

Home range and movements of male translocated problem tigers in Sumatra

Dolly Priatna^{1,3,*}, Yanto Santosa², Lilik B. Prasetyo² and Agus P. Kartono²

¹Postgraduate Program of Tropical Biodiversity Conservation, Bogor Agricultural University, Kampus IPB Darmaga, Bogor 16680, Indonesia

²Department of Forest Resources Conservation & Ecotourism, Faculty of Forestry, Bogor Agricultural University, Kampus IPB Darmaga, Bogor 16680, Indonesia

³The Zoological Society of London - Indonesia Programme, Jl. Gunung Gede I/11A, Bogor 16151, Indonesia

*Corresponding Author's E-mail: dolly.priatna@zsl.org

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ABSTRACT

The ranging behaviour of translocated problem tigers is poorly understood. The demand for releasing problem tigers back to the wild increases following the increasing the number of problem tigers that needs to be rescued in Sumatra in the last decade. In this study we estimate the home range size and obtain information on daily range of four translocated problem tigers, as well as discussing some potential factors determining the size of home range and their movement. We translocated four adult males Sumatran tigers (*Panthera tigris sumatrae*) caught after killing domestic animals or rescued from traps set up by villagers for capturing deer and wild boar. The tigers were released following 16-225 days rehabilitation. All were fitted with global positioning system collars and released 74-1,350 km from their capture site. The length of time needed by each tiger for establishing home range was between 6 and 13 weeks. The home range size of each individual tiger estimated with 100% minimum convex polygon varies between 67.1 km² and 400 km², while estimations with a 95% fixed kernel methods were between 37.5 km² and 188.1 km². The difference in home range size established by each translocated tigers indicates the variability of the range size even within a subspecies. The maximum distance moved each tiger in one day was different, the range was 8.5-18.9 km. Although preliminary, these data may be useful for improving future translocation of problem tiger, as this study was the first ever conducted in Sumatra.

Key words: GPS collar, *Panthera tigris*, home range, movement, Sumatran tiger, translocation