§ 3.101 Facilities, general.

(a) *Construction requirements.* (1) Indoor and outdoor housing facilities for marine mammals shall be structurally sound and shall be maintained in good repair, to protect the animals from injury, to contain the animals, and to restrict the entrance of unwanted animals.

(2) All marine mammals shall be provided with protection from abuse and harassment by the viewing public by the use of a sufficient number of employees or attendants to supervise the viewing public, or by physical barriers, such as fences, walls, glass partitions, or distance, or both.

(3) Any primary enclosure pool, except for natural seawater pools subject to tidal action, shall be constructed of materials having a nonporous, waterproof finish, which facilitate proper cleaning and disinfection, and shall be maintained in good repair as part of a regular ongoing maintenance program. Any ramps or haul-out areas for primary enclosure pools, and any natural seawater pools subject to tidal action, shall be constructed of materials which facilitate proper cleaning and disinfection and shall be maintained in good repair as part of a regular ongoing maintenance program.

(4) Facilities which utilize natural water areas, such as tidal basins, bays, or estuaries (subject to natural tidewater action) used for housing marine mammals shall be exempt from the drainage requirements of paragraph (c)(1) of this section, but they must meet the minimum standards with regard to space, depth, and sanitation. The water must be monitored for coliforms and for ph and chemical content, if chemicals are added.

(b) *Water and power supply.* Reliable and adequate sources of water and electric power shall be provided by the facility housing marine mammals. Written contingency plans must be submitted to and approved by Veterinary Services regarding emergency sources of water and electric power in the event of failure of the primary sources, when such failure could reasonably be expected to be detrimental to the good health and well-being of the marine mammals housed therein.

(c) *Drainage.* (1) Adequate drainage shall be provided for all primary enclosure pools and shall be located so that all of the water contained in such pools may be rapidly eliminated when necessary for cleaning the pools or for other purposes. Drainage effluent from primary enclosure pools shall be disposed of in a manner that complies with all applicable Federal, State, and local pollution control laws.

(2) Drainage shall be provided for primary enclosures and areas immediately surrounding pools. Drains shall be located so as to rapidly eliminate excess water (except in pools). Such drainage effluent shall be disposed of in a manner that complies with all applicable Federal, State, and local pollution control laws.

(d) *Storage.* Supplies of food shall be stored in facilities which adequately protect such supplies from deterioration, molding, or contamination by vermin. Refrigerators and freezers shall be used for perishable food. No substances which are known to be or may be toxic or harmful to marine mammals shall be stored or maintained in the marine mammal food storage areas.

(e) *Waste disposal.* Provision shall be made for the removal and disposal of animal and food wastes, dead animals, trash, and debris. Disposal facilities shall be provided and operated in a manner which will minimize vermin infestation, odors, and disease hazards. All waste disposal procedures must comply with all applicable Federal, State, and local laws pertaining to pollution control, protection of the environment, and public health.

(f) *Washroom facilities.* Facilities such as washrooms, basins, showers, or sinks, shall be provided to maintain cleanliness among employees and attendants.

[44 FR 36874, June 22, 1979, as amended at 44 FR 63492, Nov. 2, 1979; 49 FR 26682, June 28, 1984]

§ 3.102 Facilities, indoor.

(a) *Ambient temperature.* The air and water temperatures in indoor facilities shall be sufficiently regulated by heating or cooling to protect the marine mammals from extremes of temperature, to provide for their good health

and well-being and to prevent discomfort, in accordance with the currently accepted practices as cited in appropriate professional journals or reference guides, depending upon the species housed therein. Rapid changes in air and water temperatures shall be avoided.

(b) *Ventilation.* Indoor housing facilities shall be ventilated by natural or artificial means to provide a flow of fresh air for the marine mammals and to minimize the accumulation of chlorine fumes, other gases, and objectionable odors. A vertical air space averaging at least 1.83 meters (6 feet) shall be maintained in all primary enclosures housing marine mammals, including pools of water.

(c) *Lighting.* Indoor housing facilities for marine mammals shall have ample lighting, by natural or artificial means, or both, of a quality, distribution, and duration which is appropriate for the species involved. Sufficient lighting must be available to provide uniformly distributed illumination which is adequate to permit routine inspections, observations, and cleaning of all parts of the primary enclosure including any den areas. The lighting shall be designed so as to prevent overexposure of the marine mammals contained therein to excessive illumination.[7]

[44 FR 36874, June 22, 1979; 63 FR 2, Jan. 2, 1998]

§ 3.103 Facilities, outdoor.

(a) *Environmental temperatures.* Marine mammals shall not be housed in outdoor facilities unless the air and water temperature ranges which they may encounter during the period they are so housed do not adversely affect their health and comfort. A marine mammal shall not be introduced to an outdoor housing facility until it is acclimated to the air and water temperature ranges which it will encounter therein. The following requirements shall be applicable to all outdoor pools.

(1) The water surface of pools in outdoor primary enclosures housing polar bears and ice or cold water dwelling species of pinnipeds shall be kept sufficiently free of solid ice to allow for entry and exit of the animals.

(2) The water surface of pools in outdoor primary enclosures housing cetaceans and sea otters shall be kept free of ice.

(3) No sirenian or warm water dwelling species of pinnipeds or cetaceans shall be housed in outdoor pools where water temperature cannot be maintained within the temperature range to meet their needs.

(b) *Shelter.* Natural or artificial shelter which is appropriate for the species concerned, when the local climatic conditions are taken into consideration, shall be provided for all marine mammals kept outdoors to afford them protection from the weather or from direct sunlight.

(c) *Perimeter fence.* On and after May 17, 2000, all outdoor housing facilities (*i.e.,* facilities not entirely indoors) must be enclosed by a perimeter fence that is of sufficient height to keep animals and unauthorized persons out. Fences less than 8 feet high for polar bears or less than 6 feet high for other marine mammals must be approved in writing by the Administrator. The fence must be constructed so that it protects marine mammals by restricting animals and unauthorized persons from going through it or under it and having contact with the marine mammals, and so that it can function as a secondary containment system for the animals in the facility when appropriate. The fence must be of sufficient distance from the outside of the primary enclosure to prevent physical contact between animals inside the enclosure and animals or persons outside the perimeter fence. Such fences less than 3 feet in distance from the primary enclosure must be approved in writing by the Administrator. For natural seawater facilities, such as lagoons, the perimeter fence must prevent access by animals and unauthorized persons to the natural seawater facility from the abutting land, and must

[7] Lighting intensity and duration must be consistent with the general well-being and comfort of the animal involved. When possible, it should approximate the lighting conditions encountered by the animal in its natural environment. At no time shall the lighting be such that it will cause the animal discomfort or trauma.

encompass the land portion of the facility from one end of the natural seawater facility shoreline as defined by low tide to the other end of the natural seawater facility shoreline defined by low tide. A perimeter fence is not required:

(1) Where the outside walls of the primary enclosure are made of sturdy, durable material, which may include certain types of concrete, wood, plastic, metal, or glass, and are high enough and constructed in a manner that restricts entry by animals and unauthorized persons and the Administrator gives written approval; or

(2) Where the outdoor housing facility is protected by an effective natural barrier that restricts the marine mammals to the facility and restricts entry by animals and unauthorized persons and the Administrator gives written approval; or

(3) Where appropriate alternative security measures are employed and the Administrator gives written approval; or

(4) For traveling facilities where appropriate alternative security measures are employed.

[44 FR 36874, June 22, 1979, as amended at 64 FR 56147, Oct. 18, 1999]

§ 3.104 Space requirements.

(a) *General.* Primary enclosures, including pools of water housing marine mammals, shall comply with the minimum space requirements prescribed by this part. They shall be constructed and maintained so that the animals contained therein are provided with sufficient space, both horizontally and vertically so that they are able to make normal postural and social adjustments with adequate freedom of movement, in or out of the water. An exception to these requirements is provided for in §3.110, ''Veterinary care.'' Primary enclosures smaller than required by the standards are also allowed to be used for temporary holding purposes such as training and transfer. Such enclosures shall not be used for permanent housing purposes or for periods longer than specified by an attending veterinarian.

(b) *Cetaceans.* Primary enclosures housing cetaceans shall contain a pool of water and may consist entirely of a pool of water. In determining the minimum space required in a pool holding cetaceans, four factors must be satisfied. These are MHD, depth, volume, and surface area. For the purposes of this subpart, cetaceans are divided into Group I cetaceans and Group II cetaceans as shown in Table III in this section.

(1)(i) *The required minimum horizontal dimension* (MHD) of a pool for Group I cetaceans shall be 7.32 meters (24.0 feet) or two times the average adult length of the longest species of Group I cetacean housed therein (as measured in a parallel or horizontal line, from the tip of its upper jaw, or from the most anterior portion of the head in bulbous headed animals, to the notch in the tail fluke[8]), whichever is greater; except that such MHD measurement may be reduced from the greater number by up to 20 percent if the amount of the reduction is added to the MHD at the 90-degree angle and if the minimum volume and surface area requirements are met based on an MHD of 7.32 meters (24.0 feet) or two times the average adult length of the longest species of Group I cetacean housed therein, whichever is greater.

(ii) The MHD of a pool for Group II cetaceans shall be 7.32 meters (24.0 feet) or four times the average adult length of the longest species of cetacean to be housed therein (as measured in a parallel or horizontal line from the tip of its upper jaw, or from the most anterior portion of the head in bulbous headed animals, to the notch in the tail fluke), whichever is greater; except that such MHD measurement may be reduced from the greater number by up to 20 percent if the amount of the reduction is added to the MHD at the 90-degree angle and if the minimum volume and surface area requirements are met based on an MHD of 7.32 meters (24.0 feet) or four times the average

[8]The body length of a *Monodon monoceros* (narwhale) is measured from the tip of the upper incisor tooth to the notch in the tail fluke. If the upper incisor is absent or does not extend beyond the front of the head, then it is measured like other cetaceans, from the tip of the upper jaw to the notch in the tail fluke. Immature males should be anticipated to develop the ''tusk'' (usually left incisor tooth) beginning at sexual maturity.

adult length of the longest species of Group II cetacean housed therein, whichever is greater.

(iii) In a pool housing a mixture of Group I and Group II cetaceans, the MHD shall be the largest required for any cetacean housed therein.

(iv) Once the required MHD has been satisfied, the pool size may be required to be adjusted to increase the surface area and volume when cetaceans are added. Examples of MHD and volume requirements for Group I cetaceans are shown in Table I, and for Group II cetaceans in Table II.

TABLE I—GROUP I CETACEANS [1]

Representative average adult lengths		Minimum horizontal dimension (MHD)		Minimum required depth		Volume of water required for each additional cetacean in excess of two	
Meters	Feet	Meters	Feet	Meters	Feet	Cubic meters	feet
1.68	5.5	7.32	24	1.83	6	8.11	284.95
2.29	7.5	7.32	24	1.83	6	15.07	529.87
2.74	9.0	7.32	24	1.83	6	21.57	763.02
3.05	10.0	7.32	24	1.83	6	26.73	942.00
3.51	11.5	7.32	24	1.83	6	35.40	1,245.79
3.66	12.0	7.32	24	1.83	6	38.49	1,356.48
4.27	14.0	8.53	28	2.13	7	60.97	2,154.04
5.49	18.0	10.97	36	2.74	9	129.65	4,578.12
5.64	18.5	11.28	37	2.82	9.25	140.83	4,970.33
5.79	19.0	11.58	38	2.90	9.50	152.64	5,384.32
6.71	22.0	13.41	44	3.36	11	237.50	8,358.68
6.86	22.5	13.72	45	3.43	11.25	253.42	8,941.64
7.32	24.0	14.63	48	3.66	12	307.89	10,851.84
8.53	28.0	17.07	56	4.27	14	487.78	17,232.32

[1] All calculations are rounded off to the nearest hundredth. In converting the length of cetaceans from feet to meters, 1 foot equals .3048 meter. Due to rounding of meter figures as to the length of the cetacean, the correlation of meters to feet in subsequent calculations of MHD and additional volume of water required per cetacean, over two, may vary slightly from a strict feet to meters ratio. Cubic meters is based on: 1 cubic foot=0.0283 cubic meter.

TABLE II—GROUP II CETACEANS [1]

Representative average adult length		Minimum horizontal dimension (MHD)		Minimum required depth		Volume of water required for each additional cetacean in excess of four	
Meters	Feet	Meters	Feet	Meters	Feet	Cubic meters [1]	Cubic feet
1.52	5.0	7.32	24	1.83	6	13.28	471.00
1.68	5.5	7.32	24	1.83	6	16.22	569.91
1.83	6.0	7.32	24	1.83	6	19.24	678.24
2.13	7.0	8.53	28	1.83	6	26.07	923.16
2.29	7.5	9.14	30	1.83	6	30.13	1,059.75
2.44	8.0	9.75	32	1.83	6	34.21	1,205.76
2.59	8.5	10.36	34	1.83	6	38.55	1,361.19
2.74	9.0	10.97	36	1.83	6	43.14	1,526.04

[1] Converting cubic feet to cubic meters is based on: 1 cubic foot=0.0283 of a cubic meter.

TABLE III—AVERAGE ADULT LENGTHS OF MARINE MAMMALS MAINTAINED IN CAPTIVITY [1]

Species	Common name	Average adult length	
		In meters	In feet
Group I Cetaceans:			
Balaenoptera acutorostrata	Minke whale	8.50	27.9
Cephalorhynchus commersonii	Commerson's dolphin	1.52	5.0
Delphinapterus leucas	Beluga whale	4.27	14.0
Monodon monoceros	Narwhale	3.96	13.0
Globicephala melaena	Long-finned pilot whale	5.79	19.0
Globicephala macrorhynchus	Short-finned pilot whale	5.49	18.0
Grampus griseus	Risso's dolphin	3.66	12.0
Orcinus orca	Killer whale	7.32	24.0
Pseudorca carassidens	False killer whale	4.35	14.3
Tursiops truncatus (Atlantic)	Bottlenose dolphin	2.74	9.0
Tursiops truncatus (Pacific)	Bottlenose dolphin	3.05	10.0

TABLE III—AVERAGE ADULT LENGTHS OF MARINE MAMMALS MAINTAINED IN CAPTIVITY [1]—Continued

Species	Common name	Average adult length	
		In meters	In feet
Inia geoffrensis	Amazon porpoise	2.44	8.0
Phocoena phocoena	Harbor porpoise	1.68	5.5
Pontoporia blainvillei	Franciscana	1.52	5.0
Sotalia fluviatilis	Tucuxi	1.68	5.5
Platanista, all species	River dolphin	2.44	8.0
Group II Cetaceans:			
Delphinus delphis	Common dolphin	2.59	8.5
Feresa attenuata	Pygmy killer whale	2.44	8.0
Kogia breviceps	Pygmy sperm whale	3.96	13.0
Kogia simus	Dwarf sperm whale	2.90	9.5
Lagenorhynchus acutus	Atlantic white-sided dolphin	2.90	9.5
Lagenorhynchus cruciger	Hourglass dolphin	1.70	5.6
Lagenorhynchus obliquidens	Pacific white-sided dolphin	2.29	7.5
Lagenorhynchus albirostris	White-beaked dolphin	2.74	9.0
Lagenorhynchus obscurus	Duskey dolphin	2.13	7.0
Lissodelphis borealis	Northern right whale dolphin	2.74	9.0
Neophocaena phocaenoides	Finless porpoise	1.83	6.0
Peponocephala electra	Melon-headed whale	2.74	9.0
Phocoenoides dalli	Dall's porpoise	2.00	6.5
Stenella longirostris	Spinner dolphin	2.13	7.0
Stenella coeruleoalba	Striped dolphin	2.29	7.5
Stenella attenuata	Spotted dolphin	2.29	7.5
Stenella plagiodon	Spotted dolphin	2.29	7.5
Steno bredanensis	Rough-toothed dolphin	2.44	8.0

[1] This table contains the species of marine mammals known by the Department to be presently in captivity or that are likely to become captive in the future. Anyone who is subject to the Animal Welfare Act having species of marine mammals in captivity which are not included in this table should consult the Deputy Administrator with regard to the average adult length of such animals.

Species	Common name	Average adult length			
		In meters		In feet	
		Male	Female	Male	Female
Group I Pinnipeds:					
*Arctocephalus gazella***	Antarctic Fur Seal	1.80	1.20	5.9	3.9
*Arctocephalus tropicalis***	Amsterdam Island Fur Seal	1.80	1.45	5.9	4.75
*Arctocephalus australis***	South American Fur Seal	1.88	1.42	6.2	4.7
*Arctocephalus pusillis***	Cape Fur Seal	2.73	1.83	8.96	6.0
*Callorhinus ursinus***	Northern Fur Seal	2.20	1.45	7.2	4.75
*Eumetopias jubatus***	Steller's Sea Lion	2.86	2.40	9.4	7.9
Hydrurga leptonyx	Leopard Seal	2.90	3.30	9.5	10.8
*Mirounga angustirostris***	Northern Elephant Seal	3.96	2.49	13.0	8.2
*Mirounga leonina***	Southern Elephant Seal	4.67	2.50	15.3	8.2
*Odobenus rosmarus***	Walrus	3.15	2.60	10.3	8.5
*Otaria flavescens***	South American Sea Lion	2.40	2.00	7.9	6.6
Phoca caspica	Caspian Seal	1.45	1.40	4.75	4.6
Phoca fasciata	Ribbon Seal	1.75	1.68	5.7	5.5
Phoca larga	Harbor Seal	1.70	1.50	5.6	4.9
Phoca vitulina	Habor Seal	1.70	1.50	5.6	4.9
Zalophus californianus	California Sea Lion	2.24	1.75	7.3	5.7
*Halichoerus grypus***	Grar Seal	2.30	1.95	7.5	6.4
Phoca sibirica	Baikal Seal	1.70	1.85	5.6	6.1
Phoca groenlandica	Harp Seal	1.85	1.85	6.1	6.1
*Leptonychotes weddelli***	Weddell Seal	2.90	3.15	9.5	10.3
*Lobodon carcinophagus***	Crabeater Seal	2.21	2.21	7.3	7.3
*Ommatophoca rossi***	Ross Seal	1.99	2.13	6.5	7.0
Group II Pinnipeds:					
Erignathus barbatus	Bearded Seal	2.33	2.33	7.6	7.6
Phoca hispida	Ringed Seal	1.35	1.30	4.4	4.3
Cystophora cristata	Hooded Seal	2.60	2.00	8.5	6.6

Note.—** Any Group I animals maintained together will be considered as Group II when the animals maintained together include two or more sexually mature males from species marked with a double asterisk (**) regardless of whether the sexually mature males from the same species.

Species	Common name	Average adult length	
		In meters	In feet
Sirenia:			
Dugong dugong	Dugong	3.35	11.0
Trichechus manatus	West Indian Manatee	3.51	11.5
Trichechus inunguis	Amazon Manatee	2.44	8.0
Mustelidae:			
Enhydra lutris	Sea Otter	1.25	4.1

(2) *The minimum depth requirement* for primary enclosure pools for all cetaceans shall be one-half the average adult length of the longest species to be housed therein, regardless of Group I or Group II classification, or 1.83 meters (6.0 feet), whichever is greater, and can be expressed as d=L/2 or 6 feet, whichever is greater. Those parts of the primary enclosure pool which do not meet the minimum depth requirement cannot be included when calculating space requirements for cetaceans.

(3) *Pool volume.* A pool of water housing cetaceans which satisfies the MHD and which meets the minimum depth requirement, will have sufficient volume and surface area to hold up to two Group I cetaceans or up to four Group II cetaceans. If additional cetaceans are to be added to the pool, the volume as well as the surface area may have to be adjusted to allow for additional space necessary for such cetaceans. See Tables I, II, and IV for volumes and surface area requirements. The additional volume needed shall be based on the number and kind of cetaceans housed therein and shall be determined in the following manner.

(i) The minimum volume of water required for up to two Group I cetaceans is based upon the following formula:

$$\text{Volume} = \left(\frac{\text{MHD}}{2}\right)^2 \times 3.14 \times \text{depth}$$

When there are more than two Group I cetaceans housed in a primary enclosure pool, the additional volume of water required for each additional Group I cetacean in excess of two is based on the following formula:

$$\text{Volume} = \left(\frac{\text{Average Adult Length}}{2}\right)^2 \times 3.14 \times \text{depth}$$

See Table I for required volumes.

(ii) The minimum volume of water required for up to four Group II cetaceans is based upon the following formula:

$$\text{Volume} = \left(\frac{\text{MHD}}{2}\right)^2 \times 3.14 \times \text{depth}$$

When there are more than four Group II cetaceans housed in a primary enclosure pool, the additional volume of water required for each additional Group II cetacean in excess of four is based on the following formula:

$$\text{Volume} = (\text{Average Adult Length})^2 \times 3.14 \times \text{depth}$$

See Table II for required volumes.

(iii) When a mixture of both Group I and Group II cetaceans are housed together, the MHD must be satisfied as stated in § 3.104(b)(1), and the minimum depth must be satisfied as stated in § 3.104(b)(2). Based on these figures, the resulting volume must then be calculated

$$\text{Volume} = \left(\frac{\text{MHD}}{2}\right)^2 \times 3.14 \times \text{depth}$$

Then the volume necessary for the cetaceans to be housed in the pool must be calculated (by obtaining the sum of the volumes required for each animal). If this volume is greater than that obtained by using the MHD and depth figures, then the additional volume required may be added by enlarging the pool in its lateral dimensions or by increasing its depth, or both. The minimum surface area requirements discussed next must also be satisfied.

(4)(i) *The minimum surface area* requirements for each cetacean housed in a pool, regardless of Group I or Group II classification, are calculated as follows:

$$\text{Surface Area} = \left(\frac{\text{average adult body length}}{2}\right)^2 \times 3.14 \times 1.5, \text{ or: } SA = (L/2)^2 \times 3.14 \times 1.5$$

In a pool containing more than two Group I cetaceans or more than four Group II cetaceans,[9] the additional surface area which may be required when animals are added must be calculated for each such animal.

(ii) When a mixture of Group I and Group II cetaceans are to be housed in a pool, the required MHD, depth, and volume must be met. Then the required surface area must be determined for each animal in the pool. The sum of these surface areas must then be compared to the surface area which is obtained by a computation based on the required MHD of the pool.[10] The larger of the two figures represents the surface area which is required for a pool housing a mixture of Group I and Group II cetaceans. Pool surfaces where the depth does not meet the minimum requirements cannot be used in determining the required surface area.

(iii) Surface area requirements are given in Table IV.

TABLE IV—MINIMUM SURFACE AREA REQUIRED FOR EACH CETACEAN

Average adult length of each cetacean		Surface area required for each cetacean	
Meters	Feet	Sq. meters [1]	Sq. feet
1.68	5.5	3.31	33.62
2.13	7.0	5.36	57.70
2.29	7.5	6.15	66.23
2.59	8.5	7.90	85.07
2.74	9.0	8.86	95.38
3.05	10.0	10.94	117.75
3.51	11.5	14.47	155.72
3.66	12.0	15.75	169.56
4.27	14.0	21.44	230.79
5.49	18.0	35.44	381.51
5.64	18.5	37.43	403.00
5.79	19.0	39.49	425.08
6.71	22.0	52.94	569.91
6.86	22.5	55.38	596.11
7.32	24.0	63.01	678.24
8.53	28.0	85.76	923.16

[1] Square meter=square feet/9×0.8361.

(c) *Sirenians.* Primary enclosures housing sirenians shall contain a pool of water and may consist entirely of a pool of water.

(1) The required MHD of a primary enclosure pool for sirenians shall be two times the average adult length of the longest species of sirenian to be housed therein. Calculations shall be based on the average adult length of such sirenians as measured in a horizontal line from the tip of the muzzle to the notch in the tail fluke of dugongs and from the tip of the muzzle to the most distal point in the rounded tail of the manatee.

(2) The minimum depth requirements for primary enclosure pools for all sirenians shall be one-half the average

[9] A pool containing up to two Group I cetaceans or up to four Group II cetaceans which meets the required MHD and depth will have the necessary surface area and volume required for the animals contained therein.

[10] Since the MHD represents the diameter of a circle, the surface area based on the MHD is calculated by use of the following formula:

$SA = \pi \times (MHD / 2)^2$.

adult length of the longest species to be housed therein, or 1.52 meters (5.0 feet), whichever is greater. Those parts of the primary enclosure pool which do not meet the minimum depth requirements cannot be included when calculating space requirements for sirenians.

(3) A pool which satisfies the required MHD and depth shall be adequate for one or two sirenians. Volume and surface area requirements for additional animals shall be calculated using the same formula as for Group I cetaceans, except that the figure for depth requirement for sirenians shall be one-half the average adult length or 1.52 meters (5.0 feet), whichever is greater.

(d) *Pinnipeds.* (1) Primary enclosures housing pinnipeds shall contain a pool of water and a dry resting or social activity area that must be close enough to the surface of the water to allow easy access for entering or leaving the pool. For the purposes of this subpart, pinnipeds have been divided into Group I pinnipeds and Group II pinnipeds as shown in Table III in this section. In certain instances some Group I pinnipeds shall be considered as Group II pinnipeds. (See Table III).

(2) The minimum size of the dry resting or social activity area of the primary enclosure for pinnipeds (exclusive of the pool of water) shall be based on the average adult length of each pinniped contained therein, as measured in a horizontal or extended position in a straight line from the tip of its nose to the tip of its tail. The minimum size of the dry resting or social activity area shall be computed using the following methods:

(i) *Group I pinnipeds.* Square the average adult length of each pinniped to be contained in the primary enclosure. Add the figures obtained for each of the pinnipeds in the primary enclosure to determine the dry resting or social activity area required for such pinnipeds. If only a single Group I pinniped is maintained in the primary enclosure, the minimum dry resting or social activity area shall be twice the square of the average adult length of that single Group I pinniped. Examples:

(average adult length)^2 of 1st Group I pinniped+(average adult length)^2 of 2nd Group I pinniped=Total DRA for two pinnipeds

DRA for one pinniped=2×(average adult length of Group I pinniped)^2

(ii) *Group II pinnipeds.* List all pinnipeds contained in a primary enclosure by average adult length in descending order from the longest species of pinniped to the shortest species of pinniped. Square the average adult length of each pinniped. Multiply the average adult length squared of the longest pinniped by 1.5, the second longest by 1.4, the third longest by 1.3, the fourth longest by 1.2, and the fifth longest by 1.1, as indicated in the following example. Square the average adult length of the sixth pinniped and each additional pinniped. Add the figures obtained for all the pinnipeds in the primary enclosure to determine the required minimum dry resting or social activity area required for such pinnipeds. If only a single Group II pinniped is maintained in the primary enclosure, the minimum dry resting or social activity area must be computed for a minimum of two pinnipeds.

Examples: DRA for 1 Group II Pinniped=[(Average adult length)^2×1.5]+[(Average adult length)^2×1.4]

1st pinniped (avg. adult length)^2×1.5=social and DRA required
2nd pinniped (avg. adult length)^2×1.4=social and DRA required
3rd pinniped (avg. adult length)^1×1.3=social and DRA required
4th pinniped (avg. adult length)^2×1.2=social and DRA required
5th pinniped (avg. adult length)^2×1.1=social and DRA required
Each pinniped over 5 (avg. adult length)^2=social and DRA required

Total minimum social activity and dry resting area required for all pinnipeds housed in a primary enclosure.

If all the pinnipeds in the primary enclosure are of the same species, the same descending order of calculation shall apply. Example: Hooded seal—average adult length of male=8.5 feet and female=6.6 feet. In a primary enclosure containing 2 males and 2 females, the social or DRA required would be the sum of [(8.5)^2×1.5]+ [(8.5)^2×1.4] +[(6.6)^2×1.3] +[(6.6)^2×1.2].

If two or more sexually mature males are maintained together in a primary enclosure, the dry resting or social activity area shall be divided into two or more separate areas with sufficient visual barriers (such as fences, rocks, or

foliage) to provide relief from aggressive animals.

(iii) *Mixture of Group I and Group II pinnipeds.* In a primary enclosure where a mixture of Group I and Group II pinnipeds is to be housed, the dry resting or social activity area shall be calculated as for Group II pinnipeds. The dry resting or social activity area shall be divided into two or more separate areas with sufficient visual barriers (such as fences, rocks, or foliage) to provide relief from aggressive animals.

(3)(i) The minimum surface area of a pool of water for pinnipeds shall be at least equal to the dry resting or social activity area required.

(ii) The MHD of the pool shall be at least one and one-half (1.5) times the average adult length of the largest species of pinniped to be housed in the enclosure; except that such MHD measurement may be reduced by up to 20 percent if the amount of the reduction is added to the MHD at the 90-degree angle.

(iii) The pool of water shall be at least 0.91 meters (3.0 feet) deep or one-half the average adult length of the longest species of pinniped contained therein, whichever is greater. Parts of the pool that do not meet the minimum depth requirement cannot be used in the calculation of the dry resting and social activity area, or as part of the MHD or required surface area of the pool.

(e) *Polar bears.* Primary enclosures housing polar bears shall consist of a pool of water, a dry resting and social activity area, and a den. A minimum of 37.16 square meters (400 square feet) of dry resting and social activity area shall be provided for up to two polar bears, with an additional 3.72 square meters (40 square feet) of dry resting and social activity area for each additional polar bear. The dry resting and social activity area shall be provided with enough shade to accommodate all of the polar bears housed in such primary enclosure at the same time. The pool of water shall have an MHD of not less than 2.44 meters (8.0 feet) and a surface area of at least 8.93 square meters (96.0 square feet) with a minimum depth of 1.52 meters (5.0 feet) with the exception of any entry and exit area. This size pool shall be adequate for two polar bears. For each additional bear, the surface area of the pool must be increased by 3.72 square meters (40 square feet). In measuring this additional surface area, parts of the pool which do not meet minimum depth cannot be considered. The den shall be at least 1.83 meters (6 feet) in width and depth and not less than 1.52 meters (5 feet) in height. It will be so positioned that the viewing public shall not be visible from the interior of the den. A separate den shall be provided for each adult female of breeding age which is permanently housed in the same primary enclosure with an adult male of breeding age. Female polar bears in traveling acts or shows must be provided a den when pregnancy has been determined.

(f) *Sea otters.* (1) Primary enclosures for sea otters shall consist of a pool of water and a dry resting area. The MHD of the pool of water for sea otters shall be at least three times the average adult length of the sea otter contained therein (measured in a horizontal line from the tip of its nose to the tip of its tail) and the pool shall be not less than .91 meters (3.0 feet) deep. When more than two sea otters are housed in the same primary enclosure, additional dry resting area as well as pool volume is required to accommodate the additional sea otters. (See Table V).

(2) The minimum volume of water required for a primary enclosure pool for sea otters shall be based on the sea otter's average adult length. The minimum volume of water required in the pool shall be computed using the following method: Multiply the square of the sea otter's average adult length by 3.14 and then multiply the total by 0.91 meters (3.0 feet). This volume is satisfactory for one or two otters. To calculate the additional volume of water for each additional sea otter above two in a primary enclosure, multiply one-half of the square of the sea otter's average adult length by 3.14, then multiply by 0.91 meters (3.0 feet). (See Table V).

(3) The minimum dry resting area required for one or two sea otters shall be based on the sea otter's average adult length. The minimum dry resting area for one or two sea otters shall be computed using the following method: Square the average adult length of the

sea otter and multiply the total by 3.14. When the enclosure is to contain more than two sea otters, the dry resting area for each additional animal shall be computed by multiplying one-half of the sea otter's average adult length by 3.14. Using 1.25 meters or 4.1 feet (the average adult length of a sea otter), the calculations for additional space will result in the following figures:

TABLE V—ADDITIONAL SPACE REQUIRED FOR EACH SEA OTTER WHEN MORE THAN TWO IN A PRIMARY ENCLOSURE

Average adult length of sea otter		Resting area		Pool Volume	
Meters	Feet	Square meters	Square Feet	Cubic meters	Cubic feet
1.25	4.1	1.96	6.44	2.23	79.17

[44 FR 36874, June 22, 1979, as amended at 45 FR 63261, Sept. 24, 1980; 49 FR 26682, 26685, June 28, 1984; 49 FR 27922, July 9, 1984; 63 FR 2, Jan. 2, 1998; 63 FR 47148, Sept. 4, 1998]

ANIMAL HEALTH AND HUSBANDRY STANDARDS

§ 3.105 Feeding.

(a) The food for marine mammals shall be wholesome, palatable, and free from contamination, and shall be of sufficient quantity and nutritive value to maintain all of the marine mammals in a state of good health. The diet shall be prepared with consideration for age, species, condition, size, and type of marine mammal being fed. Marine mammals shall be offered food at least once a day, except as directed by veterinary treatment or professionally accepted practices.

(b) Food receptacles, if used, shall be located so as to be accessible to all marine mammals in the same primary enclosure and shall be placed so as to minimize contamination of the food contained therein. Such food receptacles shall be cleaned and sanitized after each use.

(c) Food, when given to each marine mammal individually, shall be given by an employee or attendant responsible to management who has the necessary knowledge to assure that each marine mammal 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 marine mammal so that the food intake can be adjusted accordingly. Public feeding shall be only permitted if it is done in the presence and under the supervision of a uniformed employee or attendant. Such employee or attendant must assure that the marine mammals are receiving the proper amount and type of food. Only food supplied by the facility where the marine mammals are kept shall be fed to such mammals by the public.

(d) Food preparation and handling shall be conducted so as to minimize bacterial or chemical contamination and to assure the wholesomeness and nutritive value of the food. Frozen fish or other frozen food shall be stored in freezers which are maintained at a maximum temperature of −18° C. (0° F.). The length of time food is stored and the method of storage, as well as the thawing of frozen food, shall be conducted in a manner which will minimize contamination and which will assure that the food retains nutritive value and wholesome quality. The thawed product shall be kept iced or refrigerated until a reasonable time before feeding. All foods shall be fed to the marine mammals within 24 hours following the removal of such foods from the freezers for thawing.

§ 3.106 Water quality.

(a) *General.* The primary enclosure shall not contain water which would be detrimental to the health of the marine mammal contained therein.

(b) *Bacterial standards.* (1) The coliform bacteria count of the primary enclosure pool shall not exceed 1,000 MPN (most probable number) per 100 ml. of water. Should a coliform bacterial count exceed 1,000 MPN, two subsequent samples may be taken at 48-hour intervals and averaged with the first

sample. If such average count does not fall below 1,000 MPN, then the water in the pool shall be deemed unsatisfactory, and the condition must be corrected immediately.

(2) When the water is chemically treated, the chemicals shall be added so as not to cause harm or discomfort to the marine mammals.

(3) Water samples shall be taken and tested at least weekly for coliform count and at least daily for pH and any chemical additives (e.g. chlorine and copper) that are added to the water to maintain water quality standards. Facilities using natural seawater shall be exempt from pH and chemical testing unless chemicals are added to maintain water quality. However, they are required to test for coliforms. Records must be kept documenting the time when all such samples were taken and the results of the sampling. Records of all such test results shall be maintained by management for a 1-year period and must be made available for inspection purposes on request.

(c) *Salinity.* Primary enclosure pools of water shall be salinized for marine cetaceans as well as for those other marine mammals which require salinized water for their good health and well-being. The salinity of the water in such pools shall be maintained within a range of 15–36 parts per thousand.

(d) *Filtration and water flow.* Water quality must be maintained by filtration, chemical treatment, or other means so as to comply with the water quality standards specified in this section.

§ 3.107 Sanitation.

(a) *Primary enclosures.* (1) Animal and food waste in areas other than the pool of water shall be removed from the primary enclosure at least daily, and more often when necessary to prevent contamination of the marine mammals contained therein and to minimize disease hazards.

(2) Particulate animal and food waste, trash, or debris that enter the primary enclosure pool of water shall be removed as often as necessary to maintain the required water quality and to prevent health hazards to the marine mammals contained therein.

(3) The wall and bottom surfaces of the primary enclosure pool of water shall be cleaned as often as necessary to maintain proper water quality.

(b) *Food preparation areas and food receptacles.* Containers, such as buckets, tubs, and tanks, as well as utensils, such as knives and cutting boards, or any other equipment which has been used for holding, thawing or preparing food for marine mammals shall be cleaned and sanitized after each feeding, if the marine mammals are fed once a day, and at least daily if the marine mammals are fed more than once a day. Kitchens and other food handling areas where animal food is prepared shall be cleaned at least once daily and sanitized at least once every week. Sanitizing shall be accomplished by washing with hot water (82 °C., 180 °F., or higher) 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 live steam. Substances such as cleansing and sanitizing agents, pesticides, and other potentially toxic agents must be stored in properly labeled containers away from food preparation surface areas.

(c) *Housekeeping.* Buildings and grounds, as well as exhibit areas, shall be kept clean and in good repair. Fences shall be maintained in good repair. Primary enclosures housing marine mammals shall not have any loose objects, sharp projections, and/or edges which may cause injury or trauma to the marine mammals contained therein.

(d) *Pest control.* A safe and effective program for the control of insects, ectoparasites, and avian and mammalian pests shall be established and maintained. Insecticides or other such chemical agents shall not be applied in a primary enclosure housing marine mammals except when deemed essential by an attending veterinarian.

§ 3.108 Employees or attendants.

A sufficient number of adequately trained employees or attendants responsible to management shall be utilized to maintain the prescribed level of husbandry practices set forth in this

subpart. Such practices shall be conducted under the supervision of a marine mammal caretaker who has a background in marine mammal husbandry and care. Training of marine mammals shall be done by or under the direct supervision of experienced trainers without physical punishment or abuse being used or inflicted upon the marine mammals.

§ 3.109 Separation.

Marine mammals which are not compatible shall not be housed in the same enclosure. Marine mammals shall not be housed near animals that would cause them stress or discomfort, or interfere with their good health. Captive marine mammals must be given access to other animals except when they are temporarily maintained in isolation for such purposes as medical treatment or training and given special attention.

§ 3.110 Veterinary care.

(a) Newly acquired marine mammals shall be isolated from resident marine mammals until such newly acquired marine mammals can be reasonably determined to be in good health. Any communicable disease condition in a newly acquired marine mammal must be remedied before it is placed with other resident marine mammals.

(b) Any primary enclosure containing a marine mammal with an infectious or contagious disease shall be cleaned and sanitized in the manner prescribed by the attending veterinarian. No additional animals shall be introduced into the primary enclosure prior to such cleaning and sanitizing procedures. Any marine mammal exposed to a diseased animal shall be isolated for observation for an appropriate period of time as determined by the attending veterinarian.

(c) Temporary holding facilities with adequately and properly designed pools, tanks, restraining devices or primary enclosures shall be provided for isolation, medication, treatment, and other purposes such as transfer and training of marine mammals. The pools, tanks and primary enclosures may be less than minimum size in both lateral dimensions and depth when used in special situations when prescribed by the professional staff for temporary usage.

(d) A complete necropsy must be conducted by or under the direct supervision of a veterinarian on all marine mammals that die in captivity. A necropsy report must be prepared by the veterinarian listing all pathologic lesions observed and giving the apparent cause of death. All diagnostic tests conducted on post mortem specimens shall be listed in the report, and the results of each test recorded. The management of the facility, at which the marine mammal died, must maintain these necropsy records for a period of 3 years and present them to Department inspectors when requested.

[44 FR 36874, June 22, 1979, as amended at 54 FR 36163, Aug. 31, 1989]

§ 3.111 Swim-with-the-dolphin programs.

Swim-with-the-dolphin programs shall comply with the requirements in this section, as well as with all other applicable requirements of the regulations pertaining to marine mammals.

(a) *Space requirements.* The primary enclosure for SWTD cetaceans shall contain an interactive area, a buffer area, and a sanctuary area. None of these areas shall be made uninviting to the animals. Movement of cetaceans into the buffer or sanctuary area shall not be restricted in any way. Notwithstanding the space requirements set forth in § 3.104, each of the three areas required for SWTD programs shall meet the following space requirements:

(1) The horizontal dimension for each area must be at least three times the average adult body length of the species of cetacean used in the program;

(2) The minimum surface area required for each area is calculated as follows:

(i) *Up to two cetaceans:*