

Density of a Reintroduced Population of Bornean Orangutans (*Pongo pygmaeus*) in Pristine and Disturbed Forest Areas, Sungai Wain Protection Forest, East Kalimantan, Indonesia

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Introduction: Sungai Wain Protection Forest is among the final extant primary lowland coastal forests remaining in East Kalimantan (Fredriksson and Nijman, 2004). From 1992-1997 82 formerly captive Bornean orangutans (*Pongo pygmaeus*) were released in Sungai Wain Protection Forest through the Wanariset Orangutan Reintroduction Project (Russon and Susilo, 1999). Forest fires burned approximately 60% of the reserve in 1998 (Fredriksson and Nijman, 2004). An extensive nest census conducted in 1998 produced an estimate of 13-17 orangutans remaining in Sungai Wain Protection Forest (Russon and Susilo, 1999). Very little research has been conducted on this reintroduced population of orangutans since the 1998 nest survey. In this study, a new nest survey will be conducted in order to produce a current estimate of orangutan densities in Sungai Wain Protection Forest.



Orangutan nest in Sungai Wain Protection Forest

Methods: A series of transects will be walked in order to count orangutan nests. The location of each nest will be marked on a Global Positioning System (GPS). The distance from the bottom of the nest to the transect will be recorded, as well as the height of the host tree, the diameter at breast height of the host tree, the height above the ground of each nest, and the condition and features of each nest. The standard equations will be used to produce an estimate for nest density ($D^N = N / (L \times 2w)$) and orangutan population density ($D^{OH} = D^N \times 1 / (p \times r \times t)$). When orangutans are located, they will be followed as long as possible and all behaviours will be recorded.

Importance to Primate Conservation: The status of the Bornean orangutan on the IUCN Red List of Threatened Species was changed from Endangered to Critically Endangered in 2016. The wild population of Bornean orangutans is decreasing rapidly due to hunting and deforestation. This will be among the first studies to examine a reintroduced Bornean orangutan population after a large progression of time. This will provide important information about the changes which occur in a population of reintroduced Bornean orangutans over a period of nearly 2 decades, as well as how well a population of reintroduced Bornean orangutans was able to adapt to drastic changes to their habitat caused by fire. The findings of this project could provide valuable information for the many other orangutan rehabilitation projects across Indonesia and Malaysia.



References

Fredriksson, G.M. and Nijman, V. (2004) 'Habitat use and conservation status of two elusive ground birds (*Carpococcyx radiatus* and *Polyplectron schleiermacheri*) in the Sungai Wain protection forest, east Kalimantan, Indonesian Borneo', *Oryx*, 38(03), pp. 297-303. doi: 10.1017/s0030605304000535.

Russon, A. and Susilo, A. (1999) 'The Effects of Drought and Fire on Orangutans Reintroduced into Sungai Wain Forest, East Kalimantan', *Wanariset technical report*.