
SHEUNG SHUI TO LOK MA CHAU SPUR LINE

Environmental Committee Meeting

Minutes of Meeting No. 31 held at 9:15am
on Wednesday, 20th July 2016,

at Room 15A, 15/F, MTR Headquarters Building, Telford Plaza, Kowloon Bay

Present:		
Dr. Xianji Wen	WWF Hong Kong	Member (NGO)
Mr. Michael Kilburn	The Hong Kong Bird Watching Society	Member (NGO)
Dr. Ng Cho-nam	The University of Hong Kong	Member (NGO)
Mr. Liston SZETO	Maintenance Manager	Member (MTR)
Ms. Catherine LEUNG	Environmental Engineering Manager	Member (MTR)
Ms. Kenny Yiu	Manager-Environmental Engineering	Member (MTR)
Mr. Peter Choi	Environmental Engineer	Member (MTR)
Dr. Michael Leven	Ecological Consultant	Member (consultant)
Ms. Elizabeth Wu	Ecological Consultant	Member (consultant)
Absent with apology:		
Ms. Karen Barretto	Friends of the Earth (Hong Kong)	Member (NGO)

Attachments	
Annex A	Presentation Material of EC Meeting No. 31

<u>Item/Description</u>	<u>Action By</u>
1. Welcomed Members to the EC Meeting No. 31.	Noted
Item 1 – <u>Confirmation of minutes of Meeting No. 30</u>	
2. There were no comments on the minutes of Meeting No. 30 and the minutes were confirmed.	Noted
Item 2 – <u>Ecological Enhancement Works and Monitoring – an Update on Management Works and Look Ahead</u>	
3. <i>A Member (consultant)</i> reported on the ecological monitoring and management works undertaken during January to June 2016 at the LMC EEA (detailed in Annex A). It was noted that:	
3.1 <i>A Member (consultant)</i> reported that there were some ponds drained in the winter period to provide foraging ground to waterbirds and to facilitate the reprofiling in Ponds 20 – 22. He noted that the drain down and reprofiling in Ponds 20 – 22 (which are marshy ponds) may affect some fauna target (e.g. dragonfly).	Noted
3.2 <i>A Member (consultant)</i> reported that small Tilapia was stocked in the winter to provide food for the waterbirds.	Noted
3.3 <i>A Member (consultant)</i> reported that large Tilapia was stocked to replenish the fish stock after the winter drain-down and as breeding stock. This fish was fed to encourage breeding and avoid the small fish being eaten. He also reported that Grass Carp was stocked into Pond 2 as a biological control on the overgrown vegetation in the Pond.	Noted
3.4 <i>A Member (consultant)</i> reported that lilies were transplanted from Pond 15 to Pond 8 to provide temporary lily pond during the reprofiling of Ponds 20 – 22. Transplantation, rather than purchasing new stock, can avoid the introduction of Apple Snails and other pest species. Fish was not stocked into Pond 8 as the fish may eat the lilies.	Noted
3.5 <i>A Member (consultant)</i> reported that there was no Red Fire Ant nests treated in the last 6 months because of the delay in getting the approved pesticide. The ant nests will be treated continuously. <i>A Member (NGO)</i> enquired if there was any problem raised by the presence of Red Fire Ant. <i>A Member (consultant)</i> believed that it might have affected the breeding Little Ringed Plover, but there are floating platforms in place within the site. As Little Ringed Plover is not one of the target species of LMC EEA, there was no particular	Noted

<u>Item/Description</u>	<u>Action By</u>
<p>measure in place to enhance its breeding. It might also be expected that there would be impacts on the breeding of White-breasted Waterhen, however this species and Common Moorhen were still breeding successfully on site. <u>A Member (NGO)</u> added that the Red Fire Ant prefers bare soil. <u>A Member (consultant)</u> believed that the Red Fire Ant displaced other ant species in Hong Kong though species around fish ponds were not understood to be of any particular conservation concern; other than the ecological concern raised, the ant nests were also treated for safety reasons. <u>A Member (consultant)</u> also reported that the number of dogs sighted had decreased slightly. <u>A Member (consultant)</u> reported that Apple Snails were removed from the site. <u>A Member (NGO)</u> enquired the details of the removal of Apple Snails. <u>A Member (consultant)</u> explained that they were removed by hand-removal.</p>	
<p>3.6 <u>A Member (consultant)</u> reported that most bird target species met the target levels. For Chinese Pond Heron and Little Egret, which didn't meet the target level in the last 12 months, the density in LMC EEA decreased slightly and that in CAs increased slightly in the last 12 months. The number of Chinese Pond Heron was expected to decrease in the coming months due to the reprofiling in Ponds 20 – 22; however, this should not be of any concern long-term.</p>	Noted
<p>3.7 <u>A Member (consultant)</u> further reported on the performance of the non-numerical bird target species. The density of Little Grebe at LMC EEA did not reach twice of that at CAs, but the number increased when compared with that in 2014. Yellow-breasted Bunting was not recorded in the LMC EEA; although suitable habitats were provided in the LMC EEA; conservation of this species largely depends on the protection actions in China.</p>	Noted
<p>3.8 <u>A Member (consultant)</u> reported on the bird winter roost count results at LMC EEA in the last winter and concluded that LMC EEA has now become one of the main winter roosting locations of Great Cormorant in Hong Kong (following Mai Po and Nam Sang Wai). The Great Cormorant did not cause any damage on the vegetation; although there was short term damage to <i>Melia azedarach</i>, it regrew in the following summer. <u>A Member (NGO)</u> enquired if the Black-faced Spoonbill roosted in the LMC EEA. <u>A Member (consultant)</u> explained that this species mainly roosted at Mai Po, but came to LMC EEA to feed, with about 200 – 250 individuals recorded when ponds were drained. <u>A Member (NGO)</u> enquired if what species of Starlings were recorded at winter roosts. <u>A Member (consultant)</u> reported that it mainly included Red-billed Starling which seemed to fly in to a pre-roost gathering site and then flew out to Shenzhen, so it was believed that there is a roosting site there.</p>	Noted

<u>Item/Description</u>	<u>Action By</u>
<p>3.9 <u>A Member (consultant)</u> reported that there were 30 decoys installed and were taken down in June 2016 to avoid the typhoon period. However, there was no success in attracting the egret establishment. <u>A Member (NGO)</u> enquired if bamboo was planted. <u>A Member (consultant)</u> reported that <i>Bambusa tuldooides</i> were planted and Chinese Pond Heron prefers to roost at bamboo. <u>A Member (NGO)</u> noted that the species roost randomly but also admitted that it prefers bamboo.</p>	Noted
<p>3.10 <u>A Member (consultant)</u> reported on the nest boxes usage in the LMC EEA. They were mostly occupied by White-shouldered Starlings, and it was suspected that 1 – 2 pairs of Red-billed Starling also nested. <u>A Member (NGO)</u> enquired if Red-billed Starling breeds in Guangdong. <u>A Member (consultant)</u> was not sure about this. <u>A Member (NGO)</u> further enquired if this was the first breeding record in Hong Kong. <u>A Member (consultant)</u> believed it was not.</p> <p>[Post-meeting note: according to the Hong Kong Bird Reports by the Hong Kong Bird Watching Society, there was a dependent juvenile of Red-billed Starling recorded at Tai Mei Tuk in 2007 and breeding was also recorded in subsequent years at various locations, such as Cheung Chau, Mai Po Nature Reserve, Nim Wan and Tai Mei Tuk. Hong Kong Bird Report 2014 states ‘recent years have seen summer records including breeding’ and notes a high summer count of 46 at MPNR on 23rd June 2014.]</p>	Noted
<p>3.11 <u>A Member (consultant)</u> reported that the Little Grebe recorded in the LMC EEA consisted of about 10% of the Hong Kong population. Chicks of the species were recorded in 8 ponds in the LMC EEA, with a maximum of 27 young recorded on a single day. This species, which has a long breeding period, was still breeding in the LMC EEA. A pair of Common Moorhen was recorded breeding on site. A pair of Cinnamon Bittern (male and female) was observed on site and it was hoped that young would be seen soon.</p>	Noted
<p>3.12 <u>A Member (consultant)</u> explained the presentation of mammal records was changed due to the request made from a EC member at the last meeting. By comparing the occurrence index (OI) calculated by AFCD in its newsletter (no. 15), the Eurasian Otter OI recorded in the LMC EEA is similar to that recorded by AFCD (which consists of records from the Deep Bay area). For the other recorded species, the records made in the LMC EEA were lower than that was made by AFCD. <u>A Member (NGO)</u> enquired where AFCD collected the data. <u>A Member (consultant)</u> mentioned that the data were collected mainly in the country parks and agreed it may be more appropriate to compare with the records in the Mai Po Nature Reserve. The possibility of separating out the data from Mai Po Nature Reserve</p>	AEC

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<p>will be investigated. <i>A Member (NGO)</i> enquired if the Eurasian Wild Pig entered the LMC EEA through the gaps under the boundary fence. <i>A Member (consultant)</i> agreed that this is possible.</p>	
<p>3.13 <i>A Member (consultant)</i> presented the results of the mammal trapping conducted in the last winter, and considered that this survey is worth doing and suggested to conduct the surveys in a different time of the year.</p>	Noted
<p>3.14 <i>A Member (consultant)</i> presented the results of the reptile species recorded since 2006. Taiwan Kukri Snake was recorded in the last 6 months and was new to the species list in the LMC EEA. <i>A Member (NGO)</i> enquired if the Red-eared Slider seen was removed from the site. <i>A Member (consultant)</i> confirmed that the Red-eared Slider seen were not removed from the site as catching them was problematic.</p>	Noted
<p>3.15 <i>A Member (consultant)</i> presented the dragonfly species recorded since 2006 and mentioned that the number of species recorded decreased slightly in 2015. The number of species recorded in 2016 was expected to be lower than previous years due to the reprofiling at Ponds 20 – 22, but should recover in 2017 when the reprofiling will be finished and the lily is transplanted back to the reprofiled ponds.</p>	Noted
<p>3.16 <i>A Member (consultant)</i> reported that the reprofiling of Ponds 20 – 22 commenced and expected to be finished at the end of this wet season though progress was likely to be very weather dependent and work may have to continue in the dry season. However, as Compartment C is not managed to attract large waterbirds this should not have a large effect on meeting dry season targets.</p>	Noted
<p>3.17 <i>A Member (consultant)</i> reported that there is a goat farm to the south of the LMC EEA and there were goats wandering in the LMC EEA. The goats did not cause significant harm to the site (the goats only grazed within the site). However, there was potential disturbance generated by the goat keeper and MTR Corporation was worried about the illegal trespass issue. The boundary fence was damaged and goats could enter through the hole on the broken fence. Thus, the broken fence was repaired and other fence units were also strengthened by MTR Corporation in order to stop the goats getting into the site. <i>A Member (NGO)</i> enquired if it is a leisure or commercial farm. <i>A Member (consultant)</i> thought that it is not a leisure farm, but not sure if it is something other than this. <i>A Member (NGO)</i> enquired if the water quality was affected due to the goat faeces. <i>A Member (consultant)</i> explained that as the goat activities were restricted to the terrestrial area, the effect on water quality was marginal. However, the farm effluent is a potential water pollution problem to the Deep Bay area. <i>A Member (MTR)</i> added that the goats</p>	Noted

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<p>usually came to the site in the afternoon and went back to the farm in the evening. <u>A Member (consultant)</u> added that the goats were seen grazing along the San Tin Drainage Channel which suggested that there is not enough grass within the farm for the goats.</p> <p>3.18 In response to a previous suggestion of investigating the breeding activities of Little Grebe in the reprofiled ponds, the weekly count of this species at Ponds 8 and 11 during April to June (breeding season) in 2014 (before reprofiling) and 2016 (after reprofiling) was analysed and presented by <u>A Member (consultant)</u>. It was found that abundance was higher in 2016 than 2014 during April to June and the abundance in Pond 11 was higher than that in Pond 8 in 2016. This suggested that the reprofiling of ponds has a positive effect on the nesting of Little Grebe. <u>A Member (NGO)</u> enquired how it is beneficial to the species. <u>A Member (consultant)</u> suspected that it is because the reprofiled ponds do not have any/much fish, hence, the number of aquatic invertebrates, which are the food item of the young Little Grebes, are higher (although they also eat small fish). In addition, the reprofiled pond usually has emergent vegetation which allows the young Little Grebes to hide. <u>A Member (NGO)</u> enquired why Ponds 8 and 11 required reprofiling. <u>A Member (consultant)</u> explained that it was part of the normal maintenance required due to the instability of the pond bank, and noted that it was different from the adjustment of profile to be carried out in Ponds 20 – 22 to create a large lily pond.</p> <p>3.19 <u>A Member (consultant)</u> concluded that the management in the LMC EEA in the past 6 month was largely routine, and expected that there will be some effect on faunal usage of the LMC EEA in the coming 6 months due to the reprofiling in Ponds 20 – 22.</p>	Noted
<p>Item 3 – <u>Any Other Business</u></p> <p>4. <u>A Member (NGO)</u> enquired if there was any impact due to the wet April this year. <u>A Member (consultant)</u> admitted that there could be some impacts on the waterbirds, such as, the breeding of Little Grebe commenced later (but the breeding period of this species is quite flexible), and there was no Black-winged Stilt recorded in the LMC EEA this summer (this is also the case in the Mai Po Nature Reserve). <u>A Member (NGO)</u> enquired the impact to Pheasant-tailed Jacana and Greater Painted-snipe. <u>A Member (consultant)</u> noted that they are targeted at Compartment C in which the reprofiling has just commenced and they were still meeting the target level.</p> <p>5. <u>A Member (NGO)</u> enquired as to the details of the water management of the LMC EEA. <u>A Member (consultant)</u> thought that a “wet” wet season is helpful for the water management, as the ponds can be refilled after the drain down in the winter months (to attract foraging waterbirds) by rainfall, and water level of the ponds can be maintained by the input of rainwater in</p>	Noted Noted

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<p>the summer. <u>A Member (NGO)</u> further enquired if any water was taken from the nearby channels. <u>A Member (consultant)</u> explained that the ponds within the site were rain-fed and did not take out any water from the nearby channels. The maintenance of water capacity of the site requires the site manager to think ahead and consider if water should be conserved if a drier than normal season is expected. <u>A Member (NGO)</u> enquired if the water system within the LMC EEA was connected with the surrounding one. <u>A Member (consultant)</u> explained that it was not connected but, in normal years, the annual water budget in the Deep Bay area has a higher rainfall than the evaporation rate, such that water input other than rainfall is not required. <u>A Member (NGO)</u> also enquired if the commercial fish ponds take water from the nearby channel for their operation. <u>A Member (consultant)</u> suggested that, in the landward fish ponds in the Deep Bay area, fish pond owners seldom take water from the channel, but pump water from another fish pond for pond refill instead.</p>	
<p>6. <u>A Member (NGO)</u> enquired if the water pumps worked properly. <u>A Member (MTR)</u> confirmed that the pumps were checked half-yearly. If there is any problem of the pumps, they will be fixed. Totally, five number of 6” inch pumps are stored on site, three numbers of pumps are backup pumps.</p>	Noted
<p>7. <u>A Member (NGO)</u> enquired if the local streams are polluted. <u>A Member (consultant)</u> advised they are. <u>A Member (NGO)</u> enquired the salinity of Shenzhen River. <u>A Member (consultant)</u> explained that the salinity of the River is not high, and is usually very low in the summer due to the influx of freshwater by rainfall (especially when there is typhoon). He added that the water looked muddy, but believed not to be grossly polluted with organic matter and there were fish (e.g. Tilapia, catfish) in the River.</p>	Noted
<p>8. <u>A Member (NGO)</u> enquired if there were any interesting birds recorded in the past 6 months. <u>A Member (consultant)</u> reported there were no outstanding bird sightings. <u>A Member (NGO)</u> further enquired if there was breeding record of Oriental Turtle Dove and Red Turtle Dove on site. <u>A Member (consultant)</u> confirmed that the former bred in the LMC EEA; there was a good number of the latter in the dry, but no breeding record yet.</p>	Noted
<p>9. <u>A Member (NGO)</u> enquired if the LMC EEA is a freshwater water system. <u>A Member (consultant)</u> confirmed it is, and there are action/limit levels of salinity. The ponds can usually be self-corrected for higher salinity, and no particular treatment was done. <u>A Member (NGO)</u> enquired if there was any action done to correct the acidity of the ponds. <u>A Member (consultant)</u> confirmed that there was and especially before/during the refilling of ponds. Actions taken include mixing of water with neutral/alkaline pH and liming.</p>	Noted
<p>5. <u>A Member (MTR)</u> thanked the EC members for their time and valuable suggestions.</p>	Noted

<u>Item/Description</u>	<u>Action By</u>
Item 4 – <u>Date of Next Meeting</u> 6. The date of the next meeting is to be advised.	MTR

Lok Ma Chau Spur Line 31st Environmental Committee Meeting

Report on Ecological Monitoring and Management, and Works Programme
January – June 2016

20th July 2016



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Overview of Management Works from January to June: Water Level Adjustment

Water Level Adjustment

- To provide foraging areas for waterbirds in the winter: Ponds 7, 9 and 19 in February, and Pond 10 in March;
- To facilitate reprofiling: Ponds 20, 21 and 22 during January to June.



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Overview of Management Works from January to June: Fish Stocking

Winter Fish Stocking

- Fish stocked during January to March.



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Overview of Management Works from January to June: Fish Stocking

Spring/Summer Fish Stocking

- To replenish the fish stock after reprofiling/ winter drain-down and to maintain water quality;
- Fish stocked was of breeding size (> 15 cm) to produce fingerlings to be consumed by the waterbirds in the winter;
- Fish was fed to encourage breeding and avoid eating the young.

Grass Carp Stocking

- 50 individuals were stocked to control emergent vegetation in Pond 2.



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Overview of Management Works from January to June: Vegetation Management

Vegetation Management

- Routine pond bund grass cutting and weeding of climbers;
- Routine removal of unwanted species (e.g. *Typha angustifolia*);
- Transplanting more lilies from Pond 15 to Pond 8.



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Overview of Management Works from January to June: Pest and Dog Management

Pest and Dog Management

- 0 Red Fire Ant nests were treated with the approved pesticide during January to June (however, 170 nests were treated in mid-July);
- 55kg of Apple Snails were removed (by hand-picking) from Compartment C;
- 130kg of Apple Snails were removed from Pond 6;
- Dog trapping – 0 dogs were trapped and collected.

Number of Dates when Dogs were Captured by Auto-trigger Cameras

	2014	2015	2016 [®]
Number of Dates	233	226	216

[®] include data from January to June.



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Numerical Bird Target Performance in the Past 5 Years

Species	Year			Jul 2013 - Jun 2012			Jul 2013 - Jun 2013			Jul 2013 - Jun 2014			Jul 2014 - Jun 2015			Jul 2015 - Jun 2016		
	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio
Japanese Quail	0.90	0.00	nr	0.00	0.00	nr	<0.01	0.00	LMC	<0.01	0.00	LMC	<0.01	0.00	LMC	0.00	0.00	nr
Eurasian Teal	1.12	0.01	335.38	1.36	<0.01	5755.24	0.87	0.12	7.69	1.65	0.65	22.11	1.87	<0.01	719.86			
Black-necked Stilt	1.08	0.04	29.84	0.71	0.92	29.26	0.23	0.08	2.80	0.51	0.90	15.63	0.63	0.64	18.61			
Chinese Pond Heron	1.08	0.53	1.97	0.56	0.28	2.23	0.73	0.33	2.20	0.92	0.32	11.59	0.79	0.50	11.54			
Grey Heron	1.06	0.18	8.83	1.50	0.17	8.79	1.28	0.16	7.35	1.00	0.16	11.00	3.73	0.15	14.98			
Great Egret	1.43	0.50	2.87	0.89	0.53	1.68	0.61	0.47	1.28	1.68	0.28	5.95	1.73	0.59	2.94			
Little Egret	0.75	0.68	1.11	0.49	0.54	0.93	0.72	0.45	1.06	0.39	2.72	0.87	0.68	1.28				
Great Cormorant	2.70	0.65	4.15	5.42	0.46	12.34	3.44	0.54	6.32	7.30	0.41	17.62	6.18	0.56	11.33			
Greater Spotted Eagle	0.02	0.00	LMC	0.01	0.00	LMC	0.01	<0.01	39.90	0.01	<0.01	33.31	0.01	0.00	LMC			
Eastern Imperial Eagle	0.01	<0.01	39.45	0.01	0.00	LMC	<0.01	2.50	0.01	<0.01	49.33	<0.01	0.00	LMC				
Eurasian Coot	0.94	0.06	LMC	0.01	0.00	26.85	0.01	0.00	LMC	0.04	<0.01	131.91	0.08	0.00	LMC			
Black-winged Stilt	0.19	0.09	4.13	0.29	0.02	14.84	0.44	0.10	4.54	0.41	0.12	14.98	0.18	0.21	5.49			
Greater Painted-snipe	0.00	0.00	LMC	<0.01	0.00	LMC	0.03	0.00	LMC	0.01	nr	LMC	0.03	0.40	LMC			
Masked-billed Tern	0.07	<0.01	29.40	<0.01	0.00	7.35	0.01	0.00	LMC	<0.01	nr	LMC	0.03	<0.01	13.84			
Pintail/Swinhoe's Snipe ¹	0.01	<0.01	3.02	0.02	0.00	5.78	0.04	<0.01	17.73	0.01	<0.01	16.75	0.03	<0.01	133.44			
Common Snipe	0.04	0.01	5.77	0.03	0.01	4.70	0.09	0.13	3.56	0.15	0.01	13.64	0.12	<0.01	13.84			
Pala ² - Grasshopper Warbler	0.01	<0.01	6.74	0.01	<0.01	17.97	0.01	<0.01	9.39	0.01	<0.01	5.39	<0.01	<0.01	10.89			
Zitting Cisticola	0.06	0.03	1.93	0.04	0.06	0.10	0.09	0.07	1.23	0.11	0.06	0.55	0.05	0.93	1.57			
Red-billed Starling	2.21	1.29	1.72	0.72	0.46	1.56	C 45	0.37	1.21	0.59	0.31	1.94	2.93	0.87	4.36			
Bluebreast	<0.01	0.00	LMC	<0.01	0.00	LMC	<0.01	<0.01	32.25	<0.01	<0.01	1.54	<0.01	<0.01	0.99	LMC		
Japanese Yellow Bunting	0.00	0.00	nr	0.00	<0.01	CA	0.00	0.00	nr	nr	<0.01	CA	0.00	0.00	nr			

nr = Not recorded within LMC EEA and Control Areas during the period.
Blue = Target met (i.e. density in LMC EEA at least twice that in Control Areas)
Yellow = Target not met, although density higher than in Control Areas
Red = Target not met and density lower than in Control Areas

1. Species name follows the latest list of Hong Kong Bird from The Hong Kong Bird Watching Society.
2. Includes one species pala, Pintail/Swinhoe's Snipe, not distinguishable in the field.



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Non-numerical Bird Target Performance from 2014 to 2016

Species/Density (mass/ha)	Year			2014			Jul 2014 - Jun 2015			Jul 2015 - Jun 2016		
	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio
Eurasian Wigeon	0.41	0.03	13.70	0.56	0.01	44.10	2.04	<0.01	2886.04			
Little Grebe	0.85	0.47	1.80	1.24	0.65	1.89	1.09	0.86	1.27			
Cinnamon Bittern	0.02	0	LMC	0.01	0	LMC	<0.01	<0.01	13.56			
Black-crowned Night Heron	0.1	0.02	9.40	0.22	0.02	11.89	0.07	0.03	2.87			
Intermediate Egret	0.18	<0.01	12.50	0.03	0.01	2.36	0.05	<0.01	17.02			
White-headed Stork	0.14	0.11	1.30	0.28	0.62	15.34	0.62	0.10	39.41			
White-shouldered Stork	0.69	0.06	13.50	1.10	0.07	16.88	1.34	0.08	16.15			
Yellow-breasted Bunting	0	0	nr	0	<0.01	CA	0.00	<0.01	CA			

The above species became target species from October 2014.
Species names follow the latest list of Hong Kong Bird from The Hong Kong Bird Watching Society.
nr = Not recorded within LMC EEA and Control Areas during the period.
Blue = Density in LMC EEA at least twice that in Control Areas
Yellow = Density higher in LMC EEA than in Control Areas
Red = Density in LMC EEA lower than in Control Areas



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Winter Roost Count in the Winter of 2015/16

- Winter roost survey was conducted between November 2015 and March 2016;
- Winter roost is mainly located at Pond 2, including the island and the northern bund.

Bird Taxa	Nov-15	Dec-15	Jan-16 @	Feb-16	Mar-16
Ardeids*	-	278	280	174	218
Black-faced Spoonbill	-	-	-	-	5
Starlings/Myna	-	-	1,350	16	13
Great Cormorant	850	1,839	3,000	3,317	38
Total	850 #	2,117	4,630	3,507	274

* Including Chinese Pond Heron, Eastern Cattle Egret, Grey Heron, Great Egret, Intermediate Egret and Little Egret.
 # Disturbed by unknown source.
 @ postponed to early February due to adverse weather.

Egret Decoys Installation

- A total of 30 decoys were installed on the island of Pond 2 and a tree at Pond 4 since late February 2016;
- 29 were taken down (and 1 is missing) in June 2016 to avoid the peak period of typhoon.



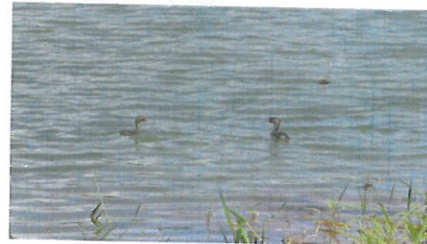
Nest Boxes Occupation in April to June 2016 and Bird Breeding

- 108 out of 119 bird nest boxes are accessible for survey (the others are too high, outside the boundary fence etc.);
- All of these surveyed nest boxes were occupied by Starlings (mainly by White shouldered Starling, and suspected to be occupied by Red-billed Starling) : 106 with eggs and/or chicks recorded and 2 with nesting materials only.



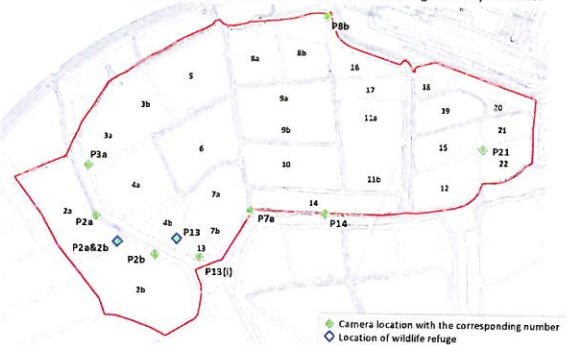
Nest Boxes Occupation in April to June 2016 and Bird Breeding

- Chicks of Little Grebe were recorded in 8 ponds (Ponds 2, 3, 4, 5, 6, 7, 11 and 12), with a maximum of 27 chicks recorded on one date;
- Chicks of White-breasted Waterhen were recorded in 2 ponds (Ponds 5 and 22), with a maximum of 5 chicks recorded on one date.



Mammal Findings in LMC EEA from January to June 2016

- 10 infra-red cameras were in use most of the time during January to June.



Mammal Findings in LMC EEA from January to June 2016

In 30th EC Meeting (January 2016): ... Mr Smith suggested to make reference to the presentation methodology (of mammal data) by AFCD...

Reference was made to AFCD newsletter "Hong Kong Biodiversity" Issue no. 15 about the camera trap survey conducted in Hong Kong on terrestrial mammals.

Instead of presenting the number of days of the mammal captured, the occurrence index (OI) is used.

According to the relevant AFCD newsletter, OI is defined as "the number of photographs taken divided by the total amount of trapping effort in 100 camera working days... serial photos belonging to the same species taken within 30 minutes were treated as a single record to prevent over-representation of lingering individuals". OI was generated by 1 sq. km.

Mammal Findings in LMC EEA from January to June 2016

- An Eurasian Otter was captured on 16th March 2016.

Species	Number of Photographs per 100 Camera Working Days											
	AFCD*	Total	P2a	P2a & 2b	P2b	P3a	P7a	P8b	P13	P13 (j)	P14	P21
'brown rat'	?	85.6	1.1	1.1	2.2	1.1	2.0	0.5	74.2	0.6	2.7	0.0
Eurasian Otter	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Small Indian Civet	216.0	11.0	6.0	0.0	1.6	0.5	0.0	1.6	0.6	0.0	0.5	0.0
Small Asian Mongoose	53.2	37.9	3.3	2.2	4.4	0.5	0.0	0.0	26.3	0.0	1.1	0.0
Leopard Cat	54.2	24.8	11.5	1.1	3.8	3.8	0.7	2.2	0.0	0.0	1.1	0.5
Eurasian Wild Pig	171.4	8.0	0.0	0.0	0.0	3.3	2.0	1.6	0.0	0.0	0.5	0.5

* Occurrence index extracted from AFCD newsletter "Hong Kong Biodiversity" Issue no. 15 and adjusted by the proportion of area of LMC EEA (33 ha) in relation to the 1 km² grid used in the newsletter (i.e. multiplied by 0.33).

Mammal Targets Recorded since 2006

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016@
Eurasian Otter <i>Lutra lutra</i>											
Maximum Count	1	1	2	1	3*	0	1	1	2	0	1
No. of Records ¹	2	2	2	1	2	0	1	13 ²	5 ²	0	1
Leopard Cat <i>Prionailurus bengalensis</i>											
No. of Records ¹ / OI ²	2 ¹	14 ¹	5 ¹	9 ¹	20 ¹	12 ¹	1 ¹	11 ¹	87 ¹	114 ^{1,2}	25.0 ²

Note:
 1. Number of dates recorded by all installed cameras plus direct observations.
 2. Occurrence index.
 Key:
 * Up to 3 individuals recorded between Ponds 1 and 2 by AFCD
 # Including one dead individual found at LMC EEA
 ^ Including direct observation of one individual at Pond 12
 % Footprints were also recorded
 @ include data from January to June

Mammal Findings in LMC EEA from January to June 2016

Eurasian Otter (P14, 16th March)



Leopard Cat (P2a, 28th June)



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Mammal Findings in LMC EEA from January to June 2016



brown rat



Small Asian Mongoose



Small Indian Civet



Eurasian Wild Pig



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Small Mammal Trapping in 2015

- 6 traps were set in January and February;
- 2 Chestnut Spiny Rats (*Niviventer fulvescens*) and 4 Ryukyu Mouse (*Mus caroli*) were trapped in January and February respectively.



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Reptile Findings since 2006

Species/ Maximum Total Number of Individuals Recorded in All Ponds in LMC EEA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Red-eared Slider <i>Trachemys scripta</i>	-	-	-	-	1	2	-	2	4	7	2
Turtle sp.	-	-	-	-	-	-	-	-	-	-	2*
Reeves' Turtle <i>Mauremys reevesii</i>	-	-	-	-	-	-	-	-	-	-	1
Chinese Soft-shelled Turtle <i>Pelodiscus sinensis</i>	1	1	1	1	1	1	1	1	1	1	1
Makran Small-eared Turtle <i>Malayemys macrocephala</i>	-	-	-	1	-	-	-	-	-	-	-
Four-toed Gecko <i>Gehyra mutilata</i>	-	-	-	1	-	-	-	-	-	-	-
Chinese Gecko <i>Gekko chinensis</i>	-	-	-	1	-	-	-	-	-	-	-
Bowring's Gecko <i>Hemiphyllactus bowringii</i>	4	3	1	2	2	2	1	5	1	2	2
Chinese Skink <i>Eumeces chinensis</i>	-	-	-	1	-	-	-	-	-	-	-
Reeves' Smooth Skink <i>Scolecophorus reevesii</i>	-	-	-	1	-	-	-	-	-	-	1
Common Blind Snake <i>Rhynchophis brevius</i>	-	-	-	-	1	-	-	-	-	-	-
Burmese Python <i>Python bivittatus</i>	1	1	1	-	-	-	-	1	1	1	1
Chinese Water Snake <i>Erythrolia chinensis</i>	3	1	-	1	1	1	1	1	1	1	-
Plumbeous Water Snake <i>Erythrolia plumbea</i>	-	-	-	1	1	-	-	-	-	-	-
Taiwan Kukri Snake <i>Oligodon formosanus</i>	-	-	-	-	-	-	-	-	-	-	1
Indo-Chinese Rat Snake <i>Ptyas korros</i>	1	1	-	-	-	-	-	-	-	-	-
Common Rat Snake <i>Ptyas mucrosauria</i>	1	1	1	-	1	1	1	1	1	1	-
Buff-striped Keelback <i>Amblystoma sipoicum</i>	-	-	-	-	-	-	-	1	-	-	-
Checkered Keelback <i>Xenochrophis piscator</i>	1	2	1	2	6	3	1	2	-	1	1
Many-banded Krait <i>Bungarus multicinctus</i>	-	1	-	-	-	-	1	1	-	-	-
Chinese Cobra <i>Naja atra</i>	-	-	-	1	1	1	1	1	-	-	-
Number of species recorded	7	8	6	7	10	6	6	11	4	9	6
Total number of species recorded	21										

Key:
* unknown, probably ex-captive species
sighting made by the contractor responsible for reprofiling works.
* include data from January to June
one individual was recorded using egg.
% only footprints were recorded.



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Reptile Targets Recorded since 2006

- Burmese Python was not recorded from January to June 2016.
- Footprints of Chinese Soft-shelled Turtle were recorded in Pond 9 in February 2016.



Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Burmese Python <i>Python bivittatus</i>	2 (1)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	3 (1)	1* (1)	0 (0)
Chinese Soft-shelled Turtle <i>Pelodiscus sinensis</i>	2 (1)	1 (1)	1* (1)	2* (1)	1 (1)	1 (1)	1 (1)	2 (1)	2 (1)	2* (1)	*

Total count is indicated in the table, whereas the numbers in brackets are the maximum count per survey.
Key:
@ include data from January to June
% sighting reported by the reprofiling contractor
* include one track record



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Amphibian Findings since 2006

- No record of Chinese Bullfrog was made from January to June 2016.

Species/ Maximum Total Number of Individuals Recorded in All Ponds in LMC EEA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Asian Common Toad <i>Bufo melanostictus</i>	0	3	3	1	2	4	3	1	2	7	1
Atiatic Painted Frog <i>Kaloula pulchra</i>	0	0	0	0	0	2	2	1	0	0	0
Buller's Pigmy Frog <i>Microhyla bulleri</i>	0	0	0	1	2	0	0	2	0	0	0
Ornate Pigmy Frog <i>Microhyla ornata</i>	0	0	13	46	128	25	5	7	4	0	0
Marbled Pigmy Frog <i>Microhyla pulchra</i>	0	0	0	0	0	0	0	0	1	0	0
Paddy Frog <i>Fejervarya limnocorais</i>	35	25	23	14	12	7	20	6	1	10	24
Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	0	1	1	2 (2)	4 (9)	2 (5)	2 (8)	1 (2)	1 (2)	0 (0)	0 (0)
Ganther's Frog <i>Rana gantheri</i>	130	157	145	74	137	86	132	108	293	115	82
Two-striped Grass Frog <i>Rana taiwanensis</i>	0	0	0	0	2	1	1	1	0	2	0
Brown Tree Frog <i>Polypedates megacephalus</i>	12	16	32	33	27	38	12	14	7	3	6
No. of species recorded	3	6	6	7	8	8	8	9	7	5	4

Maximum count (per survey) is indicated in the table; for Chinese Bullfrog, from 2009, the numbers in brackets are the total number recorded in the year.
Key:
@ include data from January to June



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Dragonfly Findings since 2006

- There is a slight drop in the number of species recorded in 2015; the trend will be monitored.

Dragonfly recorded as adults or larvae at LMC EEA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2016*
Orange-tailed Midgelet	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wandering Midgelet	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Orange-tailed Spine	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Bluetail	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blue Sprite	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pale-spotted Emperor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lesser Emperor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Flangetail	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Soldier Flangetail	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red-spotted Emperor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asian Pintail	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blue Dasher	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asian Amberwing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Darter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blue Pecher	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Amber-winged Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Coastal Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Russet Pecher	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red Pecher	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Red Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Green Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wandering Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Key: @ include data from January to June; * A Midgelet species is also recorded.



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Dragonfly Findings since 2006

- There is a slight drop in the number of species recorded in 2015; the trend will be monitored.

Dragonfly recorded as adults or larvae at LMC EEA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2016*
Ruby Farter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Magpie Flutterer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Variegated Flutterer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Evening Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Saddlebag Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Crimson Drowning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bronze Drowning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Scarlet Basker	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Number of Species Recorded	22	23	23	22	24	21	25	22	21	17	19
Total Number of Species Recorded	32										

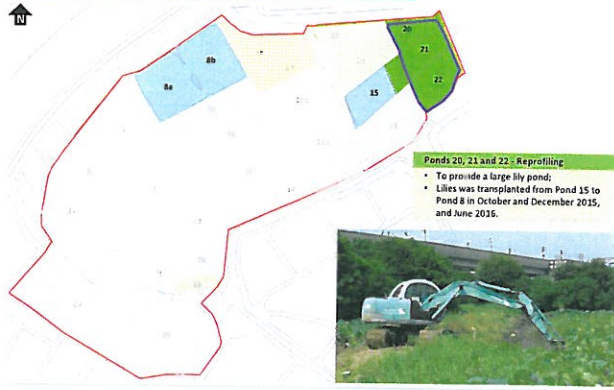
Key: @ include data from January to June; * A Midgelet species is also recorded.



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Major Upcoming Events: Reprofiling of Ponds 20 – 22



Goats from Adjacent Farm



Goats from Adjacent Farm



Breeding Little Grebe in Reprofiling Ponds

In 29th EC Meeting (July 2015): Breeding records of Little Grebes were also recorded, with high numbers at Ponds 3 and 4 which were reprofiled in 2014. The breeding records of this species should be reviewed next year to see if newly reprofiled ponds were particularly attractive to nesting Little Grebe (Ponds 8 and 11 are reprofiled in 2015).

Pond 8 was reprofiled during mid-April to mid-August 2015.

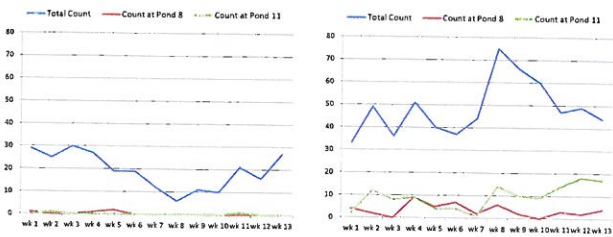
Pond 11 was reprofiled during mid-April to September 2015.

Weekly abundance of Little Grebe between April and June recorded in 2014 and 2016 respectively were compared.

Breeding Little Grebe in Reprofiling Ponds

2014 (April to June)

2016 (April to June)



The End

