

Nonhuman Primate Symposium

Practical Solutions to Welfare Challenges

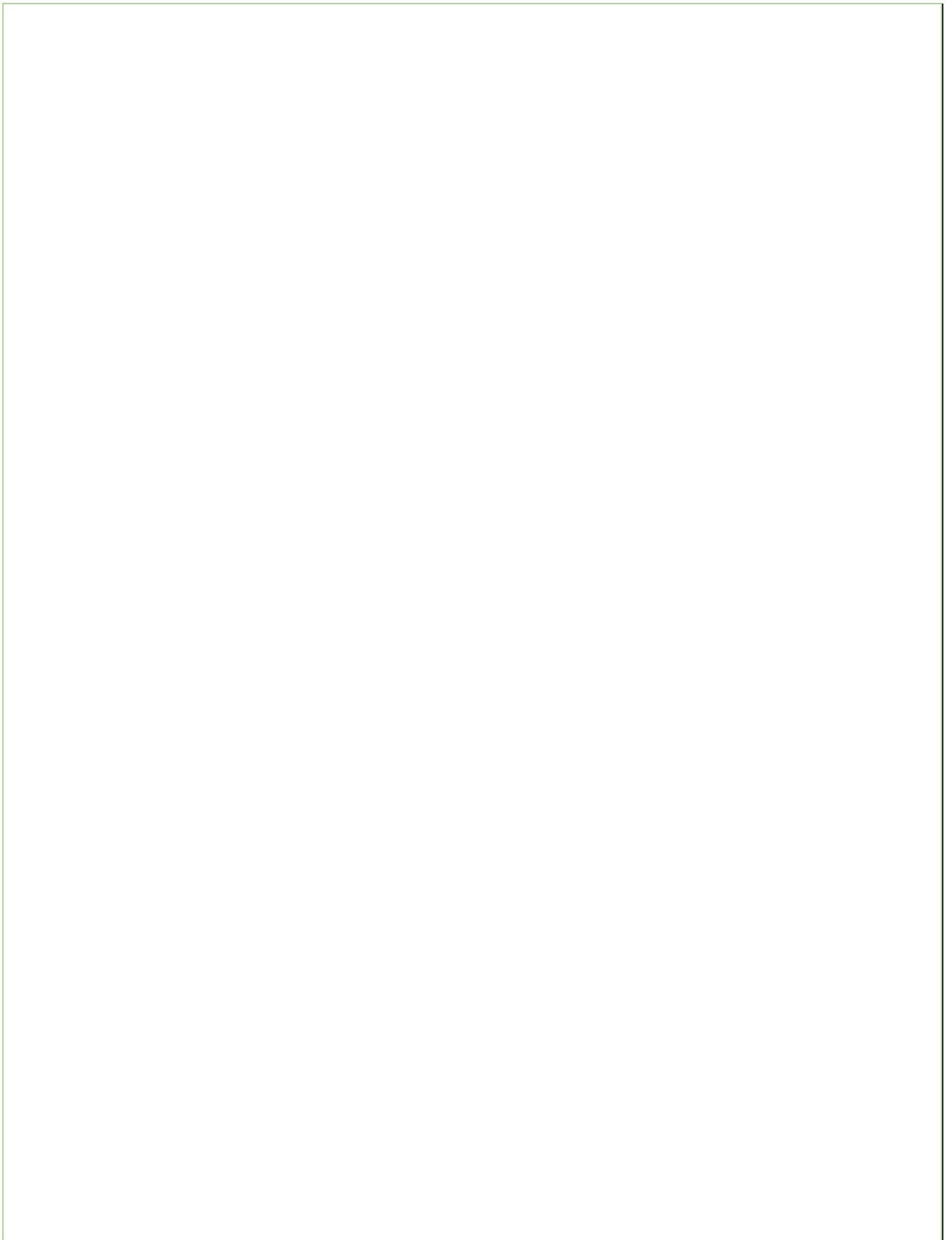


March 29th & 30th, 2017

USDA Center for Animal Welfare

6501 Beacon Drive, Kansas City, Missouri 64133





Wednesday, March 29, 2017

Supporting Species Specific Behaviors

8:00am – 12:30pm

Event	Speaker
Welcome and Symposium Overview	<p>Nora Wineland, DVM, Director, Center for Animal Welfare, USDA</p> <p>David B. Wright, Security Specialist, USDA/FSA/EPD</p> <p>Gwendalyn Maginnis, DVM, Nonhuman Primate Specialist, Center for Animal Welfare, USDA</p>
Functionally Appropriate Environments for Callitrichids	Suzette Tardif, Ph.D. , Associate Director, Southwest National Primate Research Center
Behavior-Based Husbandry for Lemurs	Tracy Fenn , Supervisor of Mammals, Jacksonville Zoo and Gardens; also President and Founder, Endangered Primate Foundation
Creating Environments that Support Species Specific Behaviors for Captive Chimpanzees	Rick Lee, DVM , HPC Director, Alpha Genesis Inc.
BREAK	
Functionally Appropriate Behaviors of Capuchins, Spider Monkeys, and Squirrel Monkeys	Kari Bagnall , Founder and Director, Jungle Friends Primate Sanctuary
Current Practices in the Captive Management of Macaques and Baboons	Joseph Knobbe , Curator of Primates, San Francisco Zoo
Discussion Panel	Moderator: Mary Ann McBride, DVM , VMO, Animal Care, USDA
LUNCH: cafeteria on site	

Managing Abnormal Behavior

1:30pm – 5:30pm

Event	Speaker
Understanding Abnormal Behavior and Fear-related Behavior in Primates	Mollie Bloomsmith, Ph. D. , Director of Behavioral Management, Yerkes National Primate Research Center
Managing Abnormal Behaviors	Kari Bagnall , Founder and Director, Jungle Friends Primate Sanctuary
BREAK	
Just Listen – Giving Animals a Voice to Improve Their Quality of Life	Heidi Hellmuth , Curator of Primates, St. Louis Zoo
Discussion Panel	Moderator: Marcy E. Rosendale, DVM , VMO, Animal Care, USDA

Thursday, March 30, 2017

Physical Well-being

8:00am – 3:00pm

Event	Speaker
Nutritional Aspects of Non-human Primate Care	Barbara Henry, M.S. , Curator of Nutrition, Cincinnati Zoo & Botanical Garden
BREAK	
Preventative Health Care of Primates in Captivity	Wm. Kirk Suedmeyer, DVM, Dipl. ACZM , Director of Animal Health and Research, Kansas City Zoo
LUNCH: cafeteria on site	
Neonatal Care of Marmosets and Tamarins	Suzette Tardif, Ph.D. , Associate Director, Southwest National Primate Research Center
Geriatric Care of Primates in Captivity	Wm. Kirk Suedmeyer, DVM, Dipl. ACZM , Director of Animal Health and Research, Kansas City Zoo
Discussion Panel	Moderator: Carol L. Clarke, DVM, Dipl. ACLAM , Senior Staff Veterinarian, Animal Care, USDA
BREAK	

Workshop: Developing an Environment Enhancement Plan

3:00pm – 5:00pm

Speaker: Gwendalyn Maginnis, DVM, Nonhuman Primate Specialist, Center for Animal Welfare, USDA

Contents

Supporting Species Specific Behaviors

Functionally Appropriate Environments for Callitrichids	6
Behavior-Based Husbandry for Lemurs	8
Creating Environments that Support Species Specific Behaviors for Captive Chimpanzees. . .	10
Functionally Appropriate Behaviors of Capuchins, Spider Monkeys, and Squirrel Monkeys. . .	12
Current Practices in the Captive Management of Macaques and Baboons	14

Managing Abnormal Behavior

Understanding Abnormal Behavior and Fear-related Behavior in Primates	16
Managing Abnormal Behaviors	18
Just Listen – Giving Animals a Voice to Improve Their Quality of Life	20

Physical Well-being

Nutritional Aspects of Non-human Primate Care.	22
Preventative Health Care of Primates in Captivity.	24
Neonatal Care of Marmosets and Tamarins.	26
Geriatric Care of Primates in Captivity.	28

Workshop: Developing an Environment Enhancement Plan

Developing an Environment Enhancement Plan	30
Appendix A: § 3.81 - Environment enhancement to promote psychological well-being.	38
Appendix B: Policy 7- Brachiating Species of Nonhuman Primates.	39
Appendix C: Online enrichment resources	40

Functionally Appropriate Nonhuman Primate Environments for Callitrichids

Suzette D. Tardif, PhD

Associate Director, Southwest National Primate Research Center, San Antonio, TX

Marmosets and tamarins are small, South American monkeys that are highly territorial and normally live in groups with only one reproductive female and one reproductive male. They are arboreal and have well-developed visual, olfactory and auditory communication systems. In the wild, they are both a predator and a prey. They have well-developed vigilance systems and spend much time scanning the environment for signs of danger. They cooperatively raise their offspring - fathers and older offspring participate in the transport of infants and their provisioning with solid food. Abnormal behaviors are rare in the captive setting, compared to the rates observed in macaques. This talk will discuss features of the captive environment that support typical species-appropriate behaviors in marmosets and tamarins. Those features include: (1) importance of vertical space; (2) surfaces that allow for vertical clinging and leaping; (3) surfaces (e.g. wood) that allow scent marking while also allowing for control of the olfactory environment; (4) space in which to be visually removed from neighboring groups; (5) appropriate sleeping sites; (6) recognition of the role of neophobia in response to new features of the environment; (7) foraging opportunities that take advantage of natural predatory and gum-feeding behaviors.

Notes: _____

Creating Environments that Support Species Specific Behaviors for Captive Chimpanzees

D. Rick Lee, DVM
HPC Director, Alpha Genesis Inc.

Due to their strength and intelligence, captive chimpanzees require specialized housing, care, socialization, and environmental enrichment. It is our obligation to provide them with functional housing structures with complex environments that promote species-specific activities and behaviors. Housing chimpanzee social groups requires strong housing materials and designs with adequate vertical space. The quality of chimpanzee housing and complexity of the environment is more important than the quantity of space available. Therefore, good environmental enhancement is necessary to augment construction of secure enclosures. Indoor-outdoor housing and large outdoor housing strategies have proven to provide appropriate environments to manage social groups and allow for access to outdoor areas year round. Well-designed indoor space is also essential for social introductions and caring for individuals that are geriatric or have medical problems. This presentation will discuss other aspects of functionally appropriate environments to manage captive social groups.

Notes: _____

Understanding Abnormal Behavior and Fear-related Behavior in Primates

Mollie Bloomsmith, Ph. D.

Director of Behavioral Management, Yerkes National Primate Research Center

Correctly identifying abnormal and fear-related behaviors in primates is a first step toward working to improve animal welfare by effectively addressing these behavioral problems. Abnormal behaviors are generally interpreted to indicate that the environment is lacking in some way to adequately support the well-being of the primate. Some examples of abnormal behaviors in primates are stereotyped behaviors (e.g., pacing, rocking); hair plucking; oral abnormal behaviors (e.g., coprophagy, regurgitation and reingestion); self-directed behaviors (digit sucking, eye-poking, self-clasping), bizarre postures (e.g., floating limb), and self-injurious behavior. Research has shown that many factors affect the development of abnormal behaviors including the animal's social environment and especially their early rearing history; age; sex; species; temperament; physical environment in which the primate lives; and management procedures. Because abnormal behaviors are caused by many different factors, they do not all respond to the same types of treatment. Since some abnormal behaviors are influenced by historical factors rather than what the animal is currently experiencing, those can be especially resistant to treatment. Some types of abnormal behavior may serve as a way for the primate to cope with conditions in his/her environment. Behaviors indicating fear, tension or anxiety in primates are also important to identify and interpret, as they may also be evidence of reduced welfare. Examples of fear include crouching or cringing, freezing in position, facial expressions such as fear grimace, trembling, or moving to back of the enclosure or away from humans. Some behaviors indicating tension or anxiety in primates are self-scratching, yawning, and teeth grinding. All primate facilities need a system to identify, report and monitor these behaviors as a part of their program to protect and promote the welfare of the primates in their care.

Notes: _____

Preventative Health Care of Primates in Captivity

Wm. Kirk Suedmeyer, DVM, Dipl. ACZM
Director of Animal Health and Research, Kansas City Zoo

Captive primates are prone to many illnesses in captivity, whether in zoological institutions, research, rehabilitation, or private facilities. Infectious, non-infectious, nutritional, and behavioral maladies are common. Some of these conditions are zoonotic, and a few are anthroponozoonotic. Many illnesses can be prevented, or minimized with a proper program of preventative care. This includes routine exams, dental prophylaxis, proper diet and routine evaluation, enrichment, appropriate lighting, routine vaccination, fecal evaluation, and screening for disease entities. In addition, proper housing can help prevent conditions often seen in younger animals, such as degenerative joint disease, metabolic bone disease, hair and skin abnormalities, spondylosis, and stereotypic behaviors.

This discussion will focus on the most important aspects of disease prevention and health care in primates all of which helps extend life expectancy, diminish chronic conditions and in most cases lessens the financial costs of treating those conditions. Preventative programs should take into account the goals, risks versus benefits, costs, and most importantly the welfare of the individual animal(s).

Notes: _____

Neonatal Care of Marmosets and Tamarins

Suzette D. Tardif PhD

Associate Director, Southwest National Primate Research Center, San Antonio, TX

It is common for marmosets and tamarins to deliver more than two infants. However, it is extremely rare for marmosets and tamarins to successfully raised more than two infants at a time. The management of litters larger than two is dependent upon the situation at the time of the birth but follows these basic procedures: (1) Assessment of infants' condition. Infants who are small or show signs of significant weakness (cannot cling to an adult without repeatedly falling off) are extremely unlikely to be successfully reared, so these infants may be removed and euthanized shortly following birth to minimize suffering and perhaps increase the chances of successful rearing of the remaining litter. (2) Fostering. If all infants are judged to be in good condition and there is another dam in the colony that is nursing one infant and has given birth within 3 weeks, one of the infants may be removed and placed with the group with one infant. This process is successful in the majority of cases. (3) Rotational Rearing. If staffing is adequate to devote time to rotational rearing, then one infant per day may be removed from the group and formula fed, while in a cage or incubator immediately adjacent to its home cage. The infant is returned to the group at the end of the day and a different infant removed on the following day. In this way, each infant has access to marmoset milk for at least part of its rearing. (4) Full Nursery Rearing. Infants may be removed entirely from the group and formula fed. In these cases, the infant is placed in a cage or incubator immediately adjacent to its home cage or adjacent to the cage of the group into which it will be fostered upon weaning. The infant is generally back in a social group by three months of age. (5) Observation and Euthanasia. If staffing is not adequate to devote time to nursery rearing, then the group will be closely observed and weakened infants will be removed and humanely euthanized in order to reduce suffering. Generally, weakened infants will be identified, removed and euthanized no later than 5 days after birth.

Notes: _____

Geriatric Care of Primates in Captivity

Wm. Kirk Suedmeyer, DVM, Dipl. ACZM
Director of Animal Health and Research, Kansas City Zoo

Captive primates, whether in zoological institutions, research colonies, rehabilitation centers or private facilities, are living longer, in many instances past the life expectancy of their wild counterparts. Better nutrition, prevention of contagious disease, lack of predators and hunting contributes to the longevity observed. Along with this longevity however, primates incur many of the age-associated maladies observed in people. Osteoarthritis, cataracts, organ deterioration, mobility issues, susceptibility to weather extremes, changes in social status, and dental disease are some of the more commonly observed conditions that occur in elderly primates.

Documentation of these conditions anticipates the needs of geriatric animals. Changes in husbandry may need to occur to provide comfort for the aging animal and can be as simple as changing the substrate or providing more comfortable housing. Alteration of diet, analgesics, enrichment, evaluation of social status, and judicious use of medications should be considered when evaluating the geriatric animal. More involved levels of care and diagnostics such as laser therapy, cataract removal, and dental surgery, are relatively safe procedures that provide or improve the comfort of the animal. Screening for organ dysfunction, cancer, and osteoarthritis are generally performed through the use of physical examination, radiographs, blood sampling, ultrasound, colonoscopy, gastroscopy, and even CT or MRI scans. These techniques, while more involved, are generally safe procedures as well, and help facilitate the long term care for aged animals.

Appropriate communication amongst all stakeholders is critical in formulating the best approach to the geriatric primate's well-being. Frequent and direct communication conveys concerns, provides factual information, and in most instances, alleviates anxiety associated with evaluation or changes necessary for the welfare of the animal. These discussions can include quality of life programs for the animal, which help define criteria that determine an end of life event, an anxious, emotional and sometimes frustrating situation that is necessary when the aforementioned changes and treatments no longer provide for the welfare of the animal.

Notes: _____

Developing an Environment Enhancement Plan

Gwendalyn Maginnis, DVM
Nonhuman Primate Specialist, Center for Animal Welfare, USDA

The Animal Welfare Regulations require dealers, exhibitors, and research facilities to “develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates.” This workshop facilitates a framework for developing a written environment enhancement plan that ensures compliance with the requirements in the Animal Welfare Regulations.

1. General comments

- a. Written plan
- b. In accordance with currently accepted professional standards
- c. As directed by the Attending Veterinarian

2. Social grouping

- a. “plan must include specific provisions to address the social needs”
- b. Social housing- with conspecifics
 - i. Default housing strategy
 - ii. Consider species typical social grouping
 - iii. Alternative social strategies (intermittent, grooming contact)
- c. Non primate housing partners
- d. Human interaction
- e. Other means to meet social needs

Appendix A

Animal Welfare Regulations (9CFR AWR)

PART 3- Standards

Subpart D- Specifications for the Humane Handling, Care, Treatment, and Transportation of Nonhuman Primates

§ 3.81 - Environment enhancement to promote psychological well-being.

Dealers, exhibitors, and research facilities must develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates. The plan must be in accordance with the currently accepted professional standards as cited in appropriate professional journals or reference guides, and as directed by the attending veterinarian. This plan must be made available to APHIS upon request, and, in the case of research facilities, to officials of any pertinent funding agency. The plan, at a minimum, must address each of the following:

(a) *Social grouping.* The environment enhancement plan must include specific provisions to address the social needs of nonhuman primates of species known to exist in social groups in nature. Such specific provisions must be in accordance with currently accepted professional standards, as cited in appropriate professional journals or reference guides, and as directed by the attending veterinarian. The plan may provide for the following exceptions:

(1) If a nonhuman primate exhibits vicious or overly aggressive behavior, or is debilitated as a result of age or other conditions (e.g., arthritis), it should be housed separately;

(2) Nonhuman primates that have or are suspected of having a contagious disease must be isolated from healthy animals in the colony as directed by the attending veterinarian. When an entire group or room of nonhuman primates 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.

(3) Nonhuman primates may not be housed with other species of primates or animals unless they are compatible, do not prevent access to food, water, or shelter by individual animals, and are not known to be hazardous to the health and well-being of each other. Compatibility of nonhuman primates must be determined in accordance with generally accepted professional practices and actual observations, as directed by the attending veterinarian, to ensure that the nonhuman primates are in fact compatible. Individually housed nonhuman primates must be able to see and hear nonhuman primates of their own or compatible species unless the attending veterinarian determines that it would endanger their health, safety, or well-being.

(b) *Environmental enrichment.* The physical environment in the primary enclosures must be enriched by providing means of expressing noninjurious species-typical activities. Species differences should be considered when determining the type or methods of enrichment. Examples of environmental enrichments include providing perches, swings, mirrors, and other increased cage complexities; providing objects to manipulate; varied food items; using foraging or task-oriented feeding methods; and providing interaction with the care giver or other familiar and knowledgeable person consistent with personnel safety precautions.

(c) *Special considerations.* Certain nonhuman primates must be provided special attention regarding enhancement of their environment, based on the needs of the individual species and in accordance with the instructions of the attending veterinarian. Nonhuman primates requiring special attention are the following:

(1) Infants and young juveniles;

- (2) Those that show signs of being in psychological distress through behavior or appearance;
- (3) Those used in research for which the Committee-approved protocol requires restricted activity;
- (4) Individually housed nonhuman primates that are unable to see and hear nonhuman primates of their own or compatible species; and
- (5) Great apes weighing over 110 lbs. (50 kg). Dealers, exhibitors, and research facilities must include in the environment enhancement plan special provisions for great apes weighing over 110 lbs. (50 kg), including additional opportunities to express species-typical behavior.

(d) *Restraint devices.* Nonhuman primates must not be maintained in restraint devices unless required for health reasons as determined by the attending veterinarian or by a research proposal approved by the Committee at research facilities. Maintenance under such restraint must be for the shortest period possible. In instances where long-term (more than 12 hours) restraint is required, the nonhuman primate must be provided the opportunity daily for unrestrained activity for at least one continuous hour during the period of restraint, unless continuous restraint is required by the research proposal approved by the Committee at research facilities.

(e) *Exemptions.*

(1) The attending veterinarian may exempt an individual nonhuman primate from participation in the environment enhancement plan because of its health or condition, or in consideration of its well-being. The basis of the exemption must be recorded by the attending veterinarian for each exempted nonhuman primate. Unless the basis for the exemption is a permanent condition, the exemption must be reviewed at least every 30 days by the attending veterinarian.

(2) For a research facility, the Committee may exempt an individual nonhuman primate from participation in some or all of the otherwise required environment enhancement plans for scientific reasons set forth in the research proposal. The basis of the exemption shall be documented in the approved proposal and must be reviewed at appropriate intervals as determined by the Committee, but not less than annually.

(3) Records of any exemptions must be maintained by the dealer, exhibitor, or research facility and must be made available to USDA officials or officials of any pertinent funding Federal agency upon request.

Appendix B

Policies
Nonhuman Primates

Animal Care Resource Guide
Issue Date: March 25, 2011

Subject:	Brachiating Species of Nonhuman Primates	Policy #7
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References: AWA Section 2143
9 CFR, Part 3, Section 3.80

History: Replaces memorandum dated July 31, 1991; letter dated June 30, 1992; and policy dated April 14, 1997.

Justification: Clarification is needed to specify brachiating species of nonhuman primates in order to determine proper space requirements.

Policy: In reference to space requirements under Section 3.80, APHIS has determined that brachiating species include:

- a. spider monkeys (*Ateles* spp.)
- b. woolly spider monkeys (*Brachyteles* spp.)
- c. woolly monkeys (*Lagothrix* spp.)
- d. gibbons and siamangs (*Hylobates* spp.)
- e. chimpanzees, bonobo, and young gorillas and orangutans

Brachiating means any primate whose form of locomotion involves using its arms, legs, and/or tail while its body is suspended. The intent of the space regulations is to provide sufficient space for all species-typical postural and locomotive behaviors. Since each of these species engages in brachiating-type movement, the larger space provided for Group 6 primates is appropriate.

Appendix C

Online enrichment resources

The Shape of Enrichment: <http://www.enrichment.org/>

The Enrichment Record: <http://enrichmentrecord.com/>

The Macaque Website: <http://www.nc3rs.org.uk/macques/captive-management/enrichment/>

NIH enrichment series:

https://grants.nih.gov/grants/olaw/enrichment_for_nonhuman_primates.pdf

The Nonhuman Primate Symposium: Practical Solutions to Welfare Challenges was organized and supported by USDA Animal Care through the Center for Animal Welfare.



The Center for Animal Welfare works with a diverse network of partners and experts to serve as the national resource for: policy development and analysis; education and outreach; and science and technology in support of the Animal Welfare Act and the Horse Protection Act. It partners with experts domestically and internationally to provide accurate, unbiased, science-based information to stakeholders and industry partners.

The Center and its Specialists are available to provide best-practices advice not only to Animal Care but also to: federal agencies, stakeholders, cooperatives, state and local government, and other countries. The Center can be contacted by phone or email.

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Further information about the Animal Welfare Act, Animal Welfare Regulations, and Animal Care are available on Animal Care's website: http://www.aphis.usda.gov/animal_welfare. Hard copies of the Animal Welfare Act & Regulations ("Blue Book") are currently being updated. A link to order hard copies will be added to the Animal Care website when the updated version is available. Training opportunities, such as Canine Care Workshops, are offered by Animal Care throughout the year; more information is on the website.

