Precautionary Ecological Checks for Peter Scott Field Studies Centre

Monthly Report for June-July 2019

	Name	Signature
Prepared by:	**Geoff CAREY**	
Reviewed by:	**David STANTON**	
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127 Commercial Centre, Palm Springs, Yuen Long, New Territories, Hong Kong
Tel: +852 2486 2885 Email: aec@aechk.hk

CONTENTS

LIST OF TABLES

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 and 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 18th, 24th & 27th June and 9th July did not record any bats emerging from the PSFSC. External checks made of building during daytime on all dates revealed several potential roost entrances. No bats were observed emerging at dusk or entering at sunrise from these points in the PSFSC.

3.2 The highest count of bats emerging from the noticeboard was 70 on 9th July. Figure 1 illustrates the location of the two emergence points for these bats (61 of the 70 used the primary emergence point). One bat (Pipistrelle sp.) was recorded roosting in the corrugated roof of the bicycle sheds (9th July).

3.3 Bats were recorded foraging around the PSFSC building and forecourt shortly after sunset and also before sunrise. The largest aggregation of approximately 90 individuals was seen swarming and feeding above the site on the evening of 9 July. None were seen to enter the PSFSC and some originated from the east, presumably from the roost at Mai Po Village.

***Figure 1a**. Secondary emergence point*

***Figure 1b**. Primary emergence point*

~~3.4~~ In regard to avifauna, surveys were carried out on 20th June and 5th July. Breeding activity by White-shouldered Starlings appears to have ceased. Although White-shouldered Starling was listed as of Local Conservation concern by Fellowes *et al*. (2002)[1] 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

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

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).

3.5 Eurasian Tree Sparrow calls were heard coming from inside the building, where they appear to both roost and breed. This is a very common and widespread species closely associated with urbanization, and the significance of potential impacts is negligible.

3.6 Surveys also revealed that a non-breeding roost of egrets is using the group of trees next to the PSFSC forecourt. The roost is concentrated around the small pond to west of the PSFSC (Figure 2). The numbers and species recorded during this monitoring contract are presented in **Table 1**.

Table 1 *Egret species and number recorded flying to a night roost in the trees adjacent to the PSFSC during monitoring work under this contract*

Date of survey	Little Egret	Chinese Pond Heron	Great Egret	Cattle Egret
18th April	84	33		
24th April	75	25		
30th April	74	31	6	1
16th May	39	12	13	6
29th May	51	12	10	1
20th Jun	50	13	14	1
5th Jul	52	15	19	

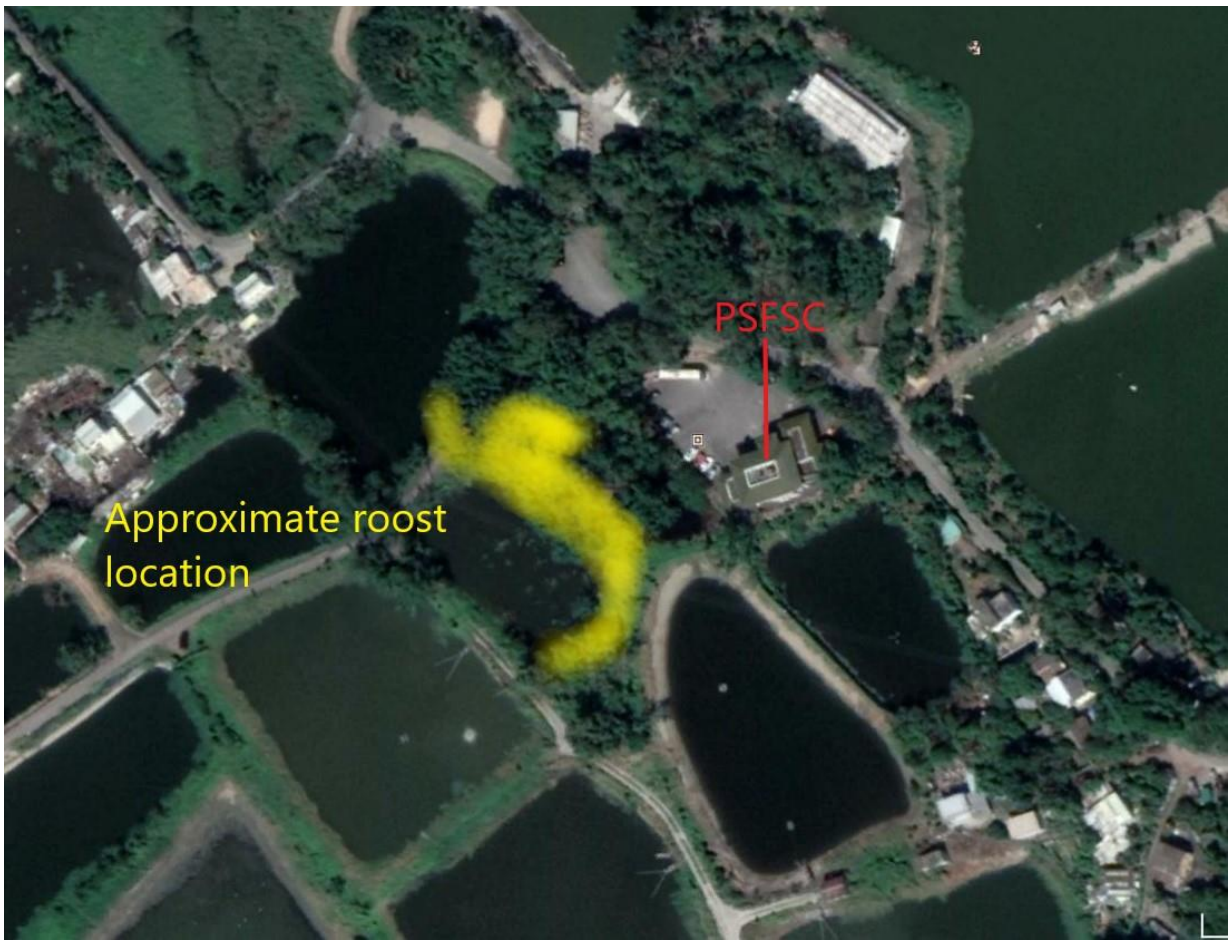

***Figure 2**. Approximate location of ardeids roost near Peter Scott Field Studies Centre.*