

Orangutan reintroduction: Measuring success

By Jacqueline Sunderland-Groves



Reintroduction of a species within its historic range can play an important role in the conservation of endangered species. Since the 1960s, efforts to reintroduce ex-captive orangutans have become a growing practice. In Indonesia and Malaysia, significant forest loss due to mechanical logging and the establishment of oil palm and pulp and paper plantations, coupled with the impacts of hunting, has led to a predicted loss of more than 82% of the Bornean orangutan population in just 75 years. The Sumatran orangutans have fared no better and, combining all species across their range, only around 72,000 orangutans continue to survive in the wild. As a slow-reproducing species, no level of loss is sustainable and each new loss brings the species closer to peril. An additional consequence of these human development activities is the overwhelming number of orphaned or displaced orangutans cared for in rescue centres. Without a reintroduc-

tion strategy the only future for these unfortunate individuals would be life in a cage.

Prior to joining UBC, I worked as part of a dedicated team rescuing, rehabilitating and reintroducing critically endangered Bornean orangutans in the Central and East Kalimantan regions of Indonesia. I have been involved in the reintroduction of over 380 illegally captured wild-born orangutans – individuals who had either been orphaned through hunting, captured for the illegal pet trade or displaced through habitat loss. After completing a lengthy rehabilitation process, orangutans who successfully master all the skills they need to survive in the wild can be returned to the forest. Thanks to novel radio tracking technologies, field teams are able to track these orangutans after release and record data related to their adaptation back to life in the forest. This radio tracking technology has been instrumental in helping us to calculate

reintroduction success rates and has provided a wealth of data related to their adaptation, which would not otherwise have been available. This includes the importance of life history prior to rescue, the time spent in captivity and the early forest learning opportunities before reintroduction. However, although the 1-year reintroduction success rates are amongst the highest recorded for Borneo, radio transmitter batteries eventually expire, orangutans move out of range and data become harder to record on all but the most habituated individuals.

As conservation biologists we strive to ensure that our actions have lasting, positive impacts towards reaching global conservation goals, and adequately gauging our success is critical to evaluating and refining our methods and practices. The most important factors to determine in this reintroduction program are survival and long-term viability. Now, as a

research scientist working with UBC's Wildlife Coexistence (WildCo) Lab in the Faculty of Forestry, we are teaming up with the Borneo Orangutan Survival Foundation in Indonesia to expand on current knowledge and investigate long-term reintroduction success rates. This is important to inform pre- and post-release practices to maximize future success, but it will also improve our understanding of current orangutan distribution, and therefore allow us to identify additional carrying capacity in the forest areas supporting these new orangutan populations. This is critical given that the aim is to reintroduce viable populations, which for orangutans means populations of 250 individuals or more. Sharing UBC WildCo's extensive knowledge and expertise, which spans a multitude of countries and species from caribou in Canada to leopards in Sri Lanka, our pilot study will use camera traps to help detect wildlife activity over long periods without a researcher needing to be physically present. We will use spatial capture-recapture methods combined with standard methods such as nest counts, to investigate orangutan population density. And, since most

reintroduced orangutan individuals are facially recognizable, the camera trap surveys will allow us to identify the longer-term reintroduction success of specific individuals and follow their life histories – potentially for many years to come. The added bonus of camera traps is, of course, that they are completely unbiased and capture all wildlife species in their range; data which is crucial in highlighting the biological importance of these pristine rainforests for their long-term protection.

Measuring the success of conservation efforts is key in conservation science and allows conservation managers to plan future actions for maximum impact, and for these newly established orangutan populations, it is critical for their long-term viability.

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