

Chapter 1 : American Physiological Society > Chimpanzee Research

Note: Citations are based on reference standards. However, formatting rules can vary widely between applications and fields of interest or study. The specific requirements or preferences of your reviewing publisher, classroom teacher, institution or organization should be applied.

No other organization is as closely aligned to the work of understanding and protecting chimpanzees as the Jane Goodall Institute. We also engage in direct conservation efforts, including: Loss of habitat, due in large part to demands of a growing human population, is one of the greatest threats to the survival of chimpanzees. The threats to chimpanzees are exacerbated by a lack of information and awareness – the kind of knowledge that inspires individuals, communities and policymakers to protect wildlife. Habitat Protection Today, due to the loss of habitat - one of the greatest threats chimpanzees face today – chimpanzees are found in only 21 African countries. Currently, Africa has one of the highest population growth rates in the world. This tremendous population growth places unsustainable demands on the land, mostly from the commercial trade in timber, mining products, and bushmeat. Trees are cut for firewood and building poles. Forests are clear-cut to make room for living space, crops and grazing livestock. Human-wildlife conflict has escalated drastically as competition for precious natural resources intensifies. Naturally, all this human activity takes a toll on the land and the wildlife. Chimpanzee populations are no exception. At one point, chimpanzees lived in 25 African countries. Today, due to the loss of habitat - one of the greatest threats chimpanzees face today – chimpanzees are found in only 21 African countries. While doing this, we also work to create sustainable livelihoods for locals. Conservation Action Planning Protecting chimpanzees and their habitats requires an integrated approach that looks beyond the boundaries of protected areas; after all, many chimpanzees live or travel outside of these borders. Strategies address relevant regional environmental, economic development and socio-economic needs and realities. Law Enforcement Establishing protected areas through the demarcation of reserves and national parks is an important first step in protecting habitats. Unfortunately, most governments lack the resources to adequately protect chimpanzees and other species from poachers, particularly hunters travelling by foot, who are able to penetrate forests much more deeply than a vehicle. JGI helps fill the gap by training, managing and equipping law enforcement personnel. In Guinea and Sierra Leone, JGI has trained law enforcement personnel on the threats to chimpanzees and laws in place to protect them. Protected Area Management Just as governments overseeing protected areas may lack the resources to adequately protect chimpanzees, they may require added resources to effectively manage the areas. JGI helps fill this gap in a variety of ways. Snare Removal Poachers plant wire and rope snares on the forest floors, where the traps can catch and strangle chimpanzee hands and feet, causing grave injury or even death. Given that African wildlife is a huge draw for tourists, ecotourism is an obvious opportunity. In Uganda, JGI has helped establish ecotourism centres that allow tourists to view chimpanzees in their habitat. Similarly, JGI Uganda works with local women to market their crafts to tourists traveling to the region to view the chimpanzees. Ecotourism efforts such as these help educate local people and visitors about the importance of protecting chimpanzees and their habitats. From the park ranger and forestry agent to the judges who must adjudicate wildlife laws, implementation capacity is extremely weak. Human resources are insufficient, training is nonexistent, and logistical resources inadequate. All of this makes awareness efforts a critical part of conservation. To address the lack of public awareness and understanding, JGI implements a number of initiatives in great ape range countries in Guinea and Sierra Leone and in targeted communities in the Republic of Congo: Spreading the word across the globe Around the world, Jane Goodall is one of the most recognizable champions of chimpanzees. Educating Zoo Visitors In , Jane founded ChimpanZoo, an international programme dedicated to the well being and understanding of chimpanzees in zoos and other captive settings. Participating zoos and JGI staff train students, caretakers and volunteers to record behavioural observations and work with zoo keepers to improve the lives of captive chimpanzees and compare their behaviour to that of chimps in the wild. To protect chimpanzees from extinction we must address the root causes of numerous threats, including habitat loss, the illegal bushmeat and exotic pet trades, armed conflict, and infectious disease. JGI does not

endorse approaching or handling wild chimpanzees. Infants, too small to be killed for meat, are often put on the black market for sale as pets or entertainers. We work on a number of fronts to help the young victims of the illegal commercial bushmeat trade: Working with African governments, JGI ensures that illegally held chimpanzees are confiscated from poachers or market vendors and placed in sanctuaries across Africa. JGI operates the largest chimpanzee sanctuary in Africa -- the Tchimpounga Chimpanzee Rehabilitation Centre in one of the Congo Basin regions where the commercial bushmeat trade is having the greatest impact on endangered species like chimpanzees. It provides a refuge where chimpanzees are cared for and given the chance to live full lives in spacious conditions. Our comprehensive conservation strategy includes an ambitious goal: For Jane Goodall, a successful reintroduction programme would be a dream come true. Community Development and Education: Tchimpounga also provides tangible benefits to surrounding communities by supporting local development projects such as the construction of wells for clean drinking water, employing local people as staff, and buying all the fruits and vegetables needed to feed the chimps from local markets. Tchimpounga staff members also conduct public awareness workshops and other events to raise awareness about the problem of bushmeat and the value of biodiversity. Not only have they been removed from their forest homes, most have witnessed the killings of their mothers and other family members. The health of these orphaned chimpanzees quickly declines. For Jane, abandoning these chimpanzees was never an option. Many people discouraged Jane from even contemplating saving these abandoned chimpanzees. To take care of the youngsters would be a large undertaking, since in all likelihood the animals would need to be cared for their entire lives -- an estimated years. The opening of this centre meant many orphaned chimpanzees would be given a second chance at happier lives. Tchimpounga is situated on a coastal plain of savannah and galleried mosaic forest patches. Its mission includes chimpanzee protection, education, ecotourism and involvement of local populations in sustainable development. There are more than chimpanzees there today, living in six age-graded groups that have access to several large outdoor forest enclosures.

Chimpanzee Conservation and Public Health: Environments for the Future. Diagon/Bioqual. Used - Very Good. Great condition for a used book! Minimal wear.

Habitat Where do chimpanzees live? Chimps have the widest geographic distribution of any great ape, with a range of more than 2. They can be found discontinuously from southern Senegal across the forested belt north of the Congo River to western Uganda and western Tanzania. Gombe National Park in Tanzania is the first park in Africa specifically created for chimpanzees.

Physical Characteristics What are chimps? There are four subpopulations of the chimpanzee - the western chimp, the Nigeria-Cameroon chimp, the central chimp, and the eastern chimp. Chimpanzees are one of our closest relatives, sharing about 98 percent of their genes with us. They have thickset bodies with short legs, opposable thumbs, no tails, and long arms that are 1. Much of their body is covered with long black hair, but the face, ears, fingers, and toes are bare. They are intelligent, curious, noisy, and social. Chimps live in loose communities which can number anywhere from ten to more than individuals. They can share a home range that they protect from intruders and will sometimes forage for foods in groups. They exhibit complex patterns of behavior, many of which are learned, and can solve problems, plan for anticipated events, as well as make and use tools. They have even been seen utilizing medicinal plants for a variety of ailments. They enjoy spending time together. Chimps touch each other a great deal and may kiss when they meet. They also hold hands and groom each other. An adult often has a special companion with which it spends a lot of time. The strongest relationships within a community appear to be between adult males. They tend to spend a great deal of time together and will groom one another four times as much than females. Female chimps give their young a great deal of attention and help each other with babysitting chores. The older individuals in the group are usually quite patient with energetic youngsters – not unlike grandparents. An important social activity in their societies is social grooming. Not only does grooming help remove ticks, dirt, and flakes of dead skin from the hair, but it also helps establish and maintain social bonds. Chimps are not picky eaters. After descending from their night nests in the trees, they hungrily feed on fruits, their principal diet, and on leaves, buds, and blossoms. After a while, their feeding becomes more selective, and they will choose the ripest fruit. They usually pick fruit with their hands, but they eat berries and seeds directly off the stem with their lips. Their diet consists of up to 80 different plant foods, and they will spend anywhere from six to eight hours per day foraging for food. Sometimes, they will supplement their diets with meat, such as young antelopes or goats. Their most frequent victims, however, are other primates, such as young baboons, colobus monkeys, and blue monkeys. They can use tools. Chimps have opposable thumbs and a firm grip.

Gallery Challenges Chimps are losing their homes. The number of chimps in the wild is steadily decreasing. One of the main causes is the alarming rate at which forests are cut down for farming, settlements, and other activities. The chimpanzee is hunted for bushmeat. While bushmeat has always been a popular source of dietary protein for local communities, the scale of hunting has increased dramatically, and the activity has become heavily commercialized with much more of the meat now going to urban residents.

Solutions Our solutions to protecting the endangered chimpanzee: African Wildlife Foundation works with local communities to provide education, and at times, incentivize conservation. For example, we built Lupani School – a conservation school in the Sekute community. AWF agreed to work with the community on the grounds they would practice sustainable agriculture and conserve their local wildlife. AWF engages communities living near chimps to create sustainable practices for agricultural and settlement growth by providing training on best practices and incentivizing conservation when appropriate.

Projects Will you show chimpanzees your support? With your help, AWF can work on projects like building conservation schools that secure space for wildlife while providing top-rate education for children, and instituting sustainable agricultural practices. Donate for a cause that will help wildlife conservation and ensure the survival of this great ape. Protecting chimps in the Democratic Republic of Congo Humans remain a threat to chimps.

Chapter 3 : INTRODUCTION - Chimpanzees in Research - NCBI Bookshelf

Buy Chimpanzee Conservation and Public Health: Environments for the Future on calendrierdelascience.com FREE SHIPPING on qualified orders.

A current census maintained by the International Species Information System ISIS indicates that of about 2, known captive chimpanzees globally, about 1, are housed in six biomedical institutions in the United States. In , the National Institutes of Health NIH launched a breeding and research program at five institutions for several basic reasons: The effort met production goals, and an initial breeding population of animals has produced live births. Of these offspring, were alive in February of which remain in the NIH breeding program. The combination of an increase in chimpanzee numbers and smaller than expected use of chimpanzees in research, has created a substantial management problem that jeopardizes both the chimpanzee model for research because of their high cost and their quality of care in research facilities because of reduced funding. All animals that constitute the research and breeding pool now owned or supported by NIH require provisions not only for the short term, but also for long-term maintenance, regardless of their use in research. However, the funding required for long-term maintenance of a sizable population of chimpanzees is considerable. Concerned with the burgeoning population of chimpanzees, the stress that the additional animals have created on available facilities, and issues associated with long-term care of captive chimpanzees, NIH asked the National Research Council to study these and related problems. Captive chimpanzees are behaviorally complex and have an average life span of 25 yr for males and 34 yr for females maximal life spans are 55 yr and 65 yr for males and females, respectively , and their long-term management presents formidable challenges. The challenges are not simply scientific or financial. The form and substance of this report reflect the fact that questions of science and questions of ethics are often inextricably blended. The very feature that can make the use of chimpanzees critical in biomedical research also entails unique moral questions. On the one hand, chimpanzees constitute a vital scientific resource for research on critical issues of human health, and proposals for their long-term care must not undermine the availability of adequate numbers of them for such research. On the other hand, the complexity of the ethical and scientific challenges follows from the fact that chimpanzees are our closest genetic relative in the animal kingdom. These two factorsâ€”scientific use and close genetic relativeâ€”cannot be divorced; one cannot appeal to one and ignore the other. The dilemma of why or whether chimpanzees ought to occupy a special niche in moral deliberations relative to their experimental use cannot be reduced to an either-or situation. We believe that relevant differences between chimpanzees and humans justify the use of chimpanzees in research that would not be sanctioned if it were proposed to use human subjects. However, the close phylogenetic relationship to humans and complex psychological and social character of chimpanzees that make them more similar to humans than other laboratory animals are also relevant. The conclusions reached by the authors of this report are based on scientific, financial, and ethical reasoning. Although the scientific and financial arguments might be more understandable to many readers of the report and are sufficient justification by themselves in reaching a decision for some readers, the ethical issues are also important and should be seriously considered, in our opinion. This special status of chimpanzees is supported by the following considerations of medical science, genetics, population biology, cost, and perception. The similarities between chimpanzees and humans that make them desirable surrogates for studying diseases and conditions of humans constitute the reason for our recommendation for their continued use in scientific research. The committee believes that chimpanzees have provided and will continue to provide important scientific contributions, but that requires a captive population of sufficient size to sustain breeding and research. Unlike many other species used in research, chimpanzees cannot be recovered quickly if the population is disbanded or allowed to be reduced below a critical size. That is true for several reasons: The need to maintain a healthy population is an important aspect of our responsibility for the care and well-being of chimpanzees used for scientific research. We believe that our responsibility for the long-term care of chimpanzees is greater than that for other laboratory animals. Chimpanzees are genetically very similar to humans Morin and others The special connection of chimpanzees

to humans has been reinforced by decades of watching the rich repertoire of chimpanzee social, maternal, and tool-using behavior on television and at zoos; the public therefore expects a high level of respect for the animals. Our view is that this special status of chimpanzees implies a moral responsibility for appropriate long-term care of chimpanzees used in scientific research. Therefore, recommendations are provided for their life-time care. This view definitely has financial consequences, and the committee recognizes such a position is not embraced by everyone. If these animals are euthanized on completion of their usefulness to the research enterprise, many of the expensive and complex issues discussed in the report will not exist. Because of the considerations reviewed above, the committee could not agree to euthanasia for population control. One member of the committee provides a thoughtful counter argument see Appendix A. We believe that responsibilities for the long-term care of chimpanzees are shared by both the scientific community and society in general. The issues associated with long-term care are intertwined: Societal needs warranted the past research with chimpanzees and will demand future research on emerging disease threats. The National Research Council asked the committee to: Gather information from the biomedical institutions where chimpanzees are housed, from scientists at large, from animal welfare organizations, and from the general public. Prepare ethically and scientifically balanced cost-effective recommendations for a strategy for long-term care of chimpanzees in biomedical and behavioral research. Provide recommendations that strive to ensure a population adequate for research needs to enhance public health while promoting chimpanzee conservation and well-being. Address issues of policy, including relevant aspects of animal welfare, ethics, and public-private interactions, and recommend whether, or under what conditions, euthanasia is an acceptable means of population control and whether government-owned animals might be transferred to private sanctuary facilities. Recommend funding mechanisms for long-term care facilities government and nongovernment. Identify types of studies using animals not actively involved in research that would be beneficial to the public health, aid in conservation of the species, and be acceptable to managers of sanctuaries who receive funds from public donations. What are the current and future needs for chimpanzees in research? How will research needs affect the breeding population? How should the current and future populations be housed and managed? What are the estimated costs of high-quality long-term care of the chimpanzee population? Can the federal government, industry, and the public work together toward solutions? How can quality in both research and long-term care be kept at the highest possible levels? The principles that the committee developed to guide its recommendations are as follows: An adequate population must be maintained because chimpanzees constitute an important resource that can be used to protect the national health against emerging infectious diseases and a useful model for many kinds of biomedical and behavioral research, including research to develop vaccines and therapies for major human diseases. There is a critical need for long-term policies for proper care, housing, and management of captive chimpanzees—policies that would ensure the well-being of this population beyond the immediate future. The body of this report consists of five chapters. Following is a brief overview of the content of these chapters. This chapter is based on discussions among members of the committee and with scientists, directors of the government-supported chimpanzee facilities, and members of the public; surveys of the chimpanzee facilities; and literature reviews. It concludes that chimpanzees have made and should continue to make substantial contributions to biomedical research. The chapter summarizes some of these contributions and includes estimates of future requirements for chimpanzees based on the number used in recent studies related to important viral diseases. A brief description of types of successful and unsuccessful housing is followed by recommendations. A section on euthanasia provides a discussion of the pros and cons of this procedure relative to chimpanzees. Recommendations are provided regarding inbreeding and the desired size and demography of breeding colonies to sustain the population for future research. Two models are presented that discuss the costs, options, efficiencies, and liabilities associated with each of two possible management options. The two models estimate the numbers of animals needed in the breeding colony and not needed for breeding. Associated costs of the subpopulations in the models are provided to assist in management decisions. Record-keeping is discussed as an essential element of the genetic management of these colonies, and the role of cryopreservation is addressed. Ways to implement the recommendations, provide financial support, and establish continued oversight of all facets of the chimpanzee resource are

discussed in the context of federally funded colonies and privately owned nongovernment sanctuaries.

Chapter 4 : Our Approach - The Jane Goodall Institute

The chimpanzee is the mammal most like a human. They are intelligent, curious, noisy, and social. Chimps live in loose communities which can number anywhere from ten to more than individuals.

Successful in vitro fertilization of frozen-thawed rabbit oocytes. Heterozygosity and fitness in natural populations of animals. In Soule ME, ed. The spread of HIV-1 in Africa: Sexual contact patterns and the predicted demographic impact of AIDS. Potential contribution of cryopreserved germ plasm to preservation of genetic diversity and conservation of endangered species in captivity. Embryo cryopreservation in cynomolgus monkeys. Fertility and Sterility Characterization and titration of an HIV-1 subtype E chimpanzee challenge stock. Bear Island Ossabaw project ends. Yerkes Newsletter 14 2. Follicular development in cryopreserved marmoset ovarian tissue. Extraovarian production of mature viable mouse oocytes from frozen primary follicles. J of Reprod and Fertility Pregnancy after human oocyte cryopreservation. Page 83 Share Cite Suggested Citation: The National Academies Press. The major causative agent of viral non-A, non-B hepatitis. Brit M Bull 46 2: Inbreeding, lymphoma, genetics, and morphology of the Papio hamadryas colony of Sukhumi. J of Med Primatol 7: The epidemiology of AIDS: Comparative locomotor behavior of chimpanzees and bonobos: AZA Communique, March Semen collection, evaluation, and cryopreservation in exotic animal species: Basic data standards for primate colonies. Am J Primatol Model life table for captive chimpanzees. Am J of Primatol Future costs of chimpanzees in U. Establishment of a chimpanzee retirement fund: J of Med Primatol Infection of chimpanzees with lymphadenopathy-associated virus. Resocialization of asocial chimpanzees. In Benirschke K, ed. Primates, the road to self-sustaining populations. Resocialization of captive chimpanzees: Am J of Primatol, Suppl 1: J of Med Primatol 8: In vitro fertilization and development of frozen-thawed bovine oocytes. Infection of chimpanzees by human T-lymphotropic retrovirus in brain and other tissues from AIDS patients. The chimpanzees of Kibale Forest: Space use and proximity of captive chimpanzees Pan troglodytes mother-infant pairs. Behaviour of free-living chimpanzees of the Gombe Stream area. Animal Behaviour Monographs 1: The chimpanzees of gombe, patterns of behavior. Belknap Press of Harvard University. Transplantation of ovaries and testes. Fetal tissue transplants in medicine. Improved methods for freeze preservation of chimpanzee sperm. Rehabilitation of captive chimpanzees. Primate responses to environmental change. Cryopreservation of murine ovarian tissue. Kimura M, Ohta T. The average number of generations until fixation of a mutant gene in a finite population. Vitrification of mouse oocytes results in aneuploid zygotes and malformed fetuses. Analysis of founder representation in pedigrees: Penetration of zona-free hamster oocytes by ejaculated cryopreserved gorilla spermatozoa. Lande R, Barrow-clough GW. Viable populations for conservation. Microbial Threats to Health in the United States. Vaccines to prevent viral hepatitis. N Engl J Med J of Parasit 82 3: Factors in the emergence of infectious diseases. Emerging Infect Dis 1: Guide for the Care and Use of Research Animals. Institute for Laboratory Animal Research. National Academy Press p. Inbreeding effects in captive populations of Ruffed Lemures. Development of AIDS in a chimpanzee infected with human immunodeficiency virus type 1. Factors affecting low temperature survival of mammalian oocytes. The resocialization of single-caged chimpanzees and the establishment of an island colony. Live birth following cryopreservation and transfer of baboon embryo. Page 86 Share Cite Suggested Citation: Cryopreservation and transfer of baboon embryos. J of in vitro Fertilization and Embryo Transfer 3: Embryo culture, cryopreservation, and transfer in the baboon. Changing patterns of human disease. Population migration and the spread of types 1 and 2 human immunodeficiency viruses. Cryobiology of gametes and embryos from nonhuman primates. In in vitro Fertilization and Embryo Transfer in Primates. Ralls K, Ballou J. Effects of inbreeding on infant mortality in captive primates. Intr J of Primatol 3: Factors affecting party size and composition of chimpanzees Pan troglodytes at Bossou, Guinea. Intr J of Primatol Cryopreservation of spermatozoa from cynomolgus monkeys Macaca fascicularis and in vitro fertilization. Cryopreservation of spermatozoa from cynomolgus monkeys Macaca fascicularis. J of Repro and Fertility Developmental capacity of mouse oocytes cryopreserved before and after maturation in vitro. The science of scarcity and diversity. The effects of cryopreservation and transfer on embryonic development in

the common marmoset monkey *Callithrix jacchus*. Chimpanzees and supporting models in the study of malaria pre-erythrocytic stages. Traylor-Holzer K, Fritz P. Birth after cryopreservation of unfertilized oocytes. A generalized approach for estimating effective population size from temporal changes in allele frequency. Williams-Blangero S, Dyke B. Genetic management of a chimpanzee colony.

Chapter 5 : eScienceCommons: Disease poses risk to chimpanzee conservation, Gombe study finds

KCP director Richard Wrangham recently interviewed Jane Goodall about chimpanzee behavior and conservation at the Great Apes Summit, a joint initiative of the Jackson Hole Wildlife Film Festival, the Great Apes Survival Partnership (GRASP), and the Arcus Foundation.

Vreeman , 1 and Elizabeth V. Lonsdorf 1 , 2 Stephen R. Ross 1 Lester E. Vreeman 1 Lester E. Lonsdorf 1 Lester E. Received Jan 24; Accepted Jun Copyright Ross et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are properly credited. This article has been cited by other articles in PMC. Abstract Chimpanzees are endangered in their native Africa but in the United States, they are housed not only in zoos and research centers but owned privately as pets and performers. In , survey data revealed that the public is less likely to think that chimpanzees are endangered compared to other great apes, and that this is likely the result of media misportrayals in movies, television and advertisements. Here, we use an experimental survey paradigm with composite images of chimpanzees to determine the effects of specific image characteristics. We found that those viewing a photograph of a chimpanzee with a human standing nearby were Likewise, the presence of a human in the photograph increases the likelihood that they consider chimpanzees as appealing as a pet. We also found that respondents seeing images in which chimpanzees are shown in typically human settings such as an office space were more likely to perceive wild populations as being stable and healthy compared to those seeing chimpanzees in other contexts. These findings shed light on the way that media portrayals of chimpanzees influence public attitudes about this important and endangered species. Introduction Chimpanzees are an endangered species across their native range in equatorial Africa [1] but their domestic use in countries like the United States often does not reflect this important conservation designation. While the trade and commerce of endangered species is usually carefully regulated, chimpanzees are bought and sold on the open pet market without any significant federal legislation to regulate such trade. As such, chimpanzees are found not only in accredited zoos, sanctuaries and research facilities but there are also over one hundred chimpanzees kept as personal pets and as performers for the entertainment and advertising industry where they are often dressed in clothing and trained to perform unnatural acts for the amusement of human consumers. In , Ross et al. This phenomenon was linked to the prevalent use of chimpanzees in movies, television shows and advertisements, where chimpanzees are often inaccurately displayed. These results were the first to link the manner in which chimpanzees are portrayed in popular media to public attitudes that may influence support for critical in-situ conservation efforts. However, the specific means by which these images affected how people characterize chimpanzees was largely unknown. Furthermore, the degree to which these media portrayals affected public attitudes on domestic use of chimpanzees i. Materials and Methods In preparation for the survey, a series of composite images were created using Adobe Photoshop version 5. Each image was characterized by four variables: There were two levels of clothing: There were two levels of human presence: There were four levels of setting: Finally, there were three levels of media type: In total, there were 48 possible images using all combinations of these four variables. Figure 1 A-D shows four sample images which illustrate key combinations of these variables.

Chapter 6 : Chimpanzee Medicine in the Republic of Congo – Wildlife

Research Impact of human disturbance on stress, disease and conservation of chimpanzees, Pan troglodytes, in Budongo Forest, Uganda. Across Africa, chimpanzee populations are endangered by habitat loss and hunting.

For example, they have participated in such important developments in the category of "national needs" as the development of vaccines against hepatitis B and in early aerospace programs. A current census maintained by the International Species Information System ISIS indicates that of about 2, known captive chimpanzees globally, about 1, are housed in six biomedical institutions in the United States. In , the National Institutes of Health NIH launched a breeding and research program at five institutions for several basic reasons: The effort met production goals, and an initial breeding population of animals has produced live births. Of these offspring, were alive in February of which remain in the NIH breeding program. The combination of an increase in chimpanzee numbers and smaller than expected use of chimpanzees in research, has created a substantial management problem that jeopardizes both the chimpanzee model for research because of their high cost and their quality of care in research facilities because of reduced funding. All animals that constitute the research and breeding pool now owned or supported by NIH require provisions not only for the short term, but also for long-term maintenance, regardless of their use in research. However, the funding required for long-term maintenance of a sizable population of chimpanzees Page 8 Share Cite Suggested Citation: The National Academies Press. Concerned with the burgeoning population of chimpanzees, the stress that the additional animals have created on available facilities, and issues associated with long-term care of captive chimpanzees, NIH asked the National Research Council to study these and related problems. Captive chimpanzees are behaviorally complex and have an average life span of 25 yr for males and 34 yr for females maximal life spans are 55 yr and 65 yr for males and females, respectively , and their long-term management presents formidable challenges. The challenges are not simply scientific or financial. The form and substance of this report reflect the fact that questions of science and questions of ethics are often inextricably blended. The very feature that can make the use of chimpanzees critical in biomedical research also entails unique moral questions. On the one hand, chimpanzees constitute a vital scientific resource for research on critical issues of human health, and proposals for their long-term care must not undermine the availability of adequate numbers of them for such research. On the other hand, the complexity of the ethical and scientific challenges follows from the fact that chimpanzees are our closest genetic relative in the animal kingdom. These two factors – scientific use and close genetic relative – cannot be divorced; one cannot appeal to one and ignore the other. The dilemma of why or whether chimpanzees ought to occupy a special niche in moral deliberations relative to their experimental use cannot be reduced to an either-or situation. It is not simply a question of whether the chimpanzee is "just" another animal or otherwise equal in all respects to a human being. We believe that relevant differences between chimpanzees and humans justify the use of chimpanzees in research that would not be sanctioned if it were proposed to use human subjects. However, the close phylogenetic relationship to humans and complex psychological and social character of chimpanzees that make them more similar to humans than other laboratory animals are also relevant. The conclusions reached by the authors of this report are based on scientific, financial, and ethical reasoning. Although the scientific and financial arguments might be more understandable to many readers of the report and are sufficient justification by themselves in reaching a decision for some readers, the ethical issues are also important and should be seriously considered, in our opinion. In the traditional sense, ethics requires that decisions be based on clearly articulated core human values – concepts Page 9 Share Cite Suggested Citation: This special status of chimpanzees is supported by the following considerations of medical science, genetics, population biology, cost, and perception. The similarities between chimpanzees and humans that make them desirable surrogates for studying diseases and conditions of humans constitute the reason for our recommendation for their continued use in scientific research. The committee believes that chimpanzees have provided and will continue to provide important scientific contributions, but that requires a captive population of sufficient size to sustain breeding and research. Unlike many other species used in research, chimpanzees cannot be recovered quickly

if the population is disbanded or allowed to be reduced below a critical size. That is true for several reasons: The need to maintain a healthy population is an important aspect of our responsibility for the care and well-being of chimpanzees used for scientific research. We believe that our responsibility for the long-term care of chimpanzees is greater than that for other laboratory animals. Chimpanzees are genetically very similar to humans Morin and others The special connection of chimpanzees to humans has been reinforced by decades of watching the rich repertoire of chimpanzee social, maternal, and tool-using behavior on television and at zoos; the public therefore expects a high level of respect for the animals. Our view is that this special status of chimpanzees implies a moral responsibility for appropriate long-term Page 10 Share Cite Suggested Citation: Therefore, recommendations are provided for their life-time care. This view definitely has financial consequences, and the committee recognizes such a position is not embraced by everyone. If these animals are euthanized on completion of their usefulness to the research enterprise, many of the expensive and complex issues discussed in the report will not exist. Because of the considerations reviewed above, the committee could not agree to euthanasia for population control. One member of the committee provides a thoughtful counter argument see Appendix A. We believe that responsibilities for the long-term care of chimpanzees are shared by both the scientific community and society in general. The issues associated with long-term care are intertwined: We cannot say that "this" is purely the responsibility of scientists and "that" is the sole responsibility of society. Societal needs warranted the past research with chimpanzees and will demand future research on emerging disease threats. The National Research Council asked the committee to: Gather information from the biomedical institutions where chimpanzees are housed, from scientists at large, from animal welfare organizations, and from the general public. Prepare ethically and scientifically balanced cost-effective recommendations for a strategy for long-term care of chimpanzees in biomedical and behavioral research. Provide recommendations that strive to ensure a population adequate for research needs to enhance public health while promoting chimpanzee conservation and well-being. Address issues of policy, including relevant aspects of animal welfare, ethics, and public-private interactions, and recommend whether, or under what conditions, euthanasia is an acceptable means Page 11 Share Cite Suggested Citation:

Chapter 7 : Gender, Health and Conservation - The Jane Goodall Institute

Strategy: Gender, Health and Conservation We empower young women by providing access to education, family planning, high-quality healthcare and clean water. Equipped with these tools, they can create a better future for themselves, their families and the environment.

Advanced Search Abstract The current status of the behavioral management of chimpanzees housed in US research facilities is examined, and recent advances are described. Behavioral management includes the application of environmental enrichment, animal training, and environmental design for improving animal welfare. Authors surveyed the six major chimpanzee holding facilities and found that the vast majority of chimpanzees are housed socially, with access to the outdoors. The institutions currently invest in behavioral scientists, enrichment specialists, and, most recently, chimpanzee trainers to implement and study chimpanzee behavioral management. This review is based on the substantial scientific literature related to managing social behavior, identifying the behavioral effects of restricted socialization, evaluating various forms of enrichment, and describing positive reinforcement animal training. Authors outline recent accomplishments in behavioral management, summarize behavioral issues that have been evaluated, and identify issues for future consideration. It is proposed that the enhanced application of behavioral management techniques, including training, could significantly reduce chimpanzee stress that is generally associated with experimental manipulations, and could improve animal welfare and the quality of biomedical research. The next challenge is to implement effectively and thoroughly the approaches that have been shown to be beneficial. We also provide information on the current status of behavioral management programs at the major biomedical institutions that hold chimpanzees in the United States. Several important advances in caring for captive chimpanzees have taken place over this period, including the development of environmental enrichment techniques that encourage species appropriate behavior, an improved understanding of managing the social behavior of chimpanzees living in groups, the assessment of enclosure design features on chimpanzee behavior, and the development of positive reinforcement training techniques to improve care and well-being. We review some of the major studies that have been conducted on chimpanzee behavioral management, and summarize the issues that have been addressed. Finally, we discuss other issues that have not yet been fully evaluated, with an eye toward identifying future priorities. This term was the focus of the amendment to the Animal Welfare Act, which mandated the provision of physical environments to promote the psychological well-being of nonhuman primates. At that time, the study of environmental enrichment techniques was well under way in zoological parks and animal laboratories Erwin, et al. These terms are now an integral part of the work-a-day world of those of us who care for, and about, captive primates. Enrichment is now an important component of the management of captive nonhuman primates as well as many other species, and it has become progressively more complex and effective and more expensive. Facilities in which nonhuman primates are maintained now devote significant human and financial resources to environmental enrichment programs, with the aim of improving the well-being of their nonhuman primate charges. This concept builds on a foundation of the natural behavior of the target species, with the aim of improving animal care and enhancing their welfare. An important premise of behavioral management is that the individual tools of enrichment, training, and environmental design can be integrated to achieve behavioral goals for captive animals better and more completely than any one technique applied in isolation Whittaker et al. This broad, holistic perspective is effective because it allows one to incorporate all of these components when addressing behavioral issues. We use this perspective in reviewing the state of the science of chimpanzee behavioral management. Chimpanzees Housed in Research Facilities in the United States Approximately chimpanzees are housed in the United States in primate research facilities supported by the National Institutes of Health NIH 1 Brent, although some of these chimpanzees will soon move to a sanctuary. These animals reside largely in six facilities: Some members of this chimpanzee population are used in biomedical research that includes studies of infectious diseases, vaccine development, genetics, neuroscience, toxicity, and behavior. The population also includes numerous animals that have never been used in interventive studies and could

form a nucleus to meet future reproduction needs. Enclosure size varies from the minimum of 15 ft² of floor space allowable for an individually housed chimpanzee NRC to outdoor enclosures of up to 10,000 ft². Because of the diversity in social settings and physical environments in which chimpanzees live, it is necessary to address a diverse array of behavioral management issues. Survey of Behavioral Management at US Chimpanzee Research Facilities In July, we conducted a written survey of the behavioral management programs at the six facilities listed above to increase our understanding of the chimpanzee housing situation at these facilities, along with their current behavioral management practices. Survey respondents reported on the chimpanzees living at their institutions. Of the chimpanzees maintained at these institutions, 93.7%. This number included all chimpanzees singly housed for any reason on that particular day, whether due to research protocol, health problems, behavioral problems, and so forth. Singly housed chimpanzees can generally see, hear, and in some cases touch other chimpanzees through a barrier, so single housing does not involve complete isolation from other chimpanzees. It is clear that at the point sampled, the vast majority of chimpanzees in biomedical laboratories were living socially. All six facilities had behavioral management programs in place, but there was variation in the staffing and organization of the programs. In most of the institutions, staff members were assigned to a specific aspect of behavioral management such as enrichment, training, or applied behavioral research. One facility shared behavioral management duties among all care staff members. All institutions involved the entire animal care staff in at least some aspects of behavioral management, but we did not quantify the degree of this effort in the survey. Each institution employed a Ph.D. These scientists typically directed the efforts of technical specialists in enrichment or animal training, and worked with animal care and veterinary staff members to implement the behavioral management programs. Five of the six facilities had formal chimpanzee training programs, all of which relied primarily on positive reinforcement techniques to gain cooperation with procedures. The facilities employed, on average, one dedicated enrichment technician for every chimpanzee, and one chimpanzee trainer for every animal. Enrichment positions were established much earlier than dedicated trainers, and most of the latter have been appointed since. It is therefore particularly notable that the number of trainers is nearly equivalent to the number of enrichment technicians, indicating the value that this new specialty is bringing to chimpanzee management. The six facilities also employed an average of one other behavioral management specialist for each chimpanzee in their care. However, often the duties of these individuals are. Finally, the chimpanzee facilities employed an average of one applied behavioral researcher generally the Ph.D. The survey findings are an indication of the importance that biomedical institutions now place on enhancing the care of chimpanzees. Whereas before, no positions in these institutions were dedicated solely to environmental enrichment or animal training, they now are commonplace. An increasing focus on science is also evident, as reflected by the number of Ph.D.s. We also found that facility improvement was a priority at each of the institutions, with four having built new chimpanzee housing or completed major renovations since. These efforts require a large capital investment, and the improvement of chimpanzee well-being was cited in each case as a major reason for the construction or renovation.

Chapter 8 : Jane Goodall Institute Uganda | Conservation, Championing and Understanding

Commitment to the care and management of chimpanzees: State-of-the-art developments in facility design, genetics, and environmental enrichment.

Chapter 9 : Disease poses risk to chimpanzee conservation, study finds

Educational opportunities for the public to learn about captive great apes and the threats to conservation of great apes in the wild; 3. Advocacy for the end of exploitation of great apes in captivity (entertainment, research, pet trade) through collaboration with other organizations.