



Global Re-introduction Perspectives: 2016

Case-studies from around the globe

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IUCN/SSC Re-introduction Specialist Group (RSG)



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iii. Morelos minnow, Mexico @ Topiltzin Contreras-MacBeath
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v. Tasmanian Devil, Maria Island, Tasmania @Simon DeSalis
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Supplementation of eastern swamp deer in Manas National Park, Assam, India

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Introduction

The swamp deer (*Rucervus duvauceli*) has three sub-species - northern swamp deer (*R. d. duvauceli*) inhabiting flooded tall grasslands of the Indo-gangetic plain (Dudhwa Tiger Reserve and some terai forests of UP and Uttarakhand), central swamp deer (*R. d. branderi*) or the hard ground barasingha found in Kahna National Park in Madhya Pradesh and the eastern swamp deer (*R. d. ranjitsinhi*), found largely in Kaziranga National Park of Assam. The species is listed in the IUCN Red List as Vulnerable and the population is noted to be decreasing. The eastern swamp deer was listed as having 300 - 500 animals in 1994 (Qureshi & Sawarkar, 1994). The major part of this population is in Kaziranga NP while its numbers have considerably dwindled in Manas National Park, where once they used to be relatively common. Reportedly there is a small population of swamp deer surviving in Manas but no estimates are available. Thus a project was conceived to re-populate Manas to create a viable second home for swamp deer, especially with the high threats posed to swamp deer in Kaziranga because of floods. This would also fulfil part of India's commitments to UNESCO towards restoring the past glory of Manas and further strengthening the UNESCO World Heritage Site.



Eastern swamp deer © Aftab Ahmed/WTI

Goals

- Goal 1: To repopulate eastern swamp deer in Manas National Park and other suitable areas in its former distribution range.
- Goal 2: To restore key flagship species to a World Heritage Site that had been placed in danger due to local habitat and species exterminations.

Success Indicators

- Indicator 1: Consent from all stakeholders involved in the eastern swamp deer conservation.
- Indicator 2: Development of a nationally recognized translocation protocol in order to guide the project.
- Indicator 3: Mortality free capture and transportation of at least 20 individuals from Kaziranga National Park to Manas National Park and release into a soft-release boma.
- Indicator 4: Release of at least 75% of acclimatized deer into the wild and monitoring.
- Indicator 5: Breeding of released population within two seasons.

Project Summary

Feasibility: With the only viable population of the eastern swamp deer in Kaziranga National Park, there was a need to build up remnant populations to secure the future of the species. The main stakeholders - the government of Assam, the local communities around Kaziranga and Manas and the Bodoland Territorial Council, all came together in support of this re-stocking project. An initial concern was to use a safe capture and transportation processes in view of the susceptibility of deer to capture myopathy. A two day consultative meeting was held in Guwahati with the aim of producing a translocation protocol to give direction to this endeavor. The workshop was attended by national and international ecological, veterinary and forestry experts. The protocol addressed the three main aspects of the translocation: 1) the capture, transportation, veterinary and welfare concerns, 2) the release site suitability and *boma* considerations, and 3) monitoring and risk management. Communities living on the periphery of Kaziranga were involved and kept informed of the project to avoid any political protests. A passive mass capture was preferred over conventional chemical immobilization. The capture boma was screened by tarpaulin sheets mounted on taut steel wires supported by steel and bamboo poles such that they could be used as curtain-like barriers. The advantage with this was that any segment of the boma could be opened and shut as per on-site requirement. A group of swamp deer at Mihimkuh, which were habituated to elephant-riding visitors and thus could be approached very closely was chosen as the donor population.

Implementation: In December 2014, a capture boma was erected in Mihimukh. Attempts using elephants to drive the deer into the capture funnel were unsuccessful as the deer, instead of moving into the mouth of the funnel shaped capture boma, ran elsewhere. This method was abandoned in favor of a more passive approach of allowing the deer herd to move into the boma on their own before closing the openings and securing them within. On 25th December at around midday, when about 60 deer were inside the boma, the curtains on the wide entrance portion of the boma was closed and secured the deer inside. Once inside, the deer were driven into a tunnel leading to a transport vehicle using a wide screen made out of people holding tarpaulin sheets. In all 19 deer were captured and guided into two specially modified transportation trucks in groups of eight (two males and six females) and 11 (three males and eight females). This is



Eastern swamp deer release boma

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after the veterinarians pronounced them fit for travel after a visual examination in the tunnel. The capture of swamp deer had thus been completed. The surplus animals that got trapped inside the tunnel were let out once the capture operation was over. Only

males with antlers and spikes were injected with Azaperone @ 60-100 mg/animal in the tunnel before allowing them inside the transport vehicle. Adult females and yearlings were not injected with any drug.

The transportation to Manas National Park, located about 400 km west took over 10 hours. The two vehicles that transported the deer had been specially modified with paddings on the inner walls and anti-skid flooring. Adequate provisions had been kept for ventilation. Periodic checks, after every 2 - 3 hours, were conducted from the hatches provided for inspection and all swamp deer appeared to be calm and resting on the floor of the vehicle. The swamp deer were eventually released into the 15 ha release boma at daytime on 26th December. All 19 deer had survived the long travel.

Post-release monitoring: By May 2015, five fawns were born within the boma. However, the prolonged stay within the boma took their toll on the deer in that their health deteriorated as natural forage within the enclosure became scarce and they did not take to any other supplementary forage. The deer also had developed a moderate level of endoparasitic load. Two females succumbed in the boma before release and post-mortem revealed abscesses in the liver. This health condition precluded chemical capture to affix radio-collars and in June 2015, all the animals were released without any transmitters. However, it was possible to partially follow some deer by physical sightings or through camera traps. The deer have split in small groups, unlike in Kaziranga where they were part of a one large herd and are being sighted in the Kuribeel area of the park where suitable habitat exists. Two males strayed out of the park after release and got killed by people. One female got predated by a leopard soon after release and 19 deer are currently being monitored daily on elephant back.

Major difficulties faced

- Difficulty in establishing a much larger boma that would have self-sustained the population for a longer duration, without impacting the body condition

- Refusal to take the supplementary fodder provided to the deer within the boma. By the time the deer got habituated to natural fodder coming from outside, it was too late to retain them in the boma.
- Inability to restrain chemically due to poor health condition precluded procedures like radio-collar and biological sample collection and detail clinical evaluation/adaptation of the animals.

Major lessons learned

- Not to force swamp deer into capture enclosure by driving. Passive capture seems to be ideal for the species.
- Radio collaring of select animals in the capture tunnel itself before being loaded into the trucks.
- Release after a 2 months of temporary accommodation in the boma, to create some site fidelity.
- Reinforcing the power fence that already exist along the southern boundary of Manas National Park to prevent males from straying towards the village side.

Success of project

Highly Successful	Successful	Partially Successful	Failure
	√		

Reason(s) for success/failure:

- Capture and translocation was a great success because most of the thought process and planning went into this, considering high mortality reported from previous capture operations done in Central India.
- Breeding success was also a good success indicator.
- Acclimatization and post-release monitoring did not go well because of the reasons mentioned above. It could have been easily overcome had the deer been collared at the source itself.

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