



AMMPA ACCREDITATION STANDARDS & GUIDELINES



Alexandria, Virginia USA

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MISSION STATEMENT

The Alliance of Marine Mammal Parks and Aquariums is an international accrediting body for zoos, aquariums and marine parks dedicated to conservation through public display, education, scientific research, and the rescue and rehabilitation of animals in the wild.

STATEMENT OF PURPOSE

We, the members of the Alliance of Marine Mammal Parks and Aquariums, are collectively committed to providing the highest standard of excellence in the service, environments, husbandry, and applied behavioral training techniques we can offer on behalf of the animals in our care. With a membership comprised of global experts and authorities on marine mammals, our commitment to these standards promotes exceptional welfare. Further, we pursue this optimal state of welfare by establishing animal lifestyles rooted in engagement and discovery which are uniquely and powerfully enriched through fostering the human-animal bond.

Our standards and guidelines inter-relate across disciplines to holistically address the needs and welfare of the animals in our care while maximizing the educational, conservation, and scientific impact of the populations as a whole. Alliance members must meet local, regional, and federal laws and possess the proper permits for the holding and display of any marine mammal. As a community and as individual member organizations, we hold ourselves to these high standards and guidelines designed to exceed the minimum care requirements presented by regulatory bodies. We benefit from the expertise of hundreds of qualified professionals to foster the best humane care of any animal in our collection.

Our animals live in habitats and social structures that promote species appropriate behaviors, social skills, and interactions which promote the animals' abilities to thrive within their provided home. Our daily animal management practices incorporate the animals' physical and mental needs through innovative and current animal behavioral training techniques that foster an appropriate and healthy connection with their specialists, developing trust which facilitates proactive and preventative health care, educational encounters, and presentations. Regularly reviewed and modified species-specific enrichment practices are employed that maximize stimulation, interest and learning. Our people and animals participate in critical and groundbreaking science-based and appropriate research experiences that promote conservation and the preservation of all animals and ecosystems.

Our results-based approach to animal advocacy filters through all elements of our standards and guidelines. Through these best practices, we collectively provide the greatest wealth of understanding and resources related to marine animal management and preservation. Our animals live fruitful lives in our parks; our work informs science, policy, public education, and personal inspiration. We imagine a future where marine biodiversity flourishes and marine mammals continue to fill the world's water ways, our work helps make that future possible.



1. ANIMAL HEALTH AND WELLNESS

1.1. General Provisions

- 1.1.1.** Alliance husbandry standards and guidelines have been developed using the best available research and the cumulative experience of our members. Alliance members are committed to ensuring that the needs, interests, and welfare of all animals under our care are of primary importance.

1.2. Definitions

- 1.2.2.** High quality diet refers to diet that is in all aspects healthy, wholesome, palatable, and nutritionally appropriate.
- 1.2.3.** Expert quality control is a system for consistently verifying and maintaining a high level of quality food supplies, encompassing all aspects of storage, handling, preparation, inspection, analysis, testing, and distribution.
- 1.2.4.** Organoleptic refers to any sensory properties of a product, involving taste, color, odor, and feel. Organoleptic examination involves visual assessment, feeling, and smelling of food product.
- 1.2.5.** Qualified attending veterinarian refers to an individual who has graduated from an accredited veterinary school, has a valid license to practice veterinary medicine, who has at least two years' experience with marine mammal care and maintenance, and with whom the facility has made formal arrangements to provide veterinary care to the facility's animals.
- 1.2.6.** Animal health assessment program is a structured and systematic plan of managing animal health through regular observation and diagnostic monitoring, as well as record keeping and communications protocols.
- 1.2.7.** Complete physical examination refers to a comprehensive, systematic, and thorough inspection of the animal for physical signs of disease or abnormality.
- 1.2.8.** New animal arrivals refer to animals recently acquired by an institution through trade, transfer, donation, loan, purchase, collection from the wild, or rescue.
- 1.2.9.** Fomite refers to an inanimate physical object or substance that serves to transmit an infectious agent from one individual to another, such as contaminated footwear, veterinary equipment, needles, clothing, eating or drinking containers, cages, bedding, restraint devices, and transportation vehicles.
- 1.2.10.** Zoonotic diseases are communicable diseases capable of being transmitted from an animal to a human.
- 1.2.11.** Prophylactic measures refer to any actions taken or procedures utilized to prevent disease transmission from one individual to another.
- 1.2.12.** Ectoparasite refers to a parasite that lives on the outside of its host rather than within the host's body. Lice and mites on pinnipeds, cyamids on great whales, and xenobalanus on dolphins are examples.

1.3. Standards and Guidelines for Food / Nutrition

- 1.3.1.** Marine mammals must be provided with a high-quality diet consisting of sufficient food types to account for changes in food availability and dietary preference of individual species.
- Nutritional adjustments should be made for:
 - a. growth/age
 - b. maintenance
 - c. gestation/lactation
 - d. activity level
 - e. air, water temperature, and seasonal metabolic rate variations
 - Weight guidelines should be established as optimum ranges for each animal and updated regularly.

- 1.3.2.** Food analyses must be performed and documented on a routine basis and be subjected to expert quality control.
 - Minimum analyses should include protein, fat, and caloric values, as well as organoleptic examinations.
- 1.3.3.** Frozen food must not be stored at temperatures higher than 0°F (-17.6°C).
 - Food should be stored at temperatures appropriate for each food type to minimize deterioration and maximize shelf life.
 - Thawed food should not be stored at temperatures higher than 40°F (4.4°C).
 - Storage programs, thawing procedures, and food preparation processes should be designed to prevent loss of nutrients and/or bacterial contamination.
 - All thawed foods should have lids or should be covered with a layer of ice and discarded within 24 hours from time of thawing.
- 1.3.4.** Vitamin supplementation must be individualized for each marine mammal.
- 1.3.5.** Routine and appropriate procedures for the cleaning, disinfection, and sanitation of food preparation equipment and facilities must be established. All food equipment and utensils must be cleaned and disinfected daily.
 - Procedures should be instituted that prevent the bacterial contamination of food containers and food preparation surfaces.
 - Attendants and other personnel should practice appropriate personal hygiene.
 - Surfaces should be free from standing water, rust, and organic debris.
- 1.3.6.** Food and nutrition records must include: type, quantity, and species of food consumed; caloric value; analysis; freezer rotation; dates on food packets; refrigerator and freezer temperatures.

1.4. Standards and Guidelines for Health Care Programs

- 1.4.1.** Alliance members must have in place a comprehensive Health Care Program that is integrated with husbandry, research, and management functions.
- 1.4.2.** Each facility must have a qualified attending veterinarian who oversees a program of preventive medicine and clinical care, and who supports all other programs to ensure the health of the facility's marine mammals. Qualified attending veterinarians must have:
 - a. graduated from an accredited veterinary college
 - b. license to practice veterinary medicine
 - c. a minimum of two years' experience in marine mammal medicine within the previous ten years (or work under the direction of a recognized marine mammal veterinarian)
- 1.4.3.** Facilities must abide by established laws governing veterinary practice.
- 1.4.4.** Members must have a program of ongoing animal health assessment.
 - Animal health assessment program should include:
 - a. regular veterinary rounds
 - b. daily monitoring by husbandry staff of each animal's physical appearance, appetite, activity level, and any changes in behavior
 - c. a procedure for recording and communicating animal health status, and any potential concerns, between husbandry and veterinary staffs (e.g., see health and medical records guideline 1.4.7)
- 1.4.5.** Complete physical examinations must be performed at regular intervals on each marine mammal in the collection.
 - Physical examinations should include:
 - a. complete history from husbandry staff on animal's attitude, appetite, and behavior since the last physical exam
 - b. full body inspection
 - c. determination of weight change and comparison to food intake
 - d. blood sampling for hematology and chemistry
 - e. other laboratory and diagnostic tests as needed
 - Normal physiological values and serum banks for retrospective studies should be established for each marine mammal in the collection.

- 1.4.6.** Parasite screening and treatment must be conducted as indicated by the attending veterinarian for each marine mammal in the collection.
- 1.4.7.** Health and medical records must include: date of examination, veterinarian's name, reason for examination, examination conditions, action taken, medications (dose, frequency, and duration), supplements, individual nutritional requirement, body measurements, blood test results, necropsy findings (upon death), photographs (when appropriate) and physical characteristics, subjective and objective findings (therapeutic approach and treatment plan), differential diagnosis, frequency of veterinarian visits if part time or consulting, and transportation records.
 - Health and medical records should always be filed at the facility where the individual animal resides.
 - A duplicate copy of all health and medical records should be stored.
- 1.4.8.** Euthanasia is recognized as an important component of responsible animal care when recommended by the attending veterinarian in accordance with the member's program of veterinary care to limit animal suffering caused by illness, injury, or other medical conditions.
- 1.4.9.** Members must maintain standard husbandry procedures specific to their animal population and facility, all which must be approved by the attending veterinarian. Protocols must cover all aspects of the health care program, including:
 - Communication between husbandry and medical care staff
 - Animal food preparation, feeding guidelines, and vitamin supplementation
 - Disinfection and maintenance of animal handling equipment and areas
 - Safe facility design and maintenance to prevent personnel and animal injury
 - Animal weight monitoring
 - Medication administration
 - Pharmaceutical inventory management
 - Controlled substances inventory management as required by regulatory agencies
 - Medical equipment maintenance and management
 - Medical records maintenance
 - Contingency medical procedures
 - Necropsy procedures

1.5. Standards and Guidelines for Biosecurity

- 1.5.1.** Members must have a biosecurity program to prevent the introduction of infectious disease. Alliance members must have a biosecurity program for animal arrivals at the institution and animals at the facility that, for a specified biosecurity reason, may require quarantine. The goal of a biosecurity program is to prohibit cross contamination and disease transfer between new animal arrivals and current population animals resulting from physical contact, fomite transmission, aerosol spread, waste drainage or reuse of untreated water, and to allow animals to acclimate to new settings. If a receiving institution does not have appropriate quarantine facilities, they should arrange for quarantine at an alternate site that does have such facilities, or only receive animals that do not require quarantine. Exceptions to these Standards and Guidelines for Biosecurity can only be made with the advice and consent of the attending veterinarian.
- 1.5.2.** Quarantine practices must be instituted based on the prior medical history of the newly arrived animal.
 - Those situations where quarantine is recommended include animals: recently collected from the wild (less than 30 days prior to transport); recently exposed to a new arrival (less than 30 days prior to transport); with poorly documented medical history; that have apparent medical problems at the time of arrival; and/or, at the direction of the attending veterinarian.
 - Quarantine may not be necessary if the animal: has a previous history of being housed with the existing population; has been cleared through lab tests of carrying any infectious diseases prior to transfer; has a well-documented medical history; has been cleared by the attending veterinarian to be immediately integrated with the rest of the existing colony; and/or if physical or visual separation from other con-specifics is deemed by the attending veterinarian to be detrimental to the health of the animal.

- 1.5.3.** Members must quarantine animals recovered directly from the wild through marine mammal strandings. These animals have no documented medical history, are usually injured, ill, or otherwise compromised, and often require lengthy periods of rehabilitation prior to wild release or acquisition into a collection.
- 1.5.4.** Quarantine for all species must be under the supervision of a veterinarian and consist of a minimum of 30 days unless otherwise directed by the attending veterinarian. If during the 30-day quarantine period, additional marine mammals are introduced into the quarantine facility, the 30-day period must begin again for all animals already in quarantine and exposed to the new arrivals.
- The quarantine duration may be refined by the attending veterinarian based upon the health status of the animal and known or suspected presence of a communicable disease based upon diagnostic tests and physical examinations. A quarantined animal with a suspected communicable disease that is not already endemic in the institution's animal population may remain quarantined until the animal has cleared infection.
- 1.5.5.** Equipment used to feed and clean animals in quarantine must be used only with these animals, or thoroughly cleaned and disinfected, as designated by the attending veterinarian, before use with non quarantined animals.
- Attendants should be designated to care only for quarantined animals or to attend to quarantined animals only after fulfilling their responsibilities for the resident species.
 - Attendants provided with separate quarantine clothing, footwear, and washing facilities, designed to prevent fomite transmission, may be allowed to attend to non quarantine animals after working with quarantine individuals, if approved by the attending veterinarian.
- 1.5.6.** Institutions must take precautions to minimize the risk of exposure of animal personnel to zoonotic diseases that may be present in newly acquired animals if the attending veterinarian deems that zoonotic risk exists.
- These precautions should include the use of disinfectant footbaths, wearing of appropriate personal protective equipment and clothing, and minimizing physical contact.
 - Personnel should be educated about the potential risks of zoonotic disease transmission from newly acquired animals, including any known zoonotic diseases that the animal may have.
- 1.5.7.** A complete physical examination (see Health Care Programs Section 1.4.4) as defined by the attending veterinarian must be performed during the entrance into, and prior to exit from, quarantine.
- During this period, certain prophylactic measures should be instituted. Individual fecal samples should be collected and examined for gastrointestinal parasites. If appropriate, treatment should be prescribed by the attending veterinarian. Successful parasiticide therapy may or may not be necessary prior to removal of the animal from quarantine. This determination should be made by the attending veterinarian based on the potential for contagion. Where indicated, the animals should also be evaluated and treated for ectoparasites.
 - In those species for which vaccines are available and recommended, vaccinations should be considered by the attending veterinarian as appropriate for each species. If the animal arrives without a vaccination history, it should be treated as an immunologically naive animal.
 - Whenever possible, blood should be collected and serum banked in either a -700 C (-940 F) or a -200 C (-40 F) manual defrost freezer. Such sera can provide an important resource for retrospective disease evaluation.
- 1.5.8.** Ocean enclosures, used for quarantine purposes, must be located in a way that prevents the spread of any disease, from animal to animal, through natural water movement, and at a distance from other enclosures deemed adequate by the attending veterinarian.
- Animals should be considered in quarantine conditions when they are confined within enclosures that are physically separated from all others housing conspecifics by a distance of 50 ft. (15 m) or more. Procedures for quarantine, as noted above, apply.
- 1.5.9.** Complete medical records must be kept of all quarantined animals.



2. APPLIED ANIMAL BEHAVIORAL TRAINING

2.1. General Provisions

2.1.1. Alliance members recognize animal training as an application of behavioral science that: provides a means to observe, assess, and enrich an animal's mental, physical, and behavioral health and welfare; assists the animal care staff in providing safe and expedient methods for preventive and clinical medical procedures; integrates public display within husbandry regimes; and facilitates education, research, and conservation objectives. The appropriate use of behavioral training is a foundation of modern professional marine mammal care and welfare.

2.2. Definitions

- 2.2.1.** Animal Training is the deliberate application of learning principles, including operant and classical conditioning, to modify an animal's behavior to facilitate husbandry, enrichment, public display, safety, and research.
- 2.2.2.** Experienced Qualified Trainer is defined as an individual that has actively participated in the training and husbandry of marine mammals for at least three years accumulated over a period of no longer than five years prior to current employment.
- 2.2.3.** Animal Training Program is a defined and managed functional activity that is comprised of animals, equipment, and personnel who are responsible for developing and administering animal training plans to meet the goals and objectives of the organization.
- 2.2.4.** Professional organizations are formal membership associations established to promote the exchange of information among professionals in the field of animal behavioral science, management, training, husbandry, enrichment, or other related disciplines.
- 2.2.5.** Professional journals refer to periodicals, magazines, or other publications which contain material relevant to animal behavioral science, management, training, husbandry, enrichment, or other related disciplines.
- 2.2.6.** Preceptorship/Internship refers to a period of practical experience and training for a student that is supervised by an expert or specialist in a particular field.

2.3. Standards and Guidelines for Training of Marine Mammals

- 2.3.1.** Members must have a written manual describing the member's policies on animal training.
- The animal training policy should describe the organization's view of the animal training program, its role in the organization, and how management interfaces with it, typically including:
 - a. focus of the animal training program
 - b. philosophy of animal training
 - c. application of animal training
 - d. statements of animal care and treatment principles
 - e. management review and accountability

- 2.3.2.** Members must have a Behavior Development and Management Plan.
- The Behavior Development and Management Plan should describe the animal training program and its objectives, methods of accomplishment, and success criteria. It should address training oversight, standard and contingency procedures, and record keeping, typically including:
 - a. animal training decision authority
 - b. categorized list of behavior goals and objectives
 - c. animal training plan for individual behaviors
 - d. criteria for measuring success of animal training plans
 - e. schedule of frequency to maintain criteria
 - f. contingency plans
- 2.3.3.** Members must provide for an animal training staff that is appropriately sized and qualified to meet program requirements.
- The on site animal training staff should be under the direction of an experienced, qualified trainer. The size of the staff should be based on the number of animals, husbandry and training requirements, and the physical facility. Animal training responsibilities should be clearly defined and positions, described by proficiency requirements, should include:
 - a. an organizational flow chart
 - b. animal training position(s) responsibilities
 - c. requirements of animal training positions
 - d. animal training position descriptions
 - e. qualifications of animal training personnel
- 2.3.4.** Members must have and support a program for animal trainer development that meets the guidelines of the International Marine Animal Trainers' Association to include,
- a written staff training manual (see sections 2.3.1. – 2.3.3)
 - a process for teaching learning and conditioning theory
 - educational materials to supplement the staff training manual
 - a process for testing trainers' knowledge of learning and conditioning theory and the facility's training policies.
 - opportunities to gain hands-on experience
 - a mechanism for evaluating trainers' skill levels on a regular basis
 - criteria for advancement
- 2.3.5.** Members must participate in animal training information exchange activities.
- The organization must participate in information exchange activities to enhance their program and contribute to the collective knowledge of the community, thereby advancing the science of animal husbandry and training. Suggested activities include:
 - a. membership in professional organizations
 - b. attendance and participation at seminars and conference meetings
 - c. animal trainer exchange programs
 - d. internships and preceptorships
 - e. subscriptions to professional journals

- 2.3.6.** Members who utilize training paradigms for conducting animal operations outside of facility perimeter boundaries (e.g., for purposes of realizing facility contingency protocols) must have a plan for management of marine mammals in the open environment under trainer stimulus control, including recovery of the animals following the contingency event.
- The plan for management of marine mammals in the open environment should describe the animal training program and its objectives, methods of accomplishment, success criteria (see 2.3.2. Behavior Development and Management Plan) and a contingency plan in the event of loss of stimulus control or contact with the animal, typically identifying:
 - a. minimum number of trainers to be involved in open environment training activity.
 - b. means of communication between trainers and base of operations.
 - c. vehicles/vessels under routine and contingency situations; also, those designated as secondarily available for assistance.
 - d. reinforcers, re call signals, and other equipment used to maintain or re establish contact and stimulus control.
 - e. priorities for primary and secondary trainers regarding (1) individuals to facilitate return to base of animal(s) retained under trainer control and (2) those to remain with animals experiencing loss of control to facilitate resumption of control and/or retain whereabouts.
- 2.3.7.** Daily records must include: behavioral observations, environmental conditions, type of interaction, and any atypical event or occurrence.
- 2.3.8.** Members must provide an environment that is stimulating and enriching to the marine mammal collection. In addition to a variety of opportunities for direct trainer interaction, other techniques and stimuli may be used to effectively enhance environmental enrichment programs at member facilities. Methods may include, but are not limited to some of the following:
- a. environmental enrichment devices
 - b. variable feeding schedules
 - c. variety of food types
 - d. diverse social interactions with con-specifics
 - e. multi-species habitat
 - f. guest interaction
 - g. enclosure design
 - h. natural environment
 - i. tidal change
 - j. live fish
 - k. taction
 - l. learning new behaviors



3. HABITAT REQUIREMENTS

3.1. General Provisions

- 3.1.1.** The Alliance is committed to ensuring that appropriate housing is provided for all marine mammals maintained at member facilities. It recognizes that these animals live in a three-dimensional environment that can vary immensely to meet and exceed the needs of each species housed. Differing in body length, body form, swimming behavior and greater environmental and social needs, these animals are highly adaptable to a variety of physical environments, both in the wild and in zoological settings. The following standards are meant to establish housing requirements for marine mammal enclosures not limited by standardized quantitative terms and which promote a high level of animal health and welfare.

Space is one aspect of successfully managing an animal collection. It has historically been used as the surrogate measure of the quality of an animal enclosure. However, quantitative spatial dimensions alone do not adequately describe overall quality of an enclosure nor always directly correlate with animal welfare. Variations in enclosure depth can be an important aspect of enclosure quality for some species while surface area may be for another. Environmental design is multifaceted, incorporating, but not limited to, depth, shape, sightlines, substrate, interconnectivity, water quality parameters and more. These designs, in tandem with animal management practices, lend to overall animal welfare that is tailored to the species, sex/age composition, and social dynamics of the animals in the enclosure.

Given that few, if any, studies exist on the minimum amount of space necessary to ensure the health and welfare of marine mammals, the overall quality of a habitat will be better determined by the overt behavioral observations and health parameters of the animals themselves as assessed through regular interactions with marine mammal experts and the veterinarian.

Alliance member facilities are required to meet or exceed the relevant minimum space standards set by their national and/or local governing bodies to ensure compliance with any governed regulations relating to space. If a member facility's national and/or local government has not set minimum space standards for marine mammal enclosures, the facility must meet the minimum space standards set by the United States Department of Agriculture (USDA) in the Animal Welfare Act and Animal Welfare Regulations. In all cases, these government regulations are minimum requirements only; therefore, members should strive to create enriching environmental designs and exhibits that cater to the interests of the housed species and individuals. Members are encouraged to continue assessing and optimizing the size, number, and qualitative features of marine mammal enclosures at their facilities to promote an ever-developing level of animal welfare.

- 3.1.2.** As leaders in marine mammal husbandry and care, Alliance members are committed to promoting guidelines that continually improve animal management practices. These guidelines provide Alliance members flexibility to meet species-specific needs as well as to design innovative enclosures and naturalistic settings that are in the best interests of the animals.

3.2. Definitions

- 3.2.1.** Average Adult Length (AAL): is a measurement typically used to calculate minimum space requirements for marine mammals. Species specific AALs for facilities required to follow the USDA Animal Welfare Regulations are provided in those regulations.
- 3.2.2.** Minimum depth: The smallest acceptable water depth for an enclosure housing marine mammals. This minimum depth does not refer to the minimum depth of a particular enclosure, but rather the deepest part of the enclosure must meet or exceed this minimum depth.

- 3.2.3.** Minimum volume: The smallest acceptable volume (liters or gallons) for enclosures housing marine mammals. The minimum volume is often determined based on the species and numbers of animals in an enclosure. Note that in the USDA Animal Welfare Regulations only that volume that meets the minimum depth requirement can be included in the total volume calculation.
- 3.2.4.** Minimum Surface area: The smallest acceptable surface area (in square feet or meters) for an enclosure housing marine mammals. The minimum surface area is often determined based on the species and numbers of animals in an enclosure. Note that in the USDA Animal Welfare Regulations only that surface area over enclosure areas that meet the minimum depth requirement can be included in the total surface area calculation.
- 3.2.5.** Minimum Horizontal Dimension (MHD): The shortest acceptable distance between opposite sides of an enclosure. It should be noted that constrictions between parts of a single body of water (e.g., channels) are both common and often a necessary feature for animal management. In those cases, the width of the constriction is not required to meet MHD.
- 3.2.6.** Dry resting and social activity area (DRA): refers to a dry surface area that is close enough to the surface of the water to allow pinnipeds, sea otters, and polar bears easy access for entering and leaving the water.
- 3.2.7.** Animal Enrichment: Although there are many and more precise definitions, simplistically, enrichment is a process which allows animals variety and choices in their environment. Animal enrichment can be physically built into an enclosure (e.g., in the shapes and interconnectivity of enclosures), be objects or features that are placed into enclosures on a temporary basis, or an animal management practice that lends to greater welfare. Training is considered a form of enrichment (See Section 2.3.8 for more details).

3.3. Standards and Guidelines for Marine Mammal Enclosures

- 3.3.1.** Enclosures provide animals the space to move around freely and incorporate comfortable, species typical resting places that meets the wellbeing of the animals and is of generous size. Enclosures must meet or exceed minimum spatial requirements of relevant government regulations (e.g., the U.S. Department of Agriculture’s 9CFR Ch. 1 Animal and Plant Health Inspection Service, USDA 3.104). If a member facility is located in a country without such regulations, they are required to meet or exceed the U.S. standards.
- 3.3.2.** All enclosures holding marine mammals shall be constructed to be structurally sound, durable, and nontoxic, providing safe and secure habitats protected from the elements, intruders, unwanted pests and disease. They must be maintained in good repair to prevent the animals from harm and limit exposure to fear and distress, including opportunities to avoid aggression and seek sanctuary from enclosure-mates and visitors. This includes compliant, effective and well-maintained barriers per governmental regulation.
- 3.3.3.** Physical descriptions reported for accreditation must include: enclosure dimensions (depth profile, MHD, volume, surface area); connectivity (if any) to other enclosures; water system type; total Dry Resting Area (pinnipeds, sea otters and polar bears); and pre, during and post-emergency protocols in the case of failure of the enclosure (e.g., loss of enclosure integrity, power failure).
- 3.3.4.** Habitats should include introduced or ever-present species-appropriate stimuli that will challenge and enrich the animals’ lives to encourage behavioral species-appropriate responses. Examples include, but are not limited to, application of feeding enrichment for natural foraging, interactive enrichment devices, and cooperative training practices. Daily environment and training practices provide the animal choices and the ability to act on their environment both through mental and physical means. Programmatic descriptions must include how animal enrichment has been incorporated into enclosure design, and the types and frequencies of enrichment provided.
- 3.3.5.** An overall assessment of the suitability of an enclosure must include incorporation of the relevant information reported in the following sections: Animal Health and Wellness (Section 1), Health Care Programs (Section 1.4), Applied Animal Behavioral Training (Section 2), and Water and Environmental Quality (Section 4).

- 3.3.6.** Facility descriptions must include: enclosure dimensions and location, water system type, and contingency protocols (pre, during, and post event). Contingency protocols should identify potential unusual situations, both in general as well as those unique to the individual facility, including protocols for inadvertent animal release. Development of protocols should include local contingency planners and responders, and identify materials and resources for use during contingency actions. There should be a clear chain of command for staff with specific tasks assigned, and the facility should be able to demonstrate that all necessary employees are trained on the content of the plan.
- 3.3.7.** Member facilities with breeding programs must have adequate provisions for separating pregnant females/post parturient females with calves from incompatible conspecifics as well as an appropriate reintroduction plan to the social group. Enclosures holding cetacean females with calves should have sufficient straight line glide paths and depths available for nursing (see standards for Reproductive Management, Section 5).
- 3.3.8.** Enclosures housing two or more sexually mature pinniped males should have a DRA that is divided into two or more separate areas with sufficient visual barriers (such as fences, gates and/or rock work) to provide relief from aggressive animals especially during breeding season.

3.4. Standards and Guidelines for Provisional Enclosures

- 3.4.1.** An animal may be maintained for up to 14 days in an enclosure which does not meet the Alliance requirements for a primary pool for non-medical training, breeding, holding or transfer purposes. If an animal is maintained in such an enclosure for more than 14 days, such extension must be justified by written notation in the animal's record by the attending veterinarian on a weekly basis. Such justification must be provided after one day if the facility does not meet government requirements for a primary enclosure.
- 3.4.2.** Members housing animals in non-conforming facilities for research purposes should include such information in the research protocol and acquire approval from the Institutional Animal Care and Use Committee or its institutional equivalent. Weekly written notification by the attending veterinarian is also required.
- 3.4.3.** The requirements outlined above do not apply to critical care facilities housing beach-stranded marine mammals undergoing rehabilitation and/or veterinary treatment.



4. WATER AND ENVIRONMENTAL QUALITY

4.1. General Provisions

- 4.1.1.** Wild marine mammals live in a medium in which organic and inorganic waste is quickly diluted or readily dissipates. In most zoological settings, pool water is recycled through filtration and water treatment systems, with only a small percentage replenished daily to make up for losses due to splash over or filter backwash discharge. To ensure optimum quality, marine mammal pool water is usually subjected to biological disinfection, mechanical filtration, and chemical treatment of both dissolved and particulate organic matter. These processes are not exclusive and the efficacy of one method of treatment is usually dependent on that of another, as well as the physical and chemical parameters of the medium. The design of water treatment systems varies considerably between member institutions. In all operations, however, the establishment of optimum water parameters must be based on the physiological needs of the animals.
- 4.1.2.** The qualitative features of an animal's environment can have significant effect on its physical and behavioral health. Sensory input from sources such as temperature variation and changing photoperiod can serve to synchronize seasonal breeding or growth cycles, as well as influence diurnal hormonal rhythms, immunity status, and basic metabolic state. Many marine mammal species demonstrate considerable plasticity in response to environmental extremes, whereas others are less tolerant to conditions outside their normal range. Exposure to environmental factors must take into account species or group specific needs as well as the physical condition of individual animals.
- 4.1.3.** The following guidelines refer only to the most commonly held species of marine mammals. It is recognized that these general guidelines may not apply for certain species (such as the Hawaiian monk seal, *Monachus schauinslandi*). Moreover, these are not meant to supersede veterinary judgment in establishing environmental conditions appropriate to individual animals. Where animals are maintained in pools with water temperatures significantly above or below these limits, written justification in the animal's records by the attending veterinarian is warranted.

4.2. Definitions

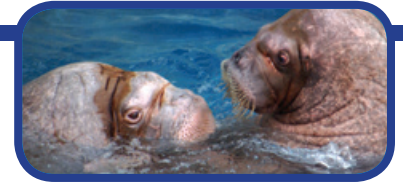
- 4.2.1.** Marine mammal pool refers to any structure or enclosure containing water designed to house marine mammals, including natural lagoon, bays and tidal basins, as well as man-made structures.
- 4.2.2.** Standard Methods refers to laboratory techniques and methodology used to analyze for microbiological samples as listed in Part 9000 Microbiological Examination, Standard Methods for the Examination of Water and Wastewater, American Public Health Association, Washington, DC.
- 4.2.3.** Adequate ventilation refers to an ample flow of fresh air necessary to minimize the accumulation of chlorine fumes, other gases, and noxious odors.
- 4.2.4.** Vertical air space refers to the space between the surface of a marine mammal pool and the overhead ceiling or canopy, usually pertaining to an indoor facility.
- 4.2.5.** Acoustic monitoring refers to a system for detecting sounds and noise audible to marine mammals.

4.3. Standards and Guidelines for Water Quality

- 4.3.1.** Marine mammal pool water must be monitored and documented daily for basic chemical parameters as appropriate for closed or open circulation systems.
- Marine mammal pool water should be tested twice daily and should be treated as necessary to maintain pH values not less than 7.4 or more than 8.4.
 - Marine mammal pool water should be tested twice daily for concentration of chlorine and/or other oxidizing agents. Total free and combined chlorine should not exceed 1.0 mg/l.
 - Marine mammal pool water should be free of residual dissolved ozone.
 - Marine mammals maintained in closed water systems should have the water treated with sodium chloride or a combination of sodium chloride and other naturally occurring sea salts so as to maintain a salinity of not less than 22 PPT.
- 4.3.2.** Members must limit microbial growth in marine mammal pool water through a program of disinfection, bacterial monitoring, and general exhibit maintenance.
- Members should test the concentration of bacteria in marine mammal pool water weekly. Laboratory techniques listed in Standard Methods that test for total coliform bacteria, including multiple tube fermentation and membrane filtration, are acceptable. Total coliform counts should not exceed 500 colonies/100 ml.
 - Members should implement a program of daily exhibit cleaning and maintenance that minimizes the risk of animal exposure to pathogenic microorganisms. Exhibit and pool surfaces should be constructed of inert materials impervious to liquid penetration and conducive to disinfection.
- 4.3.3.** Members with facilities incorporating water that is open to the ambient sea environment must monitor their water source to be sure that conditions remain compatible with sound animal management.
- For keeping cetaceans, salinity should not fall below 2.2% salt (22 ppt) for a period of longer than one contiguous week. Salinity should be monitored daily.
 - If salinity falls below 22 ppt for a period of time longer than one week, animals should be maintained under enhanced veterinary supervision and an expanded schedule of water quality monitoring should be in place to assess environmental impact associated with increased freshwater runoff or other causes.
 - Bacteria should be monitored and documented at least weekly for total coliform (see 4.3.2.). Additionally, it is recommended that total bacteria CFU/100 ml of water be tested as an indicator of overall bacterial concentrations within the water body. Evaluation of total bacteria concentrations are made on a relative scale utilizing a baseline standard for the test of the water body itself.
 - Water temperature should be monitored and documented at least daily (see 4.4.1.). Where conditions outside of the ranges noted in 4.4.1. occur for longer than one contiguous week, members should take protective actions so as to prevent adverse animal health consequences.
 - Members should be aware of, and be prepared to test for, potential sources of water borne toxins that could adversely impact animal health. Potential toxin sources include pollutants from agricultural and industrial sources, as well as naturally occurring toxins.
- 4.3.4.** Water quality records must include: test parameters for water quality, tests for added chemicals, bacterial culture test results, amount of added chemicals, facility maintenance log, and filtration operation log.
- All water quality records should be maintained by the facility for three years.

4.4. Standards and Guidelines for Environmental Quality

- 4.4.1.** Members must provide adequate heating or chilling for marine mammal pool systems to maintain water temperatures within the thermal tolerances of the species and individuals maintained therein.
- Implicit in these guidelines is that marine mammals always have access to water for thermoregulation. It is recognized that in the wild some pinnipeds, sea otters and polar bears may spend considerable time out of the water during certain times of the year. For the purposes of these standards, air temperatures are not considered. Restricting animal access to water for transport or other reasons should only occur under direction of the attending veterinarian.
 - Bottlenose dolphins should not be maintained in water temperatures less than 50oF (10oC) or more than 90oF (32oC).
 - Killer and beluga whales should not be maintained in water temperatures more than 65oF (18oC).
 - Walruses should not be maintained in water temperatures more than 60oF (15oC). Other pinnipeds should not be maintained in water temperatures more than 75oF (24oC).
 - Sirenians should not be maintained in water temperatures less than 68oF (20oC) or more than 90oF (32oC).
 - Sea otters should be maintained in water temperatures between 45o (7 o C) to 60o (15.5oC).
 - Polar bears should not be maintained long term in water temperatures more than 65oF (18oC).
 - All marine mammal pool waters should be free of ice.
 - Animals in natural occurring seawater facilities with tidal flow should be alert to seasonal water temperature averages at their facility and cognizant of the temperature ranges outlined above.
- 4.4.2.** All marine mammal enclosures must be provided with adequate ventilation.
- Indoor housing facilities should be ventilated by natural or artificial means to provide a flow of fresh air that minimizes the accumulation of chlorine or other fumes and noxious odors.
 - Air handling systems should be well maintained and include documented maintenance schedules for general upkeep, cleaning, and filter replacement to control potentially harmful microbial growth and maximize air quality.
 - A vertical air space averaging at least six feet (1.8 meters) should be maintained in all primary enclosures, including pools of water.
- 4.4.3.** Members must minimize exposure of marine mammals to noises of sufficient intensity or type to cause auditory discomfort or distress.
- A plan of acoustic monitoring for marine mammal enclosures should be in place.
 - Efforts should be made to acoustically isolate sound generating mechanical equipment located in close proximity to marine mammal enclosures.
- 4.4.4.** All indoor marine mammal facilities must provide ample lighting by either natural or artificial means or both.



5. POPULATION SUSTAINABILITY

5.1. General Provisions

- 5.1.1.** Acquisition and disposition of marine mammals by member institutions reflect policies that maximize the educational, research, and conservation potential of the populations and the welfare of each individual animal. Living animals require a substantial commitment of resources and cannot be managed using short term strategies. It is essential that facilities maintain healthy, genetically diverse, socially compatible populations that ensure their long-term sustainability, maximizing facilities' contributions to research and the public's knowledge of marine mammals and concern for their conservation in the wild.

Alliance members are committed to the goal of creating and maintaining sustainable and genetically diverse populations of marine mammals at all institutions. The continued development and improvement of healthy reproductive management practices and techniques by Alliance members not only promotes sustainability of current populations and reduces or eliminates any need to collect cetaceans from wild populations, they also benefit rare and endangered species whose populations are increasingly threatened by diminishing habitat and other anthropogenic factors.

5.2. Definitions

- 5.2.1.** Acquisition a zoological term that indicates the addition of an animal(s) to a facility's population through transfer, trade, donation, loan, purchase, collection from the wild, rescue, or birth.
- 5.2.2.** Disposition a zoological term that indicates the removal of an animal(s) from a facility's population through transfer, trade, donation, loan, sale, death, or reintroduction.
- 5.2.3.** Lawful purposes refers to purposes which are in accord with all applicable local, state/provincial, regional, national, and international laws and regulations.
- 5.2.4.** Current reproductive management techniques refers to up-to-date methods and strategies utilized to optimize managed breeding efforts.
- 5.2.5.** Comprehensive reproductive management plan is a thorough, written plan covering all aspects of reproductive management which is designed to maximize the potential for successful breeding efforts and rearing of offspring.

5.3. Standards and Guidelines for Responsible Acquisition

- 5.3.1.** The animal population management plan of individual members must clearly reflect the goal of minimizing the need for collecting marine mammals from the wild.
- The plan should prioritize the addition of marine mammals for their populations through managed breeding programs; loans, exchanges or purchases from other zoological institutions; or placement of orphaned or injured and rehabilitated individuals from wild populations that have been deemed to be non-releasable.
 - The plan should include a commitment to partnerships for future maintenance and, wherever possible, reproductive management of the population.
 - The plan should include species-specific rationale for situations where reproductive management of wild-caught animals and the preservation of their genetic contribution as founder animals is not part of the long-term plan for their management.
- 5.3.2.** Members must only acquire or accept a marine mammal for lawful purposes. Members must be capable of providing for the animal's proper care and management according to Alliance standards.
- The animal should be acquired for purposes consistent with the mission, programs, and activities of the member.

- 5.3.3.** Members must notify the Alliance before any collection permit application is submitted for acquiring marine mammals from the wild. Such notification must be in writing and well enough in advance to enable the Board of Directors to adequately review the submission.
- 5.3.4.** Members acquiring marine mammals from the wild must demonstrate that such removal will not compromise the sustainability of the stock or population from which the animals were taken.
- 5.3.5.** Acquisitions from the wild must be authorized by the governmental regulatory agency managing the source population.
- 5.3.6.** All animals must be acquired using humane methods consistent with accepted professional practices.
- 5.3.7.** Acquisition records must include: date; method of acquisition (wild caught, stranding, birth, transfer, loan, temporary holding); actual or estimated age (note if age is estimated), gender, genus and species; lineage if known; identification (for example: TT M-1562, house name); and name of sender and owner. If wild caught or stranded: location of collection, and copies of required government permits and/or CITES documents.

5.4. Standards and Guidelines for Responsible Disposition

- 5.4.1.** Members must only remove living animals from their facilities by exchange, loan, sale, or gift to a qualified zoological park, aquarium, marine life park, or comparable institution.
 - Animals should only be placed in another facility whose standards are consistent with those of the Alliance.
 - Arrangements for the removal and disposition of animals that have died should be done in a manner consistent with best curatorial practices and applicable governing law.
- 5.4.2.** Marine mammals must only be loaned to other marine mammal facilities for purposes of display, reproductive management, or research, provided the member is satisfied that the recipient can provide care and treatment consistent with Alliance standards.
 - Such disposition should not be detrimental to the individual animal, other animals in the providing or receiving populations, or its species.
 - Such loans should be documented by written agreement declaring the nature of the loan and its terms.
- 5.4.3.** Marine mammals maintained as part of a facility's population must only be released to the wild if part of an authorized, scientifically based, reintroduction program that is anchored in the principles of conservation biology and with the goal of sustaining a threatened or endangered marine mammal stock and/or population.
- 5.4.5.** In all cases, members must ensure that the manner of disposition considers the best interests of the animal and its species.
- 5.4.6.** A post mortem examination must be performed on deceased marine mammals, directed by the attending veterinarian, with a permanent record generated indicating the disposition and/or results of the necropsy.
 - Maximum use should be made of marine mammal specimens from deceased animals with priority given to those that enhance animal husbandry or conservation of the species in the wild.
 - Specimens may also be placed in suitable museum populations or educational facilities.
 - If a facility is located in an area with no laws designating the disposal of marine mammals that have died, the animals may be incinerated, buried, or disposed of in a manner deemed suitable by the attending veterinarian or marine mammal curator.
- 5.4.7.** Disposition records must include: date, type of disposition (transfer, loan, death-cause of death if known), age, gender, genus, species, and identification (for example: TT M-1562, house name).

5.5. Standards and Guidelines for Reproductive Management

- 5.5.1.** Members must prioritize, through strategic planning, the selection of species for reproductive management based upon biological, genetic, demographic, and conservation needs of the species.
- 5.5.2.** Members must optimize the genetic diversity within their managed populations of marine mammals.

- 5.5.3.** Members must work to maintain managed populations of sufficient size to serve present and future needs for conservation, education, and potential reintroduction of genetic material into natural populations should the need arise in the future.
- Members should contribute to a better understanding of marine mammal reproductive biology and physiology by developing techniques and models that can be applied to rare and endangered species.
 - Free-breeding should be prevented in species known to be in surplus in member institutions or when offspring, kept with their sires and dams, attain reproduction age.
- 5.5.4.** Cooperative reproductive management records must include: breeding loan agreements, and genetic and demographic records (age, origin, genus and species, gender, reproductive history, and progeny).

5.6. Standards and Guidelines for Cetacean Reproductive Management and Neonatal Care

- 5.6.1.** Members must develop a comprehensive plan maximizing the potential for success before actively pursuing cetacean reproductive management.
- Personnel should possess or have access to expertise concerning cetacean reproduction.
 - Breeding programs should consider the reproductive and physical condition of participating animals.
 - Members should provide maternity pools that are of a size and configuration to facilitate nursing, calf rearing, and separation from other animals if necessary.
 - A plan to monitor pregnancy, calf delivery, and rearing should be in place.
 - Consideration should be given to the daily activity level and food intake of pregnant and lactating females.
 - Breeding, pre parturient and lactating animals should be maintained in social environments encouraging successful rearing of offspring.
 - Contingency plans should be developed, protocols recorded, and resources for implementation should be in place for: contingency intervention before, during, and after delivery; weaning; illness; pathological examination of mortalities.
 - Consideration should be given to species specific needs.

5.7. Standards and Guidelines for Pinniped Reproductive Management and Neonatal Care

- 5.7.1.** Members must develop a comprehensive plan maximizing the potential for success before actively pursuing pinniped reproductive management.
- Personnel should possess or have access to expertise concerning pinniped reproduction.
 - Breeding programs should consider the reproductive and physical condition of participating animals. They should also consider studbook keepers' recommendations or demands/availabilities from other institutions.
 - Members should provide maternity enclosures that are of a size and configuration to facilitate nursing, pup rearing, and separation from other animals if necessary.
 - A plan to monitor pregnancy, pup delivery, and rearing should be in place.
 - Consideration should be given to daily activity level and food intake of pregnant and lactating females.
 - Breeding, pre-parturient and lactating animals should be maintained in social environments encouraging successful rearing of offspring.
 - Contingency plans should be developed, protocols recorded, and resources for implementation should be in place for: contingency intervention before, during, and after delivery; weaning; illness; pathological examination of mortalities.
 - Considerations should be given to species-specific needs.

5.8. Standards and Guidelines for Sea Otter Reproductive Management and Neonatal Care

- 5.8.1.** Members must develop a comprehensive plan maximizing the potential for success before actively pursuing sea otter reproductive management.
- Personnel should possess or have access to expertise concerning sea otter reproduction.
 - Breeding programs should consider the reproductive and physical condition of participating animals.
 - Members should provide maternity enclosures that are of a size and configuration to facilitate nursing, pup rearing, and separation from other animals if necessary.
 - A plan to monitor pregnancy, pup delivery, and rearing should be in place.
 - Consideration should be given to the daily activity level and food intake of pregnant and lactating females.
 - Breeding, pre parturient and lactating animals should be maintained in social environments encouraging successful rearing of offspring.
 - Sea otter reproductive management should only be planned if space is available for an additional animal of either sex at the housing facility or another accredited facility if breeding is permitted.
 - Following mating the female should be monitored closely to determine pregnancy. Provision should be made for separating pregnant females from other animals.
 - Contingency plans should be developed, protocols recorded, and resources for implementation should be in place for: contingency intervention before, during, and after delivery; weaning; illness; pathological examination of mortalities.
 - Consideration should be given to species specific needs.

5.9. Standards and Guidelines for Polar Bear Reproductive Management and Neonatal Care

- 5.9.1.** Members must develop a comprehensive plan maximizing the potential for success before actively pursuing polar bear reproductive management. Placement of additional bears needs to be viewed closely.
- Personnel should possess or have access to expertise concerning polar bear reproduction.
 - Breeding programs should consider the reproductive and physical condition of participating animals and additional housing needs which will be required.
 - Members should provide maternity enclosures that are of a size and configuration to facilitate nursing, cub rearing and separation from other bears.
 - A plan to monitor pregnancy, cub delivery, and rearing should be in place.
 - Consideration should be given to the daily activity level and food intake of pregnant and lactating females.
 - Prior to time of delivery, the pregnant female should be separated from any males or females that she is housed with.
 - Once separated, bedding should be put in place to allow the female bear a chance to den up successfully without interruptions.
 - Contingency plans should be developed, protocols recorded, and resources for implementation should be in place for: contingency intervention before, during, and after delivery; weaning; illness; pathological examination of mortalities.



6. MARINE MAMMAL TRANSPORTATION

6.1. General Provisions

- 6.1.1.** Alliance members must ensure that marine mammals under their care are transported between facilities in a manner that is safe and humane. Given that only very limited volumes of water can be efficiently transported with the animals, the pre-planning and preparation of all elements of a transport require a detailed plan that meticulously covers every aspect of the transport.

6.2. Definitions

- 6.2.1.** Marine mammal transportation refers to the relocation or movement of marine mammals by any method or mode of transport that requires more than two hours from the time of removal from current housing until arrival at destination housing.
- 6.2.2.** Health assessment refers to a preliminary physical exam including a review of the animal records conducted by the attending veterinarian or other qualified veterinarian in order to determine that the animal is of sufficient health and physical condition necessary to be safely transported.
- 6.2.3.** Transport plan refers to a thorough, written plan of action designed to ensure a safe, humane, and efficient move of a marine mammal from one location to another.

6.3. Standards and Guidelines for Marine Mammal Transportation

- 6.3.1.** A final visual health assessment must be conducted by the attending veterinarian or another experienced marine mammal veterinarian on each animal between three and seven days preceding the transport.
- An initial health assessment should be conducted by the attending veterinarian or another experienced marine mammal veterinarian on each animal between 15 and 30 days preceding transport. The health assessment will include the evaluation of behavioral, feeding, and medical records.
- 6.3.2.** A transport plan must be written and in place prior to the transport.
- At a minimum this plan should address:
 - mode of transport
 - time line
 - equipment list
 - contingency plan
 - contingency contacts
 - fasting of marine mammals 18-36 hours prior to transport or as directed by the attending veterinarian
 - a final transport planning meeting should be held by a designated transport coordinator not more than 24 hours prior to transport to ensure the marine mammal's health and well-being. Contingency plans should be outlined and approved at this meeting
 - an animal trainer/keeper introduction and acclimation period should be completed prior to the transport or at the conclusion of the transport when animals are moving from the care of one staff to another.
- 6.3.3.** Marine mammals must be monitored throughout transport and the number of accompanying staff must be sufficient to ensure proper care and safety of the animals being transported.
- 6.3.4.** All required permits must be filed and all applicable laws and regulations complied with prior to and during transport.

6.4. Standards and Guidelines for Cetacean Transport

- 6.4.1.** Cetaceans must be transported and positioned so as to avoid contact with hard or abrasive surfaces, to prevent harmful restrictions in blood flow, and with sufficient attendants to provide for physical and medical needs.
- Cetaceans should be transported, whenever possible, within properly secured, open top containers with sufficient fresh water to provide partial body support and to facilitate thermoregulation.
 - Dry transports should be three hours or less depending on the size of the cetacean. The cetacean must be placed on a foam pad and care should be taken to eliminate potential “hot spots” and/or dryness around eyes and blowhole, and the pectoral flippers and flukes. For dry transports it is especially important that the transport protocol includes a means of managing extremes of temperatures, e.g., ice.
 - When transporting cetaceans in aircraft, cabin pressure should be maintained at less than 6,000 feet (1,800 meters) above sea level (ASL), with 4,800 feet (1,463 meters) ASL or less being optimal for most individuals.
- 6.4.2.** The attending veterinarian or another licensed veterinarian experienced in marine mammal transport must accompany all cetacean transports from one facility to another. One attendant per each cetacean is recommended on transports of four or less animals with a minimum of two attendants per transport. On transports of five or more cetaceans, additional attendants may be added at the discretion of the veterinarian and/or transport coordinator.
- 6.4.3.** Water temperature must be routinely monitored. Water temperature is dependent on the species transported. The veterinarian or transport coordinator in charge should be consulted to ensure appropriate water temperature.
- 6.4.4.** Hand sprayers or other equipment to keep the animal’s skin moist must accompany all cetacean transports.
- 6.4.5.** Respiration rates must be monitored throughout the transport. All respiratory rates that are outside of established pre-transport norms must be reported to the attending veterinarian immediately.

6.5. Standards and Guidelines for Pinniped Transport

- 6.5.1.** Pinnipeds must be transported in properly secured, non-abrasive, enclosed containers made of materials that provide for durability and for proper ventilation to assure adequate air circulation and temperature mediation.
- 6.5.2.** Pinnipeds are routinely transported dry, however water sprayers or other appropriate equipment must be available in case of delays, high temperature, etc.
- Temperatures during transport should be monitored to prevent either hypothermia or hyperthermia. Relative temperatures vary between species. As noted above, it is especially important that the transport protocol includes a means of managing extremes of temperatures, e.g., ice.
 - When transporting pinnipeds in aircraft, cabin pressure should be maintained at less than 6,000 feet (1,800 meters) ASL, with 4,800 feet (1,463 meters) ASL or less being optimal for most individuals.
- 6.5.3.** The container must be of sufficient internal size to allow the pinniped room to make positional changes, e.g., turn completely around and stand in a normal position without obstruction. The diagonal of the container floor must be sufficient to allow the animal to lie outstretched.
- The transport container should have a smooth-surfaced false bottom that allows waste to pass through. A solid floor with a 3” – 6” splash guard around the base of the container may also be used.
- 6.5.4.** There must be easy visual access to the inside of the container and to the animal from at least two sides.
- 6.5.5.** Ventilation at all levels must be provided on all sides of the container.

- 6.5.6.** When transporting by enclosed vehicle, ambient temperature must be routinely monitored. There must be adequate ventilation and air circulation inside the vehicle.
- The container's design should include lift points.
 - The number of accompanying staff is dependant on the number of animals, with at least one person for every four animals and a minimum of two staff per transport.

6.6. Standards and Guidelines for Sirenian Transport

- 6.6.1.** Sirenians must be transported and positioned so as to avoid contact with hard or abrasive surfaces and with sufficient attendants to provide for physical and medical needs. The container must be wide enough to allow the animal to change position on its own.
- Sirenians are routinely transported dry within properly secured, open top containers, but with sufficient cushioning, such as open cell foam, to provide body support.
 - Sirenians can be cooled through evaporative cooling by spraying with water.
 - If necessary, a stretcher or other restraint device may be used.
 - When transporting sirenian in aircraft, cabin pressure should be maintained at less than 6,000 feet (1,800 meters) ASL, with 4,800 feet (1,463 meters) ASL or less being optimal for most individuals.
 - Air temperatures for sirenian in transport should be maintained at 72oF (22oC) to 76oF (24oC).
- 6.6.2.** A sirenian transport must be accompanied by the number of attendants necessary to reposition the largest animal being transported. One attendant per sirenian on transports of four or less animals is recommended, with a minimum of two attendants per transport. When five or more sirenians are being transported, additional attendants should be added at the discretion of the veterinarian and/or transport coordinator.

6.7. Standards and Guidelines for Sea Otter Transport

- 6.7.1.** Sea otters must be transported within properly secured containers or cages with open mesh sides to promote ventilation and unobstructed viewing.
- The cage should be of a size to allow the sea otter to effectively groom, turn around, and lie outstretched.
- 6.7.2.** The cage must be constructed of materials that are durable and tamper proof.
- 6.7.3.** The cage floor must be perforated and raised above the cage bottom - a watertight container of sufficient size and design to collect all uneaten food, feces, ice melt, water and urine.
- The cage bottom should be removable to facilitate emptying during transport.
- 6.7.4.** Attention must be paid to the sea otters' dietary requirements due to their high metabolic rate.
- The length of transport will determine the requirement for feeding during transport. For transport of any length, provisions should be made to have an adequate supply of refrigerated food items available.
- 6.7.5.** Fresh water ice must be provided for both cooling and consumption throughout the transport.
- 6.7.6.** Great care must be taken to allow sea otters to thermoregulate effectively during transport. The fur of the animal is important for thermoregulation and the sea otter must be allowed to continue to groom itself throughout the transport.
- A refillable water sprayer or other appropriate equipment should be used to help cool a warm animal and also to help to keep the otter's coat clean.
 - Air temperature ideally should not exceed 60oF (15oC)
 - When transporting sea otters in aircraft, cabin pressure should be maintained at less than 6,000 feet (1,800 meters) ASL, with 4,800 feet (1,463 meters) ASL or less being optimal for most individuals.
 - The number of accompanying staff is dependant on the number of animals with at least one person for every two animals and a minimum of one staff per transport.
- 6.7.7.** Shade must be provided throughout the transport without impeding good ventilation.

6.8. Standards and Guidelines for Polar Bear Transport

- 6.8.1.** Polar bears must be transported within properly secured, non-abrasive, enclosed containers made of materials that provide for containment.
- 6.8.2.** The container must be of sufficient size to allow the polar bear sufficient space to turn about freely in a stance where all four paws are on the floor and the bear can sit in an upright position and also lie down in a natural position.
- 6.8.3.** The environmental temperature around the polar bear must not exceed 85°F (29.5°C) at any time. Proper ventilation must be provided so as to assure adequate air circulation and temperature mediation.
 - The air temperature around the polar bear should not exceed 75°F (23.9°C) for more than four hours.
 - When transporting polar bears in aircraft, cabin pressure should be maintained at less than 6,000 feet (1,800 meters) ASL, with 4,800 feet (1,463 meters) ASL or less being optimal for most individuals.



7. SCIENTIFIC RESEARCH AND CONSERVATION

7.1. General Provisions

- 7.1.1. Alliance members must conduct and/or support scientific research and/or conservation projects related to marine mammals. Such projects provide information important to the conservation of species, habitats, and biodiversity in the wild, as well as improve husbandry for animals in zoological parks and aquariums. These projects contribute to the scientific understanding of marine mammals in the wild and benefit their survival, including the rehabilitation of stranded animals. Alliance standards emphasize the need to facilitate responsible research and conservation projects and to communicate findings.
- 7.1.2. Collectively members of the Alliance care for a unique collection of marine mammals unlike that found anywhere else in the world, providing opportunities to study various aspects of marine mammal biology that cannot be conducted in the wild.

7.2. Definitions

- 7.2.1. Scientific Research policies refer to written protocols, procedures, and guidelines governing the various aspects of a facility's scientific research program.
- 7.2.2. Scientific Research / Animal Use Committee refers to a committee established by a facility for the purpose of evaluating scientific research proposals and the participation of collection animals in research.
- 7.2.3. Bona fide scientific research is that which is conducted with earnest intent to advance knowledge through application of the scientific method. It is most convincingly evidenced by participation in the peer review process, such that findings are shared openly through presentation at professional meetings and publications, particularly in refereed texts.
- 7.2.4. Conservation projects refer to formal, organized projects with goals and objectives designed to support, directly or indirectly, the conservation of marine mammals in the wild. These programs should be scientifically based, including results-oriented evaluation and peer review, and the findings should be shared openly through presentation at professional meetings and publications.

7.3. Standards and Guidelines for Members Conducting/Participating in Scientific Research and Conservation Projects

- 7.3.1. Members must develop a scientific research and conservation policy for the institution that prioritizes the well-being of the animals and takes into account at a minimum the availability of resources, including animals, staff, equipment, and funding.
- 7.3.2. Members must establish a Scientific Research / Animal Use Committee.
 - At a minimum, the composition of the committee should include the facility's veterinarian and animal care staff.
- 7.3.3. If required by government regulations, requirements, or laws, a member must have a formal Institutional Animal Care and Use Committee (IACUC).
- 7.3.4. Members may participate in bona fide scientific research and conservation projects by providing biological samples and/or access to records, animals, equipment, or staff time. Institutional support will be guided by the priorities set forth by the facility's scientific research and conservation policy and its Research / Animal Use Committee.
- 7.3.5. Members, when possible, should contribute to the body of marine mammal scientific literature by sharing findings from their research and conservation projects through publication in peer-reviewed journals and presentations at professional meetings.

- 7.3.6.** Financial contributions to bona fide scientific research and conservation projects must be guided by a policy, including a mission statement, which describes the facility's goals in supporting, evaluating, and collaborating with outside, marine mammal related studies.
- 7.3.7.** Each member must provide the Alliance a written update annually of the completed and ongoing scientific research and conservation projects in which it is participating and/or supporting financially.



8. PUBLIC EDUCATION

8.1. General Provisions

- 8.1.1.** Alliance public display facilities are an important source for education about marine mammals and significant contributors to public information about the marine ecosystem. Alliance members recognize the importance of this opportunity and responsibility. The many differences among Alliance facilities, such as location, number of animals, species exhibited, and audience demographics, necessitate creative individual strategies and varied approaches to education. Educational standards established by the Alliance incorporate flexibility to allow member facilities to develop education programs appropriately tailored to their unique circumstances. Research confirms that these strategies and programs have been successful in fulfilling educational goals through increasing conservation-related knowledge, influencing individual behavior, and inspiring personal responsibility for environmental stewardship.
- 8.1.2.** Education is the dynamic process of becoming aware, gaining knowledge, expanding understanding, constructing meaning, and developing the skills to actively use that which has been learned. At Alliance public display facilities, education can be achieved through a variety of approaches to promote interest in, and motivation and excitement for, learning about marine mammals and the marine ecosystems.
- 8.1.3.** The overall goal of Alliance education programs is to enhance understanding of, and appreciation for, marine mammals and their ecosystems. An informed, global public is more likely to advocate for the conservation of marine mammals and their habitats, and support research and conservation projects important to understanding challenges these animals face in the wild.

8.2. Definitions

- 8.2.1.** Multiple levels of learning opportunities refers to providing educational information and experiences for visitors who have, or are interested in, different levels of knowledge about the animals.
- 8.2.2.** The best current scientific knowledge refers to information from peer-reviewed research on education, marine mammal anatomy, behavioral science, biology, cognition, physiology, and/or veterinary medicine.
- 8.2.3.** A qualified individual is an individual possessing the knowledge, training, and technical skill necessary to perform a job.
- 8.2.4.** Marine mammal experts refer to professionals who are skilled and current in their specific field of expertise such as animal behaviorists, marine educators, research scientists, trainers, veterinarians, and other specialists.

8.3. Standards and Guidelines for Education

- 8.3.1.** Education programs about marine mammals must promote interest in, an improved understanding of, and an appreciation for these animals and their ecosystems.
- A variety of approaches and programs may be used to effectively communicate educational messages. These may include, but are not limited to, the following:
 - a. audio visual materials
 - b. distance learning
 - c. formal education programs
 - d. guided tours
 - e. nteractive exhibits/programs
 - f. interpretive graphics
 - g. in-water, land, and dockside interactive programs
 - h. narration at exhibits
 - i. on and off-site school programs
 - j. outreach to community groups or organizations
 - k. public presentations/shows
 - l. publications/written materials/electronic information
 - m. recreational programs/camps
 - n. special needs programs (i.e., disabled, senior citizens)
 - o. teacher training/curriculum development/instructional guides
- 8.3.2.** Education programs about marine mammals must make available multiple levels of learning opportunities for a diversified public interested in expanding its knowledge about these animals. For example, basic introductory information might include a public presentation, interactive program, and/or exhibit graphics. More advanced information might include formal classroom programs, development of curriculum for teachers, and/or written or audio visual materials designed to provide in-depth, detailed information.
- 8.3.3.** Education programs must present information on the marine mammals exhibited at the facility, their ecosystem, and wildlife conservation that is based upon the best current scientific knowledge. Education departments must maintain a collection of current reference materials documenting the accuracy of any information disseminated to the public.
- 8.3.4.** A qualified individual must be designated and responsible for the development and administration of the facility's education programs about marine mammals.
- 8.3.5.** Educators must participate in professional development programs that enhance both the facility's Education Department and the educator's professional growth. These may include:
- a. membership in a professional education organization
 - b. attendance at a professional educational conference
 - c. attendance at the Alliance's annual professional development workshop
- 8.3.6.** There must be a written education plan including a mission statement, goals, and a strategy to evaluate the programs and the impact on participants/audiences.
- Evaluations are intended for internal program review, and each facility will have discretion in determining the methods used and the scope and frequency of the evaluations.
 - Public display facilities employ, integrate, and collaborate with many highly knowledgeable and experienced marine mammal experts, such as animal behaviorists, marine educators, research scientists, trainers, veterinarians, and other specialists. The education plan should include opportunities for these specialists to serve as marine science resources to interested community and professional groups, facility staff, and education organizations.



9. PUBLIC INTERACTION PROGRAMS

9.1. General Provisions

- 9.1.1.** An interactive program must comply with all requirements for the care and maintenance of marine mammals as defined by relevant laws and regulations. Human and animal safety are the top priority of all interaction programs.

9.2. Definitions

- 9.2.1.** Interactive Program refers to a program in which members of the public enter a marine mammal habitat with the intention of participating in an activity that includes physical contact with a marine mammal under behavioral control. This excludes, but such exclusion is not limited to, guest feeding and touching pools, dockside programs and the participation of any member of a public audience as a segment in a presentation or show.
- 9.2.2.** Controlled Interaction refers to an interactive program in which the movements and interactions of both marine mammals and public participants are maintained under stimulus control.

9.3. Standards and Guidelines for Marine Mammal Interactive Programs

- 9.3.1.** Primary enclosures used for interactive programs must meet applicable government regulations, must have an area of the enclosure established for animals participating in interactive activities that the public may not enter, and have the restricted area not configured in any way that is uninviting to the animals.
- 9.3.2.** In addition to meeting the Educational standards set forth here-in, members must include educational information about the appropriate marine mammal species and promote an improved understanding of, and an appreciation for, the conservation of the animals and their ecosystems.
- All programs should include information that feeding wild marine mammals is detrimental to the animals and that swimming with wild marine mammals can be harmful to both the animals and the individuals involved. If illegal in the facility's country, this should be emphasized.
- 9.3.3.** Marine mammals participating in interactive programs must be properly trained and conditioned. Appropriate action must be taken to maintain a safe and manageable interaction. Prior to inclusion of a marine mammal in any member's interactive program, each marine mammal must be evaluated as being fit for interaction. This initial determination should be made by the facility's attending veterinarian and supervisory staff.
- As an added safety measure, marine mammals should be observed by staff before each interactive session to assess each animal's behavior and interest in participation.
- 9.3.4.** Each animal must have one period of 10 continuous hours without public interaction within a 24-hour period.

- 9.3.5.** A facility must have a behavior development and management plan specific to each type of interactive activity offered to the public.
- The behavior development and management plan should describe the animal training program, its objectives, and methods of accomplishment.
 - The amount of time each marine mammal is asked to participate in interactive activities should be specific to the individual animal and based on behavioral criteria compiled for that animal. Total interactive time should be recorded and tracked for each animal.
 - Ratios of public participants to animals should be appropriate to the type of interactive activity offered. Approval of the ratio by both the attending veterinarian and the supervising trainer is required.
 - Ratios of public participants to attendants should be appropriate to the type of interactive activity offered. Approval of the ratio by both the attending veterinarian and the supervising trainer is required.
 - Marine mammals undergoing medical treatment may participate in interactive programs with the approval of the facility's attending veterinarian.
- 9.3.6.** Supervisory staff overseeing interactive programs must have actively participated in the training and husbandry of marine mammals in interactive programs for at least three years accumulated over a period of no longer than five years prior to current employment.
- 9.3.7.** All facilities participating in interactive programming must have written safety protocols.
- Safety protocols should include descriptions of undesirable behavior and appropriate actions to prevent undesirable behavior.
 - Staff should be familiar with appropriate response protocols and use of safety equipment in the event of an accident or contingency resulting from an animal interaction with a guest or animal.
- 9.3.8.** Prior to any interactive session, guests must be educated about how to properly and safely interact with the animals.
- Staff should immediately remove any member of the public that refuses to participate responsibly in an interactive session
- 9.3.9.** All incidents resulting in injury to either marine mammals or the public as a result of an interaction, as defined above, that require veterinary or medical care must be recorded and kept at the facility for at least three years.



10. RECORD KEEPING

10.1. General Provisions

10.1.1. The Alliance recognizes the need to maintain standardized, comprehensive and accurate records concerning the humane and healthful care of the marine mammals in our populations. Whereas certain record maintenance is required by various laws, up to date records will: assist all members in providing the latest in appropriate care for the animals; enable all members to share their collective knowledge about health and behavior concerns; and, facilitate reproduction programs through accurate recording of activities and with appropriate management of related animals through studbooks. It is recognized that individual members may collect and maintain more data, where appropriate, based on individual member circumstances and needs. Requirements for recordkeeping can be found in the appropriate sections of the Standards and Guidelines.

10.2. Definitions

10.2.1. Document retention program refers to a system of storing and maintaining historical animal-related records for a minimum specific time period to ensure against loss or damage and to comply with applicable statutory and regulatory requirements.

10.2.2. Studbook refers to a genealogical register established to track lineage of marine mammal offspring.

10.3. Standards and Guidelines for Record Keeping

10.3.1. Members should participate in regional, national and/or international studbooks and breeding management programs.

10.4. Standards and Guidelines for the Safety of Records

10.4.1. Records must be protected from fire, flooding and other natural or human created hazards.

10.4.2. Duplicate records, as appropriate, must be kept in either a separate location or a fire proof case.

10.4.3. A document retention program must be implemented detailing documents that are required and how long each document must be kept.

10.4.4. The following documents must be kept permanently and be made accessible to inspectors: necropsy reports; acquisition and disposition records; wild collection permits and records; and any CITES or import/export records.

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