cetaceans are housed for longer periods, indoor pool specifications meet those of outdoor enclosures.

Shift yards/holding pools

m. All pinniped and sea otter outdoor shift yards have a minimum of 50% of the surface area in natural substrate. The remaining 50% is a water source allowing at least partial submersion for all animals held in the enclosure simultaneously.

- Sand, rocks and grasses recommended for substrate.

n. Holding pools for cetaceans are at least one-third the size of pools for outdoor enclosures.

o. Shift yards which house pinnipeds or sea otters for extended periods include species appropriate water features of at least one-third the dimensions specified for outdoor pools.

H-4. Transfer Gates/Doors and Pool Lifts

Marine mammal transfer doors, gates and pool lifts are appropriately designed to ensure both animal and human health and safety.

General

a. Animal transfer doors are a key element of facility design.

- While not required, pool lifts incorporated into facility design allow for easier access to larger marine mammals for transport or medical care.

b. Transfer doors for pinnipeds and sea otters 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/gates and pool lifts 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/gates and lifts 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 or pool can pass through the opening without touching sides or top.

f. Doors and door hardware are properly maintained to ensure proper functioning.

Security

g. Transfer doors/gates and their frames are constructed of materials similar in strength to those used in the primary enclosure.

h. Doors/gates are lockable in both the open and closed positions.

i. For pneumatic or hydraulic doors/gates or lifts, 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.

Animal Safety

j. Doors, gates and lifts operated via remote control are visible from the control area.

k. 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.

l. Hydraulic systems use peanut or other food-grade oils to prevent risks to the marine mammals in the event of leakage.

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

User Safety

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

o. Double door systems may be used to prevent marine mammal escape from holding areas.

H-5. Shelter

Marine mammals 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. Marine mammals 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 and over pools to ensure that all animals have access throughout the day.

d. Shade and shelter can be created through natural and artificial means including rock overhangs, shade trees 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/Pool Furniture

Marine mammals 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 and pools are equipped in accordance with the needs of the marine mammals with appropriate substrate (pinnipeds and sea otters), vegetation, rocks, balls, large toys 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 or pool, using a combination of items including, but not limited to, those listed above.

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

Outdoor Enclosures/Pools

d. Visual barriers can be used to avoid confrontation or aggression, and include irregular pool shape, walls, shade structures, topography and large enrichment items.

e. Pools are provided. Pools may be enhanced with aquatic plants. Sand may be added in situations where it is unlikely to interfere with the filtration/life support system. Any permanent pool structures 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.

f. Natural and artificial rockwork, incorporated as part of the haulout/resting are for pinnipeds and sea otters, encourages normal resting and climbing behavior.

g. Rocks or other large sturdy objects, may be provided for pinnipeds and sea otters. Caution is used to ensure they are not a danger to caregivers or the enclosure/pool.

Indoor Enclosures/Shift Yards

h. To the greatest extent possible, all visual barriers and pools, etc. meet outdoor enclosure criteria, particularly where marine mammals must be housed in these limited spaces for extended periods of time.

i. 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.

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, marine mammals 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 substrate is removed and replaced with fresh materials daily, or as needed to prevent buildup. If odorous, substrate 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 substrate is replaced.

q. All hard surfaces including walls, floors, ceiling, enclosure fencing 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 with regular rotation of disinfectants as recommended by the veterinarian;
- 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. In general, marine mammals have access to heated or cooled areas when ambient temperature falls below 65ºF (18ºC), adjusted for wind chill, or rises above 86ºF (25oC), and pinnipeds and sea otters are provided with dry resting space with appropriate surface or substrate. Great caution is taken with elderly, infant and disabled animals.

- Cetaceans are maintained in water with temperatures between 50ºF (10ºC) and 83ºF (28ºC), dependent on the species natural habitat, with tropical species maintained at higher temperatures and colder climate species at the lower range.
- Manatees are maintained in water with temperatures between 74ºF (23ºC) and 86ºF (30ºC).
  - Cold stress syndrome may result when water temperature is below 68ºF (20ºC) for more than 24 hours.
  - While temperatures up to 90ºF (32ºC) may be tolerated by some manatees, these temperatures are not optimal for manatee health.
- Dugongs are maintained in water at temperatures between 74ºF (23ºC) and 79ºF (26ºC) with air temperature at the interface kept between 64ºF (18ºC) and 93ºF (34ºC).
- Sea otters are maintained in water at temperatures between 45ºF (7ºC) and 60ºF (15.5ºC).
  - Water temperatures may be increased slightly when animals experience difficulty thermoregulating, allowing them to spend more time in the water grooming and feeding.
    - To protect coat integrity temperatures are returned to normal range as the animal stabilizes.
- 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.

c. For haulout/dry resting areas, 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 pinnipeds and sea otters 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.

- 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.
- Any climate control systems include back-up power in case of equipment or power failure.

Humidity

d. Humidity levels in indoor pools/enclosures are monitored and steps taken as needed to prevent development of molds and fungi in these areas.

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.

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

h. Proper window and door placement can ensure sufficient cross-ventilation in warm climates.

Lighting

i. Light, natural and artificial, is appropriate for the species housed in terms of intensity, spectrum and duration, taking into account, seasonal variation, particularly for polar species.

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.

k. Outdoor enclosures and shift yards - Supplemental lighting is available for use in outdoor areas in event of an emergency.

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 pinnipeds and sea otters with particular attention paid to ensuring elderly, very young or medically compromised pinnipeds have access.
    - Sirenians and river dolphins housed in saltwater facilities also require access to fresh water drinking sources.

b. Multiple water sources are available for group-housed pinnipeds to ensure high-ranking individuals do not dominate water sources.

Quality

c. Water quality parameters are maintained at a generally acceptable level for marine mammals, in terms of turbidity, salts, etc.

d. Potable water sources are tested for contaminants annually.

e. All water sources (including water tubs) 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 marine mammal following veterinary instructions for special needs.

General

a. A veterinarian or qualified nutritionist periodically reviews all aspects of marine mammal 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 marine mammals 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 sirenians only food "fit for human consumption" is fed.

Commercially Prepared Complete Feeds

h. A high quality commercially prepared complete feed, such as monkey biscuit or elephant flakes may be used in combination with leafy greens and hay as part of a balanced diet for sirenians.

Animal Protein

i. Fish and invertebrates make up the core diet for all marine mammals except sirenians.

- Fish, shellfish and other invertebrates fed to marine mammals are of 'fit for human consumption' quality.
- A variety of fish and other invertebrates are fed to ensure appropriate nutrition.
- Sea otter and walrus diets include a variety of mollusks.

Specific Dietary Information for Sirenians

j. Sirenians are fed a diet composed of 70-85% leafy greens, a portion of which includes natural sea grasses, water hyacinth, etc. where possible.

- An additional 10-20% is composed of dried forage such as timothy hay.
- 5% of the diet is composed of fruits and vegetables.
- Commercial complete feeds as described above may be added.

Vitamins/Supplements

k. 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 marine mammal care and/or the attending veterinarian.

l. See Appendix 1 for further information on dietary supplements for pinnipeds and sea otters.

Treats/Enrichment items

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

n. 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 marine mammals' health and social needs.

General

a. Feeding and drinking receptacles, where used, are placed in positions that minimize the risks of contamination from soiling by the pinnipeds themselves, wild birds, rodents and other potentially invasive species.

b. Food receptacles, where used, are appropriate for the species housed in terms of number, size and placement, and are cleaned daily.

c. Receptacles for animal food and water are designed to minimize spillage and are not used for any other purpose.

d. Marine mammals are offered food a minimum of twice daily during the active feeding time of the species housed. Items are of sufficient quantity and quality to ensure that animals have sufficient food for dietary and enrichment needs.

Feeding Techniques

e. Food is provisioned at multiple feeding sites to ensure all animals have access and to reduce or eliminate aggression that results from competition for food resources, especially preferred items.

f. Food may be offered in holding pools/lockouts and indoor areas to increase marine mammal comfort with those areas and improve reliability in transferring from one area to another.

g. Bottom feeding species may benefit from placement of weighted food trays in the pool to allow for grazing and other foraging behaviors.

Diet Changes, Increases or Decreases

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

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

j. 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.

k. Underweight individuals experiencing health or behavioral problems may be separated for supplemental feeding as needed to avoid undesirable weight gain in conspecifics.

N-4. Food Storage

Food is stored appropriately.

General

a. Separate and secure facilities are provided for proper and hygienic storage of food.

b. Dry goods are stored in clean, dry storage areas in sealed containers or on pallets. Products are dated and rotated to use oldest stock first 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 or in cold water to minimize risk of spoilage and reduce vitamin mineral loss.

N-5. Food Handling

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

General

a. Food is protected against dampness, deterioration, mold, and/or contamination by insects, birds, rodents or other animals.

b. No food that is spoiled or otherwise contaminated is served.

c. Diets are prepared in a safe and hygienic manner to reduce the possibility of contamination or spoilage.

d. Separate cutting boards, utensils and food preparation surfaces are used when meats, fish and produce diets are prepared in a common kitchen area.

e. Food preparation techniques meet all local, state/province, and national regulations.

f. Food preparation surfaces are thoroughly cleaned after use.

g. Staff and volunteers wash hands thoroughly prior to handling food, and wearing gloves during food preparation is recommended.

VETERINARY CARE

V-1. General Medical Program and Staffing

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

a. The sanctuary has a written veterinary medical program, including long term preventative medical protocols and disease surveillance and containment procedures, that is developed and carried out under the supervision of a licensed veterinarian – the attending veterinarian - who has training or experience in providing medical care for the marine mammals, and other species housed at the sanctuary, and who is aware of specific health concerns regarding the marine mammals 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 marine mammal s 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 (marine mammal 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 marine mammals, 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 marine mammals 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 marine mammals.

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 marine mammals, 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 marine mammals). Results are recorded. Fecal examinations are repeated following treatment to evaluate efficacy.

e. All marine mammals 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 marine mammals 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 marine mammals 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 marine mammals 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 marine mammal 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.

l. The sanctuary has a pharmacy on-site where routinely used drugs, such as emergency resuscitative medications, antibiotics, anthelmintics, fluids, anesthetics, analgesics, tranquilizers, etc. are maintained.

m. All medications are purchased, prescribed and administered under the guidance of the veterinarian.

n. When distributed to 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 marine mammal's medical record.

p. Basic physical capture and restraint equipment to facilitate medical treatment is available at the sanctuary and utilized only by appropriately trained personnel.

Necropsy

q. Whenever possible, there is an isolated area on the grounds for performing necropsies, or appropriate storage facilities until the deceased marine mammal 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 marine mammals 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 Marine Mammals

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

a. Upon arrival, all marine mammals 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 the marine mammals undergo quarantine under these guidelines prior to their arrival.

c. Local, state/province, or national regulations regarding quarantine of newly arrived marine mammals 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 marine mammals that 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, marine mammals have permanent identification, and controlled substances are prescribed and stored legally.

Medical Records

a. Complete medical records are maintained on all marine mammals.

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 marine mammals 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.

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 marine mammal 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.

V-7. Breeding/Contraception

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

a. Although GFAS recognizes the importance of appropriate "conservation breeding" programs, they fall outside the mandate of GFAS Accreditation programs unless they adhere to the following guidelines:

- Animals are not brought into captivity for the purpose of breeding. Animals that are allowed to breed should enter a wildlife facility as a result of normal acquisition protocols such as surrender or government confiscation and be considered an endangered or threatened species with available release sites within the state/province, conducted with specific conservation goals, in accordance with local, state/province, national, and international law and regulations.

- Breeding should not be forced – that is, not the result of artificial insemination or being placed in enclosures of insufficient size or otherwise not in keeping with GFAS standards.

- Breeders – that is, the parent animals – should be released into the wild with their young. If breeding animals are deemed unreleasable, there should be documented evidence from a qualified professional that the animals cannot be released because of a physical condition or other reason that would make them unable to survive in the wild. Offspring of unreleasable parents should not be released until an age of species-specific maturity for survivability.

- Unreleasable breeding animals should receive the care required of all animals under the GFAS standards and should not be maintained for the purpose of breeding if they have incurable or unmanageable pain or suffering and do not have an acceptable quality of life.

- The facility should have an identified release site for the breeding animals and offspring, with any necessary permits or memoranda of understanding in place. While GFAS may consider whether a definite plan (such as ongoing surveys of land for potential release sites and a timeline for releasing animals) is sufficient, it will not be sufficient for a facility to simply say that it hopes or plans to be able to release the animals one day. Thus, a facility may not breed any animals in captivity, even highly endangered animals in order to create a sustainable population, without a definite release plan in place.

b. The sanctuary has species-appropriate contraceptive programs in place with the method of contraception used based on current best practice and attending veterinarian recommendations.

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

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

See Appendix 1 for more specific information on marine mammal contraception options.

V-8. Zoonotic Disease Program

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

a. Personnel have adequate training to understand the potential risk of disease transmission, including potential sources of disease, modes of disease transmission, and clinical signs associated with disease.

b. All personnel are informed when a zoonotic disease occurs at the sanctuary.

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 marine mammals have hand-washing facilities available in the immediate vicinity (or an equivalent; e.g., bactericidal hand-wipes)

V-9. Euthanasia

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

a. The sanctuary has a written policy addressing the circumstances surrounding euthanasia decisions and procedures, including the following:

b. Euthanasia is performed in compliance with any national or local law, administered under the strict supervision of a licensed veterinarian. In extreme circumstances of animal suffering and when a veterinarian is unable to reach the sanctuary in a timely manner, an alternate method to euthanize an animal may be required and is performed by a trained and qualified staff member when no other humane option is available.

c. Euthanasia is in the best interest of the individual animal and only used as a final option and is not used as a management tool (such as a means to create space for more animals).

c. Acceptable reasons for euthanasia include:

- Incurable disease/injury that is likely to cause unmanageable pain or suffering;
- Disease/injury where treatment is likely to cause unreasonable pain or suffering;
- Disease/injury where treatment will not be effective in restoring the animal to an acceptable quality of life;
- Disease/injury where treatment is beyond the normal community standards of monetary expenditure and would cause an excessive burden on the sanctuary resources, and no other sanctuary can step in, after reasonable efforts to locate such a sanctuary;
- The process of aging has resulted in an unacceptable quality of life;
- In the event of presenting an infectious disease risk to some or all of the residents.
- For facilities engaged in the rehabilitation and reintroduction of wildlife, it is determined in accordance with an appropriate protocol or other “decision tree” analysis that an animal cannot

be reintroduced to its natural habitat and there is no appropriate (consistent with these standards) long-term care option.

d. The species and ecosystems are carefully considered during disposition activities.

WELL-BEING AND HANDLING OF MARINE MAMMALS

W-1. Physical Well-Being

All marine mammals 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 marine mammal is the overriding consideration in all sanctuary actions.

b. Marine mammals 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. Marine mammals are provided with species appropriate opportunities to swim, forage for food, and play by providing species appropriate 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 marine mammal 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 marine mammals 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 marine mammals 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

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

General

a. Marine mammals housed together are compatible and all animals have ample space to retreat and hide as needed while social tensions are resolved.

b. Marine mammals 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. Marine mammals 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 marine mammals in social housing, with age, species, and sex of animals housed together taken into account.

Social and Solitary Housing

f. Social housing is preferred for most marine mammal species.

- Solitary housing 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.

g. Solitary marine mammal species are afforded their own private space if they are not amenable to living with other animals.

- Individual animal preferences are considered when determining whether to house an animal alone or in a social group.
- Animals housed alone are regularly monitored for behavioral issues.

W-3. Introduction of Unfamiliar Individuals

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

General

a. Introductions of unfamiliar marine mammals are monitored closely for tension, aggression, etc., as these are powerful animals that can be dangerously aggressive to conspecifics. Professionals with experience in social introductions, if not on staff, are consulted whenever possible during these considerations.

b. Marine mammals are monitored closely for several days after introduction for tension, aggression, shifts in dominance or territoriality.

c. Food and water consumption is monitored carefully to ensure that all animals are able to access food/water.

d. Marine mammals have access to separate shelter, ample room to move away from each other and no opportunities for an animal to be cornered.

e. 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 marine mammals; rearing history (hand-reared, parent reared, time spent with mother) and affiliations with other individuals also being introduced to the group.
- Species-specific behavior and biology.

f. As appropriate or needed, benchmarks or desired outcomes are identified for each step in the process. Examples include:

- physical locations of animals during visual and tactile contact periods;
- behavioral goals for visual contact period;
- behavioral goals for tactile contact period
- benchmarks for proceeding to physical introduction;
- space and enclosures to be used for physical introduction;
- reasons location selected: neutral space, ample space to escape, visual barriers, doors/gates 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.

g. 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.

h. The plan establishes behavioral goals for introductions and is not driven by schedules, and is open to modification as introduction/integration develops and evolves.

i. 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.

j. 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.

k. 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 marine mammal 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 marine mammals 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 marine mammal care staff are trained to recognize abnormal behavior and clinical signs of illness. Measures of well-being that are assessed include:
   - species appropriate behavior and interaction with other animals;
   - the animal's ability to respond appropriately to variable environmental conditions, physiological states, developmental stages, and social situations as well as adverse stimuli.

c. Stereotypic behavior, self-injurious behavior, and inappropriate responses to various stimuli not previously documented or witnessed may be evidence of compromised well-being and are investigated. A welfare plan to address the concerns is developed.

d. Where possible and appropriate, a behavioral/psychological profile is maintained for each individual marine mammal and updated annually and a copy is kept in the individual/pair/group's permanent file.

W-5. Marine Mammal-Caregiver Relationships

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

General

a. Marine mammals 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 marine mammals 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 marine mammals 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 marine mammals 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 marine mammals. 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 the marine mammals and staff are trained in species-specific safe handling techniques/practices.

General

a. In general, humans do not enter enclosures/pools with marine mammals. Direct physical interaction is limited to protected forms of contact by experienced personnel, to minimize the risk of injury.

b. 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.

c. Manual restraint of adult marine mammals is carried out with caution, as all marine mammals are capable of inflicting serious injury. Juvenile marine mammals may be manually restrained by experienced personnel using species appropriate techniques.

- Nets, herding boards, towels, blankets, etc. may be used to assist in manual restraint of pinnipeds and sea otters.
    - The loose skin of sea otters makes manual restraint more difficult and the species is highly prone to capture myopathy.
- Cetaceans and sirenians are more easily handled when out of the water.
    - Caution is used around cetacean tail flukes and peduncle.

d. Where possible and appropriate, Positive Reinforcement Training is used to minimize the need for chemical immobilization and to reduce stress during procedures.

- With appropriate training, many procedures can be performed cooperatively and without anesthesia, such as examination of body parts, treatment of superficial injury, heart rate monitoring, injection administration, etc.
- Some pinnipeds and sea otters may be conditioned to enter a squeeze cage or lockout area. Where this method of restraint is used, attachments for crates and squeeze cages are included in facility design or modifications.

e. 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.

f. 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.

g. A written policy for the humane chemical restraint and safe capture of animals housed at the sanctuary is in place, to include:

- Training and certification in the equipment, humane chemical restraint, immobilization process, 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 humane exposure.

h. Chemical restraint is not used when multiple animals are in an enclosure except in an emergency situation. In such cases, all possible precautions are taken to prevent threats to the handlers and the animal being sedated.

i. Multiple staff members are trained to use a dart gun and other restraint equipment, and to employ safe capture techniques. The staff, and volunteers where appropriate, are aware of who is trained and authorized to use restraint equipment.

j. All chemical restraint equipment is cleaned after each use, maintained in good working order, and tested on a regular basis.

k. As part of their training, staff members are instructed to report any medical conditions or physical limitations that may hinder their ability to employ safe capture techniques.

W-7. Animal Transport

All necessary animal transport is conducted to maximize safety and minimize stress, and in accordance with all local, state/province, national, international requirements and laws.

General

a. Marine mammals 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 marine mammal 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, marine mammals 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.
- have smooth interiors to prevent injury and skin damage, particularly for cetaceans and sirenians.
- include appropriate cushioning for cetaceans and sirenians not being transported in a tank.

- are placed within a secondary container or closed compartment on the transport vehicle.

i. Where climate controlled vehicles are not used, water is available to spray animals as needed for thermoregulation and/or hydration.

- Travel is scheduled to optimize ambient air temperature' e.g. ice seals are transported at the coolest time of the day and ice may be added to their transport containers and manatees are transported when temperatures will not fall low enough to induce hypothermia.

j. Where marine mammals are transported in tanks the transport vehicle is designed to prevent water damage to vehicle electrics should water spill from the tank.

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

l. All 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.

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

MARINE MAMMALS 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 marine mammals 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 aquaculture 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 marine mammals 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. feeding at aquaculture facilities and 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. Where possible, 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 Marine Mammals

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 marine mammals 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

Marine mammals 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 marine mammals 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 marine mammals, with consideration given to sick and injured animals.

(See also Standards H-1 to H-9, "Marine Mammal Housing," and V-5, "Quarantine and Isolation of Marine Mammals")

General

a. Non-quarantine housing for marine mammals being considered for release provides as close to natural a setting as possible. The space allows for foraging, climbing, basking, swimming and other actions naturally performed in the wild.

b. Quarantine facilities and prerelease housing for marine mammals 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 swimming 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 marine mammals with opportunities to demonstrate the skills necessary for survival in the wild in as much as possible.

Quarantine Housing

d. Sick or injured marine mammals 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 marine mammals.

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

g. Healthy marine mammals admitted to quarantine have as large an enclosure/pool as possible to help maintain natural locomotion and other 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 marine mammals may have been exposed.

j. Orphaned marine mammals, 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 Marine Mammals

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 marine mammals are housed in nursery units, preferably with conspecifics, as species appropriate.

Intermediate Housing for Orphaned Marine Mammals

n. As soon as the orphaned marine mammals 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 and appropriate, the animals are moved to the release site and cared for in a soft release enclosure.

o. Animals are provided with adequate opportunity for swimming, basking 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 Marine Mammals

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

q. Marine mammals 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.

- Note: Due to the inability to provide cetaceans with pools large enough to allow for truly natural behaviors, in most instances, these animals should be released as soon as deemed fit.

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. 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.

t. In both intermediate and prerelease housing, sufficient 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

Marine mammals 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, marine mammals are exposed to the types of foods found naturally within the environment where they will be released, where practical.

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, if possible, 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 marine mammals for return to the wild.

a. Once a marine mammal 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, swim, forage and learn skills in the natural environment are provided.

e. Marine mammals 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 marine mammals to develop appropriate relationships with conspecifics for their social needs.

g. Veterinary staff evaluate overall health including:

- recovery from the initial cause for admission to the facility;
- pathogen surveillance to ensure the animal does not present a risk to the wild population as a result of exposure during the rehabilitation process.
    - In as much as possible, using the latest available information from the OIE-World Organization for Animal Health ((www.oie.int) 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. Marine mammals 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 Marine Mammals

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

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

a. Caregivers working with 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 animals 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

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

a. Marine mammals 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, swimming, appropriate interaction or avoidance behaviors in the presence of conspecfics, avoidance of dangers including 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. Marine mammals 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 marine mammals being released are of an appropriate subspecies/population/subpopulation for the release site if their origin is not known.

f. Marine mammals are exposed to post-release monitoring equipment prior to release, as species appropriate to allow them to acclimate to its presence.

R-9. Determining Appropriate Release Sites

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

a. The potential release site is evaluated for the presence of appropriate and adequate food sources.

b. The area is evaluated for potential health concerns.

c. The potential release site is surveyed to ascertain whether any wild marine mammals are present, either permanently or seasonally.

d. The area is evaluated to establish carrying capacity for marine mammals. 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 marine mammals.

g. Animals are released away from areas where there is potential for or has been a history of human-animal conflict in as much as possible.

h. Release sites are evaluated for safety of personnel taking into account weather, substrate and other environmental consideration.

R-10. The Release Process And Post Release Monitoring

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

a. Once it is determined that the marine mammals 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. 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 marine mammals 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 marine mammal reintroduction to aid in the continued improvement of the program.

APPENDIX 1

General

The marine mammals are all adapted for life in an aquatic environment. Sirenians (manatees and dugongs), sea otters and most cetaceans (whales and dolphins) require saltwater habitat but the pinnipeds (seals, sea lions and walrus), as well as the river dolphins, may thrive in brackish or freshwater with minor adaptations. For all marine mammals, the ability to maintain water quality is of utmost importance in providing optimum care.

Highly intelligent and, in most cases, gregarious, marine mammals are best suited to facilities which can provide varied enrichment, which ideally includes constant access to a large aquatic habitat designed to encourage exploration.

Enclosure Furniture

Pinnipeds may quickly learn to bat rocks or other hard objects around, damaging the enclosure/pool and increasing the potential for staff being injured by the objects.

Sea otters often use tools (rocks or other hard objects) to bang against the sides of pools, particularly glassed areas, causing damage, including potential leaks.

Nutrition

Although in general pinnipeds receive sufficient hydration from their diet, providing fresh water sources insures that animals do not become dehydrated. This is particularly important for elderly, very young and medically compromised pinnipeds.

Obesity is a common problem in marine mammals held in sanctuary. Diets should be closely monitored and adjusted when needed to prevent excessive weight gain.

Pinnipeds maintained in freshwater systems may require salt supplements to prevent development of ocular disease.

Sea otter diets are often supplemented due to lack of knowledge of what constitutes complete nutrition for this species, rather than being based on proven supplementary needs.

Contraception

The following information is based on knowledge current at the time the standard was last reviewed. Sanctuaries are encouraged to work with their attending veterinarian to ensure that updated information on marine mammal contraception is regularly available.

There are limited options for contraception in marine mammals at this time.

Castration has been used for male contraception in pinniped species. Some work has been done with GnRH agonist in male pinnipeds and dolphins as an alternative to castration.

Oral progestin has been used with some success in female dolphins.

PCP vaccine has been trialed on female pinnipeds with some success. Caution is advised due to the potential for it being irreversible in these species. Secondary side effects have been noted in other species.