

12.0 Husbandry

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ENVIRONMENTAL ENHANCEMENT	A nonhuman primate must have adequate environmental enhancement to promote psychological well-being which is outlined in an appropriate plan.[3.81]
Criteria	<p>A research facility must develop, document and follow an environmental enhancement plan for its nonhuman primates.</p> <p>The environmental enhancement plan must be:</p> <ul style="list-style-type: none">• in writing• in accordance with currently accepted professional standards as cited in appropriate professional journals or reference guides• directed and approved by the attending veterinarian• available for review by:<ul style="list-style-type: none">▶ APHIS officials▶ officials of any pertinent funding agency <p>The environmental enhancement plan must address the following:</p> <ul style="list-style-type: none">• social grouping• environmental enrichment• special considerations• restraint devices• exemptions <hr/> <p>Social Grouping [3.81(a)]</p> <p>The specific social needs of nonhuman primates (NHPs) known to exist in social groups in nature must be addressed in the plan.</p> <p>The specific provisions for social needs must be:</p> <ul style="list-style-type: none">• in accordance with currently accepted professional standards as cited in appropriate professional journals or reference guides• directed and approved by the attending veterinarian <p>Exemptions:</p> <p>An incompatible nonhuman primate is exempt from social grouping and may be housed individually if the NHP:</p> <ul style="list-style-type: none">• exhibits vicious or overly aggressive behavior <p>[3.81(a)(1)]</p>

- is debilitated as a result of age or other conditions, such as arthritis [3.81(a)(1)]
 - prevents access to food, water and shelter by other animals [3.81(a)(3)]
 - is hazardous to the health and well-being of other animals [3.81(a)(3)]
 - is suspected of having a contagious disease and must be isolated from the other animals as directed by the attending veterinarian [3.81(a)(2)]
- NOTE: When an entire group or room of NHPs is known to have or believed to be exposed to an infectious agent, the group may be kept intact during the process of diagnosis, treatment and control.

Incompatibility must be determined: [3.81(a)(3)]

- in accordance with generally accepted professional practices
- by actual observation, and
- under the direction of the attending veterinarian

An individually housed NHP must be able to see and hear other NHPs unless:

- the attending veterinarian determines that it would be harmful to the animal's health, safety and well-being [3.81(a)(3)]
- the IACUC modifies this requirement for scientific reasons set forth in a protocol [3.81(e)(2)]

Environmental Enrichment [3.81(b)]

The physical environment of the nonhuman primate must be enriched.

Enrichment types and methods must:

- be appropriate for expressing noninjurious species-typical behavior, and
- take into account species differences

Examples of types or methods of environmental enrichment include, but are not limited to:

- cage complexities, such as perches, swings, mirrors ropes, etc.
- objects to manipulate, such as Kong toys, puzzles, balls, paper bags, boxes, etc.
- varied food items, such as fruits, vegetables, raisins, marshmallows, etc.
- foraging or task-oriented feeding machines, such as puzzle feeders, fleece boards, artificial grass boards, termite mounds, etc.
- interaction with knowledgeable research facility personnel

Note: Interaction must be consistent with personnel safety precautions.

Special Considerations [3.81(c)]

The environment of certain NHPs must be given special consideration based on:

- the needs of the individual species
- the instructions of the attending veterinarian

Special attention is required for the following:

- infants and young juveniles [3.81(c)(1)]
 - animals that show signs of being in psychological distress through behavior or appearance [3.81(c)(2)]
 - NHPs with restricted activity required by an IACUC-approved protocol [3.81(c)(3)]
 - individually housed NHPs that are unable to see and hear other NHPs [3.81(c)(4)]
 - great apes weighing over 110 pounds [3.81(c)(5)]
- NOTE: These NHPs must have additional opportunities to express species-typical behavior.

Restraint Devices [3.81(d)]

A nonhuman primate must not be maintained in a restraint device.

Examples of restraint devices are:

- chairs
- squeeze chutes
- short tethers

Exemption:

Nonhuman primates may be maintained in restraint devices ONLY when required:

- for health reasons as determined by the attending veterinarian
- by an IACUC-approved protocol

The nonhuman primate must be:

- restrained for the shortest period possible, and
- released daily for at least one continuous hour of activity if restrained for more than 12 hours

NOTE: Continuous restraint required by a protocol must be approved by the IACUC.

Exemptions [3.81(e)]

An individual nonhuman primate may be exempted from the environmental enhancement plan:

- by the attending veterinarian. [3.81(e)(1)]
- by the IACUC as part of a protocol [3.81(e)(2)]

Attending Veterinarian Exemption:

The exemption must be: [3.81(e)(1)]

- in writing by the attending veterinarian
- based on the animal's health, condition, or well-being
- reviewed every 30 days by the attending veterinarian if the condition warranting the exemption is not permanent
- available for review by: [3.81(e)(3)]
 - ▶ APHIS officials
 - ▶ officials of any pertinent Federal funding agency

IACUC Exemption

The exemption must be: [3.81(e)(2)]

- justified for scientific reasons in the protocol

- reviewed at least annually or more often at the discretion of the IACUC
 - available for review by: [3.81(e)(3)]
 - ▶ APHIS officials
 - ▶ officials of any pertinent Federal funding agency
-

EXERCISE FOR DOGS	Dogs greater than 12 weeks of age must be provided opportunity for exercise by acceptable methods which are outlined in a plan. [3.8]
Criteria	<p>Acceptable methods of exercise include, but are not limited to, providing: [3.8(c)(3)]</p> <ul style="list-style-type: none"> • an individually housed dog with at least 200% of its minimum required floor space [3.8(c)(3)(ii)] • group housed dogs with at least 100% of the minimum required floor space for each animal [3.8(c)(3)(i)] • access to a run or open area at the frequency and duration: prescribed by the attending veterinarian [3.8(c)(3)(iii)] • positive physical interaction with humans, e.g., walking on a leash, playing ball, or grooming [3.8(c)(2)] <p>Unacceptable methods of exercise include, but are not limited to: [3.8(c)(4)]</p> <ul style="list-style-type: none"> • forced swimming • use of devices, such as treadmills or carousels
Exemptions	<p>Dogs are exempted from the exercise requirement if:</p> <ul style="list-style-type: none"> • less than 12 weeks of age [3.8(a)] • a female with a litter [3.8(a)] • determined inappropriate by the attending veterinarian [3.8(d)] <ul style="list-style-type: none"> ▶ in writing and [3.8(d)(1)] ▶ based on the animal's health, condition or well-being and [3.8(d)(1)] ▶ reviewed every 30 days if not a permanent condition and [3.8(d)(1)] ▶ written exemption is available for review by APHIS officials [3.8(d)(3)] • scientifically justified in a research protocol which must be: <ul style="list-style-type: none"> ▶ approved by the IACUC [3.8(d)(2)] ▶ reviewed by the IACUC at least annually or more often at its discretion [3.8(d)(2)]

	<ul style="list-style-type: none">▶ available for review by: [3.8(d)(3)]<ul style="list-style-type: none">□ APHIS officials□ any pertinent Federal funding agency
Exercise Plan	<p>A research facility must develop and follow an appropriate exercise plan for the dogs. [3.8]</p> <p>The exercise plan is appropriate if it:</p> <ul style="list-style-type: none">• is in writing• is approved and signed by the attending veterinarian• has been developed in consultation with the IACUC• has been approved by the IACUC• is available for review by:<ul style="list-style-type: none">▶ APHIS officials▶ any pertinent Federal funding agency• states that the dogs have the required exercise space listed above, or• includes the frequency, method and duration of additional exercise if the exercise space requirements are not met <p>Exercise Plan for Dogs sheet (see page 12.2.3) may be used.</p>

Licensee/Registrant Name (Type or Print legibly)

Licensee/Registrant #

The Animal Welfare Act Regulations, Title 9, CFR, Subpart A, Part 3, Section 3.8, requires all licensees and registrants to develop, document, and follow an appropriate exercise plan for their dogs. In addition, the exercise plan must be approved by the attending veterinarian. In developing an exercise plan, you should consider providing positive physical contact with humans that encourages exercise through play or similar activities. If dogs are maintained without sensory contact with other dogs, they must be provided with daily physical contact with humans. Forced methods of exercise, such as treadmills, swimming, or carousels are unacceptable for meeting the exercise requirements.

Please check the appropriate box and, if necessary, describe below:

My dogs are over 12 weeks of age (except bitches with litters), and are housed individually in a cage, pen, or run that provides at least two times the floor space required for that dog, as described in Section 3.6(c)(1).

My dogs are over 12 weeks of age and are housed in compatible groups in a cage, pen, or run that provides, in total, at least 100 percent of the required space for each dog if it were maintained separately.

Other: Please describe the exercise provided to your dogs to meet these requirements (type or print legibly).

A. Frequency:

B. Method:

C. Duration:

I. I have read the regulations pertaining to the need and requirements for a written exercise plan for my dogs and hereby submit this completed "Exercise Plan for Dogs" to meet that requirement.

Licensee/Registrant Signature

Date

II. I have read and approve this exercise plan.

Veterinarian's Name (Type or Print legibly)

Veterinarian's Signature

Date 12.2.3

INSTRUCTIONS FOR EXERCISE PLAN

Each dealer, exhibitor, and research facility must have a written plan of exercise that has been approved by your veterinarian. This written plan must be kept at your facility and must be made available to the USDA inspector upon request.

The following two examples do not require additional opportunity for exercise:

1. Individually housed dogs: Dogs with two times the minimum required floor space do not require additional exercise. Calculate your floor space as follows:

Measure dog from tip of nose to base of tail, add 6 inches to this number.

Multiply: (length of dog ÷ 6 inches) X length of dog ÷ 6 inches).

Answer = minimum floor space in square inches.

DOUBLE the amount of this answer to meet exercise requirements.

2. Dogs in Groups: Dogs maintained in cages or pens that provide each dog with 100% of the minimum required floor space do not require additional exercise.

Multiply: (length of dog ÷ 6 inches) X length of dog ÷ 6 inches).

Answer = minimum floor space in square inches.

DO NOT DOUBLE this answer to meet the exercise requirement space for group housed dogs.

If your dogs are not kept in space that fits into the examples above, you need to develop an additional plan that provides opportunity for exercise. We encourage you to provide positive physical contact with humans that encourages exercise through play or other activities. Allowing access to runs or open areas or leash walking are two more examples of ways to provide exercise. Whatever method you elect to provide, make sure the exercise is provided to the dogs often enough to be beneficial.

Document your exercise plan in writing, have your attending veterinarian approve and sign it, and keep the form available for USDA review along with your other records. Do not send this plan into the Regional Office.

FEEDING	Animals must be fed an adequate diet to support their normal condition and weight. [3.9, 3.29, 3.54, 3.82, 3.105, 3.107, 3.129, Policy #25]
Criteria	<p>Dietary regimens must be discussed with and approved by the attending veterinarian.</p> <p>A diet is adequate if :</p> <ul style="list-style-type: none"> • fed in sufficient quantities • contains sufficient nutritive value • appropriate for an individual animal's age, species, size and condition <p>Animals must be fed at least once a day except:</p> <ul style="list-style-type: none"> • as required for veterinary care • during hibernation • during normal fasting • as required as part of an IACUC-approved protocol • for other professionally accepted feeding practices • juveniles and infants who may require more than once a day feedings
Species Specific	<p>Marine Mammals</p> <p>Marine mammals must be fed once a day, EXCEPT as directed by the attending veterinarian. [3.105(a)]</p> <p>Inappetence exceeding 24 hours must be reported immediately to the attending veterinarian. [3.105(c)]</p> <p>Attendants or employees feeding marine mammals individually must be able to: [3.105(c)]</p> <ul style="list-style-type: none"> • determine quality and quantity of food • recognize deviations from a normal state of good health • adjust the diet according to the animal's health needs <p>Public feeding must be done in the presence and under the supervision of a sufficient number of attendants or employees who are:</p> <ul style="list-style-type: none"> • knowledgeable, and • uniformed

	<p>Public feeding must be done</p> <ul style="list-style-type: none"> • with the proper amount of food • with the proper type of food • only with food supplied by the facility <p><i>Feeding records</i> [3.105(c)] Feeding records must be kept on the daily food consumption of each marine mammal.</p> <p>An accurate account of food intake must be maintained for marine mammals that are:</p> <ul style="list-style-type: none"> • individually fed, and • not subject to public feeding <p>An estimated account of food intake must be maintained for marine mammals that are fed:</p> <ul style="list-style-type: none"> • in large, group colonies, and/or • in part, by the general public <p>Feeding records must be:</p> <ul style="list-style-type: none"> • maintained at the facility for 1 year • available for APHIS inspection
FOOD	[3.9, 3.29, 3.54, 3.82, 3.105, 3.129, Policy #25]
Criteria	<p>Feed must be:</p> <ul style="list-style-type: none"> • wholesome • uncontaminated • palatable • of sufficient nutritive value • of appropriate size and consistency for the animal's age, species, size and condition • digestible - feed may not be digestible if the following conditions are observed: <ul style="list-style-type: none"> ▸ excessive quantities of feces ▸ feces resembles the food product

Methods for determining wholesomeness of meat or chicken obtained from a packing plant include, but are not limited to:

- meat marked with charcoal is wholesome for animals
- meat marked with green or blue dye is unwholesome
- chicken marked with red dye is unwholesome

Species Specific

Guinea Pigs

Guinea pig diets require Vitamin C either as a component of the feed or as a supplement to meet the animal's daily nutritional requirement. [3.29(a)]

The guinea pig's Vitamin C requirement is:

- 10-15mg per day under normal conditions
- 15-25mg per day if pregnant, lactating, or growing

Vitamin C can be provided by: [3.29(c)]

- commercially-prepared feeds with a Vitamin C additive if within 90 days of manufacturing date
- commercially-prepared diets with manufacturer's documentation of Vitamin C viability longer than 90 days, such as:
 - ▶ Harlan Teklab Guinea Pig Diet #7006 (6 months)
 - ▶ Harlan Global High Fiber Guinea Pig Diet #2041 (6 months)
 - ▶ Purina Mills LabDiet® (6 months)
 - ▶ Purina Mills Prolab® (6 months)
- commercially-prepared Vitamin C supplements added to the water
- fresh fruits and vegetables containing Vitamin C (see below)

NOTE: Guinea pigs eat approximately 39 grams of feed per day.

Examples of fruits and vegetables high in Vitamin C include:

- citrus fruits
- broccoli
- mustard greens
- kale
- parsley
- water cress

- turnip greens
- cabbage
- leafy greens

Scurvy is caused by an inadequate amount of Vitamin C.

Signs of inadequate Vitamin C include, but are not limited to:

- posterior paresis
- abortion
- poor hair coat
- respiratory distress
- excessive bleeding during births or abortions
- sudden death

Nonhuman Primates

Diets must: [3.82(a)]

- be appropriate for the type of nonhuman primate, i.e., prosimians, Old and New World monkeys, and apes (see list of "Commonly Seen Nonhuman Primates" on page 12.3.10)
- contain Vitamin D supplementation for New World monkeys
- contain Vitamin C supplementation for leaf-eaters

Vitamin C can be provided by:

- commercially-prepared feeds with a Vitamin C additive if within 90 days of manufacturing date
- commercially-prepared diets with manufacturer's documentation of Vitamin C viability longer than 90 days, such as:
 - ▶ Harlan's Global Primate Diet #2050 (6 months)
 - ▶ Purina Mills LabDiet® (6 months)
 - ▶ Purina Mills Prolab® (6 months)
 - ▶ Purina Mills Mazuri® (6 months)
- fresh vegetables high in Vitamin C (see below)

Examples of vegetables high in Vitamin C include:

- broccoli
- mustard greens
- kale

- parsley
- water cress
- turnip greens
- cabbage
- leafy greens

Multiple feeding sites must be provided for: [3.82(c)]

- group-housed primates with a dominant individual
- primates fed with other species

Animals must be observed to determine that each animal receives a sufficient quantity of food. [3.82(c)]

Marine Mammals

Food preparation and handling must be conducted so as to assure the wholesomeness and nutritive value of the food. [3.105(d)]

Fish fed to marine mammals must be wholesome and palatable. [3.105(a)]

Signs of wholesome, palatable fish include, but are not limited to:

- fresh, fishy smell
- firm, elastic flesh
- eyes which are clear and not sunken
- pink or bright red gills
- an abdomen which cannot be opened by running finger down midline
- internal organs which are discernable

Signs of unwholesome fish include, but are not limited to:

- sour odor
- soft, slimy, flabby flesh
- scales that fall off easily
- opaque, sunken eyes
- dry, brown gills
- an abdomen which can be opened by running finger down midline
- internal organs which are indistinct and mushy

Frozen fish or other frozen food must be: [3.105(d)]

- stored, thawed, and maintained until fed in a manner which:
 - ▶ minimizes contamination
 - ▶ retains the food's nutritive value
 - ▶ retains the wholesome quality of the food
- stored in a freezer at a maximum temperature of 0° F (-18° C)
- covered or stored in a manner to prevent freezer burn
- thawed before feeding
- thawed in cold water when standing or running water is used
- fed within 24 hours of:
 - ▶ thawing if thawed under refrigeration, or
 - ▶ removal from the freezer if thawed by any other method

Other Animals

Large Felids [Policy #25]

Commercially prepared diets should be used to feed large felids, such as:

- lions
- tigers
- cougars/pumas/mountain lions
- leopards

Non-commercially prepared diets **must be approved**, in writing, by the attending veterinarian.

The written diet must specify:

- the contents of the diet
- the amount of each ingredient
- any nutritional supplements added, including:
 - ▶ type
 - ▶ quantity
 - ▶ frequency of addition
- amount of food fed routinely
- feeding schedule

Unacceptable diets include, but are not limited to:

- diets composed exclusively of the following without appropriate supplementation:
 - ▶ poultry necks
 - ▶ meat
 - ▶ fish
 - exclusively bakery products
 - spoiled food of any kind
 - unwholesome, spoiled road kill
 - sick animals
 - animals that died of illness or unknown causes
 - animals euthanized with chemical euthanizing agents
 - animals euthanized by gunshot if the lead pellets were not removed prior to feeding
 - downer animals exhibiting signs of central nervous system disorders
- NOTE: Downer animals with physical injuries only may be used for food if properly processed.
- animals known or suspected of having Johne's disease
 - outdated meat from grocery stores if not kept refrigerated or frozen until used

Uneaten food must be removed from pens:

- within 12 hours of feeding, or
- sooner, if the food spoils

In order to mimic their natural feeding behavior, felids may be fasted for 1 or 2 nonconsecutive days per week, if **approved in writing** by the attending veterinarian.

NOTE: During this fasting, the felids should be provided with long, femur bones, oxtails, horsetails, or rawhides.

Young felids not kept with their dams until weaned must be fed a diet **approved in writing** by the attending veterinarian. This diet should be:

- a balanced formula, and
- fed on an appropriate schedule

	<p><i>Other Animals</i></p> <p>For animals being fed hay in bales, be sure to check the bales to assess the quality of the hay. Some guidelines for assessing hay include, but are not limited to:</p> <ul style="list-style-type: none">• hay should smell fresh• interior hay should be green• hay should not be moldy or smell musty/moldy• hay should not be excessively covered with dust or be caked• hay should be free of foreign matter <p>If appropriate, check for mineral blocks or other nutritional supplements.</p>
<p>FOOD RECEPTACLES</p>	<p>[3.9, 3.29, 3.54, 3.82, 3.105, 3.129]</p>
<p>Criteria</p>	<p>Food receptacles must be:</p> <ul style="list-style-type: none">• accessible to all animals• located to minimize contamination• kept clean and sanitary• maintained to prevent molding, caking, deterioration, contamination, and wetting of food <p>Non-disposable receptacles must be:</p> <ul style="list-style-type: none">• made of durable material• cleaned and sanitized regularly• replaced if no longer properly sanitizable i.e., rough, chewed edges <p>Disposable receptacles must be discarded after one use.</p> <p>Self-feeder receptacles must be:</p> <ul style="list-style-type: none">• used for dry food only• kept clean and sanitary

<p>Species Specific</p>	<p>Dogs & Cats [3.9(b)] Food receptacles must be:</p> <ul style="list-style-type: none"> • used to feed the animals • protected from rain and snow • sanitized at least once every 2 weeks if not disposable <p>Guinea Pigs & Hamsters [3.29(d)] Food receptacles:</p> <ul style="list-style-type: none"> • are optional • must be sanitized at least once every 2 weeks if used and not disposable <p>Rabbits [3.54(b)] Food receptacles must be sanitized at least once every 2 weeks if not disposable.</p> <p>Nonhuman Primates [3.82(d)] Food receptacles must be sanitized:</p> <ul style="list-style-type: none"> • before being used for other primates • at least once every 2 weeks if not disposable <p>Marine Mammals [3.105(b)] Food receptacles must be:</p> <ul style="list-style-type: none"> • cleaned after each use, and • sanitized after each use
<p>FOOD PREPARATION</p>	<p>[3.107]</p>
<p>Species Specific</p>	<p>Marine Mammals [3.107(b)] <i>Food Preparation Areas</i> Kitchens and other food preparation areas must be:</p> <ul style="list-style-type: none"> • cleaned at least once daily, and • sanitized at least once a week <p><i>Equipment and Utensils</i> Equipment and utensils used in food preparation must be:</p> <ul style="list-style-type: none"> • cleaned after each use, and • sanitized after each use

COMMONLY SEEN NONHUMAN PRIMATES

PROSIMIANS	OLD WORLD MONKEYS	NEW WORLD MONKEYS	APES
Aye-ayes	African green monkeys	Capuchins**	Bonobos*
Galagos/Bush-babies**	Baboons	Goeldi monkeys	Chimpanzees*
Lemurs**	Barbary apes	Howler monkeys	Gibbons*
Loris	Celebes monkeys	Marmosets**	Gorillas (young*)
Tarsiers	Colobus monkeys	Owl monkeys**	Orangutans*
	Gelada baboons	Saki monkeys	Siamangs*
	Guenons	Spider monkeys*	
	Langurs	Squirrel monkeys**	
	Macaques	Tamarins**	
	Mandrills	Titi monkeys	
	Mangabeys	Woolly monkeys*	
	Patas	Woolly spider monkey*	
	Proboscis monkeys		
	Rhesus monkeys		
	Vervets		

* - Brachiating species ** - Scent-marking species

NOTE: Tree shrews have been reclassified into the order Scandentia and are no longer considered nonhuman primates.

HANDLING OF ANIMALS	An animal must be handled as expeditiously and carefully as possible. [2.38(f), 2.131(d)]
Criteria	<p>Handling includes, but is not limited to:</p> <ul style="list-style-type: none">• petting• feeding/watering• cleaning• manipulating• loading/crating• shifting/transferring• immobilizing/restraining• treating• training• working• moving• any similar activity <p>Research facility personnel must handle an animal(s) in a manner to prevent: [2.38(f)(1)]</p> <ul style="list-style-type: none">• trauma• overheating• excessive cooling• behavioral stress• physical harm• unnecessary discomfort <p>Physical abuse must not be used to: [2.38(f)(2)(i)]</p> <ul style="list-style-type: none">• train animals• work animals• handle animals <p>Deprivation of food or water must not be used to: [2.38(f)(2)(ii)]</p> <ul style="list-style-type: none">• train animals• work animals• handle animals

Short-term withholding of food and water is permitted if required as part of a protocol which must: [2.38(f)(2)(ii)]

- contain a description of the monitoring procedures to be used
- be approved by the IACUC

Possible evidence of improper handling includes:

- excessive pacing
- cowering in the corner
- excessive vocalization
- visible injuries or wounds
- excessive shivering or panting
- wild-eyed/apprehensive look
- open-mouthed breathing
- hissing/spitting/bar charging

When climatic conditions present a threat to an animal's health and well-being, appropriate measures must be taken to alleviate the impact of those conditions. [2.131(d)]

An animal may **not** be subjected to any combination of the following climatic conditions that is detrimental to its health and well-being:

- temperature
- humidity
- time

When determining if climatic conditions are detrimental to an animal's health and well-being, the following factors must be taken into consideration:

- age
- species
- breed
- overall health status
- acclimation

HOUSEKEEPING	Premises must be kept clean and in good repair. [3.1, 3.11, 3.31, 3.56, 3.84, 3.107, 3.131]
Criteria	<p>Premises, e.g., buildings, grounds, exhibit areas, must be kept clean and in good repair to:</p> <ul style="list-style-type: none"> • protect the animal(s) from injury • facilitate husbandry practices • reduce/eliminate breeding and living areas for vermin, rodents and other pests • prevent an accumulation of trash, junk, waste products, and discarded matter <p>Trash must be placed in a designated area and removed frequently.</p>
Species Specific	<p>Dogs & Cats [3.1(b), 3.11(c)] Weeds, grasses, and bushes must be controlled both inside and outside the primary enclosure based on the:</p> <ul style="list-style-type: none"> • species' needs • ability to monitor animal(s) visually • inspector's discretion <p>Nonhuman Primates [3.84(c)] Weeds, grasses, and bushes must be controlled both inside and outside the primary enclosure based on the:</p> <ul style="list-style-type: none"> • species' needs • ability to monitor animal(s) visually • inspector's discretion <p>Marine Mammals [3.107(c)] Fences must be maintained in good repair.</p> <p>Primary enclosures may not have any of the following which may cause injury or trauma to the marine mammal:</p> <ul style="list-style-type: none"> • loose objects • sharp projections • sharp edges

IDENTIFICATION	<p>All live dogs and cats must be identified by the research facility. [2.38(g), Policy #13, Policy #20]</p> <p>NOTE: If a research facility is also licensed as a dealer, then all the requirements of Section 2.50 apply (see Dealer Inspection Guide).</p>
Criteria	<p>All live dogs and cats must be identified if:</p> <ul style="list-style-type: none"> • held on the premises • purchased or otherwise acquired, such as: <ul style="list-style-type: none"> ▶ donation ▶ from pounds/shelters ▶ from breeders ▶ from private individuals • sold or otherwise disposed of • removed from the premises for delivery to: <ul style="list-style-type: none"> ▶ another research facility ▶ a dealer ▶ a person for use as a pet <p>Unweaned puppies or kittens do not need to be individually identified if: [2.38(g)(3)]</p> <ul style="list-style-type: none"> • maintained as a litter with their dam in the same primary enclosure, AND • the dam has been individually identified
Methods of Identification	<p>A live dog or cat, including a weaned puppy or kitten, must be identified by:</p> <ul style="list-style-type: none"> • tag affixed to the animal's neck with a collar [2.38(g)(1)(i) & (ii)] • tattoo [2.38(g)(1)(i) & (ii)] • collar [2.38(g)(1)(ii)] • approved microchip [Policy #13] <p>If a research facility acquires a live dog or cat which is already identified by an official method, the research facility may: [2.38(g)(1)(i)]</p> <ul style="list-style-type: none"> • continue to use the identification, such as: <ul style="list-style-type: none"> ▶ official USDA tag ▶ official USDA tattoo

- ▶ microchip if a compatible scanner is available
NOTE: If the microchip is located in a different location from where the research facility routinely places its microchips, the location of the microchip must be noted in the animal's record.
- replace the identification with its own tag, tattoo, collar, or microchip.

If a research facility uses the official tag, tattoo, or microchip on the dog/cat at the time it was acquired, the official identification numbers must be listed in the records of:

[2.38(g)(3)]

- purchase
- acquisition
- sale
- disposal

Official USDA Tag

If a research facility chooses to use an official USDA tag for identification of its dogs or cats, the tag must meet the following requirements:

Construction [2.38(g)(4)]

An official USDA tag may be made of:

- durable plastic
- durable alloy, such as:
 - ▶ brass
 - ▶ bronze
 - ▶ steel
- aluminum of a sufficient thickness to assure the tag is durable and legible

Size and Shape [2.38(g)(4)]

The tag must be one of the following shapes:

- circular-not less than 1¼ inches in diameter
- oblong and flat-not less than 2 inches by ¾ inch AND riveted to an acceptable collar

Contents [2.38(g)(5)]

Each tag must have the following information embossed or stamped on it:

- the letters “USDA” [2.38(g)(5)(i)]
- research facility’s registration number which consists of: [2.38(g)(5)(ii)]
 - ▶ the two digit State or territory identification code (see State/Territory Codes on page 12.6.8)
 - ▶ the letter “R” for a registered facility
 - ▶ the four digit number assigned to the facility
- number identifying the dog or cat [2.38(g)(5)(iii)]

Tag Numbers [2.38(g)(6)]

Official identification tag numbers must be:

- consecutive and non-repetitive
- applied to the dogs/cats in as close to consecutive numerical order as possible

A tag number must not be used:

- to identify more than one dog or cat.
- within a 5-year period following its previous use
For example, if dog #5 died on January 1, 2000, the identification #5 must not be used on another dog or cat until after January 1, 2005.

Acquisition of Tags [2.38(g)(7)]

If the research facility chooses to use official tags, it must obtain the tags at its own expense. (see “List of Commercial Tag Manufacturers” on page 12.6.9)

Lost/Destroyed/Illegible Tags

If an official tag is *lost*, the research facility must try to find the tag and: [2.38(g)(8)]

- if found, reapply the tag
- if not found:
 - ▶ affix a new tag to the animal, and
 - ▶ record the new ID number on the official records

If a tag is *destroyed or becomes illegible*, the research facility must:

- affix a new tag to the animal, and
- record the new ID number on the official records
- keep the old tag: [2.38(g)(11)]
 - ▶ for a period of one year from the date of its removal from the animal, OR
 - ▶ for longer than one year if requested by an APHIS official

Tags on Dogs/Cats when Acquired

If a dog or cat arrives at the research facility wearing an official tag, the research facility may: [2.38(g)(9)]

- use the official tag on the animal, or
- replace the tag with its own tag, tattoo, collar or microchip

If the official tag is removed, it must be retained: [2.38(g)(11)]

- for a period of one year from the date of its removal from the animal, OR
- for longer than one year if requested by an APHIS official

Tags from Dead Dogs/Cats

If a dog/cat is euthanized or dies from other causes, the research facility must: [2.38(g)(10)]

- remove the tag
- retain the tag: [2.38(g)(11)]
 - ▶ for a period of one year from the date of its removal from the animal OR
 - ▶ for longer than one year if requested by an APHIS official
- dispose of the tag after the required retention period [2.38(g)(12)]

NOTE: The ID number may be reused after 5-years from the date of the death of the animal.

Collars Used to Affix Official Tags to the Dog/Cat

Collars must be made of materials which will not injure the animals and are generally acceptable to pet owners.

Examples of acceptable materials for collars include, but are not limited to:

- leather
- plastic
- metal chains with smooth even-sized links

Examples of unacceptable materials for collars include, but are not limited to:

- wire
- elastic
- sharp metal
- any material that would cause injury or discomfort to the dog/cat

Official USDA Tattoo

A research facility may choose to use the official USDA tattoo affixed to a dog or cat when it was received.

[2.38(g)(1)(ii)]

The official tattoo must be listed on all the dog or cat's acquisition and disposition records. [2.38(g)(1) & (2)]

Microchip

Approval [Policy #13]

The research facility must request and receive approval to use a microchip implant from its Animal Care inspector or appropriate Regional Office.

The research facility should complete a "Request to Use Microchipping as a Method of Identification" sheet (see page 12.6.10) with the following information:

- manufacturer and/or model of the microchip and reader
- location of the microchip on the animals

Note: The placement must be consistent from animal to animal.

- an assurance that the following requirements will be met:
 - ▶ the microchip scanner must be readily available to the APHIS representative
 - ▶ animal identification records must indicate the microchip number, location on the animal, and the name of the microchip manufacturer
 - ▶ any animal with a microchip that goes to another USDA registrant or licensee must have an official tag/tattoo if a compatible scanner is not available at the receiving facility

The Request sheet should be submitted to the appropriate Animal Care inspector or Regional Office.

If you (the inspector) are approving the microchip request, you must:

- review the Request sheet for accuracy and completeness of information
- sign and date the sheet
- send the original sheet to the Regional Office
- give a copy of the signed sheet to the research facility

**Other Forms of
Identification**

A research facility can develop its own identification system. [2.38(g)(1)(ii)]

Forms

The forms of identification which may be used by a research facility are: [2.38(g)(1)(ii)]

- tag
- tattoo
- collar
- microchip [Policy #13]

NOTE: A cage card or a tag on the primary enclosure is not an acceptable form of routine identification.

Content

Each dog or cat must be identified with a unique identification, such as:

- a number or numbers
- a letter or combination of letters
- a combination of letters and numbers

The individual dog/cat must be traceable through the records.

State and Territory Identification Codes National Uniform Tag Code Numbers

Arranged Alphabetically			
Alabama	64	Montana	81
Alaska	96	Nebraska	47
Arizona	86	Nevada	88
Arkansas	71	New Hampshire	12
California	93	New Jersey	22
Colorado	84	New Mexico	85
Connecticut	16	New York	21
Delaware	50	North Carolina	55
Dist. Of Columbia	10	North Dakota	45
Florida	58	Ohio	31
Georgia	57	Oklahoma	73
Guam	97	Oregon	92
Hawaii	95	Pennsylvania	23
Idaho	82	Puerto Rico	94
Illinois	33	Rhode Island	15
Indiana	32	South Carolina	56
Iowa	42	South Dakota	46
Kansas	48	Tennessee	63
Kentucky	61	Texas	74
Louisiana	72	Utah	87
Maine	11	Vermont	13
Maryland	51	Virginia	52
Massachusetts	14	Virgin Islands	98
Michigan	34	Washington	91
Minnesota	41	West Virginia	54
Mississippi	65	Wisconsin	35
Missouri	43	Wyoming	83

Arranged Numerically			
10	Dist. of Columbia	56	South Carolina
11	Maine	57	Georgia
12	New Hampshire	58	Florida
13	Vermont	61	Kentucky
14	Massachusetts	63	Tennessee
15	Rhode Island	64	Alabama
16	Connecticut	65	Mississippi
21	New York	71	Arkansas
22	New Jersey	72	Louisiana
23	Pennsylvania	73	Oklahoma
31	Ohio	74	Texas
32	Indiana	81	Montana
33	Illinois	82	Idaho
34	Michigan	83	Wyoming
35	Wisconsin	84	Colorado
41	Minnesota	85	New Mexico
42	Iowa	86	Arizona
43	Missouri	87	Utah
45	North Dakota	88	Nevada
46	South Dakota	91	Washington
47	Nebraska	95	Oregon
48	Kansas	93	California
50	Delaware	94	Puerto Rico
51	Maryland	95	Hawaii
52	Virginia	96	Alaska
54	West Virginia	97	Guam
55	North Carolina	98	Virgin Islands

LIST OF COMMERCIAL TAG MANUFACTURERS

METAL IDENTIFICATION TAGS

Ketchum Manufacturing Company
1285 Avenue of the Americas
New York, NY 10019
646-935-4499

Keyes-Davis Company
Box 1557
74 Fourteenth Street
Battle Creek, MI 49016
269-962-7505
fax: 269-962-4411
sales@keyesdavis.com

National Band & Tag Company
721 York St.
PO Box 72430
Newport, KY 41072-0430
859-261-2035
fax: 1-800-261-8247
tags@nationalband.com

St. Paul Stamp Works
87 Empire Drive.
St. Paul, MN 55103-1856
651-222-2100
fax: 651-228-1314
spsw@stpstamp.com

PLASTIC IDENTIFICATION BANDS

Hollister Company
2000 Hollister Drive
Libertyville, IL 60048
1-800-323-4060

Products International Company
2320 West Holly Street
Phoenix, AZ 85009
602-257-0141

Request to Use Microchipping as a Method of Identification

(Submit completed form to appropriate regional office)

Name of Business: _____ Name of Owner: _____

Address: _____

City _____ State _____ Zip _____

USDA Lic./Reg. Number _____ USDA Tattoo# (if any) _____

Microchip Information:

Manufacturer and/or Model of Microchip and Reader _____

Location of Microchip (For example: left side of neck)

* The location of the chip must be consistent from animal to animal

I accept and understand that:

- The microchip scanner must be readily available to APHIS officials.
- Animal identification records must indicate the microchip number, the manufacturer of the chip, and the approximate location of the microchip in the animal.
- When sold or given to another regulated facility, animals with a microchip must have an official tag or tattoo if the new facility does not have a compatible scanner.
- APHIS may revoke an approval at any time if the microchipping system is discovered to be ineffective.

Licensee/Registrant Signature _____

Date _____

Approved by APHIS Official _____

Date _____

**MARINE MAMMAL
WATER QUALITY**

The water contained in primary enclosures housing marine mammals must be clean, uncontaminated and appropriate for the species of marine mammal housed therein. [3.106]

Criteria

The research facility is responsible for testing and for maintaining water quality.

Factors for evaluating water in primary enclosures include, but are not limited to:

- coliform count
- pH
- chemical additives
- filtration and water flow
- salinity for salt water marine mammals

Coliform Count [3.106(b)]

Weekly water tests must be conducted for coliform counts. [3.106(b)(3)]

The coliform bacterial count of the primary enclosure pool must not exceed 1,000 MPN (most probable number) per 100 ml. of water. [3.106(b)(1)]

If the coliform count exceeds 1,000 MPN per 100ml., then: [3.106(b)(1)]

- the pool may be drained, refilled and tested, or
- the pool may be treated with a sterilizing agent, such as chlorine, bromine or ozone, and retested, or
- the following procedure may be conducted:
 - ▶ two subsequent bacterial counts must be taken at 48-hour intervals
 - ▶ the results of these two counts are averaged with the first count
 - ▶ if the averaged count does not fall below 1,000 MPN per 100ml., then the pool must be emptied or treated

Two tests are generally accepted for testing for coliforms and are roughly equivalent:

- the multiple tube fermentation test
- the membrane filter test

Non-acceptable tests for coliform counts are:

- dip stick type tests
- tests giving only "fecal coliforms"

Water samples should be taken:

- at least 2-3 feet below the surface of the water near the middle of the pool or the drain
- at the same place and same time of the day
- just prior to emptying the pool rather than just after filling the pool

A recommended technique for collecting water is:

- use a sterile sample bottle
- open the bottle just before inserting it into the water
- submerge the bottle rapidly into the water with a forward sweeping motion

Water samples should be:

- refrigerated if not tested within one hour of collection
- processed within 30 hours of collection
- maintained at 50°F

pH [3.106(b)(3)]

Daily water tests must be conducted for pH.

NOTE: Research facilities using natural seawater are exempt from pH testing.

Chemical Additives [3.106(b)]

Daily water tests must be conducted for concentrations of chemical additives. [3.106(b)(3)]

Any chemical added to the pool water must not cause harm or discomfort to the marine mammal. [3.106(b)(2)]

NOTE: Research facilities using natural seawater are exempt from testing for chemical additive concentrations UNLESS chemicals are added to maintain water quality. [3.106(b)(3)]

Salinity [3.106(c)]

Primary enclosure pools must be salinized for cetaceans and other marine mammals requiring salinized water.

The salinity of the water must be maintained within a range of 15-36 parts per thousand.

Filtration and Water Flow [3.106(d)]

A filtration system may be used to maintain water quality.

Records [3.106(b)(3)]

Records of coliform counts, pH and chemical additive concentrations must:

- be kept
- document the time when all samples were taken
- record the results of the sampling
- be held for a 1-yr period
- be available for inspection upon request

Inspection Procedures

The inspector must review the records carefully to verify the validity of the records.

Indicators of questionable validity of the records include, but are not limited to:

- all recordings in the same ink or handwriting
- no change in readings
- results posted on the same date and time

If the facility appears to have a problem with water quality, questions to ask include, but are not limited to:

- where are samples taken
- how deep are samples taken
- what time of day are samples taken

- where is testing done, i.e., in house, sent to lab
- if samples sent out, is lab qualified to test samples
- how soon after collection are samples tested
- what is the storage method of the samples

If the testing methods, sampling techniques or test results do not appear to be valid or representative of the water conditions, you (the inspector) should check with your SACS about having samples run to check the accuracy of the facility's tests.

PEST CONTROL

A safe and effective program for the control of pests must be established and maintained. [3.11, 3.31, 3.56, 3.84, 3.107, 3.131]

Criteria

Pests include, but are not limited to:

- mammalian pests, such as
 - ▶ rats
 - ▶ mice
 - ▶ moles
- avian pests, such as
 - ▶ starlings
 - ▶ pigeons
 - ▶ sparrows
- ectoparasites, such as
 - ▶ fleas
 - ▶ ticks
 - ▶ mites
 - ▶ lice
- arthropods, such as
 - ▶ flies
 - ▶ mosquitos
 - ▶ gnats
- arachnids, such as
 - ▶ spiders
 - ▶ scorpions

Signs of an ineffective pest control program include, but are not limited to:

- mammalian pests
 - ▶ sighting of the pest
 - ▶ droppings
 - ▶ rodent holes
 - ▶ chewed insulation on floors, walls, ceilings, and other surfaces
- avian pests
 - ▶ sighting of the pest
 - ▶ droppings
 - ▶ nests
 - ▶ feathers

	<ul style="list-style-type: none">• ectoparasites<ul style="list-style-type: none">▶ animal scratching▶ open sores▶ areas of hair loss• arthropods<ul style="list-style-type: none">▶ sighting of the pest▶ droppings▶ egg packets▶ food covered with flies▶ sores on animal due to flies and other insects▶ animal swatting/twitching/scratching• arachnids<ul style="list-style-type: none">▶ sighting of the pest▶ webs
Species Specific	Marine Mammals [3.107(d)] The attending veterinarian must decide when insecticides or other similar chemical agents are applied in the primary enclosure.

WATERING

Animals must be provided an adequate amount of potable water for their health and well-being. [3.10, 3.30, 3.55, 3.83, 3.106, 3.130]

**DRINKING WATER
Criteria**

Potable water provided to animals should be:

- suitable for human consumption
- clean
- non-toxic
- free of scum
- uncontaminated
- acceptable for animal husbandry needs

Tests to determine potability of water which may be requested at the inspector's discretion include, but are not limited to:

- coliform count
- toxin analysis
- mineral content

Methods of providing water to the animals include, but are not limited to:

- receptacles, such as
 - ▶ buckets
 - ▶ bowls
 - ▶ water bottles
- continuous flow systems, such as
 - ▶ gravity flow
 - ▶ Lixits
- natural sources, such as
 - ▶ rivers
 - ▶ ponds
 - ▶ streams
 - ▶ lakes

Inadequate amounts of water

Factors to consider in determining if an animal is receiving an adequate amount of water include, but are not limited to:

- ambient temperature
- animals's condition, such as

- ▶ sunken eyes
- ▶ skin tenting
- animal's behavior, such as nosing at water bowl

If you are concerned that an animal is not receiving an adequate amount of water, you should assess the animal's thirst level.

To determine if the animal is thirsty:

- have fresh water placed in the enclosure
- the animal is considered thirsty if it drinks:
 - ▶ rapidly
 - ▶ copious amounts
 - ▶ the entire amount offered and looks for more

NOTE: Most animals will investigate new items placed in the enclosure. A cursory lap or sniff of the water is not indicative of thirst.

If you determine that an animal is not being provided an adequate amount of water, cite on the inspection report under the appropriate "Watering" Section of the standards.

NOTE: Excessive thirst may also be due to a disease condition and the animal may need veterinary care.

Modification of Watering Requirements

The watering requirements detailed below may be modified:

- by the attending veterinarian, or
- as required by an IACUC-approved protocol

Species Specific

Dogs & Cats [3.10]

Water must be provided:

- at least twice a day for a minimum of 1 hour, or
- on a continuous basis

Guinea Pigs & Hamsters [3.30]

Water must be provided:

- daily, or
- through food supplements

	<p>Rabbits [3.55] Water must be provided daily.</p> <p>Nonhuman Primates [3.83] Water must be provided:</p> <ul style="list-style-type: none"> • at least twice a day for a minimum of 1 hour, or • continuously <p>Marine Mammals [3.106] Drinking water is provided through the food source.</p> <p>Sick animals may require supplemental fresh water as directed by the attending veterinarian.</p> <p>Other Animals [3.130] Water must be provided:</p> <ul style="list-style-type: none"> • continuously, or • as often as necessary for the animals' health and comfort
<p>WATERING SYSTEMS Criteria</p>	<p>Water receptacles or continuous flow systems, if used, must be:</p> <ul style="list-style-type: none"> • accessible to all animals • located to minimize contamination • kept clean and sanitary
<p>Species Specific</p>	<p>Dogs & Cats [3.10] Water receptacles must be sanitized:</p> <ul style="list-style-type: none"> • at least once every two weeks, and • before being used for another animal <p>Guinea Pigs & Hamsters [3.30] Water receptacles/continuous flow systems must be sanitized:</p> <ul style="list-style-type: none"> • at least once every two weeks, or • more often if necessary <p>Rabbits [3.55] Water receptacles/continuous flow systems must be sanitized:</p> <ul style="list-style-type: none"> • at least once every two weeks, or • more often if necessary

Nonhuman Primates [3.83]

Water receptacles/continuous flow systems must be sanitized:

- at least once every two weeks, and
- before being used for another animal