Declarations

1. Jocelyn Bezner, DVM, Save the Chimps
2. Laura Bonar, RN, Animal Protection of New Mexico
3. G.A. Bradshaw, PhD, The Kerulos Center
4. Theodora Capaldo, EdD, The New England Anti-Vivisection Society
5. Jen Feuerstein, Save the Chimps
6. Gloria Grow, Fauna Foundation
7. Margaret Peppercorn, MD
8. Senator Robert C. Smith
9. Vernon Reynolds, PhD
10. Desmond Morris, PhD
11. Jarrod Bailey, PhD
12. Nancy Megna

Re:	**PETITION FOR RULEMAKING**	**)**
	U.S. DEPARTMENT OF HEALTH	**)**
	& HUMAN SERVICES	**)**
		)
	TO SET CRITERIA FOR DETERMINING WHEN	**)**
	CHIMPANZEES ARE NO LONGER NEEEDED FOR	**)**
	RESEARCH AND MUST BE RETIRED AND SENT TO	**)**
	SANTUARY AS REQUIRED BY THE CHIMPANZEE	**)**
	HEALTH IMPROVEMENT, MAINTENANCE, AND	**)**
	PROTECTION ACT	**)**

Declaration of Jocelyn Bezner, VMD

1. I am submitting this declaration in support of the above referenced Rulemaking Petition—my expert opinion is based on my 26 years of veterinary experience, nearly half of which have been focused on chimpanzees predominantly from research who are now in sanctuary.

2. I received my veterinary medical degree from the University of Pennsylvania Veterinary School in 1986. I am the senior veterinarian at Save the Chimps Sanctuary. For the past 10 years I have provided full time veterinary care for over 270 retired research chimpanzees. In addition, I have consulted on and worked with chimpanzees from other labs who are now retired in other private sanctuaries. A copy of my curriculum vitae is attached.

3. I am very familiar with the physiological and psychological problems these chimpanzees face. I respectfully request that the Secretary of Health and Human Services consider my extensive knowledge and opinion when fulfilling her responsibility to formulate and oversee the application of criteria for when a chimpanzee should be released from research.

4. Below are some of the health problems I have encountered countless times in our chimpanzees which I believe should be considered reasons for retirement. The categories below speak not only to how specific disease makes a chimpanzee an unfit research subject but also to how the combined degree of suffering they sustain both physically and psychologically should make them ineligible for further use and therefore eligible for retirement.

    A. Cardiac disease: Cardiac disease is the most common cause of death in captive chimpanzees. (From: Heart disease is common in humans and chimpanzees, but is caused by different pathological processes; Nissi Varki,[1] Dan Anderson,[2] James G. Herndon,[2] Tho Pham,[1] Christopher J. Gregg,[1] Monica Cheriyan,[1] James Murphy,[3] Elizabeth Strobert,[2] Jo Fritz,[3] James G. Else[2] and Ajit Varki1, [1]Center for Academic Research and Training in Anthropogeny (CARTA), University of California, San Diego, La Jolla, CA, USA; [2]Yerkes National Primate Research Center, Emory University, Atlanta, GA, USA; [3]Primate Foundation of Arizona, Mesa, AZ, USA)

    There are two presenting forms of cardiac disease: sudden death and progressive dilated cardiomyopathy. Both forms share the same histological findings on the necropsy. Normal cardiac muscle is replaced by fibrosis or scar tissue. If this abnormal tissue is close to the electrical system of the heart it results in an arrhythmia and sudden death, similar to a young athlete collapsing during a game. If the abnormal tissue does not interfere with the conductivity of the heart, the heart function deteriorates more slowly resulting in a form of heart disease known as dilated cardiomyopathy.

    There is no definitive ante mortem test to diagnose fibrosis in heart muscle. What an echocardiogram can diagnose is the secondary changes that occur with a diseased heart along with valvular or congenital problems. Each chamber and wall thickness is measured. The flow of the blood and the ejection fraction are evaluated to determine how well the heart is pumping blood through the body.

    It could be argued that any male chimp over 15 years of age is at risk of sudden death and therefore should not be used in any research protocol. At a minimum, all male chimpanzees should have echocardiograms beginning at 15 years old and removed from research if there are any abnormal findings.

Other cardiac problems that should preclude the use of chimp are arrhythmias and murmurs.

B. Geriatric diseases: (including strokes, renal failure, cataracts, glaucoma, endometriosis and diabetes)

In addition to the physiological deterioration and the symptoms that accompany age related, progressive disease come the added risks of sedation for chimpanzees who are elderly. Sedations for protocols or diagnostics become a high risk issue in this age group. (Even in young healthy chimpanzees, ketamine alone causes muscle rigidity, laryngospasm and hallucinations on recovery. These side affects can be avoided by the use of benzodiazepines, yet most lab knock downs use ketamine alone, even after it is noted in the records that a particular chimp had a reaction to it.) Anesthesia predisposes elderly individuals to greater cardiac instability and blood pressure issues, both hypertension and hypotension. Ketamine, as a form of sedation, is a phencycline derivative used most frequently in research chimps because of its low cost and relative safety. However, there are pharmacodynamic consequences to all anesthetics, especially in the elderly. Used alone it has a cardiostimulatory that is detrimental in cardiac cases. I have seen elderly chimps become extremely hypotensive and hypertensive when sedated.

Elderly chimpanzees, as defined by the research community itself (females 30 years or older and males 25 years or older) should be retired from research as unsuitable, high risk subjects.

C. Infections and inflammation: Chronic infection and inflammation can be hard to determine in chimpanzees. In my opinion, chronic low grade anemia is a better marker of disease than changes in the leukocyte count. Any chimpanzee with changes in the blood chemistry or CBC is not a good candidate for a research study.

D. Psychological stress: Psychological problems have been the most difficult to treat and chimpanzees suffering from them can take years to recover. Self-mutilation ranges from occasional picking to extreme and relentless trauma to their bodies. These cases require trial and error of psychotropic drugs and I often rely on a combination of anti-depressants, anxiolytics and /or antipsychotics. Many of the records I've read from the laboratories using these chimps before retirement have a documented and often long standing history of self-trauma during their time in the research labs. Many chimps returned from other labs have a history of self- trauma prior to retirement. Any stress behavior such as screaming, banging their heads, self-mutilating, or picking should exempt them from further research.

A chimpanzee who exhibits chronic, re-occurring or severe psychological symptoms is an inappropriate model to study any disease as that level of

psychological stress has major physiological consequences which confound research findings.

16. Some examples of the stressors chimpanzees are subjected to, either in their laboratory housing or in their use in protocols, are included here and taken from our records of chimpanzees from Coulston (Coulston's chimpanzees were used by other labs as well) and NIH labs:

Torian had only visual contact with any other chimpanzee and was depressed and lethargic.

Pumpkin repeatedly traumatized his surgery site for years, yet was continued to be used in research. He had parts of his liver and lymph nodes removed and consistently traumatized the surgery sites. Someone who is stressed and prone to self-mutilating behaviors should be removed from any current and all future studies.

Millie was 1 year and 3 months old when she was shipped with another chimp, Theo, to Bioqual. The record says Millie likes to hold Theo most of the time. At this young age, clinging comforted her otherwise fearful state. Millie was then sent to the CDC.

Her record entries note that Millie:

"lives next to theo when he started screaming she refused her juice or to let me touch her, rocking in back of cage."

" Millie and _____ (name illegible) are screaming this morning. No apparent reason."

"Millie's roommate died, apparent heart attack."

Two days later her record note: "Millie is not eating chow-- depressed. Stressed out."

One year later:

"highly agitated and screaming all afternoon -- gave attention , fruit, treats and koolaid-- nothing helps. Gave 2 mg valium PO"

Millie's progressive psychological deterioration, while noted, was never deemed reason to retire her from research. In 1997 one private lab did consider chimpanzees who had reached this state of being unable to tolerate lab conditions and protocol use as reason to end their "work" in research.

> Still today in sanctuary with us, Millie continues to have psychological problems and is on anti-anxiety medications. Any attempt to wean her off the medications causes recurrence of her self-mutilating behavior. When injured, we must intervene and medicate her heavily to prevent her from digging at the wound excessively. Fortunately, because the lab she was used in was closed, and she was, by default, retired in her rescue to sanctuary, Millie is healing both physically and psychologically. In fact she is finally able to live comfortably and with appreciated pleasures in her small group of gentle and friendly chimpanzees.

17. It is my professional opinion, that it is without either scientific merit or ethical defense that chimpanzees like Millie continue to be housed for possible future use. There is neither scientific nor economic advantage to doing so.

18. In my years as a veterinarian, I have seen myriad examples of disturbing hardships that chimpanzees have endured in laboratories. I am, as a scientist, equally disturbed by the notion that in today's world of better research methods, there are those who continue to keep chimpanzees whose physiological and psychological health is so deteriorated or deteriorating that the only prudent, compassionate and informed course of action should be to retire them. Yet, they are allowed to remain in U.S. labs.

19. In December, 2011 the prestigious Institute of Medicine concluded that most current research on chimpanzees was unnecessary. However, the report did not endorse an outright ban nor did it provide uniform criteria outlining when and why chimpanzees should be retired because they are not needed. While such recommendations were outside the scope of their study, the nature of their assigned task and the conclusions they drew, beg that these questions be asked and answered. It is my hope therefore that the Secretary of Health and Human Services will define strict, measurable criteria that are both scientifically and ethically based and impose that criteria on any and all labs holding federally owned or supported chimpanzees. I ask that the Secretary pick up the mantle of

responsibility and retire U.S. chimpanzees who are more than deserving of their day in sanctuary.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

Jocelyn Bezner, VMD

Senior Veterinarian
Save the Chimps Sanctuary

July 17, 2012

Jocelyn Bezner, VMD
267 Marina Drive
Fort Pierce, Florida 34949
575 430-4104

EDUCATION

Doctor of Veterinary Medicine, May 1986
University of Pennsylvania, Philadelphia, Pennsylvania

Bachelor of Arts, Biology, January 1980
Temple University, Philadelphia, Pennsylvania
Summa Cum Laude

EXPERIENCE

Veterinarian

Save the Chimps 2003 - present
Fort Pierce, Florida and
Alamogordo, New Mexico

Urban Veterinary Care 1999-2003
Chicago, Illinois

Cat Hospital of Philadelphia 1998-1999
Philadelphia, Pennsylvania

Fort Hill Animal Hospital 1986-1997
Huntington, New York

TEACHING

Associate Professor 1995-1996
Suffolk County Community College, Brentwood, NY
Adjunct Professor of Hematology and Parasitology
Veterinary technology program

Associate Professor 1993
State University of New York, Farmingdale, New York
Adjunct Professor of Anesthesiology
Veterinary technology program

VETERINARY CONSULTING

Chimp Haven
Keithville, Louisiana

Fauna Foundation
Quebec, Canada

Chimps, Inc
Bend, Oregon

Elephant Nature Park
Chiang Mai, Thailand

Heifer Project International,
Chicago, Illinois

Sweetbriar Nature Center
Smithtown, New York

League for Animal Protection
Huntington, New York

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DECLARATION OF LAURA BONAR, RN

1. I am the Program Director for Animal Protection of New Mexico (APNM)—a New-Mexico-based nonprofit organization that has been working for the humane treatment of animals since 1979. APNM accomplishes its work through education, outreach, and campaigns for change. APNM has worked to protect chimpanzees used in research for over 20 years.

2. APNM is writing in support of retiring chimpanzees not needed in biomedical research, including all of the chimpanzees at New Mexico's Alamogordo Primate Facility (APF) on Holloman Air Force Base, under the Chimpanzee Health Improvement, Maintenance, and Protection (CHIMP) Act. The nearly 200 government-owned chimpanzees at the APF are survivors of cruel, egregious conditions in laboratories and have not been used in invasive research since at least 2001. An Institute of Medicine study published in December 2011 found that "most current use of chimpanzees for biomedical research is unnecessary."

3. In the 1950s, the United States Air Force shipped 65 infant chimpanzees to New Mexico's Holloman Air Force Base for use in research. These chimpanzees were taken from the wild—a violent act involving the killing of multiple adults for every infant captured. Breeding programs were established, and the chimpanzees were trained using negative-reinforcement techniques. Testing included sleep deprivation and crash tests.

4. In 1961, two of these chimpanzees were used to test suborbital and space flight prior to Alan Shepard's, Gus Grissom's, and John Glenn's flight. One chimp, Enos, performed his space mission perfectly, but an equipment error caused him to be shocked for performing correct actions. Enos died shortly after returning from space. The second chimpanzee, called HAM after the program Holloman AeroMedical, survived the flight and was eventually transferred to a zoo, where he died alone in 1983.

5. In the 1970s, the chimpanzees at Holloman Air Force Base began to be leased and sold to a variety of research institutions. In 1980, toxicologist Dr. Frederick Coulston opened a private primate-research laboratory near Holloman Air Force Base. The federal government invested over $10 million to build new housing for the growing population of chimpanzees in research in New Mexico.

6. In the 1990s, The Coulston Foundation (Coulston) continued to breed chimps and took ownership of captive chimps from labs getting out of the expensive, dangerous business of chimp research. Coulston received chimps from New York University's Laboratory for Experimental Medicine and Surgery in Primates, and it became the

world's largest captive chimpanzee colony, with over 600 primates at two locations in Alamogordo. Coulston violated numerous animal, drug, and worker-safety policies, rules, and laws. Regardless, federal government support for the lab continued, and chimpanzees were used in research protocols involving insecticides, street drugs, and experimental surgical procedures, among others.

7. In 1999, Coulston settled formal United States Department of Agriculture (USDA) charges and an investigation into chimpanzee deaths by signing a Consent Decision and Order under which the lab agreed to comply with federal animal welfare laws; maintain disease control and prevention programs, euthanasia programs, and adequate veterinary care programs under supervision of a doctor of veterinary medicine; cease breeding chimpanzees; and divest of 300 chimpanzees by January 2, 2002. The USDA held in abeyance a $100,000 fine, pending compliance with the order. Within four months, Coulston violated the Order by breeding chimpanzees. The USDA never levied the fine.

8. In 2000, the Association for Assessment and Accreditation of Laboratory Animal Care issued a report finding 100 percent turnover in veterinary staff at Coulston and blamed inadequate veterinary care for the deaths of 17 chimpanzees over a two-year period. Coulston denied USDA inspectors access to their facilities and sold chimpanzees to animal trainers and zoos.

9. In May 2000, the National Institutes of Health (NIH) seized 288 chimpanzees from Coulston. An inventory states, "All of these animals have been reported to be either

purposely or incidentally exposed/infected with various hepatitis viruses and/or HIV and need appropriate biocontainment and specialized veterinary care."

10. In December 2000, Congress passed the Chimpanzee Health Improvement, Maintenance, and Protection Act, which mandated the creation of a publicly and privately financed sanctuary system to provide lifetime care for chimpanzees retired from federal biomedical research programs.

11. In 2001, the NIH accepted a cost-plus, fixed-fee bid from the biomedical research corporation Charles River Laboratories to manage the APF for ten years as a research reserve colony. No invasive research is allowed at the APF as part of the NIH's agreement with Holloman Air Force Base.

12. In 2001, the USDA issued a fourth set of formal charges against Coulston following chimpanzee Gina's death from heat exposure after she was left locked outside. The NIH cancelled Coulston's Animal Welfare Assurance, making the lab ineligible for further research funds. The following year, 266 chimpanzees at Coulston's remaining location in Alamogordo were provided with permanent sanctuary care by the nonprofit Save the Chimps.

13. In 2004, Otero County District Attorney Scot Key filed criminal animal cruelty charges against Charles River Laboratories and director Dr. Rick Lee after the deaths of Rex and Ashley and the near-death of Topsy at the APF. Whistleblowers allege that Charles River Laboratories ceased treatment on sick APF chimpanzees outside of business hours as a money-saving practice. Charles River Laboratories claimed that the three sick chimps were left without veterinary care as part of the practice of

veterinary medicine. The case is appealed to the New Mexico Supreme Court but was never heard due to an exemption in the state animal cruelty statute for the practice of veterinary medicine.

14. In 2008, the NIH responded in writing to a request from New Mexico Senator Jeff Bingaman about the potential future of the APF chimpanzees at Chimp Haven, the federal chimpanzee sanctuary. The NIH wrote, “The current contract with Charles River Laboratories to manage and house the chimpanzees at APF ends in 2011. NCRR [National Center for Research Resources, a Center of the NIH] has not yet made any decisions regarding what will happen after the contract ends. Since Chimp Haven is a sanctuary and only houses chimpanzees no longer needed for biomedical research, it would not be eligible to house the chimpanzees from the APF. The chimpanzees from APF would need to be available for research studies.” Thus, these chimpanzees were denied a pathway to retirement.

15. In 2010, New Mexico Senator Tom Udall wrote to the NIH about the future of the APF. On June 24, 2010, the NIH responded to Senator Udall that “there is unused space at other facilities that could be used to house the APF chimpanzees” and indicated their plans to close the facility and ship the surviving 202 chimpanzees to a lab in Texas. Massive public outcry highlights the plight of the APF chimpanzees, who are mostly elderly and suffer from multiple chronic illnesses. In addition, records show that the NIH gave at least four additional grants to the laboratory Texas Biomed in anticipation of sending the APF chimpanzees there, despite the agency’s statement that the chimps were being moved due to “extra space” at another facility.

16. In December 2010, Senators Tom Udall, Jeff Bingaman, and Tom Harkin requested an independent analysis of the need for chimpanzees in research. The Institute of Medicine studied the issue with input from scientists across the world and published "Chimpanzees in Biomedical and Behavioral Research: Assessing the Necessity" in December of 2011. The report finds that "most current use of chimpanzees for biomedical research is unnecessary." NIH Director Francis Collins accepts the report findings stating that chimps, as the closest human relatives, deserve "special consideration and respect."

17. The February 2012 APF census shows 176 chimpanzees alive. Dozens of these chimpanzees were observed by APNM during a 2010 tour of the APF, once regularly available to the public. The observed chimps were living in sex-segregated social groups in indoor/outdoor housing with areas of grass and climbing structures. Following a summer 2010 visit by a journalist with *The New York Times*, public access to the facility has been denied, and the NIH has delayed access to local officials for many months at a time.

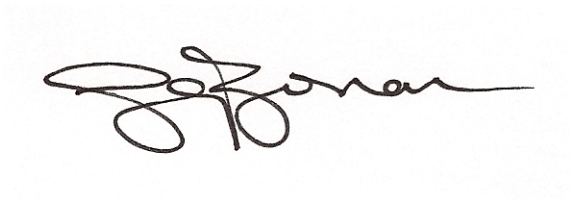
18. The chimpanzees at the APF range in age from 14 to 55. To date, all medical records of APF chimps examined by APNM show multiple documented examples of both physical and psychological suffering as a result of government-support research, including escape attempts ending in shooting, coprophagia, self-mutilation, amputation following injury and gangrene related to chronic disease, and death. Many of the APF chimpanzees were used in research at multiple laboratories around the country, and many of these individuals have already died. It is highly likely that every surviving APF chimpanzee has a documented medical history of physical and

psychological harm. Complete medical records may help determine the level of suffering, but because these records are not available for the majority of chimpanzees in captivity in the United States, they cannot be the only criteria considered.

19. The APF chimpanzees are not needed in scientific research, and continued classification of these individuals as a research reserve colony is unacceptable, especially given the level and duration of suffering that they have endured. The North American Primate Sanctuary Association (NAPSA) member sanctuaries have the skill and expertise to provide superior care for the APF chimpanzees, and managing the APF chimpanzees with a NAPSA-accredited sanctuary would likely result in significant savings to taxpayers. Additionally, laboratories would be better able to pursue humane, effective research after the APF chimpanzees are granted permanent retirement and sanctuary care.

20. APNM respectfully requests that the Department of Health and Human Services grant the filed Rulemaking Petition and establish clear criteria for retirement of chimpanzees under the CHIMP Act. Clear criteria that considers, among other factors, the physical and psychological health and suffering of each individual chimpanzee should benefit the surviving chimps. Developing and implementing clear criteria for the retirement of chimpanzees will benefit research that improves human health as resources for research may be allocated away from chimpanzees and toward a more productive and ethical project.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.



Laura Bonar, RN

Program Director
Animal Protection of New Mexico

07/17/2012

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DECLARATION OF G.A. BRADSHAW

1. I hold two doctorates in ecology and psychology and have been a research scientist for more than 25 years. My research first diagnosed Post-Traumatic Stress Disorder (PTSD) in free-ranging wildlife and led to the establishment of trans-species psychology, a new field built on science accumulated since Charles Darwin one century and a half ago. This science is based on convergent findings in neurosciences, psychology, and ethology and demonstrates that human and nonhuman animals share common brain structures and processes that govern cognition, emotion, and consciousness. Critically, science shows that nonhuman animals have the capacity to suffer psychologically and emotionally comparable to humans. Both chimpanzees, who are our closest genetic relatives, as well avian species considered to be significantly different evolutionarily from humans, have been the subject of my research. I have found both susceptible to psychological trauma comparable to humans. A copy of my curriculum vitae is attached.

2. I am author of numerous scientific articles and the book, *Elephants on the Edge: What Animals Teach Us About Humanity* (Yale 2009), that analyze and discuss psychophysiological effects on nonhumans animals from wild capture, loss of family, unnatural and exacting conditions of captivity, captive breeding, and the diverse methods of control and experimentation to which animals in captivity are subjected. My research and that of my colleagues have shown that a diagnosis of Complex PTSD accurately applies to chimpanzees used in biomedical research and experiments. The category of Complex PTSD was developed to describe the effects of severe and sustained trauma experienced through incarceration and deprivation.
3. I am lead or sole author on multiple articles pertaining specifically to great ape neuropsychology, emotional and psychological capacity, PTSD and Complex PTSD, and consciousness, including: *Developmental Context Effects on Bicultural Post-Trauma Self Repair In Chimpanzees* published in Developmental Psychology and *Building an Inner Sanctuary: Complex PTSD in Chimpanzees*, published in the Journal of Trauma and Dissociation; *Mirror, Mirror*, published in American Scientist, *Natural symmetry*, published in Nature, *An ape among many: Animal co-authorship and trans-species epistemic authority*, published in Configurations, and *We, Matata: Bicultural living amongst apes,* published in Spring. I am also the co-author of *The Bioethics of Great Ape Wellbeing: Psychiatric Injury and Duty of Care*, a policy paper for the Animals in Society Institute that documents the discrepancy between standing science and ethics and law relating to great ape well being.

4. My own work and the corpus of standing science provide theory and data documenting the compromise to psychological wellbeing sustained by chimpanzees in captivity as biomedical and experimental subjects.
5. Recent diagnosis of PTSD in chimpanzees used in biomedical research requires us to re-examine regulatory status and to establish criteria by which psychological injury is assessed and deemed reason for retirement. It is my opinion that the American Psychiatric Association (APA) criteria codified for assessing human mental states provides clear guidelines to identify psychological injury in chimpanzees. Similar to how modern psychology and psychiatry use APA diagnostic criteria to diagnose PTSD and other psychological conditions in nonverbal humans, so too may they be, and have been, used to assess chimpanzees.
6. The acknowledgement and scientific evidence of psychiatric damage in great ape biomedical research subjects indicates that the institutions within which they are held are not fulfilling their duty of care. This clearly suggests that the Secretary correct this long-standing omission and neglect.
7. I offer my Declaration in support of the Rulemaking Petition to establish criteria for retirement that include criteria for psychological wellbeing. Chimpanzees suffering from, likely to suffer from, or relentlessly suffering from the severe effects of stress and trauma experienced in laboratory use and confinement must be deemed “not needed” and retired to sanctuary. These individuals are inappropriate to serve as research subjects. Our scientific knowledge compels ethical and legal

rectification: the retirement to sanctuary of those who have suffered for decades without recourse to the rehabilitative interventions of good sanctuary care. A restorative environment can only be achieved in a naturalist sanctuary environment in which the needs of the chimpanzees always come first, staffed by caregivers skilled in psychological healing. Retirement must allow for a chimpanzee to benefit from the same individualized approach to healing that we seek for humans who have suffered similarly.

8. I respectfully request that the Secretary of Health and Human Services give the above referenced Rulemaking Petition to establish criteria for retirement of chimpanzees under the CHIMP Act her immediate attention and therefore fulfill her responsibilities to the intention and mandates of the CHIMP Act.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

G.A. Bradshaw, Ph.D, Ph.D.

Executive Director
The Kerulos Center

07/16/2012

Curriculum Vitae

G.A. Bradshaw, PhD, PhD

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Jacksonville, OR 97530 USA
Email: bradshaw@kerulos.org
Tel: 541.899.1070
www.kerulos.org

PERSONAL

Married: O. Mein Gans

PROFESSIONAL POSITIONS

2006—present	Executive Director and founder, The Kerulos Center (www.kerulos.org)
2008—present	Adjunct Faculty, Psychology, Southern Oregon University
2006—present	Adjunct Faculty, Psychology, Pacifica Graduate Institute, CA
1991—present	Adjunct Faculty, Environmental Sciences Graduate Program
1991—2005	Adjunct Faculty, Forest Sciences, Oregon State University
1991—2005	Adjunct Faculty, Electrical Engineering, Oregon State University
2001—2002	Research and Monitoring Coordinator, Rogue River National Forest, OR
2000—2002	Community-Science Liaison, Applegate AMA, OR
1991—2001	Research Mathematician, PNW Research Station, USDA
1999—2000	Fellow, National Science Foundation Fellow (NCEAS)
2002—present	Tournière de Plat Scholar

EDUCATION

1972-1980	University coursework in language studies: University of Copenhagen, Monterey Institute of Foreign Studies, Taiwan Normal University
B.A., 1978	Linguistics (Chinese), University of California, Santa Barbara
M.Sc., 1988	Geophysics, Stanford University
Ph.D., 1991	Forest Ecology, Oregon State University (dissertation: *Analysis of hierarchical pattern and process in Douglas-forests using the wavelet transform)*
Ph.D., 2005	Depth Psychology, Pacifica Graduate Institute, Santa Barbara (dissertation: *Elephant trauma and recovery: from human violence to trans-species psychology).*

TEACHING EXPERIENCE

For the past thirty years, in addition to formal undergraduate and graduate courses and professional presentations, Dr. Bradshaw has lectured, given seminars, participated in distance and onsite courses, and workshops at University of California, Stanford University, Oregon State

University, and Pacifica Graduate Institute and given master's classes at veterinary and human mental health conferences. She serves as adviser to and committee member of master and doctoral students members at diverse campuses.

OTHER PROFESSIONAL EXPERIENCE

- Science advisor, 2007 Scientific Assessment of Elephant Management in South Africa
- Panel Review Team, Sierra Nevada Framework for Conservation and Collaboration, *Inter-agency Draft Environmental Impact Statement*. 1999.
- Steering Committee Member. *AMIGO (Americas Inter-Hemispheric Geo-biosphere Organization)*. Stanford, California.
- Consultant, Monitoring Design for the Federal Interior Columbia Basin Assessment, USDA/UDI Boise, ID. 1998.
- Member, *Inter-Agency Team of the Northwest Forest Plan Monitoring Plan for Biodiversity.*
- U.S. Lead, International Long Term Ecological Research (*LTER: South Africa)*. 1999.
- Steering Committee Member and Sub-Committee Chair, *Science Implementation, IAI (Inter Americas Institute for Global Change)*. Duke University, North Carolina. 1994.
- National Science Foundation Fellow (1999-2000)
- Associate, the New Zealand Centre for Human-Animal Studies, 2008.
- Advisory Board, Spring Journal 2010
- Board Member, Midwest Avian Adoption and Rescue Services, Inc 2009
- Board Member, The Toby Fund, 2009
- Board (Secretary), The Great Ape Trust and Bonobo Hope

AWARDS

- 2009 Book of the Year (BOTYA) Gold Medal Award, Winner in Psychology.
- Favorite Science Books of 2009, *Scientific American*
- Nominated for Pulitzer Prize 2009
- Honorable Mention Award 2009 PROSE, Psychology (Professional and Scholarly Publishing Division of the Association of American Publishers)
- Honorable Mention, 2010 Green Book Festival

SELECTED PUBLICATIONS

Books

Bradshaw, G.A. 2009. *Elephants on the edge: What animals teach us about humanity.* New Haven: Yale University Press. (Translated into Spanish and Korean)

Bradshaw, G.A. 2010. *Minding the Animal Psyche* (Editor). *Spring,* 83

Bradshaw, G.A., and P. Marquet. (eds). 2002. *How landscapes change: Human disturbance and ecosystem disruptions in the Americas.* New York: Springer-Verlag.

Peer-reviewed Journals

Bradshaw, G.A., Engebretson, M. & R.D. Bjork, in review. A scientific assessment of the impacts of captive breeding and possession on parrots (Psittaformes) welfare. *Society & Animals.*

Capaldo, T. and G.A. Bradshaw. 2011. The bioethics of Great Apes: Psychiatric injury and duty of care. *Animals & Society Policy Series.*

Bradshaw, G.A. 2012. Pas de Deux. *Antennae.* 44-48.

Benessia, A. Funtowicz, S. Bradshaw, G.A., Ferri, F. &, Ra´ez-Luna, E.F., Medina, C.P. 2011. Medina, Hybridizing sustainability: towards a new praxis for the present human predicament. *Sustainability Science*, Springer-Verlag. http://www.springer.com/alert/urltracking.do?id=Lb8ca40M99193eSafc2c04

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SELECTED INVITED PRESENTATIONS *

**Since 2002, Dr. Bradshaw accepts only limited speaking engagements*

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Re:	**PETITION FOR RULEMAKING**	**)**
	U.S. DEPARTMENT OF HEALTH	**)**
	& HUMAN SERVICES	**)**
		)
	TO SET CRITERIA FOR DETERMINING WHEN	**)**
	CHIMPANZEES ARE NO LONGER NEEEDED FOR	**)**
	RESEARCH AND MUST BE RETIRED AND SENT TO	**)**
	SANTUARY AS REQUIRED BY THE CHIMPANZEE	**)**
	HEALTH IMPROVEMENT, MAINTENANCE, AND	**)**
	PROTECTION ACT	**)**

DECLARATION OF THEODORA CAPALDO, Ed.D.

1. I am a Massachusetts licensed psychologist with more than 30 years of experience treating patients with a variety of psychological disorders, including Post Traumatic Stress Disorders (PTSD), Anxiety Disorders, and Depression. Included in my professional affiliations is membership in the American Psychological Association. Among other publications, I have co-authored several papers on various psychological components of humane care of chimpanzees in laboratories, including the first paper to be published regarding PTSD in chimpanzees. The clinical case studies were published in the Journal of Trauma and Dissociation, *Building an Inner Sanctuary: Complex PTSD in Chimpanzees* and in Developmental Psychology, *Developmental Context Effects on Bicultural Post-Trauma Self Repair In Chimpanzees*—both esteemed journals within the field of psychiatry and psychology. Further, I co-authored a Policy Paper, *The Bioethics of Great Ape Wellbeing: Psychiatric Injury and Duty of Care* for the Animals in Society Institute. I have served for the past 15 years as President and Executive Director of the New England Anti-Vivisection Society, a 117-year-old animal protection organization dedicated exclusively to helping animals in labs. Under my tenure, the Board of Directors is committed to taking a science-based approach to our arguments in support of our

ethical and humane concerns. We believe we are at a point in protecting animals in labs where scientific progress in the development and validation of alternatives, lack of necessity and scientific understanding of the limitations of the animal model make our work on behalf of animals progressive and promising. I offer this by way of explanation for why we have focused on chimpanzees in recent years. A copy of my curriculum vitae is attached.

2. Extensive research was the foundation for our decision to focus on helping chimpanzees. We found ever decreasing use of chimpanzees—an indication from the scientific community of lessening current need; increasing use of alternatives in important areas of research like Hepatitis C—an indication of lack of future necessity; progressive laws and policies, like the CHIMP Act—a response to the "surplus" available for ever decreasing need; and the Act's parameters regarding retirement and prohibition of euthanasia for anything other than the chimpanzee's best interests—a confirmation of a changing moral status for a species identified as most like humans; withdrawal of federal funds for breeding—a policy change which addresses NIH's growing fiscal burden for a population of "research resources" neither useful nor needed; and other indications that the scientific, administrative and legislative community are critically evaluating the *status quo* of chimpanzee use in research and that such a critique is leading to accumulating evidence that chimpanzees may not be the appropriate or chosen model for current or future research given its scientific limitations, excessive costs and growing societal concerns for chimpanzee well-being. All that said, it is also glaringly apparent that the CHIMP Act is failing in its directive to retire chimpanzees "no longer needed" and that part of the reason for this lies in the lack of clear criteria by which to measure when

retirement should be put in place. As such, I offer my Declaration, in support of the above identified Rulemaking Petition, to specifically address the need for strict and enforceable criteria regarding psychological well being—criteria which once in place will retire large numbers of chimpanzees and prevent further circumvention of the Animal Welfare Act's mandate to "promote the psychological well being of primates." Chimpanzees for whom further laboratory confinement and use will cause, perpetuate or enhance symptoms of psychological stress and suffering must be considered inappropriate research subjects, "not needed," and therefore, must be retired.

3. For the past 12 years, I have been working with founders of sanctuaries for chimpanzees rescued from research. We have shared substantial information about the symptoms their chimpanzees exhibit, what such symptoms would be considered if they existed in a human, and what the course of action would be to alleviate or minimize symptoms that had reached a level that interfered with the quality of life. I met and spent a great deal of time with the chimpanzees who these sanctuary directors felt were "always depressed," "couldn't be comforted," "went into trance like states," "seemed to be reacting to something that wasn't there," "treated a hand or arm like it didn't belong to them," and myriad other symptoms which indicated that the chimpanzees' ability to cope with the reality of their laboratory life and use had been depleted leaving them in a progressively deteriorating state. Neither of these sanctuaries with which I worked had chimpanzees retired under the CHIMP Act. Rather, their chimpanzees came from private labs that had closed. Otherwise, likely both populations would have continued to be cycled through further research—with one exception, a chimpanzee who was considered for euthanasia because the veterinarian felt she could not be sent on to further research to the lab where

others were being transferred, could not be rehabilitated, was “too far gone” and would not make a suitable sanctuary “candidate”. That same veterinarian spoke with me years later about how “pleased [he] was with her progress in sanctuary…” noting he “could not believe it!”

4. Over the course of lengthy and frequent discussions with sanctuary directors and visits to the sanctuaries to witness first-hand the particular behaviors described to me, it became apparent that many of the chimpanzees exhibited symptoms which, had they been occurring in a human, would have led to a diagnosis of PTSD, or Depression or Anxiety Disorder. It has been established that chimpanzees’ cognitive function, social needs, emotional needs, and ability to suffer not just physically but psychologically are similar to that in human primates. Why then would it not also be the case that their psychological and cognitive dysfunctioning could progress to the same level of disturbance that would make their disorder diagnosable, just as blood sugar level dysfunction, thyroid over or under activity, or other physiological maladies? That chimpanzees suffer the same way as do humans who are confined, used in research, separated from their family or friends arbitrarily, stripped of all self determination and agency, and other hardships and stressors that come with captivity and use is now established in the literature. Admittedly some chimpanzees are better able to cope than others, but it is clear that criteria for retirement must include a thorough assessment of an individual’s cognitive, behavioral and social functioning, and that any chronic or severe symptoms of stress must be defined as making that individual ineligible for further research and therefore eligible to be retired. When “normal” functioning of affect, cognition, and social behaviors become severely compromised, an individual in this state is an inappropriate subject for research

scientifically, ethically and legally (labs must be held to AWA requirements to “promote psychological well being”) and must be retired.

5. Unfortunately, from conversations with veterinarians and other staff previously or still working in chimpanzee labs, I came to understand that there is an apparent tolerance for and acceptance of aberrant chimpanzee behavior as normative for the lab. As such, much suffering and the implications of that suffering for the suitability of research use remains unexamined. These conditions, not unlike similar conditions for human captives, make aberrant behavior the norm. Like prison guards, caregivers can come to expect certain behaviors and no longer see them as reason for intervention within the system, because they are frequently occurring and therefore accepted as common. However, caregivers and veterinarians must be required by the Secretary to recognize, evaluate and intervene when chimpanzees are displaying signs of severe, relentless stress and all of the behavioral and psychological aberrant behavior that goes with it. Self-imposed isolation, anorexia, persistent diarrhea, self-mutilation, over-grooming, ritualistic stereotypic behaviors, inability to be soothed, refusal to groom or be groomed, flattened affect, high incidences of infanticide, and other indicators of psychological dysfunction must be part of the criteria for determining that a chimpanzee is no longer needed—or indeed suitable—for research.
6. While I am in full support of all the suggested criteria for retirement proposed in the Rulemaking Petition, as a psychologist and expert in chimpanzee well-being, I am focusing my Declaration on my professional opinion as to why psychological well-being must be elevated to the same degree of ethical care-giving concern as would such physical symptoms such as a gaping, infected wound that would not heal in a diabetic

chimpanzee, excessive weight loss in a chimpanzee whose thyroid function could not be effectively adjusted, etc. Chimpanzees can endure incredible assault to their bodies, e.g., losing a finger, yet still be able to eat lunch, having an ear torn in a fight and showing no indication of pain. However, their psychological, social and behavioral needs are far more fragile than their robust ability to mask even severe physical symptoms and leave them highly vulnerable to "break downs" ─chronic debilitating symptoms that seriously affect their well being and ability to cope. In addition to the severe behavioral manifestations caused by stress, stress' bio-physiological effects compromise their suitability as research subjects and is a confounding variable in research. Criteria for retirement must not only include retirement for chimpanzees who are psychologically, behaviorally or cognitively symptomatic but also require that such chimpanzees be retired to the rehabilitative safety of lifelong sanctuary care.

7. I respectfully request that the Secretary of Health and Human Services give the above referenced Rulemaking Petition to establish criteria for retirement of chimpanzees under the CHIMP Act immediate and prioritized commitment to rectify a problem that has gone on no less than 12 years since this law was enacted. In establishing such criteria and overseeing its enforcement and the resulting retirement of large numbers of chimpanzees, the spirit and mandates of the CHIMP Act can finally be realized.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

Theodora Capaldo, Ed.D.

MA Licensed Psychologist
President and Executive Director of
The New England Anti-Vivisection Society

07/17/2012

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EDUCATION

- Doctorate of Education, Boston University, Humanistic and Behavioral Studies, 1979
- Master of Arts, University of Hartford, Clinical Practices in Psychology, 1973
- Bachelor of Arts, Merrimack College, psychology/philosophy, 1970

CLINICAL EXPERIENCE

- Private Practice, 1981 – present
- Director of Counseling, Bradford College, 1979-1983
- Clinical Supervisor,1979- 1990
    - Doctoral and Master's level psychology students and clinical social workers
- Staff Psychologist and Psychology Internships, 1972 – 1981
    - ACCESS, A Counseling Collaborative and Educational Service System, Greater Newburyport, Haverhill, Lawrence and The Andovers
    - Human Resource Institute, Lawrence, MA
    - Greater Lawrence Mental Health Center, Lawrence, MA
    - Advisory Resource Center, Boston University
    - Alysa Counseling Services, Methuen, MA
    - University Community Clinic, University of Hartford
    - Norwich State Hospital, Norwich, CT
    - Hartford Regional Center (MR), Newington, CT
    - Connecticut Valley State Hospital Middleton, CT
- Other Clinical Experience, 1966-1972
    - St. Dymphna's Psychiatric Unit, Bon Secours Hospital, Methuen, MA
    - Essex County Correctional School, Lawrence, MA
    - Greater Lawrence Vocational and Career Center, Lawrence, MA
    - St. Ann's Residential Treatment Center, Methuen, MA

TEACHING EXPERIENCE

- College Teaching, psychology department, full and part time 1972 –1979
    - Bradford College, Bradford, MA, Associate Professor 1979-1983
    - North Shore Community College, Beverly, MA, Assistant Professor, 1973-1976
    - Merrimack College, North Andover, MA, Lecturer
    - Northern Essex Community College, Haverhill, MA, Instructor
    - Asnuntuck Community College, Enfield, CT

ANIMAL PROTECTION EXPERIENCE

- President/Executive Director, New England Anti-Vivisection Society, 1997-present
- Trustee, American Fund for Alternatives to Animal Research
- Director, the Psychologist the Ethical Treatment of Animals, President 1996-1998
- Massachusetts Department of Public Health Committee for Establishing Rules and Regulations for the Care and Use of Laboratory Animals, Invited Member
- New York Bar Association, Legal Issues Pertaining to Animals, Invited Presentation
- Fourth World Congress on the Use of Animals and Alternatives in the Life Sciences, Invited Presentation
- Public Responsibility in Medicine and Research (PRIM&R), Panel on Chimpanzees
- Tufts School of Veterinary Medicine ,1st Animals & Society Conference, Invited Panel
- Advisory Boards: Fauna Sanctuary and Laboratory Advocacy Primate Group

RESEARCH AND PAPERS

- Women and the Internalization of Blame in Rape, Boston University, 1976
- A Quantitative and Qualitative Investigation of Women's Preferences for the Sex of a Therapist, Boston University, 1978
- The Effects of Maternal Deprivation on Later Affectional and Behavioral Responses, A Literature Review, University of Hartford, 1970
- Evaluation of the Use and Usefulness of Maternal Deprivation Studies in Clinical Settings, 1985
- Testing the Water of a Human-Dolphin Bond Project, Psychologist for the Ethical Treatment of Animals, 1988
- Research Assistant, Infant Child Research Laboratory, University of Hartford, 1971-1973
- The Development of Compassion as a Psychotherapeutic Goal of Moral Development,
- An Analysis of the Relationship Between Violence Toward Women and Children and Non-Human Animals: Practice and Policy Implications and Solutions, 2001
- Realms and Realities of the Possibility of 100% Replacement of the Harmful Use of Animals in Education, First InterNICHE International Conference, 2001

PUBLICATIONS

- Using Psychology, A Test Manual, Little Brown and Co.,
- Consultant to Market Research on Feminist Studies, Addison-Wesley Publishers,
- Re-sensitizing Society: Understanding the Connection Between Violence Toward Human and Nonhuman Animals. Theodora Capaldo, Ed.D., DABPS, DABFE and Lorin Lindner, Ph.D., M.P.H. *The Forensic Examiner*. Oct./Nov.,1999.
- The Psychological Effects on Students of Using Animals in Ways that They See as Ethically, Morally or Religiously Wrong. Theodora Capaldo, Ed.D. Fourth World

Congress on the Use of Animals and Alternatives in the Life Sciences, *ATLA*. 2004, 32, Supp.1: 525-531.

- Building an Inner Sanctuary: Complex PTSD in Chimpanzees. G.A. Bradshaw, Ph.D., Ph.D, Theodora Capaldo, Ed.D., Lorin Lindner, Ph.D., M.P.H., and Gloria Grow, Sanctuary Director. *Journal of Trauma and Dissociation.* 2008, 9(1), 9-34.
- Developmental Context Effects on Bicultural Post-Trauma Self Repair In Chimpanzees. G.A. Bradshaw, Ph.D., Ph.D. Theodora Capaldo, Ed.D., Lorin Lindner, Ph.D., M.P.H., Gloria Grow. *Developmental Psychology*, 2009, 45(5). 1376-1388
- The Bioethics of Great Ape Well-Being: Psychiatric Injury and Duty of Care. Theodora Capaldo, Ed.D., and Gay Bradshaw, Ph.D.,Ph.D., Animals and Society Institute Policy Paper, 2011.

CONSULTATION and INVITED TALKS

- Consultation, Workshops, Lectures, Evaluations, 1971-present for:
    - The United States Civil Service Training Commission
    - Federally Employed Women
    - Digital Equipment Corporation
    - AT&T, Executive Coaching
    - Environmental Protection Agency
    - Greater Lawrence Chamber of Commerce and Community Action Council
    - YWCA
    - Forum for the Massachusetts Community College Behavioral Science Teachers
    - National Organization of Women
    - Intercollegiate Program of the Massachusetts' Community College
    - Psychologist for the Ethical Treatment of Animals
    - The American Guild of Organists
    - MIT, Harvard, Phillips Academy, U of Rhode Island, U of Massachusetts, U of Vermont, Tufts University, Boston College, and others
    - Ethical Science Education Coalition of Massachusetts and New York
    - Massachusetts Public Safety Commission
    - Massachusetts Legislative Committee on Public Safety
    - Massachusetts Department of Public Health
    - Massachusetts Committee on Education
    - A Collaborative Counseling and Educational Service System, co-founder

PROFESSIONAL MEMBERSHIP, LICENSURE, AND CERTIFICATION

- Past and Present Affiliations, from 1972-present
    - Massachusetts Licensed Phychologist, #2638
    - Commonwealth of Massachusetts Health Service Provider
    - The Commonwealth of Massachusetts, Department Mental Health, Psychologist Cert # 47
    - The Commonwealth of Massachusetts, Department of Education, School Psychologist, Cert # 202578

- The Commonwealth of Massachusetts, Department of Education, Social Studies Teacher, 7-12 level
- The American Psychological Association (APA), Member since 1983
- The Psychology of Women, Div 35 of the APA (past)
- The Massachusetts Psychological Association (MPA), Fellow
- The Woman's Interest Group of the MPA (past)
- The Massachusetts Regional Community College Faculty Association (past)
- The Ethical Science and Education Coalition, President, 1998-present

HONORS AND AWARDS

- Presidential Scholar, Merrimack College
- Graduate Cum Laude, Merrimack College
- Graduate Scholar Award, Boston University
- Alpha Gamma Chapter, National Honor and Professional Society in Education

Re:	**PETITION FOR RULEMAKING**	**)**
	U.S. DEPARTMENT OF HEALTH	**)**
	& HUMAN SERVICES	**)**
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	TO SET CRITERIA FOR DETERMINING WHEN	**)**
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	HEALTH IMPROVEMENT, MAINTENANCE, AND	**)**
	PROTECTION ACT	**)**

Declaration of Jennifer Feuerstein

1. As an Animal Care Technician at Yerkes National Primate Research Center (YNPRC) Field Station from November 1997- February 2003, a registered Animal Laboratory Technologist (RLATg), and current Sanctuary Director for Save the Chimps, Inc (STC), the world's largest chimpanzee sanctuary, I am personally acquainted with approximately 350 chimpanzees who were or are residents of biomedical research laboratories. With fourteen years of experience caring for captive chimpanzees, including five years at YNPRC, I have witnessed the deleterious effects of biomedical research, social isolation, and social separation.

2. In 2000, the Secretary of Health and Human Services (HHS) was given an opportunity with the passage of the CHIMP Act to improve the lives of hundreds of chimpanzees. However, in the nearly twelve years since the passage of the CHIMP Act, no criteria have been established to determine when a chimpanzee is eligible for retirement from biomedical research. As a result, the retirement of chimpanzees from research has been haphazard at best, and has resulted in far fewer chimpanzees being retired under the CHIMP Act than anticipated at the time the law was passed. This lack of criteria has resulted in the languishing of chimps, many with illnesses and psychological trauma, in

barren laboratory cages, robbing them of the richer life in sanctuary that they need and deserve. Additionally, the lack of consideration for the social needs and family bonds of chimpanzees has resulted in the separation of chimpanzees from families and lifetime friends, even in some cases where chimps have been retired.

3. During my tenure at YNPRC, I was promoted twice to positions of increasing responsibility, and became a RLATg. I cared for approximately 60 chimpanzees who were used in behavioral, cognitive, malaria, and vaccine research, or in no research at all. Prior to the passage of the CHIMP Act, a number of chimpanzees at Yerkes were deemed "surplus" and were sent to New Iberia Primate Research Center. Among these chimpanzees were Jimoh and Gwennie, who had been members of a large social group from whom they were separated. Jimoh had been the alpha male, and Gwennie was mother to two males in the group including a young son, Claus. With their departure to New Iberia, they were separated from their family forever. From my first hand and professional experience and given the Animal Welfare Act's requirement to provide for the psychological well being of primates, retirement criteria must include respect for family and social bonds and allow for cage mates/friends or family to be retired with given individuals deemed "no longer needed" for research.

4. After the passage of the CHIMP Act, there was informal discussion among the staff at Yerkes about the existence of a list of chimps who were to be retired to Chimp Haven, the recipient of CHIMP Act funding. I am unaware of what criteria, if any, were used to create this list. I was told of some individuals who were going on the list: a group of four males (Hunter, Lyons, Donald, and Brent) and Gwennie's son Claus were mentioned. I celebrated the thought of the retirement of the four males, who were not being used in

protocols and who were residing in a small enclosure designed for gibbons. They were wonderful chimps, friendly and outgoing. Hunter and Lyons were twins who had been together since birth, and Lyons had terminal kidney disease. They could enjoy retirement together, and Hunter would have his friends Donald and Brent by his side if Lyons passed away. I despaired at the thought of Claus being separated from his family, because he had known only them and his quarter-acre enclosure since the day he was born; however, I hoped that Gwennie would be retired also given that she was "surplus" and that Claus would be reunited with his mother. Sadly, my imagined scenarios for these chimps' retirement never came to pass.

5. As it turned out, the list was not a list of chimps to be retired. It was simply a list of chimps whom Yerkes did not want anymore. The list was shared with at least one other laboratory, the Texas Biomedical Research Institute (known then as the Southwest Foundation, or simply Southwest.) A number of chimps were selected for transfer to Southwest. With what I would characterize as a callous indifference to the social bonds and emotions of chimpanzees—bonds and emotions that had been extensively studied and written about by Dr. Frans deWaal, head of the Living Links Center at Yerkes—the group of four males were broken up. Twins Hunter and Lyons were separated from each other. Hunter and Donald went to Southwest. Lyons and Brent were more fortunate and went to Chimp Haven. Despite public pleas for their reunion, the twins never saw each other again, and both Hunter and Lyons died.

6. Claus was also selected for transfer to Southwest. At approximately ten years old, he was taken from the only family he had ever known. No other chimps from his group were sent

with him. Gwennie was fortunately retired to Chimp Haven, as was Jimoh, where she eventually passed away, but mother and son never saw each other again.

7. The lack of criteria for choosing chimps for retirement is also apparent when I consider who wasn't retired at Yerkes, or even put on the "surplus" list. Brodie, a chimp who mutilated herself following the removal of her spleen for malaria research, was not to my knowledge selected for retirement. Wenka, an elderly female who was born at Yerkes and among the eldest chimps there, was not given an opportunity to experience life outside of a cage. Jorg, a gentle elderly male who lived with an equally amiable companion, Duncan, was not chosen. Jorg was old, thin, and had chronic air sacculitis and polyps in his nasal passages. But when I knew him, he still had energy and interest in life. He and Duncan lived in a small concrete and steel indoor/outdoor run. They were not assigned to research protocols, and Jorg would not have been a candidate for research in any case given his health condition. Yet they were not retired, and both Jorg and Duncan died at Yerkes in their barren cage, when they could have spent their final years in retirement at a sanctuary.

8. In 2003, I took a position as Chimpanzee Caregiver at Save the Chimps, working with the late Dr. Carole Noon, who established Save the Chimps in 1997 (then known as the Center for Captive Chimpanzee Care) in order to provide a home for chimps no longer wanted by the US Air Force. After rescuing 21 Air Force chimps, Dr. Noon then went on to rescue 266 chimps surrendered by the bankrupt Coulston Foundation (TCF) in Alamogordo, NM. I traveled to Alamogordo in 2002 to volunteer for STC, and Dr. Noon offered me a position with the organization. In time I was promoted to Deputy Director and oversaw the care of the chimps at the former laboratory. I became extremely familiar

with the chimps' personalities, health, and histories. In 2009, following Dr. Noon's death, I became Sanctuary Director.

9. When Save the Chimps took over TCF, we found chimps who could have and should have already been retired due to chronic health problems multi-use history, and psychological disorders. One chimp, Bobby, lived in social isolation, and had been used in at least 9 different research studies over a period of eighteen years, and engaged in serious self-mutilation, biting his own arm and tearing away the flesh. Another chimp, Ragan, was battling an untreated skin condition that left him itchy and raw. Many chimps had undiagnosed and untreated heart disease. Other chimps suffered seizures, but were not on any medication. It is only since their retirement that the chimps have received appropriate treatment. Bobby no longer bites his own arm. Ragan's skin is completely healed. Ultrasound is used to diagnose cardiac disease, and the chimps are treated with the appropriate medication, extending their lives. Chimps with seizures were treated.

10. The case of a chimpanzee named Vanna, now a resident of Save the Chimps, illustrates the need for retirement criteria for chimpanzees, criteria that include health status and social needs. Vanna's story also illustrates that laboratories do not necessarily consider individual health and social needs when making decisions regarding the chimpanzees' care and use. Vanna was born September 22, 1986 at Holloman Air Force Base (HAFB) in Alamogordo, NM. Her parents were Air Force chimps, Tinker and Lou. She was raised by her mother for three years, and then on November 1, 1989, she was "weaned" from Tinker—meaning Vanna and her mother were anesthetized and Vanna was removed and permanently separated from Tinker. Weaning in chimpanzees typically take place between the ages of 5-6 years old, is a gradual process that takes place over many

months, and mothers and children may maintain lifetime relationships. Vanna's weaning happened in an instant, and she was taken from all that was familiar to her.

11. December 5, 1990, Vanna was anesthetized for a quarterly physical, and seized constantly in reaction to the ketamine used for anesthesia. In February 1991, she was anesthetized again with ketamine and had a "slight reaction." In March 1991 she "went into convulsion that lasted about 5 minutes. Lip & gumbs *(sic)* turned a purplish color." This seizure did not occur while under anesthesia. On December 18, 1991 Vanna was anesthetized with ketamine for a physical, and again experienced seizure with violent contractions. The laboratory veterinarian wrote on the record, "Put in chart that she seizures *(sic)* violently under ketamine (candidate for telazole [*sic*])." On March 5, 1992, Vanna was again given ketamine, and again experienced a seizure. On July 15, 1992, she was given ketamine and valium, and experienced "violent seizures." On February 19 & 20 1993, Vanna was witnessed having seizures. On March 8, 1993, she was anesthetized again with ketamine and valium, and had "minor seizures." This pattern continued for the next decade. Vanna was anesthetized with and seized under ketamine repeatedly, despite her known reaction to the drug. She was also observed to have seizures while awake on multiple occasions. She was not prescribed regular anti-seizure medication.

12. In 1994, at the age of 8, Vanna was introduced to a breeding group. Female chimpanzees in the wild do not reproduce until between the ages of 11-14. The laboratory was also apparently unconcerned that Vanna's seizure disorder could be passed onto her children. Vanna had repeated seizures while in this group; when she seized, she was at times the target of aggression by chimps who were confused or frightened by her seizures. Fortunately for Vanna, an adult female named Nadia protected and defended Vanna when

she seized. Nadia would become Vanna's surrogate mother and lifelong friend, since she was not reunited with her own mother Tinker.

13. Vanna was an Air Force chimp, and the Air Force had an opportunity to retire both Vanna and Nadia in 1997 when they put the entire chimpanzee colony up for bid. Multiple sanctuaries placed bids to retire the chimps. Vanna's condition precluded her from being used in biomedical research protocols, and in fact it does not appear from her records that she was ever assigned to a research study. Despite Vanna being an excellent candidate for retirement, the Air Force instead opted to transfer her to The Coulston Foundation (TCF)—now custodians of approximately 600 chimpanzees--where they kept her in the breeding program. Vanna became pregnant in 1997, and gave birth to a son, Kioki, on February 21, 1998. She was not a skilled mother, so Kioki was removed to be raised by humans in the laboratory nursery. Vanna became pregnant again and gave birth to a daughter Kira, on December 11, 1998. Kira was also removed at birth. Incredibly, she had given birth twice within the same calendar year. December 12, 2000, Vanna gave birth to her third child, Teá.

14. In 2001, the NIH took custody of 288 chimps from TCF due to animal welfare violations, but Vanna was not among them. The majority of the 288 chimps taken from Coulston had been used in infectious disease protocols, some in multiple studies at multiple labs over the years, but these chimps were not retired. Instead they were warehoused at Holloman Air Force Base with an uncertain future ahead of them. On December 20, 2000, the CHIMP Act was signed, providing funding and a framework to retire chimpanzees. The warehoused chimps would have been excellent candidates for retirement, but instead their care was contracted to a for-profit organization, Charles River Corporation, and the

chimps remained warehoused at HAFB, where the facility was renamed Alamogordo Primate Facility (APF). The NIH has to date refused to retire the remaining chimps who are at APF, despite the fact that the contract with Charles River has expired, many of the chimps have multi-use histories, and the chimps have not been used (and therefore not needed for research) for more than ten years.

15. TCF, which still had well over 250 chimpanzees in its possession, was no longer eligible for NIH grants due to the aforementioned animal welfare violations. Desperate for funds, TCF sold several infant chimps, including Vanna's daughter Teá, to private individuals in the entertainment industry. TCF eventually declared bankruptcy. The remaining 266 chimps were rescued by Save the Chimps, Inc., thanks to generous funding from the Arcus Foundation and other animal protection groups. No funds for the chimps' lifetime care were provided by the US government. Funds that were to have been held in reserve by TCF for the chimps' lifetime care vanished, and although there was a brief investigation by the State of New Mexico Attorney General, no funds were ever recovered.

16. When Save the Chimps, under the leadership of Dr. Carole Noon, took custody of the Coulston chimps in September 2002, we found 54 chimps living in the building that we dubbed "The Dungeon" to reflect its dismal conditions. The vast majority of the chimps in the Dungeon were living in social isolation, separated from contact with other chimps by 6 inches of concrete wall. The cages provided just 100 square feet of floor space, 50 square feet inside and 50 square feet outside. Vanna was one of 12 chimps in the Dungeon who were paired with a social partner—in her case, Nadia.

17. I will never forget when I met Vanna and Nadia in 2002, just 2 months after their retirement. 16-year-old Vanna was clinging desperately to Nadia as an infant chimp clings to her mother. I could barely make out where Nadia ended and Vanna began. I also recall the first time we witnessed Vanna having a seizure. She was on her side, convulsing, drooling, and her mucous membranes were blue. We attempted to intervene to provide medical care, but as Coulston employees had observed, Nadia stood over Vanna and refused to leave her side. Her devotion to Vanna was clear and absolute. We knew that when the time came to integrate Vanna into a chimpanzee family and move her to Florida, Nadia would have to be with her also. As long as both were alive, separation of the two of them was not an option.

18. Save the Chimps' veterinarian prescribed anti-seizure medication to Vanna, with remarkable results. Vanna did not have a seizure for four years, allowing her and Nadia to join a social group. Her medication was adjusted when she experienced a brief seizure in which Nadia again stayed by Vanna's side. She remained seizure free for another four years. Vanna was also not anesthetized unless absolutely necessary, and when she was anesthetized, she did not seize. In fact, Vanna has never experienced a seizure while under anesthesia at Save the Chimps. Vanna has been closely monitored by our veterinary team, has been given an MRI to look for brain abnormalities, and has had her anti-seizure medications adjusted and changed when necessary. Because her condition is so well-controlled and closely monitored, Vanna is able to enjoy life on a three-acre island with a large chimpanzee family. The days of confinement in a small concrete and steel cage are behind her. Most significantly, Vanna no longer clings to Nadia in distress.

Quite the opposite—Vanna is now a confident, robust chimp. She and Nadia remain dear friends, but Vanna's insecurity has vanished.

19. This is the hope and promise that retirement to a quality, professional sanctuary, such as those represented by the North American Primate Sanctuary Alliance (NAPSA), can provide to chimpanzees like Vanna. Too many chimps have been denied this opportunity because of the lack of criteria by which laboratories and the NIH must abide when determining which chimpanzees should be retired under the CHIMP Act. With the establishment of criteria that include health status, years in research, years unused in research protocols, and inclusion of social companions, the needless separation of family members and the arbitrary retirement of some chimps but not others could have been avoided. With nearly a thousand chimpanzees still in research labs, the Secretary has an opportunity to establish criteria that will ensure the responsible retirement these chimpanzees deserve.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

Jennifer Feuerstein

Sanctuary Director
Save the Chimps Sanctuary

July 17, 2012

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Education: Bachelor of Arts, Kalamazoo College, 1993. Major: Biology. Senior thesis on capuchin monkey behavior

Graduate study, University of Georgia, 1993-1997. Major: Zoology, with a focus on primatology. Master's thesis research on capuchin monkey behavior.

Experience: Save the Chimps, Inc, Fort Pierce, FL & Alamogordo, NM, 2003-Present. Sanctuary Director, 2009-Present; Deputy Director 2005-2009; Chimpanzee Caregiver, 2003-2004. Manage a staff of 45 employees responsible for the care and management of chimpanzees retired from biomedical research, entertainment, and the pet trade to a sanctuary setting.

Yerkes National Primate Research Center, Lawrenceville, GA, 1997-2003, Animal Care Technician III, RALATg certification. Responsible for the care, feeding, handling, and husbandry of non-human primates in a laboratory setting. Species: Rhesus macaque, Pig-tail macaque, Sooty mangabey, Orangutan, Chimpanzee

Cincinnati Zoo, Cincinnati, Ohio, April-June 1991, Zookeeper Intern. Responsible for the care, feeding, handling, and husbandry of multiple species in a zoological setting. Species: Lemurs, Pottos, Galagos, Marmosets, Callimico monkeys, Pythons, Boa constrictors, Aardvarks, Fruit bats, Barn Owls

Publications: Transfers of food from adults to infants in tufted capuchins *(Cebus apella)*. Fragaszy, Dorothy M.; Feuerstein, Jennifer M.; Mitra, Devjani. Journal of Comparative Psychology, 1997, Volume 111 (2): 194

Male reunion displays in tufted capuchin monkeys *(Cebus apella)*. Matheson, Megan D.; Johnson, Julie S.; Feuerstein, Jennifer M. American Journal of Primatology, 1996, Volume 40 (2): 183

Re:	**PETITION FOR RULEMAKING**	**)**
	U.S. DEPARTMENT OF HEALTH	**)**
	& HUMAN SERVICES	**)**
		)
	TO SET CRITERIA FOR DETERMINING WHEN	**)**
	CHIMPANZEES ARE NO LONGER NEEEDED FOR	**)**
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	SANTUARY AS REQUIRED BY THE CHIMPANZEE	**)**
	HEALTH IMPROVEMENT, MAINTENANCE, AND	**)**
	PROTECTION ACT	**)**

DECLARATION OF GLORIA GROW

1. I am the founder and director of Fauna Foundation Sanctuary (Fauna), Carignan, Quebec. We are accredited by the Global Federation of Sanctuaries (GFAS), a member of the North American Primate Sanctuary Alliance (NAPSA), and accredited/licensed by the following Canadian authorities: Ministére des Ressources naturelles et de la Faune-Québec, Commission de protection du territoire agricole du Québec, and Environment Canada-Canadian Wildlife Service. I wish to offer insights from more than 15 years of experience and expertise in the physical and psychological well-being of chimpanzees from research in support of this HHS Rulemaking Petition on behalf of chimpanzees not yet retired from research. Attached is my curriculum vitae, as well as a list of articles and broadcast media that have relied on our expertise over the years.

2. Though located in Canada, all of our chimpanzee residents with biomedical research histories were retired from a U.S. laboratory. Fauna has a unique history in that we were one of four sanctuaries to receive chimpanzees upon the closing of the Laboratory for Experimental Medicine and Surgery in Primates (LEMSIP) at New York University, one of the first private labs to end their use of chimpanzees. We accepted 15 chimpanzees, among who were the first HIV chimpanzees to ever be retired. All but the four youngest

(who were born at LEMSIP) had multi-lab histories and were used in multiple areas of research and /or for breeding. Some were wild caught, some born and raised in a lab and others, cross fostered in human homes before being sent into research.

3. I am writing in support of the urgent need to establish criteria for retirement of the chimpanzees now remaining and held by the U.S. government. When our chimpanzees arrived in 1997, we saw the serious toll research use and laboratory confinement had taken on them. When the CHIMP Act was passed in 2000, we had anticipated that it would herald the retirement of hundreds more, who, likely, were in the same or similar condition to our chimpanzees. Sadly, this has not been the case.

4. Key to the position put forth in the Rulemaking Petition is the fact that when LEMSIP closed, the veterinarian had essentially established triaged criteria as to who would be transferred into further research and who would be retired. Head veterinarian, Dr. James Mahoney, was not in a position to retire all the LEMSIP chimpanzees, some were going to the Coulston Foundation to be used in or leased for further research and, at the time, there were not enough sanctuaries to accommodate the entire LEMSIP population even if he had been able to retire them all. Simply stated, Dr. Mahoney expressed to me that he needed to retire “those who [he knew] could not tolerate more research.” His decision was a professional opinion that suggested a recognition that an individual chimpanzee is not an infinite “research resource” but rather a living being with physical and psychological limitations regarding how much hardship he/she can endure prior to being physically and/or psychologically in collapse.

5. Among the 100 LEMSIP chimpanzees retired were those who, like the ones who arrived at Fauna: had reached the end of their ability to tolerate research protocols as assessed by the resident veterinarian and care staff; had serious and multiple physical symptoms such as involuntary and un-resolvable gagging, diarrhea, anorexia, liver, kidney or heart compromise, and/or bodily damage including injury which limited mobility or balance; had been used “hard” in multiple labs; and/or who had psychological damage that led to chronic anxiety, withdrawal and self-injurious or dissociative behavior.

6. I offer two examples, with more available at faunafoundation.org.

   A) **Billy Jo (Ch-447)**

   Billy, a male chimpanzee born around 1968, arrived from LEMSIP at the age of approximately 29 years. Billy died suddenly and unexpectedly from degenerative heart disease in 2006 while playing. He was only about 38 years old.

   Billy was purchased by LEMSIP in 1983 after being used for some 15 years in entertainment. He was owned by a trainer and used in circuses and private parties with a companion chimpanzee, Sue Ellen. He was then transferred to another owner with whom he lived in New York State. When his last owner could no longer afford to keep him, he was sold to LEMSIP. It is unclear from records and verbal reports just how many transfers of private ownership Billy experienced. What is clear is that in his early life, Billy lived in a human world. As someone’s “sidekick,” he spent his days going fishing, to malls, or for ice cream.

At night, he was in a cage in a shed with Sue Ellen. They performed at parties and remained together until he was 15 years old. They were then sold to LEMSIP and thereafter, except for failed attempts to force them to mate, they were housed in solitary cages. At LEMSIP, Billy underwent continuous research protocols including numerous invasive procedures. Although most of his teeth had been knocked out during his performing years to make him “safer” to handle, he managed to chew off his thumbs in a violent reaction to an anesthetic and bit off his index finger during an anxiety attack. Billy’s anxiety had been so severe that it sometimes left him choking, gagging, and convulsing, and likely triggered these cardiac symptoms.

Billy was walked into the LEMSIP cage at the age of 15 years old, still manageable despite his strength and testimony to his gentle nature. Yet, from his arrival at LEMSIP forward Billy showed progressive symptoms of volatile aggression and depression.

Billy spent 14 years in research. According to lab records, of the 289 times he was anesthetized, 65 were by dart gun. His knock downs typically involved four or five lab personnel surrounding his cage, holding syringes prepared with anesthesia, while one aimed and shot darts filled with anesthesia. Most of the knockdowns occurred for routine blood draws required of the various protocols in which he was used. In the lab, he would violently shake his cage trying desperately and futilely to prevent anyone from approaching. Throughout his life in sanctuary, Billy could not bear to have strangers grouped in front of him or around his enclosure.

Anxious, aggressive, and fearful, Billy’s life in his lab consisted of banging incessantly on his cage, rocking or staring into space. Throughout the rest of his life, Billy was plagued by anxiety attacks and depression.

Records do not indicate whether Billy was captive-born or wild-caught. Still we know that in his early life, Billy lived in a human world. How his owner came into contact with LEMSIP is unclear. The owner had pursued options including animal dealers and trainers but he was unwilling to place Billy and Sue Ellen there. There were no sanctuaries at the time available to him. In discussions with the lab, he agreed to send them there given their promise that they would be “looked after.” They would be fed and housed but there was no promise to not use them in research. However, the veterinarian did promise that Billy and Sue Ellen would one day be retired from research. This promise was made years before such a promise of retirement was made into law for federally owned chimpanzees via the CHIMP Act.

According to the attending veterinarian’s account of the day of the transfer from the private home to the lab, Billy’s owner took him and Sue Ellen by the hand. They walked along side him bipedally, up a hill, toward a pine knoll, with one on each side of him. The owner, a young man, was sobbing.

From this point on, Billy's world changed in a way from which he never recovered. From his embrace in the human world (however wrong that is) he went to the solitary confinement of a lab cage. Humans were no longer predictably friends. Instead they infected him with HIV and other viruses and subjected him to more than 50 liver punch and wedge biopsies; bone marrow and lymph node biopsies; hepatitis B, measles, polio and tetanus vaccine studies; and other research.

From what I know of Billy's suffering, I believe that it is morally wrong that chimpanzees whose identities have been destroyed by being reared in a human world or as a human are later considered appropriate research subjects. While they are still, after all, chimpanzees, what I learned about Billy is that he could never resolve why he was suddenly in a cage, while humans—his identified family—were now on the other side of the bars. Billy and others like him were betrayed in the worse way imaginable. A just society must deem chimpanzees who were cross-fostered inappropriate for lab confinement and research use. Of course, the change should start with forbidding private ownership of exotic species like chimpanzees and ending all cross-fostering research. But for now, there are chimpanzees in the U.S. laboratory population whose histories, like Billy's, make the psychological toll taken on them in research more chilling, more devastating.

Billy was essentially condemned to living between two worlds…the human world into which he could never again enter except through bars and the world of his own species where, a stranger to their culture, his lack of "chimpanzee-ness" nearly cost him his life. His relentless anxiety coupled with a complete ignorance of chimpanzee behavioral language or cultural norms triggered attacks from other chimpanzees so severe that the only solution was to house Billy mostly alone, or at most with one or two other chimpanzees for short periods of time. Billy's failing health and stolen identity as a chimpanzee is an example of how and why others who share Billy's life history should be deemed unsuitable and therefore not needed for research and retired immediately.

B) **Jeannie (Ch 562)**

In 1981, Merck, Sharpe & Dohme pharmaceuticals sent Jeannie to the Buckshire Corporation research facility. She was six years old. Seven years later, Buckshire sent her to LEMSIP. There, she was subjected to years of research including being inoculated with HIV, continual vaginal washes and cervical biopsies. She was often treated for self-inflicted wounds —a sign of severe stress. Following a 1995 experiment, Jeannie had what the veterinarian and other lab staff described as a “nervous breakdown.” She was no longer of use to research. For the next two years she was left alone, heavily medicated, in her slightly less than 5’x5’x7’ cage. The drugs did little to prevent her from screaming continually, ripping her fingernails off, thrashing out of control or huddling against the floor in the back of her cage. That is where I met her, looking more terrified than anyone I had ever seen.

That day at LEMSIP I met chimps captured in Africa; youngsters and teenagers born and raised in a lab; and older chimps who knew no reality but lab life. I experienced echoing screams, clanging metal, pungent smells and the chimpanzees’ faces behind endless rows of bars.

As we were escorted around, we were told not to react. Not to cry. And to please “not mention the size of the cages.” To be honest, I couldn’t react. I was left speechless, frozen, watching but not quite a part of what I was seeing. It was surreal. Nothing was right about the way the chimps were living. Nothing could have prepared me for what I saw. The only thought that crept into the back of my throat was, “No one should ever have to live like this.”

The buildings were long trailers, with no windows—white, sterile and efficient. There were doors at either end with two rows of chimpanzees in cages suspended off the ground to make cleaning easier. They ate, slept, urinated, defecated and were “knocked-down” in

these small cages that held only a rubber tire hanging in the middle and a food shoot. This was their world. My hands, mouth, and eyes were completely covered with protective gear. I looked at those with me and down at my covered hands and the surreal feeling intensified. We looked scary and threatening and I could see the terror and alarm in the chimps' faces. Then from where I stood, it was as though all hell had broken loose. I wanted to run. The intensity of their screams and the banging was unbearable. The cages were shaking and rocking. The chimpanzees were spitting large mouthfuls of water. The others in my group walked in. I stayed at the door, feeling this was better for them and for me. I was frozen in that threshold. I backed up further knowing we were the cause of this reaction.

Then, as I turned to look to my left, she was right there in the first cage—this chimpanzee that just kept spinning and spinning and banging herself against the sides of her cage. Her arms banging into her aluminum cage sent piercing sounds reverberating throughout the building, shaking her cage and all those along the long row. She was defecating. Saliva was spewing out of her mouth. Her eyes were rolling back in her head. She spun. And spun. And spun.

That was how I met Jeannie.

We were told to back out of the area. Dr. Mahoney closed the doors and called for Mike, a technician. He came quickly when he heard Jeannie's name. He quietly went into the unit. We stayed outside. I was able to peek in through a small window in the steel door.

Mike walked right over to her cage and wrapped his arms around it as though embracing the cage with Jeannie inside it. She wasn't a small chimpanzee and she was out of control. She could have seriously injured him but she didn't. Instead she was hurting herself.

He reached his hands into the small openings in her cage, as far as they could go, and pressed himself against her and the bars. In turn, she pressed herself into him with her belly fully against the bars, her head turned to the side as she screamed in fear. He hugged her and she hugged him back…the terror and steel cage could not separate these two friends in that moment.

After it was over, the doors opened. He came out. We didn't go back in. I stood in the doorway. I looked at her. I had pulled my mask off. I could not bear the distance it put between us. I pulled off my gloves, and dropped to my knees in the doorway. Jeannie looked as if an exhausted calm had come over her. There was a look of despair in her eyes. Mike came over to me and whispered, "She needs to get out. Help her."

It was mutually agreed that day that I would make a home for 15 of the chimps from LEMSIP. I learned later that Jeannie and some of the others were HIV positive. I was

asked if this would be a problem. The question seemed incredulous to me. “Not at all,” I answered. I was told that this was going to be the first time HIV positive chimpanzees were going to be released to sanctuary.

Before she could come to live at Fauna, a lot had to happen. After twenty years of living in a cage, she would have to be able to live in a social group…like a chimp again. In fact, she would have to be a chimp again in every way possible. While I hoped things would go smoothly, it was a difficult transition for some of the chimpanzees including Jeannie. I thought it would be joyful for them to be reunited with each other. I could never have imagined the damage done in the laboratory that would prevent them from being a chimp and from being able to be with others of their own kind.

The lab’s efforts to socialize the chimps into groups before releasing them to Fauna weren’t working out for Jeannie. Instead of learning to live with others, her “nervous breakdown” had left her totally incapable of tolerating others. She had reached a point where she just couldn’t do it anymore. She couldn’t take what was happening to her and she couldn’t witness what was happening to others. The lab concluded she had reached a point of no return. Since she was no longer considered a good research candidate and now no longer a candidate for sanctuary, they decided to euthanize her.

As the lab gave up hope for her, they moved her out of the unit I met her in. On my second visit I couldn’t find her. When I asked where she was, I was told she wasn’t doing well and had a throat infection. I believed them. The next time I went, she still wasn’t back. To replace her, two other chimps had been put in the group that was being sent to Fauna.

The list of chimpanzees going to Fauna kept changing. I didn’t understand what was going on. I didn’t get what was likely to happen to Jeannie. Their vulnerable lives were in limbo every day. Decisions were being made about their futures depending on how they worked out socially…on a given day... in a certain week. If they had a bad day or a fight, they could be pulled to go to research. Or in Jeannie’s case, euthanized. This was all unthinkable to me…this arbitrary, cold and clinical shuffling that meant life or death…or a life of more research or of safety for these chimpanzees who had already suffered so much.

I sensed they might remove Jeannie permanently—and I might never see her again. So on my next visit, I tried harder to find her. I snuck off and went searching. From one of the units, I could hear horrible screams that sounded like her. I waited for her screams to stop and then quietly went in.

She was lying on the floor of her cage as she always did, her face pressed against the bars. She was eating a carrot…something in the years I knew her, she never did again.

She was heavily medicated and “out of it”. She wasn’t stressed, and I had a chance to talk to her.

Jeannie wasn’t going to make it to sanctuary. I was told she couldn’t go to Fauna …or to research. Dr. Mahoney felt the most humane thing was to end her life. I felt the most humane thing was to not let this happen. Fauna’s efforts to make special arrangements for Jeannie and Mike’s pleas convinced Dr. Mahoney to let her go to Fauna. Mike and I, and apparently Dr. Mahoney in the end, believed in Jeannie and knew she would be all right once she was out.

Once the chimpanzees arrived at Fauna, it was clear how hard it was going to be for them to adjust. Jeannie continued to huddle in her corner. There was no miraculous moment that changed everything for her. Instead, it was a long, slow and painful process as healing always is. I had to watch her suffering, her confusion and fears, and the bizarre and sad behaviors she had adopted to survive the realities of a lab. Like how she would hold the bars and spin herself around— perhaps soothing herself or releasing her panic or perhaps the only activity her crammed and captured body could achieve in that small cage. I would stand by helplessly for hours, holding my breath as I watched her enter that trance-like state that I came to learn was the same dissociation that human trauma patients suffer—that place where the mind and heart and body are separated from each other in a desperate attempt to be freed from the pain. I sat watching helplessly as she would build her inner sanctuary by withdrawing from reality and going somewhere inside where only she could go, a place that offers victims of abuse the only place on earth where they can feel safe. I attempted in vain to find ways to pull her back to reality. I struggled with how, unlike the others, Jeannie could not tolerate even the smallest change in what she came to define as her safe little world and responded with anxiety and agitation.

Soon others were wrapping themselves in the soft fleece blankets given to them to build night nests, sleeping in comfort instead of on cold steel bars. I saw how the emotional scars left her incapable of tolerating even the touch of soft blankets. Instead, she was reduced to being only able to tolerate sameness, even if it was a barren floor.

I watched and tried desperately to find ways to comfort her. To help her learn her world was different now. Despite the long road and slow progress, I knew Jeannie had not given up. We would do this, no matter what. I learned that she would teach me how to help her heal.

First she needed to find the broken and scattered pieces of herself and piece them back together. Our relationship would be an important part of her journey. I knew she could and would come to trust again.

I made a special place for Jeannie to live where she could live alone or with others if she wanted…a place where through choices and quiet and comfort, she could try to recover. Jeannie's recovery wasn't quick or easy. But each day she improved and her ability to live a comfortable and even enjoyable life was eventually successful.

With time and healing, she soon seemed to have a reason to get up and something to look forward to each day. Jeannie had people around her that cared deeply about her. Within months her outbursts lessened and she was eventually off all medications and starting to live to the best of her abilities. I knew she would never be without setbacks. When we first met, she seemed to have lost hope, but now she had a sparkle in her eyes. Jeannie was re-emerging with caution depending heavily on the support we gave her and the freedom to make decisions about her body, and her life for herself.

In hindsight, what I did to help Jeannie was simple: I sat quietly with her for days, months, years. I went to that place of tranquility with her. I expected nothing from her. I loved her unconditionally. And, for the first three years I never missed a day with Jeannie or the others. Then slowly, they began to rely on and trust that things were different and better.

One year passed before Jeannie would let me touch her toe. Another year before I could touch her fingers. Then one day she did something that sent shivers over me…something she continued to do until she died. She gently took my hand in hers and placed it over her heart.

For someone so shattered, this pivotal moment spoke of her recovery, even with the limitations she struggled with still. Social beings, chimpanzees depend on touch as their primary way to communicate. Jeannie's exploitation and isolation had stolen all that from her. I will never know exactly what we did that helped Jeannie heal. Was it the place, the choices, the privacy, the variety of delicious food, the relative control she had over her life—sleeping in until she wanted to get up, moving only when and if she wanted to,

living alone or with whom she chose? Or, was it because very simply, she could sit outside with her arms in the air, lifting her head to the sun and wind or mist…and let herself be soothed? No one, except Jeannie, will ever know.

The result was that the Jeannie who lived at Fauna for nearly 10 years was gentle, calm and beautiful, inside and out and very, very different than the Jeannie who desperately tried to hold on to life in terror in the lab.

Jeannie had heart problems, and two weeks before she died, she stopped drinking tea with us—one of the many pleasures she came to rely on for daily company. I felt Jeannie knew that these were her last days. For her last two months, we spent every night together in that special end of the day quiet.

It was New Year's Day. I was walking from my house to go back to spend more time with her. As I reached a small bridge just beside the chimp-house, I could hear what sounded like fighting, then, alarm calls from the chimps, strange sounds that I could not identify. Their voices were different. Their calls were not the same. My heart sank when suddenly I knew. It was Jeannie.

The next day, we had news that no lab wanted to touch Jeannie because she had been infected with HIV. This meant she could not go for the autopsy to help us know what had happened to her and the cause of death. It meant we would have to do it at Fauna. Tissue samples had to be taken and put into containers to be sent to the labs for analysis. Her heart needed to be removed and sent as well.

I was handed her heart to wash off and place in a bowl, then ever so carefully in the container it was to be sent in. Her heart was not only destroyed emotionally but here in my hands, I witnessed its physical destruction as well. Instead of the firm muscle of a healthy heart, it was soft, scarred and discolored.

I stood there fixed—holding her heart in my hands—the heart that so many times over the years I felt beat while she held our hands together over it.

Jeannie was taken from Fauna to be sent for cremation. It would be the last time I ever saw her. It is because of Jeannie that I am submitting this Declaration. To help you meet her and to see that her story is the story of so many now still held in U.S. labs.

Jeannie was destroyed by the trauma and suffering that accompanies research and life in a laboratory. All chimpanzees who suffer psychologically or who have or are reaching that point of utter psychological collapse must be deemed no longer needed for research, retired to federal sanctuary, and like Jeannie, allowed time to heal and have some remaining years of their life in the peace, comfort and care of sanctuary.

7. Autopsies on our deceased chimpanzees confirmed our concerns as to their overall health and the toll research had taken, and showed far more serious and compromising internal damage than their day to day symptoms indicated.

The autopsy reports from chimpanzees like Jeannie and Tom, tell a more complete story of their use and hardships. Their suffering, though in so many ways hinted at while alive, was fully disclosed once their bodies were opened. The autopsies we have done on our deceased chimpanzees present compelling evidence of how decades of research simply cannot be endured without a price paid by even the strongest of chimps. Tom, a strong, alpha male, who lab workers said had “never given in and co-operated,” was a gentle and cooperative chimpanzee in sanctuary. So much so, that Tom was able to mask the severity of his symptoms for years. His death was sudden, though not entirely unexpected given he had been having progressive health problems which we could not resolve for him but only help keep him comfortable. We were quite shocked at what we found in Tom’s autopsy. Results revealed a thickened and scarred trachea…likely caused by more than 300 intubations in one lab alone—and Tom had been used in at least two prior to

LEMSIP. The condition of his trachea gave us an answer to his persistent and unrelenting gagging every morning when he awoke. Tom seemed to have to go through this every day in what seemed his attempt to get himself going. Tom also loved soft foods and foods full of moisture. It was not unusual for him to chew a leafy vegetable, sucking all of the juices out of it, and then discarding any of the pulp. Tom was also plagued by nearly chronic diarrhea, which at its worst was like pure projective liquid. Analysis by several different top rate labs suggested various causes…but our treatments never led to complete resolution. Tom was filled with adhesions throughout his abdominal wall; in fact, sections of his intestines were actually adhered to his abdominal wall and to sections of itself. The cause of such massive numbers and spread of adhesions remain a mystery even after autopsy. Still likely possibilities include from the introduction of bacteria on an unsterile injection site countless biopsies, and surgeries. Further internal damage included pieces of severed liver adhered to his pancreas…and so on. In one word, Tom was a mess. Upon seeing what Tom's internal organs and ill health looked like, our question changed from "why did he die?" to "how did he survive so long?" Chimpanzees who share Tom's history of multiple use by multiple labs must be evaluated and retired from research. Holding individuals for current or possible future use who are in the condition or in a similar condition to that which Tom was in is bad science both ethically and scientifically. Tom's autopsy actually triggered a more methodical study of the autopsies of some 110 chimpanzees from two different labs and from two different sanctuaries' chimps from labs. Fauna was part of that study. It showed that 69% of the chimpanzees, including all those who died while still in a lab or in sanctuary and rescued because the

lab closed, were suffering, as did Tom, form multi organ disease and seriously compromised health.

8. The Fauna chimpanzees are examples of why objective and measureable criteria are needed rather than leaving it up to individual laboratories to decide who is deemed no longer needed for research and retired. Allowing this practice to continue in the hands of labs who receive significant financial gains from housing and maintenance grants defies the spirit of the CHIMP Act and of good and ethical science.

9. The chimpanzees who were rescued from LEMSIP had previous research histories, just like those who are still in U.S. labs. The others from LEMSIP who were not fortunate enough to make the cut for sanctuary were sent on to further research. Many if not most are still languishing in labs and theoretically are still available for research. This is not only untenable but in fact, knowing what I know, it is in my opinion, unethical on the part of laboratory directors to hold chimpanzees that any objective measure would have deemed them no longer useful to research and therefore eligible for retirement. Further, I believe the current practice results in the circumventing of the Secretary's authority and responsibility under the CHIMP Act.

10. My final insight is of a more practical matter. I am aware that private labs, like Coulston, LEMSIP and others, receive or received federal dollars to support their chimpanzees. As such, as the Secretary establishes criteria for retirement, it would be critical to include the caveat that no federal funds will be given to support privately owned chimpanzees who met the criteria as no longer needed or useful for research.

11. If I can be of further assistance in providing information, opinion, or evidence as to the condition of chimpanzees now or formerly held for research, I am available. Further, if reviewers of this Petition would like to visit the chimpanzees at Fauna, I am happy to provide for such a visit.

12. I respectfully request that the filed Rulemaking Petition to establish clear criteria for retirement of chimpanzees under the CHIMP Act be given HHS's full, immediate and prioritized commitment. For many of the chimpanzees for whom such criteria will make a world of difference, there may not be much time left.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

Gloria Grow

Founder/Director
Fauna Foundation Sanctuary

July 17, 2012

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Canada

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ABC News, Reuters, Feb 18, 1998 – *Chimps Find Haven From Labs*
Planet Vermont Quarterly, Winter 2000-2001 - *What Animals Teach Me About Forgiveness*
PublicAffairs, January 1999 (Book) - *Animal Underworld: Inside America's Black Market for Rare and Exotic Species* by Alan Green ISBN 1891620282
Nature (Magazine) 397, 436 - 441 (04 February 1999); doi:10.1038/17130 - *Origin of HIV-1 in the chimpanzee Pan troglodytes troglodytes*

Television

***PBS,* Nature**, Fall 2006 - ArgoFilms – *Chimpanzees, An Unnatural History*
Animal Planet, 2003
Animal Magnetism, 1999, Episode 21 – *Fauna Foundation*
***Discovery,* Animal Tracks**, July 20, 1998 – *Uncaged and out of doors*

Radio

Talking Animals, KUCI, USA, Aug 11, 2005
Talking Stick, KEXP, USA – January 7, 2005

International

Print

The Observer (UK Newspaper) Sept 26, 2004 - *You call that art? A chimp could have painted it*
Bristol Evening Post (UK Newspaper) Sept 28, 2004 **–** *Wildly varied views on chimpanzee' art*
Cultural Survival in Paraguay (Magazine), 1998 **–** *Chimp Champ Saving the animals that no one wants*
Reuters, Associated Press, Feb 18, 1997 – *Chimps Find Haven for U.S. Medical Tests*
NZZ Folio (Magazine) Aug 2003 – *Im Goldenen Käfig*

Television

Discovery Channel, ***PBS, and TVOntario***, 2002 – *Sanctuary: A new life for research chimps* (Award-nominated documentary shown in North America and Internationally: Finland, Germany, Britain, Netherlands, and other countries)

Curriculum Vitae

Gloria Grow

Founder and Director
Fauna Foundation
P.O. Box 33
Chambly, Quebec J3L 4B1
T 450-658-1844
F 450-658-2202

Ms. Grow is the Founder and Director of the Fauna Foundation, Canada's only chimpanzee sanctuary. Fauna was the first sanctuary in the world to accept 15 HIV infected individuals who were retired and rescued from the Laboratory for Experimental Medicine and Surgery in Primates (LEMSIP).

Highly respected, Fauna has garnered the support of the world's top great ape and primate advocates. Begun in 1991 as a home for wildlife, farmed, and domestic animals, Fauna Foundation gained international visibility in 1997 when it accepted the LEMSIP chimpanzees. For more than a decade, Fauna has earned a respected reputation for outstanding care and retirement for former biomedical chimpanzees.

Mission Statement

Fauna is a privately run, government certified, non-profit organization dedicated to creating a caring environment for neglected and abused farm, zoo, and companion animals and for former biomedical research chimpanzees and primates. The sanctuary is located on 150 acres of land and provides a home for approximately 150 other animals that have been abused, neglected, or abandoned.

Achievements

- In 1997, the ***Fauna Foundation*** was established by Founder Gloria Grow and Co-Founder Dr. Richard Allan, DVM. With more than fifty (50) years of animal care experience combined, Ms. Grow and Dr. Allan (Fauna's full-time veterinarian) provide expert animal care. The chimpanzees arrived in the Fall of 1997. With a strong vision, determination, and devotion, Gloria has created a world renowned sanctuary that provides retirement to former biomedical research chimpanzees who had been used in HIV/AIDS, Hepatitis C, and other studies. Due to the laboratory environment that the chimpanzees came from, they have specific medical, emotional and social needs.

Living in 5x5x7' cages for most of their lives, they require encouragement, medication, and strong resocialization assistance. Many display psychological and emotional behaviors much like post-traumatic stress disorder.

- In 2004, Fauna's environmental protection work was recognized by the government of Quebec, and a portion of the land was designated as a natural reserve for wildlife conservation — the Ruisseau Robert Natural Reserve.

Consultation

Gloria has served in consultative, advisory board, and practical capacities for other chimpanzee sanctuaries and facilities, including:

- Chimps, Inc., USA
- Stichting AAP, Netherlands and Spain
- The Center for Great Apes, USA
- Center for Captive Chimpanzee Care, USA
- International Primate Protection League, USA
- The Jane Goodall Institute, Ngamba Island Chimpanzee Sanctuary, Uganda
- Primate Rescue Center, Inc., USA
- Quebec City Zoo, Canada
- Parc Safari, Quebec, Canada
- ChimpanZoo, Jane Goodall Institute, USA
- Steve Ross, Chair, Species Survival Plan, Lincoln Park Zoo, Chicago, IL
- Laboratory Primate Advocacy Group, USA

Presentations

- Zoocheck Canada Event – ***Chimpanzees and I*** – Toronto, ON, Nov 2001
- Animals Outreach Event – ***The Fauna Foundation*** – London, ON, Feb 2002
- ChimpanZoo Conference Keynote Speaker – ***Resocialization*** – Chicago, IL, Oct 2004
- Presented ***In Their Own Words: Stories of Chimpanzees Rescued from Research,*** a multi-media program chronicling the journey of the Fauna Foundation chimpanzees from their life in research to healing in sanctuary**,** to audiences ranging from 70-200 people to publicize the plight of chimpanzees used in research and to inspire support for their release into sanctuaries.
  April 2004 – Boston, MA
  October 2004 – New York City, NY
  July 2005 – Los Angeles, CA
  December 2005 – Seattle, WA

April 2006 – Atlanta, GA
March 2007 – Chicago, IL

Media

- The work of Gloria Grow and the Fauna Foundation has been featured in numerous documentaries, television programs, and media communications. See attached Media Coverage sheet.

Awards

Academy of Veterinary Medicine of Quebec 2005
Award for Outstanding Care of Animals
Fauna Foundation

Animal Action Awards 2002
International Fund for Animal Welfare
Compassion in Action
Fauna Foundation

The Fauna Foundation was nominated for the IFAW award by Barbara Cartwright (Board Member, Jane Goodall Institute, Canada) for outstanding compassion, dedication, and professionalism in their quest to provide sanctuary to animals of all kinds. In particular, Fauna Foundation's dedication to the chimpanzees was noted as most incredible.

Education

1981 Graduated, Nash Academy of Animal Arts, New Jersey
1996 Certificate, ***Caring for Chimpanzees*** Program, Chimpanzee Human Communication Institute, Washington, DC
Ongoing Professional development workshops in primatology, trauma, and chimpanzee care. Presenting and participating in programs with colleagues from sanctuaries, zoos, and animal welfare organizations.

Re:	**PETITION FOR RULEMAKING**	**)**
	U.S. DEPARTMENT OF HEALTH	**)**
	& HUMAN SERVICES	**)**
		)
	TO SET CRITERIA FOR DETERMINING WHEN	**)**
	CHIMPANZEES ARE NO LONGER NEEEDED FOR	**)**
	RESEARCH AND MUST BE RETIRED AND SENT TO	**)**
	SANTUARY AS REQUIRED BY THE CHIMPANZEE	**)**
	HEALTH IMPROVEMENT, MAINTENANCE, AND	**)**
	PROTECTION ACT	**)**

Declaration of Margaret Peppercorn, M.D.

1. I am a graduate of Harvard Medical School and very familiar with both the methods used as well as the importance of scientific research. I have been a pediatrician for over 30 years and am also very familiar with human medical needs. I was therefore asked to help coordinate a review of 10 years of autopsy reports on chimpanzees who had died in laboratories or in sanctuaries who had come from laboratories.
2. The project started out as a simple scientific analysis of the data collected to determine causes of death and pre-morbid illnesses but quickly became something very disturbing. Some days it actually was hard for me to continue reading the autopsy reports at all because the findings on them were so horrifying.
3. The most disturbing finding was the fact that the vast majority of the chimpanzees had been extremely ill for months or years prior to death yet had continued to be held in a laboratory setting presumably to be available for possible future research. To me this was unscientific and cruel.

4. The lifetime suffering of the deceased chimpanzees couldn't be scientifically proven from their autopsies but to me was obvious. Some chimpanzees had gastrointestinal ulcerations. Many were riddled with adhesions. Some had enlarged fibrotic hearts, renal fibrosis, severe anemia, pneumonia, or hepatitis. In most cases, the chimpanzees actually had a combination of all these problems.
5. Additionally, helpless infant chimpanzees were time and again noted to have been torn apart by older chimpanzees with no indication of the laboratories having made any attempts to better protect them. As a pediatrician who has spent decades of her life dealing with infants, these violent newborn chimpanzee deaths were incredibly upsetting and reflective of the urgent need to get "unneeded" chimpanzees out of laboratories.
6. None of the sick or elderly chimpanzees in the study were being voluntarily retired, yet at the time of death most were still being help by laboratories for possible further use. As a scientist and physician this makes no sense--lab animal models cannot already have multisystem disease and still be appropriate research models. Also, subjecting intelligent sentient animals to the possibility of continued suffering when already elderly or seriously ill is contrary to all reasonable codes of ethics. From the autopsy study, however, it was clear that this was exactly what was being done and that the mandates of the Chimp Act were not being followed.
7. I therefore strongly support this petition for the Secretary to promptly accept the proposed criteria for deciding when a chimpanzee is "not needed" for research and must be retired to sanctuary, and to urgently implement these criteria as soon

as possible to spare other elderly and/or sick chimpanzees from needlessly dying in a laboratory.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

Margaret Peppercorn, M.D., F.A.A.P.

July 17, 2012

CURRICULUM VITAE

MARGARET PEPPERCORN M.D., F.A.A.P.

Address: 28 Sawmill Lane,
Sudbury, Ma

Date of Birth: May 8, 1945

Education:

1966 B.A., Radcliffe College/ Harvard University, Cambridge, Ma

1970 M.D., Harvard Medical School, Boston, Ma

Internships and Residencies:

1970-72 Pediatric Intern, Junior Resident

Children's Hospital National Medical Center,
Washington, DC

1972-73 Pediatric Senior Resident

Boston City Hospital, Boston, Ma

Fellowship:

1973-74 Pediatric Neurology Fellowship

Boston City Hospital, Boston, Ma

Board Certified in Pediatrics 1982

Clinical Positions:

1974- 2007 Private Pediatric Practice, Sudbury, Ma:

1974-1976- Drs. Adelson &Peppercorn

1976-2007- Sudbury Pediatrics/Post Road Pediatrics

Hospital Affiliations:

1974-1982 active staff- Marlboro Hospital, Marlboro, Ma

1976-2007 active staff- Metrowest Medical Center, Framingham, Ma

(previously called Framingham Union Hospital)

1979-1984 active staff- Emerson Hospital, Concord, Ma

1987-2007 associate staff, New England medical Center, Boston, Ma

1995-2000 active staff- Lahey Clinic, Burlington, Ma

2000-2007 adjunct staff- Children's Hospital, Boston, Ma

Memberships:

Fellow American Academy of Pediatrics
Massachusetts Medical Society

Re: PETITION FOR RULEMAKING)
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HEALTH IMPROVEMENT, MAINTENANCE, AND)
PROTECTION ACT)

Declaration of Senator Robert C. Smith

1) I served as a Representative and a Senator from New Hampshire. I was elected as a Republican to the Ninety-ninth and to the two succeeding Congresses (January 3, 1985-January 3, 1991). I was appointed to the United States Senate on December 7, 1990, to fill the vacancy caused by the resignation of Gordon Humphrey, and served for the remainder of the term ending January 3, 1991. I was elected to the United States Senate in 1990; reelected in 1996; and served from December 7, 1990, to January 3, 2003. I served as the Chair of the Select Committee on Ethics (One Hundred Fifth and One Hundred Sixth Congresses), Committee on Environment and Public Works (One Hundred Sixth Congress and One Hundred Seventh Congress [January 20-June 6, 2001]).
2) I introduced the Senate version of the Chimpanzee Health Improvement, Maintenance, and Protection Act (CHIMP Act) in June 2000 to provide sanctuary for chimpanzees abused in medical research and languishing in cages that deprive them of a physically suitable, socially enriched life.

3) Now, and when the CHIMP Act was passed, the federal government spends millions of dollars each year for the maintenance and care of chimpanzees who are no longer used in medical research, but are being warehoused in expensive taxpayer-funded laboratory cages. The CHIMP Act was meant to save taxpayers money because the sanctuary setting is less expensive to build and operate than laboratory facilities.

4) However, I have significant concerns that the intention of the CHIMP Act has not been fulfilled. Far too few chimpanzees have been retired under the Act. Thus, I urge the Secretary of Health and Human Services to determine criteria for when chimpanzees must be retired and not to allow the laboratories themselves – which have a clear conflict of interest in this regard -- to determine when to retire chimpanzees.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

_____

Robert C. Smith

Former U.S. Senator and Representative

07-17-2012

[date]

University of Oxford

Institute of Social and Cultural Anthropology

51 Banbury Road, Oxford, OX2 6PE

From

To the U.S. Dept of Health and Human Services:

I am strongly in favour of this Petition for Rulemaking. I am an Emeritus Professor of Biological Anthropology at the University of Oxford, and a Fellow of Magdalen College. Most of my professional life has been spent studying chimpanzees. I did my post-doctoral research on wild chimpanzees in the 1960s, and in 1990 founded the Budongo Conservation Field Station in the Budongo Forest, Uganda. This is now a well-known centre for research on chimpanzees and other primates. In recent years, with the building and staffing of a specialist veterinarian unit, BCFS has become the hub of health monitoring for all wild chimpanzees in Uganda. I have received awards for my work from the American Society of Primatologists and from the National Geographic Society.

This petition has made me aware of the shortcomings of the CHIMP Act of 2000 which I and other concerned primatologists had very much welcomed. Knowing something of the biomedical research work done in the United States, and knowing also that scientists are now mostly in agreement that chimpanzee models are not necessary for the investigation of human diseases (IOM Consensus Report December 2011), nor reliably predictive of the effects of vaccines and drugs, I am indeed surprised to learn that no criteria have been defined to determine which chimpanzees should be mandatorily retired from laboratories.

For example, elderly chimpanzees, those already infected with diseases, those with compromised immune function, those which have been exposed to multiple biomedical protocols, and those manifesting signs of psychological stress through being held in isolation, and/or fear of further invasive interventions, all these should surely be straightforward to identify, and be among the first to be sent to sanctuary.

I therefore urge the U.S. Department of Health and Human Services to approve this petition, which has the goal of ensuring there are objective criteria which would determine which chimpanzees, currently housed in laboratories, are 'not needed' and should expeditiously be retired into awaiting sanctuaries.

V. Reynolds

Professor Vernon Reynolds
Magdalen College, University of Oxford, England

Tel: 01865-274624 Fax: 01865-274630

Re:	PETITION FOR RULEMAKING U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES TO SET CRITERIA FOR DETERMINING WHEN CHIMPANZEES ARE NO LONGER NEEDED FOR RESEARCH AND MUST BE RETIRED AND SENT TO SANCTUARY AS REQUIRED BY THE CHIMPANZEE HEALTH, IMPROVEMENT, MAINTENANCE, AND PROTECTION ACT	))))))))))

DECLARATION OF DESMOND MORRIS, Ph.D.

Desmond Morris studied zoology at Birmingham University, England, and obtained a doctorate on animal behavior at Oxford University, England. He has studied animal behavior for several decades, publishing numerous books and scholarly articles, and making many films and television and radio programs—particularly concerning great apes and other nonhuman primates. These include the best-selling books *The Naked Ape* and *The Human Zoo*, and the award-winning television series *The Human Animal*.

1. I strongly support this petition.

2. In the light of our new knowledge of chimpanzee behaviour in the wild, it is clear that any scientific authority continuing to keep chimpanzees in laboratories for medical experiments can only be described as culturally backward.

Desmond Morris, Ph.D.

08/1/2012

Re:	PETITION FOR RULEMAKING U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES TO SET CRITERIA FOR DETERMINING WHEN CHIMPANZEES ARE NO LONGER NEEDED FOR RESEARCH AND MUST BE RETIRED AND SENT TO SANCTUARY AS REQUIRED BY THE CHIMPANZEE HEALTH, IMPROVEMENT, MAINTENANCE, AND PROTECTION ACT	))))))))))

DECLARATION OF JARROD BAILEY, Ph.D.

1. I am trained as a geneticist and molecular biologist, and currently serve as the Science Director for NEAVS/Project R&R: Release and Restitution for Chimpanzees in U.S. Laboratories. I have published numerous papers in the scientific literature on a wide range of biomedical subjects, and have presented and debated in the media and in many scientific and lay arenas. A copy of my C.V. is attached to this declaration.
2. After completing my PhD in viral genetics at Newcastle University, U.K., I spent seven years researching the causes of premature birth in humans. During this time I developed an interest in the relevance and validity of animal experiments to human disease. I have almost twenty years of experience in conducting biomedical research, which has allowed me to gain an in-depth knowledge of the most productive methods for achieving information beneficial to human medicine.
3. I have authored and co-authored reviews outlining the limitations and dangers of the use of animals to test for substances that can cause birth defects and cancer, on the redundancy of using genetically modified animals to research diseases such as cystic fibrosis, Alzheimer's and Parkinson's (among others),

and more generally critiques of using animals in various forms of medical research.

4. I was a chief author of a scientific petition submitted by a coalition of organizations to the U.S. Food and Drug Administration, requesting that it require the use of existing validated non-animal methods in research and testing in place of animal methods. I have also submitted scientific evidence to a variety of British and European inquiries into the validity of animal research, some of which has been published in peer-reviewed scientific journals. I have participated in debates on animal research in the U.S. as well as at the U.K., European, Belgian and Italian parliaments.
5. Of particular relevance to this petition, I have over the past seven years researched and published several papers on the human relevance and efficacy of using chimpanzees in human biomedical research. Areas examined include: the development of AIDS vaccines; cancer research; Hepatitis C research; a meta-analysis of biomedical chimpanzee use; and an examination of the genetic differences between humans and chimpanzees that make them inappropriate models for the study of human diseases. I have summarised the evidence in these papers in the Appendix.
6. Based on my personal knowledge of the lack of scientific evidence showing benefits derived from using chimpanzees in biomedical research, and for the following reasons, I am in support of this Rulemaking Petition to determine when chimpanzees are not needed for research and must be retired to sanctuary, as required by the Chimpanzee Health Improvement and Maintenance (CHIMP) Act.

7. As referenced in the Petition, it has been established that there is limited demand for chimpanzee research subjects because biomedical research on this species has proven ineffective and/or unnecessary. That chimpanzees are not useful models for biomedical research is evidenced by the fact that studies involving chimpanzee research have not significantly contributed to human medical advancements (see Appendix). Of particular relevance to the Petition, and based on my extensive and thorough review of relevant literature, the inherent, chronic and severe stress of laboratory life for chimpanzees has serious physiological consequences, which adversely affect the chimpanzees' welfare, their suitability as research subjects and the scientific validity and human-relevance of data.
8. The Petition references ample evidence of the psychological impact of stress on chimpanzees. This has consequences for psychosocial functioning, and that the inability of an individual to adapt to repeated and/or chronic stress leads to "allostatic overload" (excessive wear and tear on the body). As such, stress can result in both psychological trauma as well as severe physiological consequences for an individual.
9. Animals of many species used in research exhibit rapid, pronounced, and statistically significant elevations of physiological stress indicators such as heart rate, blood pressure and a variety of hormone levels (including cortisol), indicating significant fear, stress and distress.
10. In addition to an array of altered behavioral states with adverse consequences, psychological stress leads to enduring adverse physiological effects, including increased risk of disease and onset and exacerbation of a range of somatic

disorders, specifics of which are well articulated and referenced in the Petition.

11. The adverse health outcomes of stress across many species are myriad. A number of *in vitro* studies have shown that stresses generally block every important process on a cellular level, affecting many molecular mechanisms that have far reaching consequences. Many of these processes affect the expression of thousands of genes, notably those involved in immune function and inflammation. Even the ageing process is accelerated via cell and tissue damage caused or exacerbated by stress.
12. With specific regard to chimpanzees, oxidative stress and damage caused by psychological stress is of paramount importance for their welfare. This is because oxidative stress and damage are a fundamental cause of ageing, and therefore of age-related health disorders and diseases. Psychological stress—inherent and unavoidable in the laboratory environment—leads to even greater oxidative stress and oxidative damage. These exacerbate the already high rates of these phenomena in chimpanzees, leading to greater adverse physiological and health effects for those chimpanzees.
13. Importantly, the adverse physiological sequelae of psychological stress are initiated prenatally/in early life, and are heritable. Laboratory-born chimpanzees have been exposed to excessive stress prenatally via their mothers, and then subsequently as infants in a lab environment, often without adequate and appropriate maternal contact and care. If their parents or their grandparents lived in labs, and/or were born of parents who lived in laboratories and/or endured being wild-caught, then their ancestors experienced highly stressful lives and will have been affected by the adverse

consequences described earlier. Even if a chimpanzee that meets these criteria is subsequently afforded as stress-free a life as possible, the consequences of the nature of their early lives, and of the lives of their ancestors, inherently and unavoidably lead to the same adverse effects as if they had continued to experience excessive stress in their adult lives.

14. The inherent stress of laboratory life is also evidenced by its adverse and confounding effects on any experimental results derived from animals involved, due to the associated modulation of many biochemical pathways and gene expression and resulting organ damage and or disease. With specific regard to chimpanzees, the impact of stress on immunological and inflammatory responses is critical, as these exacerbate and compound crucial immune differences that already exist between humans and chimpanzees—particularly as most chimpanzee experimentation involves infectious agents. Such differences are evident in genes involved in immune and inflammatory responses.

15. Published literature warns that, "…animals subjected to the environmental changes that occur during transportation… react with changes in their physiology, such as body weight, plasma hormonal levels, heart rate and blood pressure changes… When measurements of physiological parameters are performed using conventional measurement techniques, the results must be interpreted with caution as these conventional techniques also have effects on the animals…" Most importantly, "Suffering in animals can result in physiological changes which may increase the variability of experimental data" (*ibid.*). Many scientists are well aware of these effects and considerations, and have cautioned against disregarding them.

16. There is considerable and compelling evidence that chimpanzees are not necessary—or even useful or helpful—in biomedical research. The scientific evidence that chimpanzee research poorly translates to human biology is supported by the significant decline in chimpanzee use over time for all disease areas in which they have been used.
17. Further, there is substantial evidence to show that chimpanzees suffer enormously in a laboratory environment, both psychologically and physically. This suffering causes not only welfare problems, but also scientific problems. Associated stress adversely affects myriad physiological systems, severely confounding experimental results over and above any confounding factors resulting from intrinsic inter-species differences.
18. On top of this, most chimpanzees are not being used at all, but are merely being housed for possible future use. Many have been in labs for decades; many are elderly; many are sick.
19. For the above reasons, and others, it is imperative that there be a robust system, including defined criteria, for the retirement of chimpanzees from laboratories into sanctuaries—as intended by Congress in its passage of the CHIMP Act. Such decisions cannot be left to the labs, and I implore the Secretary of Health and Human Services to approve this Petition.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

Jarrod Bailey, PhD

August 2, 2012

Appendix

HIV/AIDS

[Bailey, J. (2008). An assessment of the role of chimpanzees in AIDS vaccine research. *ATLA,* **36(4),** 381-428]

HIV/AIDS is the reason why so many chimpanzees were bred for research and why there has been a "surplus" in American labs for decades. This study assessed past and potential future contributions of chimpanzees to AIDS vaccine development by determining to what degree AIDS vaccine trials in chimpanzees were predictive of human response. This analysis showed:

- The majority of HIV vaccines & vaccine types had been tested in chimpanzees prior to human clinical trials.
- Vaccine responses in chimpanzees and humans are highly different.
- Vaccine responses in chimpanzees were, are, and cannot be predictive of responses in humans.

By 2008, 85 different vaccines had been tested in almost 200 clinical trials. None of the vaccines provided protection and/or significant therapeutic effects in humans, in spite of prior "successful" trials in chimpanzees.

Claims that chimpanzees are still important for testing HIV/AIDS vaccines have no scientific foundation:

- AIDS-related chimpanzee studies fell by nearly 90% from 1998 to 2005.
- Due to their differing genetics and biochemistry, chimpanzees do not get AIDS from HIV.
- VaxGen's AIDSVAX vaccines—perhaps the most promising vaccine—failed to protect almost 8000 trial participants from HIV infection.

Professor Haigwood, director of the Oregon National Primate Research Center, acknowledged at the Institute of Medicine's (IOM) 2011 Chimpanzee Inquiry that science had "started to get out of chimp HIV research in about 1997 due to 'gray' and 'differential' results," and that there had been a "general consensus that it was a good idea to move on."

Hepatitis C

[Bailey, J. (2010). An assessment of the use of chimpanzees in hepatitis C research past, present and future: 1. Validity of the chimpanzee model. *ATLA,* **38(5),** 387-418]
[Bailey, J. (2010). An assessment of the use of chimpanzees in hepatitis C research past, present and future: 2. Alternative replacement methods. *ATLA,* **38(6),** 471-494]

These studies showed how chimpanzees were used historically because researchers felt there were few if any other options, despite many admitting numerous and serious problems with the chimpanzee model and stressing the urgent need for *in vitro*

systems to culture the virus and accelerate discoveries, as had occurred for viruses such as polio and measles.

Human-based research features heavily in the discovery of hepatitis C and early characterization of the virus. *Human*-based contributions include: demonstrating that non-A non-B hepatitis (NANBH) was the salient complication of transfusion therapy; defining NANBH's natural history; identifying surrogate markers of the disease; and lowering the incidence of transfusion-associated NANBH, even prior to the identification of the virus itself.

Chimpanzees were useful in the generation of serum samples with high titers of the infectious agent, which aided identification of HCV. Advanced molecular techniques that now exist were not available then, however; and in retrospect, it is likely that the use of uncharacterized ("standard" titer) samples not screened in chimpanzees would have been equally useful for cDNA library construction, and the eventual identification of HCV clones and the virus itself.

Chimpanzee use in hepatitis C research has declined markedly by around 50-60% over the past 30 years and is at an historic low. Non-animal hepatitis C research has increased 80-fold over the same period. This would not be the case if chimpanzee use were crucial. Much of this pattern is due to the chimpanzee being a poor model, as HCV pathology in chimpanzees and humans is very different. For example: there is a much lower rate of chronic infection in chimps due to greater viral clearance; immune responses to HCV differ; resultant liver fibrosis and cirrhosis are milder in chimps; and hepatocellular carcinoma is rare.

Chimpanzees are used infrequently in the development of HCV antiviral drugs. Regulatory requirements for preclinical pharmacokinetic and toxicological data from two animal species have been fulfilled in the majority of cases without recourse to chimpanzees. There are, to date, no publicly available data to show that chimpanzee HCV-antiviral and vaccine data is predictive of human response. It is widely acknowledged, even among chimpanzee-use advocates, that there is no need for chimpanzees in the future development of HCV antivirals. With regard to HCV vaccines, informative therapeutic vaccine trials are taking place with no requirement for chimpanzee preclinical efficacy data that may or may not have been predictive. For prophylactic vaccines, the IOM inquiry noted that similar field trials could be achieved, especially in countries where blood transfusions are not screened.

There are now robust and productive *in vitro* methods of hepatitis C research. It is possible—without chimpanzees—to investigate in a human-based, and therefore completely relevant, context the entire HCV life cycle from the moment the virus attaches itself to the cells it infects; to study immune responses to infection and the roles of host factors; and to identify and test new therapies and vaccines. While full life-cycle infectious cellular clones represent the long awaited and most comprehensive *in vitro* system for many aspects of HCV study, all the *in vitro* methods employed, including HCV-infected cultured primary and immortalized cells, infectious molecular clones, subgenomic and genomic replicons, and virus-like particles and pseudoparticles, have added greatly to the body of knowledge on the hepatitis C virus and hepatitis C pathology, and enhanced progress toward new treatments.

Full life-cycle infectious clones (HCVcc), which were urgently called for by the research community for decades, provide the necessary data to facilitate the development and testing of HCV therapies, when supported by clinical, epidemiological, *ex vivo* and *in silico* methods—in contrast to dependence on the chimpanzee. These approaches are augmented by human clinical studies of hepatitis C patients and those at risk of infection. Even studying pathological events early in HCV infection is not the preserve of the chimpanzee, despite claims to the contrary. Informative studies have been performed with sufferers of needle stick injuries, recipients of contaminated blood products, and the screening of new admissions, for example. HCV investigations have entailed the use of human liver biopsies, resulting in important discoveries.

While there are caveats with *in vitro* methods—and all scientific models—they must be compared and contrasted to the considerable caveats of using HCV-infected chimpanzees, with their different pathologies and viral responses. Further, while the performance and relevance of these *in vitro* methods are being improved, the benefits and limitations of the chimpanzee model remain stagnant.

It is appropriate to note the power of VaxDesign's MIMIC system ("Essentially a clinical trial in a test tube for human immunity"), which provides human relevant vaccine immunogenicity data (see papers cited above, and VaxDesign.com). This system uses white blood cells from volunteer donors, and allows immune responses induced by new vaccine candidates to be studied at the vaccination site and/or point of virus attack, as well as the assessment of immune cell activities and antibody production. Advantages include its capacity to test adjuvants, vaccine components and complete vaccines and assess the quality of established vaccines in different human immune systems—reflecting biological and immunological diversity. Stated goals are to obviate preclinical animal-based vaccine tests and to identify optimal human vaccine formulations. Given the performance of this system to date, there is robust evidence that it will reduce the risk of adverse events in clinical trials, elucidate why some vaccines work in certain populations of people and not others, and address safety and immunogenicity issues.

GlaxoSmithKline (GSK) decided it was unnecessary to use chimpanzees, including for hepatitis C drugs and vaccines, as long ago as 1998. GSK's Director of HCV Biology, Robert Hamatake, testified to the IOM Committee that they utilized *in vitro* alternatives a great deal, such as replicon systems, enzymatic assays, and the full life cycle infectious virus system, all of which had been valuable for drug discovery. A global pharmaceutical company the size of GSK having done without using chimpanzees for so long further discredits proponents of chimpanzee use. Dr. Hamatake opined that there was no resultant delay in the development of GSK's putative HCV vaccines because they do not use chimpanzees, nor did GSK's decision indicate a lack of interest in competitive vaccine development.

Cancer

[Bailey, J. (2009). An examination of chimpanzee use in human cancer research. *ATLA*, **37(4),** 399-416]

A study of cancer—one of the greatest causes of human death and a major research focus—found that, between 1968 and 2008 inclusive—(forty years):

- Chimpanzees were scarcely used in cancer research. Many of the few published papers were published over 25 years ago.

- Chimpanzees have a very low incidence of cancer, especially epithelial cancers that kill humans; and chimpanzee tumors are biologically different from human cancers in their causes and in apoptosis and metastasis.

- Evidence indicates chimpanzees are not essential in the development of therapeutic monoclonal antibodies for cancer treatment. No publications were identified that described chimpanzee use in the development or testing of these drugs.

- The few papers that described potential new cancer therapies tested in chimpanzees included warnings concerning species differences, acknowledged that the chimpanzee model performed no better than other animal models, and/or described interventions that had not been pursued, presumably due to adverse results.

The reasons for such differences are genetic. A recent structural genomics study, which compared the regulation of apoptosis (programmed cell-death) between humans and chimpanzees acknowledged that nutritional and ecological differences contributed to changes in cancer incidence between the species, but could not "coherently explain" an order of magnitude increase in cancers of the breast, ovary, lung, stomach, colon and rectum in humans. Instead, the authors implicated some of the estimated 40 million differences between the human and chimpanzee genomes, which determine susceptibility and tolerance.
The examination of around 500 proteins involved in cancer-related pathways showed many of the proteins analyzed were expressed from genes with significant differences between the two species, both in constitution and regulation. Such genetic differences are responsible for the wholesale changes in carcinogenicity between humans and chimpanzees.

Human-Chimpanzee Genetic Differences
[Bailey, J. (2011). Lessons from chimpanzee-based research on human disease: The implications of genetic differences. *ATLA*, **39(6),** 527-540]

This study examined genetic differences between humans and chimpanzees, which underpins all evidence for the chimpanzee as a poor model for human biology. It is claimed by advocates of chimpanzee use that humans and chimpanzees are 98-99% genetically identical, and that it follows that they are very similar biologically in the diseases they suffer, their responses to infectious agents and drugs, and so on.

This review showed that such claims are facile. Humans and chimpanzees are actually approximately 94% genetically similar. This in itself has significant implications, but when account is taken of other genetic factors and of the different systems that control gene function—even when genes are identical or almost identical between humans and chimpanzees—they are even greater. Examples include genes involved in:

- Tumor formation
- Immune system function
- Cancer, schizophrenia and other cognitive disorders, migraine, and autoimmune diseases like lupus and rheumatoid arthritis.
- HIV infection.
- Parts of the brain involved in thought and language—and in problem-solving, emotion and complex thought that are linked to Alzheimer's, Parkinson's and Huntington's diseases.

Further:

- Human-chimpanzee gene-expression differences occur throughout the body: 25% in the liver; 33% in the kidney; 34% in the brain; 35% in the heart; 62% in the testes.
- 80% of orthologous proteins differ in their amino acid sequences.

In summary, there are extensive and fundamental genetic reasons why chimpanzees, however closely related, are not *and can never be* good models for human research. These intrinsic differences are further confounded by the significant effects of the environment of gene function and expression, which are just beginning to be appreciated. In biomedical animal research, the quality and richness of the environment is critical to experimental results. The stress of laboratory life for a chimpanzee is known to impact gene function and expression, and has particular consequences for immune system function, crucial to infectious disease research.

Even if we accept that we need to use chimpanzees in comparative genomics studies to benefit human medicine, we do not need captive chimpanzees in laboratories to determine or analyze these differences. Chimpanzees in sanctuaries or zoos can provide biological samples without harm to them for genetic analysis during routine check-ups, medical interventions, post mortems, and so on.

Efficacy and Value of Chimpanzee Research

[Bailey, J., Balcombe, J. & Capaldo, T. (2007). Chimpanzee research: An examination of its contribution to biomedical knowledge and efficacy in combating human diseases. Available at: http://www.releasechimps.org/laws/international-bans]

Of the approximate 1000 chimpanzees in U.S. labs, only about 10-20% are in active research protocols. Their use has decreased dramatically and is at an historic low. Use in AIDS studies is down nearly 90% and in hepatitis C research 50-60%.

A citation analysis—assuming that if chimpanzee research were important, chimpanzee studies would be highly cited by scientific papers reporting human medical breakthroughs—found that:

- Greater than 85% of chimpanzee studies are not cited or not cited with any relevance to human medicine.

- Just 15% had been cited in human medical papers.

- Those 15% had contributed little, if anything, to the outcome of studies reporting an advance in human clinical practice. The contributors to those studies' findings were a wide array of *in vitro* research methods, human clinical and epidemiological investigations, molecular assays and methods, genomic studies, etc.

Summary of Additional Evidence from the IOM's Report: "Chimpanzees in Biomedical and Behavioral Research: Assessing the Necessity"

[Available: http://iom.edu/Reports/2011/Chimpanzees-in-Biomedical-and-Behavioral-Research-Assessing-the-Necessity.aspx]

Many claims regarding the need for chimpanzee research have been made, in testimony to the IOM and in articles such as high-profile pieces in Nature. Authors of the Nature article and those who have testified in favor of chimpanzee research include John L. VandeBerg (Southwest National Primate Research Center, Texas); Stuart M. Zola (Yerkes National Primate Research Center, Georgia); Jo Fritz (Primate Foundation of Arizona); D. Rick Lee (Alamogordo Primate Facility, New Mexico); William C. Satterfield (M. D. Anderson Cancer Center, Texas); and Thomas J. Rowell (New Iberia Research Center, Louisiana). All are laboratory directors.

These individuals have declared that chimpanzees are essential for:

- Malaria research and the identification of genes responsible for drug resistance

- Prediction of human pharmacokinetics in drug development

- Testing of HIV/AIDS vaccines

- Research into hepatitis C and for development of vaccines and antivirals

- mAb discovery and development

- Research into diseases not yet identified

These claims have been successfully challenged by the evidence provided in my testimony to the IOM (as summarized above), as well as by the evidence of others. The research industry itself, in its (including those listed immediately below and others) IOM testimony, has also disclaimed lab directors' assertions:

- **Malaria**—Ann-Marie Cruz of the PATH Malaria Vaccine Initiative informed the IOM Committee that chimpanzees were not essential for the development of malaria vaccines, that other species were used, and that the human

challenge model, widely used, was best for accelerating clinical testing and development.

- **Drug development/pharmacokinetics** – As the U.S. drug regulatory agency, the FDA provided telling evidence for the lack of need for chimpanzee use in drug development and testing. FDA stated: its policy is not to request data from chimpanzee studies; it has received just seven applications that included chimpanzee data in the past five years, none of which the FDA asked for or recommended in its guidance; none of this data were toxicological; it discourages chimpanzee studies, if asked; and it believes that, if chimpanzee data were no longer available, this would have "no discernable effect" on adequate and timely review of applications.

- **mAbs** – The National Centre for the 3Rs (NC3Rs) in the UK published a review on the subject of species relevance in mAb testing, which concluded that, "...the assumption that a shift from Old World primates towards the use of chimpanzees might overcome some of the issues associated with species relevance is not necessarily supported by experts or evidence…the chimpanzee might be of limited value in the development of mAbs."

This was echoed at the IOM hearing by Theresa Reynolds, Ph.D., Director of Safety Assessment at Genentech. She informed the IOM that due to "advances in scientific engineering" there is no need to use chimpanzees in monoclonal antibody development, and that they haven't used them since the early 1990s. She spoke of her poll of mAb developers, who agreed there was no need. She described how, when chimpanzees were used, 1 in 4 mAbs failed to progress to clinical trials on the basis of chimpanzee data, and 2 of the remaining 3 that did progress were discontinued based on adverse findings in humans not detected in chimpanzees.

- **Health security of the U.S. and biodefense** – Joseph Bielitzki (University of Central Florida) opined to the IOM that chimpanzees were "probably not" critical to U.S. health security. He cited the many years it takes to develop a vaccine, and that a health emergency would be over before anything could be developed, even with the use of chimpanzees. "Even for the H5N1 strain of avian influenza, the quickest to market took around 6 months, by which time the epidemic was over and the problem gone." He cited maintenance costs for chimpanzees, at approximately half a million dollars per chimpanzee for lifetime care. He balanced his argument with what too few have considered carefully: the management nightmare that trying to house chimpanzees in biosafety level 4 containment labs would be. Concerns include not only managing internal environments, but more importantly managing escapes of chimpanzees infected with a virus deadly to humans. The likelihood of chimp use leading to an efficacious vaccine in viruses of this nature is slim and, on balance, could not mitigate the disastrous effects of the escape of an infected chimp.

Michael Kurilla, director of the NIH Office of Biodefense Research Affairs stated chimpanzees offer "no advantage over other NHPs for product development for biodefense," citing existing protections for smallpox, botulism, bubonic plague, etc.

James Swearengen, the Director of the National Biodefense Analysis and Countermeasures Center, stated he was “not aware of any historical or current use of chimpanzees in the U.S. in biodefense/for the Department of Defense,” and that he did not envision any future speculative need.

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EDUCATION:

- **University of Newcastle upon Tyne** 1994-1998. Ph.D. thesis 'Analysis of the proteins involved in the life-cycle and replication of Newcastle Disease Virus,' towards the understanding of this important worldwide disease of birds.
- **University of Newcastle upon Tyne** 1991-1994. B.Sc. (HONS) Genetics (2:1). Research project (Dept. of Human Genetics) involved analysis of genes linked to spina bifida using molecular biological techniques. Subjects studied include viral, developmental, bacterial and human genetics, physiology, biochemistry, microbiology and statistics.

WORK EXPERIENCE/POSITIONS HELD:

- **2008-present. British Union for the Abolition of Vivisection (BUAV).** Scientific Consultant. Work involves researching and writing scientific critiques of animal experimentation and specific animal models, media interviews, and attending scientific and political meetings.

- **2006-present. Project R&R: Release and Restitution for Chimpanzees in US Laboratories [a campaign of the New England Anti-Vivisection Society (NEAVS)].** Science Director. Work involves scientifically critiquing chimpanzee research, and assessing claims of its necessity and contribution to human medicine by means of systematic reviews. I also respond to press articles and media reports of chimpanzee experimentation, give interviews to support the aims of the project in ending chimpanzee research, and address public audiences to describe our work.

- **2004-2006. Europeans for Medical Progress (EMP).** Scientific Director. EMP (now 'Safer Medicines' campaign; www.curedisease.net) represents scientists and clinicians campaigning for the modernisation of preclinical drug development and safety testing. My role involved researching medical and scientific literature to support EMP's work, and conveying this to the public, politicians of the UK and European

parliaments and other scientists by means of public lectures and debates.

- **2003-2009. Physicians Committee for Responsible Medicine (PCRM), Washington D.C., USA.** Senior Research Consultant. Former projects include the researching and compiling scientific papers critiquing current scientific methods in the identification of human teratogens, making the case for the adoption of toxicogenomic methods in research and testing in place of animal methods, compiling a petition requesting the FDA to require the use of proven non-animal methods in product and drug testing in place of animal tests when they are available, and investigating interspecies differences in drug response and adverse reactions. Duties also included co-authoring and reviewing projects of colleagues.

- **2005-2011. Newcastle University.** Honorary Research Associate, Faculty of Medicine/Institute of Cellular Medicine.

- **2004-2005. Newcastle University.** Project Development Coordinator, School of Population and Health Sciences. My work with the 'Quality Indicator Project' involved liaising with private healthcare providers, helping to collate and process clinical data to ensure this sector was delivering the best possible healthcare to their patients. Responsibilities also included researching the evidence-base underlying clinical guidelines, and writing mini-reviews and training materials.

- **1998-2005. Newcastle University.** Wellcome Trust (Level 3) Senior post-doctoral research associate, School of Surgical and Reproductive Sciences. Research topic 'Role of cyclic-AMP responsive transcription factors in the control of uterine contractions during labour.' My productive and successful work with this internationally renowned group at the forefront of this field resulted in several publications in highly respected journals. The project involved working with human tissue and cells, rather than a non-human animal model, to unravel the genetic and molecular mechanisms of human labour and premature birth, and also conceiving new research directions based on our findings.

Other Information:

- I have been the sole and lead author of many scientific research and review papers, posters, presentations and grant applications, and have actively participated in a number of international conferences and scientific and public seminars to disseminate the fruits and future goals of my research to both lay and professional audiences. In my various roles I have participated in radio and television interviews and debates,

have addressed varied audiences, and have continued to conduct research critiques of animal experimentation. Full details are below.

PUBLICATIONS:

Scientific, first author:

Bailey J. Lessons from Chimpanzee-based Research on Human Disease: The Implications of Genetic Differences. *Alternatives to Laboratory Animals*, 2011; 39, 527-540.

Bailey J. An Assessment of Chimpanzee Use in Hepatitis C Research Past, Present and Future: 1. Validity of the Chimpanzee Model. *Alternatives to Laboratory Animals*, 2010; 38:387-418.

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Scientific, co-author:

Thew M, Bailey J, Balls M & Hudson M. The Ban on the Use of Chimpanzees in Biomedical Research and Testing in the UK Should Be Made Permanent and Legally Binding. A joint submission to the Coalition Government by the BUAV and FRAME. *Alternatives to Laboratory Animals*, 2012; 40, 3–8.

t^4 workshop report: Critical evaluation of the use of dogs in biomedical research and testing in Europe. Nina Hasiwa, **Jarrod Bailey**, *et al.* Altex 2011; 4(11), 326-340.

Magdalena Karolczak-Bayatti, **Jarrod Bailey**, Michael Taggart & G. Nicholas Europe-Finner. ATF2: Homo sapiens activating transcription factor 2. Transcription Factor Encyclopedia 2009. Available at: http://www.cisreg.ca/tfe/.

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Scientific, other:

Contributing author to Petition for Rulemaking, to the U.S. Department of Health & Human Services: “To Set Criteria for Determining when Chimpanzees are No Longer Needed for Research and Must be Retired and Sent to Sanctuary as Required by the Chimpanzee Health Improvement, Maintenance, and Protection Act, 42 U.S.C. §283m. (CHIMP Act)” (2012).

One invited oral presentation, and two written submissions of evidence to the U.S. Institute of Medicine’s (IOM) inquiry: ‘Chimpanzees in biomedical and behavioural research—assessing the necessity’ (2011).

‘To Upgrade Captive Chimpanzees (Pan troglodytes) from Threatened to Endangered Status Pursuant to the Endangered Species Act of 1973, as Amended.’ Contributor to this petition to the U.S. Fish and Wildlife Service. March 2010.

Bailey J. Submission of complaint to the European Commission ombudsman regarding the Scientific Committee on Health and Environmental Risks (SCHER) ‘need for NHPs in biomedical research, production and testing of products and devices’ published Opinion and inquiry process. April 2009.

Bailey J. Submission of evidence to the National Institute of Allergy and Infectious Diseases (NIAID) “AIDS research advisory committee”, on the scientific case against using nonhuman primates more extensively in AIDS research. September 2008.

Bailey J. Response to call for ‘scientific opinion on the need for NHPs in biomedical research, production and testing of products and devices.’ Call was by the European Commission Environment Directorate General (DG ENV) to the Scientific Committee on Health and Environmental Risks (SCHER), to elaborate an opinion on the use of non-human primates in research and on the possibilities to replace their use. June 2008.

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The Mandatory Alternatives Petition Coalition [**Bailey J** a major author]. Petition to the US Food and Drug Administration for Mandatory Use of Non-Animal Methods in the Development and Approval of Drugs and Devices. [Submitted to the FDA in November 2007]
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Available: http://www.curedisease.net/news/primate_inquiry_submission.pdf

Bailey J. (June 2005) Response to the Home Office Animal Procedures Committee Report on the use of non-human primates under the Animal (Scientific Procedures) Act 1986.
Available: http://www.curedisease.net/news/apc_primate_inquiry%20submission.pdf

Conferences, Debates and Talks:

I have addressed, and taken part (by invitation) in meetings with, many professional and lay audiences, groups and committees. These include: the U.S. Food and Drug Administration (FDA) and Environmental Protection Agency (EPA); the U.S. Institute of Medicine's 2011 inquiry into chimpanzee research; bankers investing in the pharmaceutical industry; members of both houses in the UK parliament, and politicians/policy makers in the European Parliament and Commission. I have also taken part in non-televised debates with representatives of the Research Defence Society, Oxford University, the Medical Research Council and Pro-Test (to date).
I have addressed members of the Italian and Belgian parliaments regarding proposed legislation for a cessation of animal testing.
I have acted as an expert witness in a number of legal cases involving animal experimentation.
I have attended and presented at many international scientific conferences, including World Congresses on Alternatives and Animal Use in the Life Sciences, and Centre for Alternatives to Animal Use (CAAT) scientific workshops on the use of dogs in research and testing.

Re:	PETITION FOR RULEMAKING U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES TO SET CRITERIA FOR DETERMINING WHEN CHIMPANZEES ARE NO LONGER NEEDED FOR RESEARCH AND MUST BE RETIRED AND SENT TO SANCTUARY AS REQUIRED BY THE CHIMPANZEE HEALTH, IMPROVEMENT, MAINTENANCE, AND PROTECTION ACT	))))))))))

DECLARATION OF NANCY MEGNA

1. I am submitting this declaration in support of the Rulemaking Petition referenced above. I have ten years of first-hand experience working with primates in two major primate biomedical research labs: New York University's Laboratory for Experimental Medicine and Surgery in Primates (LEMSIP), since closed, and Emory University's Yerkes Regional Primate Research Center in GA. My positions and duties were varied and provided a comprehensive perspective of the short and long-term detrimental effects biomedical research and laboratory life on chimpanzees. I served as a volunteer; Laboratory Aide; Laboratory Care Technician; Research Specialist; and Lead Research Specialist. Some of my responsibilities with the chimpanzees included providing psychological enrichment; care giving/husbandry (primarily in the chimpanzee nursery as a "mother" figure raising young chimpanzees ranging in age from birth to six years); occasionally assisting with health maintenance or research procedures; behavioral observations; and sole night watch/caregiver at LEMSIP. In addition, I have been inside other primate biomedical research centers and am acquainted with those who have worked at them. I have visited several primate sanctuaries in North America. Additionally, I have been to Africa and observed free ranging chimpanzee groups.

2. My degree BS in Psychology and my work as a Behaviorist with abused, neglected, emotionally disturbed, developmentally disabled humans in facilities for the past 10.5 years has reinforced my moral judgment about the continuum of deterioration that occurs when sentient beings, be they human or non-human primates, are traumatized, deprived, abused, violated, institutionalized, or worse-all of the above. I have worked with and/or on behalf of animals for nearly 25 years and have specialized in primates, and in particular, laboratory primate issues and advocacy since becoming involved with labs in 1991.
3. I feel strongly about establishing AND enforcing appropriate criteria for retirement in order to thoroughly address the various situations under which a chimpanzee may "qualify." Establishing guidelines or criteria or simply making recommendations within the primate biomedical research industry doesn't work as evidenced by the inadequate guidelines and enforcement in place for providing psychological enrichment and assessing psychological well being during USDA inspections of labs and the failure of labs to retire many of the chimps from research that should have been retired in response to the Chimp Act passed in 2000.
4. Chimpanzees' minds, as well as much of their physiology, is so very similar to a human's. I would like to share some of the damaging effects to chimpanzees that I witnessed in labs. Negative emotional and behavioral responses to various testing procedures done to chimpanzees and the living conditions in labs run the gamut of barely observable behavioral actions to those strong enough to cause physiological reactions. Something as seemingly innocuous as scratching oneself or yawning (seen often in labs) is a behavioral indicator of anxiety in chimpanzees. Likewise, a chimp biting and ripping flesh on his own arm in response to biomedical technicians coming into a unit in jump suits wielding dart guns is an

obvious indicator of stress and distress. Similar to humans, individual personalities among chimpanzees vary widely. Just like people, various levels of stress affect each chimp differently. But the minds of ALL chimps in research are affected in some way, some worse than others. I have observed the deterioration of the mental/emotional state of chimpanzees and other primates in labs.

5. Emotional Toll: Another negative reaction to testing and living in labs is the emotional toll it takes from years of deprivation, boredom, social isolation, fear and stress. This often manifests in a chimpanzee that you know and love becoming depressed, losing their appetite, and/or showing signs of mental illness that they never had before such as self injury - hurting themselves (biting themselves, jamming their knee, rubbing themselves raw, pulling their hair out, smearing feces, etc.) or becoming psychotic. I would dread this happening because there was so little I could do for them once they became that affected.
6. Fred Astaire, a very dark colored uniquely handsome chimp in his late twenties at LEMSIP, could not cope in biomedical research – alone in a 5’ x 5’ x 7’ cage. Years of research and being singly housed left him depressed and emotionally wrought to the point of developing self-directed, destructive behaviors similar to those that can occur among institutionalized humans. On a regular basis, Fred would bite chunks out of his forearm. This caused him to need medication to reduce his anxiety. There were times when I would visit him that I couldn't even coax him to come to the front of the cage for a hello and a belly or back rub. He would just lie in the back of his tiny cage and look at you, as if he had given up on life and humanity. Towards the end of my time working with him and as the LEMSIP was downsizing preparing to close, Fred was moved to a brighter unit and out of the thick subway-grating cage with limited visibility that he was regularly housed in. His new

caretaker, a volunteer, and I tried to provide more human social and physical interaction for him through our visits since he was still caged alone and, like most of the chimps at the lab, unable to have contact with each other. Though the volunteer was only there a few times a month, her visits with Fred would last nearly one half hour. He started to respond. It seemed as if he was biting himself less. He even played a bit during some visits and began to seek attention more often. We were hopeful that his medication could be reduced at some point. Fred was particularly fragile and needed more than just a "drive by" visit, which is what caretakers are often limited to due to their workload. I wished that Fred Astaire would make it out to retirement somewhere. In a sanctuary, his problems could be worked with more intensity, progress could be made, and his preciousness could be appreciated. It's usually impossible to completely undo such psychological damage but delicate beings like Fred need to be given that chance to heal as much as they could. But Fred Astaire was not retired; he was sent to the Coulston Foundation where he died within two years.

7. Living Conditions: A working chimpanzee in biomedical research is often housed singly in a cage or run/pen in a room or building with other similarly caged chimps. Guidelines allow for single housing as long as a chimp can see and hear others of their own or a compatible species - a look-but-don't-touch policy that doesn't fare well with highly social beings who are more tactile than humans. The quality of care and level of compassion that they receive from their care technician can vary depending on the caliber of the technicians employed by the facility (some care and some don't), the amount of staff at any given moment (animal care is chronically short in most facilities), and the culture/attitude of the place as a whole. When in cages rather than runs, their cage doors cannot be opened until/unless the chimp is knocked down. Therefore, what little manipulatable object(s) or paper products they are

given must remain in their cage until the next cage change/cleaning, knock down (anesthetization), or until they rip/break it and drop it through the cage bars. Many facilities feel that it is expensive and difficult to provide a wide variety of safe enrichment items for chimps due to their strength and facility budgets. Some less caring care givers are too lazy to clean up after enrichment items such as paper, cardboard, or hay so they just don't give it. A chimp cage might have a resting board or a tire suspended from chains to sleep on, a feeder for biscuit chow, and a water box. These barren conditions do not offer any intellectual stimulation or meet any of the social and emotional needs of chimpanzees.

8. Daily Routine: On a daily basis, when the lights go on (usually on timers), a care giver comes in and starts the daily husbandry routine of feeding and cleaning. A chimp cannot choose who they want to take care of them and it can vary on a regular basis. After eating, the chimps may watch the care tech finish cleaning or they may do a bit of SELF-grooming. Self-grooming in research animals often degenerates into compulsive grooming to the point of pulling much of their hair out. Some bite their nails down to the quick. Others develop obsessive behavior such as rocking, head rolling, pacing, or eye poking. Out of boredom and in an attention seeking effort, some chimps will spit water or throw feces at the technicians. Some technicians don't have the patience or tolerance for this and have been known to retaliate or even withhold food or water as punishment.
9. Knock Downs and Research Procedures: Normally, on a daily basis, there will be one or more chimps scheduled for research or veterinary procedures or cage changes. The process of anesthetizing a chimpanzee by shooting him/her with several darts (aka knock down) for a biomedical procedure is horrific to watch so I can't imagine how it feels to be the one shot, especially when darts hit sensitive or delicate areas such as an eye or breast. At some point

in the day, several humans surround a chimpanzee's 5' x 5' x 7' foot cage wielding dart guns pointed at him/her and having to helplessly watch him/her scream, involuntarily urinate and defecate, scramble and climb in a futile effort to escape. It is a horribly traumatic experience for all the chimps in the room and even for those that can hear the fearful screams in other buildings. The chimp being darted has nowhere to run or hide. They are so terrified that they often lose control of their bladder and bowels during the darting process. Once the anesthetic takes effect, the chimp falls to the bottom of the cage and is removed on a cart for the procedure (liver wedge surgically removed, liver biopsy, blood sample taken, drugs or disease "challenge" injected, vaginal or nasal washes, etc.). When they are put back into their cage, they are still anaesthetized so their neighbors get to watch them flail around in the cage, often hallucinating and screaming. After years of this, a veteran chimp can even predict (and therefore wait in an anxious state) if they are going to get "knocked down" that day based on their food and water being withheld in the morning for anesthetic safety. During the hot summer, with no air conditioning in the units, chimps have died as a result of these knock downs. Watching this and seeing the chimp look you in the eye with equally intense expressions of terror and pleading was the worst yet most frequent observable negative reaction to testing. It was obvious that they NEVER, EVER got used to it.

10. Anxiety and Depression: With so little choice, control, stimulation, abundance, social support, and basic freedom, it is no wonder that chimps in biomedical research often lose their spirit and their hope. Some start to hurt themselves by biting themselves, pulling their nails out, rubbing themselves raw, pinching themselves, attacking a limb that they dissociate as their own (floating limb syndrome), pulling their hair out, or harming themselves in other ways. Some develop anxiety that they just cannot manage. Some even become psychotic -

screaming, spinning, and thrashing. Some become very depressed and listless. Some with these conditions require psychotropic medications. Some are so bored they start to smear or eat their feces - something they wouldn't typically do in the wild. Babies are devastated when they are taken from their mothers, usually by age one year, never to see them again. Most mothers are equally devastated at the loss of their babies while others are clueless as to how to care for them since they don't have their mothers, aunts, and grandmothers there to teach them. Other chimps hang on by a thread day after day.

11. Physical Injuries: Chimps can get hurt during the "knock down" and/or recovery process from falling or banging around in their cage. Some injuries that can be seen during and as a result of this and testing are cuts, chipped teeth from falling in cages during anesthetization, scars from surgeries, fingers bitten off due to bad reactions to anesthetics, bruised or collapsed veins from frequent blood draws, heat stroke and death.
12. Internal Effects: Additionally, internal physiological changes can result after enduring years of biomedical procedures and the unnatural life in a lab. They can experience a significant increase in their cortisol level in response to forcible restraint or anesthetization (darting), which can remain elevated due to chronic stress. Autopsies have shown shocking conditions and effects of years of invasive procedures such as adhesions, liver damage from excessive liver biopsies, heart conditions, masses, etc. Since these conditions were not often outwardly obvious, these chimps would be discounted for retirement without strict criteria.
13. Just because a chimp does not outwardly break down physically and/or emotionally in a lab, does not mean that they should remain there until death. A prime example is the story of Ch-401 aka CBO401 aka Manny. Every chimpanzee I have had the honor of meeting and caring for is special in their own way. Manny, a chimpanzee born in 1968 or 1969 who was most

likely wild caught in Africa, was sent to biomedical research and remained in a 5' x 5' x 7' cage for years. His cage had a tire suspended on chains and maybe some item for "enrichment" like paper, cardboard, a milk crate or a piece of PVC pipe. When I was working at night at LEMSIP I would go around and visit the chimpanzees while doing my tasks. I got to know Manny who was always so glad and grateful to see me, especially since he, like all the other adult chimps, was singly housed and desperate for attention and contact since he could only see and hear other chimpanzees but was unable to touch them. We would play chase, I would tickle his feet, rub his back and neck, and just visit. One late evening, when I got to Manny's cage, he quickly came down from his tire and looked around for something. He picked up two pieces of torn cardboard that had been given out as enrichment and he passed them out through his feeder to me. I was speechless. The whole thing seemed so deliberate and gentle. It was all he had to give – yet he gave it without hesitation. What was so moving about Manny is that every time I saw him, instead of him wanting something from me, HE would give ME a gift. In addition to sharing the gift of his kindness and undying spirit despite the horrendously deprived life he lived, he insisted on giving me something even though he really had nothing to give. During our visits, he would clearly scrounge around for something to hand to me either through the cage bars or through the feeder. Sometimes, if he had nothing to give, he would pick up a primate biscuit (chow) and give it to me. I pretended that I was eating it so as not to insult him. Manny had had 318 liver biopsies done while at LEMSIP. He had been through rigorous biomedical procedures while on invasive projects such as Hepatitis research. When LEMSIP closed he was sent to another biomedical research lab – the Coulston Foundation. I don't know what Manny had to endure there or if he broke down. After years of violations and neglect, the government

seized ownership of half of the 600 chimpanzees that Coulston had there. But that just meant that those chimpanzees became stuck within the system. They remained in the same place – at the laboratory facilities on the Holoman Air Force Base in New Mexico, which is now called Alamogordo Primate Facility (APF). Their care was contracted out to Charles River, an animal broker. Though they were not supposed to have any research done on site, they were/are available to be sent out to other labs for biomedical research. They are not in a sanctuary, they are in limbo. It still looks and runs much like a lab. I so wanted to give a gift to Manny- a new life - freedom in a sanctuary to live out the few years he had left. I had no way of seeing him or finding out how he was doing. My heart sunk when I saw a posted list of the chimpanzees currently at APF with an entry next to his name: Died 7/20/09 Intestinal Mass. Because he didn't show overt signs of physical wear or emotional trauma he was repeatedly used in research, bounced from one lab to another, and essentially penalized by the system. He was a prime example of the need for some type of criteria and limits as to what we are willing to inflict upon chimpanzees before deciding that enough is enough.

14. I believe that ideally, the chimpanzees in biomedical research labs should be retired to sanctuaries represented by the North American Primate Sanctuary Alliance (NAPSA) rather than be retired "in place" at labs or moved to other labs, even if new housing is built there for them. Rather, that money should be put toward their retirement in sanctuaries. The definition of sanctuary is refuge, a safe place, especially for those being persecuted. The definition of retirement is the act of leaving a job/career at or near the usual age for doing so, a state of being withdrawn from the rest of the world or from a former busy life. Expecting chimpanzees to heal from the physical and emotional trauma endured in labs by "retiring"

them IN labs is like expecting war veterans with PTSD to recover by remaining in the combat zone where they got their physical and/or emotional battle scars.

15. I respectfully urge the Department of Health and Human Services to grant the filed Rulemaking Petition and establish clear criteria for retirement of chimpanzees under the CHIMP Act.

Pursuant to 28 U.S.C. § 1746, I declare that the foregoing is true and correct.

Nancy Megna, Behaviorist

October 4, 2012

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RECENT EXPERIENCE: 2011-Present, Behaviorist, Saint Dominic's Home, 146 Broadlea Rd, Goshen, NY 10924 AND
2002-2011, Behaviorist/Integration Specialist, Center for Discovery, PO Box 840,Harris, NY 12742
Provide positive behavioral support for emotionally, physically, intellectually challenged youth & adults through direct & indirect methods ranging from strategy development to applying crisis interventions. Certified in Strategies for Crisis Intervention & Prevention (SCIP) which include physical interventions. Observe individuals in various settings to identify issues; assess progress; & protect well being. Administer tests & scales (e.g. Motivational Assessment, Functional Behavior, & Adapted Behavior Assessment Scales) to assist in identification of underlying causes of behavior & appropriate behavior modification. Formulate individualized behavior & treatment plans & goals; devise new approaches, policies, & procedures & integrate into components of daily routines at residences & schools. Teach components of social/coping skills; cooperation; communication; & responsibility management to promote independence; safety; & successful community integration. Coordinate essential services & programs for school age youth & adults. Communicate & meet with school interdisciplinary team; case managers; therapists & parents to facilitate integration of individuals into appropriate school system & vocational programs in community. Prepare, update & maintain documentation ranging from detailed psychological reports to pertinent data summaries, graphs/charts, & year-end analyses. Utilize several computer programs including Microsoft Office Word, Excel, PowerPoint & Outlook. Perform various administrative duties. Present (formally & informally) to large & small groups on relevant topics. Liaison between residents, families, guardians, schools; staff & team of professionals; establish working relationships with all. Resolve conflicts between students; residents; & mediate staff issues to improve relationships among all. Analyze behavioral data trends & underlying causes; assess needs; & make programmatic recommendations. Expand knowledge base of staff & improve their performance & accountability: Train, motivate, & counsel staff via multi-modal staff development, team-building, & support tools. Monitor staff to ensure high standard of care is provided & interventions are being implemented as prescribed & in accordance with quality assurance & state regulations. Co-facilitate counseling in individual & group settings. Professional interdisciplinary team approach as well as independent management of case load.

SPECIALIZED TRAINING: 2008-Present, Mediator, Dispute Resolution Center, P.O. Box 510, Goshen, NY 10924, 845-294-8082,
Resolve conflicts & formulate agreements between parents, children, & families. Liaison between individuals in conflict; liaison for mediation center & the agencies/community it serves.
Foster repair of relationships & address underlying issues of conflicts: communication; relationships; problems in school; parenting styles; rules & responsibilities; divorce; step parents; siblings; behavior; friends; finance; property; drugs & alcohol; & issues with the law. Facilitate mediations referred by schools or courts-Persons in Need of Supervision cases (PINS), custody & visitation, neighborhood, & small claims cases. Mediate for local courts & community cases. Completed general & specialized mediation training with various experts.

OTHER WORK EXPERIENCE: 2005-2010, Program Specialist, New England Anti-Vivisection Society, 333 Washington St, Suite 850, Boston, MA 02108, 617-523-6020.
Write, edit, develop educational material for animal advocacy organization website; newsletters; books; press releases; fact sheets; public service announcements; letters; brochures; & ads as well as edit articles for journal publication. Participate in many aspects of campaign inclusive of fund raising

& event planning. Give media interviews on primate advocacy for articles, radio, & documentaries-stay informed on issues. Public speaking & presentations in various US cities to educate & advocate for animal welfare issues. Consult & collaborate with other organizations.

1998-2002, Lead Research Specialist, Emory University-Yerkes, Taylor Ln, Lawrenceville, GA. Manage & provide operational oversight of behavioral research laboratory with diverse responsibilities. Supervise, train students (graduate & undergraduate), staff, & volunteers. Conduct behavioral observations & research procedures according to grants & protocols. Gather, edit, manage & analyze research data; maintain records in organized manner. Assist in preparation & co-author manuscripts for publication & scientific presentations. Coordinate with researchers on & off site; organize meetings; prepare reports; perform administrative duties. Collaborate with management to improve conditions & develop Standard Operating Procedures (SOPs) affecting research subjects' psychological & physical well being. Advocate for & implement higher standards of care.

1992-1997, Caregiver, New York University-LEMSIP, Long Meadow Rd, Tuxedo, NY. Nurture & care for chimpanzees ranging from infancy through six years within constraints of lab nursery environment inclusive all aspects of social & physical development; psychological enrichment; health maintenance; 24 hour sick/newborn care. Provide compassionate husbandry care & environmental enrichment to six species of monkeys on relief basis.

FINANCE EXPERIENCE: 10+ years of mortgage loan origination, processing, & closing requiring attention to detail & excellent customer service. Loan closer/funder for real estate attorney & mortgage bankers requiring accuracy in disbursing loan proceeds & preparing loan documents. Various positions within banking & mortgage industry in four states including bank on military base.

EDUCATION: BS, Psychology (Biology Minor), Ramapo College, Mahwah, NJ 07430, Dec 98, G.P.A. 3.95. AA, Psychology, Orange County Community College, Middletown, NY 10940, May 95, G.P.A. 4.0. Received various academic awards throughout. Many courses-semester hours in psychology e.g. Child Psych (3 sem hrs), Developmental Psych (3 sem hrs), Adolescent Psych (3 sem hrs), Social Psych (3 sem hrs), General Psych (3 sem hrs), Abnormal Psych (3 sem hrs), Psychology of Learning (4 sem hrs), Psych Testing (3 sem hrs), Organizational Psych (3 sem hrs), History & Systems Psych (3 sem hrs), Research Methods (4 sem hrs).

PUBLICATIONS & CONFERENCE PRESENTATIONS: Listed author on various journal articles; co-author of published & featured web article. Co-presenter of various posters at conferences. List available upon request.

COMMUNITY & EDUCATIONAL OUTREACH/VOLUNTEERING: Dispute Resolution Center-Mediator; Kerulos Center/Org-Faculty-volunteer; Laboratory Primate Advocacy Group-founding officer & member of caring primate lab worker group focused on improving conditions, challenging issues from within labs & providing a support network. Alliance for Primate Enrichment for Senior-developed program which recruited seniors & special needs residents at local facilities to prepare enrichment for lab primates weekly. Spay and Neuter Assistance Project-founding member of feline advocacy organization-provided community assistance & education with animal rescue, rehabilitation, fostering & adoption. Classroom presentations on compassion & advocacy for animals.

NONPROFIT EXPERIENCE: Over 22 years of experience & involvement with nonprofit organizations providing a variety of services on a professional & volunteer basis.

REFERENCES & LETTERS OF RECOMMENDATION: Available upon request.