

The European Association of Aquatic Mammals

Standards and Guidelines for the management of bottlenose dolphins (*Tursiops sp*) under human care

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Preamble

Public display facilities are resource centres that help people to expand their knowledge about: the importance of marine conservation, responsible human behaviour, and the principles of ecology. A contribution to the conservation of marine mammals and their environment is made by increasing public awareness of marine mammals and the marine ecosystem through lectures, exhibits, courses and conservation programs for adults and children. Providing the opportunity for 20 million people to view marine mammals at public display facilities arguably prevents much harassment of marine mammals in the wild. Many facilities have programs to assist stranded or sick marine mammals, which communicate the importance of conservation.

Much of what has been learned about marine mammal behaviour, biology, and physiology has been derived from scientific research on captive marine mammals, and is important in better understanding how to sustain marine mammal populations in the wild. Greater knowledge about marine mammals improves efforts to help the animals cope with natural and anthropogenic risks and threats. Marine mammals are difficult to observe in the wild, and captive settings offer opportunities to develop field research techniques.

Education of the public about marine mammals has made people feel strongly about protecting the animals and their environment. The various shows, lectures, exhibits, and courses at public display facilities are all part of their education programs. Public display elevates peoples understanding of marine mammals and the marine ecosystem. Many people who live away from the coasts might never be exposed to these animals if they did not have the opportunity to visit a public display facility.

These Standards and Guidelines reflect present-day practices, which are based on current scientific data and the cumulative experience of the membership. They will be updated and improved as the knowledge base expands. These Standards and Guidelines will be reviewed annually under the direction of the Board of the EAAM, thereby assuring the goal of the EAAM institutional members to lead the marine mammal display community in the integration of advancing science and technologies.

The Standards and Guidelines reflect the commitment of the EAAM members to hold and display our marine mammal collection under state of the art conditions. They are available on demand in order that our commitment is transparent and controllable.

1. ACQUISITION AND DISPOSITION OF MARINE MAMMALS

1.1. General Provisions

- 1.1.1. Acquisition and disposition of marine mammals by member institutions reflect policies that maximize the educational, research, and conservation potential of the collections. Living animals require a substantial commitment of resources and cannot be managed using strategies based on short-term interests. Furthermore, living animals have intrinsic needs both as individuals and as members of species. These must be of primary concern in animal management.

1.2. Definitions

- 1.2.1. **Acquisition** is the addition of an animal(s) to a collection through trade, transfer, donation, loan, purchase, collection from wild, rescue, or birth.
- 1.2.2. **Disposition** is the removal of an animal(s) from a collection through trade, transfer, donation, loan, sale, escape, reintroduction, or death.
- 1.2.3. **Lawful purposes** refers to purposes which are in accord with all applicable local, state/provincial, regional, national, and international laws and regulations.
- 1.2.4. **Qualified marine mammal park, aquarium, marinelife park** refers to a permanent institution that owns and maintains marine mammals and, under the direction of a professional staff, provides its collection with appropriate care; is open to the public on a regularly scheduled, predictable basis; conforms to all applicable laws and regulations; and whose mission and purposes are consistent with those of the EAAM

1.3. Standards and Guidelines for Acquisition

- 1.3.1. Members must only acquire or accept a marine mammal for lawful purposes.
 - 1.3.1.1. The animal should be acquired for purposes consistent with the mission, programs, and activities of the member.
 - 1.3.1.2. Members should be capable of providing for the animal's proper care and management according to EAAM standards.

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- 1.3.2. All animals must be acquired using humane methods consistent with professional practices.
- 1.3.3. The required animal management plan of individual members must clearly reflect the goal of minimizing the need for collecting marine mammals from the wild.
 - 1.3.3.1. The plan should prioritize acquisition of marine mammals for their collections through managed breeding programs; loans, exchanges or purchases from other marine mammal park logical institutions; or, programs providing non-releasable orphaned or injured and rehabilitated individuals from wild populations.
 - 1.3.3.2. The plan should include a commitment to partnerships for future maintenance and, wherever possible, propagation of the collections.
 - 1.3.3.3. The plan should include species-specific rationale for situations where propagation of wild-caught animals is not part of the long-term plan for their management.
- 1.3.4. Acquisitions from the wild through direct collections must only be undertaken under authority from the appropriate governmental regulatory agency managing the source population.
- 1.3.5. Members acquiring marine mammals from the wild must be able to demonstrate that such removal will not compromise the sustainability of the stock or population from which the animals were taken.

1.4. Standards and Guidelines for Disposition

- 1.4.1. Members must only remove living animals from their collections by sale, exchange, loan, or gift to a qualified marine mammal park, aquarium, marine life park, or comparable institution.
 - 1.4.1.1. Animals should only be placed in an institution or collection whose purposes are consistent with those of the EAAM.
 - 1.4.1.2. Members should incorporate as standard practice a determination that the recipient will provide care and management for the animal to EAAM standards.
 - 1.4.1.3. Animals should be disposed of in a manner consistent with humane practices and applicable governing law.
- 1.4.2. Living marine mammals must only be loaned to other marine mammal facilities for purposes of exhibition or propagation, or research for study, provided the member is satisfied that the recipient can provide adequate care and treatment.

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- 1.4.2.1. Such disposition should not be detrimental to the animal or its species.
- 1.4.2.2. Such loans should be documented by written agreement declaring the nature of the loan and its terms.
- 1.4.3. Marine mammals maintained as part of a collection must only be released to the wild if part of an authorized and proper, scientifically-based experimental reintroduction program that is anchored in the principles of conservation biology and has the ultimate goal of sustaining a threatened or endangered marine mammal stock and/or population.
- 1.4.4. Euthanasia is recognized as a legitimate animal management tool but must only be utilized, when appropriate, as recommended by the attending veterinarian in accordance with the member's program of veterinary care, including but not limited to terminating animal suffering caused by illness, injury, or other medical conditions.
- 1.4.5. In all cases, members must insure that the manner of disposition considers the best interests of the animal and its species.
- 1.4.6. Marine mammals that die must be subjected to a post-mortem examination as determined by the attending veterinarian, with a permanent record generated indicating the disposition and/or results of the necropsy.
 - 1.4.6.1. Maximum use should be made of dead marine mammal specimens with priority given to those that enhance animal husbandry or conservation of the species in the wild.
 - 1.4.6.2. Second priority should be given to placing dead specimens in suitable museum collections or other bona fide scientific research programs, or in an educational facility.
 - 1.4.6.3. Dead marine mammals not disposed of by any of the above-named methods should be destroyed by incineration, burial, or in a manner deemed suitable by the attending veterinarian and curator in accordance with law.

2. Animal Training

2.1. General Provisions

2.1.1. EAAM members recognize animal training as an application of behavioural science that:

- (1) provides a means to observe, assess and enrich an animal's physical and psychological health
- (2) assists the animal care staff in providing safe and expedient methods for preventive and clinical medical procedures
- (3) integrates public display within husbandry regimes
- (4) facilitates education and research objectives.

2.2. Definitions

2.2.1. **Animal Training** is the deliberate application of learning principles, operant conditioning and classical conditioning to modify an animal's behaviour in order to facilitate husbandry, public display 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.

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 behavioural 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 behavioural science, management, training, husbandry, enrichment or other related disciplines.

2.2.6. **Preceptorship** 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 Programs

2.3.1. Members must have a policy on animal training that meets the standardized training guidelines of the International Marine Animal Trainers Association. (see

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attachment)

2.3.2. 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 program
- b. philosophy of animal training
- c. application of animal training
- d. statements of animal care and treatment principles
- e. management review and accountability

2.3.3. Members must have a behavior development and management plan.

2.3.3.1. The behaviour 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 emergency procedures, and record keeping, typically including:

- a. animal training decision authority
- b. categorized list of behaviour goals and objectives
- c. animal training plan for individual behaviours
- d. criteria for measuring success of animal training plans
- e. schedule of frequency to maintain criteria
- f. contingency plans

2.3.4. Members must provide for an animal training staff that is appropriately sized and qualified to meet program requirements.

2.3.4.1. 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 the positions described by proficiency requirements. The organization should have and support a program for trainer development, typically including:

- a. organizational flow chart
- b. animal training position(s) responsibilities
- c. requirements of animal training positions
- d. position descriptions for animal training positions
- e. qualifications of animal training personnel

2.3.5. Members must participate in animal training information exchange activities.

2.3.5.1. The organization should 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.

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Suggested considerations include:

- a. membership in professional organizations
- b. animal trainer exchange programs
- c. internships and preceptorships
- d. subscriptions to professional journals

3. Education standards

3.1. General provisions

The word “marine mammal park” is used here for any institution that is a member of EAAM or is applying to become a member of EAAM.

The main aims of modern marine mammal parks include conservation and education. If conservation is to succeed, people need to be inspired to care about and understand animals and the threats they face in the wild. Everyone should have the opportunity to experience and learn about wildlife at first hand.

One of EAAM's aims is to promote knowledge and understanding of the natural world through the medium of marine mammal parks. Marine mammal parks are a valuable educational and cultural resource. Every year 7 million people visit the marine mammal parks in Europe.

Marine mammal park education programmes can be successful in increasing the public's awareness of the irreplaceable value of nature. Education is therefore an essential conservation task of marine mammal parks.

3.2. Requirements

3.2.1. The education role of the marine mammal park is to be clearly stated in its written mission statement.

3.2.2. The marine mammal park must have a written education policy, identifying educational components and setting out the methods by which these components are directed towards the different sections of the marine mammal park's visitor audience. The concept of marine mammal park education is broader than a programme for schools and should be targeted at the entire marine mammal park visitation.

Explanation

Educational components might include such topics as: animal behaviour, marine mammal park animal management, variety of life, a variety of animal-based topics, global or local conservation in situ and ex situ issues, threats to species, the role of marine mammal parks in conservation, sustainability and a respect for and appreciation of wildlife. Each marine mammal park should have some idea of how the visitor audience is constituted in order to target its education programme. Examples might include: general visitors, locals, tourists, families, mixed age groups, friends, school groups, same age groups, teenagers, elderly, handicapped, literate and illiterate people.

Methods for delivering educational programmes might include (a combination of): the exhibits themselves, identification labels, graphic displays, audio/visual presentations,

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interactive displays, information technology, marine mammal park guide books, education staff, animal staff, marine mammal park volunteers, permanent or temporary exhibitions, marine mammal park publications and other media.

- 3.2.3. The marine mammal park must demonstrate that it is carrying out its education policy, by reference to specific projects, figures of attendance, evaluation procedures and research.
- 3.2.4. At least one member of staff within the institution should be responsible for a professional implementation of the education policy.

Explanation

Medium-sized marine mammal parks should employ at least one member of staff with overall responsibility for education. Larger marine mammal parks should also have additional education staff. Staff must have some training in education, preferably with a university degree and/or teacher training qualification. In smaller marine mammal parks, the education role might be combined with other functions and be carried out by personnel such as: the director, curator, senior keeper and researcher. Staff involved must be familiar with education practice and ideally have some formal or informal training in education (through education conferences and regional workshops).

- 3.2.5. Animals must be clearly and correctly identified at their enclosures. Threatened species and species in regional, national and international coordinated breeding programmes should be highlighted.
- 3.2.6. It should be emphasised that for education programmes to be successful, marine mammal park animals must be exhibited in the best conditions in enclosures that enable them to live as natural as possible and to participate in natural behaviours as far as possible.
- 3.2.7. Interpretation/education should be an integral part of marine mammal park exhibits and the educator should be incorporated in the exhibit planning and collection planning process.
- 3.2.8. A reference library appropriate to the size and complexity of the marine mammal park should be maintained and made available to all staff members, and possibly to the public where practical.

Explanation

Books, current journals and other media enable staff to improve their knowledge and to keep abreast of recent trends in marine mammal park biology and conservation. In turn, this enables them to provide accurate information to marine mammal park visitors.

- 3.2.9. Resource material/education information should be made available to the general public and marine mammal park audience. This might include: leaflets, guide books,

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teacher's notes, resource packs, work sheets and should be displayed and available for purchase or for free.

3.2.10. Education programs about marine mammals should include institution experts as a marine science resource to professional groups and the education community when appropriate and practicable.

3.2.10.1. Public display facilities employ and collaborate with many highly knowledgeable and experienced marine mammal experts, such as animal behaviourists, veterinarians, research scientists, trainers, marine educators, and other specialists. When appropriate and practicable, facilities should encourage and facilitate opportunities for these specialists to serve as marine science resources and share their expertise with interested professional groups and the education community.

4. Enclosures and Spatial requirements

4.1. General provisions

In this Annex the following definitions shall apply:

4.1.1. **Marine mammal parks** shall refer to all establishments open to and administered for the public to promote nature conservation and to provide education, information and recreation through the presentation and conservation of wildlife.

4.1.2. Marine mammal parks situated in EU countries are requested to have a valid license under Council Directive 1999/22/EC of 29 March 1999. All others need valid licenses to operate, if these exist.

4.1.3. **Welfare** shall refer to the physical, behavioural and social well-being of animals through the provision of appropriate conditions for the species involved, including but not necessarily limited to housing, environment, diet, medical care and social contact where applicable;

4.1.4. **Enclosure** means any accommodation provided for animals in marine mammal parks.

4.1.5. **Enclosure barrier** means a barrier to contain an animal within an enclosure;

4.1.6. **Stand-off barrier** means a physical barrier set back from the outer edge of an enclosure barrier designed to prevent public access to the latter;

4.2. The Standards

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4.2.1. Routine observation of the bottlenose dolphins

4.2.1.1. The condition and health of all bottlenose dolphins in the marine mammal park to be checked daily by the persons in charge of their care for that particular day.

4.2.1.2. Any bottlenose dolphins which are noted to be unduly stressed, sick or injured to receive immediate attention and, where necessary, treatment.

4.2.2. Accommodation - Space, Exercise and Grouping

4.2.3. Bottlenose dolphins to be provided with an environment, space and furniture sufficient to allow such exercise as is needed for their welfare.

4.2.4. Enclosures to be of sufficient size and bottlenose dolphins to be so managed

4.2.4.1.1. to avoid bottlenose dolphins within groups being unduly dominated by individuals;

4.2.4.1.2. to avoid the risk of persistent and unresolved conflict between group members or between different species in mixed exhibits;

4.2.4.1.3. to ensure that the physical carrying capacity of the enclosure is not over-burdened;

4.2.4.1.4. to prevent an unacceptable build-up of parasites and other pathogens.

4.2.4.1.5. **Minimum pool sizes**

4.2.4.1.6. Pool sizes are set to satisfy the need of bottlenose dolphins for physical exercise, opportunity to enrol in natural behaviours and constructive social interaction. The general public needs to experience the holding environment of the animal as spacious and adequate.

The perception of the public of the quality of an enclosure changes rapidly throughout time. In order to combine security for marine mammal parks that their designed enclosures are satisfactory to standards and ensure adequate flexibility of the EAAM to changing public demands the minimum standards are set for periods of five years. If a facility does not meet newly set standards it has ten years to adapt.

Facility designers are therefore well advised not to take minimum standards for new to build enclosures. Inspiration can be obtained from modern facilities like Zoomarine, Rome (Italy), SeaWorld discovery cove Orlando (FL, USA) or Dolfinarium Harderwijk Lagoon, Harderwijk (Netherlands)

4.2.4.1.7. **For bottlenose dolphins the minimum size of the enclosure is:**

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1. For a collection of up to 6 animals water surface area 550m² plus 75m² per additional animal.
 2. An area of at least 275 m² should have a minimum depth of 3.5m
 3. Total water volume: 2000 m³ plus 300 m³ per additional animal.
- 4.2.4.1.7.1.1. Animals can be kept in a smaller enclosure if compelling veterinary reasons justify such holding. A written statement of the attending veterinarian explaining the temporary keeping of an animal under different conditions should be available which:
- 4.2.4.1.7.1.1.1. outlines the veterinary reason for the different holding condition
 - 4.2.4.1.7.1.1.2. clarifies what actions are taken to end this situation
 - 4.2.4.1.7.1.1.3. clarifies how long this exceptional situation is expected to persist
- 4.2.5. Bottlenose dolphins not to be unnaturally provoked for the benefit of the viewing public.
- 4.2.6. Bottlenose dolphins in visibly adjoining enclosures to be those which do not interact in an excessively stressful way.
- 4.2.7. Separate accommodation for pregnant bottlenose dolphins and bottlenose dolphins with young to be available, if necessary, in the interests of avoiding unnecessary stress or suffering.
- 4.2.8. Provide appropriate accommodation for bottlenose dolphins being temporarily separated from a group.

Accommodation - Comfort and Well-being

- 4.2.9. The temperature, humidity, ventilation and lighting of enclosures to be suitable for the comfort and well-being of bottlenose dolphins at all times, and in particular –
- 4.2.9.1.1. consideration to be given to the special needs of pregnant and newly-born bottlenose dolphins;
 - 4.2.9.1.2. newly-arrived imported bottlenose dolphins to be fully acclimatized bearing in mind that this may be only a gradual process;

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- 4.2.10. Bottlenose dolphins in outdoor enclosures to be provided with sufficient shelter from inclement weather or excessive sunlight where this is necessary for their comfort and well-being.

Furnishings within Enclosures

- 4.2.11. Provide appropriate environmental and behavioural enrichment.

Prevention of Stress or Harm to Bottlenose dolphins

- 4.2.12. Enclosures and barriers to enclosures to be maintained in a condition which presents no likelihood of harm to bottlenose dolphins, and in particular –

4.2.12.1. any defect noted in an bottlenose dolphin barrier or in any appliances or equipment within bottlenose dolphin enclosures to be repaired or replaced without delay;

4.2.12.2. any defect likely to cause harm to bottlenose dolphins to be rectified at once or, if this is not possible, the bottlenose dolphins to be removed from the possibility of any contact with the source of the danger;

4.2.12.3. Any vegetation capable of harming bottlenose dolphins to be kept out of reach.

- 4.2.13. All plants and fixed equipment, including electrical apparatus, to be installed in such a way that it does not present a hazard to bottlenose dolphins and its safe operation cannot be disrupted by them.

- 4.2.14. Rubbish in bottlenose dolphin enclosures to be cleared regularly to avoid any possibility of harm to bottlenose dolphins.

- 4.2.15. Smoking is prohibited in bottlenose dolphin enclosures, in parts of buildings where bottlenose dolphin's enclosures are located and in areas where food is stored or prepared.

- 4.2.16. Bottlenose dolphins to be handled only by, or under the supervision of, competent trained authorised staff; and this to be done with care, in a way which will avoid unnecessary discomfort, behavioural stress or actual physical harm to animals.

- 4.2.17. Any direct physical contact between animals and the visiting public only to be under the control of bottlenose dolphin park staff and for periods of time and under conditions consistent with the animal's welfare and not leading to their discomfort.

5. Husbandry

5.1. Nutrition

- 5.1.1. The food for bottlenose dolphins must be wholesome, palatable, and free from contamination and must be of sufficient quantity and nutritive value to maintain bottlenose dolphins in a state of good health. The diet must be prepared with consideration for factors such as age, species, condition, and size of the bottlenose dolphin being fed.
- 5.1.2. Food, when given to each bottlenose dolphin individually, must be given by an employee or attendant responsible to management who has the necessary knowledge to assure that each bottlenose dolphin receives an adequate quantity of food to maintain it in good health. Such employee or attendant is required to have the ability to recognize deviations from a normal state of good health in each bottlenose dolphin so that the food intake can be adjusted accordingly.
- 5.1.3. Public feeding may be permitted only in the presence and under the supervision of a sufficient number of knowledgeable, identified employees or attendants. Such employees or attendants must assure that the bottlenose dolphins are receiving the proper amount and type of food.
- 5.1.4. Food preparation and handling must be conducted so as to assure the wholesomeness and nutritive value of the food.
- 5.1.5. Frozen fish or other frozen food must be stored in freezers that are maintained at a maximum temperature of -18°C (0°F). The length of time food is stored and the method of storage, the thawing of frozen food, and the maintenance of thawed food must be conducted in a manner that will minimize contamination and that will assure that the food retains nutritive value and wholesome quality until the time of feeding.
- 5.1.6. Storage programs, thawing procedures and food preparation processes should be designed to prevent loss of nutrients and bacterial contamination.
- 5.1.7. Vitamin supplementation and other medication prescribed by the attending veterinarian must be individualized for each bottlenose dolphin.
- 5.1.8. Minimum analyses should include organoleptic and caloric values.

5.2. Sanitation

5.2.1. Enclosures:

- 5.2.1.1.1. Animal and food wasted in areas other than the tank of water must be removed from the primary enclosures at least daily, and more often when

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necessary, in order to provide a clean environment and minimize health and disease hazards.

5.2.1.1.2. Particulate animal and food waste, trash, or debris that enters the primary enclosure tank of water must be removed at least daily, or as often as necessary, to maintain the required water quality and to minimize health and disease hazards to the bottlenose dolphins.

5.2.1.1.3. The wall and bottom surfaces of the primary enclosure pools of water must be cleaned as often as necessary to maintain proper water quality. Natural organisms (such as algae, coelenterates, or molluscs, for example) that do not degrade water quality, prevent proper maintenance, or pose a health or disease hazard to the animals are not considered contaminants.

5.2.2. **Food preparation:**

5.2.2.1.1. Equipment and utensils used if food preparation must be cleaned and sanitized after each use.

5.2.2.1.2. Kitchens and other food handling areas where animal food is prepared must be cleaned at least once daily and sanitized at least once every week. Sanitizing must be accomplished by washing with hot water and soap or detergent in a mechanical dishwasher, or by washing all soiled surfaces with a detergent solution followed by a safe and effective disinfectant, or by cleaning all soiled surfaces with steam.

5.2.2.1.3. Substances such as cleansing and sanitizing agents, pesticides, and other potentially toxic agents must be stored in properly labelled containers in secured cabinets designed and located to prevent contamination of food storage preparation surfaces.

5.2.3. **Housekeeping:**

5.2.3.1.1. Buildings and grounds, as well as exhibit areas, must be kept clean and in good repair.

5.2.3.1.2. Fences must be maintained in good repair.

5.2.3.1.3. Primary enclosures housing bottlenose dolphins must not have any loose objects or sharp projections and/or edges which may cause injury or trauma to the bottlenose dolphins contained therein.

5.2.4. **Pest control:**

5.2.4.1.1. A safe and effective program for the control of insects, ectoparasites, and avian and mammalian pest must be established and maintained. Insecticides or other such chemical agents must not be applied in primary

enclosures housing bottlenose dolphins except when deemed essential by an attending veterinarian.

6. Veterinary care

- 6.1.1. Members must have in place a comprehensive program for veterinary medical care that is integrated with husbandry, research and management functions.
- 6.1.2. 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 assure the health of the facility's marine mammals.
- 6.1.3. Animal health assessment program should include:
 - 6.1.3.1.1. Regular veterinary rounds.
 - 6.1.3.1.2. Daily monitoring by husbandry staff of each animal's physical appearance, activity, temperament and /or changes in behaviour. Any significant change must be immediately communicated to the attending veterinarian
 - 6.1.3.1.3. Complete physical examinations must be performed at regular intervals on each marine mammal in the collection. Physical examinations should include:
 - 6.1.3.1.3.1.1. determination of weight change
 - 6.1.3.1.3.1.2. comparison of food intake and body weight
 - 6.1.3.1.3.1.3. other laboratory tests as needed
 - 6.1.3.1.3.1.4. Parasite screening and treatment must be conducted where indicated by the attending veterinarian for each marine mammal in the collection.

7. Propagation

7.1. General Provisions

7.1.1. The EAAM is committed to the goal of increasing the contribution of captive breeding to colonies held at all institutions. The continued development and improvement of current propagation techniques by EAAM members will substantially benefit these efforts. It will also benefit rare and endangered species whose populations are increasingly threatened by diminishing habitat and other anthropogenic factors.

7.2. Definitions

7.2.1. **Current propagation techniques** refer to up-to-date methods and strategies utilized to maximize the potential for successful breeding efforts.

7.2.2. **Comprehensive propagation plan** is a thorough, written plan covering all aspects of propagation which is designed to maximize the potential for successful breeding efforts and rearing of offspring.

7.2.3. **Studbook** refers to the genealogical register established to track lineage of marine mammal offspring.

7.3. Standards and Guidelines for Propagation

7.3.1. Members must prioritize, through strategic planning, the selection of species for reproductive management based upon biological, demographic and conservation needs of the species.

7.3.2. Members must optimize the genetic diversity within their managed collections of marine mammals.

7.3.3. Members must work to maintain managed collections 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.

7.3.4. Members should participate in regional, national and/or international studbook and breeding management programs and should participate in the EEP programs if existent for the species they possess.

7.3.5. 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.

7.4. Standards and Guidelines for Cetacean Propagation

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

8. WATER AND ENVIRONMENTAL QUALITY

8.1. General Provisions

Wild bottlenose dolphins 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 insure optimum quality, bottlenose dolphin 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 both the physiological needs of the animals and the efficiency of the water processing techniques involved.

8.2. Definitions

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- 8.2.1. **Bottlenose dolphin pool** refers to any structure or enclosure containing water designed to house bottlenose dolphins, including natural lagoon, bays and tidal basins, as well as man-made structures.
- 8.2.2. **Laboratory techniques listed in standard methods** refers to analytical methods as outlined in *Standard Methods for the Examination of Water and Wastewater*, 17th ed. American Public Health Association, Washington, DC pp. 9-1-9-155.
- 8.2.3. **Adequate ventilation** refers to an ample flow of fresh air necessary to minimize the accumulation of chlorine fumes, other gases, and noxious odours.
- 8.2.4. **Vertical air space** refers to the space between the surface of a bottlenose dolphin pool and the overhead ceiling or canopy, usually pertaining to an indoor facility.
- 8.2.5. **Acoustic monitoring** refers to a system for detecting sounds and noise audible to bottlenose dolphins.

8.3. Standards and Guidelines for Water Quality

- 8.3.1. Bottlenose dolphin pool water must be monitored daily for basic chemical parameters as appropriate for closed or open circulation systems.
 - 8.3.1.1.1. Bottlenose dolphin pool water should be tested twice daily and treated as necessary to maintain pH values not less than 7.2 or more than 8.4.
 - 8.3.1.1.2. Bottlenose dolphin pool water should be tested twice daily for concentration of chlorine and/or other oxidizing agents. Total free and combined chlorine should not exceed 1.8 mg/l.
 - 8.3.1.1.3. Bottlenose dolphin pool water should be free of residual dissolved ozone.
 - 8.3.1.1.4. Bottlenose dolphins 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.
 - 8.3.1.1.5. Members should test the concentration of bacteria in bottlenose dolphin pool water as appropriate to assure themselves that total coliform counts does not exceed 1,000 colonies/100 ml. Laboratory techniques listed in Standard Methods that test for total coliform bacteria, including multiple-tube fermentation and membrane filtration, are acceptable.
- 8.3.1.2. Members should implement a program of daily exhibit cleaning and maintenance that minimizes the risk of animal exposure to pathogenic micro

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organisms.

8.3.2. 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.

8.3.2.1.1. 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.

8.3.2.1.2. Bacteria should be monitored at least weekly for total coliform (see 12.3.2.). Additionally, it is recommended that total bacteria/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.

8.3.2.1.3. Water temperature should be monitored at least daily (see 12.4.1.). Where conditions outside of the ranges noted in 7.4.1. occur for longer than one contiguous week, members should take protective actions so as to prevent adverse animal health consequences.

8.3.2.1.4. 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.

8.4. Standards and Guidelines for Environmental Quality

8.4.1.1. Bottlenose dolphins should not be maintained in water temperatures less than 10°C (50°F) or more than 32°C (90°F).

8.4.1.2. All bottlenose dolphin pool waters should be free of ice.

8.4.2. All bottlenose dolphin enclosures must be provided with adequate ventilation.

8.4.2.1. 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 odours.

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8.4.2.2. A vertical air space averaging at least six feet (1.8 meters) should be maintained in all primary enclosures, including pools of water.

8.4.3. Members must minimize exposure of bottlenose dolphins to noises of sufficient intensity or type to cause auditory discomfort or distress.

8.4.3.1. A plan of acoustic monitoring for bottlenose dolphin enclosures should be in place. Efforts should be made to acoustically isolate sound-generating mechanical equipment located in close proximity to bottlenose dolphin enclosures.

9. In water interactive programs

9.1. General Provisions

9.1.1. An in-water interactive program must comply with all requirements for the care and maintenance of bottlenose dolphins as defined by relevant laws and regulations.

9.2. Definitions

9.2.1. **In Water Interactive Program** refers to a program in which members of the public enter a bottlenose dolphin enclosure or pool to participate in an activity that includes physical contact with a bottlenose dolphin under trainer control. This excludes, but such exclusion is not limited to, feeding and touching pools, and the participation of any member of a public audience as a segment of a presentation or show.

9.2.2. **Controlled Interaction** refers to an in-water interactive program in which the movements and interactions of both bottlenose dolphins and public participants are maintained under stimulus control.

9.3. Standards and Guidelines for Bottlenose dolphin In-Water Interactive Programs

9.3.1. Primary enclosures used for in-water interactive programs must meet relevant government regulations, must have an area of the enclosure established for animals participating in in-water 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-water interactive activities programming must include educational information about the bottlenose dolphin species and promote an improved understanding of and an appreciation for the conservation of the animals and their ecosystems.

9.3.2.1.1. Such educational presentations should include oral and written procedures and rules outlining appropriate behaviour for the protection of both the animals and the guests.

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- 9.3.2.1.2. All programs should include information that feeding wild bottlenose dolphins is not advised, that it is illegal in some countries, and that swimming with wild bottlenose dolphins can be harmful to both the animals and the people involved.
- 9.3.3. Bottlenose dolphins participating in in-water interactive programs must be properly trained and conditioned, and appropriate action must be taken to maintain a controlled interaction.
 - 9.3.3.1.1. If a member of the public refuses to participate responsibly in an activity, that guest should be immediately removed from the interactive session.
- 9.3.4. A facility must have a behaviour development and management plan specific to each type of interactive activity offered to the public and must meet the standardized training guidelines of the International Marine Animal Trainers Association.
 - 9.3.4.1.1. The behaviour development and management plan should describe the animal training program, its objectives, and methods of accomplishment.
 - 9.3.4.1.2. The amount of time each bottlenose dolphin is asked to participate in interactive activities should be specific to the individual animal and based on behavioural criteria compiled for that animal.
 - 9.3.4.1.3. Ratios of public participants to animals should be appropriate to the type of in-water interactive activity offered. Approval of the ratio by both the attending veterinarian and the supervising trainer is required, based on their observations of the specific interaction.
 - 9.3.4.1.4. Ratios of public participants to attendants shall be appropriate to the type of in-water interactive activity offered. Approval of the ratio by both the attending veterinarian and the supervising trainer is required, based on their observations of the specific interaction.
 - 9.3.4.1.5. Bottlenose dolphins undergoing medical treatment may participate in in-water interactive programs with the approval of the facility's attending veterinarian.
 - 9.3.4.1.6. Supervisory staff overseeing interactive programs must have actively participated in the training and husbandry of bottlenose dolphins in interactive programs for at least three years accumulated over a period of no longer than five years prior to current employment.
 - 9.3.4.1.7. Each animal must have one period of 10 continuous hours without public interaction within a 24-hour period.

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- 9.3.4.1.8. All incidents resulting in injury to either bottlenose dolphins 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. Transportation

10.1. **General Provisions**

- 10.1.1. EAAM members must ensure that bottlenose dolphins under their care are transported between facilities in a manner that is both safe and humane. Implicit in the transport of an aquatic or semi-aquatic mammal is the fact that the animal will be restricted from access to its normal environment, an environment which provides physical support, protection from extremes of temperature, and freedom of normal postural adjustments. For this reason, the movement of a bottlenose dolphin between facilities must be executed in an efficient manner by experienced staff.

10.2. **Definitions**

- 10.2.1. **Bottlenose dolphin transportation** refers to the relocation or movement of bottlenose dolphins 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.
- 10.2.2. **Initial health assessment** refers to a preliminary physical exam including review of animal records conducted by 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.
- 10.2.3. **Transport plan** refers to a thorough, written plan of action designed to insure a safe, humane, and efficient move of a bottlenose dolphin from one location to another.

10.3. **Standards and Guidelines for Bottlenose dolphin Transportation**

- 10.3.1. An initial health assessment must be conducted by the attending veterinarian or another experienced bottlenose dolphin veterinarian on each animal between three to ten days preceding transport. The health assessment will include the evaluation of behavioural, feeding, and medical records.
- 10.3.2. A transport plan must be in place.
- 10.3.3. A final transport planning meeting should be held by a designated transport coordinator not more than 24 hours prior to transport to ensure the bottlenose dolphin's health and well being. Emergency contingency plans should be outlined

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and approved at this meeting.

10.3.4. Bottlenose dolphins should be fasted for between 18 and 36 hours prior to transport.

10.3.5. Bottlenose dolphins must be monitored throughout transport.

10.3.6. The attending veterinarian or another licensed veterinarian experienced in bottlenose dolphin transport should accompany transports.

10.4. **Standards and Guidelines for Bottlenose dolphin Transport**

10.4.1. Bottlenose dolphins 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.

10.4.2. Bottlenose dolphins should be transported, whenever possible, within properly secured, open-top containers with sufficient water to provide body support and to facilitate thermoregulation.

10.4.3. When transporting bottlenose dolphins in aircraft, cabin pressure should be maintained at less than 8,000 feet (2,400 meters), with 6,000 feet (1,800 meters) or less being optimal for most individuals.

10.4.4. One attendant per each bottlenose dolphin is recommended on transports of four or less animals with a minimum of two attendants per transport. On transports of five or more bottlenose dolphins, additional attendants may be added at the discretion of the veterinarian and/or transport coordinator.

11. **RECORD KEEPING**

11.1. **General Provisions**

11.1.1. The EAAM recognizes the need to maintain standardized, comprehensive and accurate records concerning the humane and healthful care of the marine mammals in our collections. Whereas certain record maintenance is required by various laws, up-to-date records will: (1) assist all members in providing the latest in appropriate care for the animals; (2) enable all members to share their collective knowledge about health and behavior concerns; and, (3) facilitate reproduction programs through accurate recording of activities and with appropriate management of related animals through studbooks. The EAAM therefore recommends that members maintain the following data in each category. It is recognized that individual members may collect and maintain more data, where appropriate, based on individual member circumstances and needs.

11.2. **Standards and Guidelines for Record Keeping**

- 11.2.1. Acquisition and disposition records must include: date and location of acquisition; method of acquisition (wild caught, captive birth, transfer, loan, temporary holding); sex; genus and species; progeny; identification (genus, species, sex, id #. For example: TT-M1562, name); date and location of disposition; method of disposition; all applicable CITES documentation relating to the animal; transportation records. Acquisition and disposition records must be kept indefinitely.
- 11.2.2. Food and nutrition records must include: type, and/or species of food; caloric value; analysis; freezer rotation; dates on food packets; and, freezer temperature. Food and nutrition records must be kept for at least five years.
- 11.2.3. Health and medical records must include: date of examination; veterinarian's name; reason for examination; action taken; medications; supplements; individual nutritional requirement; body measurements; blood test results; necropsy findings; photographs (when appropriate), physical characteristics; subjective and objective findings. Health and medical records must be kept indefinitely.
- 11.2.4. Health and medical records should always remain with the individual animal. Duplicate records must be kept indefinitely at the originating facility.
- 11.2.5. Environmental quality records must include: test parameters for water quality; tests for added chemicals; microbiological culture test results; amount of added chemicals; facility maintenance log; and, filtration operation log. Environmental quality records must be kept 5 years.
- 11.2.6. Daily records must include: behavioral observations; anomalies and patterns; outside factors; types and quantities of food consumed; and, amount and type of interaction. Daily records must be kept five years.
- 11.2.7. Facility descriptions must include: enclosure dimensions and location; water system type.
- 11.2.8. All incidents resulting in injury to either bottlenose dolphins or the public as a result of an interaction, as defined in section 9 of these standards and guidelines, that require veterinary or medical care must be recorded and kept at the facility for at least ten years.
- 11.2.9. Inspection records of any professional or governmental organisation should be kept for at least ten years.

11.3. **Standards and Guidelines for the Safety of Records**

- 11.3.1. Records must be protected from fire, flooding and other natural or human created hazards.
- 11.3.2. Duplicate records, as appropriate, must be kept in either a separate location or a fire proof case.
- 11.3.3. It is recommended that all records are kept indefinitely to allow retrospect analysis.