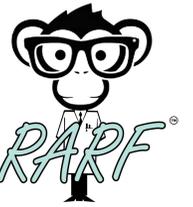


RESEARCH ANIMAL RETIREMENT FOUNDATION

Serving the Monkeys that Serve Humankind

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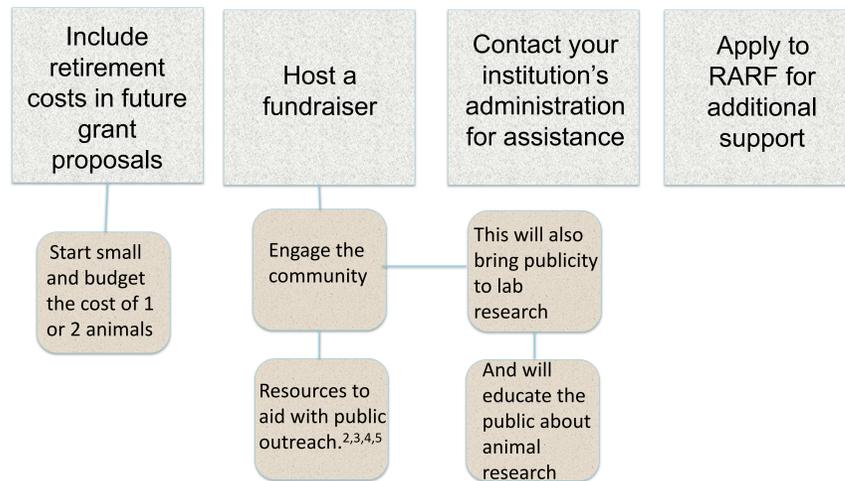
BACKGROUND

While there are some labs around the country that retire their non-human primates to sanctuaries, it is not common practice. There may be several reasons that prevent labs from considering retirement verses euthanasia as an end of study option: lack of support from administration, lack of communication/trust between labs and sanctuaries, retirement sanctuary space availability, and possibly, a continuance of old beliefs regarding laboratory animals.¹ We suggest obtainable solutions to these obstacles and strive to change the current paradigm of end of study options.

RETIREMENT COST

Non-human primate retirement can be costly. As sanctuaries are non-profit entities that rely on donations for sustainment, they will typically request a sizeable contribution to accompany the animal. This donation covers the animal's shelter, food and care for the next few years and is typically in the range of several thousands of dollars. If the sanctuary is at capacity, they may request a larger sum of money so they may build a new enclosure. It is of no surprise that this cost is quite prohibitive to a research lab.

There are some options for labs to attain funds for retirement:



MARS

Our foundation strives to assist monkeys such as Mars, whose work contributes to scientific discovery. Once data collection is complete, we hope to retire him. Mars is currently working on a project involving the development of cortical sensory prostheses. He has two arrays implanted in primary visual cortex in order to study the capacity for different electrode types to elicit visual perception. The first array is a penetrating Utah microelectrode array implanted at the right occipital pole, the second array is an epicortical array placed in the sagittal fissure.



Figure 1: Mars in his home cage. Monkeys at our facility have access to 2 Primate Products cages if singly housed and 4 cages if socially housed with one other conspecific. All housing is indoors. Environmental enrichment is provided and rotated daily.

SANCTUARY LIFE

Sanctuaries provide a greater quality of life for the research monkey. Monkeys have access to outdoor and indoor space, which is uncommon in research life. Often, monkeys still have a long life expectancy after research, and at a sanctuary they may live out the rest of their lives outdoors, in groups much like they would in the wild. Enrichment and a natural environment are at the forefront of the sanctuary's objectives. Most people agree this is the preferred end of study of option for NHPs over euthanasia.



Figure 3: Monkeys at Born Free USA, an NHP sanctuary in Texas. Images used with permission from Born Free USA. Photographer: Kirk Parker

MARS' TASK

In order to address whether electrical stimulation via each electrode elicits a visual sensation Mars performs a forced detection task. In this task Mars is presented with a Gaussian photic stimulus at different points around his visual field with varying intensities. This is used to map his visual field and find his threshold for visual detection. He is able to indicate whether he saw the stimulus via two capacitive hand switches. By lifting his left hand he responds that he saw the stimulus and lifts his right to indicate he did not.

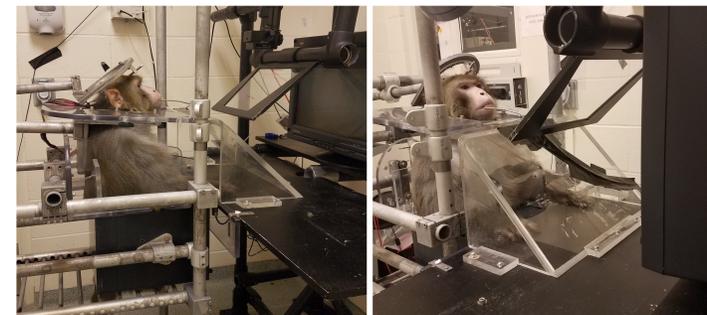


Figure 2: Mars in his experimental setup. There are two capacitive switches on the desk, under his hands. Visual stimuli appear on the monitor in front of him while his head is restrained to enable eye-tracking. He receives juice as reward for each correct trial.

ADMINISTRATIVE SUPPORT

It is crucial to have the support of your institution's administration. Preparation for the retirement process is key for acquiring your administration's support:

- Research reputable sanctuaries
- Define characteristics of an "adoptable" animal
- Draft an adoption contract and confidentiality agreement
- Explain how retirement vs. euthanasia generates good publicity for your institution as well as promotes the contribution of your lab's work in STEM.

With Mars we have been able to test a novel method of cortical sensory encoding and show that it is possible to elicit cursory visual perceptions via surface level microstimulation at safe current thresholds. This work will be used to progress human clinical trials of a vision prosthesis to treat profound blindness.

HOW YOU CAN HELP

Research Animal Retirement Foundation is awaiting 501 (c)(3) non-profit status and will begin major fundraising efforts once approved. All proceeds are directly applied to NHP retirement. Labs around the country will be able to apply for retirement funds (including transportation costs). We can help make arrangements between the lab and sanctuary, and provide any assistance necessary during the transition. Visit our Facebook page and website (Rarfoundation.org) for more information. Spread the word and donate to the cause!

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