

## Precautionary Ecological Checks for Peter Scott Field Studies Centre

Monthly Report for April-May 2019

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## CONTENTS

INTRODUCTION.....	2
METHODOLOGY .....	2
RESULTS .....	3

## LIST OF TABLES

**Table 1** Egret species and number recorded flying to a night roost in the trees adjacent to the PSFSC forecourt

## INTRODUCTION

- 1.1 These precautionary surveys commenced in April 2019 in order to generate robust baseline data with which to formulate and develop suitable mitigation proposals for each species group and to liaise and obtain appropriate permits that may be required from the appropriate government bodies.
- 1.2 It should be noted that these specific ecological studies are separate to those to be conducted by the Environmental Team (ET) for the non-statutory EM&A for PSFSC for which the ET Site Inspector will undertake regular site inspections and audit to ensure construction site practices are not adversely impacting on the surrounding environment.
- 1.3 If the results of ecological checks show egrets (or any other species of conservation significance) are breeding in the trees next to the forecourt of the PSFSC, this may have ramifications for the demolition and rebuild programme, as there will be a need to avoid impacts to breeding birds. Likewise, the PSFSC building itself and associated structures may be suitable nesting locations for common bird species.

## METHODOLOGY

### BATS

- 2.1 Weekly bat surveys (a combination of dawn and/or dusk depending on site conditions) are conducted by suitably qualified ecologists to check for bats emerging/returning to roost during the breeding season (April –end July) . Surveys will also be conducted at a frequency of twice per month during the non-breeding season (August-March) as bats may still use natal roosts during the cooler months.
- 2.2 Up to two surveyors will be used in order to view different aspects of the buildings and associated structures/trees within the development footprint.
- 2.3 Dusk emergence surveys using a bat detector are carried out to allow a population estimate of any roost to be made and also help to try and confirm species present. Bats are counted as they leave the roost and recordings of their calls can be made to aid identification. Given the lack of published information on bat calls in Hong Kong, identification to species level may not be possible. These surveys may be complemented by dawn swarming surveys, when bats are counted returning to roost at first light. Any locations where bats roosts are observed will be recorded and mapped, with numbers of bats enumerated where possible.
- 2.4 Such regular surveying can provide a solid set of data with which an understanding of any bat use of the PSFSC and its environs can be acquired.

### BIRDS

- 2.5 The stand of large trees adjacent to the PSFSC forecourt has been used in recent years by large numbers of ardeids as a night roost. It also has the potential to become a suitable breeding site for these waterbirds, which was the case for Chinese Pond Herons some years ago. Non-breeding birds may also continue to roost in this area.
- 2.6 Likewise, some species of birds may utilise the structure of the PSFSC building itself and associated structures/trees for nesting, e.g. White-shouldered Starling, Eurasian Tree Sparrow, Azure-winged Magpie.

- 2.7 Two surveys visits a month are conducted to confirm whether ardeids are utilizing the large stands as a nesting site and/or night roost between April 2019 and April 2020. The methodology for this is to carry out a count of birds flying to the roost in the hour prior to sunset, and/or to use a thermal imaging camera to count birds in the roost after sunset. The accuracy of using the latter to count birds in the roost will be checked.
- 2.8 In addition, visual checks of the PSFSC will also be made in the breeding season for any evidence of birds nesting within the structure (including outbuildings and associated facilities).

## RESULTS

- 3.1 Bat surveys on 18<sup>th</sup> and 24<sup>th</sup> April and the 3<sup>rd</sup> and 7<sup>th</sup> May did not record any bats emerging from the PSFSC. External checks made of building during daytime on all dates revealed several potential roost entrances. However, no bats were observed emerging at dusk from these points.
- 3.2 Low numbers of bats (*Pipistrelle* sp.) were recorded emerging from the roost in the noticeboard (no more than three individuals).
- 3.3 Several bats were recorded foraging around the PSFSC building and forecourt shortly after sunset, though there was no evidence of these emerging from the building itself. These appeared to arrive from the east.
- 3.4 In regard to avifauna, no use of the building itself as a roost or breeding site was noted. A pair of White-shouldered Starlings appears to be using the power transmission support in front of the PSFSC; this is outside the project site boundary. Although White-shouldered Starling was listed as of Local Conservation concern by Fellowes *et al.* (2002)<sup>1</sup> in respect of the restricted distribution of breeding sites, the situation has changed substantially since then, and it is now a common and widespread breeding species in the Deep Bay area. This is largely due to the provision of nest boxes at the mitigation site for the Lok Ma Chau Spur Line and Station and to use of boxes on power transmission supports as nest sites. The latter was not a feature of the species' breeding behaviour in HK at the time of publication of Fellowes *et al.* (2002); the birds at the PSFSC appear to be using one of these boxes in front of the site, adjacent to the road.
- 3.5 Surveys also revealed that a non-breeding roost of egrets is using the group of trees next to the PSFSC forecourt. The numbers and species recorded on the three dates in April that the roost was counted are presented in **Table 1**.

**Table 1** Egret species and number recorded flying to a night roost in the trees adjacent to the PSFSC forecourt

Date of survey	Little Egret	Chinese Pond Heron	Great Egret	Cattle Egret
18 <sup>th</sup> April	84	33		
24 <sup>th</sup> April	75	25		
30 <sup>th</sup> April	74	31	6	1

<sup>1</sup> Fellowes *et al.* 2002. Wild Animals to Watch: terrestrial and freshwater fauna of conservation concern in Hong Kong. *Mem. HK Nat. Hist. Soc.* 25