

Project Update: December 2015

1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Behavioral/Physiological Data Collection

To date we have collected approximately 500 faecal samples, 400 saliva samples, and 700 hours of data. We have also partnered with Dr Celine Bret who is conducting research with Macaca Nigra Project here in Tangkoko on *M. nigra* social systems and health. This collaboration allows us to triple the number of saliva samples we can collect and (pending some preliminary tests) may also increase the number of faecal samples. Not only is she collecting cortisol, but she is also collecting c-peptides from urine and faecal samples to examine parasites. She is focusing on the social group Rambo 2 (tourism, crop guarding, and research exposure) and Pantai Batu (research only). Her results will compliment and add to our research goals significantly.

We have also done some preliminary analysis on the behavioral data collected during the first 8 months. One-way ANOVAs indicated no significant differences between groups in affiliative, vocal, or self-directed behaviour when no tourists were present ($F(2,30)=0.65, p=0.529$; $F(2,30)=0.284, p=0.755$; $F(2,30)=1.39, p=0.265$). Repeated measures ANOVAs indicated that R2 displayed higher rates of aggression ($F(1,19)=8.6, p=0.009$) and had lower percentages of focal sessions with affiliative behaviour ($F(1,19)=5.33, p=0.032$) in the high tourist season and, regardless of season, R1 had lower percentage of focal sessions with affiliative behaviour ($F(1,19)=5.33, p=0.032$) and both tourist groups vocalized less ($F(1,19)=9.2, p=0.007$ when tourists were present than when absent).

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

Unfortunately, I had to leave the field site in August 2015 due to an illness. My team remained behind to continue collecting data and samples while I relocated to the closest large city of Manado. I manage the project from here and speak with my team on a daily basis. Additionally, I have taken the time to improve my own knowledge of Bahasa Indonesia, partner with Tangkoko Conservation Education to help teach school children about ecology and primatology, and continue to teach guides English when they come to the city. I am also planning English lessons for the staff of Tangkoko Conservation Education. Finally, I spent time networking with professors at the University at Sam Ratalungi in Manado in an effort to help Macaca Nigra Project expand their local research network and find a lyophilizer for their biological samples.

3. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).

Macaca Nigra Project held a 2-day workshop for Tangkoko guides to help improve their knowledge of *Macaca nigra* and the ecology in general. My team played an instrumental role in this workshop by giving a presentation on how to read monkey facial expressions. I contributed a presentation on basic primatology. Additionally, we had role-playing skits aimed at educating guides on good vs. bad tourist behaviours. The output of this workshop will be translated into a booklet of important ecological information relevant to Tangkoko. Finally, I intend to continue helping Tangkoko Conservation Education after I return to the states. I hope to fund the

education of one of her key staff members as well as find a way continue the education of Tangkoko guides in both English and ecology.

