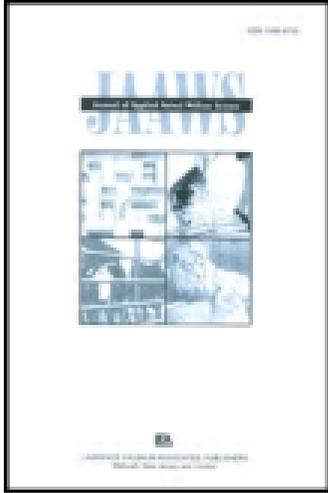


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Overcoming the Barriers to the Retirement of Old and New World Monkeys From Research Facilities

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In this commentary I aim to raise awareness among researchers and sanctuary directors to potential barriers to retiring Old and New World monkeys from research facilities. I define a *barrier* as an opinion or stereotype that prevents primate retirement from occurring on a regular basis. By discussing retirement barriers and recommending how to overcome them, I aim to increase the frequency of retiring monkeys from the laboratory into naturalistic sanctuaries. In this article I compile a final list of 10 barriers to retirement—and recommendations on how to overcome them—based on responses to forums, comments from primate sanctuary directors, information contained in scientific and sanctuary literature, and personal experiences. I conclude that researchers will increase the frequency of primate retirement by performing the following 5 actions: (a) increase communication by networking with sanctuaries, (b) prevent negative publicity by developing a confidentiality clause with the sanctuary, (c) increase understanding by reviewing the articles written on retiring monkeys into sanctuaries, (d) increase funding for primate retirement by including funding requests in grant proposals, or (e) by raising private funds.

The purpose of this commentary is to increase awareness among the scientific and sanctuary communities regarding the potential barriers to the retirement of Old and New World monkeys from research facilities. A *barrier* in this commentary is defined as an opinion or stereotype that is preventing primate retirement from occurring on a regular basis. In April 2006, I compiled a list of barriers

ers based on conversations I had had with researchers and veterinarians about primate retirement while I worked in a primate research laboratory for 5 years (1999 to 2004). I posted the list of barriers to primate retirement on various online forums consisting of researchers, animal welfare advocates, and sanctuary directors. The final list of 10 potential barriers to retirement and the recommendations on how to overcome them are based on responses in the forums, comments from primate sanctuary directors, information contained in scientific and sanctuary literature, and my own experiences.

In an attempt to examine the frequency of Old and New World monkey retirement from research facilities, I sent an online questionnaire to sanctuary directors in May 2005. Overall, the results suggest that retirement of monkeys from research is minimal; however, when it has happened, their transfer to a naturalistic environment and rehabilitation has appeared to be successful (Kerwin, 2005). In addition, in 2006, I contacted the Public Affairs Division of the U.S. Department of Agriculture (USDA) to inquire whether retirement numbers of Old and New World monkeys from research into sanctuaries were available for analysis. The USDA stated that they do not record any instances of primate retirement (Public Affairs Division, personal communication, September 8, 2006). Therefore, the exact number of monkeys retired into naturalistic sanctuaries remains unknown. However, it appears that the retirement of Old and New World monkeys from research remains relatively uncommon compared with the large number of monkeys being used in research.

Chimpanzee retirement happens more frequently than retirement of Old and New World monkeys because more federal funding and infrastructure exist to provide lifetime care through the Chimpanzee Health Improvement, Maintenance, and Protection Act of 2000 (CHIMP, 2000). Other primate species do not receive federal funding or specific legislation pertaining to their retirement and protection, even though research facilities across the United States use approximately 50,000 Old and New World monkeys (USDA, 2004). Old and New World monkeys can live several years in captivity. The life span of a rhesus macaque (*Macaca mulatta*), a popular Old World research primate, averages 29 years; the life span of the common Marmoset (*Callithrix jacchus*), a popular New World research primate, averages 12 years (Primate Info Net, 2006). If the study in which they are subjects is not terminal, monkeys may be kept on as breeders or sold to undergo more research for the remainder of their lives. The barriers and recommendations in this commentary are meant to assist researchers and sanctuary directors in finding ways to increase the retirement of research monkeys into naturalistic sanctuaries so that both monkeys and chimpanzees are retired on a regular basis.

METHOD

The evidently low occurrence of research monkey retirement (Kerwin, 2005), combined with the observed lack of primate retirement while employed at a primate laboratory, prompted me to compile the barriers to primate retirement I en-

countered, both while working in the laboratory and later, while networking with sanctuary directors. I posted the retirement barriers on the Laboratory Animal Refinement and Enrichment Forum, the Primfocus Forum, and the Primate Sanctuaries Forum. I asked for members of these forums to add to the barriers and provide suggestions on how to overcome them. Five people responded to my posting. Their comments are included in this commentary. Because almost all respondents preferred to remain anonymous, all quotations—including those from researchers and sanctuary personnel—also are kept anonymous, to maintain consistency. Recommendations on how to overcome the barriers are based on the literature, input from the forum respondents, and my own experiences.

RESULTS: BARRIERS TO LABORATORY MONKEY RETIREMENT

Opinions From the Research Community

The barriers to laboratory monkey retirement are divided into two categories: (a) opinions from within the research community and (b) opinions from sanctuary directors.

No monetary motivation. Researchers typically pay between \$1,500 and \$5,000 each for Old World monkeys and \$1,000 to \$2,000 each for New World monkeys, depending on the supplier and type of monkey needed for a study. If the study is not terminal, then laboratories sell the monkeys to additional scientific studies or send them back to the colony of monkeys for breeding. *Retiring* monkeys means not selling the monkeys to more research.

Convenience. A veterinary technologist (personal communication, April 4, 2006) suggested that “One more point is ‘ease.’ It’s so much easier just to euthanize them when they’re done. It costs just pennies to euthanize them compared to how much time, work, and money are involved to ‘retire’ them.”

High demand. Three research veterinarians (in response to my stated intention of establishing a primate sanctuary) said that monkeys are constantly needed for studies; therefore, they are reused or resold, rarely leaving any to retire. One research veterinarian said that because there is a high demand for them, laboratories can even sell psychologically distressed monkeys for the same rate as normal monkeys to acute terminal studies.

A former colleague mentioned that all the monkeys involved in a terminal research project displayed some form of abnormal behavior because they were “rejects” from the normal monkey population and were being used in the terminal study to “put them out of their misery.”

Animal rights implications. Two research veterinarians disagreed with my intention to establish a primate sanctuary. They said the notion of giving back to monkeys implies a belief in animal rights. In general, researchers do not want to communicate with animal-rights advocates; therefore, because the researchers assume the sanctuaries are owned by animal-rights advocates, they are not interested in working with sanctuaries. In response to the claim that giving back to the monkeys constitutes an act of animal rights, a veterinary technologist (personal communication, April 4, 2006) stated that it would be beneficial to retire primates to show the public that the researchers are giving back to the monkeys.

Trust issues for researchers. A few researchers referred to instances in which the sanctuary directors discuss primate welfare concerns with the press after receiving a distressed research monkey. For example, a sanctuary receives a monkey displaying abnormal behavior (fur plucking or self-biting), and a staff member comments on the behavior to a local newspaper reporter. In turn, the reporter writes a story about the incident that the newspaper publishes. On the basis of the article, some community residents may view the research facility negatively, assuming that the researchers mistreated the animals. Because of this negative publicity, the research facility would likely not retire more monkeys to that sanctuary, thereby impeding the progress of research monkey retirement.

One primate researcher commented that the trust issue between research facilities and sanctuaries is not limited to primates:

Not just for primates ... some establishments have made efforts to re-home animals, then gone back to [the] sanctuary and seen the animals exhibited as "Rescued from Laboratory"—even if the animal was in great physical and mental health when retired with full cooperation of researchers! So the researchers no longer want to re-home animals because of the bad publicity it might bring on animal research. [The researchers] need to reach agreement with sanctuary before rehoming as to [the] statement they will make regarding origin of animals. (personal communication, April 5, 2006)

The researcher suggested the trust issue could be solved if

[Researchers visit] potential new homes, only re-home to individuals with professional experience of primate care, get [a] contract signed to say they can't relocate animals without your permission, get [a veterinarian] to examine animal before re-homed and write certificate to say in good health and it is in the interest of the animal to be re-homed, consider sterilizing primates (vasectomies [*sic*] males) before re-homing to stop breeding and producing more primates *who* might have to find new homes. (personal communication, April 5, 2006)

Concern for the monkeys' health. Retiring psychologically distressed monkeys who display severe abnormal behaviors such as self-biting and fur pluck-

ing may be detrimental to their health, because the sanctuary might not define an endpoint (decide when to euthanize) if the behavior persists.

A primate researcher (personal communication, April 5, 2006) commented further on the issue of primate welfare:

Arguments [have] also [been] raised because of concern about conditions in which [the] animal will be kept—will [the] new home provide suitable accommodation, diet, veterinary care? When considering the welfare of an animal, [the] argument used is whether the welfare of a dead animal is “bad,” [that is,] is it better for the welfare to kill the animal rather than let *the animal* go to a home where you have no control over *the animal’s* future care?

Fear of being labeled or losing one’s job. An animal welfare advocate (personal communication, April 4, 2006) stated:

One other argument I’ve heard, not necessarily from researchers themselves, but from lab technicians who want to help get monkeys retired from a lab, is that they are afraid that they could be fired from their job if word gets out about it.

Lack of money for retiring monkeys. Most accredited sanctuaries will ask for financial assistance from the research facilities to help care for the retired monkeys in the laboratory. Because funding is not provided for the retirement of monkeys under the grants that fund for their care and research, the researchers may need to put forth extra effort to raise money out of their private funds to retire the monkeys, which is likely to impede the retirement process.

Arguments From Sanctuary Directors

Endorsement of primate research. Retirement of research monkeys and provision for their long-term funding indirectly endorse primate research, a topic that many animal welfare organizations oppose. A sanctuary director (personal communication, April 6, 2006), in response to the barriers initially listed in the forums, stated:

I think one thing that is absent from your list is the concern that accepting individuals from laboratories will allow the latter to treat sanctuaries or retirement facilities as “dumping grounds” for their unwanted, unneeded individuals. Accepting these animals without restrictions does not address the underlying problem of keeping these individuals in captivity for research (or any other reason). For many of us, the “barrier” you mention would be a lack of willingness on the part of the lab to discontinue using nonhuman primates altogether.

To put it another way, what good will we have done for monkeys in general if we take 20 monkeys from Lab X only to have the facility turn around and get 20 more

(from whatever source) for continued experimentation? This does not appear to be addressed in your list, yet it is probably more compelling than anything else. Speaking for our sanctuary specifically, I know we would gladly consider taking individuals, even without financial support, if we knew this would put a stop to further experimentation at that facility.

Assisting private ownerships. Owners of pet monkeys often retire their monkeys to sanctuaries because they did not anticipate the difficulty of raising a monkey in their homes. Exotic pet ownerships of monkeys can easily become dangerous as the monkeys grow older (Pet Monkey Testimonials, 2006). The monkeys' behavior can become too erratic for the owner to handle, requiring that the monkey be retired into a more naturalistic environment. The large numbers of primates who are being retired from private ownerships occupy the sanctuary with raising funds to care for those monkeys.

RECOMMENDATIONS

The recommendations on how to overcome the barriers are based on the literature, input from the forums, and my own experiences. I encourage readers to consider the recommendations and, in an effort to increase the frequency of research monkey retirement, perhaps formulate additional recommendations of their own.

Develop an Open Relationship Between the Research Facility and the Sanctuary

Empathizing with the need to increase primate retirement, a researcher (personal communication, April 4, 2006), suggested that sanctuaries should be sympathetic in dealing with laboratories working to retire monkeys, even if they don't necessarily support primate research. Most primate sanctuary directors are approachable and will typically assist a researcher in finding the optimal location in which to place their retired primate. Seelig and Truitt (1999) discussed this point:

Despite the financial constraints shared by all legitimate sanctuaries, many are receptive to retiring additional monkeys when contacted directly. The possibility of integration is dependent on compatible species and viral status, and the social composition and available enclosure space of existing groups. Often a sanctuary will be able to integrate a small number of monkeys into existing social groups and absorb the cost of care internally, although financial assistance may be requested.

In general, integration into existing groups without the need of new enclosures is only possible with small numbers of primates. However, if your facility has no available funding for retirement, it is sometimes possible to divide your colony among sev-

eral retirement facilities. Legitimate sanctuaries will never offer to purchase primates, and will usually request that your facility at least arrange and pay for transportation. (p. 28)

Sanctuary directors should discuss the behavioral history of each monkey with research facilities as well as discuss possible ways to induce naturalistic behaviors at the sanctuary. To prevent public backlash against the research facility, if the monkeys display abnormal behaviors, one sanctuary director (personal communication, April 4, 2006) suggested that a contract of confidentiality could be drafted between the sanctuary and the research facility.

Improve Employee Morale of Researchers and Animal Care Staff

The American Association for Laboratory Animal Science (AALAS, 2001) stated that “Kindness and concern for animals are desirable characteristics in animal care and research workers” (p. 1). This mutually beneficial relationship ensures that researchers treat animals as humanely as possible and reduces unnecessary stress in the monkeys, because they are working with familiar personnel who likely use less negative stimuli (restraint, nets, poles, or gloves) to get the monkey to cooperate in procedures. AALAS provides some recommendations as to how the institutions can improve the morale of the personnel working with the animals, such as allowing “homes to be found for research animals suitable for adoption (after soliciting institutional and IACUC [Institutional Animal Care and Use Committee] approval)” (p. 3).

I believe that the recommendations for retirement from AALAS serve as a reward for employees who form a trusting relationship with the monkeys and want to give back to them. As a result, employee morale, as well as the sensitivity to the monkeys’ psychological and physical needs, should increase because the research staff will view the monkeys as sentient beings to whom they can give back after completing their studies.

Increase Special Accommodations to Psychologically Distressed Monkeys

The sale of distressed animals to terminal studies raises two points. First, the presence of a novel environment composed of unfamiliar personnel and new research techniques would increase the monkeys’ stress levels. Second, the distressed monkeys would not serve as valid research subjects for physiological, neurological, or immunological studies. The condition of the animal can lead to diminished welfare and serve as a confounding variable because the monkey may be more susceptible to disease and infection.

Animals who engage in frequent hyperreactive stress responses are at increased risk for both acute and chronic illness (Bowers, Crockett, & Bowden, 1998; Manuck et al., 1986; Roberts, 1993). These animals do not adapt well to experimental protocols and can be more aggressive than nonreactors. (Krantz & Raisen, 1988, p. 259)

Psychologically distressed monkeys are required to receive specialized care according to the Animal Welfare Act (USDA, 2002). Section 3.81(c) of the Animal Welfare states that "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."

One subset of the nonhuman primates that requires special attention are "those that show signs of being in psychological distress through behavior or appearance," (§ 3.81[c][2]).

Retirement should be considered as an alternative to euthanasia or selling distressed and hyperreactive monkeys to more research. If scientists cannot relieve a monkey's distress within the confines of the research facility, then they should allow retirement to a sanctuary where the monkey's behavior can be addressed and closely monitored. If the monkey is infected with a disease, then perhaps he or she can be retired to a sanctuary able to take in primates with diseases and that has experience working with retired research primates, such as The National Sanctuary for Retired Research Primates, a division of the Wildlife Animal Orphanage (Asvestas, Reininger, & Reininger, 2006).

Anecdotal evidence suggests that sanctuary directors and researchers can relieve abnormal behavior by placing a primate in a more naturalistic habitat. A few sanctuary directors told me that they have received monkeys displaying abnormal behaviors and witnessed the disappearance of the behavior within 3 to 6 months when the monkey was placed in a more naturalistic setting, undisturbed from research procedures. Furthermore, Kessel and Brent (2001) showed that they could rehabilitate and resocialize single-housed baboons by placing them in a more naturalistic, enriched environment:

Abnormal behavior decreased significantly from an average of 14% of the observation time in the single cages to 3% in the sixth month of social housing. Cage manipulation and self-directed behaviors also significantly decreased, while social behavior, enrichment-directed behavior, and locomotion increased in social housing. (p. 71)

In some cases, however, the abnormal behavior could not be eliminated. Swett (1993) of Primarily Primates, Inc., stated the following:

Socialization and rehabilitation can take from three months to three years and beyond. Sometimes, however, a primate is found who is beyond hope. This unfortunate individual has usually been abused or humanized for too long. Although we will provide a

home with us for the rest of his or her life, the individual is unable to learn species-specific behavior. (p. 442)

Sanctuary directors who may not have experience with research monkeys but who have experience with caring for privately owned monkeys may still be qualified to provide primate rehabilitation because of their experience with psychologically distressed primates. Monkeys who are retired from private ownerships typically lived in small, nonenriched enclosures and are often very ill or display abnormal behavior.

One sanctuary director (personal communication, April 5, 2006) stated that a monkey arriving from a private ownership had maggots all over her body and was feverish. The sanctuary director updated me on the status of the monkey by sending a picture and reporting that the now-healthy monkey is serving out the rest of her life in an enriching social environment. If sanctuary directors measure the relief of abnormal behavior through behavioral observations and report on the health status of the monkeys, then the primate researchers will recognize the health benefits of primate retirement.

Select Sanctuaries Accredited by the Association of Sanctuaries or the American Sanctuary Association

The Association of Sanctuaries and the American Sanctuary Association have very strict accreditation guidelines that exceed the minimum USDA licensing requirements for a research facility. Therefore, researchers retiring their monkeys to an facility accredited by the Association of Sanctuaries or the American Sanctuary Association will know that the monkey will not be going to a roadside zoo or pseudosanctuary.

Develop a Long-Term Retirement Plan

Researchers should develop a long-term plan for their primates, including allocating funds for retirement. Including funds in a grant proposal for the retirement of monkeys is an important way to send a message to the funding institutions regarding the necessity of primate retirement.

Researchers interested in retiring their primates should read Seelig and Truitt's (1999) article:

Secure, postresearch retirement provides monkeys and other nonhuman primates the opportunity to live out their lives in socially and environmentally enriched environments. To ensure that this is successfully accomplished, proper and timely planning is essential. Before purchasing or breeding a monkey, every research facility should include in the budget not only provision for that primate before and during the study but

also for retirement. This requires additional funds and might limit the number of primates you should acquire or might require additional planning. (p. 35)

Seelig and Truitt (1999) provided additional recommendations on how to plan for primate retirement, including selecting an appropriate sanctuary, allocating funds for retirement, forming long-term relationships, and identifying pseudosanctuaries.

As more researchers request funding for monkey retirement in their grant proposals, the need for well-planned, appropriately implemented monkey retirement will become clear to funding entities. If funding cannot be obtained from the institution, then personal funds may be needed to retire the monkeys. Any personal funds donated to a nonprofit sanctuary would be a tax deduction for the researchers.

DISCUSSION

This commentary provides important perspectives on how to increase the retirement of monkeys into naturalistic sanctuaries. Because of the low turnout of responses to the forums, future studies are needed that quantify opinions of additional researchers regarding the frequency of monkey retirement from research laboratories to gain more insight on the relatively low occurrence of monkey retirement.

The results suggest that the retirement of Old and New World monkeys from research facilities should be considered as an alternative to euthanasia or selling distressed and hyperreactive monkeys to more research. If researchers cannot relieve a monkey's psychological distress within the confines of the research facility, then they should allow the primate's retirement to a sanctuary where the care staff can closely monitor behavioral relief and properly care for the monkey in a naturalistic environment. Removing the chronically distressed primates from the research population should lead to improved animal welfare, data accuracy, and employee morale.

In addition to retiring the psychologically distressed monkeys, research facilities should also retire healthy animals to heighten employee morale further and to show the sanctuaries and the public that the retiring population consists of more than just distressed animals. As communication and cooperation between researchers and sanctuary directors improve, and funding for the retirement of monkeys increases, the frequency of retirement of Old and New World monkeys from research will become more common, as seen in chimpanzee retirement.

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