
SHEUNG SHUI TO LOK MA CHAU SPUR LINE

Environmental Committee Meeting

Minutes of Meeting No. 29 held at 4:30pm

on Friday, 17th July 2015,

at Room 8B, 8/F, MTR Headquarters Building, Telford Plaza, Kowloon Bay

Present:		
Mr. Bena Smith	WWF Hong Kong	Member (NGO)
Ms. Karen Barretto	Friends of the Earth (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. Chan Kwok Chi	Engineer-Civil	Member (MTR)
Ms. Kenny Yiu	Manager-Environmental Engineer	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:		
Dr. Chan Kam Foon	Environmental Engineering Manager	Member (MTR)
Mr. Chan Wai Keung	Maintenance Manager - Civil	Member (MTR)

Attachments	
Annex A	Presentation Material of EC Meeting No. 29

<u>Item/Description</u>	<u>Action By</u>
1. Welcomed Members to the EC Meeting No. 29.	Noted
<p>Item 1 - <u>Confirmation of minutes of Meeting No. 28</u></p> <p>2. There were no comments on the minutes of Meeting No. 28 and the minutes were confirmed.</p>	Noted
<p>Item 2 - <u>Ecological Enhancement Works and Monitoring - an Update on Management Works and Look Ahead</u></p> <p>3. <u>A Member (consultant)</u> reported on the ecological monitoring and management works undertaken between January and June 2015 at the LMC EEA (detailed in Annex A). It was noted that:</p> <p>3.1 The reprofiling of Ponds 8 and 11 was currently underway; they were required to be reprofiled as there was a bund stability problem and to lower the levels of the islands. Reprofiling of Pond 14 to create internal bunds was also in progress. <u>A Member (NGO)</u> enquired if the internal bunds would be raised to create separate cells within the pond. <u>A Member (consultant)</u> confirmed that this was the plan and to create separate cells even under high water levels; the excavated soil from Ponds 8 and 11 would be re-used to create the internal bunds in Pond 14.</p> <p>3.2 A number of ponds were drained for providing foraging areas for waterbirds or for reprofiling. <u>A Member (consultant)</u> noted that, due to the limited rainfall in this wet season, the water level had remained low since the start of the wet season. In response to this, it was important to ensure no water was lost through the overflow pipes. <u>A Member (NGO)</u> enquired if there was any importation of water before in the LMC EEA. <u>A Member (consultant)</u> reported that there no importation of water has happened before, as there had been no lack of water in the past and there was more water than required in the wet season (especially in August).</p> <p>3.3 Small sized trash fish was stocked as scheduled during January to March 2015; this resulted in good numbers of waterbirds recorded in the reporting period. <u>A Member (NGO)</u> enquired if the fish stocking could be carried out as scheduled due to the co-operation of the fish supplier or wetland maintenance contractor. <u>A Member (consultant)</u> believed that this was due to the good organization and goodwill of the contractor, and also the good relationship of the contractor and the fish supplier.</p> <p>3.4 Big sized fish was also stocked at the spring/summer 2015 to replenish the fish stock after the dry season and to maintain the water quality. <u>A Member (NGO)</u> enquired if the fish stocked consisted of Tilapia. <u>A Member (consultant)</u> reported that the species mainly depended on what could be provided by the fish supplier, and the fish stocked in the spring/summer 2015 mainly consisted of Tilapia, with a few other species such as Edible Goldfish and Big-headed Carp mixed in.</p> <p>3.5 Routine removal of unwanted vegetation (e.g. <i>Cyperus</i> spp., <i>Ipomoea</i> spp.) was carried out in the reporting period; transplanting of <i>Polygonum</i> species, which is good for Snipe, was also carried out.</p>	<p>Noted</p> <p>Noted</p> <p>Noted</p> <p>Noted</p> <p>Noted</p>

<u>Item/Description</u>	<u>Action By</u>
<p>3.6 Treatment on Red Imported Fire Ant nests was continued in the reporting period. <u>A Member (NGO)</u> enquired if the presence of the Ant affected the breeding of birds. <u>A Member (consultant)</u> reported that the breeding of White-breasted Waterhen was apparently not affected. <u>A Member (NGO)</u> enquired about the information of the pesticide. <u>Ms. Wu</u> reported that the pesticide (Pro bait) used currently works well in the LMC EEA and would send the related information to Member (NGO) separately.</p>	AEC
<p>3.7 Manual removal of Apple Snails in the marsh area was undertaken in the reporting period; effort was put into Pond 19 where many Apple Snails were found. For those ponds where reprofiling was planned, little effort was put to remove the Apple Snails.</p>	Noted
<p>3.8 With the erection of the dog-proof fence, the number of dogs recorded in the LMC EEA has decreased, especially in the Pond 2 area. One dog was trapped in the reporting period; the low number of dog trapped reflects the low number of dogs found in LMC EEA.</p>	Noted
<p>3.9 More bird nest boxes were recruited in the LMC EEA; half of the additional nest boxes had larger holes. <u>A Member (NGO)</u> enquired about the reason of deploying the nest boxes with larger holes. <u>A Member (consultant)</u> reported that these nest boxes were targeted at Red-billed Starlings and White-cheeked Starlings; but, based on the data in this reporting period, White-shouldered Starlings had also used most of the nest boxes with larger holes. <u>A Member (consultant)</u> reported that some old water pipes were reused to provide refugia for wildlife. A camera was installed near this structure to try to capture any wildlife using this refuge.</p>	Noted
<p>3.10 The latest Environmental Permit was issued in January 2015. <u>A Member (NGO)</u> enquired the reason of applying the variation of Environmental Permit. <u>A Member (consultant)</u> reported that this was due to the relocation of habitats (creating a large lily pond in Ponds 20 – 22 to reduce disturbance to Pheasant-tailed Jacana and relocating the reed to Pond 14 to avoid reed pests from Clean-up reedbed).</p>	Noted
<p>3.11 All of the large waterbird numerical target species reached the target (ratio ≥ 2) in the past 12 months. It was noted the trends of Great Egret and Little Egret were positive. <u>A Member (consultant)</u> noted that meeting the targets is in part due to the good site management of LMC EEA, but it may also be related to the decreasing numbers in the Control Areas.</p>	Noted
<p>3.12 The number of Little Grebe was increasing in the LMC EEA. Although there was no record of Yellow-breasted Bunting in LMC EEA in the past 12 months, there was only one record in the Control Areas. <u>A Member (consultant)</u> noted that there was no target requirement for the non-numerical target species, but the management of the LMC EEA for these non-numerical target species would still aim to achieve the same target levels of the numerical target species.</p>	Noted
<p>3.13 Winter roost surveys were conducted in the winter 2014/2015. Roosting ardeids recorded mainly consisted of Great Egret and Little Egret. The number of Black-faced Spoonbill recorded roosting in the LMC EEA was not as high as the other roosting species; this might be because the Black-faced Spoonbill prefers roosting on pond bund rather than the trees. There were a maximum of over 1,000 Great Cormorant roosting in the LMC EEA. <u>A Member (NGO)</u> enquired if the high number of Great Cormorant present in the LMC EEA could help to reduce the effort on grass cutting. <u>A Member (consultant)</u> reported that this high numbers did not help in reducing the effort of grass cutting at the area where the Great Cormorant</p>	Noted

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<p>roosted as the grass re-grew quickly in the wet season. <i>A Member (NGO)</i> thought the droppings might increase the nutrient content of the soil and make the grass re-grow faster. He further enquired if the droppings created any problem in the water quality. <i>A Member (consultant)</i> reported that there was no problem in the dissolved oxygen of Pond 2. Although there were algae found in Pond 2, they would be flushed by rains in the wet season. <i>A Member (NGO)</i> also enquired if the fish stocking helped in attracting the waterbirds to roost within LMC EEA. <i>A Member (consultant)</i> suggested that the places of roosting and foraging are different, but pond drain-down and fish stocking probably did help to attract roosting birds to the LMC EEA.</p>	
<p>3.14 Egret decoys were installed on the island of Pond 2. <i>A Member (consultant)</i> suggested that the relatively high number of ardeids roosting in LMC EEA might be related to the installed decoys.</p>	Noted
<p>3.15 Nest box surveys were conducted and the findings were presented. The chicks, which are believed to be Starling species, were difficult to be distinguished to species level based on the photos taken by the endoscope; while the survey frequency was not intensified to avoid unnecessary disturbance to the breeding birds. It was suspected White-cheeked Starlings were nesting around Pond 2, but it was not known if they had used a nest box. There was no Crested Myna found nesting in the accessible nest boxes on site. <i>A Member (NGO)</i> enquired if there was any evidence that the number of breeding pairs of White-shouldered Starlings had increased. <i>A Member (consultant)</i> reported that there was an increasing trend and considered that the breeding population of this species was once considered to be of conservation concern but might be the opposite now. <i>A Member (NGO)</i> enquired if there was any Black-naped Oriole nested in the LMC EEA. <i>A Member (consultant)</i> reported that there were breeding pairs found at Pond 2 many years ago. <i>A Member (NGO)</i> further enquired if any actions would be taken to attract them back to the LMC EEA. <i>A Member (consultant)</i> reported that the habitats provided within the LMC EEA were the same as in past years but this species was now only recorded as a migrant suggesting that other factors than local conditions had resulted in the decline. <i>A Member (NGO)</i> enquired if Black-naped Oriole breeds elsewhere in Hong Kong. <i>A Member (NGO)</i> reported there had been no breeding record of this species in other areas in recent years.</p> <p>[Post-meeting note: Black-naped Oriole was recorded breeding (with the record of three chicks) within the LMC EEA in the summer 2005; in 2006 and 2007 and possibly also in 2008, a pair bred just off-site.]</p>	Noted
<p>3.16 Bird breeding activities or young birds in the LMC EEA were also monitored. Cinnamon Bittern was believed to be breeding on site again this year. 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). <i>A Member (NGO)</i> enquired if Black-winged Stilt and Greater Painted-snipe bred in the LMC EEA. <i>A Member (consultant)</i> reported that a pair of Black-winged Stilt was noted in spring 2015 and they showed territorial behaviour; but no confirmed breeding was recorded. It was believed that Greater Painted-snipe bred in Pond 17 in 2015. He explained that the surveyors were reluctant to go into the pond/ marsh areas to confirm the nesting, as this may trample over the nests/eggs. <i>A Member (NGO)</i> further enquired if Black-winged Stilt had bred in LMC EEA in the past. <i>A Member (consultant)</i> reported that this species had three breeding records in the LMC EEA; two out of these three records were successful, one of which was recorded on the floating platform deployed in the LMC EEA. He further explained that the species</p>	AEC

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<p>seemed to occur in optimum conditions of weather, water level and vegetation cover.</p>	
<p>3.17 A Purple Swamphen was recorded in the LMC EEA in May 2015, and it was a new species to the LMC EEA. <u>A Member (consultant)</u> supplemented that records of this species had increased recently and it was a potential new breeding species for Hong Kong. <u>A Member (NGO)</u> enquired as to the number of species recorded in the last 10 years. <u>Mr. Leven</u> reported the information would be checked. [Post-meeting note: 251 species have been recorded since establishment of the EEA.]</p>	Noted
<p>3.18 Monitoring of mammals by auto-trigger cameras was continued in the reporting period. <u>A Member (NGO)</u> suggested that it would be beneficial to show the success of the site management to the public by such means as installing webcams in the site and putting recorded videos onto the MTR Corporation website. <u>A Member (MTR)</u> reminded that there are cameras installed in the LMC MTR Station and the passengers are allowed to use them to view the LMC EEA. <u>A Member (NGO)</u> enquired if the display boards about the birds were removed from the LMC MTR Station and the magnification of the cameras. <u>A Member (NGO)</u> enquired about the angle of the view from the cameras. <u>A Member (consultant)</u> suggested that if a webcam was used, it could be installed on top of the container between Ponds 3 and 5. <u>A Member (NGO)</u> suggested that the public might also be interested in the Eurasian Otter. <u>A Member (NGO)</u> also suggested to install cameras/webcams which could capture the drained ponds or nest box activities, for MTR Corporation to show the public about its management of the site.</p>	Noted
<p>3.19 The number of dates recorded for the photos with Leopard Cat increased. <u>A Member (NGO)</u> enquired as to the population of this species in the Mai Po Nature Reserve (MPNR). <u>A Member (NGO)</u> reported that there were cameras installed in MPNR and WWF was hoping to learn more about the population size of these. It was agreed that once there was more camera data from Mai Po it would be interesting to share findings.</p>	Noted
<p>3.20 Reptile species recorded between January and June 2015 were reported and <u>A Member (consultant)</u> noted that there was an increasing trend of Red-eared Slider. Tracks of Chinese Soft-shelled Turtle were recorded in the reporting period.</p>	Noted
<p>3.21 Amphibian species recorded between January and June 2015 were reported. <u>A Member (consultant)</u> suggested that 2015 might not be a good year for amphibians as it was too dry. <u>A Member (NGO)</u> was surprised about the low numbers recorded for Asian Common Toad. <u>A Member (consultant)</u> suggested that it is a species which is largely commensal with humans (e.g. in village areas).</p>	Noted
<p>3.22 Dragonfly species recorded during the reporting period was presented. <u>A Member (consultant)</u> remarked that the number of dragonfly species recorded was rather stable year on year and was unlikely to change significantly. <u>A Member (NGO)</u> enquired if there was any vagrant dragonfly species recorded. <u>A Member (consultant)</u> reported that there was no vagrant dragonfly species recorded.</p>	Noted
<p>3.23 The coming major management works would be to relocate the reedbed from Pond 22 to Pond 14 and create lily ponds at Ponds 20 – 22. Lily within Pond 21 will be kept and transplanted to Pond 8. Lotus in Ponds 20 – 22 will be removed. Based on the past experience, it would have perhaps been better not to plant lotus within the LMC EEA, as lilies are more useful for the target species.</p>	Noted

<u>Item/Description</u>	<u>Action By</u>
<p>3.24 <u>A Member (consultant)</u> noted that the number of Red-eared Slider has increased in recent years, but it was difficult to confirm where these Sliders came from and it was not clear if they were causing ecological problems or breeding within LMC EEA. He suggested that at this point it was intended to continue to monitor this species and seek more advice from local experts. He added that some local reptile experts thought that this species excludes Reeve's Terrapin, but there was no indication that LMC EEA had had a population of this species. Hence, it was not clear if Red-eared Slider excluded Reeve's Terrapin from the LMC EEA. <u>A Member (NGO)</u> suggested that perhaps if Red-eared Slider was removed, its ecological niche could be filled by Reeve's Terrapin. <u>A Member (NGO)</u> enquired if there are any Reeve's Terrapin in the MPNR. <u>A Member (consultant)</u> reported that he did not know, but this species has been recorded in Nam Shang Wai and near Yuen Long recently, and added that this species may prefer wooded areas, which could be the reason that this species had not been recorded within LMC EEA.</p>	AEC
<p>3.25 To follow-up a question about the abundance of Little Grebe raised in the 27th EC meeting, the monthly mean count of the species recorded in the LMC EEA was investigated. Abundance peaked at the end of the breeding season and numbers recorded in 2015 were higher than those in 2014. <u>A Member (consultant)</u> noted there was no obvious pattern found, so the abundance of this species would continue to be monitored.</p>	AEC
<p>3.26 To follow-up a question raised in the 28th EC meeting about the relationship between the quantity of fish stocked and abundance of Chinese Pond Heron and Great Egret, the relation between the weekly quantity of fish stocked and the weekly total numbers of the two bird species recorded in the last two winters were investigated. It was concluded that the numbers of Chinese Pond Heron recorded were not related to the quantity of fish stocked. The number of Great Egret recorded seemed to correlate with the quantity of fish stocked. <u>A Member (consultant)</u> noted that the limitation of this investigation was that the bird counts might not be carried out after the fish stocking and, hence, it was difficult to prove or disprove their relationship. <u>A Member (consultant)</u> remarked that the absence of a relationship between the quantity of fish stocked and the number of Chinese Pond Herons recorded might be because Chinese Pond Heron is a solitary species.</p>	Noted
<p>3.27 To follow-up a question raised in the 28th EC meeting about the relationship of rainfall and number of Günther's Frog and Ornate Pigmy Frog, the rainfall recorded at the LMC Weather Station and the maximum count of the two amphibian species during the early wet seasons (March to May) from 2009 and 2015 were looked at. It was concluded that there was a relationship between rainfall and the maximum numbers of the Günther's Frog recorded during this investigation period. <u>A Member (consultant)</u> suggested that the population of Ornate Pigmy Frog recorded might not be related to the rainfall, which suggested that it might be related to the management strategy of LMC EEA. In order to examine if Ornate Pigmy Frog was excluded by Günther's Frog, maximum counts in 2010 (when both species occurred in good numbers) and 2014 (when there were good numbers of Günther's Frogs but very few Ornate Pigmy Frogs), were studied. The number of Günther's Frog was recorded highest at Pond 2 in 2010; whereas more Ornate Pigmy Frogs were recorded in the marsh ponds in the same year. In 2014, Günther's Frogs were recorded in a number of fishponds and marsh ponds; whereas the Ornate Pigmy Frog was confined to one marsh ponds. Thus it seemed that it was unlikely that Günther's Frogs were directly affecting Ornate Pigmy Frogs. <u>A Member (NGO)</u> enquired if the low number of the Ornate Pigmy Frogs was related to disturbance. <u>A Member (consultant)</u> reported that the marsh ponds were not drained regularly</p>	AEC

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<p>and it seemed unlikely that the Red Imported Fire Ant adversely affected the population of the Ornate Pigmy Frog as there seemed to be no such effect on the Günther's Frog. <u>A Member (NGO)</u> enquired if any advice from local experts was sought. <u>A Member (consultant)</u> reported that the data analysis presented was finished not long before the EC meeting so there had not been time to consult. However, local experts could be contacted later. He also noted that Günther's Frog and Ornate Pigmy Frog were not target species of LMC EEA nor of conservation concern locally, regionally or internationally; therefore it was not appropriate to make substantial changes in habitats specifically for these species. <u>A Member (NGO)</u> enquired if there was any predation pressure on the Ornate Pigmy Frog. <u>A Member (consultant)</u> reported the tadpoles of such species are prey items of waterbirds, such as Little Grebe, ardeids and White-breasted Waterhen.</p> <p>3.28 In the 28th EC meeting, a site visit to LMC EEA was proposed. <u>A Member (consultant)</u> suggested to have the site visit in November or December 2015, when the weather conditions would be fine, and is the peak season for winter visitors. <u>A Member (MTR)</u> would organise the site visit and confirm the time of the site visit in late October/ early November. She supplemented that the senior management from MTR Corporation might also attend the site visit.</p> <p>3.29 <u>A Member (NGO)</u> was interested on the water source of LMC EEA given the dry early wet season 2015. <u>A Member (consultant)</u> reported that the water level would increase by around 70 mm with 50mm of rainfall. <u>A Member (NGO)</u> enquired as to how the local fishermen deal with the problem of water shortage. <u>A Member (consultant)</u> reported that some commercial ponds are taken out of production during the dry season. Some farmers may take water from nearby channels but this may be risky as there is no assurance on the water quality. <u>A Member (NGO)</u> suggested that it might be useful to prepare a contingency plan of the water supply for the LMC EEA. <u>A Member (consultant)</u> noted that the long-term prediction about future rainfall patterns for Hong Kong was for more but less regular rainfall. He also noted that occasional water shortage in LMC EEA is not a major problem as it is a relatively large site and ecological function would not be seriously affected even if a small number of ponds were temporarily dry.</p>	<p>MTR</p> <p>Noted</p>
<p>Item 3 - <u>Any Other Business</u></p> <p>4. <u>A Member (NGO)</u> suggested that it would be good to document the management works done in the LMC EEA (e.g. by making a documentary film). <u>A Member (MTR)</u> thanked A Member (NGO) for the suggestion and would consult with the Corporate Relations Department about the publicity issue.</p> <p>5. <u>A Member (MTR)</u> thanked the EC members for their time and valuable suggestions.</p>	<p>MTR</p> <p>Noted</p>
<p>Item 4 - <u>Date of Next Meeting</u></p> <p>6. The date of the next meeting is to be advised.</p>	<p>MTR</p>

Lok Ma Chau Spur Line 29th Environmental Committee Meeting

Report on Ecological Monitoring and Management, and Works Programme
January – June 2015

17th July 2015



www.aechk.hk

Overview of Management Works from January to June 2015

Pond Reprofiting

- Ponds 8 and 11 (on-going);
- Creation of internal bunds at Pond 14 (on-going).






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Report on Ecological Monitoring and Management, and
Works Programme, Jan-June 2015

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Overview of Management Works from January to June 2015

Water Level Adjustment

- Pond 10 was drained during January 2015;
- Ponds 8 and 11 were drained for reprofiling during January to June 2015;
- Pond 14 was drained for the creation of internal bunds during June 2015.





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Overview of Management Works from January to June 2015

Winter Fish Stocking

- Fish stocked during January to March 2015, the mean length was generally < 12 cm.





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Works Programme, Jan-June 2015

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Overview of Management Works from January to June 2015

Spring / Summer Fish Stocking

- To replenish the fish stock after 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 coming winter.






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Overview of Management Works from January to June 2015

Vegetation Management

- Routine pond bund grass cutting and weeding of climbers;
- Routine removal of unwanted species (e.g. *Ipomoea aquatica*);
- Clearance of vegetation on overgrown floating platforms;
- Transplanting *Polygonum* spp. from Pond 7 to Ponds 17 and 19.





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Overview of Management Works Pest Management

Pest Management (Red Imported Fire Ant)

- 671 Red Fire Ant nests were treated with the approved pesticide from January to June 2015;
- Red Imported Fire Ant nest treatment using the approved pesticide will be continued.

Year	2008	2009	2010	2011	2012	2013	2014	2015*
No. of nests treated	170	164	(not available)	315	790	1760	1211	671

Key:
* In period from January to June 2015

 **Lak Ma Chee Spar Line**
25th Environmental Compliance Meeting
Report on Environmental Compliance Meeting
Health, Safety and Environment
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Overview of Management Work Pest Management

Pest Management (Apple Snail – hand picking)

- Manual removal of Apple Snails in Compartment C continued.
- Apple Snails removed from January to June 2015:

Month	Apple Snail Removed (kg)								
	Pond 15	Pond 16	Pond 17	Pond 18	Pond 19	Pond 20	Pond 21	Pond 22	Total
January	-	-	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-
April	-	-	-	-	140	-	-	-	140
May	-	-	15	-	-	-	-	-	15
June	-	-	-	-	-	-	-	-	-
Total	0	0	15	0	140	0	0	0	155

 **Lak Ma Chee Spar Line**
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Report on Environmental Compliance Meeting
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Overview of Management Works from January to June 2015

Other Site Management

- Dog trapping – 1 dog was trapped and collected from January to June 2015.



 **Lak Ma Chee Spar Line**
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Overview of Management Works from January to June 2015

Provision of Bird Nest Boxes with Larger Hole

- 50 additional nest boxes installed in April 2015:
 - 25 with larger hole (5cm in diameter)
 - 25 with hole of existing size (4cm in diameter)
- A total of 119 nest boxes on site in this breeding season;
- The nest boxes occupation is presented later.

Provision of Reptile Refugia

- Some old water pipes were chopped and piled to provide shelter for wildlife;
- They are covered by cut vegetation to provide buffer to climatic extremes.




 **Lak Ma Chee Spar Line**
25th Environmental Compliance Meeting
Report on Environmental Compliance Meeting
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Overview of Management Works from January to June 2015

Approval of Variation of Environmental Permit

- The latest Environmental Permit (FEP-06/129/2002/H) was issued on 22nd January 2015.

 **Lak Ma Chee Spar Line**
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Numerical Bird Target Performance from July 2010 to June 2015

Species (many/ha)	Jul 2010 - Jun 2011			Jul 2011 - Jun 2012			Jul 2012 - Jun 2013			Jul 2013 - Jun 2014			Jul 2014 - Jun 2015		
	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio	LMC	CA	Ratio
Japanese Quail	0.01	0.01	LMC	0.00	0.00	nr	0.00	0.00	nr	0.00	0.00	LMC	0.01	0.01	LMC
Common Teal	7.7	0.01	0.0023	1.12	0.01	0.009	1.38	0.02	0.0015	1.75	0.02	0.0015	2.07	0.02	0.0015
Black-necked Stilt	1.0	0.04	0.04	1.00	0.04	0.04	0.71	0.02	0.02	1.28	0.02	0.02	1.00	0.02	0.02
Common Pond Heron	0.95	0.51	0.53	1.78	0.55	0.31	0.45	0.34	0.28	0.78	0.33	0.42	0.35	0.35	0.35
Grey Heron	2.38	0.12	0.05	1.64	0.18	0.01	1.58	0.17	0.12	1.78	0.18	0.11	2.00	0.18	0.09
Great Egret	2.34	0.64	0.27	1.43	0.50	0.35	0.19	0.51	0.45	0.41	0.47	0.14	0.16	0.16	0.16
Little Egret	1.16	0.07	0.06	0.76	0.10	0.13	0.16	0.06	0.06	0.22	0.11	0.05	0.16	0.09	0.09
Great Cormorant	3.58	0.22	0.06	2.71	0.45	0.17	3.42	0.44	0.13	3.44	0.34	0.10	4.02	0.30	0.07
Greater Spotted Eagle	0.01	0.00	LMC	0.01	0.00	LMC	0.01	0.00	LMC	0.01	0.01	0.01	0.01	0.01	0.01
Eastern Imperial Eagle	0.01	0.00	LMC	0.01	0.00	LMC	0.00	0.00	LMC	0.01	0.01	0.01	0.01	0.01	0.01
Golden Plover	0.01	0.01	0.01	0.04	0.00	LMC	0.01	0.00	LMC	0.01	0.00	LMC	0.04	0.00	0.00
Black-winged Stilt	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01
Greater Painted Stork	0.01	0.01	0.01	0.00	0.00	LMC	0.01	0.00	LMC	0.01	0.00	LMC	0.01	0.01	0.01
Phasian Tail Woodpecker	0.02	0.02	0.02	0.09	0.01	0.01	0.00	0.00	0.00	0.01	0.00	LMC	0.01	0.01	0.01
Painted Quail	0.04	0.01	0.02	0.01	0.01	0.01	0.02	0.00	0.00	0.04	0.01	0.01	0.01	0.01	0.01
Common Snipe	0.00	0.00	0.00	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Pink & Green-backed Woodpecker	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Zitting Cisticola	0.13	0.01	0.01	0.06	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Red-billed Storking	1.07	0.02	0.02	1.21	0.02	0.02	0.72	0.46	0.46	0.45	0.51	0.11	0.59	0.11	0.11
Whistling Thrush	0.01	0.00	LMC	0.01	0.00	LMC	0.01	0.00	LMC	0.01	0.01	0.01	0.01	0.01	0.01
Lesser Yellow Bunting	0.00	0.00	nr	0.00	0.00	nr	0.00	0.00	nr	0.00	0.00	nr	0.00	0.00	nr

nr = Not recorded (within 10% EOP or Control Area during the period)
Blue = Target met (within EOP or Control Area)
Yellow = Target not met, although density higher than in Control Area
Red = Target not met and density lower than in Control Area

1. Species names follow the latest list of Hong Kong Bird Monitoring Society
2. Includes one species pair: Painted Quail - Snipe, not datable in the field
3. Targets removed after October 2014

 **Lak Ma Chee Spar Line**
25th Environmental Compliance Meeting
Report on Environmental Compliance Meeting
Health, Safety and Environment
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Non-numerical Bird Target Performance from 2014 to June 2015

Species/Density (mean/ha)	2014		Ratio		Jul 2014 - Jun 2015	
	LMC	CA	LMC	CA	LMC	CA
Farallan Wigeon	0.41	0.03	13.70	0.56	0.01	64.10
Little Grebe	0.01	0.07	1.00	1.24	0.85	1.88
Cinnamon Bittern	0.01	0	LMC	0.01	0	LMC
Black-crowned Night Heron	0.2	0.02	9.00	0.22	0.02	11.69
Intermediate Egret	0.03	0.01	3.00	0.03	0.01	7.11
White-necked Stork	0.04	0.18	1.00	0.22	0.01	15.84
White-shouldered Stork	0.69	0.74	10.00	1.20	0.87	16.83
Yellow-breasted Kingfisher	0	0	nr	nr	nr	nr

The above species have 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 or Control Area during the period

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 29th Environmental Committee Meeting
 Report on Ecological Monitoring and Management, and
 Waste Programme (Jan-Jun 2015)
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Winter Roost Count in the Winter 2014/15

- Winter roost survey was conducted from November 2014 to March 2015;
- Winter roost is mainly located at Pond 2, including the island and the northern bund.

Bird Taxa	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
Ardeids*	140	467	450	251	274
Black-faced Spoonbill	-	4	75	-	13
Starlings	-	45	150	40	202
Great Cormorant	1,740	490	910	1,270	75
Total	1,880	1,006	1,585	1,561	564

* Mainly Great Egret, Little Egret, Eastern Cattle Egret and Chinese Pond Heron

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Egret Decoys Taking Down in 2015

- A total of 30 decoys were installed on the island of Pond 2 since December 2014;
- All are scheduled to be taken down in August 2015;
- All are robust and in good condition, and can be re-used.



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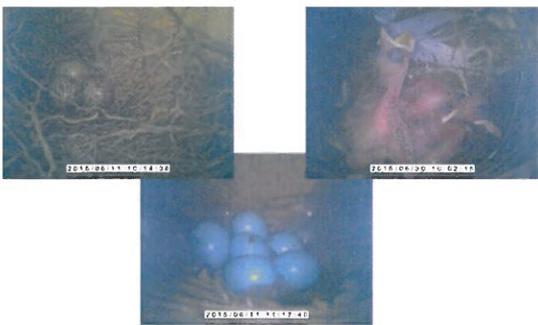
Nest Boxes Occupation in April to June 2015 and Bird Breeding in LMC EEA

- 105 out of 119 bird nest boxes are accessible for survey (the others are too high, outside the boundary fence or on fallen tree(s));
- Oriental Magpie Robin (1 pair) and Starlings (94 pairs) were found occupying the nest boxes;
- Eggs and/or chicks were found in 94 nest boxes (from April to June);
- Another 8 with nesting materials;
- The remaining four were either empty or with bee hive.



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Nest Boxes Occupation in April to June 2015 and Bird Breeding in LMC EEA



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Nest Boxes Occupation in April to June 2015 and Bird Breeding in LMC EEA

- Cinnamon Bittern probably breeding on site again with up to 3 birds present in June 2015 (including a territorial dispute between two males and a male displaying);
- Approximately 20 pairs of Little Grebe were found in May.



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New/Unusual Bird Species Recorded in January to June 2015

- A total of 251 bird species have now been recorded;
- Baikal Teal and Common Swift were also recorded during January to June 2015.



Purple Swamphen *Porphyrio porphyrio*
(May 2015)



Long-billed Plover *Charadrius placidus*
(February 2015)



Pectoral Sandpiper *Colidris melanotos*
(May 2015)

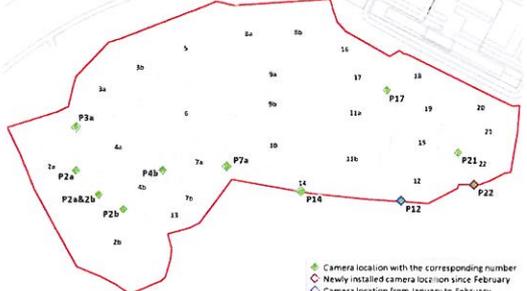


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Mammal Findings in LMC EEA during January to June 2015

- 10 infra-red cameras in use at the LMC EEA during January to June 2015.





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Mammal Findings in LMC EEA during January to June 2015

- No photo of Eurasian Otter was captured from January to June 2015;
- Cameras captured mostly Leopard Cat, followed by Small Asian Mongoose and Small Indian Civet, and 'brown rat'.

Species	Number of Dates Recorded												Total
	P2a	P2a & 2b	P2b	P3a	P4b	P7a	P12	P14	P17	P21	P22		
'brown rat'		2									2		4
Small Indian Civet								2		4		4	10
Small Asian Mongoose	3	6	1										10
Leopard Cat	31	9	11	2	10	15		6		5			89

Key:
 Red - new camera locations (since February 2015)
 Blue - old camera locations (removed in February 2015)



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Mammal Targets Recorded since 2006

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 [#]
Eurasian Otter <i>Lutra lutra</i>										
Maximum Count	1	1	2	1	3*	0	1	1	2	0
No. of Records ²	2	2	2	1	2	0	1	13 ³	5 ⁴	0
Leopard Cat <i>Prionailurus bengalensis</i>¹										
No. of Records ²	2	14	5	9	20	12	1	11	87	89

Note:
 1. Leopard Cat became a target in October 2014;
 2. Number of dates recorded by all installed cameras plus direct observations.
Key:
 * Up to 3 individuals recorded between Pouch 1 and 2 by AFCD
 # Including one dead individual found at LMC EEA
¹ Including direct observation of one individual at Pond 12
² In period from January to June 2015



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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 [#]
Red-eared Slider <i>Trachemys scripta</i>	0	0	0	0	1	2	0	2	4	7
Turtle sp.	0	0	0	0	0	0	0	0	0	11*
Chinese Soft-shelled Turtle <i>Pelodiscus sinensis</i>	1	1	1	1	1	1	1	1	1	8
Malayan Soft-shelled Turtle <i>Apalone mutabile</i>	0	0	0	1	0	0	0	0	0	0
Four-clawed Gecko <i>Cryptis multata</i>	0	0	0	0	1	0	0	0	0	0
Chinese Gecko <i>Gekko chinensis</i>	0	0	0	1	0	0	0	0	0	0
Bruening's Gecko <i>Hemidactylus bowringii</i>	4	3	1	2	2	2	1	5	1	2
Chinese Skink <i>Fumera chinensis</i>	0	0	1	0	0	0	0	1	0	0
Reeves' Smooth Skink <i>Scincella reevesi</i>	0	0	0	0	1	0	0	0	0	0
Common Blind Snake <i>Rampholyubus braminus</i>	0	0	0	0	1	0	0	0	0	0
Burmese Python <i>Python bivittatus</i>	1	1	1	0	0	0	0	1	1	0
Chinese Water Snake <i>Ehrythra chinensis</i>	1	1	0	1	0	1	0	1	0	0
Plumbeous Water Snake <i>Ehrythra plumbea</i>	0	0	0	1	1	0	0	0	0	0
Indo-Chinese Rat Snake <i>Ptyas korros</i>	1	1	0	0	0	0	0	0	0	0
Common Rat Snake <i>Ptyas mucrosus</i>	1	1	1	0	1	1	1	1	0	1
Buff-striped Keelback <i>Amphisura stultum</i>	0	0	0	0	0	0	0	1	0	0
Checkered Keelback <i>Xenochrophis piscator</i>	1	2	1	2	6	3	1	2	0	0
Many-banded Krait <i>Bungarus multicinctus</i>	0	1	0	0	0	0	1	1	0	0
Chinese Cobra <i>Naja atra</i>	0	0	0	0	1	0	1	1	0	0
Number of species recorded	7	8	6	7	10	6	6	11	4	5
Total number of species recorded	18 <small>Key: * In period from January to June 2015; # within probably to capture species in 2015</small>									



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Reptile Targets Recorded since 2006

- Burmese Python was not recorded from January to June in 2015.
- Footprints of Chinese Soft-shelled Turtle were recorded in Pond 7 in January 2015.



Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 [#]
Burmese Python <i>Python bivittatus</i>	2 (1)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	3 (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)	1* (1)

Total count is indicated in the table, whereas the numbers in brackets are the maximum count per survey.
Key:
 # In period from January to June 2015
 * include one track record



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Amphibian Findings since 2006

- No record of Chinese Bullfrog was made from January to June 2015.

Species/Maximum Total Number of Individuals Recorded in All Ponds in LMC EEA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Asian Common Toad	0	3	3	1	2	4	3	1	2	4
Asian Painted Frog	0	0	0	0	0	2	2	1	0	0
Buller's Pigmy Frog	0	0	0	1	2	0	0	2	0	0
Ornate Pigmy Frog	0	9	13	46	128	25	5	7	4	0
Unmottled Pigmy Frog	0	0	0	0	0	0	0	0	1	0
Paddy Frog	35	25	23	24	12	7	20	6	1	3
Chinese Bullfrog	0	1	1	2 (2)	4 (9)	7 (5)	7 (8)	3 (2)	3 (2)	0 (0)
Günther's Frog	130	157	145	74	337	86	132	118	293	86
Two-striped Grass Frog	0	0	0	0	2	1	1	1	0	0
Brown Tree Frog	12	16	32	33	27	33	12	14	7	3
No. of species recorded										
	3	4	6	7	8	8	8	9	7	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: @ In period from January to June 2015.

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Dragonfly Findings since 2006

- When the full year data is considered, the number of dragonfly species recorded has been stable since 2006.

Dragonfly recorded as adults or larvae at LMC EEA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Orange-tailed Midget	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chinese Midget	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Orange-tailed Spotted	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Bluebelly	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blue Spotted	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pale-spotted Emperor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lesser Emperor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Ringlet	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Golden Ringlet	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red-eyed Emperor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asian Pond	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blue Dasher	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asian Amberwing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Darter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blue Fechter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Amber-winged Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Coastal Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Russet Fechter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red Fechter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Egg Layer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Green Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wandering Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Red Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Key: @ In period from January to June 2015. * A Midget species is also recorded.

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Dragonfly Findings since 2006

- When the full year data is considered, the number of dragonfly species recorded has been stable since 2006.

Dragonfly recorded as adults or larvae at LMC EEA	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Red Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blue Darter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spotted Flycatcher	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Orange-tailed Spotted	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Darter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Amber-winged Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Common Darter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wandering Glider	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Green Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Scarlet Skimmer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Total Number of Species Recorded										
	22	23	23	22	24	21	25	22	23	15

Key: @ In period from January to June 2015. * A Midget species is also recorded.

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Major Upcoming Events: Reprofiting of Ponds 20 – 22

- Ponds 8 and 11 – Reprofiting
- Pond 14 – Creation of internal bunds
- Ongoing
- Ponds 20, 21 and 22 – Reprofiting
 - To provide a large dry pond.
 - Slits from Pond 21 will be transplanted to Pond 8 after the reprofiling of the latter.
 - Clearance of slits and removal of topsoil containing lotus/rhizomes in Ponds 20, 21 and probably 22.
 - Once slits have been eradicated from reprofited Ponds 20 – 22, they will be transplanted back from Pond 8.

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Major Upcoming Events: Reprofiting of Ponds 20 – 22

- Conceptual plan:

Note: Pond number for illustration only, they may be changed later.

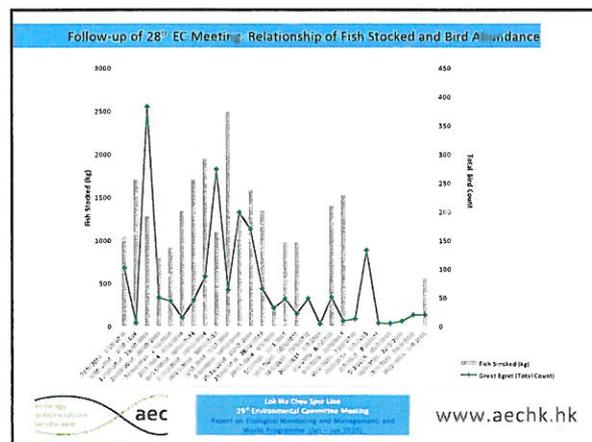
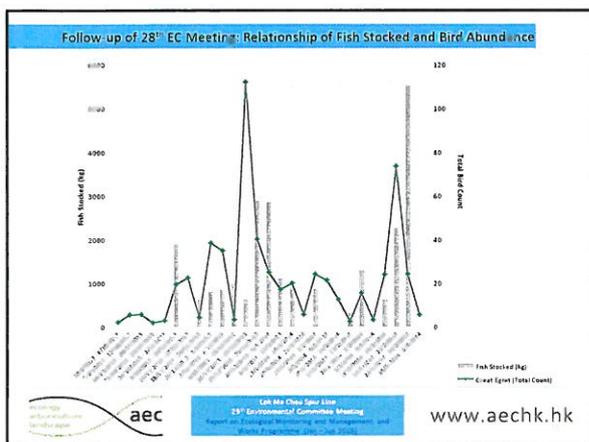
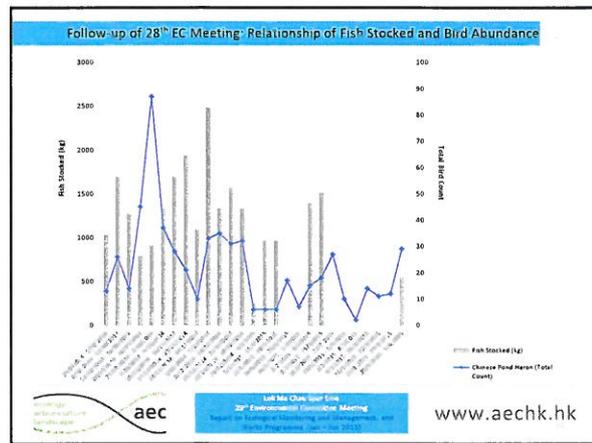
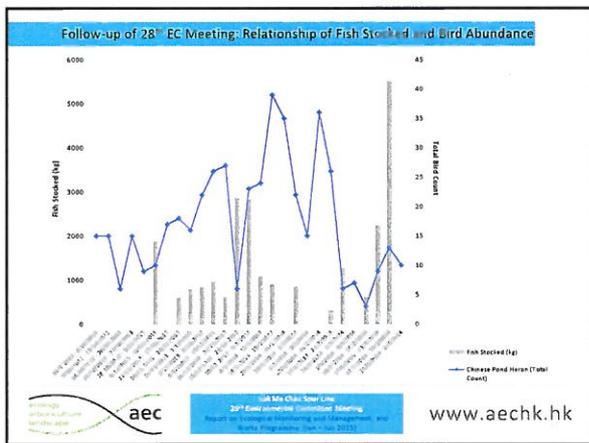
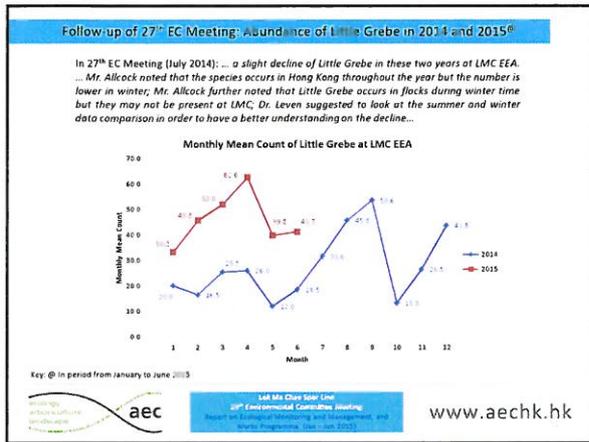
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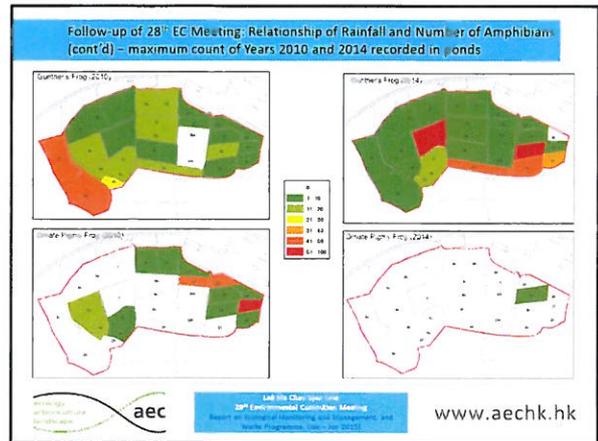
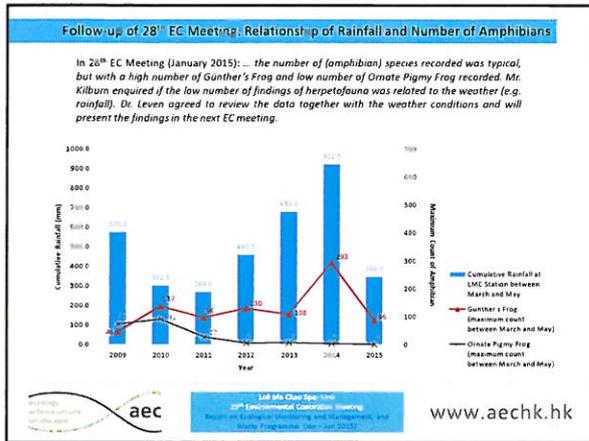
Increased Numbers of Red-eared Sliders – a potential management problem currently under investigation

Year	Cumulative Sightings of Red-eared Slider Recorded at Pond																					
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
2010	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	1	0	0	2	0	0	0	1	0	0	0	1	0	0	0	0	0
2013	0	0	0	0	0	0	0	2	0	0	4	1	3	0	0	0	1	0	0	0	0	0
2014	0	0	0	0	0	0	0	2	0	4	1	3	0	0	0	1	0	0	0	0	0	0
2015*	0	0	0	0	1	1	1	2	1	0	5	0	0	10	0	1	0	3	0	0	0	25

Key: @ In period from January to June 2015.

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Follow-up of 28th EC Meeting: Site Visit to LMC EEA

In 28th EC Meeting (January 2015): Dr. Ng suggested to have a site visit to the LMC EEA to check the situation after the erection of boundary fence. Mr. Kilburn and Dr. Leven suggested to have the site visit in the coming autumn. Ms. Yu confirmed that such site visit will be arranged.

The time of the site visit will be confirmed.

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 L&M Shui-Chiu Water Limited
 28th Environmental Committee Meeting
 Report on Ecological Monitoring and Management, and
 Water Engineering (2014-2015)

