Precautionary Ecological Checks for Peter Scott Field Studies Centre

Monthly Report for September-October 2019

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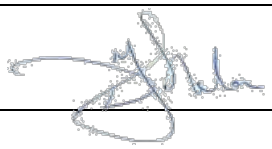
Reviewed by:	**David STANTON**	
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CONTENTS

INTRODUCTION 2
METHODOLOGY 2
RESULTS 3

LIST OF TABLES

Table 1. Numbers of bats counted entering/emerging from the noticeboard roost site.

Table 2 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 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 and a thermal imaging device 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 scheduled 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 beginning in the hour prior to sunset until birds stop arriving, 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 have not recorded any bats entering or emerging from the PSFSC despite the fact that external checks made of the building during daytime have revealed several potential roost entrances.

3.2 Table 1 summarises the bat count data collected at dawn and dusk. The highest count of bats emerging from the noticeboard was 69 on 9th July. **Figure 1** illustrates the location of the two emergence/entry points for these bats (61 of the 69 used the primary emergence point). Up to three bats (Pipistrelle sp.) were recorded roosting in the corrugated roof of the bicycle sheds throughout the study period. A third emergence/entry point was recorded on 9 October (see **Figure 1A)**.

***Table 1**. Numbers of bats counted entering/emerging from the noticeboard roost site. (Asterisk indicates rainy conditions during survey).*

Date	Dawn/ Dusk	Total Count
30-May-19*	Dawn	4
6-Jun-19*	Dawn	35
10-Jun-19*	Dusk	10
18-Jun-19	Dawn	68
24-Jun-19	Dawn	63
27-Jun-19	Dusk	61
5-Jul-19	Dusk	54
9-Jul-19	Dusk	69
15-Jul-19	Dusk	64
24-Jul-19	Dusk	58
30-Jul-19	Dawn	52
6-Aug-19	Dawn	49
12-Aug-19	Dusk	66
20_Aug-19	Dusk	54
27-Aug-19	Dusk	53
11-Sep-19	Dusk	2
17-Sep-19	Dawn	5
25-Sep-19	Dawn	3

3-Oct-19	Dusk	4
9-Oct-19	Dawn	3

3.3 Bats are regularly recorded foraging around the PSFSC building and forecourt, and high above the trees, shortly after sunset and also before sunrise. None were seen to enter the PSFSC and some originated from the east, presumably from the roost at Mai Po Village.

3.4 Numbers have fallen considerably since 12 August indicating that this roost is used primarily as a maternity roost, though low numbers continue to use the Noticeboard for roosting. Young bats appear to be now independent and volant, and are potentially using alternative roost sites. Females are no longer nursing and appear to also have dispersed and be using alternative roost sites. The location of alternative roost sites is unknown.

3.5 Originally surveys were set to continue every 2 weeks in September; however, this has been adjusted to continue on a weekly basis in order to gain a better understanding of this roost.

3.6 On 9 October, a larger species of bat was observed using the roost. It was not possible to identify this to species level, but was certainly bigger than the Japanese Pipistrelles which utilised the noticeboard as a maternity roost through the summer.

***Figure 1a**. Other emergence/entry points*

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

3.7 In regard to avifauna, surveys were carried out on 24 September and 3 October. Breeding activity by birds at or in the vicinity of the PSFSC has ceased.

3.8 Eurasian Tree Sparrow calls were heard coming from inside the building, where they appear to both roost and breed; it has not been possible to estimate the numbers. This is a very common and widespread species closely associated with urbanization, and the significance of potential impacts is negligible.

3.9 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 2**. Although two surveys per month are scheduled, weather and scheduling reasons

meant that the second June survey was postponed until 5th July. The second October survey will be carried out later this month.

Table 2 *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	Grey Heron	Total
18th April	84	33				117
24th April	75	25				100
30th April	74	31	6	1		112
16th May	39	12	13	6		70
29th May	51	12	10	1		74
20th Jun	50	13	14	1		78
5th Jul	52	15	19			86
15th Jul	48	12	20			80
24th Jul	127	22	16			165
15th Aug	83	18	6			107
27th Aug	16	15	12			43
11th Sep	33	24	9		1	67
24th Sep	21	17	7		1	46
3rd Oct		7	1		2	10