

Annex A7

RESEARCH COLLABORATION OPPORTUNITY

Research Collaboration Opportunity Ref No.: RCO-CUGE-2018-07

Project Title: Singapore Wild Boars – Quantify Environmental Impacts, Understand and Model Population Demographics and Home Ranges across Habitats

1. Key Challenges and Objectives

- 1.1 Population monitoring of wild boars is an important component of work in the management of wild boar populations in Singapore for biodiversity conservation. Up to date demographics will enable trends to be uncovered and to enable a deeper analysis of the population.
- 1.2 The presence of wild boar is known to have various impacts on the forest ecosystem. These impacts have not been extensively qualified nor have they been quantified in the Singapore context.
- 1.3 We are seeking research proposals to develop rapid techniques for the population monitoring of wild boars and to understand the impact of wild boar populations on the environment and biodiversity
- 1.4 The proposed project should include (but not be limited to):
 - (i) The techniques and the carrying out of population census and monitoring so as to obtain up to date demographics of the wild boar population in Singapore including the determination of the percentages of adult breeding female wild boar.
 - (ii) Understanding the diet ecology of wild boars through identification of biodiversity species visually, in the gut and/or faeces using either molecular (DNA Barcode) or any other reliable techniques.
 - (iii) Understanding impacts to forest ecosystems and other habitats through the use of enclosure fencing or any other reliable experimental methods.
 - (iv) Satellite tracking studies with the use of radio collar telemetry systems.

2. Minimum Project Deliverables

The deliverables described here represent the minimum outcomes arising from the proposed project. Additional relevant deliverables that are proposed will be favourably considered during project evaluation.

- (i) Techniques and datasets of the demographics of the wild boar population in Singapore including the percentage of adult breeding female wild boar.

- (ii) Biodiversity list and relative frequencies of all the food items detected in at least 150 faecal samples of wild boar from at least 10 different sites of varied habitats.
- (iii) Analysis of the impacts to forest ecosystems and other habitats through the use of enclosure fencing or any other reliable experimental methods.
- (iv) Home range analysis of wild boars for at least five adult males and five adult females for at least 3 months from at least 3 different sites.
- (v) Progress reports at the end of year 1 and year 2, and a final report at the end of the project.

3. Budget Limits

3.1 The proposed budget cannot exceed \$500,000. Proposals that exceed this limit will not be considered. Please note that this amount is simply an indication of budget availability, not an estimate of expected project cost.

3.2 The project duration should also not exceed 3 years. Proposals requiring more than 3 years can be considered, but with strong justification.

3.3 Please note that NParks' decision on the funding support to be awarded for the project is final.

4. Submission Instructions

Proposals for the Research Collaboration Opportunity as stated above must be submitted to Mr Max Khoo at max_khoo@nparks.gov.sg by 1st April 2019, 1200 hrs.

5. Enquiries

For transparency, all enquiries and associated clarifications will be published (without details on the identity of the person making the enquiry) on the Research Collaboration Opportunity page on the CUGE website. We regret that phone enquiries will not be entertained.

For enquiries, please contact Mr Max Khoo max_khoo@nparks.gov.sg .