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Proposed Comprehensive Development at Wo Shang Wai, Yuen Long

Bi-annual Report on EM&A Results on Ecological Aspects for May 2025 to October 2025 (Rev A)

January 2026

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January 2026

Mott MacDonald Hong Kong Limited
registered in Hong Kong no. 236497.

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Pursuant to Condition 4.6 of Environmental Permit No. EP-311/2008/E, this Biannual EM&A Report on ecological aspects for May 2025 to October 2025 has been reviewed, certified by Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC).

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Date 26 May 2026

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1 Introduction

1.1 Background

In March 2005, the Project Proponent, Profit Point Enterprises Limited, acquired the development site in Yuen Long at Wo Shang Wai. An Environmental Impact Assessment (EIA) was then carried out under the EIA Ordinance (EIAO), and the Environmental Permit (EP-311/2008) for construction of the comprehensive development in Wo Shang Wai was first granted by EPD on 9 September 2008 and has been subsequently varied, with the current version (EP-311/2008/E) issued by EPD on 19 December 2017.

The Project involves the residential development, associated infrastructure, wetland restoration area and linear landscape area. The construction works under the Environmental Permit commenced on 12 May 2010. The site formation construction works of the Wetland Restoration Area (WRA) were completed on 15 November 2010, and the WRA was established by October 2012, within 30 months from the commencement of construction as stipulated in the EP. This indicated that planting works as scheduled in the approved Wetland Restoration and Creation Scheme (WRCS; November 2009) was completed, except along the western and southern boundary where the planting is affected by the existing site boundary and noise barrier, and for which a Variation to Environmental Permit (EP-311/2008/C) to defer planting at the location was approved. The current valid EP (EP-311/2008/E) includes specific mitigation measures to minimise certain identified noise impacts during the operation phase of the Project.

Mott MacDonald Hong Kong Ltd. ("MMHK") has been commissioned to undertake the Environmental Team (ET) services to carry out environmental monitoring and audit (EM&A) for both pre-construction and construction phases of the Proposed Comprehensive Development at Wo Shang Wai, Yuen Long.

According to the EP Condition 4.6, the EM&A results on ecological aspects during the construction phase should be reported to the EIA Subcommittee of the Advisory Council on the Environment (ACE), EPD and Agriculture, Fisheries and Conservation Department (AFCD) on a biannual basis. This is the 31st Biannual EM&A report and it summarises the findings on EM&A results of ecological aspects during the period from 1 May 2025 to 31 October 2025. This report documents surveys and management activities conducted in the Survey Area and WRA from 1 May 2025 to 31 October 2025, which is based on ecological surveys and advice on management undertaken and provided by the appointed Non-Government Organisation (Eco-Institute) during the reporting period.

1.2 Survey Area

Surveys were conducted within 500m of the Project area. The WRA has been surveyed since early September 2010. The survey area and transect are provided in **Figure 1.1.**

1.3 EM&A Requirement on Ecological Impact

The EM&A programme requires environmental monitoring of ecology as specified in the approved EM&A Manual, summarised in **Table 1.1**.

Table 1.1: Summary of Ecological Impact EM&A Requirements

Descriptions	Locations	Frequencies
Birds	Within the Project Area and Assessment Area of 500m	Weekly
Dragonflies and Butterflies	Within the Project Area and Assessment Area of 500m	Once per month during Mar and Sep to Nov, and twice per month during Apr to Aug
Herpetofauna	Within the Project Area and Assessment Area of 500m	Day-time: Once per month during Apr to Nov Night-time: Once per month during Mar to Aug
Water quality of Wetland Restoration Area (WRA)	WRA	After filling of WRA with water, monthly for in situ water quality and every six months (end of wet season and end of dry season) for laboratory testing
Site Inspections	Within the Project Area and Assessment Area of 500m	Weekly

Source: Extract from Table 7-1 of the Proposed Comprehensive Development at Wo Shang Wai, Yuen Long EM&A Manual (March 2008)

2 Ecological Monitoring

2.1 Ecological Monitoring

In accordance with the EM&A requirements, monitoring of birds, dragonflies and butterflies, and herpetofauna were carried out during the reporting period. In addition, monitoring of mammals was also conducted concurrently with other surveys and the results were reported although it is not required by the EM&A Manual. The dates of surveys are summarised in **Appendix A**.

2.2 Monitoring of Birds

Monitoring was undertaken following the survey requirements in the EM&A Manual (Table 7-1). Since September 2010, monitoring included the newly formed cells to monitor faunal usage of this area. All bird species of conservation importance and/or wetland dependent were identified and enumerated. Flying birds were not recorded unless they were foraging and/or associated with the habitat (such as swifts). Further, notable bird observations during other surveys were also recorded.

Bird surveys were conducted on a weekly basis throughout the reporting period. A total of 51 bird species were recorded in the Survey Area (excluding the WRA) in the survey period (i.e. 1 May 2025 to 31 October 2025), 24 of which were species of conservation importance and/or wetland-dependence. A summary of survey data is provided in **Appendix B**.

A total of 57 species were recorded in the WRA during the survey period, 27 of which were species of conservation importance and/or wetland-dependent species. Two of the three target species[1] (Little Egret (*Egretta garzetta*) and Chinese Pond Heron (*Ardeola bacchus*)) were recorded in the WRA during regular surveys.

The WRA continues to attract a number of species of conservation importance including Little Grebe (*Tachybaptus ruficollis*), Great Cormorant (*Phalacrocorax carbo*), Grey Heron (*Ardea cinerea*), Purple Heron (*Ardea purpurea*), Great Egret (*Ardea alba*), Intermediate Egret (*Egretta intermedia*), Little Egret (*Egretta garzetta*), Chinese Pond Heron (*Ardeola bacchus*), Yellow Bittern (*Ixobrychus sinensis*), Black-crowned Night Heron (*Nycticorax nycticorax*), Black-winged Kite (*Elanus caeruleus*), Black Kite (*Milvus migrans*), Greater Painted-snipe (*Rostratula benghalensis*), Little Ringed Plover (*Charadrius dubius*), Pied Kingfisher (*Ceryle rudis),* White-throated Kingfisher *(Halcyon smyrnensis)* and Amur Paradise Flycatcher *(Terpsiphone incei).*

Little Grebe, Yellow Bittern, Black-crowned Night Heron, Black-winged Kite, Greater Painted-snipe, Pied Kingfisher, White-throated Kingfisher, Little Ringed Plover and Amur Paradise Flycatcher are listed by Fellowes et al. (2002) as of “Local Concern”. Great Cormorant, Grey Heron, Great Egret, Little Egret and Chinese Pond Heron are listed by Fellowes et al. (2002) as of “Potential Regional Concern”. Great Egret, Little Egret, Chinese Pond Heron, Purple Heron, Intermediate Egret and Black Kite are listed by Fellowes et al. (2002) as of “Regional Concern”.

In addition to wetland-dependence birds and/or species of conservation importance, the WRA also attracts a number of terrestrial birds including Eastern Buzzard (*Buteo japonicus*), and Greater Coucal (*Centropus sinensis*) which are protected under terrestrial wildlife state protection (Category II). Greater Coucal is also listed as vulnerable (VU) in the China Red Data Book.

[1] The target species are: Little Egret, *Egretta garzetta*, Eastern Cattle Egret, *Bubulcus coromandus* (formerly known as Cattle Egret, *Bubulcus ibis*) and Chinese Pond Heron, *Ardeola bacchus*.

The fishponds to the north of the WRA (i.e., within the Survey Area (excluding WRA)) are at a greater distance from the residential portion and any disturbance impact(s) from the construction works would have first affected the WRA. Further, 27 bird species of conservation importance and/or wetland-dependent were observed using the WRA during the survey period (versus 24 species recorded in the Survey Area (excluding WRA)). The WRA is therefore considered to be effective both in acting as a buffer against potential disturbance and impact from the construction site, and in providing suitable wetland habitats at the fringe of the Deep Bay system which includes the Mai Po Marshes and the Ramsar Site as a whole.

2.3 Monitoring of Herpetofauna

Monitoring was undertaken following the survey methodology in the EM&A Manual. Day-time herpetofauna surveys were conducted once a month from 1 May 2025 to 31 October 2025. Night-time herpetofauna surveys were conducted once a month from May 2025 and August 2025. Further, notable herpetofauna observations during other surveys, site inspections and habitat management works were also recorded.

A total of four amphibian species (Asian Common Toad (*Duttaphrynus melanostictus*), Gunther's Frog (*Hylarana guentheri*), Chinese Bull Frog (*Hoplobatrachus rugulosus*) and Asiatic Painted Frog (*Kaloula pulchra pulchra*)) and five reptile species (Bowring's Gecko (*Hemidactylus bowringii*), Brook's Gecko (*Hemidactylus brooki*), Four-clawed Gecko (*Gehyra mutilata*), Long-tailed Skink (*Eutropis longicaudata*) and Checkered Keelback (*Xenochrophis flavipunctatus*)) were recorded in the Survey Area (excluding WRA) during the reporting period. Within the WRA, a total of six amphibian species and three reptile species were recorded during the reporting period.

A summary of survey data is provided in **Appendix C.**

2.4 Monitoring of Dragonfly and Butterflies

Monitoring of odonates and butterflies was conducted once a month in September 2025 and October 2025, and twice a month from May to August 2025. Further, notable odonate and butterfly observations during other surveys, site inspections and habitat management works were also recorded.

A total of six odonate species and 16 butterfly species were recorded in the Survey Area (excluding WRA) during the survey period. Within the WRA, a higher diversity of odonate species (20 species) and butterfly species (32 species) were recorded.

Among the odonate species recorded in the WRA in the survey period, Blue Chaser (*Potamarcha congener*) is listed by Fellowes et al. (2002) as of 'Local Concern'. It was first recorded in the WRA. Among the butterfly species recorded in the WRA in the survey period, Common Awl *Hasora badra badra*) and Pale Palm Dart (*Telicota colon*) are listed by Fellowes et al. (2002) as of 'Local Concern'.

A summary of the survey findings is provided in **Appendix C**.

2.5 Monitoring of Mammals

Monitoring of mammals was conducted concurrently with other surveys. Further, notable mammals observed during site inspections and habitat management works were also recorded.

No mammal species was recorded in the Survey Area (excluding WRA) during the reporting period. Three mammal species, an unidentified bat species (*Indet.sp.*), Eurasian Wild Pig (*Sus scrofa*) and Japanese Pipistrelle (*Pipistrellus abramus*), were recorded within the WRA during the reporting period.

A summary of the survey findings is provided in **Appendix C**.

2.6 Monitoring of Water Quality

Monthly water quality monitoring continued during the reporting period. In the reporting period (May 2025 to October 2025) the water levels of all Cells fluctuated between higher and lower levels due to repeated heavy rainfall and drier period.

The increased water level suppressed the grow of weeds along the edges of the Cells, as well as maintained a suitable habitat for fish, aquatic invertebrate and water plants which will provide food and a habitat for wetland birds. The lower water level, on the other hand, provided foraging habitat for waders, egrets and herons including the target species Little Egret and Chinese Pond Heron.

Monitoring data is presented in **Appendix D**. Locations for the monitoring of water quality for the ecological monitoring are shown in **Figure 1.2**.

3 Ecological Issues

3.1 Vegetation Management

Vegetation management activities undertaken within the WRA included the removal of exotic and excessive vegetation in all cells and along the main access road. These activities primarily involved removal of excess grass and sedges, shrubs and tree branches, as well as excessive climbers and floating vegetation. Removal of vegetation included but was not limited to *Ludwigia spp., Typha sp., Leucaena leucocephala, Macaranga tanarius, Ficus macrocarpa, Rhaphiolepis indica, Lantana camara, Mimosa sp., Pennisetum sp., Ipomea sp., Bidens alba, Paederia foetida and Mikania micrantha.*

Leucaena leucocephala growing along the hoarding of Cell 1, Cell 2, Cell 3 and Cell 4 were mostly trimmed. The remaining tree trunks left during the previous clearance works were also cleared to ground level. The clearance works were conducted over a period of several months to avoid a sudden and drastic change of vegetation cover along the Cell bunds.

Exotic Cattails (*Typha* sp.) growing in the Cells were cleared by hand. At the end of October 2025, all noticeable cattail stands were removed in the WRA. Clearance works were also conducted over a period of several months to avoid a sudden and drastic change of vegetation cover within the Cells (See Photos 1 to 3). Any regrown Cattails (*Typha sp.*) in Cell 1 and Cell 2 were subsequently removed during vegetation management works within the reporting period.

Photo 1 **Removal of Leucaena leucocephala (October 2025)**



Photo 2 **Weeding along the hoarding of the WRA (October 2025)**



Photo 3 **Clearance of fallen leaves and sticks on the access road (September 2025)**



3.2 Wildlife Management

Golden Apple Snails and their eggs were removed on an “as-seen” basis. (See Photo 4)

During the site inspection works in the reporting period there were no active Red Imported Fire Ant nests found within the WRA. Site inspection works in the coming months will continue to check if there is any active Red Imported Fire Ant nest found. Active nests will be treated with approved pesticides during the dry season. Pesticide usage will only be confined to nests found on terrestrial areas which are further away from the Cells to prevent the contamination of water.

Preliminarily actions have been taken to increase the WRA utilization by birds. The mitigation actions are:

1. Maintaining the low water level of Cell 1, Cell 2, Cell 3 and Cell 4;
2. Controlling the vegetation at Cell 1, Cell 2, Cell 3 and Cell 4 (See Photo 5).

These mitigation actions aim to increase the foraging area and maintain a suitable habitat for target species, wetland-dependent species as well as species of conservation importance.

Photo 4 **Clearance of apple snails (September 2025)**



Photo 5 **Clearance of fallen tree September 2025)**



4 Summary of Wetland Restoration Area Performance

4.1 Summary of Findings

Ecological monitoring between 1 May 2025 and 31 October 2025 was carried out following the survey methodology and frequency outlined in the EM&A Manual.

Summary of ecological monitoring in the Survey Area and WRA between 1 May 2025 and 31 October 2025 (**Table 4.1**):

Table 4.1: Summary of Ecological Monitoring in Survey Area (excluding WRA) and WRA

Species	Number of species recorded in Survey Area (excluding WRA)	Number of species recorded in WRA
Birds (total)	51	57
Birds (of conservation importance and/or wetland-dependence)	24	27
Amphibians	4	6
Reptiles	5	3
Mammals	0	3
Dragonflies	6	20
Butterflies	16	32

A total of 57 bird species, 3 mammal species, 20 dragonfly species, 32 butterfly species, 6 amphibian species and 3 reptile species were recorded in the WRA, including 27 bird species of conservation importance and/or wetland-dependence. These findings indicate that the WRA is supporting wetland-dependent birds and other species of conservation importance. The biodiversity of WRA is higher than that in the survey area (excluding WRA), indicating that the wetland and vegetation management works have increased ecological values of the WRA.

Venn diagrams showing the number of common species and species only found in the WRA or Survey Area (excluding the WRA) are presented in Appendix B and Appendix C. An ecological connection between the WRA and Survey Area (excluding the WRA) is observed given the number of common species attracted to both areas. Particularly for birds, 41 common species were recorded within both the WRA and Survey Area (excluding the WRA) during the reporting period (see Appendix B, Chart B1). The WRA attracts a high number of species (i.e., 16 birds, 2 amphibians, 1 reptile, 14 dragonflies, 19 butterflies and 3 mammals recorded only in the WRA), indicating that ecological restoration can enhance biodiversity (see Appendix C, Charts C1 to C5). From the species only recorded in the WRA, nine birds, one amphibians (Ornate Pygmy Frog), two butterflies (Common Awl and Pale Palm Dart) and one odonates (Blue Chaser) were of conservation importance and/or wetland-dependence.

Survey findings indicate that the WRA is attracting two of the three target species (Little Egret and Chinese Pond Heron) to varying degrees. During the survey period (i.e. May 2025 to October 2025), Little Egret was recorded in all months between May 2025 to October 2025, with monthly means ranging from 0.5 (August 2025) to 4.0 (May 2025) birds per survey. Chinese Pond Heron was also recorded in all months between May 2025 to October 2025, with monthly means ranging from 0.5 (June 2025) to 3.8 (October 2025) birds per survey.

A list of the bird species recorded within the WRA since the completion of the site formation is provided in **Appendix B (Table B4)**. A total of 181 bird species have been recorded within the WRA since the completion of the site formation in November 2010. Of the 181 species, 100 were species of conservation importance and/or wetland dependence.

With the completion of planting as scheduled in the approved Habitat Creation and Management Plan (HCMP) in August 2012, establishment work at the WRA is considered complete (except along the western and southern boundary where the planting is affected by the existing site boundary and noise barrier, and for which an approved Variation to Environmental Permit (EP-311/2008/D) to defer planting at the location applies), and the 30-month establishment period concluded in October 2012. A review of the performance of the WRA during the review period in terms of target species attraction is provided in **Section 4.2** below.

It should be noted that the high planting density was intended to ensure a rapid establishment of the site prior to occupation intake, and the planted vegetation is not intended to be maintained as a long-term tree density at the WRA. Regular horticultural/ arboricultural practice is applied in the WRA to remove excessive and less desired specimens to facilitate the successful growth of those which are of higher landscape and/or ecological value. Vegetation management is largely consistent of maintenance of planted trees and shrubs for the creation of suitable habitats for target species, as well as removal of excessive and exotic species. These works should maintain and uphold the long-term habitat structure and the overall biodiversity of the WRA.

4.2 WRA Performance for the Bird Target Species

The provision, maintenance and operation of a WRA are requirements under the Environmental Permit for compensation for predicted ecological impacts to species of conservation importance. Three bird target species were identified during the EIA process: Little Egret, Eastern Cattle Egret and Chinese Pond Heron. Target levels of these species are the annual mean numbers recorded during the Baseline Ecological Monitoring (i.e., a mean of 5.5 Little Egret, 1.3 Eastern Cattle Egret and 1.3 Chinese Pond Heron over a 12-month period). Thus, the ecological impact of the project to the species concerned is considered to have been fully compensated when the target level for each of the three species is achieved. Whilst further discussion and agreement regarding the target level is yet to be undertaken with the relevant Government departments prior to the operation of the WRA, the proposed level offers a clear reference to the effectiveness of the mitigation measures. According to the approved Wetland Creation and Restoration Scheme (November 2009, hereafter WCRS), the WRA is anticipated to be fully operational after an establishment period of 2.5 years (30 months).

Two of the three target species (Little Egret and Chinese Pond Heron) were recorded using the WRA during the survey period (May 2025 to October 2025). Both of Little Egret and Chinese Pond Heron were recorded in all six months during regular surveys. One of the three target species the Eastern Cattle Egret (*Bubulcus coromandus*) was not recorded in the reporting period (May 2025-Oct 2025). This species was only occasionally recorded in the WRA since 2010.

Table 4.2: Biannual mean & Annual mean of the three target species of the WRA from November 2023 to October 2025

Common Name	Scientific Name	Conservation Status [1]	Baseline Annual Mean [2]	Biannual Mean[3]				Annual Mean[3]	
				Nov 23 - Apr 24	May 24 - Oct 24	Nov 24 - Apr 25	May 25 - Oct 25	Nov 23- Oct 24	Nov 24- Oct 25
Chinese Pond Heron	*Ardeola bacchus*	PRC, (RC)	1.3	**1.7**	**2.2**	**1.9**	**2.1**	**2.0**	**1.9**
Little Egret	*Egretta garzetta*	PRC, (RC)	5.5	1.7	1.3	2.1	2.0	1.5	2.0
Eastern Cattle Egret	*Bubulcus coromandus*	(LC)	1.3	0.0	0.1	0.0	0.0	<0.1	0.0

Notes:
(1) Conservation Status follows that of Fellow *et. al.* (2002). See Appendix B (Table B3).
(2) Annual mean number recorded during Baseline Ecological Monitoring.

(3) Values in **bold** indicated the Target Level was achieved.

Based on **Table 4.2** above, the target level of the Chinese Pond Heron has been achieved between May 2025 to October 2025, while the target levels for Little Egret and Eastern Cattle Egret have not been achieved.

According to the ecological monitoring data of the Survey Area (excluding the WRA), Eastern Cattle Egret was not observed in 1 out of 27 regular surveys and the biannual mean of the Eastern Cattle Egret at the Survey Area (excluding the WRA) was <0.1 bird per survey (May 2025 – October 2025).

Eastern Cattle Egret is mainly a spring and autumn passage migrant in Hong Kong with peak count in August (*Carey et al. 2001*). This species mainly forages along short grass habitat, preying on insects, invertebrates and small vertebrates. The large expanse of grassland in the Survey Area (excluding the WRA) and the open storage areas in the vicinity of the WRA and the Survey Area (excluding the WRA) provide foraging sites for the Eastern Cattle Egret. Upon the completion of the WRA, the area had changed from open storage to restored open-water wetland, reedbeds, tall vegetation as well as short grassland along the cell bunds. Apart from short grassland habitat, most other habitats within the WRA are not typical foraging habitats for Eastern Cattle Egret. In the coming months the vegetation along the main access road and pond bunds of the cells will be closely monitored, controlled and maintained, in order to attract more insects and Eastern Cattle Egrets.

Although the biannual mean of Little Egret did not meet the target level, the species was recorded in 22 out of 27 regular surveys within the WRA. The highest count in this period was 6 birds in the WRA on 13 May and 4 June 2025.

Although no Eastern Cattle Egret has been recorded between May 2025 to October 2025, the WRA continues to attract wetland dependent birds and/or species of conservation importance, as well as terrestrial birds of conservation importance.

The biannual change of bird species number and composition since the WRA establishment in Oct 2012 is presented in **Table 4.3**. It shows a steady number of conservation importance species and/or wetland-dependent species continuously recorded in the WRA. This indicates that the WRA provides a suitable habitat for these species.

Table 4.3: Total number of bird species of conservation importance and/or wetland-dependence recorded in the WRA from November 2010 to October 2025

Common Name	Nov 10 - Oct 11	Nov 11 - Oct 12	Nov 12 - Oct 13	Nov 13 - Oct 14	Nov 14 - Oct 15	Nov 15 - Oct 16	Nov 16 - Oct 17	Nov 17 - Oct 18	Nov 18 - Oct 19	Nov 19 - Oct 20	Nov 20 - Oct 21	Nov 21 - Oct 22	Nov 22 - Oct 23	Nov 23 - Oct 24	Nov 24 - Oct 25
Bird species of conservation importance and/ or wetland-dependence	48	33	36	39	45	46	46	42	34	52	51	47	49	33	53

4.3 Adaptive Management for WRA

As the Proposed Comprehensive Development at Wo Shang Wai is still under construction phase, it is considered acceptable for the target species levels to have not been achieved. However, should this situation continue, a review of the management of the WRA and adaptive management steps will be required.

The mitigation actions including: 1) Controlling the water level; 2) Controlling the vegetation; and 3) Removal of Red Imported Fire Ant nests have been taken in the WRA during the survey period to increase the WRA utilization by birds, especially for the three target species of the WRA. The mitigation actions will be continued in the WRA, and monitoring will be carried out to investigate the effectiveness of the mitigation actions.

A summary of the annual mean of bird species of conservation importance and/or wetland-dependence recorded in the WRA from May 2025 to October 2025 is shown in **Table 4.4**. 15 additional species of conservation importance and/or wetland-dependence have been recorded in the WRA in the survey period when compared to the Baseline Ecological Monitoring. The increase in number of the species of conservation importance indicates that the WRA is providing a suitable habitat for them.

Table 4.4: Mean number of bird species of conservation importance and/or wetland-dependence in the WRA during reporting period

Common Name	*Scientific Name* [1]	Wetland Dependence	Conservation Status [2]	Annual mean number recorded during the Baseline Ecological Monitoring	Mean number recorded between May 2025 – October 2025 [3]
Little Grebe	*Tachybaptus ruficollis*	Y	LC	0.0	0.2
Great Cormorant	*Phalacrocorax carbo*	Y	PRC	0.5	<0.1
Grey Heron	*Ardea cinerea*	Y	PRC	0.1	0.6
Purple Heron	*Ardea purpurea*	Y	RC	0.0	<0.1
Great Egret	*Ardea alba*	Y	PRC, (RC)	0.0	0.7
Intermediate Egret	*Egretta intermedia*	Y	RC	0.0	0.2
Little Egret	*Egretta garzetta*	Y	PRC, (RC)	5.5	1.9
Chinese Pond Heron	*Ardeola bacchus*	Y	PRC, (RC)	1.3	2.1
Yellow Bittern	*Ixobrychus sinensis*	Y	(LC)	0.0	0.9
Black-crowned Night Heron	*Nycticorax nycticorax*	Y	(LC)	0.0	0.8
Black-winged Kite#	*Elanus caeruleus*	Y	LC	0.0	<0.1
Black Kite#	*Milvus migrans*	Y	(RC)	1.2	0.4
Eastern Buzzard#	*Buteo japonicus*	Y	-	0.0	<0.1
White-breasted Waterhen	*Amaurornis phoenicurus*	Y	-	0.2	1.6
Common Moorhen	*Gallinula chloropus*	Y	-	0.0	<0.1
Greater Painted-snipe	*Rostratula benghalensis*	Y	LC	0.0	<0.1
Little Ringed Plover	*Charadrius dubius*	Y	(LC)	0.1	0.1
Green Sandpiper	*Tringa ochropus*	Y	-	0.0	0.1
Common Sandpiper	*Actitis hypoleucos*	Y	-	0.2	0.2
Common Snipe	*Gallinago gallinago*	Y	-	0.1	<0.1
Pied Kingfisher	*Ceryle rudis*	Y	(LC)	0.0	<0.1
White-throated Kingfisher#	*Halcyon smyrnensis*	Y	(LC)	0.0	0.1
Common Kingfisher	*Alcedo atthis*	Y	-	0.0	0.3
Eastern Yellow Wagtail	*Motacilla tschutschensis*	Y	-	10.0	<0.1
White Wagtail	*Motacilla alba*	Y	-	0.9	0.6
Oriental Reed Warbler	*Acrocephalus orientalis*	Y	-	0.1	0.1
Amur Paradise Flycatcher	*Terpsiphone incei*	N	LC	0.0	<0.1

Notes:
(1) Follows the List of Hong Kong Birds (ver. 2020-03-10)
(2) Conservation status follows that of Fellowes *et al.* (2002) and BirdLife International listing (2017). Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence. (Fellowes *et al.* 2002)
(3) Refers to the mean number of individuals recorded between May 2025 – October 2025 in the WRA
V indicates the species is recorded outside regular surveys

4.4 Conclusions

After commencement of works in May 2010, the site formation of the Wetland Restoration Area (WRA) was completed on 15 November 2010. In accordance with the requirement as stipulated in Clause 7.2.12 of the EM&A Manual, the WRA was in operation since October 2012 (i.e., within 2.5 years of commencement of construction).

The survey data shows that when compared with the surrounding fishponds which cover a much larger area, the WRA attracts a good number of wetland dependent birds or species of conservation importance, with 27 bird species of conservation importance and/or wetland-dependence recorded during the survey period.

The WRA is attracting two of the three target species (Little Egret and Chinese Pond Heron) identified during the EIA process, to varying degrees. Even though the target level for Little Egret was not met, the species was recorded in 22 out of 27 regular surveys within the WRA during the survey period. Although no Eastern Cattle Egret was recorded within the WRA between May 2025 and October 2025, the WRA continues to attract wetland dependent birds and/or species of conservation importance and terrestrial birds of conservation importance. It is noted that 91 bird species of conservation importance and/or wetland dependence (out of 181 bird species) have been recorded within the WRA since the completion of its site formation.

The site is therefore considered to have achieved no net loss of wetland in terms of area and function because it continuously attracts bird species of conservation importance, indicating that the WRA not only provides a buffer for potential disturbance during construction phase, but also a valuable habitat for wetland dependent species and species of conservation importance.

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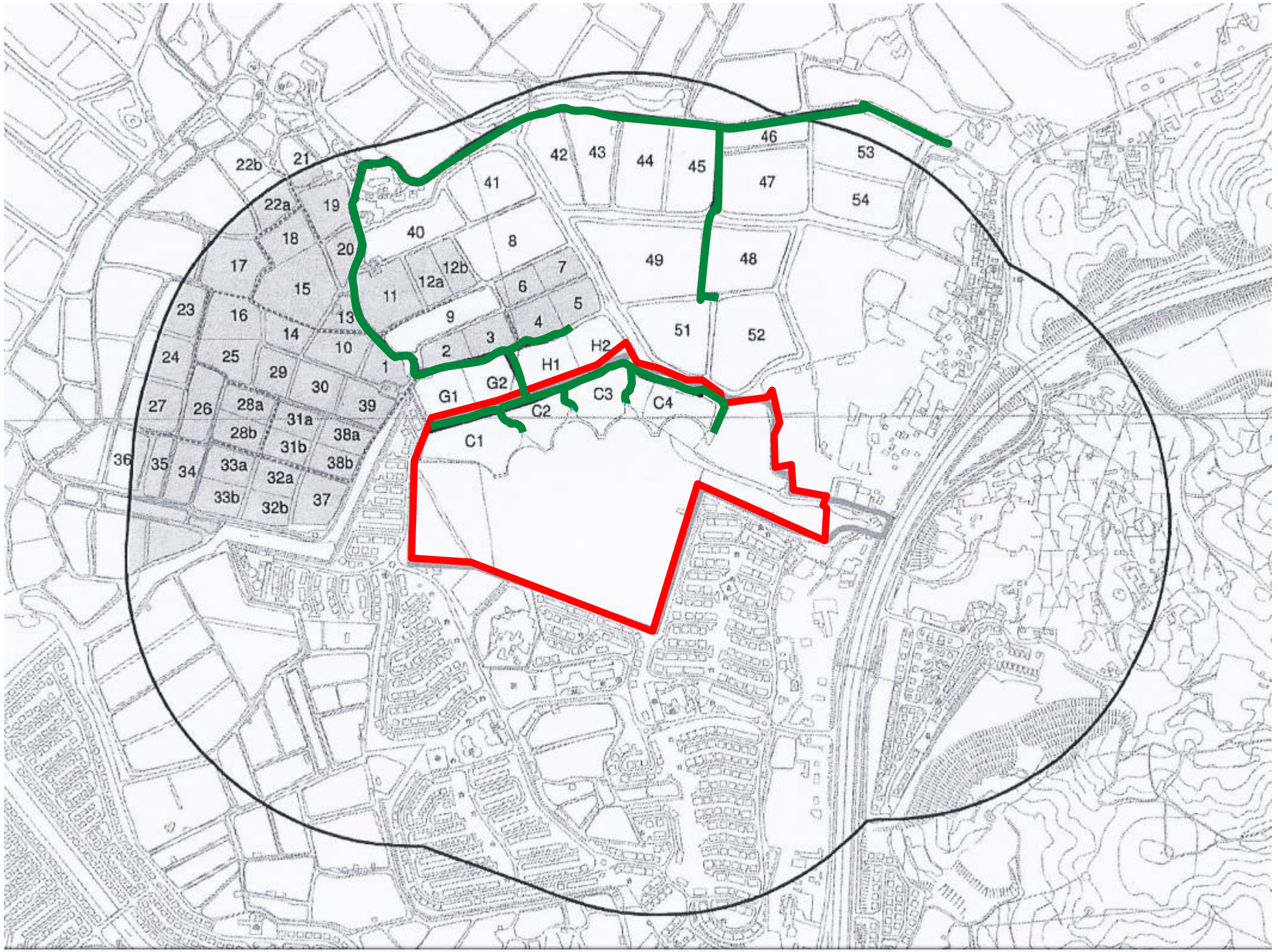
Figures



Notes

Key to symbols

Project Area

Assessment Area

Transect

Reference drawings

Rev	Date	Drawn	Description	Ch'k'd	App'd

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PROFIT POINT ENTERPRISES LIMITED

Project

PROPOSED COMPREHENSIVE DEVELOPMENT AT WO SHANG WAI, YUEN LONG

Title

Survey Area and Transect Walked

Designed			Eng check		
Drawn			Coordination		
Dwg check			Approved		
Scale at A1		Status		Rev	

Drawing Number

Figure 1.1

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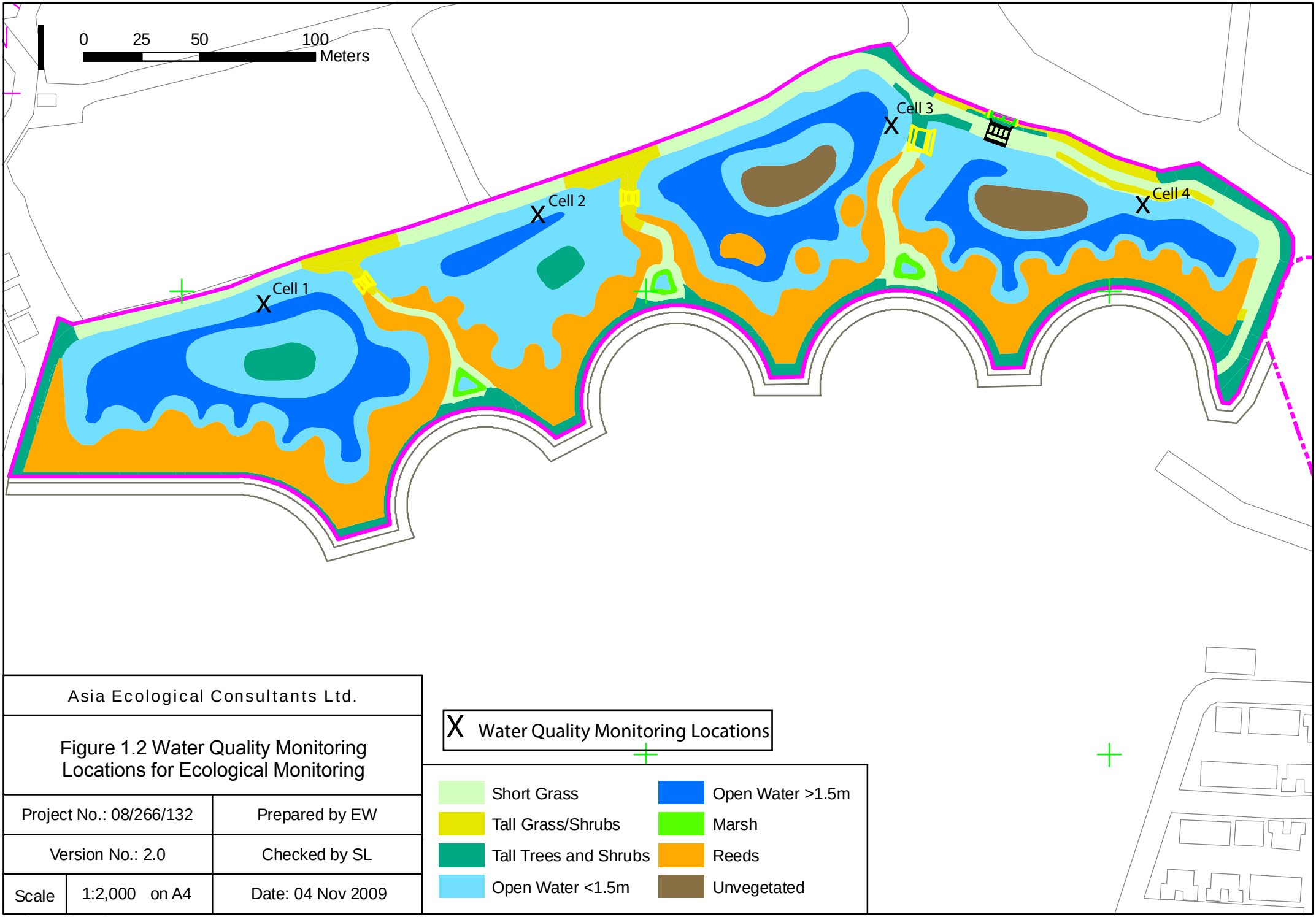

Asia Ecological Consultants Ltd.		
Figure 1.2 Water Quality Monitoring Locations for Ecological Monitoring		
Project No.: 08/266/132		Prepared by EW
Version No.: 2.0		Checked by SL
Scale	1:2,000 on A4	Date: 04 Nov 2009

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A. Schedule of Ecological Monitoring

May 2025	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mammals	✓✓					✓							✓✓*							✓✓							✓✓				
Birds	✓					✓							✓							✓							✓				
Herpetofauna																				✓(n)							✓(d)				
Dragonflies & butterflies	✓												✓																		
Water Quality	+																		✓								+				
Inspection Visits	✓					✓							✓		✓					✓							✓				
Vegetation and Exotic Species Control									✓			✓	✓					✓	✓					✓	✓			✓			✓

June 2025	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Mammals				✓✓							✓✓							✓✓						✓✓						
Birds				✓							✓							✓						✓						
Herpetofauna				✓(d)							✓(n)																			
Dragonflies & butterflies																		✓						✓						
Water Quality				+												✓								+						
Inspection Visits				✓							✓							✓						✓						
Vegetation and Exotic Species Control	✓	✓										✓	✓		✓				✓	✓							✓	✓		

July 2025	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mammals			✓✓				✓✓											✓✓							✓✓				✓		
Birds			✓				✓											✓							✓				✓		
Herpetofauna																		✓(n)							✓(d)						
Dragonflies & butterflies			✓				✓																								
Water Quality			+																		✓+								+	+	
Inspection Visits			✓																		✓								✓	✓	
Vegetation and Exotic Species Control	✓	✓										✓	✓		✓				✓	✓							✓	✓			

August 2025	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mammals								✓✓							✓✓					✓✓						✓✓					
Birds								✓							✓					✓						✓					
Herpetofauna																				✓(n)						✓(d)					
Dragonflies & butterflies								✓							✓																
Water Quality			+			+									+					✓						+					
Inspection Visits			✓			✓		✓							✓					✓						✓					
Vegetation and Exotic Species Control	✓	✓										✓	✓		✓				✓	✓							✓	✓			

September 2025	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Mammals					✓✓							✓				✓✓						✓								
Birds					✓							✓				✓						✓								
Herpetofauna					✓(d)																									
Dragonflies & butterflies																✓														
Water Quality					+			+				✓										+			+					
Inspection Visits					✓			✓				✓				✓						✓			✓					
Vegetation and Exotic Species Control				✓	✓				✓	✓					✓		✓		✓		✓					✓				

October 2025	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mammals	✓								✓✓					✓✓					✓										✓		
Birds	✓								✓					✓					✓										✓		
Herpetofauna									✓(d)																						
Dragonflies & butterflies														✓																	
Water Quality	+														✓														+		
Inspection Visits	✓	✓							✓					✓					✓										✓		
Vegetation and Exotic Species Control		✓			✓						✓	✓		✓			✓	✓										✓		✓	

Notes: Light grey cells indicate public holidays, Saturdays or Sundays
✓Indicates corresponding works
+ Water level monitoring
e Ex-situ laboratory testing
“d” and “n” indicate day-time and night-time herpetofauna surveys respectively
* The data has been updated since the corresponding monthly EM&A report

B. Summary of Bird Surveys

Table B1: Conservation Status Categories of Bird Species

Code	Category	Brief Description	Source
GC	Global Concern	Habitat loss/ damage in Hong Kong would pose significant threat to global survival.	Fellowes *et al.* (2002)
RC	Regional Concern	Habitat loss/ damage in Hong Kong would pose significant threat to regional survival.	
LC	Local Concern	Habitat loss/ damage in Hong Kong would pose significant threat to local survival.	
PGC	Potential Global Concern	Large, secure population in Hong Kong is of global significance.	
PRC	Potential Regional Concern	Large, secure population in Hong Kong is of regional significance.	
CR	Critically Endangered	Best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild.	BirdLife International (2017)
EN	Endangered	Best available evidence indicates that it meets any of the criteria A to E for Endangered, and it is therefore considered to be facing a high risk of extinction in the wild.	
VU	Vulnerable	Best available evidence indicates that it meets any of the criteria A to E for Vulnerable, and it is therefore considered to be facing a high risk of extinction in the wild	
NT	Near Threatened	Does not quality for Critically Endangered or Vulnerable now; but is close to qualifying for or is likely to qualify for a threatened category in the near future.	

Table B2: Summary of bird monitoring data (for species of conservation importance and/or wetland-dependence) within the Survey Area (excluding the WRA)

Common Name	Scientific Name [1]	Wetland Dependent	Conservation Status [2]	May 2025 Mean [3]	Jun 2025 Mean [3]	Jul 2025 Mean [3]	Aug 2025 Mean [3]	Sep 2025 Mean [3]	Oct 2025 Mean [3]
Little Grebe	*Tachybaptus ruficollis*	Y	LC	2.0	1.8	1.8	0.5	1.5	3.4
Great Cormorant	*Phalacrocorax carbo*	Y	PRC	0.0	0.0	0.0	0.0	0.0	2.4
Grey Heron	*Ardea cinerea*	Y	PRC	0.6	0.0	0.2	0.0	0.3	4.4
Great Egret	*Ardea alba*	Y	PRC, (RC)	1.0	1.0	0.4	0.8	1.0	2.8
Intermediate Egret	*Egretta intermedia*	Y	RC	0.0	0.0	0.2	0.0	0.0	0.0
Little Egret	*Egretta garzetta*	Y	PRC, (RC)	9.4	2.8	0.6	0.8	4.0	3.6
Eastern Cattle Egret	*Bubulcus coromandus*	Y	(LC)	0.0	0.0	0.0	0.0	0.0	0.2
Chinese Pond Heron	*Ardeola bacchus*	Y	PRC, (RC)	2.0	2.0	1.2	1.8	1.0	4.4
Yellow Bittern	*Ixobrychus sinensis*	Y	(LC)	0.8	0.3	0.6	0.5	0.0	0.6
Black-crowned Night Heron	*Nycticorax nycticorax*	Y	(LC)	1.8	3.3	2.0	0.0	0.0	0.0
Black Kite#	*Milvus migrans*	Y	(RC)	0.2	0.0	0.0	0.3	0.0	1.2
White-breasted Waterhen	*Amaurornis phoenicurus*	Y	-	2.0	3.3	2.0	0.8	1.5	1.0
Common Moorhen	*Gallinula chloropus*	Y	-	0.2	0.0	0.0	0.0	0.0	0.0
Green Sandpiper	*Tringa ochropus*	Y	-	0.0	0.0	0.0	0.0	0.0	0.2
Common Sandpiper	*Actitis hypoleucos*	Y	-	0.2	0.0	0.2	0.5	1.0	1.4
Whiskered Tern	*Chlidonias hybrida*	Y	-	52.4	7.5	0.0	0.0	0.0	0.0

Common Name	Scientific Name [1]	Wetland Dependent	Conservation Status [2]	May 2025 Mean [3]	Jun 2025 Mean [3]	Jul 2025 Mean [3]	Aug 2025 Mean [3]	Sep 2025 Mean [3]	Oct 2025 Mean [3]
White-winged Tern	*Chlidonias leucopterus*	Y	-	12.6	0.0	0.0	0.0	0.0	0.0
Pied Kingfisher	*Ceryle rudis*	Y	(LC)	0.4	0.3	0.8	0.8	0.0	2.4
White-throated Kingfisher#	*Halcyon smyrnensis*	Y	(LC)	0.0	0.0	0.6	0.0	0.3	0.6
Common Kingfisher	*Alcedo atthis*	Y	-	0.4	0.3	0.2	0.3	0.0	1.0
White Wagtail	*Motacilla alba*	Y	-	1.4	1.8	1.6	1.0	2.0	4.0
White-shouldered Starling	*Sturnia sinensis*	Y	(LC)	5.8	7.3	3.2	0.5	0.0	0.8
Black-naped Oriole	*Oriolus chinensis*	Y	LC	0.0	0.0	0.0	0.0	0.0	0.2
Collared Crow	*Corvus torquatus*	Y	LC, VU	0.2	0.3	0.0	0.0	0.0	0.0
	No. of Species Recorded			**18**	**13**	**15**	**12**	**9**	**18**

Notes:
(1) Follows the List of Hong Kong Birds (ver. 2020-03-10)
(2) Conservation status follows that of Fellowes et al. (2002) and BirdLife International listing (2017). See **Table B1** for the description of the codes.
Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and for roosting sites rather than in general occurrence. (Fellowes et al. 2002)
(3) Refers to the mean number of individuals recorded in each survey in the Survey Area (excluding the WRA)
(4) Birds tagged with '#' are Category II protected under terrestrial wildlife state protection. Birds tagged with '##" are Category I protected under terrestrial wildlife state protection
(5) 'V' indicates the species is recorded outside regular surveys

Table B3: Summary of bird monitoring data (for species of conservation importance and/or wetland-dependence) in the WRA

Common Name	Scientific Name [1]	Wetland Dependent	Conservation Status [2]	May 2025 Mean [3]	Jun 2025 Mean [3]	Jul 2025 Mean [3]	Aug 2025 Mean [3]	Sep 2025 Mean [3]	Oct 2025 Mean [3]
Little Grebe	Tachybaptus ruficollis	Y	LC	0.0	0.0	0.0	V	0.0	0.8
Great Cormorant	*Phalacrocorax carbo*	Y	PRC	0.0	0.0	0.0	0.0	0.0	0.4
Grey Heron	*Ardea cinerea*	Y	PRC	0.8	0.8	0.2	0.0	0.8	1.2
Purple Heron	*Ardea purpurea*	Y	RC	0.0	0.0	0.0	0.0	0.3	0.0
Great Egret	*Ardea alba*	Y	PRC, (RC)	0.6	0.3	0.6	0.5	0.3	1.6
Intermediate Egret	*Egretta intermedia*	Y	RC	0.0	0.3	0.0	0.0	0.3	0.4
Little Egret	*Egretta garzetta*	Y	PRC, (RC)	4.0	2.5	0.6	0.5	1.8	2.2
Chinese Pond Heron	*Ardeola bacchus*	Y	PRC, (RC)	2.0	0.5	1.2	2.8	2.0	3.8
Yellow Bittern	*Ixobrychus sinensis*	Y	(LC)	0.6	1.0	1.2	0.5	1.0	0.8
Black-crowned Night Heron	*Nycticorax nycticorax*	Y	(LC)	1.0	1.0	0.6	0.8	0.5	0.8
Black-winged Kite#	*Elanus caeruleus*	Y	LC	0.0	0.0	0.0	0.0	0.3	0.0
Black Kite#	*Milvus migrans*	Y	(RC)	0.4	0.0	V	0.3	0.5	0.8
Eastern Buzzard#	*Buteo japonicus*	Y	-	0.0	0.0	0.0	0.0	0.0	0.2
White-breasted Waterhen	*Amaurornis phoenicurus*	Y	-	0.6	1.8	2.8	1.8	1.3	1.2
Common Moorhen	*Gallinula chloropus*	Y	-	0.0	0.0	0.0	0.0	0.0	0.2
Greater Painted-snipe	*Rostratula benghalensis*	Y	LC	0.4	0.0	0.0	0.0	0.0	0.0
Little Ringed Plover	*Charadrius dubius*	Y	(LC)	0.2	0.0	0.0	0.0	0.0	0.4
Green Sandpiper	*Tringa ochropus*	Y	-	0.2	0.0	0.0	0.0	0.5	0.0
Common Sandpiper	*Actitis hypoleucos*	Y	-	1.0	0.0	0.0	0.0	0.0	0.2
Common Snipe	*Gallinago gallinago*	Y	-	0.0	0.0	0.0	0.0	0.0	0.4
Pied Kingfisher	*Ceryle rudis*	Y	(LC)	0.0	0.0	0.0	0.3	0.0	0.0
White-throated Kingfisher#	*Halcyon smyrnensis*	Y	(LC)	0.0	0.0	0.2	0.3	0.0	V
Common Kingfisher	*Alcedo atthis*	Y	-	0.0	0.3	0.4	V	0.0	0.8
Eastern Yellow Wagtail	*Motacilla tschutschensis*	Y	-	0.0	0.0	0.0	0.0	0.0	0.2

Common Name	Scientific Name [1]	Wetland Dependent	Conservation Status [2]	May 2025 Mean [3]	Jun 2025 Mean [3]	Jul 2025 Mean [3]	Aug 2025 Mean [3]	Sep 2025 Mean [3]	Oct 2025 Mean [3]
White Wagtail	*Motacilla alba*	Y	-	0.2	0.0	0.2	0.3	1.5	1.6
Oriental Reed Warbler	*Acrocephalus orientalis*	Y	-	0.0	0.0	0.0	0.0	0.5	0.2
Amur Paradise Flycatcher	*Terpsiphone incei*	N	LC	0.0	0.0	0.0	0.0	0.3	0.0
	No. of Species Recorded			**13**	**9**	**11**	**12**	**15**	**21**

Notes:
(1) Follows the List of Hong Kong Birds (ver. 2020-03-10)
(2) Conservation status follows that of Fellows et al. (2002) and BirdLife international listing (2017). See **Table B1** for the description of the codes. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and for roosting sites rather than in general occurrence. (Fellowes et al. 2002).
(3) Refers to mean number of individuals recorded in each survey in the WRA.
(4) Birds tagged with '#' are Category II protected under terrestrial wildlife state protection. Birds tagged with '##" are Category I protected under terrestrial wildlife state protection
(5) 'V' indicates the species is recorded outside regular surveys

Table B4: Summary of Bird Species Recorded Annually at the WRA between 2010 and 2025

Common name	Scientific name	Wetland Dependence	Conservation status	2010 (3)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025 (4)
Little Grebe	*Tachybaptus ruficollis*	Y	LC	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Great Cormorant	*Phalacrocorax carbo*	Y	PRC	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grey Heron	*Ardea cinerea*	Y	PRC	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Purple Heron	*Ardea purpurea*	Y	RC	N	Y	N	N	N	Y	N	N	Y	Y	N	Y	Y	Y	Y	Y
Great Egret	*Ardea alba*	Y	PRC, (RC)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Intermediate Egret	*Egretta intermedia*	Y	RC	N	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Little Egret	*Egretta garzetta*	Y	PRC, (RC)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eastern Cattle Egret	*Bubulcus coromandus*	Y	(LC)	N	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Chinese Pond Heron	*Ardeola bacchus*	Y	PRC, (RC)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Yellow Bittern	*Ixobrychus sinensis*	Y	(LC)	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cinnamon Bittern	*Ixobrychus cinnamomeus*	Y	LC	N	N	N	N	N	Y	N	Y	Y	N	N	N	N	Y	N	N
Great Bittern	*Botaurus stellaris*	Y	RC	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N
Black-crowned Night Heron	*Nycticorax nycticorax*	Y	(LC)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Black Stork	*Ciconia nigra*	Y	RC	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Eurasian Spoonbill	*Platalea leucorodia*	Y	LC	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Black-faced Spoonbill	*Platalea minor*	Y	PGC, EN	N	Y	Y	N	Y	Y	Y	N	N	N	Y	N	N	N	N	N
Mandarin Duck	*Aix galericulata*	Y	-	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Eurasian Wigeon	*Anas penelope*	Y	RC	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Eurasian Teal	*Anas crecca*	Y	RC	N	Y	N	N	N	N	N	Y	N	Y	N	Y	Y	N	N	N
Northern Pintail	*Anas acuta*	Y	RC	Y	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
Northern Shoveler	*Anas clypeata*	Y	RC	N	N	N	Y	Y	N	Y	N	N	N	N	N	N	N	N	N
Garganey	*Anas querquedula*	Y	-	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	N
Tufted Duck	*Aythya fuligula*	Y	LC	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
Western Osprey	*Pandion haliaetus*	Y	RC	Y	N	N	N	N	Y	Y	N	N	N	Y	N	Y	Y	Y	Y
Crested Goshawk	*Accipiter trivirgatus*	N	-	N	N	N	N	N	N	Y	N	Y	N	Y	N	N	N	Y	N
Besra	*Accipiter virgatus*	N	-	N	N	N	N	N	N	N	N	Y	N	Y	Y	Y	Y	Y	Y
Black-winged Kite	*Elanus caeruleus*	Y	LC	N	N	N	N	N	Y	N	N	N	N	Y	Y	Y	Y	N	Y
Black Kite	*Milvus migrans*	Y	(RC)	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Crested Serpent Eagle	*Spilornis cheela*	N	(LC)	N	N	N	N	Y	N	Y	N	Y	Y	Y	Y	N	N	Y	N
Greater Spotted Eagle	*Clanga clanga*	Y	GC	N	N	N	N	N	Y	N	Y	Y	N	Y	Y	Y	N	Y	Y
Eastern Imperial Eagle	*Aquila heliaca*	Y	-	N	N	N	N	N	Y	N	Y	N	N	Y	Y	Y	Y	N	N
Eastern Buzzard	*Buteo japonicus*	Y	-	N	Y	N	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y
Common Kestrel	*Falco tinnunculus*	N	-	Y	Y	N	N	N	Y	Y	N	N	N	Y	Y	N	Y	Y	N
Peregrine Falcon	*Falco peregrinus*	N	(LC)	N	N	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y	N	N	N
Eurasian Hobby	*Falco subbuteo*	Y	(LC)	N	N	N	N	Y	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y
Japanese Quail	*Coturnix japonica*	N	LC	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	Y
Baillon's Crake	*Porzana pusilla*	Y	LC	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y
White-breasted Waterhen	*Amaurornis phoenicurus*	Y	-	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Watercock	*Gallicrex cinerea*	Y	RC	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N
Common Moorhen	*Gallinula chloropus*	Y	-	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pheasant-tailed Jacana	*Hydrophasianus chirurgus*	Y	LC	N	Y	N	N	N	Y	N	N	Y	N	Y	N	N	N	N	N
Greater Painted-snipe	*Rostratula benghalensis*	Y	LC	N	Y	Y	N	N	N	N	N	Y	Y	N	N	N	N	Y	Y
Black-winged Stilt	*Himantopus himantopus*	Y	RC	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Pied Avocet	*Recurvirostra avosetta*	Y	RC	Y	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N
Grey-headed Lapwing	*Vanellus cinereus*	Y	LC	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N
Oriental Pratincole	*Glareola maldivarum*	Y	LC	N	Y	N	N	N	N	Y	Y	Y	N	Y	Y	N	N	Y	Y
Pacific Golden Plover	*Pluvialis fulva*	Y	LC	N	N	N	N	N	N	Y	N	N	N	Y	Y	N	N	N	N
Little Ringed Plover	*Charadrius dubius*	Y	(LC)	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Kentish Plover	*Charadrius alexandrinus*	Y	RC	N	N	N	Y	N	N	Y	N	N	N	N	N	N	N	N	Y
Spotted Redshank	*Tringa erythropus*	Y	RC	N	N	N	Y	N	N	Y	Y	N	N	N	N	N	N	N	N
Common Redshank	*Tringa totanus*	Y	RC	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	Y
Common Greenshank	*Tringa nebularia*	Y	RC	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Marsh Sandpiper	*Tringa stagnatilis*	Y	RC	N	N	N	N	N	N	N	Y	N	N	N	Y	N	N	N	N

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Green Sandpiper	*Tringa ochropus*	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wood Sandpiper	*Tringa glareola*	Y	LC	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Common Sandpiper	*Actitis hypoleucos*	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pintail/Swinhoe's Snipe*	*Gallinago stenura/ G. megala*	Y	LC	Y	Y	N	Y	N	N	N	N	N	N	Y	N	N	Y	Y	N
Common Snipe	*Gallinago gallinago*	Y	-	N	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Red-necked Stint	*Calidris ruficollis*	Y	LC	Y	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y
Temminck's Stint	*Calidris temminckii*	Y	LC	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y
Long-toed Stint	*Calidris subminuta*	Y	LC	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
Black-headed Gull	*Chroicocephalus ridibundus*	Y	PRC	N	N	N	N	N	N	N	Y	N	N	Y	N	N	N	Y	Y
Whiskered Tern	*Chlidonias hybrida*	Y	-	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	Y
White-winged Tern	*Chlidonias leucopterus*	Y	-	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N
Domestic Pigeon	*Columba livia*	N	-	N	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y
Oriental Turtle Dove	*Streptopelia orientalis*	N	-	N	Y	N	N	N	N	Y	N	N	N	N	N	N	Y	N	N
Red Turtle Dove	*Streptopelia tranquebarica*	N	-	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	Y	N
Spotted Dove	*Spilopelia chinensis*	N	-	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eurasian Collared Dove	*Streptopelia decaocto*	N	-	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Emerald Dove	*Chalcophaps indica indica*	N	-	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Asian Koel	*Eudynamys scolopaceus*	N	-	N	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Greater Coucal#	*Centropus sinensis*	N	-	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Indian Cuckoo	*Cuculus Micropterus*	N	-	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N
Large Hawk-Cuckoo	*Hierococcyx sparverioides*	N	-	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y
Plaintive Cuckoo	*Cacomantis merulinus*	N	-	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y
Asian Barred Owlet	*Glaucidium cuculoides*	N	-	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Eurasian Eagle Owl	*Bubo bubo*	N	RC	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N
Savanna Nightjar	*Caprimulgus affinis*	N	-	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N

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Himalayan Swiftlet	*Aerodramus brevirostris*	N	-	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N
Pacific Swift	*Apus pacificus*	N	(LC)	N	Y	N	N	N	N	Y	N	N	N	Y	N	Y	Y	Y	N
House Swift	*Apus nipalensis*	N	-	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	N
Pied Kingfisher	*Ceryle rudis*	Y	(LC)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Black-capped Kingfisher	*Halcyon pileata*	Y	(LC)	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
White-throated Kingfisher	*Halcyon smyrnensis*	Y	(LC)	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Common Kingfisher	*Alcedo atthis*	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Eurasian Hoopoe	*Upupa epops*	N	-	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	Y	Y
Barn Swallow	*Hirundo rustica*	N	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red-rumped Swallow	*Hirundo daurica*	N	-	N	N	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	Y	N	Y
Sand Martin	*Riparia riparia*	Y	-	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y	N	N
Eastern Yellow Wagtail	*Motacilla tschutschensis*	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grey Wagtail	*Motacilla cinerea*	Y	-	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y
White Wagtail	*Motacilla alba*	Y	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Richard's Pipit	*Anthus richardi*	N	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Olive-backed Pipit	*Anthus hodgsoni*	N	-	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Red-throated Pipit	*Anthus cervinus*	N	LC	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N
Buff-bellied Pipit	*Anthus rubescens*	N	LC	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
Red-whiskered Bulbul	*Pycnonotus jocosus*	N	-	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Light-vented Bulbul	*Pycnonotus sinensis*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sooty-headed Bulbul	*Pycnonotus aurigaster*	N	-	N	N	N	N	N	N	Y	Y	N	N	Y	Y	Y	N	N	Y
Black-winged Cuckooshrike	*Lalage melaschistos*	N	-	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y
Bull-headed Shrike	*Lanius bucephalus*	N	-	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	Y
Brown Shrike	*Lanius cristatus*	N	-	N	N	N	N	N	Y	N	Y	N	N	Y	Y	Y	N	N	Y
Long-tailed Shrike	*Lanius schach*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oriental Magpie Robin	*Copsychus saularis*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Red-flanked Bluetail	*Tarsiger cyanurus*	N	-	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
Bluethroat	*Luscinia svecica*	N	LC	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y
Siberian Rubythroat	*Calliope calliope*	N	-	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
Daurian Redstart	*Phoenicurus auroreus*	N	-	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stejneger's Stonechat	*Saxicola stejnegeri*	N	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chinese Blackbird	*Turdus mandarinus*	N	-	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grey-backed thrush	*Turdus hortulorum*	N	-	N	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	Y	N
White's Thrush	*Zoothera aurea*	N	-	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
Masked Laughingthrush	*Garrulax perspicillatus*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lanceolated Warbler	*Locustella lanceolata*	Y	-	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
Pallas's Grasshopper Warbler	*Locustella certhiola*	Y	LC	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Oriental Reed Warbler	*Acrocephalus orientalis*	Y	-	N	N	N	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Thick-billed Warbler	*Acrocephalus aedon*	Y	LC	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	Y	Y
Black-browed Reed Warbler	*Acrocephalus bistrigiceps*	Y	-	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	N
Manchurian Bush Warbler	*Horornis canturians*	N	-	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Common Tailorbird	*Orthotomus sutorius*	N	-	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dusky Warbler	*Phylloscopus fuscatus*	N	-	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pallas's Leaf Warbler	*Phylloscopus proregulus*	N	-	N	N	N	N	Y	Y	Y	Y	N	N	Y	N	Y	N	N	N
Yellow-browed warbler	*Phylloscopus inornatus*	N	-	N	N	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N
Sakhalin Leaf Warbler	*Phylloscopus borealoides*	N	-	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Eastern Crowned Warbler	*Phylloscopus coronatus*	N	-	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y
Pale-legged Leaf Warbler	*Phylloscopus tenellipes*	N	-	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N
Zitting Cisticola	*Cisticola juncidis*	Y	LC	N	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y

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Yellow-bellied Prinia	*Prinia flaviventris*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Plain Prinia	*Prinia inornata*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grey-streaked Flycatcher	*Muscicapa griseisticta*	N	-	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y
Asian Brown Flycatcher	*Muscicapa dauurica*	N	-	N	N	N	N	N	Y	N	N	N	Y	Y	Y	Y	N	N	N
Red-throated Flycatcher	*Ficedula albicilla*	N	-	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	Y	Y
Yellow-rumped Flycatcher	*Ficedula zanthopygia*	N	-	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
Grey-headed Canary-Flycatcher	*Culicicapa ceylonensis*	N	LC	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Amur Paradise Flycatcher	*Terpsiphone incei*	N	LC	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y
Japanese Paradise Flycatcher	*Terpsiphone atrocaudata*	N	LC	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Chinese Penduline-Tit	*Remiz consobrinus*	Y	RC	N	N	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	N
Cinereous Tit	*Parus cinereus*	N	-	N	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Japanese Tit	*Parus minor*	N	-	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	Y
Swinhoe's White-eye	*Zosterops simplex*	N	-	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fork-tailed Sunbird	*Aethopyga christinae*	N	-	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	Y	Y
Little Bunting	*Emberiza pusilla*	N	-	Y	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	N
Black-faced Bunting	*Emberiza spodocephala*	N	-	N	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	Y	Y	N	N
Chinese Grosbeak	*Eophona migratoria*	Y	LC	N	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
Scaly-breasted Munia	*Lonchura punctulata*	N	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
White-headed Munia	*Lonchura maja*	N	-	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Y
Chestnut Munia	*Lonchura atricapilla*	N	-	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	Y	Y
Eurasian Tree Sparrow	*Passer montanus*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Yellow-fronted Canary	*Crithagra mozambica*	N	-	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N

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Red-billed Starling	*Spodiopsar sericeus*	Y	(RC)*	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
White-cheeked Starling	*Spodiopsar cineraceus*	Y	PRC	N	Y	N	N	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N
Black-collared Starling	*Gracupica nigricollis*	N	-	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
White-shouldered Starling	*Sturnia sinensis*	Y	(LC)	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Common Myna	*Acridotheres tristis*	N	-	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Crested Myna	*Acridotheres cristatellus*	N	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Great Myna	*Acridotheres grandis*	N	-	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N
Black-naped Oriole	*Oriolus chinensis*	Y	LC	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
Black Drongo	*Dicrurus macrocercus*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hair-crested Drongo	*Dicrurus hottentottus*	N	-	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N
Azure-winged Magpie	*Cyanopica cyanus*	N	-	N	N	N	Y	N	N	N	Y	Y	Y	Y	Y	N	Y	N	N
Oriental Magpie	*Pica serica*	N	-	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Red-billed Blue Magpie	*Urocissa erythrorhyncha*	N	-	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y
Large-billed Crow	*Corvus macrorhynchos*	N	-	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N
Collared Crow	*Corvus torquatus*	Y	LC, NT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	No. of Species Recorded			**34**	**63**	**56**	**59**	**73**	**85**	**86**	**78**	**76**	**69**	**112**	**102**	**104**	**89**	**98**	**91**

Notes:
(1) Conservation Status follows that of *Fellows et. al. (2002) and BirdLife International listing (2017).* See **Table B1** for the description of the codes. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and for roosting sites rather than in general occurrence. (*Fellowes et al. 2002*)
(2) Updated species names used in the report include Eurasian Magpie (*Pica serica*) as Oriental Magpie (*Pica pica*), Japanese White-eye (*Zosterops japonica*) as Swinhoe's White-eye (*Zosterops simplex*), Chinese Bulbul (*Pycnonotus sinensis*) as Light-vented Bulbul (*Pycnonotus sinensis*) and Pale Martin (*Riparia diluta*) as Sand Martin (*Riparia riparia*)
(3) Species recorded between September and December 2010 only
(4) Species recorded between January and October 2025 only
^ Pintail Snipe and Swinhoe's Snipe cannot be distinguished in field, conservation status refers to Swinhoe's Snipe.
# Greater Coucal is listed as vulnerable (VU) in China Red Data Book and it is protected terrestrial wildlife state protection (category II).
* Red-billed Starling is considered by Fellows *et al* (2002) to be of Global Concern. Since publication, however, the global population estimate has been revised and the species is now not considered globally threatened. A listing of Regional Concern (RC) based on the importance of the large roosts present near Deep Bay, is considered to be more appropriate. (Wetland Restoration Plan, Mott, 2008). Red-billed Starling is now listed as Least Concern by IUCN. (IUCN, 2016)

Table B5: Summary of Bird Species Recorded at the WRA and their Respective Monthly Mean between May 2025 and October 2025

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Little Grebe	*Tachybaptus ruficollis*	Y	LC	0	0	0	0	0	0.8
Great Crested Grebe	*Podiceps cristatus*	Y	RC	0	0	0	0	0	0
Great Cormorant	*Phalacrocorax carbo*	Y	PRC	0	0	0	0	0	0.4
Grey Heron	*Ardea cinerea*	Y	PRC	0.8	0.8	0.2	0	0.8	1.2
Purple Heron	*Ardea purpurea*	Y	RC	0	0	0	0	0.3	0
Great Egret	*Ardea alba*	Y	PRC, (RC)	0.6	0.3	0.6	0.5	0.3	1.6
Intermediate Egret	*Egretta intermedia*	Y	RC	0	0.3	0	0	0.3	0.4
Little Egret	*Egretta garzetta*	Y	PRC, (RC)	4	2.5	0.6	0.5	1.8	2.2
Eastern Cattle Egret	*Bubulcus coromandus*	Y	(LC)	0	0	0	0	0	0
Chinese Pond Heron	*Ardeola bacchus*	Y	PRC, (RC)	2	0.5	1.2	2.8	2	3.8
Yellow Bittern	*Ixobrychus sinensis*	Y	(LC)	0.6	1	1.2	0.5	1	0.8
Cinnamon Bittern	*Ixobrychus cinnamomeus*	Y	LC	0	0	0	0	0	0
Von Schrenck's Bittern	*Ixobrychus eurhythmus*	Y	RC	0	0	0	0	0	0
Great Bittern	*Botaurus stellaris*	Y	RC	0	0	0	0	0	0
Black-crowned Night Heron	*Nycticorax nycticorax*	Y	(LC)	1	1	0.6	0.8	0.5	0.8
Striated Heron	*Butorides striata*	Y	(LC)	0	0	0	0	0	0
Eurasian Spoonbill	*Platalea leucorodia*	Y	Class II, LC	0	0	0	0	0	0
Black-faced Spoonbill	*Platalea minor*	Y	Class I, PGC, VU	0	0	0	0	0	0
Black Stork	*Ciconia nigra*	Y	Class I, RC	0	0	0	0	0	0
Mandarin Duck	*Aix galericulata*	Y	-	0	0	0	0	0	0
Eurasian Wigeon	*Anas penelope*	Y	RC	0	0	0	0	0	0
Eurasian Teal	*Anas crecca*	Y	RC	0	0	0	0	0	0

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Northern Pintail	*Anas acuta*	Y	RC	0	0	0	0	0	0
Northern Shoveler	*Anas clypeata*	Y	RC	0	0	0	0	0	0
Tufted Duck	*Aythya fuligula*	Y	LC	0	0	0	0	0	0
Ferruginous Duck	*Aythya nyroca*	Y	-	0	0	0	0	0	0
Garganey	*Anas querquedula*	Y	-	0	0	0	0	0	0
Western Osprey	*Pandion haliaetus*	Y	Class II, RC	0	0	0	0	0	0
Crested Goshawk	*Accipiter trivirgatus*	N	Class II	0	0	0	0	0	0
Besra	*Accipiter virgatus*	N	Class II	0	0	0	0	V	0.4
Black-winged Kite	*Elanus caeruleus*	Y	Class II, LC	0	0	0	0	0.3	0
Black Kite	*Milvus migrans*	Y	Class II, (RC)	0.4	0	V	0.3	0.5	0.8
Crested Serpent Eagle	*Spilornis cheela*	N	Class II, (LC)	0	0	0	0	0	0
Greater Spotted Eagle	*Clanga clanga*	Y	Class II, GC	0	0	0	0	0	0
Eastern Imperial Eagle	*Aquila heliaca*	Y	Class I, GC	0	0	0	0	0	0
Eastern Buzzard	*Buteo japonicus*	Y	Class II	0	0	0	0	0	0.2
Common Kestrel	*Falco tinnunculus*	N	Class II	0	0	0	0	0	0
Peregrine Falcon	*Falco peregrinus*	N	Class II, (LC)	0	0	0	0	0	0
Eurasian Hobby	*Falco subbuteo*	Y	Class II, (LC)	0	0	0	0	0	0
Eastern Marsh Harrier	*Circus spilonotus*	Y	Class II	0	0	0	0	0	0
Japanese Quail	*Coturnix japonica*	N	LC	0	0	0	0	0	0
Water Rail	*Rallus aquaticus*	Y	LC	0	0	0	0	0	0
Baillon's Crake	*Porzana pusilla*	Y	-	0	0	0	0	0	0
White-breasted Waterhen	*Amaurornis phoenicurus*	Y	-	0.6	1.8	2.8	1.8	1.3	1.2
Watercock	*Gallicrex cinerea*	Y	RC	0	0	0	0	0	0

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Eurasian Coot	*Fulica atra*	Y	RC	0	0	0	0	0	0
Common Moorhen	*Gallinula chloropus*	Y	-	0	0	0	0	0	0.2
Pheasant-tailed Jacana	*Hydrophasianus chirurgus*	Y	Class II, LC	0	0	0	0	0	0
Greater Painted-snipe	*Rostratula benghalensis*	Y	LC	0.4	0	0	0	0	0
Black-winged Stilt	*Himantopus himantopus*	Y	RC	0	0	0	0	0	0
Pied Avocet	*Recurvirostra avosetta*	Y	RC	0	0	0	0	0	0
Grey-headed Lapwing	*Vanellus cinereus*	Y	LC	0	0	0	0	0	0
Oriental Pratincole	*Glareola maldivarum*	Y	LC	0	0	0	0	0	0
Pacific Golden Plover	*Pluvialis fulva*	Y	LC	0	0	0	0	0	0
Little Ringed Plover	*Charadrius dubius*	Y	(LC)	0.2	0	0	0	0	0.4
Kentish Plover	*Charadrius alexandrinus*	Y	RC	0	0	0	0	0	0
Sharp-tailed Sandpiper	*Calidris acuminata*	Y	LC	0	0	0	0	0	0
Spotted Redshank	*Tringa erythropus*	Y	RC	0	0	0	0	0	0
Common Redshank	*Tringa totanus*	Y	RC	0	0	0	0	0	0
Common Greenshank	*Tringa nebularia*	Y	RC	0	0	0	0	0	0
Marsh Sandpiper	*Tringa stagnatilis*	Y	RC	0	0	0	0	0	0
Green Sandpiper	*Tringa ochropus*	Y	-	0.2	0	0	0	0.5	0
Wood Sandpiper	*Tringa glareola*	Y	LC	0	0	0	0	0	0
Common Sandpiper	*Actitis hypoleucos*	Y	-	1	0	0	0	0	0.2
Red Knot	*Calidris canutus*	Y	LC, NT	0	0	0	0	0	0
Eurasian Woodcock	*Scolopax rusticola*	Y	-	0	0	0	0	0	0
Pintail/Swinhoe's Snipe*	*Gallinago stenura/G. megala*	Y	LC	0	0	0	0	0	0

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Common Snipe	*Gallinago gallinago*	Y	-	0	0	0	0	0	0.4
Red-necked Stint	*Calidris ruficollis*	Y	LC	0	0	0	0	0	0
Temminck's Stint	*Calidris temminckii*	Y	LC	0	0	0	0	0	0
Long-toed Stint	*Calidris subminuta*	Y	LC	0	0	0	0	0	0
Black-headed Gull	*Chroicocephalus ridibundus*	Y	PRC	0	0	0	0	0	0
Whiskered Tern	*Chlidonias hybrida*	Y	-	0	0	0	0	0	0
White-winged Tern	*Chlidonias leucopterus*	Y	-	0	0	0	0	0	0
Domestic Pigeon	*Columba livia*	N	-	0	0	0	0	0	0
Oriental Turtle Dove	*Streptopelia orientalis*	N	-	0	0	0	0	0	0
Red Turtle Dove	*Streptopelia tranquebarica*	N	-	0	0	0	0	0	0
Spotted Dove	*Spilopelia chinensis*	N	-	0.2	0	1	V	2	2.8
Eurasian Collared Dove	*Streptopelia decaocto*	N	-	0	0.3	1	V	1.3	1.2
Emerald Dove	*Chalcophaps indica*	N	Class II	0	0	0	0	0	0
Asian Koel	*Eudynamys scolopaceus*	N	-	0.4	1.3	1	0.3	0.3	0.2
Lesser Coucal	*Centropus bengalensis*	N	-	0	0	0	0	0	0
Greater Coucal	*Centropus sinensis*	N	Class II	1.4	2.3	1.6	0.5	0.5	0.2
Indian Cuckoo	*Cuculus micropterus*	N	-	0	0	0	0	0	0
Large Hawk-Cuckoo	*Hierococcyx sparverioides*	N	-	0	0	0	0	0	0
Plaintive Cuckoo	*Cacomantis merulinus*	N	-	0	0	0	0	0	0
Eurasian Eagle Owl	*Bubo bubo*	N	Class II, RC	0	0	0	0	0	0
Asian Barred Owlet	*Glaucidium cuculoides*	N	Class II	0	0	0	0	0	0.4
Savanna Nightjar	*Caprimulgus affinis*	N	-	0	0	0	0	0	0

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Himalayan Swiftlet	*Aerodramus brevirostris*	N	-	0	0	0	0	0	0
Pacific Swift	*Apus pacificus*	N	(LC)	0	0	0	0	0	0
House Swift	*Apus nipalensis*	N	-	0	0	0	0	0	0
Pied Kingfisher	*Ceryle rudis*	Y	(LC)	0	0	0	0.3	0	0
Black-capped Kingfisher	*Halcyon pileata*	Y	(LC)	0	0	0	0	0	0
White-throated Kingfisher	*Halcyon smyrnensis*	Y	Class II, (LC)	0	0	0.2	0.3	0	V
Common Kingfisher	*Alcedo atthis*	Y	-	0	0.3	0.4	V	0	0.8
Blue-tailed Bee-eater	*Merops philippinus*	N	Class II	0	0	0	0	0	0
Eurasian Hoopoe	*Upupa epops*	N	-	0	0	0	0	0	0
Eurasian Wryneck	*Jynx torquilla*	N	-	0	0	0	0	0	0
Barn Swallow	*Hirundo rustica*	N	-	3	2.3	1.6	0.8	0.5	0.6
Red-rumped Swallow	*Hirundo daurica*	N	-	0	0	0	0	0	1.2
Sand Martin	*Riparia riparia*	Y	-	0	0	0	0	0	0
Eastern Yellow Wagtail	*Motacilla tschutschensis*	Y	-	0	0	0	0	0	0.2
Grey Wagtail	*Motacilla cinerea*	Y	-	0	0	0	0	0	0
White Wagtail	*Motacilla alba*	Y	-	0.2	0	0.2	0.3	1.5	1.6
Richard's Pipit	*Anthus richardi*	N	-	0	0	0	0	0	0
Olive-backed Pipit	*Anthus hodgsoni*	N	-	0	0	0	0	0	0
Red-throated Pipit	*Anthus cervinus*	N	LC	0	0	0	0	0	0
Buff-bellied Pipit	*Anthus rubescens*	N	LC	0	0	0	0	0	0
Red-whiskered Bulbul	*Pycnonotus jocosus*	N	-	1.4	3.5	3.8	1	2.5	2.2
Light-vented Bulbul	*Pycnonotus sinensis*	N	-	0.8	2.8	2	1	1.8	0.4
Sooty-headed Bulbul	*Pycnonotus aurigaster*	N	-	0	0	0	0	0	0

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Black-winged Cuckooshrike	*Lalage melaschistos*	N	-	0	0	0	0	0	0
Bull-headed Shrike	*Lanius bucephalus*	N	-	0	0	0	0	0	0
Brown Shrike	*Lanius cristatus*	N	-	0.2	0	0	0	0	0
Long-tailed Shrike	*Lanius schach*	N	-	0	0	0.2	0.3	0	0
Oriental Magpie Robin	*Copsychus saularis*	N	-	0.4	0.8	1.6	1	0	0.6
Stejneger's Stonechat	*Saxicola stejnegeri*	N	-	0	0	0	0	0	0.6
Daurian Redstart	*Phoenicurus auroreus*	N	-	0	0	0	0	0	0.2
Red-flanked Bluetail	*Tarsiger cyanurus*	N	-	0	0	0	0	0	0
Bluethroat	*Luscinia svecica*	N	LC	0	0	0	0	0	0
Siberian Rubythroat	*Calliope calliope*	N	-	0	0	0	0	0	0
White's Thrush	*Zoothera aurea*	N	-	0	0	0	0	0	0
Chinese Blackbird	*Turdus mandarinus*	N	-	0	0	0	0	0	0
Grey-backed thrush	*Turdus hortulorum*	N	-	0	0	0	0	0	0
Masked Laughingthrush	*Pterorhinus perspicillatus*	N	-	3.2	6.3	3.2	4	2.3	1.4
Lanceolated Warbler	*Locustella lanceolata*	Y	-	0	0	0	0	0	0
Pallas's Grasshopper Warbler	*Locustella certhiola*	Y	LC	0	0	0	0	0	0
Oriental Reed Warbler	*Acrocephalus orientalis*	Y	-	0	0	0	0	0.5	0.2
Thick-billed Warbler	*Acrocephalus aedon*	Y	LC	0	0	0	0	0	0
Black-browed Reed Warbler	*Acrocephalus bistrigiceps*	Y	-	0	0	0	0	0	0
Manchurian Bush Warbler	*Horornis canturians*	N	-	0	0	0	0	0	0
Common Tailorbird	*Orthotomus sutorius*	N	-	0.6	1	0.8	0.5	0.8	0.4

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Arctic Warbler	*Phylloscopus borealis*	N	-	0	0	0	0	0.3	0
Dusky Warbler	*Phylloscopus fuscatus*	N	-	0.2	0	0	0	0	1.6
Pallas's Leaf Warbler	*Phylloscopus proregulus*	N	-	0	0	0	0	0	0
Yellow-browed warbler	*Phylloscopus inornatus*	N	-	0	0	0	0	0	0
Sakhalin Leaf Warbler	*Phylloscopus borealoides*	N	-	0	0	0	0	0	0
Eastern Crowned Warbler	*Phylloscopus coronatus*	N	-	0	0	0	0	0	0
Pale-legged Leaf Warbler	*Phylloscopus tenellipes*	N	-	0	0	0	0	0	0
Zitting Cisticola	*Cisticola juncidis*	Y	LC	0	0	0	0	0	0
Yellow-bellied Prinia	*Prinia flaviventris*	N	-	5.4	8.5	3.4	3.8	4.5	2.6
Plain Prinia	*Prinia inornata*	N	-	0.6	0.8	0.6	1	1.8	0.8
Grey-streaked Flycatcher	*Muscicapa griseisticta*	N	-	0	0	0	0	0	0
Asian Brown Flycatcher	*Muscicapa latirostris*	N	-	0	0	0	0	0	0
Red-throated Flycatcher	*Ficedula albicilla*	N	-	0	0	0	0	0	0
Yellow-rumped Flycatcher	*Ficedula zanthopygia*	N	-	0	0	0	0	0	0
Grey-headed Canary-Flycatcher	*Culicicapa ceylonensis*	N	LC	0	0	0	0	0	0
Amur Paradise Flycatcher	*Terpsiphone incei*	N	LC	0	0	0	0	0.3	0
Japanese Paradise Flycatcher	*Terpsiphone atrocaudata*	N	LC	0	0	0	0	0	0
Chinese Penduline-Tit	*Remiz consobrinus*	Y	RC	0	0	0	0	0	0
Cinereous Tit	*Parus cinereus*	N	-	0.6	0	0.6	2	0.8	0.8
Japanese Tit	*Parus minor*	N	-	0	0	0	0	0	0
Eurasian Skylark	*Alauda arvensis*	N	-	0	0	0	0	0	0

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Swinhoe's White-eye	*Zosterops simplex*	N	-	0.4	0	2.6	2.8	2.5	2.4
Fork-tailed Sunbird	*Aethopyga christinae*	N	-	0	0	0	0	0	0
Little Bunting	*Emberiza pusilla*	N	-	0	0	0	0	0	0
Black-faced Bunting	*Emberiza spodocephala*	N	-	0	0	0	0	0	0
Chinese Grosbeak	*Eophona migratoria*	Y	LC	0	0	0	0	0	0
Hawfinch	*Coccothraustes coccothraustes*	N	-	0	0	0	0	0	0
Scaly-breasted Munia	*Lonchura punctulata*	N	-	0	0	0	0	2	3
White-rumped Munia	*Lonchura striata*	N	-	0	0	0	0	0	0
White-headed Munia	*Lonchura maja*	N	-	0	0	0	0	0	0
Chestnut Munia	*Lonchura atricapilla*	N	-	0	0	0	0	0	0
Eurasian Tree Sparrow	*Passer montanus*	N	-	0	0	0	0	0	0
Yellow-fronted Canary	*Crithagra mozambica*	N	-	0	0	0	0	0	0
Red-billed Starling	*Spodiopsar sericeus*	Y	(RC)*	0	0	0	0	0	0
White-cheeked Starling	*Spodiopsar cineraceus*	Y	PRC	0	0	0	0	0	0
Black-collared Starling	*Gracupica nigricollis*	N	-	1.8	2	2.8	3.3	6	4.2
White-shouldered Starling	*Sturnia sinensis*	Y	(LC)	0	0	0	0	0	0
Common Myna	*Acridotheres tristis*	N	-	0	0.3	0.8	0	1	0
Crested Myna	*Acridotheres cristatellus*	N	-	1.8	0.8	1.6	0.3	0	1.4
Great Myna	*Acridotheres grandis*	N	-	0	0	0	0	0	0
Black-naped Oriole	*Oriolus chinensis*	Y	LC	0	0	0	0	0	0
Black Drongo	*Dicrurus macrocercus*	N	-	0	0	0	0	0	0.6

Common Name	Scientific name	Wetland	Conservation	May-25	June-25	July-25	Aug-25	Sep-25	Oct-25
Hair-crested Drongo	*Dicrurus hottentottus*	N	-	0	0	0	0	0	0
Azure-winged Magpie	*Cyanopica cyanus*	N	-	0	0	0	0	0	0
Oriental Magpie	*Pica serica*	N	-	0	0	0	0	0	0
Red-billed Blue Magpie	*Urocissa erythrorhyncha*	N	-	1	0.5	V	0.5	1.3	0
Large-billed Crow	*Corvus macrorhynchos*	N	-	0	0	0	0	0	0
Collared Crow	*Corvus torquatus*	Y	LC, VU	0	0	0	V	0	0

Notes:

(1) Conservation Status follows that of *Fellows et. al. (2002) and BirdLife International listing (2017).* See **Table B1** for the description of the codes. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and for roosting sites rather than in general occurrence. (*Fellowes et al. 2002*)

(2) Updated species names used in the report include Eurasian Magpie (*Pica serica*) as Oriental Magpie (*Pica pica*), Japanese White-eye (*Zosterops japonica*) as Swinhoe's White-eye (*Zosterops simplex*), Chinese Bulbul (*Pycnonotus sinensis*) as Light-vented Bulbul (*Pycnonotus sinensis*) and Pale Martin (*Riparia diluta*) as Sand Martin (*Riparia riparia*)

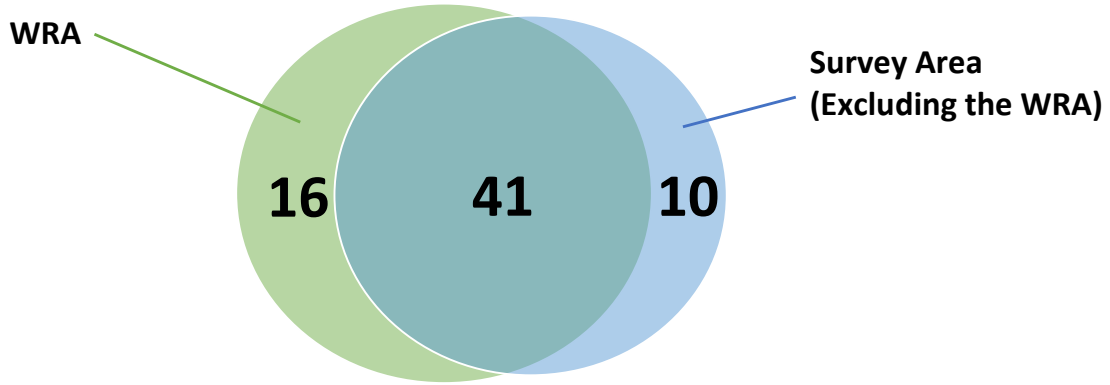
^ Pintail Snipe and Swinhoe's Snipe cannot be distinguished in field, conservation status refers to Swinhoe's Snipe.

V Indicates the species is recorded outside regular surveys.

Greater Coucal is listed as vulnerable (VU) in China Red Data Book and it is protected terrestrial wildlife state protection (category II).

* Red-billed Starling is considered by Fellows *et al* (2002) to be of Global Concern. Since publication, however, the global population estimate has been revised and the species is now not considered globally threatened. A listing of Regional Concern (RC) based on the importance of the large roosts present near Deep Bay, is considered to be more appropriate. (Wetland Restoration Plan, Mott, 2008). Red-billed Starling is now listed as Least Concern by IUCN. (IUCN, 2016)

Chart B1: Number of Common Bird Species and Bird Species Only Found in the WRA or Survey Area (Excluding the WRA) During the Reporting Period



Species Only Found in the WRA	
Purple Heron	Besra
Black-winged Kite	Eastern Buzzard
Greater Painted-snipe	Little Ringed Plover
Common Snipe	Asian Barred Owlet
Red-rumped Swallow	Eastern Yellow Wagtail
Brown Shrike	Daurian Redstart
Oriental Reed Warbler	Arctic Warbler
Amur Paradise Flycatcher	Large-billed Crow
16	

Common Species Found in Both the WRA and Survey Area (Excluding the WRA)	
Little Grebe	Great Cormorant
Grey Heron	Great Egret
Intermediate Egret	Little Egret
Chinese Pond Heron	Yellow Bittern
Black-crowned Night Heron	Black Kite
White-breasted Waterhen	Common Moorhen
Green Sandpiper	Common Sandpiper
Spotted Dove	Eurasian Collared Dove
Asian Koel	Greater Coucal
Pied Kingfisher	White-throated Kingfisher
Common Kingfisher	Barn Swallow
White Wagtail	Red-whiskered Bulbul
Light-vented Bulbul	Long-tailed Shrike
Oriental Magpie Robin	Stejneger's Stonechat
Masked Laughingthrush	Common Tailorbird
Dusky Warbler	Yellow-bellied Prinia
Plain Prinia	Cinereous Tit
Swinhoe's White-eye	Scaly-breasted Munia
Black-collared Starling	Common Myna
Crested Myna	Black Drongo
Red-billed Blue Magpie	
41	

Species Only Found in the Survey Area (Excluding the WRA)	
Eastern Cattle Egret	Whiskered Tern
White-winged Tern	Chinese Blackbird
Eurasian Tree Sparrow	White-shouldered Starling
Black-naped Oriole	Azure-winged Magpie
Oriental Magpie	Collared Crow
10	

C. Summary of Herpetofauna Monitoring, Mammals and Insect Surveys

Table C1: Summary of herpetofauna monitoring data within the Survey Area (excluding the WRA)

Common Name	Scientific Name	Conservation Status [1]	Mean [2]					
Amphibians			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Asian Common Toad	*Duttaphrynus melanostictus*	-	1.0	0.0	0.0	0.0	0.0	0.0
Gunther's Frog	*Hylarana guentheri*	-	0.5	1.0	1.5	0.0	0.0	0.0
Chinese Bull Frog	*Hoplobatrachus rugulosus*	PRC	0.0	0.5	0.0	0.0	0.0	0.0
Asiatic Painted Frog	*Kaloula pulchra pulchra*	-	0.0	0.5	0.0	0.0	0.0	0.0
		No. of Species Recorded	**2**	**3**	**1**	**0**	**0**	**0**
Reptiles			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Bowring's Gecko	*Hemidactylus bowringii*	-	1.0	0.5	1.0	0.5	0.0	0.0
Brook's Gecko	*Hemidactylus brooki*	-	3.0	1.5	2.0	0.5	0.0	0.0
Four-clawed Gecko	*Gehyra mutilata*	-	0.5	0.0	0.0	0.0	0.0	0.0
Long-tailed Skink	*Eutropis longicaudata*	-	0.0	V	0.0	0.5	0.0	0.0
Checkered Keelback	*Xenochrophis flavipunctatus*	-	0.0	0.0	0.0	0.5	0.0	0.0
		No. of Species Recorded	**3**	**3**	**2**	**4**	**0**	**0**

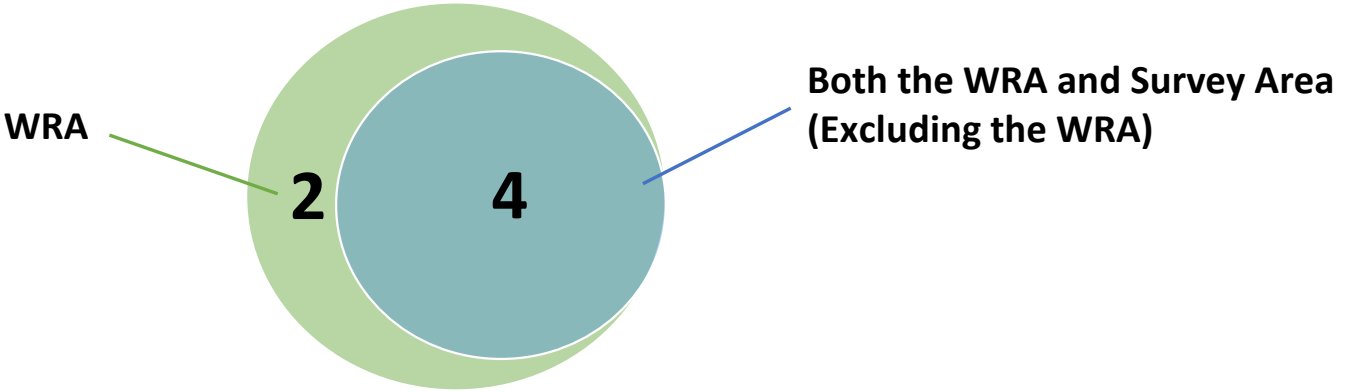
(1) Conservation status follows that of Fellows that of Fellowes et al. (2002), Chan et al. (2005) and Karsen et al. (1998).
(2) Refers to the mean number of individuals recorded in the reporting period (excluding the WRA)
V Indicates the species is recorded outside regular surveys.

Table C2: Summary of herpetofauna monitoring in the WRA

Common Name	Scientific Name	Conservation Status [1]	Mean [2]					
Amphibians			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Asian Common Toad	*Duttaphrynus melanostictus*	-	0.5	4.0	3.5	1.5	0.0	0.0
Gunther's Frog	*Hylarana guentheri*	-	0.0	2.0	2.5	0.5	0.0	0.0
Chinese Bull Frog	*Hoplobatrachus rugulosus*	PRC	0.5	0.5	1.0	0.0	0.0	0.0
Brown Tree Frog	*Polypedates megacephalus*	-	1.5	0.5	0.0	0.0	0.0	0.0
Asiatic Painted Frog	*Kaloula pulchra pulchra*	-	0.0	3.0	0.0	0.0	0.0	0.0
Ornate Pigmy Frog	*Microhyla fissipes*	-	3.0	1.5	3.5	0.5	10.0	0.0
		No. of Species Recorded	**4**	**6**	**4**	**3**	**1**	**0**
Reptiles			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Bowring's Gecko	*Hemidactylus bowringii*	-	2.5	2.5	2.5	5.0	0.0	0.0
Taiwan Kukri	*Oligodon formosanus*	-	0.5	0.0	0.5	0.0	0.0	0.0
Checkered Keelback	*Xenochrophis flavipunctatus*	-	0.0	0.0	0.5	0.5	1.0	0.0
		No. of Species Recorded	**2**	**1**	**3**	**2**	**1**	**0**

(1) Conservation status follows that of Fellows that of Fellowes et al. (2002), Chan et al. (2005) and Karsen et al. (1998).
(2) Refers to the mean number of individuals recorded in the reporting period at WRA.
V Indicates the species is recorded outside regular surveys.
* The data has been updated since the corresponding monthly EM&A report

Chart C1: Number of Common Amphibian Species and Amphibian Species Only Found in the WRA or Survey Area (Excluding the WRA) During the Reporting Period

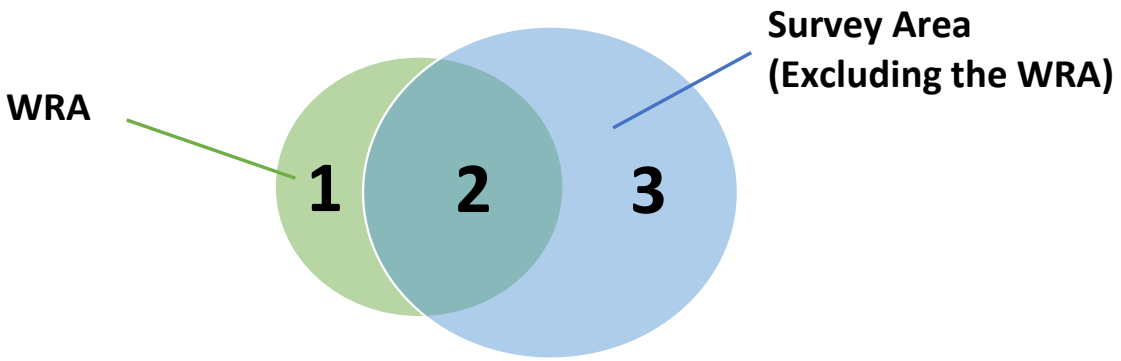


Species Only Found in the WRA	
Brown Tree Frog	Ornate Pigmy Frog
2	

Common Species Found in Both the WRA and Survey Area (Excluding the WRA)	
Asian Common Toad	Gunther's Frog
Chinese Bullfrog	Asiatic Painted Frog
4	

Species Only Found in the Survey Area (Excluding the WRA)
0

Chart C2: Number of Common Reptile Species and Reptile Species Only Found in the WRA or Survey Area (Excluding the WRA) During the Reporting Period



Species Only Found in the WRA	Common Species Found in Both the WRA and Survey Area (Excluding the WRA)		Species Only Found in the Survey Area (Excluding the WRA)	
Taiwan Kukri	Bowring's Gecko	Checkered Keelback	Brook's Gecko	Four-clawed Gecko
			Long-tailed Skink	
1	2		3	

Table C3: Summary of mammal monitoring in the Survey Area (excluding the WRA)

Common Name	Scientific Name	Conservation Status [1]	Max [2]					
Mammal			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
		No. of Species Recorded	**0**	**0**	**0**	**0**	**0**	**0**

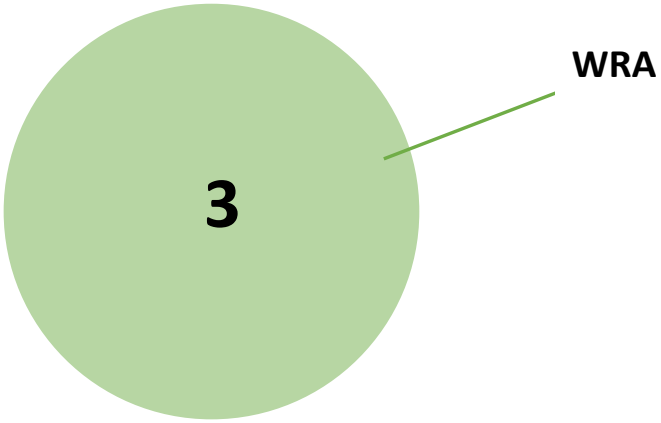
(1) Conservation status follows that of Fellows et al. (2002) and Shek (2006).
(2) Refers to the maximum number of individuals recorded in each month in the survey area (excluding WRA).
V Indicates the species is recorded outside regular surveys.

Table C4: Summary of mammal monitoring in the WRA

Common Name	Scientific Name	Conservation Status [1]	Max [2]					
Mammal			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Bat	*Indet.* sp.	-	0	0	0	2	0	0
Eurasian Wild Pig*	*Sus scrofa*	-	1	0	1	1	0	V
Japanese Pipistrelle	*Pipistrellus abramus*	-	20	20	20	25	0	0
		No. of Species Recorded	**2**	**1**	**2**	**3**	**0**	**1**

(1) Conservation status follows that of Fellows et al. (2002) and Shek (2006).
(2) Refers to the maximum number of individuals recorded in each month at WRA.
V Indicates the species is recorded outside regular surveys.

Chart C3: Number of Common Mammal Species and Mammal Species Only Found in the WRA or Survey Area (Excluding the WRA) During the Reporting Period



Species Only Found in the WRA		Common Species Found in Both the WRA and Survey Area (Excluding the WRA)	Species Only Found in the Survey Area (Excluding the WRA)
Bat	Japanese Pipistrelle		
Eurasian Wild Pig			
3		**0**	**0**

Table C5: Summary of dragonfly and butterfly monitoring in the Survey Area (excluding the WRA)

Common Name	Scientific Name	Conservation Status[1]	Mean[2]					
Odonata			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Orange-tailed Midget	*Agriocnemis femina oryzae*	-	0.0	0.0	0.0	0.5	0.0	0.0
Common Bluetail	*Ischnura senegalensis*	-	2.0	0.0	0.0	0.0	0.0	0.0
Asian Amberwing	*Brachythemis contaminata*	-	0.5	1.5	0.0	5.0	0.0	0.0
Green Skimmer	*Orthetrum sabina sabina*	-	0.5	0.0	0.0	0.0	0.0	0.0
Wandering Glider	*Pantala flavescens*	-	2.0	0.5	0.5	2.5	13.0	5.0
Variegated Flutterer	*Rhyothemis variegata arria*	-	8.5	39.5	6.5	14.0	13.0	10.0
	No. of Species Recorded		**5**	**3**	**2**	**4**	**2**	**2**
Butterfly			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Plain Tiger	*Danaus chrysippus*	-	0.0	0.5	0.0	0.0	0.0	0.0
Common Indian Crow	*Euploea core amymone*	-	0.0	0.0	0.5	0.0	0.0	0.0
Common Archduke	*Lexias pardalis*	-	0.0	0.0	0.0	0.5	0.0	0.0
Great Egg-fly	*Hypolimnas bolina kezia*	-	0.0	0.5	0.0	1.5	6.0	1.0
Red Ring Skirt	*Hestina assimilis assimilis*	-	0.0	0.0	0.0	0.5	0.0	0.0
Dark Brand Bush Brown	*Mycalesis mineus mineus*	-	0.0	0.0	0.0	0.0	1.0	0.0
Long-tailed Blue	*Lampides boeticus*	-	0.5	0.0	0.0	0.0	0.0	0.0
Pale Grass Blue	*Pseudozizeeria maha serica*	-	4.0	11.0	0.0	4.5	0.0	8.0
Small Cabbage White	*Pieris rapae crucivora*	-	15.0	7.0	1.5	0.0	0.0	0.0
Lemon Emigrant	*Catopsilia pomona pomona*	-	0.0	0.5	0.0	0.0	0.0	0.0
Common Grass Yellow	*Eurema hecabe hecabe*	-	0.0	1.0	0.0	0.0	0.0	0.0
Common	*Graphium sarpedon*	-	0.0	0.5	0.0	0.0	0.0	0.0

Common Name	Scientific Name	Conservation Status[1]	Mean[2]					
Bluebottle	*sarpedon*							
Common Mime	*Chilasa clytia clytia*	-	0.0	0.0	0.0	0.5	0.0	0.0
Common Mormon	*Papilio polytes polytes*	-	0.0	1.0	0.0	3.5	0.0	0.0
Swallowtail	*Papilio xuthus xuthus*	-	0.0	0.5	0.0	0.0	0.0	0.0
Grass Demon	*Udaspes folus*	-	0.0	0.0	0.5	0.0	1.0	0.0
	No. of Species Recorded		**3**	**9**	**3**	**6**	**3**	**2**

(1) Conservation status follows that of Fellows et al. (2002) and Shek (2006), Lo & Hui (2004), Wilson (2004) and Young & Yiu (2002).
(2) Refers to the mean number of individuals recorded in each month in the survey area (excluding the WRA)
V indicates the species is recorded outside regular surveys

Table C6: Summary of dragonfly and butterfly monitoring in the WRA

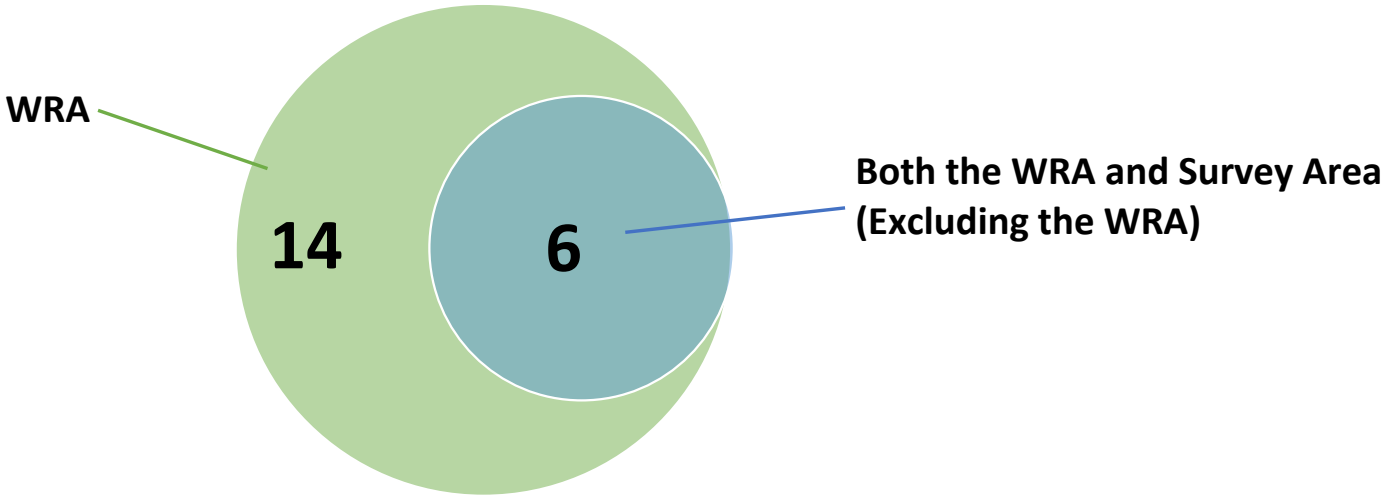
Common Name	Scientific Name	Conservation Status[1]	Mean[2]					
Odonate			**May 2025**	**Jun 2025**	**Jul 2025**	**Aug 2025**	**Sep 2025**	**Oct 2025**
Orange-tailed Midget	*Agriocnemis femina oryzae*	-	0.0	2.0	V	5.0	V	V
Orange-tailed Sprite	*Ceriagrion auranticum ryukyuanum*	-	V	0.0	0.0	1.0	0.0	0.0
Common Bluetail	*Ischnura senegalensis*	-	V	1.5	0.5	10.0	V	V
Yellow Featherlegs	*Copera marginipes*	-	2.5	0.0	0.0	0.0	0.0	0.0
Pale-spotted Emperor	*Anax guttatus*	-	0.0	0.0	0.0	V	V	V
Lesser Emperor	*Anax parthenope julius*	-	0.0	0.0	0.0	0.0	V	0.0
Common Flangetail	*Ictinogomphus pertinax*	-	0.5	5.0	6.5	5.0	V	V
Regal Pond Cruiser	*Epophthalmia elegans*	-	0.0	0.0	V	1.0	V	0.0
Blue Dasher	*Brachydiplax chalybea flavovittata*	-	0.0	1.0	V	2.5	V	4.0
Asian Amberwing	*Brachythemis contaminata*	-	9.5	5.0	2.5	15.0	6.0	2.0
Crimson Darter	*Crocothemis servilia servilia*	-	0.0	2.5	0.5	V	V	0.0
Pied Percher	*Neurothemis tullia tullia*	-	0.0	0.0	V	V	V	V
Red-faced Skimmer	*Orthetrum chrysis*	-	0.0	0.0	0.5	0.0	0.0	0.0
Green Skimmer	*Orthetrum sabina sabina*	-	5.0	6.0	2.0	6.0	10.0	2.0
Wandering Glider	*Pantala flavescens*	-	1.5	5.5	2.0	9.5	3.0	3.0
Pied Skimmer	*Pseudothemis zonata*	-	2.0	9.5	8.0	7.0	4.0	0.0
Variegated Flutterer	*Rhyothemis variegata arria*	-	46.5	32.5	15.0	40.0	12.0	5.0
Evening Skimmer	*Tholymis tillarga*	-	0.0	0.5	0.0	V	V	V
Saddlebag Glider	*Tramea virginia*	-	1.0	V	V	0.0	0.0	V
Blue Chaser	*Potamarcha congener*	LC	0.0	0.0	V	0.0	0.0	0.0
	No. of Species Recorded		**10**	**12**	**15**	**15**	**15**	**12**

Butterfly			May 2025	Jun 2025	Jul 2025	Aug 2025	Sep 2025	Oct 2025
Blue-spotted Crow	*Euploea midamus midamus*	-	0.0	0.0	0.5	0.0	0.0	1.0
Common Indian Crow	*Euploea core amymone*	-	0.5	1.0	0.5	0.5	0.0	0.0
Common Archduke	*Lexias pardalis*	-	0.0	0.0	0.5	0.0	0.0	0.0
Great Egg-fly	*Hypolimnas bolina kezia*	-	V	2.5	2.5	3.0	V	3.0
Common Sailor	*Neptis hylas hylas*	-	V	1.0	0.5	0.5	0.0	0.0
Red Ring Skirt	*Hestina assimilis assimilis*	-	0.0	0.5	V	0.0	0.0	0.0
Common Nawab	*Polyura athamas athamas*	-	0.0	0.0	0.5	0.0	0.0	0.0
Common Evening Brown	*Melanitis leda*	-	0.0	3.0	1.0	1.0	V	0.0
Dark Evening Brown	*Melanitis phedima muskata*	-	0.0	0.0	0.5	1.0	V	V
Common Palmfly	*Elymnias hypermnestra hainana*	-	1.0	0.0	0.0	0.5	1.0	0.0
Dark Brand Bush Brown	*Mycalesis mineus mineus*	-	2.0	2.0	1.5	2.0	2.0	6.0
Long-tailed Blue	*Lampides boeticus*	-	0.5	0.0	0.0	0.0	0.0	0.0
Pale Grass Blue	*Pseudozizeeria maha serica*	-	2.0	1.5	2.0	0.5	3.0	2.0
Tailless Line Blue	*Prosotas dubiosa*	-	0.5	0.0	0.0	0.0	0.0	0.0
Dark Cerulean	*Jamides bochus bochus*	-	0.0	0.0	0.0	0.0	0.0	1.0
Red-base Jezebel	*Delias pasithoe pasithoe*	-	0.0	1.0	0.0	0.0	0.0	0.0
Small Cabbage White	*Pieris rapae crucivora*	-	1.5	0.0	V	0.0	0.0	0.0
Lemon Emigrant	*Catopsilia pomona pomona*	-	0.0	0.5	0.5	0.0	V	0.0
Common Grass Yellow	*Eurema hecabe hecabe*	-	0.5	4.5	2.5	0.5	2.0	2.0
Common Bluebottle	*Graphium sarpedon sarpedon*	-	0.0	0.5	0.5	0.0	0.0	0.0
Common Jay	*Graphium doson axion*	-	0.0	0.0	0.5	0.0	0.0	0.0
Tailed Jay	*Graphium agamemnon agamemnon*	-	0.0	0.0	0.0	0.0	0.0	V
Common Mime	*Chilasa clytia clytia*	-	0.0	0.0	0.5	0.5	0.0	0.0
Lime Butterfly	*Papilio demoleus*	-	0.0	0.0	V	0.0	V	0.0
Common Mormon	*Papilio polytes polytes*	-	0.0	0.0	V	1.5	1.0	1.0
Common Awl	*Hasora badra badra*	LC	0.0	1.0	1.0	0.0	0.0	0.0
Pale Palm Dart	*Telicota colon*	LC	0.0	0.0	0.0	0.0	V	0.0

Dart	*Potanthus sp.*	-	0.0	0.0	0.5	0.0	0.0	0.0
Formosan Swift	*Borbo cinnara*	-	0.0	1.0	0.5	0.0	V	4.0
Common Straight Swift	*Parnara guttata*	-	0.0	0.0	0.0	0.0	0.0	V
Dark Swift	*Caltoris cahira*	-	0.0	0.0	0.5	0.0	0.0	0.0
Chinese Dart	*Potanthus confucius confucius*	-	V	0.0	0.0	0.0	0.0	0.0
	No. of Species Recorded		**11**	**13**	**23**	**11**	**12**	**11**

(1) Conservation status follows that of Fellowes et al. (2002), Lo & Hui (2004), Wilson (2004) and Young & Yiu (2002).
(2) Refers to the mean number of individuals recorded in each month in the survey area at WRA
V indicates the species is recorded outside regular surveys

Chart C4: Number of Common Dragonfly Species and Dragonfly Species Only Found in the WRA or Survey Area (Excluding the WRA) During the Reporting Period

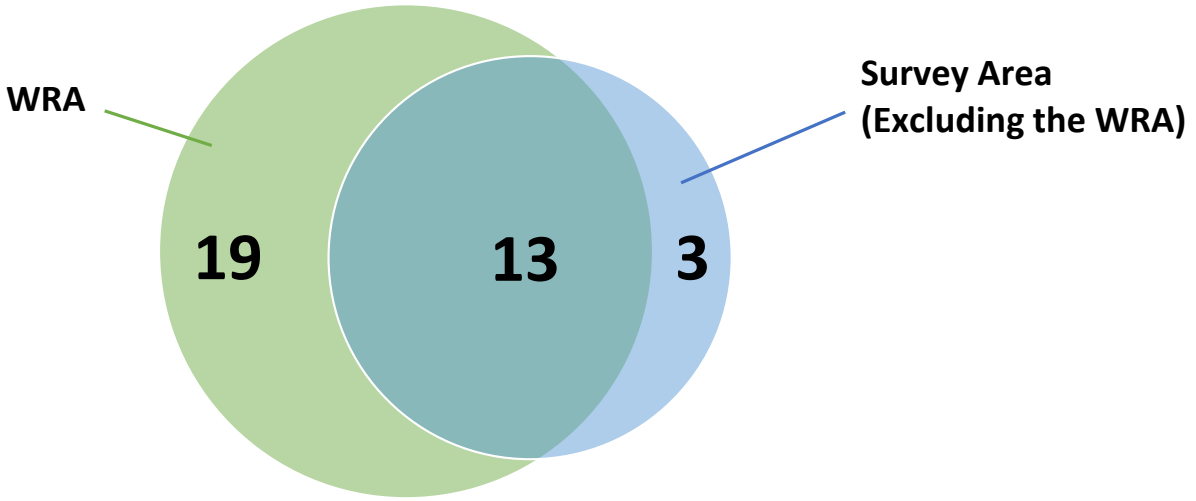


Species Only Found in the WRA	
Orange-tailed Sprite	Yellow Featherlegs
Pale-spotted Emperor	Lesser Emperor
Common Flangetail	Regal Pond Cruiser
Blue Dasher	Crimson Darter
Pied Percher	Red-faced Skimmer
Blue Chaser	Pied Skimmer
Evening Skimmer	Saddlebag Glider
14	

Common Species Found in Both the WRA and Survey Area (Excluding the WRA)	
Orange-tailed Midget	Common Bluetail
Asian Amberwing	Green Skimmer
Wandering Glider	Variegated Flutterer
6	

Species Only Found in the Survey Area (Excluding the WRA)
0

Chart C5: Number of Common Butterfly Species and Butterfly Species Only Found in the WRA or Survey Area (Excluding the WRA) During the Reporting Period



Species Only Found in the WRA	
Blue-spotted Crow	Common Nawab
Common Sailor	Common Evening Brown
Dark Evening Brown	Common Palmfly
Tailless Line Blue	Dark Cerulean
Red-base Jezebel	Common Jay
Tailed Jay	Lime Butterfly
Common Awl	Pale Palm Dart
Dart	Formosan Swift
Common Straight Swift	Dark Swift
Chinese Dart	
19	

Common Species Found in Both the WRA and Survey Area (Excluding the WRA)	
Common Indian Crow	Common Archduke
Great Egg-fly	Red Ring Skirt
Dark Brand Bush Brown	Long-tailed Blue
Pale Grass Blue	Small Cabbage White
Lemon Emigrant	Common Grass Yellow
Common Bluebottle	Common Mime
Common Mormon	
13	

Species Only Found in the Survey Area (Excluding the WRA)	
Plain Tiger	Swallowtail
Grass Demon	
3	

D. Summary of Water Quality Monitoring

Table D1. Water quality at WRA

May 2025

Cell No.	Temp. (°C)	pH	Salinity (ppt)	Turb. (NTU)	DO (mg/L)	Water Level (1 May) (cm)	Water Level (27 May) (cm)
1	30.4	7.5	0.2	108.7	13.4	**135**	**130**
2	30.3	7.8	0.2	46.3	9.4	**110**	**100**
3	31.3	7.9	0.2	226.9	16.0	160	155
4	30.1	7.7	0.2	54.7	10.6	**140**	**135**

Jun 2025

Cell No.	Temp. (°C)	pH	Salinity (ppt)	Turb. (NTU)	DO (mg/L)	Water Level (cm) (4 Jun)	Water Level (cm) (24 Jun)
1	31.4	7.7	0.2	27.7	6.8	**130**	**140**
2	31.2	7.8	0.3	29.2	5.5	**105**	**115**
3	31.9	7.4	0.2	69.8	6.4	155	160
4	32.1	7.5	0.2	28.6	8.2	**140**	155

Jul 2025

Cell No.	Temp. (°C)	pH	Salinity (ppt)	Turb. (NTU)	DO (mg/L)	Water Level (cm) (3 Jul)	Water Level (cm) (21 Jul)	Water Level (cm) (29 Jul)	Water Level (cm) (30 Jul)
1	27.8	7.3	0.1	17.3	6.0	155	210	210	215
2	27.7	7.3	0.1	19.0	6.0	**130**	180	180	190
3	27.5	7.5	0.1	30.7	6.8	170	230	230	230
4	27.2	7.5	0.1	33.9	6.8	170	220	220	225

Aug 2025

Cell No.	Temp. (°C)	pH	Salinity (ppt)	Turb. (NTU)	DO (mg/L)	Water Level (cm) (3 Aug)	Water Level (cm) (6 Aug)	Water Level (cm) (15 Aug)	Water Level (cm) (26 Aug)
1	30.6	7.2	0.1	55.9	4.7	210	210	210	210
2	29.0	7.1	0.1	5.1	2.9	185	190	180	190
3	29.3	7.1	0.1	9.6	3.9	230	230	230	220
4	29.4	7.4	0.1	4.7	5.9	220	220	215	210

Sep 2025

Cell No.	Temp. (°C)	pH	Salinity (ppt)	Turb. (NTU)	DO (mg/L)	Water Level (cm) (5 Sep)	Water Level (cm) (8 Sep)	Water Level (cm) (22 Sep)	Water Level (cm) (25 Sep)
1	30.5	6.8	0.1	29.4	6.8	200	210	210	210
2	28.6	7.5	0.1	7.7	7.0	170	185	185	190
3	29.6	7.5	0.1	5.8	6.8	215	220	230	235
4	28.7	7.6	0.1	7.7	7.4	210	220	220	230

Oct 2025

Cell No.	Temp. (°C)	pH	Salinity (ppt)	Turb. (NTU)	DO (mg/L)*	Water Level (cm) (1 Oct)	Water Level (cm) (29 Oct)
1	31.6	7.2	0.1	29.7	4.3	210	200
2	30.4	7.3	0.1	7.7	4.0	180	165
3	31.4	7.3	0.1	7.1	4.3	220	205
4	31.9	7.4	0.1	21.3	6.0	210	200

Action / Limit Level	Temp. (°C)	pH	Salinity (ppt)	Turb. (NTU)	DO (mg/L)	Water Level (cm)
Action Level	-	<6.5 or >8.0	>2	-	<2	<150 or >250
Limit Level	-	<6.0 or >8.5	>5	-	<1	-

Notes: Values highlighted in **bold** indicate that action level is reached; whereas values in **bold and underlined** indicate that limit level is reached
Additional water level monitoring was conducted
* The data has been updated since the corresponding monthly EM&A report

Table D2. Water quality monitoring (Laboratory Testing) at WRA

Oct 2025

Monitoring Location	Ammonia-N (mg/L)	NOx-N (mg/L)	Reactive P (mg/L)	Total P (mg/L)	BOD (mg/L)
Cell 1-1	0.07	<0.01	0.02	0.11	2
Cell 1-2	0.05	<0.01	0.02	0.10	2
Cell 1-3	0.03	<0.01	0.02	0.12	2
Cell 2-1	0.01	<0.01	0.03	0.14	2
Cell 2-2	0.03	<0.01	0.05	0.14	3
Cell 2-3	0.04	<0.01	0.03	0.11	2
Cell 3-1	0.04	<0.01	0.08	0.17	2
Cell 3-2	0.03	<0.01	0.05	0.14	3
Cell 3-3	0.04	<0.01	0.05	0.14	2
Cell 4-1	0.03	<0.01	<0.01	0.14	4
Cell 4-2	0.02	<0.01	<0.01	0.14	3
Cell 4-3	0.04	0.03	<0.01	0.16	2
Action Level	>3	>5	>5	-	-
Limit Level	>6	>10	>10	-	-

Note: Values highlighted in **bold** indicate that action level is reached; whereas values in **bold and underlined** indicate that limit level is reached.
The additional water samples for ex-situ laboratory analysis were collected on 15 October 2025.

