

Designing a wildlife rehabilitation and release project – lessons learned

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INTRODUCTION

Between 1998 and 2008, twenty-eight confiscated black howler monkeys (*Alouatta pigra*) were rehabilitated and released into protected areas of Belize. Long-term monitoring reveals that the majority survived at least one year post-release. Using essentially identical methodology, three black-handed spider monkeys (*Ateles geoffroyi*) were released in 2007 following a two-year period of rehabilitation. Data collected during both studies has demonstrated that while the basic methodology is sound, species-specific modifications and an ability to adapt and respond quickly to behavioral issues are essential for optimum results. The successful methodology could be utilized to restore locally extinct populations and provide a humane and conservation-oriented alternative for confiscated monkeys.

METHODS

Goals of rehabilitation are to encourage the development of species-appropriate behaviors and survival skills through exposure to natural diet, habitat and weather, and the formation of social groups. Undesirable behaviors are discouraged by modifications in feeding and caging and discipline as from a dominant animal. Methodology was developed using established guidelines and information gathered from studies of wild populations (Beck, 1992; Brockett, et al., 1999, 2000; Brockett, personal observations; Bush et. al., 1983; Horwich et al., 1992; 2000; IUCN 1999; Kleiman 1984; Konstant and Mittermeier 1982; Van Roosmalen and Klein, 1988).

Five stages of rehabilitation and release:

- Wildlife and botanical pre-release surveys.
- Quarantine and health screening, introduction to natural diet.
- Formation of social groups and increasingly more complex caging.
- Pre-release enclosure.
- Soft-release, provisioning and intensive monitoring.

Subjects – 31 total animals

29 howler monkeys (14 ♂ 14 ♀)

3 spider monkeys (2 ♂ 1 ♀)

Ages on arrival

- 12.9% - three months or less (4)
- 54.8% - 4 to 12 months (17)
- 9.7% - 13 months to 3 years (3)
- 22.6% - over 3 years (7)

Turnaround time from rehabilitation to release

- 12.9% - 2 months or less (4)
- 64.5% - 3 - 13 months (20)
- 22.6% - 14 months or more (7)

RESULTS

Howlers

- 28 animals released - six groups and six solitary animals.
- All groups and one solitary known to have survived one or more years post-release.
- Four solitaries could not be located after initial post-release monitoring period.
- All groups established a home range and remained together at least one year post-release.
- Four of five groups and one solitary joined by wild howlers.
- Intervention in three cases - two recaptures and one extended post-release provisioning.

Spiders

- Three animals released as a group and monitored for 25 days.
- Day 22, oldest male attacked and injured by wild male spider monkey.
- Day 25, youngest male attacked by puma - monkey euthanized.
- Decision to curtail release for safety issues and treatment of the injured animal.
- Two remaining monkeys returned to pre-release enclosure - male treated and recovered.
- Moved to larger pre-release - noted increase in browse consumption and less interest in caregivers.

CONCLUSIONS

The majority of the howler releases, 85.7%, were considered successful based on long-term survival, the establishment of a home range usually within the release area, and maintenance of social groups at least one year post-release.

Success of howler releases due to:

- Understanding of species' behavior and ecology through direct, long-term observations.
- Animals held in captivity less than one year prior to arrival.
- Turnaround time from rehabilitation to release less than one year.
- Early exposure to a variety of natural food items.
- Formation of social groups at an early age, minimal human interactions.
- Pre-release enclosure for three weeks.
- Releases conducted during dry season and optimum fruit availability.

Although the spider monkey release could be construed as a failure, it nevertheless yielded important information for future attempts. It is encouraging that the behaviors exhibited by the rehabilitated monkeys compared favorably with same age and sex classes of wild populations. The most negative aspect was the monkeys' preoccupation with observers, which may be remedied by adjustments in the timing of some phases of rehabilitation. Species-specific differences in spider monkeys include a longer maternal bond, larger and more complex social groups, greater instances of inter-specific aggression, more extensive home ranges in older, undisturbed forest and a primarily frugivorous diet (Aureli et al., 2006; Brockett, personal observations, Brockett et al., 2000; Van Roosmalen and Klein, 1988).

Recommended modifications for rehabilitation of spider monkeys:

- More comprehensive pre-release surveys to detect wild populations and identify food sources.
- Prolonged rehabilitation but introduce conspecifics early to form appropriate social bonds.
- Longer period in pre-release enclosure to encourage foraging and minimize human contact.
- Extended post-release monitoring and provisioning until monkeys locate food sources and learn the area.
- Post-release monitoring conducted by unknown observers following strict behavioral protocols.

The success of the howler monkey methodology demonstrates that the techniques could be employed on a larger scale in reintroduction efforts while providing a humane and conservation-oriented alternative to long-term captivity or euthanasia of some confiscated primates.

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