



**Global Federation of
Animal Sanctuaries**

Standards For Cetacean Sanctuaries

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CETACEAN STANDARDS

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

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

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

The exceeding of the standards is encouraged. In addition to meeting these standards, an organization is expected to comply with all applicable international, national, state/province, and local laws and regulations.

ANIMALS COVERED BY THESE STANDARDS

This Standards Appendix is relevant to seaside sanctuaries, closely replicating natural habitat and providing lifetime care, for the species indicated in the chart below. Facilities with missions and attributes outside of this definition, such as those engaged primarily in cetacean rehabilitation and release, should contact GFAS regarding eligibility for Accreditation and Verification.

Great whale, beaked whale and other deep-water 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).

Genus	Species	Common Name
Cephalorhynchus	commersonii	Commerson's dolphin, piebald dolphin
Delphinapterus	leucas	beluga, white whale
Globicephala	macrorhynchus	short-finned pilot whale, Pacific pilot whale
Globicephala	melas	long-finned pilot whale
Inia	geoffrensis	Boto, Amazon river dolphin, pink river dolphin
Lagenorhynchus	oblquidens	Pacific white-sided dolphin
Neophocaena	asiaeorientalis	narrow-ridged finless porpoise, finless porpoise
Neophocaena	phocaenoides	Indo-pacific finless porpoise
Orcinus	orca	killer whale, orca
Phocoena	phocoena	harbor porpoise, common porpoise
Stenella	frontalis	Atlantic spotted dolphin, bridled dolphin
Steno	bredanensis	rough-toothed dolphin
Tursiops	aduncus	Indo-pacific bottlenose dolphin, Indian Ocean bottlenose dolphin,
Tursiops	truncatus	Atlantic bottlenose dolphin, bottle-nosed dolphin

CETACEAN HOUSING

H-1. Housing

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

General

- The habitat and living conditions provide a balance between hygiene and the species' physiological, psychological, and social needs. This includes consideration of outdoor and temporary/short-term indoor space, vertical and horizontal space, and diversity and complexity of space.
- Policies and procedures are in place such that personnel can enter and exit enclosures without risk of having animals escape and can shift animals as appropriate between and out of enclosures prior to entering the enclosure. Facility design takes into account caregiver-animal safety and ease of maintaining a positive relationship.
- Animals are provided access to as many areas of the enclosures as possible at all times, except during personnel maintenance activities, unless security or welfare concerns dictate otherwise. All enclosures are constructed without creating 'dead ends' to allow for freedom of movement of subordinate individuals.
- Animals are provided with regular access to outdoor space with sufficient room to engage in natural behaviors and designed to promote species-specific wellbeing. Access is ideally given daily, with consideration to weather and animals' individual needs (e.g., animals in quarantine or isolation, or being observed for medical reasons, may be kept indoors), and species-specific risks.
- In areas where solid barriers are not used, equipment or infrastructure placed outside the enclosure, are positioned far enough away from the enclosure that the animals cannot access it.
- The habitats include an acoustic monitoring system and provide appropriate visual and acoustic barriers and physical distance from the public/human activity, where necessary. Exposure to high-intensity sounds or noises that instigate negative behavioral change in sanctuary animals are avoided. Appliances or machines in the vicinity of the enclosure that produce such noise in the animals' hearing range are insulated as much as possible.
- The habitat provides security from predators and unauthorized human access.
 - to prevent unauthorized human access, the sanctuary has 24-hour systems in place to minimize the risks of theft, malicious damage or harm to animals. This may include staff on site, security guards, security cameras, alarm systems, etc.
 - in addition to the primary permeable perimeter on the ocean side, a secondary permeable barrier should be considered to prevent direct human access and to serve as secondary containment should an animal escape.

- Enclosures have enough area per animal to accommodate natural individual and group behaviors/activities. Enclosures provide enough area for individuals to be spatially dispersed from one another according to the individual preference or in the event of social conflict.
- Quarantine facilities have appropriate housing and design features for treatment of injured or ill animals.
 - Healthy animals admitted to quarantine have as large an enclosure as possible to help maintain natural locomotion and behaviors.
- Enclosures are designed to allow for proper, safe cleaning. Any products used for cleaning the enclosure and other features (e.g. foot baths, cleaning products for food buckets and enrichment items) should be approved for use with the species housed.
- A regular program of sanctuary maintenance is in place. Any enclosure in need of repair, or any defect likely to cause harm to animals, is immediately repaired or replaced, or the animals are relocated to a secure enclosure.
- All gates and walkways are constructed of materials which minimize any injury to the animals due to sharp or rough surfaces and/or those which would create additional noise in the environment.
- If enclosures use netting for walls or floors, the netting is appropriate for the species.
 - If enclosures use netting or another form of barrier for “walls” the distance between the top of the wall and any walkway above or adjacent to it is only a few inches wide to minimize the possibility that an animal gets entangled, stuck or trapped between such a space.

Enclosure Space and Size

- Many factors influence the minimum space required for animals, including natural species-specific behaviors, health needs, and social groupings.
- For mixed-species housing, enclosure dimensions are adjusted accordingly so that the space reflects that required for multiple species if housed separately.
- The sanctuary’s area should be equivalent to 4047 m² (1 acre) per 16 km (10 miles) of average daily swim distance in the wild for the species being housed (note: this is a minimum and additional space is encouraged). Enclosures should provide enough space to allow the animals to move horizontally in a straight line for at least 10+ tail strokes. This area refers to the area within the sanctuary that is functionally useful for a wide range of behaviors in cetaceans;
 - The determination of average daily swim distance should be based on the best available science as determined by consultation with experts on conspecifics in the wild and current available scientific literature, at the time the sanctuary is designed;
 - The process of expert consultation and literature review used to determine the average daily swim distance of conspecifics in the wild should be documented and verifiable.
- The sanctuary’s depth should be equal to or greater than the typical dive depth in a near-shore environment for the species being housed, for at least one-third of the overall space. If the typical dive depth is not known for the species being housed, then, at a minimum, a depth equal to or greater than 2 to 3 times the body length of the resident

species should be used (see Physical Well-being in the Well-being and Handling of Cetaceans section);

- The determination of typical dive depth in a near-shore environment should be based on the best available science. It is recommended that this be determined via consultation with experts on conspecifics in the wild and current available scientific literature;
- The process of expert consultation and literature review used to determine the typical dive depth of conspecifics in the wild in a near-shore environment should be documented and verifiable.
- The sanctuary should contain variable depths and range in natural topography.
- The volume provided should allow for the animal(s) to dive and spend the majority of their time below the water surface.
- Animals requiring treatment for illness or injury are housed in enclosures that allow for appropriate treatment and ease of care.

Containment

- The perimeter of the sanctuary should consist of a permeable barrier such as netting or flexible fencing or land, and avoid the use of solid artificial walls outside of quarantine areas (effective breakwaters may be utilized, however should not define substantial portions of the sanctuary perimeter).
- To ensure that the sanctuary animals can experience acoustic connectivity to their environment, the sanctuary should have at least a portion of its perimeter defined by permeable barrier (e.g., an enclosed bay may be defined by land on three sides but defined by net at the opening of the bay, thus allowing acoustic connectivity).
- The shape of the sanctuary perimeter does not disrupt the swimming pattern of the animals in a harmful way or allow any animals to be cornered.
- The permeable barrier should include design features that prevent cetaceans from getting trapped under any floating walkways or entangled in any cables or anchoring systems.
 - The permeable barrier should include design features that mitigate ‘bagging’ (slack in a net caused by tidal motion and other water movement that could present an entanglement or entrapment risk for the animals).
 - The mesh size and gauge for the permeable barrier utilized should be suitable for the species being housed in the sanctuary as well as for the wild species known to use the area (i.e., the mesh size and gauge is appropriate for containing the sanctuary animals without risk of entanglement, and suitable for excluding wild species or allowing them to pass through a permeable barrier without risk of entanglement);
 - A comprehensive list of local species known to be present in the area of the sanctuary should be compiled and used to inform the decision on mesh size and gauge.
 - Netting should be constructed to maintain its integrity (i.e., mesh size and gauge) throughout the life of the net, be able to be effectively cleaned and

maintained while in place, and to minimize abrasion or other potential risks to the sanctuary cetaceans or wild species in the area.

- Floating walkways are securely fastened and the ballast should be adequate for the weight
- Experts in captive cetacean behavior should be consulted to ensure that netting or other containment material is designed to minimize risk to the sanctuary cetaceans.
- The anchoring system for the permeable perimeter and any associated structures should be robust enough to withstand normal weather patterns for the region (as determined by marine engineers);
 - A mitigation plan should be in place to address 50- to 100-year weather events.
- The anchoring system should be non-scouring and well matched to the seafloor substrate.
- The permeable barrier should be inspected and maintained at regular intervals to avoid the accumulation of biological fouling, which could compromise the integrity of the barrier over time by creating significant drag. Maintenance can be performed manually (by divers) or with a mechanical cleaning system, as long as the barrier is kept in good working order. Maintenance may be preventative and include components such as sargassum booms in applicable regions.
 - Care should be taken to avoid detritus generated in barrier maintenance from flowing into the sanctuary (e.g., timing the maintenance with appropriate tidal flow/current to wash the biofouling away from the area housing the cetaceans). If this is not feasible, the cetaceans should be moved to another area of the sanctuary during maintenance.
- Barriers and enclosures are inspected routinely for signs of breach.
- The sanctuary should have the capacity to repair permeable barriers on-site in an emergency situation and replace them when necessary.
- The structure or surface expression that the permeable barrier hangs from should be designed so that it does not pose a risk to the animals being housed or wild species found in the local environment (e.g., no risk of entanglement, entrapment, no sharp edges).
- The permeable barrier should be well marked at the surface.
- A marine vessel 'no-go' zone should be established and clearly marked around the perimeter of the sanctuary to ensure that the sanctuary animals cannot be accessed by the public via water.

H-2. Ground and Plantings

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

General

- Construction activities adjacent to the sanctuary (i.e., along the shoreline) should be minimized after the arrival of sanctuary animals;
 - If construction activities adjacent to the sanctuary are required after animals have arrived at the sanctuary, protocols must be in place to ensure that dust, debris, noise, artificial lights, human traffic, and other by-products of the construction do not negatively impact the animals.
- Runoff from the land should be managed in a way that mitigates against contaminant or overloading of nutrients into the sanctuary (e.g., curtain drains or rain gardens);
 - Sanctuary waters adjacent to areas of potential runoff should undergo regular water quality testing;
 - The results of water quality testing should be archived to monitor trends.

Vegetation

- Underwater flora (e.g., seagrass beds, kelp forests) within the sanctuary perimeter should be conserved and protected, and if possible enhanced, and all applicable levels of regulations should be followed.
- Native plants in wild configuration (i.e., native plants found in ecologically appropriate locations and groupings) adjacent to the sanctuary should be conserved and protected, and if possible enhanced.
- Sensitive shoreline habitats (e.g., mangrove forests, forage fish spawning habitat) should be conserved and protected, and if possible enhanced, and all applicable levels of regulations should be followed.

H-3. Gates

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

- Animal holding areas (i.e., separation areas and larger sanctuary areas) should be equipped with gates to allow for the movement of animals between areas when needed.
- Gates should be appropriately sized to the species held in the sanctuary. Gates are designed to allow for animals' normal posture while traveling through.
- Gates and doors should be designed to allow caregivers a clear view of enclosures and animals while operating the doors.

- Gates and doors are constructed of appropriate materials to ensure safety of animals and humans.
- Gates should be designed to remain functional under all circumstances.
- The sanctuary should have tools available on-site to guide animals to a specific location in the sanctuary (e.g., herding and crowding nets).

H-4. Shelter and Shade

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

Protection from UV Exposure

- Ideally, sanctuaries are located where water depth is sufficient to filter the majority of light, to protect the sanctuary residents from overexposure to UV light simply by spending more time at or near the bottom of the enclosure(s).
 - Non-reflective enclosure substrate is encouraged to protect animals from overexposure to UV light.

Shade /Cover

- Areas of shelter from the sun should be provided for the animals, particularly in lower-latitude sanctuary locations and where water depth may not be sufficient to filter the majority of light, such as with medical or quarantine pools.

H-5. Enclosure Design

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

- Enclosures are equipped in accordance with the needs of the animals and designed to aid and encourage normal behavior patterns and minimize any abnormal behavior.
- Enclosure design should tolerate tidal fluctuations and storm stresses.
- No area within the sanctuary should pose a significant threat for stranding, based on wild near-shore (e.g., bathymetric features) behavior of the species being housed (e.g., some species, like belugas, are more frequently seen in shallow water), and assessment of potential hazards .
- The sanctuary design should allow for monitoring of the animals throughout the entire sanctuary (both visually and acoustically to minimize blind spots), while utilizing non-invasive methods that do not disrupt the daily activity and autonomy of the animals. This may include components such as a network of underwater and above-water cameras and a network of hydrophones;

- The passive monitoring design features must allow for continuous monitoring of the sanctuary animals;

Preferred Practice:

- ✓ Data collected in security and monitoring operations (e.g., video recordings, acoustic recordings) should be archived

H-6. Sanitation

Proper sanitation is practiced to reduce pathogen transmission.

- The sanctuary must be designed based on a carefully planned ‘carrying capacity.’ This means that, based on site-specific hydrology and physical features, as well as anticipated waste production per animal (calculated for each individual based on species, surrounding water temperature and daily food intake), there is a limit to how many animals can be housed at the sanctuary without negatively impacting (nutrient loading) the surrounding environment;
 - The carrying capacity should be documented in a plan created prior to moving animals into the sanctuary.
- Once animals are residing in the sanctuary, impact should be monitored with regular (annual at a minimum, in addition to every time a new animal is introduced) sediment and water column sampling in the area of the sanctuary;
 - If necessary, any mitigation efforts to meet all applicable levels of regulation must be undertaken.
 - Sediment sampling records should be archived.
- Monitoring protocols should be in place for animal feedings so that food waste within the sanctuary itself is kept to a minimum and not concentrated in a single area (e.g., underwater cameras at the location of remote food deployment devices) (see Security and Monitoring in the Cetacean Housing section).
- Protocols should be in place to remove food not consumed by sanctuary animals.
- Each enclosure/separation area has dedicated equipment and tools to prevent cross contamination. When resources restrict the ability to have dedicated tools, tools are disinfected between enclosures to prevent the spread of parasites and disease.

Cleaning and Disinfection

- Cleaning and disinfection Standard Operating Procedures are developed and followed to address:
 - safe and approved disinfectant use to prevent hazards to the animals, caregivers and the environment;
 - cleaning and disinfecting protocols for food preparation and veterinary care areas using more powerful disinfectants on hard surfaces;
 - protocols to ensure proper cleaning, disinfectant contact time, and use of proper PPE;

- cleaning schedules to minimize the risk of disease transmission;
- disinfectants and other cleaning products stored separately from foodstuffs.
- Sanitation tools or equipment are not used for transport or storage of foodstuffs.
- The sanctuary should have protocols to dispose of waste, including food waste and human waste/trash so that it does not accumulate on-site in a way that negatively impacts the local environment or area in which the animals are residing.

Preferred practice:

- ✓ Where available, 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-7. Environment

Climate, temperature, water quality, and lighting are appropriately addressed.

- The temperature is within an acceptable range for the species housed. Allowance is made to accommodate individual animals not able to tolerate temperatures above or below the usual range of comfort for the species. Great caution is taken with geriatric animals, juveniles, and disabled animals; in some instances, receipt or housing of geriatric, juvenile, and/or ill animals may not be appropriate for some sanctuary sites and will require case-by-case review.
- The sanctuary should be located in a climate appropriate to the animals being housed (i.e., seasonal fluctuations, maximum storm cycles, and days of sunshine per year should all be within the normal range for the species in the wild);
 - Water temperature should be within the thermoneutral range for the species. Records of daily water temperature should be maintained along with water quality data.
- A hydrological study of the area should be obtained prior to construction of the sanctuary and should be kept on record.
- The sanctuary area should have adequate flushing, ensuring that there is not harmful (to the sanctuary animals or surrounding ecosystem) nutrient accumulation from waste material in the vicinity of the sanctuary;
 - Adequate flushing should be confirmed with regular sediment sampling in the area of the sanctuary and records of results should be archived.
 - If natural tidal flushing is not adequate, consider use of pumps, paddles or sprayers to aerate and increase flushing.
- The water current and tidal dynamics of the sanctuary site should not be so strong that they threaten the integrity of the netted perimeter, anchoring system, or associated structures.
- Water quality in the area of the sanctuary should have adequate dissolved oxygen, minimum turbidity appropriate for the ecosystem and resident species, minimal

- contaminant and pollution levels, as well as locally appropriate and resident species appropriate nutrient, pH and salinity levels;
- Water quality should be monitored for temperature, salinity, pH, and pollutants daily and records of results should be archived.
 - Water quality monitoring and parameters should comply with any governmental or permitting agency mandates.
- The sanctuary should be located in an area protected from large sources of acoustic pollution (e.g., not directly next to a shipping lane, not near a military testing site);
 - Low level acoustic pollution (e.g., recreational boaters) should be limited, either by selecting a site that is more remote and thus not exposed to heavy activity, or by creating and enforcing a no-go zone around the sanctuary that limits acoustic pollution to a level that does not interfere with daily activity for the sanctuary animals;
 - The impacts of acoustic stimuli should be monitored using passive acoustic monitoring coupled with behavioral observations of the animals.
 - If the sanctuary overlaps with habitat for sensitive or protected flora or fauna, protocols should be in place to ensure that normal sanctuary activities do not negatively impact those sensitive species. This may mean ensuring that sensitive species or habitats are able to thrive within the sanctuary (e.g., protecting eelgrass beds within the sanctuary) or that displacement of a sensitive species is mitigated by replacing the habitat lost through conservation and restoration outside the sanctuary boundaries;
 - Monitoring protocols should be in place for monitoring the health of sensitive flora and fauna where present.
 - Supplemental lighting is provided as needed to ensure adequate light for caregivers to observe animals, clean enclosures and perform related animal care tasks.
 - Light pollution from artificial lights should be minimized along the shoreline of the sanctuary.

Risk Management

- A site-specific review of potential environmental emergencies should be completed.
- Environmental emergency protocols should be in place for swift response in case of an environmental emergency (e.g., tsunami, hurricane, harmful algal blooms);
 - Staff should receive training, conduct regular drills and show proficiency in environmental emergency response protocols.
 - Response plans that involve coordination with other entities (e.g., other land owners, government agencies) should be pre-established and protocols for a coordinated response should be in place.
- A site review of oil/contaminant spill exposure potential (both from external and internal sources) should be conducted.

- Oil/contaminant spill emergency protocols should be in place for a swift response in case of emergency;
 - Staff should receive training and regular drills on oil/containment spill response protocols and show proficiency in their deployment.
 - The use of alternatives that limit oil/contaminant spill risk (e.g. electric boat engines) is encouraged to be implemented where feasible.
 - Oil/contaminant response equipment should be kept on-site and quickly accessible for swift emergency deployment. Emergency equipment should be sufficient to successfully prevent oil/contaminant spill intrusion into the sanctuary. Equipment should include, but not be limited to:
 - Oil containment boom of suitable size to cover the length of the perimeter net
 - Pre-established anchor points for the boom (this may be existing perimeter net or marker anchor points)
 - Oil absorbent pads, universal absorbent pads or smart sponges
- Emergency equipment kept on-site should include emergency-specific response equipment for all potential environmental and man-made emergencies identified in the site-specific review. The equipment on-site should be sufficient to manage immediate response and protect the staff and sanctuary resident animals in the event of an emergency. This should include, but is not limited to:
 - Emergency medical equipment for staff (e.g., well-stocked first aid kits)
 - Emergency medical equipment for sanctuary animals (e.g. Veterinary crash kits)
 - AED and O2 for medical emergencies
 - Fire suppression equipment (e.g. extinguishers, blankets, hoses)
 - Environmental exposure protective equipment (e.g. survival suits, hypothermia wraps where applicable)
 - Rescue and safety equipment (e.g. life vests, boat hooks, throw bag)
 - Communication equipment (e.g. marine radios, satellite phones)
 - Boat safety equipment (e.g. EPIRBs, flares, lights)
 - Emergency repair equipment (e.g. for nets and other structural components of the sanctuary needed to keep the animals out of immediate harm)
- All emergency equipment should be kept in good working order and regularly checked with archived maintenance records.
- All emergency equipment should be up to local standards (such as meeting U.S. Coast Guard requirements in the U.S.).
- All equipment should be well labeled.
- All staff should be trained in the use of emergency equipment and regular drills should be conducted, and documented and archived to ensure staff is prepared in the event of an emergency.
- Visitors should be briefed on the location of emergency equipment if visiting applicable areas of the sanctuary (such as on a marine vessel).

NUTRITION REQUIREMENTS

N-1. Water

Fresh clean water is available in sufficient quantity at all times to all individuals via high quality food and supplemental hydration when required.

- Fish quality and water content are kept at the highest possible level to maintain appropriate water absorption during feeds.
- If hydration supplementation is deemed necessary, hydration should be achieved via established methods, utilizing the least invasive methods whenever possible, under the supervision and direction of the attending veterinarian.
- Hydration should be monitored utilizing regular voluntary blood sampling, examination of eyes, mucous membranes and skin.
- Water used for hydration should be at room temperature (temperature of the food prep area or comfortable indoor temperature) when administered (unless providing ice cubes is the method utilized).
- Potable water sources should be tested for quality and contaminants annually at a minimum (more frequently in location with annual variations in water quality) and whenever there is a change to the water system or reason for concern (such as an animal exhibiting a medical concern for an unknown reason).

N-2. Diet

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

General

- A veterinarian or qualified veterinary nutritionist periodically reviews all aspects of the animals' diets at the sanctuary and makes adjustments to individual diets with consideration of species, age, life stage, size and condition.
- The calories in foods used as enrichment are considered when planning the overall diet.
- 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.
- Food is wholesome, palatable, free from contamination and of sufficient quantity and nutritive value to maintain all animals in good health.
 - Frozen food should be flash frozen.

- The sanctuary utilizes a feeding regimen that ensures each individual receives adequate nutrition regardless of status in social groups, such as routine observation of feeding activity.
- Sudden changes in food consumption and other behaviors are immediately brought to the attention of supervisory staff.
- Each animal's daily dietary needs are documented and made available to animal care staff.
- Feed types should remain varied as appropriate for each species to ensure that the animals are able to easily adapt to changes in feed availability.
- The variety of food, including its caloric and nutritional content, should be determined based on the needs of each animal;
 - Protocol should be implemented for testing the quality of each lot of food. Protocols should include analysis of calories, nutritional components, lipid oxidation, histamines and peroxides, contamination, and microbiology sampling such as enterobacteria, salmonella, and mesophilic aerobes;
 - All food items should be used or disposed of within 12 months of their catch date;
 - The quantity of the feed should be continually monitored by the care team and adjusted when necessary (under the supervision of an attending veterinarian);
 - Monitoring of the feeds should allow for staff to ensure that social status does not negatively impact food quantity for any individual animal (e.g., dominant animals taking more food than subordinate animals and thus certain animals not receiving their required daily intake).
- If animals are believed to be consuming live food items from the habitat, similar food items should be collected and sampled to assess nutritional content, as well as screened for contaminants and toxicity.

Vitamins/Supplements

- Prior to offering vitamins or other supplements, the individual animal's health and condition, as well as the diet, are reviewed by the veterinarian or a nutritionist experienced in the species' care.
- Species-appropriate supplements should be utilized to support each animal's nutritional needs and compensate for the nutrient loss due to the feed freezing and thawing process.
 - Freezing, storage, and thawing of fish prior to feeding can degrade vitamins and minerals. Special attention should be considered in supplementing fat soluble vitamins which are often destroyed in the freezing / thawing process.
 - Cetaceans who are fed fish species known to be high in thiaminase (e.g. herring, mackerel) should be supplemented with thiamine (B1) to avoid adverse effects of deficiency in this vitamin.
 - Appropriate testing protocols should be developed by a veterinarian or nutritionist to monitor the impact of supplements on each animal's health.

Preferred practice:

- ✓ To the extent possible, food should be sourced from local fisheries using environmentally friendly and sustainable methods (but this effort should not compromise the nutritional needs of the animals by dictating type or quantity of feed).

N-3. Food Presentation and Feeding Techniques

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

General

- The feeding schedule should make every effort possible to mimic the frequency and timing of feeding patterns in the wild for each species.
- Records for each feed, including the type of food, amount consumed, supplements and medications given, and behaviors during feeding should be kept.

Feeding Techniques

- The sanctuary utilizes a feeding regimen that ensures each individual receives adequate nutrition regardless of status in social group.
 - Feeding in multiple locations can encourage wider utilization of the sanctuary area.
 - Feeding in multiple locations helps to ensure that low-ranking individuals have adequate access to food.
 - Feeding stations are able to be monitored effectively both above and below the water, so that food intake can be monitored and uneaten food does not accumulate in any location
- A variety of feeding techniques and locations should be offered to encourage more diverse feeding behaviors (e.g., remote feeders, enrichment devices, and, when appropriate, live food);
 - Feeding techniques and locations should encourage underwater orientation of the animals as much as possible.
- All methods used to encourage engagement with enriching feeding methods should be based on positive reinforcement.

Diet Changes, Increases or Decreases

- Any diet changes are made or approved by the veterinarian or other qualified personnel, with any adjustments made to the entire diet to ensure continued nutritional balance.
- Considerations for diet increase include weight and condition of the animal, food consumption, activity level and other medical or behavioral considerations.
- 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 to prevent spoilage and contamination.

- Frozen fish or other frozen food should be stored in freezers that are maintained at a maximum temperature of -18°C (0°F).
- Items frozen for use are dated and labeled, and no frozen items are thawed and refrozen.
- Frozen food items should be stored in a sanitary freezer, away from the walls, elevated off the floors and away from the condenser/fans of the freezer to allow for proper air circulation within the freezer.
- Thawed fish/food should be stored in a refrigerator or kept on ice to maintain a temperature no greater than 4°C (40°F).
- Thawed fish/food should be used within 12 hours of thawing to minimize bacterial overgrowth;
 - Thawed fish/food should be clearly labeled with the time of thawing.
- Food items requiring refrigeration are stored in a clean, dry refrigerator, and/or ordered at regular intervals in amounts that can be used prior to spoilage.

Preferred practices:

- ✓ Products are dated and rotated to use the oldest stock first, and expired food as well as bags damaged by pests are discarded.
- ✓ Two to three months' worth of food availability should be ensured at all times.

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.

- Food is protected against deterioration, mold, and/or contamination by insects, birds, rodents or other animals.
- Diets are prepared in a safe and hygienic manner to reduce the possibility of contamination or spoilage.
- Food preparation surfaces are thoroughly cleaned and disinfected between uses.
- Personnel wash hands thoroughly prior to handling food, and wearing gloves during food preparation is recommended. Staff should avoid handling food while sick.
- Protocols should be in place to minimize contamination and assure that food retains nutritive values, wholesomeness, and quality until the time of feeding;
 - Thawing should take place in a refrigerator. If this is not possible or food is still frozen, clean, cold, running salt water can be used. If salt water is not available,

- thawing with potable, running fresh water may be considered, assuming the area/water is clean and post-thaw refrigeration remains prompt;
- Food items should be kept at or below 4°C (40°F) in a refrigerator or in an ice cooler immediately once thawed;
 - Food handling protocols should be plainly visible in the food preparation and storage areas.

VETERINARY CARE

V-1. Veterinary Program Personnel

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

- Sanctuaries unable to maintain a full-time veterinarian have access to a part-time or on-call veterinarian with suitable training and experience for the animals housed at the sanctuary.
- The sanctuary has properly trained and qualified professional and supporting personnel as necessary to implement: (1) husbandry (caregivers) and (2) technical support (veterinary technicians, or individuals trained at the sanctuary).
- One or more personnel is trained and designated to deal with emergencies until a veterinarian arrives or is reached. He or she can, under the direction of the veterinarian, perform basic first aid, assess animals, administer prescribed medications and treatments, be responsible for administration of post-surgical care, and be skilled in maintaining appropriate medical records.
- Sanctuaries have the appropriate number of personnel, including veterinarians and veterinary technicians or assistants, to meet these standards for all animals in their care, with consideration given to the number of animals, number of enclosures and/or social groups, and individual medical conditions or needs (e.g., a large number of geriatric or elderly animals, known disabilities or conditions, etc.).
- All animal care staff should be trained in basic sample collection techniques by the attending veterinarian. This will ensure that sample collection is not delayed, is constant, and taken properly in the event that the attending veterinarian is not on-site. Basic sample collection techniques should include: blood collection, gastric collection, fecal collection, urine collection, blowhole swab, and ultrasound (note ultrasound application may be very limited when not performed by an experienced veterinarian or trained specialist);
 - Innovative collection methods that reduce stress on the animals while maintaining a high standard of veterinary care should be encouraged where possible.

Preferred practice:

- ✓ The attending veterinarian(s) are comfortable conferring with other marine mammal veterinarians/specialists as needed for complex cases.

V-2. Veterinary Capabilities

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

- If the sanctuary does not have an on-site veterinary facility, or only a partially outfitted facility, it has an arrangement with a nearby veterinary practice for off-site treatment as needed.
- The sanctuary's on-site and/or off-site facilities and services include the following:
 - Diagnostic capabilities include cytology, microbiology, parasitology, complete blood count, blood chemistry, urinalysis, serology, radiology and other appropriate laboratory procedures.
 - Necropsy capabilities, histopathology.
 - Medical treatment facilities that are clean, have adequate lighting and ventilation, and can be easily cleaned and disinfected.
 - Medical treatment facilities that have access to appropriate anesthetic and emergency equipment.
 - Access to medical and surgical specialists, if needed.
- If on-site, the sanctuary ensures that medical treatment equipment is maintained in good working order and is on a program of routine preventive maintenance.
- Where possible, any on-site facility is located away from areas of heavy public use to minimize noise levels and visual distractions for hospitalized animals.
- Only a licensed veterinarian performs surgery, using sterile technique and best practices, with an understanding of the unique challenges associated with cetacean anesthesia, healing, etc. (Note: A veterinary technician appropriately trained by a veterinarian in locations where such action is permitted by veterinary practice acts can perform surgical first aid.)
- Veterinarians and support personnel are compassionate and knowledgeable about the humane aspects of animal treatment, including the proper use of anesthetics, analgesics, and tranquilizers.
- Basic physical capture and restraint equipment to facilitate medical treatment is available at the sanctuary. See also Standard W-6 "Handling and Restraint."
- The sanctuary has veterinary response protocols in place to deal with emergencies.
- The sanctuary should have the ability to rapidly isolate an animal in a way that allows veterinary or care staff to access an animal in the event it is medically or otherwise necessary (slide outs are acceptable in most situations, but the sanctuary should be equipped with a medical lift or medical pool area with hydraulic lift floor that can facilitate safe access to an animal unable to or unwilling to slide out);

- The sanctuary should have tools available on-site to guide animals to a specific location in the sanctuary (e.g., herding and crowding nets);
- Medical lifts should be appropriately sized to the species held in the sanctuary;
- Medical lifts should be designed to remain functional under all circumstances (e.g., be easily connected to a back-up power sources in the event of a power outage);
- Medical lifts should be maintained in good working order
- The ability to weigh each animal should be incorporated into the design of the sanctuary so that every cetacean resident can be effectively weighed (including those in quarantine).
- There should be an appropriate location for performing necropsies on any deceased animals, on-site or at a separate facility. If on-site, this area should be physically separate from live animal holding areas and daily care facilities such as food storage, as well as from other medical areas used to treat live animals.
- If necropsies are to be performed off-site:
 - Appropriate on-site storage such as on-site large refrigerators and/or freezer (physically separate from live animal holding areas and daily husbandry facilities such as food storage) must exist to protect the remains until the necropsy can be performed (ideally within 24 hours post-mortem).
 - Protocols should be in place to facilitate a quick transition to the location of necropsy
- Removal of cetacean remains from the sanctuary should follow all applicable levels of regulations.
- A detailed report of necropsy results must be archived at the facility.
- Cause of death and contributing factors for each animal that dies at the facility should be reviewed. Any appropriate changes to husbandry protocols, facilities, and/or medical care should be incorporated based on the findings.

Preferred practices:

- ✓ An on-site facility has separate areas for examination and treatment for any of the following functions performed on-site:
 - sterile surgery
 - quarantine (see Standard V-4 “Quarantine and Isolation”)
 - laboratory
 - radiology and radiology equipment
 - animal holding areas for observation, non-surgical treatments, and pre- and post-surgical

- ✓ A detailed report of necropsy results should be made available to the scientific community. This should include necropsy samples if possible. A summary of the cause of death should be compiled by a qualified professional for sharing with the public.

V-3. Preventative Medicine Program

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

- The veterinary medical program includes long term preventative medical protocols and disease surveillance and containment procedures, and is developed and carried out under the supervision of a licensed veterinarian with training or experience in providing medical care for the species housed at the sanctuary, and who is aware of any specific issues with the health of individual animals at the sanctuary.
- Appropriate preventative medicine programs are in place to manage all animals, and the sanctuary has a written preventative medicine protocol addressing the following:
 - regularly scheduled physical examinations/health assessments and blood analysis
 - behavioral assessments
 - quarantine procedures
 - parasite surveillance and control
 - immunization
 - contraception
 - infectious disease screening
 - dental prophylaxis
 - periodic reviews of diets and monitoring of feed intake
 - applicable species-specific husbandry needs
- The preventative medicine program should include daily health checks by animal care staff.
- Daily health checks of each animal should include (but are not limited to):
 - Observing physical appearance
 - Assessing activity level
 - Monitoring behavior and eating habits
 - Nature and frequency of respirations
- Any significant changes observed in the results of measured health and behavioral parameters should be immediately communicated to the attending veterinarian.
- Designated care personnel are provided with the preventative medicine protocol and any updates made to it, and steps are taken to ensure compliance.

- The attending veterinarian, in consultation with the sanctuary director, determines any schedule for blood sampling/analysis and routine physical examinations, including ocular, dental and musculoskeletal assessment, and implements any necessary treatment.
- Animals are immunized as recommended by the attending veterinarian, using currently recommended procedures and products as appropriate for the country, species and individual. When animals are immunized on-site by sanctuary personnel, the type, serial number, and source of the product are recorded in the individual animal's medical record.
- Each animal should receive at least one comprehensive medical exam annually. This is a minimum standard for preventative medicine and should be exceeded when conditions warrant. A comprehensive medical exam should include:
 - Morphometrics (including body build index and/or weight)
 - Body condition exam consistent with any applicable scoring system (including skin, eyes, teeth, genital opening, anus, blowhole, mentation and responsiveness, buoyancy, overall symmetry, etc.)
 - Dental examination
 - Blood sampling (routine hematology and serum chemistry, and additional analysis as indicated)
 - Blowhole cytology and evaluation of respiratory system health
 - Endoscopy or gastric wash and collection of gut microbiome data
 - Fecal sampling (cytology, parasitology, and bacterial culture, possibly including proteomics and metabolomics)
 - Pathogen screening (tailored to the specific pathogens of concern for the region, species, and individual history)
 - Diagnostic sonography
- Each animal is weighed annually at a minimum, either during a routine physical or through the use of a built-in scale integrated into slide-outs, to monitor for signs of illness and to determine dosages for pharmaceuticals and chemical anesthetics.

V-4. Quarantine and Isolation Care and Facilities

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

General

- All animals undergo quarantine according to the protocol established by the attending veterinarian and in compliance with applicable laws and regulations. Animals previously housed together may be quarantined together.
- If the sanctuary does not have an adequate quarantine facility, steps should be taken to have animals undergo quarantine under these guidelines prior to their arrival.
- Where possible, staff working in quarantine areas do not work with other sanctuary animals. If this is not possible, work is done in the quarantine areas last.

Quarantine Areas and Equipment

- The sanctuary should have separation areas (or the ability to create them) for separation of animals not in need of full medical quarantine (e.g., animals in need of separation due to behavioral considerations, separating females from males during fertile periods, or animals being isolated prior to introduction to the larger sanctuary area). A separation area may have shared water with the larger sanctuary area (simple netted separation).
- The sanctuary should have a medical quarantine facility with adequate capacity to prevent pathogen transmission between sanctuary cetaceans, and between sanctuary cetaceans and wild populations (e.g., double netting to increase spacing between sanctuary and wild animals).
- Quarantine areas may be shaded or indoors if deemed necessary for animal care or necessary to meet applicable regulation requirements.
- A medical quarantine facility must allow for quick access to the animal (e.g., lifting floor or ability to quickly lower the water);
 - A medical quarantine facility must have the ability to determine weight of a cetacean.
- All utensils, equipment, supplies, and outer clothing used in quarantine are restricted to that area. Where this is not possible, items that the sanctuary does not have duplicates of and which cannot be restricted to quarantine areas must be thoroughly cleaned and disinfected prior to being moved to or from quarantine areas, and movement between areas should be minimized.
- 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. Footbaths are changed regularly.
- Caregivers are equipped with appropriate personal protective equipment such as masks, face shields, disposable examination gloves, boots, Tyvek-type suits or sleeves, when cleaning or handling anything with which the quarantine animals come into contact.
- The quarantine area allows for daily cleaning and sanitation, and waste is removed and disposed of properly.
- In enclosures housing animals carrying infectious or transmissible diseases, to the extent possible, all surfaces of the enclosure are properly sanitized.
- Water from the medical quarantine area should be filtered or treated and disposed of in a safe area away from the habitats of the other sanctuary animals. If a double netted in-water medical quarantine area is utilized, the hydrodynamics of the area should be reviewed to ensure that dispersal rates prevent in-water transmission of potential pathogens.
- Waste or biological material from medically quarantined animals should be treated as biologically hazardous material and disposed of accordingly.
- Clearly visible signs indicating areas of quarantine are displayed as needed, with particular consideration for placement at entry/access points.

Quarantine Care

- A detailed risk assessment must be completed for each new animal introduced to the sanctuary. The risk assessment should identify any potential threats to the health of the current sanctuary animals, new sanctuary animals, and the local ecosystem, as well as outline planned steps to mitigate those threats. The likelihood and consequences for each identified threat should be considered.
- All new arrivals to the sanctuary from captive facilities should undergo a health evaluation and be pre-screened for transmissible pathogens prior to transport and kept isolated after pre-screening from those that are not being transferred to the sanctuary.
 - Particular attention is given to the medical history of animals born and reared in highly managed environments (aquaria) to ensure they have demonstrated appropriate immune responses to environmental microbes.
- Prolonged isolation of an animal either in a medical quarantine area or a separation area should be avoided (see Social Housing in the Well-being and Handling of Cetaceans section);
 - If prolonged isolation of an animal is required, an animal welfare plan should be developed and implemented by the animal care team with veterinarian consultation. The goal of the welfare plan should be to maximize the well-being of the animal in the context of overall health and safety/exposure of conspecifics at the sanctuary.
- As soon as possible upon arrival, animals should be weighed and inspected for overt injuries.
- During quarantine of incoming animals, the following procedures should be performed as applicable: examination, vaccination as appropriate, clinical and laboratory tests, treatment for external and internal parasites as needed, evaluation of psychological well-being, verification of identification.
- An enrichment program is in place for quarantined animals.
- Animals that die in quarantine receive a complete postmortem examination including histopathology.

Isolation Enclosures

- The sanctuary has enclosures for animals who need to be isolated for close monitoring, such as following injury or recovery from surgery.

Preferred practice:

- ✓ Quarantine staff care for newly admitted animals in their quarantine area before caring for sick animals, which are housed in separate isolation enclosures.

V-5. Medical Records

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

- Complete medical records for all animals are maintained under the direction of a veterinarian or trained caregiver.
- Medical records are dated, legible and indicate care and procedures including the following: examination findings, diagnoses, treatments (types of medication, dosage, duration), surgical procedures, anesthetic procedures, laboratory test results, pathology reports, immunization records, animal identification (e.g., microchip number, tag ID, photos of identifying marks), past and present tankmates, reproductive history, training records and nutrition/diet information, and, where applicable, necropsy reports.
- Records of individual animals include both behavioral and veterinary history.
- Individual animal body mass and condition measures (e.g., blubber measurement indices with ultrasound) should be visualized over time to easily monitor trends.
- Copies of medical records accompany any animal transferred to another sanctuary or other appropriate facility.

Preferred practices:

- ✓ Statistics are tabulated regularly on the rates and nature of illness and mortality in the sanctuary, in consultation with a veterinarian with expertise in population health/epidemiology.
- ✓ Where possible, duplicate record sets are stored at another site, or in a fireproof or theft proof safe on site or an online storage system.
- ✓ Records are maintained in an electronic format.
- ✓ Medical records and data should be made available to qualified members of the scientific community upon reasonable request.

V-6. Medication Handling and Storage

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

General

- Medications are maintained and used in accordance with local, state/province, and national laws and regulations and are administered in accordance with the applicable veterinary practice acts.
- The sanctuary has pharmaceutical storage on-site where routinely used drugs, such as emergency resuscitative medications, antibiotics, anthelmintics, fluids, anesthetics, analgesics, tranquilizers, etc. are maintained. Medications are stored according to label directions and, when necessary, in a safe for controlled substances that meets the standards set by applicable regulations (e.g., the Drug Enforcement Administration in the United States). Medications and vaccinations are stored appropriately, refrigerated as needed, and with access limited to essential personnel.
- All medical treatments and drug prescriptions are documented in the animal's medical record.

- Medications are regularly checked to determine expiration dates and discarded under the guidance of the veterinarian.
- Medication inventories are regularly performed and maintained.

Controlled Substances

- Only a licensed veterinarian prescribes controlled substances used at the sanctuary.
- Controlled substances are stored securely, with only key qualified personnel having access under veterinary supervision.
- Use of controlled substances is recorded in accordance with any applicable laws.
- Expired controlled drugs are marked as such and stored separately until they can be discarded consistent with applicable laws.

Preferred practices:

- ✓ Medicines should be stored in accordance with manufacturers' recommendations. If it is stipulated that a medicine be used within a specific time period, it should be labeled with the opening date, once broached.
- ✓ Records are maintained for medications maintained in vehicles or other locations for off-site use

V-7. Breeding Policy and Contraception

There is no intentional breeding of animals in lifetime care.

- Contraception programs are appropriate for the species and as determined by the veterinarian.
- If contraception is used for any of the animals, the most effective and minimally invasive methods should be prioritized and best practices should be followed for application (as determined by the veterinary and animal care team).
- If animals arrive at the facility pregnant, the sanctuary provides necessary care as determined by the veterinarian. Neonates are only removed from the mother for hand-rearing if there is a threat to the life of the newborn or mother.
- Moving pregnant females should be avoided. In the event that a pregnant individual is brought to the sanctuary, appropriate habitat for birthing and caring for an unweaned calf should be provided to the mother-calf pair.
 - Males should not be housed with pregnant females, prepartum or postpartum females.

V-8. Zoonotic Disease Program

The personnel and sanctuary veterinarian are knowledgeable about zoonotic diseases that may affect animals at the sanctuary, and implement

appropriate policies and procedures as needed to mitigate risk and deal with any exposures that occur.

- The sanctuary has emergency procedures and a defined process to avoid transmission of all potential or emerging diseases through bites, scratches, body fluids, direct contact with animals and other means. (Note: Additional precautions may be necessary for personnel classified as at increased risk of disease, including those who are immune-compromised or pregnant, and for personnel working with animals known to be carrying zoonotic diseases.)
- 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, and are encouraged to contact their own health care provider if they experience any unusual symptoms after working with cetaceans. Records of any in-person training are maintained. All personnel are informed when a zoonotic disease occurs at the sanctuary, and relevant personnel are trained in how to safely care for animals with disease.
- When a reportable disease is identified, all local, state/province, and national regulatory officials are contacted, as required.
- A complete necropsy with histopathology is performed on deceased animals known or suspected to carry zoonotic disease within 24 hours of death.
- All areas in which personnel have direct contact with animals have hand-washing facilities available in the immediate vicinity (or an equivalent; e.g., bactericidal hand-wipes).
- Food consumption by personnel does not occur in the immediate area of animal contact.

Preferred practice:

- ✓ When possible, necropsies are performed by a board certified veterinary pathologist on deceased animals known or suspected to carry zoonotic disease.

V-9. Euthanasia

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

- The sanctuary has a written policy addressing the circumstances surrounding euthanasia decisions and procedures, including the following:
 - Euthanasia is performed in compliance with any national or local law, administered under the strict supervision of a licensed veterinarian. The veterinarian, his/her authorized representative, or a trained staff member who is knowledgeable and skilled in performing euthanasia in a professional manner and ideally with an established relationship with the sanctuary and the animal, recommends and performs humane euthanasia. Euthanasia is in the best interest of the individual animal and is only used as a final option, and is not used as a management tool (such as a means to create space for more animals).
- Acceptable reasons for euthanasia include:

- incurable medical/behavioral health status that is likely to cause unmanageable pain or suffering;
- medical/behavioral health status where treatment is likely to cause unreasonable pain or suffering;
- medical/behavioral health status where available treatment will not be effective in restoring the animal to an acceptable quality of life;
- medical/behavioral health where treatment is beyond the normal community standards of monetary expenditure and would cause an excessive burden on the sanctuary resources, and no other facility/placement provides a reasonable alternative option;
- 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;
- in the event of presenting a high risk of harming themselves, other animals and/or humans.
- The decision whether or not to separate (both visually and acoustically) the animal being euthanized from the other animals should be made by the attending veterinarian and the animal care staff.
- A complete postmortem examination including histopathology should be performed to confirm the underlying medical reason for euthanasia.
- The species and ecosystems are carefully considered during disposition activities.

Preferred practice:

- ✓ Where applicable, local indigenous groups should be informed that an animal has been euthanized, and every effort should be made to honor local indigenous customs regarding death of a cetacean

WELL-BEING AND HANDLING OF ANIMALS

W-1. Physical Well-Being

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

- The physical environment of the sanctuary should allow for a wide range of behavior, including those behaviors that make up the majority of species-appropriate daily activity in the wild (see Types of Space and Size in the Cetacean Housing section);
 - Animals should be allowed to dive within the range of the most frequent dive behavior for the species in a comparable environment (i.e., wild dive range within a near-shore environment);

- The sanctuary should allow for the animals to spend the majority of their time oriented to the underwater environment (e.g., species-appropriate depth, underwater stimulus).
- If possible to any extent in the sanctuary and with consideration for provisioned food, animals should be allowed to forage for prey.
- The sanctuary should allow for the animals to rest (stationary or swimming), interact with a stimulating natural environment, and to interact with any objects provisioned for enrichment.
- The sanctuary should allow for the animals to visually and physically distance themselves from one another, as well as humans such as care staff outside of interactions necessary to provide for the health and well-being of the animals.
- Qualified personnel conduct daily observations of each animal to monitor for signs of physical abnormalities.
- Consideration is given to nutritional, physical and social conditions.
- Physical abuse, deprivation of food, and other forms of negative reinforcement or punishment-based training are never used to train, shift or otherwise care for animals.

W-2. Social Housing and Group Management

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

- Animals are housed so that:
 - those in the same enclosure are compatible;
 - they are not housed near animals that interfere with their health or cause them physical or psychological discomfort;
 - there is appropriate space between individuals within and between social groupings and to allow for temporary voluntary isolation from others;
 - no individual endures constant harassment or suffers physical injury, nor do social behaviors prevent any individual from maintaining proper nutrition and hydration.
- The sanctuary has the ability to separate and isolate animals to address behavioral and/or medical concerns. If animals are isolated from a group for social reasons, all efforts are made to find another suitable social group within the facility or at another accredited institution.
- Solitary housing is generally reserved for situations including, but not limited to: quarantine; medical assessment and/or care; lack of appropriate social partners or social tension resulting in disruption to the social group, physical aggression leading to injuries, and anticipated birth. Ideally and when appropriate, individuals in solitary housing should have access to visual and auditory access to conspecifics as well as regular caregiver interaction.

- Staff have an understanding of the natural history and normal behavior of the species in the wild.
- Clinical and behavioral history of individual animals is used to make decisions about social considerations.
- Staff are regularly assessing compatibility among individuals through ongoing behavioral and health monitoring and assessments;
 - No animal is housed with other animals that cause the individual physical or psychological harm;
 - Social groupings do not prevent any of the animals from engaging sufficiently in important daily behaviors, such as feeding and rest (note social groupings may be configured to prevent breeding).
- If multiple species are present at the sanctuary, species are integrated or separated based on the well-being of the animals (e.g., no direct mixing of predator and prey species).
- The physical environment allows for self-regulation of proximity between the animals.
- Space is available to separate animals when health or welfare needs require it;
 - There must be space available to allow for permanent separation of animals when necessary.
- If applicable and appropriate for the species, every effort should be made to keep mother-calf pairs in the same groupings.

W-3. Introduction of Unfamiliar Individuals

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

- An introduction plan is developed, in consultation with individuals who have expertise in the social and behavioral characteristics of the species such as wildlife biologists, that 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.
- As appropriate or needed, benchmarks or desired outcomes are identified for each step in the introduction process, such as the physical location of animals and behavioral goals during visual and acoustic contact and tactile contact periods.
- 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.
- Each animal's known history is documented and staff working with the animal should be familiar with it. This applies to both the history of the animal being introduced and the current animals at the sanctuary with whom they may be housed. This includes but is not limited to:

- Age and sex
 - Rearing history
 - Social history (e.g., history of tankmates, type/quality of interactions)
 - Relevant behavioral observations and patterns
 - Human interaction history (e.g., responsiveness to training staff, notable events)
 - Species-specific behavior
- The space available is appropriate for safe introductions;
 - The space should allow for gradual introduction;
 - Animals can be safely and rapidly separated if necessary;
 - Animals can retreat to a 'safe' (quiet/private) space if they choose
 - Introductions should be well documented and archived.

Preferred practices:

- ✓ Professionals with experience in social introductions, if not sanctuary personnel, are consulted whenever possible during these considerations.
- ✓ Staff from the facility of origin who have a positive relationship and bond with an individual animal should be encouraged to accompany the animal to the sanctuary to assist with the animal's introduction and integration.

W-4. Behavioral/Psychological Well-Being

The behavioral well-being of each animal is monitored and evaluated.

- Animal care and management practices and protocols should be developed and implemented in ways that support allowing the cetaceans the choice and degrees of choice and control to engage in a wide range of environmentally and species-appropriate behaviors seen in conspecifics in the wild. The goal of this is to promote diverse behavioral repertoires supportive of physical and psychological well-being.
- Schedules should be structured around the needs of the animals.
- Individualized welfare plans prepared and approved jointly by veterinarian and animal care staff, are in place to enhance well-being;
 - The implementation of this plan is documented and archived.
 - Plans are updated annually, at a minimum.
- Animals should have the ability to make meaningful choices and to have control over aspects of their daily lives.
- The choices of the animals should be documented and archived to ensure that the monitoring and review of long-term data of each individual is informing decisions impacting their well-being.
- If choices are limited for any reason (e.g., temporarily isolated or moved to a separate area), the reason should be documented and archived, and protocols should be in place to mitigate potential impacts on welfare.
- There should be behavioral monitoring protocols in place, including protocols to support non-invasive methods of monitoring;

- The animal care staff should be provided with the appropriate training to conduct effective behavioral observation and implement evidence-based decisions as a result;
- The sanctuary should be physically designed to allow for continuous and non-invasive behavioral monitoring (e.g., tall observation towers, passive acoustic monitoring systems, remote underwater and above water camera system);
- All behavioral observations should be documented and archived.
- The animal care staff should be trained to identify, address and minimize stereotypic or harmful behaviors (including the ability to interpret data).
- Individualized protocols to reduce/eliminate stereotypic or harmful behaviors should be developed and approved jointly by the veterinarian and animal care staff, and results documented and archived.
- There should be a positive reinforcement training program in place to maintain voluntary participation in animal care and veterinary procedures that support health and welfare goals;
 - The positive reinforcement training program should meet or exceed the current best practices set by interest groups directly focused on cetacean care;
 - The goals of the positive reinforcement training program should be identified and prioritized;
 - Positive reinforcement training protocols tailored for each individual animal should be created and progress should be documented and archived;
 - The animal care staff should be provided the tools and resources needed to safely and successfully implement the positive reinforcement training protocols.
- The sanctuary should have protocols in place to assess animal welfare;
 - The sanctuary should provide staff with training on animal welfare and assessment methods. This training should be regularly updated to incorporate currently available information;
 - The assessment process should include both inputs (what is provided to the animals) and outcomes (animal-based measures);
 - Positive and negative indicators should be included in the assessment;
 - Animal welfare should be assessed at a regularly established interval, and additionally as needed, including when significant changes occur, such as the addition (or removal) of animals, major environmental changes (including weather events), and location changes;
 - Results from welfare assessments should be documented, archived, and available for review;
 - Results of welfare assessments should directly inform action plans created by animal care staff.
- A structured enrichment program should be in place in case compensatory opportunities for enrichment are necessary. Although the sanctuary environment should provide the appropriate physical and mental stimulation for the animals, there may be situations that necessitate additional opportunities, which are to be provided by staff;
 - Whenever possible, engagement with the natural environment as a source of enrichment should be encouraged over artificial enrichment techniques;
 - Any enrichment program should be based on behavioral goals. The starting point and focus should be on the specific behaviors that are being encouraged or discouraged, not on item-based schedules. Results should be documented and archived;

- All enrichment opportunities should be evaluated and adjusted as necessary for each animal's well-being;
- Enrichment opportunities should be safe for both the resident animals and any wild flora or fauna that may be exposed.
- The sanctuary should be designed to allow for the animals to engage with wild sources of enrichment (e.g., kelp, seaweed and other wild flora or objects, fish or other wild species, tidal movement, weather, a natural sea floor).
- Additional forms of enrichment may be necessary for some animals, and should include activities that are safe for the animals and the surrounding ecosystem (e.g., underwater hoses, feeder tubes)
- If enrichment sources include human interaction with trained staff, the interaction should be limited by the interest level of the animals and should be non-disruptive to other animals in the vicinity.
- Emphasis should be placed on underwater enrichment sources rather than surface-level enrichment sources to encourage behavioral patterns normally seen in the wild.
- The sanctuary has an enrichment program that promotes species-appropriate behavioral opportunities at all times (including periods of quarantine and isolation) and ensures the animals' psychological well-being. The enrichment program should be behavioral goal based. An appropriate program may include the following:
 - Structural enrichment - Enclosure design and furniture that add complexity to the environment and promote species-specific behavior.
 - Object enrichment - Objects that encourage inspection and manipulation and promote species-specific behavior.
 - Food enrichment - Varying food choices and food presentation, including the use of puzzles that increase food procurement time.
 - Devices that provide choice and control (choices of food or objects of play)
 - Social enrichment - Affiliative interactions between caregivers and animals may be appropriate in some instances.
- All animal care personnel are trained to recognize species-specific behavior, abnormal behavior and clinical signs of illness, and a plan to address the concerns is developed.
- Contingency plans should be developed for any animals not found to be thriving at the sanctuary;
 - Implementation of contingency plans should be based on an evaluation process with clearly defined milestones for decision making;
 - Any agreements necessary to support contingency plans must be in place.

W-5. Animal-Caregiver Relationships

Positive relationships between animals and caregivers are maintained.

- Animals arrive at sanctuaries with a variety of previous experience with caregivers, (or lack thereof), which caregivers take into account in their interactions with these species.
- Where possible, new caregivers accompany a trusted caregiver until the animal becomes comfortable with the new individual.
- Where possible and appropriate, animals become familiar with the veterinary staff, allowing close observation.
- Relationships between staff and the animals are evaluated at a pre-established regular interval and additionally when needed.
- Changes are made to staff assignments when staff and animal relationships are found to be disruptive to the animals.
- To the extent possible, the most important relationships for each cetacean should be relationships with other cetaceans. Relationships between cetaceans and staff should be encouraged to be secondary and exist in support of meeting the animal's social and health needs in more species appropriate ways (i.e., cetacean to cetacean).

W-6. Handling and Restraint

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

- Protocols for species-appropriate handling and restraint methods should be developed.
- The tools and resources needed for safe handling and restraint should be available on-site and maintained in good working order. Equipment includes but is not limited to:
 - Appropriately sized stretchers
 - Medical lift(s)
 - Netting
- There should be protocols in place for managing animals should they not be near an area designed for handling and restraint in the event of an emergency (e.g., a cetacean in deep water a distance away from a medical lift or a netted bottom).
- Animals being handled or restrained should be closely monitored by qualified staff (cetacean veterinarians and/or highly trained animal care staff) for signs of stress both during and after the handling or restraint.
- 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.
- Chemical capture is performed only by a licensed veterinarian and only when other methods are not possible due to the significant risks of sedating free-swimming cetaceans. Specific anesthetic protocols, including record-keeping, are followed. Emergency resuscitation drugs and equipment (oxygen, on-demand PPV, etc.) must be on-hand during any sedation event.

- Medications used during handling and restraint should only be administered by qualified staff.
- Chemical capture 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 danger to personnel, all animals in the enclosure, and the animal being sedated.

W-7. Animal Transport

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

- Cetacean transport should be conducted only when necessary (e.g., being transported to the sanctuary).
- A comprehensive plan that addresses every process step is established and communicated to all involved parties prior to any transport. Authority, roles and responsibilities are clear to all.
- Health examinations are conducted prior to an animal's arrival at the sanctuary or prior to transfer to another facility. These examinations may 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.
 - Candidates for transport should be medically and behaviorally evaluated prior to transport, and criteria should be established on an individual basis to ensure that the animal being transported is fit for transport (mentally, emotionally, and physically) and in appropriate condition for the receiving location (e.g. free from uncontrolled transmissible pathogens).
- Health certificates and any required transport permits accompany the animal when being transported interstate or internationally.
- Capture, restraint, and transportation methods consider the animal's temperament and behavior in order to minimize injury and distress.
- Equipment suitable for lifting, cradling (where applicable) and transportation of animals kept within the sanctuary is maintained in good condition and readily available. Transport containers and vehicles are cleaned after use.
- All transport equipment should be appropriately fitted to the animal being transported and maintained in excellent condition and meet appropriate animal welfare standards (e.g., IATA, U.S. Animal Welfare Act transportation standards). This equipment includes but is not limited to:
 - Stretchers
 - Cradles
 - Emergency medical/veterinary equipment
 - Monitoring equipment
 - Care equipment (e.g., spray bottles, sheets, A&D ointment)
 - Lifting equipment (e.g., cranes, lifting cables, taglines)
 - Communication equipment

- When possible, animals should be conditioned to the possible stressors of transport, such as stretcher and cradle training.
- All transport staff should be trained on the transport procedure and aware of their individual roles within it;
 - The transport team must include members who have previous cetacean transport experience.
- Transport routes should be predetermined and secured (e.g., security escort agreements in place, local municipalities informed) prior to transport.
- Contingencies should be established for all parts of the transport and alternative arrangements should be available on standby during the transport.
- The transportation route should be selected based on the welfare of the animal being transported, taking into consideration duration, method of transport, and safety.
- The cetacean should be carefully monitored (respirations, heart rate, temperature, signs of distress or agitation) throughout the transport by trained staff.
- Sources of physiological and psychological stress should be mitigated. Methods should be employed to: maintain optimal temperature (cooling/warming), mitigate positional stress (padding, positioners), minimize noise, bright light and movement around the animal, and keep individuals with familiar cohorts.
- If the transport method uses a water-filled transport box, water temperature should be maintained in a species-appropriate range throughout transport.
- An appropriate supply of emergency food (based on species, individual eating habits, and routine duration/logistics) should be transported with the cetacean.
- A qualified cetacean veterinarian must be present throughout the transport.
- All animals taken outside the sanctuary are kept securely at all times and managed in such a way that the animal is under control and not likely to suffer distress, cause injury or transmit or contract disease.



Sources:

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