

Population survey, socioecological study and conservation of proboscis monkeys (*Nasalis larvatus*) in Balikpapan Bay, Indonesia

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Awarded a PSGB Conservation Grant in February 2008

Abstract

The proboscis monkey (*Nasalis larvatus*) is endemic to coastal, swamp and riverside forests of Borneo. Due to its habitat preference, it experiences intensive contact with humans, who also concentrate in coastal lowlands and along waterways, destroying forests in these areas more rapidly than anywhere else in Borneo. As the proboscis monkey habitat differs from that of most of other species of conservation interest, it does not benefit from conservation actions in biodiversity hotspot areas in Borneo interior. Indeed, most of the proboscis monkeys range outside protected areas. Due to the rapid rate of decline, it was suggested that the proper IUCN status for this species should be Critically Endangered, but it has been recently classified as Endangered.

The population of proboscis monkeys in Balikpapan Bay (East Kalimantan, Indonesia) is one of a very high conservation value. We have surveyed this population using slightly modified methodology, which was established in several previous studies of proboscis monkeys in a riverside habitat. Our troop surveys were conducted from a 24 hp motorboat at speed 7 km/h in mornings (06:00-08:00) and evenings (16:30-18:30) when the monkeys regularly ascend trees on riverbanks to sleep.

Based on the field survey, we estimated the proboscis monkey population of Balikpapan Bay to be approximately 1400 individuals. This makes the Balikpapan Bay proboscis monkey population one of the five biggest-estimated populations in Indonesia and, together with the Lower Kinabatangan River population in Sabah, one of six biggest-estimated populations worldwide. Supposing the modal estimate of 25,000 proboscis monkeys remaining in Borneo (which is, however, likely to be an underestimate), the Balikpapan Bay population may represent almost 5% of the whole world's proboscis monkey population. This highlights the importance of Balikpapan Bay for conservation of this species.

Based on our data, we have identified areas most suitable for conservation of the proboscis monkeys' coastal mangrove habitat. The core area is represented by six river systems, representing 25% of the total mangroves. For a more positive scenario, we propose that an additional 30% of the total area should be conserved fully. Finally, we advocate at least some degree of protection for all the Balikpapan Bay mangroves, which extend over an area of 170 km². We have socialized with local villagers and government officials (and those of the immediately neighbouring villages) to get their support in protecting their mangroves from illegal shrimp farming, logging for charcoal and clear-felling for development of coastal industry. The traditional village leaders (Toko Adat) and the Kalimantan native youths

movement (GEPAK) supported us and claimed the whole mangroves of Pemaluan as a protected area. Although this is only an informal statement, it has a high local value and it has its relevance to the Indonesian national law, which proclaims all riverbank forests as protected forests, which cannot be felled for economic benefits. We are now negotiating, on a continuous basis, with the District (Paser Penajam Utara) government to propose the mangroves as a protected area in the regional legislation also. There is a new District Environment Office, established in 2008, which included our recommendations in its starting plan. We similarly negotiate the issue of mangrove protection with the government of the Balikpapan City, which is responsible for the management of about 20% of the mangrove area.

The principal investigator will return to the field site in June 2009. We plan to continue with the fieldwork, campaigning and negotiations as established in the previous season.

