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**SHEUNG SHUI TO LOK MA CHAU SPUR LINE**

**Environmental Committee Meeting**

Minutes of Meeting No. 42 held at 10:00am  
on Thursday, 20<sup>th</sup> January 2022,  
via Webinar (Microsoft Teams)

<b>Present:</b>		
Dr. Xianji Wen	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)
Mr. Matthew Wong	Civil Maintenance Team	Member (MTR)
Ms. Catherine Leung	Environmental Team	Member (MTR)
Ms. Kenny Yiu	Environmental Team	Member (MTR)
Mr. Peter Choi	Environmental Team	Member (MTR)
Mr. Paul Leader	Ecological Consultant	Member (consultant)
Ms. Elizabeth Wu	Ecological Consultant	Member (consultant)
Ms. Zoe Ho	Ecological Consultant	Member (consultant)
Mr. Linus Hung	Ecological Consultant	Member (consultant)
<b>Absent with apology:</b>		

<b>Attachments</b>	
Annex A	Presentation Material of EC Meeting No. 42

<b><u>Item/Description</u></b>	<b><u>Action By</u></b>
1. Welcomed Members to the EC Meeting No. 42.	Noted
<b><u>Confirmation of minutes of Meeting No. 41</u></b>	
2. There were no comments on the minutes of Meeting No. 41 and the minutes were confirmed.	Noted
<b><u>Ecological Enhancement Works and Monitoring – an Update on Management Works and Look Ahead</u></b>	
3. <u>A member (consultant)</u> reported on the major habitat enhancement, modification works, ecological monitoring and management works undertaken from January to December 2021 at the LMC EEA (detailed in <b>Annex A</b> ) as follows:	
3.1 <u>A member (consultant)</u> reported that 732 Grass Carp and approximately 13,325kg Tilapia were stocked.	Noted
3.2 <u>A member (consultant)</u> reported that no dog was trapped in the period. There were 157 Red Imported Fire Ant nests treated in the year and the problem was not as severe as in previous years.	Noted
3.3 <u>A member (consultant)</u> reported that Camellia seed was applied to control Apple Snail and lime was applied to kill Climbing Perch.	Noted
3.4 <u>A member (consultant)</u> reported on the performance of the numerical bird target species. Most target species had met the target level and most of which had the density of five to ten times more than that of the Control Areas. Chinese Pond Heron for the first time did not meet the target level, probably due to the removing of grass at some pond edges. However, maintaining grass-free pond edges is part of the long-term management, and the density of Chinese Pond Heron will be monitored. The density of Pheasant-tailed Jacana at LMC EEA was highest in the last five years. There were small and overgrown ponds at San Tin which attracted more Eurasian Coot.	Noted
3.5 <u>A member (consultant)</u> further reported on the non-numerical bird target species. The recorded density of White-cheeked Starlings at LMC EEA was remarkable, about a hundred times more than that of the Control Areas. <u>A member (NGO)</u> enquired what the ratio means. <u>A member (consultant)</u> replied the ratio was calculated based on the comparison of the density of bird species at LMC EEA and the Control Areas. Taking Pheasant-tailed Jacana as an example, the ratio 125.8 means that the density of Pheasant-tailed Jacana at LMC EEA is 125.8 times the density in the Control Areas. <u>A member (NGO)</u> further enquired that Eurasian Wigeon was rarely recorded at LMC EEA. <u>A member (consultant)</u> replied duck numbers were poor at LMC this winter.	Noted

<u>Item/Description</u>	<u>Action By</u>
<p>3.6 <u>A member (consultant)</u> reported the roost count data. Over 1,000 Great Cormorant were recorded in January/February and nearly 1,000 in December, while there were high number Great Egret recorded (104 individuals).</p>	Noted
<p>3.7 <u>A member (consultant)</u> reported that most of the bird nest boxes provided were occupied and 76 pairs of White-shouldered Starlings bred. The University of Hong Kong (HKU) studied their breeding ecology. A total of 117 chick fledged and high rate of nest failure was observed. The hot and dry early wet season (which may have affected food availability) and snake predation were significant issues. Recommendations for 2022 are to place 50% nest boxes on metal poles to try to reduce predation, fine tune nest box design and retrieve data loggers from adults. <u>A member (NGO)</u> enquired if the design of the nest boxes will all be the same. <u>A member (consultant)</u> replied that half of the boxes will be placed on metal poles and the remaining on trees. A small number of boxes would have a different design to investigate if there is any benefit from different designs.</p>	MTR AEC
<p>3.8 <u>A member (consultant)</u> reported the other breeding birds recorded in the LMC EEA. There were 13 pairs of Little Grebe, 1 pair of Cinnamon Bittern, 2 pairs of Yellow Bittern, 8 pairs of White-breasted Waterhen, 5 pairs of Common Moorhen and a1 pair of Great Painted-snip recorded in of 2021. The lower water level of ponds in the early wet season favoured Greater Painted-snip; one pair, a male on a nest and a male with four chicks were recorded.</p>	Noted
<p>3.9 <u>A member (consultant)</u> reported on the globally threatened bird species recorded. Falcated Duck and Common Pochard were recorded at the start of the year, and the number of Black-faced Spoonbill area was lower later in the year. Up to four Greater Spotted Eagle and three Eastern Imperial Eagle were recorded. Collared Crow was recorded regularly on site; a nest was built by this species on site but not used. Manchurian Reed Warbler was recorded on several dates in April and September. Four new species, Lesser Frigatebird, Broad-billed Sandpiper, Baikal Bush Warbler and Rustic Bunting were recorded in 2021. High number of Yellow-breasted Bunting was observed comparing to previous years.</p>	Noted
<p>3.10 <u>A member (consultant)</u> reported that Eurasian Otter was recorded on 1 day and Leopard Cat was recorded on 50 days with an OI of 24.1. Eurasian Otter data for the past eight years were reviewed. Most records were at Pond 2; emphasizing the importance of tackling the problem of trespassing there. October accounted for the majority of records, and the species is almost exclusively nocturnal. <u>A member (NGO)</u> suggested inviting the HKU Eurasian Otter expert to present their study results to the Committee. <u>A member (consultant)</u> replied this will be considered. In response to other questions, <u>A member (consultant)</u> noted that Kadoorie Farm and Botanic Garden (KFBG) were currently visiting the LMC EEA as part of a wider study which included Mai Po Nature Reserve and that there were 10 camera traps currently installed at LMC EEA.</p>	MTR AEC

<u>Item/Description</u>	<u>Action By</u>
3.11 <u>A member (consultant)</u> noted that one Chinese Soft-shelled Turtle and two Burmese Python were recorded. The remaining target species, Reeves' Turtle was not recorded.	Noted
3.12 <u>A member (consultant)</u> reported on the number of Red-eared Slider recorded. Red-eared Slider occurred in fewer ponds. A license of trapping was obtained from AFCD. Trapping was attempted on 3 consecutive days in late October at Pond 12 with 2 traps installed, and none were trapped.	Noted
3.13 <u>A member (consultant)</u> reported that there were six amphibian species recorded, and the target species Chinese Bullfrog was not recorded. The number of species recorded was fairly typical.	Noted
3.14 <u>A member (consultant)</u> reported that 27 dragonfly species were recorded in 2021. Three new species were recorded, Yellow Featherlegs, Blue Chaser and Indigo Dropwing. The number of species recorded was typical.	Noted
3.15 <u>A member (consultant)</u> reported the pond capacity of last six years in the LMC EEA. The water level in May 2021 was the lowest of the last six years. Water on site was redistributed. It was suggested to revise the contingency plan for the water capacity with the limit level lowered to less than 30% in the coming five-yearly review and the corresponding HCMP. <u>A member (NGO)</u> suggested that grey water from Lok Ma Chau Station could be used as another source of water for the LMC EEA. <u>A member (consultant)</u> replied that the treated grey water should be acceptable for the use in the LMC EEA. This was considered in the design stage of the Spur Line, but this was not feasible engineering-wise. However, the option of using the treated grey water can be considered, but the short-term solution in response to the low water level will still rely on on-site water distribution.	Noted
3.16 <u>A member (consultant)</u> reported that the trespassing case in LMC EEA has been severe. Twenty-five trespasser cases were recorded in November and December respectively, occurring almost daily in Pond 2. Such cases brought great disturbance to the birds roosting and Eurasian Otter, which is very sensitive to disturbance, in Pond 2. Abandoned fish nets and other waste posed a risk to wildlife and the safety of authorized personnel was also of great concern. <u>A member (MTR)</u> reported that short- and long-term measures were being arranged to address the issue, with the target to have zero cases.	Noted
3.17 <u>A member (consultant)</u> discussed keys issues to be addressed in the coming five-yearly review (2017-2021), such as, reviewing long-term bird target data (any relationship with fish stocking, peanut residue/lime application, disturbance), reviewing the benefits of rice, reviewing bund conditions (upgrade existing grasscrete track/ have more grasscrete track) and reviewing site security. <u>Members (NGO)</u> suggested to add:	AEC

<b><u>Item/Description</u></b>	<b><u>Action By</u></b>
<ul style="list-style-type: none"> <li>• Analysis of the records of Eurasian Otter, reviewing what had been done and any suggestions made in the recent study of the species</li> <li>• Investigating the natural approach to vegetation management at LMC EEA</li> <li>• Investigating the importance of bird population at LMC EEA to the context of Deep Bay Reviewing the application of Camellia seed for controlling Apple Snail</li> <li>• Reviewing and updating the management status of fishponds in the Control Areas</li> </ul>	
<p><b><u>Any Other Business</u></b></p> <p>4. <i>A member (NGO)</i> enquired if there were any further tree cutting cases. <i>A member (consultant)</i> replied that there had been no more cases and camera traps were placed immediately after the incident but no trespasser was captured. <i>A member (MTR)</i> supplemented that the incident was reported to the Police and was now under investigation</p> <p>5. <i>A member (NGO)</i> suggested that MTR Corporation should consider giving some relevant recommendations for the Northern Metropolis. <i>A member (consultant)</i> replied that this can be included in the coming five-yearly review.</p> <p><i>[Post-meeting note: The CCTV and alarm system had been installed at Pond 2 to enhance the site security in March 2022.</i></p>	<p>Noted</p> <p>AEC</p>
<p><b><u>Date of Next Meeting</u></b></p> <p>6. The date of the next meeting will be advised.</p>	<p>MTR</p>

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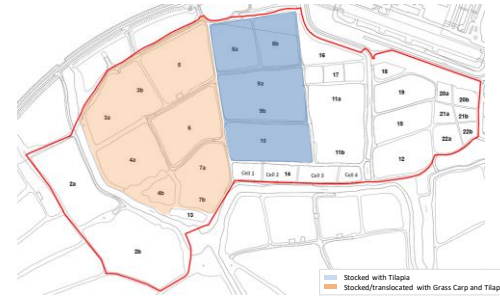
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## Management Works: Fish Stocking

- 732nos. of Grass Carp and 13,325kg of Tilapia were stocked



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## Management Works: Pest Management

### Dog Trapping

- Dog trapping – none.

### Pest Management (Red Imported Fire Ant)

- 157 Red Imported Fire Ant nests were treated with the approved pesticide;
- Red Imported Fire Ant nest treatment using the approved pesticide will be continued.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No. of Nests Treated	315	790	1,760	1,211	1,333	939	969	269	254	366	157

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## Management Works: Pest Management

### Pest Management (Apple Snail)

- 20kg of Apple Snails was manually removed from Ponds 4, 18, 20 – 22;
- A total of 675kg of Camellia seed was applied to Ponds 15, 19 – 22.

### Pest Management (Unwanted fish – Lime & Camellia seed)

- Lime was applied to the wet mud to kill unwanted fish, e.g. Climbing Perch;
- An approximate 1,120kg of lime and 750kg of Camellia seed were applied to Pond 11.

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## Numerical Bird Target Performance in the Past 5 Years

Year	2017			2018			2019			2020*			2021*		
	Species/Density (mean/ha)	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio
Great Cormorant	7.4	0.5	13.2	8.9	0.5	18.7	8.4	0.3	28.8	12.1	0.2	65.7	8.5	0.2	38.7
Grey Heron	2.3	0.2	13.9	2.2	0.1	15.3	1.7	0.1	11.8	2.2	0.2	11.8	1.7	0.2	9.8
Great Egret	2.4	0.5	4.6	1.9	0.4	4.6	1.2	0.4	2.9	2.5	0.8	3.1	1.3	0.4	2.9
Little Egret	1.1	0.8	1.5	0.7	0.7	0.1	0.5	0.6	0.8	1.5	0.9	1.6	0.7	1.0	0.8
Chinese Pond Heron	1.9	0.6	2.0	1.6	0.7	2.4	0.9	0.4	2.2	1.2	0.5	2.3	0.8	0.5	1.6
Black-faced Spoonbill	0.7	0.1	12.3	0.5	0.1	7.8	0.4	<0.1	65.9	0.4	<0.1	14.5	0.4	0.1	5.5
Eurasian Teal	0.5	<0.1	24.2	0.3	<0.1	51.3	3.0	<0.1	63.1	1.6	<0.1	165.9	0.3	<0.1	9.1
Greater Spotted Eagle	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC
Greater Painted-snipe	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC
Eastern Imperial Eagle	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC
Japanese Quail	<0.1	-	LMC	<0.1	-	LMC	<0.1	0.8	-	-	nr	<0.1	-	LMC	-
Eurasian Coot	<0.1	<0.1	189.9	<0.1	-	LMC	<0.1	3.8	<0.1	2.6	<0.1	2.6	<0.1	<0.1	1.5
Pheasant-tailed Jacana	<0.1	-	LMC	<0.1	<0.1	51.8	<0.1	<0.1	60.4	<0.1	-	LMC	<0.1	<0.1	125.8
Common Snipe	<0.1	-	LMC	<0.1	-	LMC	<0.1	-	LMC	<0.1	<0.1	22.2	<0.1	-	LMC
Black-winged Stilt	0.2	0.1	1.5	0.1	0.2	0.5	0.4	0.2	1.9	0.6	0.4	1.5	0.5	0.7	0.7
Pintail/Swinhoe's Snipe <sup>1</sup>	<0.1	<0.1	36.2	0.1	<0.1	70.7	<0.1	<0.1	14.0	<0.1	<0.1	56.7	<0.1	<0.1	69.0
Common Snipe	<0.1	<0.1	2.8	<0.1	<0.1	2.0	0.1	<0.1	7.6	<0.1	<0.1	8.0	<0.1	<0.1	2.3
Bluetthroat	<0.1	<0.1	0.4	<0.1	<0.1	1.1	<0.1	<0.1	12.3	<0.1	<0.1	7.4	<0.1	-	LMC
Pallas's Grasshopper Warbler	<0.1	<0.1	19.7	<0.1	<0.1	46.9	<0.1	<0.1	28.8	<0.1	-	LMC	<0.1	<0.1	13.2
Zitting Cisticola	<0.1	0.1	0.8	0.1	<0.1	2.0	0.1	<0.1	7.4	0.1	<0.1	7.5	0.1	<0.1	3.4
Japanese Yellow Bunting	-	-	nr	-	<0.1	CA	-	-	nr	-	-	nr	-	-	nr
Red-billed Starling	3.0	0.4	6.8	3.2	0.2	16.9	2.9	0.1	30.3	2.5	<0.1	92.3	2.7	0.1	43.1

nr – Not recorded within LMC/EA or Control Areas during the period.  
Blue – Target met (i.e. density in LMC/EA or Control Areas higher than in Control Areas).  
Yellow – Target met, although density higher than in Control Areas.  
Red – Target not met and density lower than in Control Areas.

1. Includes one season pair; Pintail/Swinhoe's Snipe, not distinguishable in the field.  
\* Data is calculated based on the maximum count of all surveys since 2020 (i.e. also including the afternoon counts and roost count).  
# Due to the inaccessibility, areas of San Tin CA is reduced from Week 49; there was no LMC bird tower count surveys during Weeks 49-51; there was no LMC bird tower count surveys during Weeks 49-51.

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## Non-numerical Bird Target Performance in the Past 5 Years

Year	2017			2018			2019			2020*			2021*		
	Species/Density (mean/ha)	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio	LMC	CA Ratio
Eurasian Wigeon	<0.1	-	LMC	<0.1	<0.1	7.1	0.2	<0.1	83.4	0.1	<0.1	77.1	<0.1	<0.1	0.6
Little Grebe	1.3	0.7	1.7	1.0	0.9	1.1	0.9	0.7	1.3	0.6	0.8	0.8	0.7	0.6	1.0
Yellow Bittern	-	-	-	-	-	<0.1	<0.1	4.0	<0.1	<0.1	3.4	<0.1	<0.1	<0.1	6.5
Cinnamon Bittern	<0.1	-	LMC	<0.1	<0.1	4.9	-	<0.1	CA	<0.1	-	LMC	<0.1	-	LMC
Black-crowned Night Heron	0.4	<0.1	23.4	0.4	<0.1	8.8	0.2	<0.1	7.4	0.6	<0.1	21.4	0.5	0.1	7.6
Intermediate Egret	0.2	<0.1	10.1	0.1	<0.1	11.4	<0.1	<0.1	6.5	<0.1	<0.1	3.3	<0.1	<0.1	1.5
Wood Sandpiper	-	-	-	-	-	0.4	<0.1	8.9	0.3	<0.1	5.7	0.2	0.1	3.3	3.3
White-checked Starling	0.2	0.1	3.7	0.3	<0.1	10.8	0.6	<0.1	161.1	0.4	<0.1	75.8	0.3	<0.1	116.8
White-shouldered Starling	1.2	0.1	12.3	1.1	0.1	10.7	1.1	0.1	14.7	1.6	<0.1	42.1	1.6	<0.1	39.5
Yellow-breasted Bunting	<0.1	<0.1	9.2	<0.1	<0.1	23.4	<0.1	-	LMC	<0.1	<0.1	5.5	<0.1	<0.1	69.0

nr – Not recorded within LMC/EA or Control Areas during the period.  
Blue – Density in LMC/EA at least twice that in Control Areas.  
Yellow – Density higher in LMC/EA than in Control Areas.  
Red – Density in LMC/EA lower than in Control Areas.

\* Data is calculated based on the maximum count of all surveys (since 2020) i.e. also including the afternoon counts and roost count.  
# Due to the inaccessibility, areas of San Tin CA is reduced from Week 49; there was no LMC bird tower count surveys during Weeks 49-51.

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### Roost Count in the Year

- Roost is mainly located at Pond 2.

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Black-faced Spoonbill*	30	24	-	1	-	-	-	-	-	-	-	-
Black-crowned Night Heron	-	-	-	-	5	3	5	25	-	-	-	12
Chinese Pond Heron	22	104	16	2	3	13	12	18	21	59	1	5
Eastern Cattle Egret	-	148	-	-	3	-	-	32	43	32	12	-
Grey Heron	1	7	1	2	-	1	-	21	2	8	-	13
Great Egret	143	123	32	63	46	45	89	78	38	106	69	105
Intermediate Egret	-	-	-	-	-	-	1	-	-	-	-	-
Little Egret	165	250	6	45	55	22	55	7	55	55	32	55
Great Cormorant	1,701	1,756	3	1	-	-	-	-	-	765	592	932
<b>Total of Large Waterbirds</b>	<b>2,062</b>	<b>2,412</b>	<b>58</b>	<b>114</b>	<b>112</b>	<b>84</b>	<b>162</b>	<b>181</b>	<b>159</b>	<b>1,025</b>	<b>706</b>	<b>1,122</b>


\* The species occurred on site or recorded dropping into the main site during the surveys.

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### Nest Box Occupation in the Year

- 93 starling nest boxes provided;
- 92 were occupied by White-shouldered Starlings; 76 with eggs/chicks and 16 with nesting materials only.



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### Results of HKU Study

- A total of 117 chicks fledged
- High rate of nest failure – 38 nests failed at the egg stage, and 53 at chick stage
- Hot and dry early wet season caused many early failures
- Snake predation is a significant issue – removing chicks from 31 nests and eggs from 31 nests
- Rats killed chicks in five nests
- A total of 98 adults were trapped, of which 15 had previously been ringed as chicks at LMC
- 20 adults were fitted with geolocators to study migratory movements

**2022 breeding season key recommendations**

- 50% of nest boxes to be placed on metal poles to try to reduce predation
- Fine tune nest box design
- Retrieve data loggers from adults

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### Nest Box Predation




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### Breeding Birds (in addition to nest boxes)

- Number of pair/ juvenile recorded:

Little Grebe	13 pairs
Cinnamon Bittern	1 pair
Yellow Bittern	2 pairs
White-breasted Waterhen	8 pairs
Common Moorhen	5 pairs
Greater Painted-snipe	1 pair; In addition 1 male on a nest and 1 male with chicks



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### Globally Threatened Bird Species – peak count per month

Species	IUCN	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Falcated Duck	NT	6	1	-	-	-	-	-	-	-	-	2	3
Common Pochard	VU	1	-	-	-	-	-	-	-	-	-	-	-
Ferruginous Duck	NT	1	1	1	-	-	-	-	-	-	-	-	-
Japanese Quail	NT	-	-	-	-	-	-	-	-	-	-	-	1
Black-faced Spoonbill	EN	112	172	24	23	10	-	-	-	-	-	78	31
Greater Spotted Eagle	VU	2	2	4	-	-	-	-	-	-	1	3	2
Eastern Imperial Eagle	VU	3	1	-	-	-	-	-	-	-	-	2	2
Curlew Sandpiper	NT	-	-	-	2	-	-	-	-	-	-	-	-
Red-necked Stint	NT	-	-	-	1	-	-	-	-	-	-	-	-
Collared Crow	VU	3	2	2	2	2	2	3	1	2	4	4	2
Manchurian Reed Warbler	VU	-	-	-	1	-	-	-	-	1	-	-	-
Rustic Bunting	VU	-	-	-	-	-	-	-	-	-	-	1	-
Yellow-breasted Bunting	CR	-	-	-	1	-	-	-	-	1	20	8	5

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**Other Bird Species Recorded**

**Lesser Frigatebird**



**Pied Harrier**





**Greater White-fronted Goose**




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**Bird Species Recorded since 2007**

- 285 species
- 4 species newly recorded in 2021:
  - Lesser Frigatebird *Fregata ariel* – 10-Aug
  - Broad-billed Sandpiper *Calidris falcinellus* – 19-Apr
  - Baikal Bush Warbler *Locustella davidi* – 29-Dec
  - Rustic Bunting *Emberiza rustica* – 22-Nov



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**Yellow-breasted Bunting in the Past 10 Years**

↓ Rice planting trial

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Number Recorded	3	6	0	0	4	14	19	1	8	56
Max Number Recorded	3	6	-	-	4	13	6	1	5	20





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**Mammal Targets Recorded in the Past 10 Years**

- Eurasian Otter was recorded on 1 day in 2021
- Leopard Cat was recorded on 50 days with an OI of 24.1

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Eurasian Otter <i>Lutra lutra</i></b>										
Maximum Count	1	1	2	0	1	1	1	1	1	1
No. of Records <sup>1</sup>	1	13 <sup>#</sup>	5 <sup>#</sup>	0	1	2	5	6	19	1
<b>Leopard Cat <i>Prionailurus bengalensis</i></b>										
No. of Records <sup>1</sup> /OI <sup>2</sup>	11	111	871	114 <sup>1%</sup>	65 <sup>1</sup> , 25.2 <sup>2</sup>	51 <sup>1</sup> , 24.1 <sup>2</sup>	54 <sup>1</sup> , 22.6 <sup>2</sup>	70 <sup>1</sup> , 31.2 <sup>2</sup>	53 <sup>1</sup> , 53.6 <sup>2</sup>	50 <sup>1</sup> , 24.1 <sup>2</sup>

Note:  
1. Number of dates recorded by all installed cameras plus direct observations.  
2. Occurrence index.

Key:  
# Including one dead individual found at LMC EEA  
<sup>1</sup> Including direct observation of one individual at Pond 12  
<sup>2</sup> % Footprints were recorded



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**Mammal Targets**

Leopard Cat, 20-May (04:18hr), Pond 2



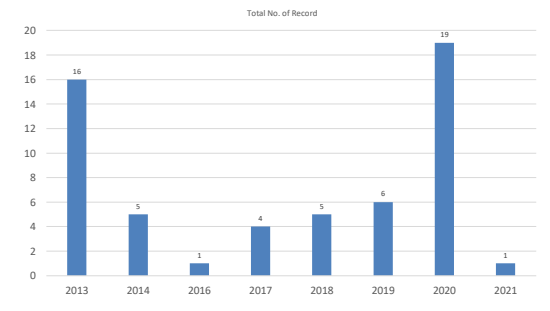



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**Eurasian Otter Records (2013 -2021)**



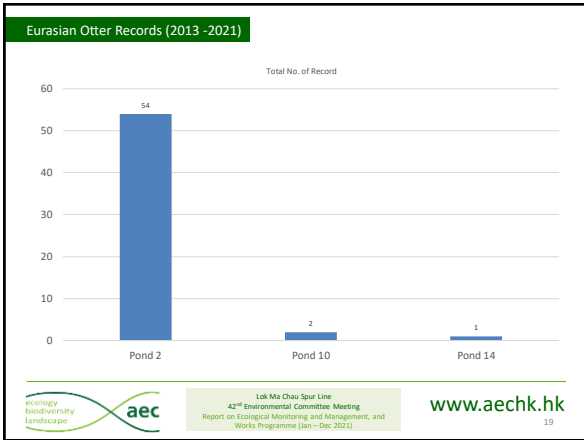


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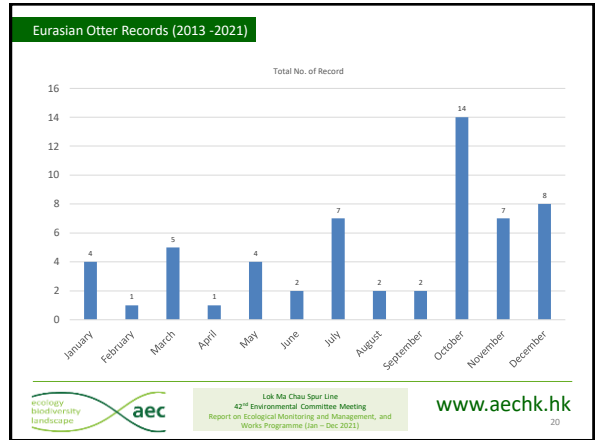
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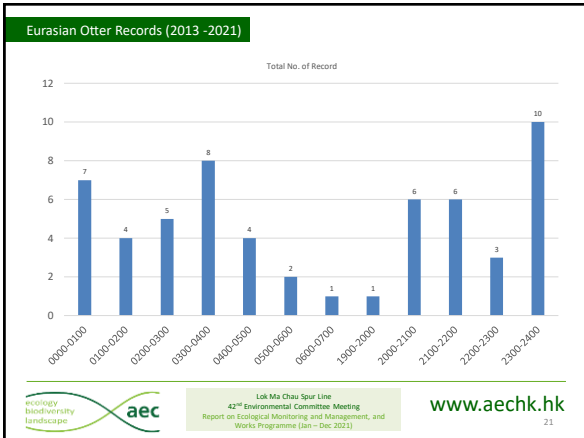




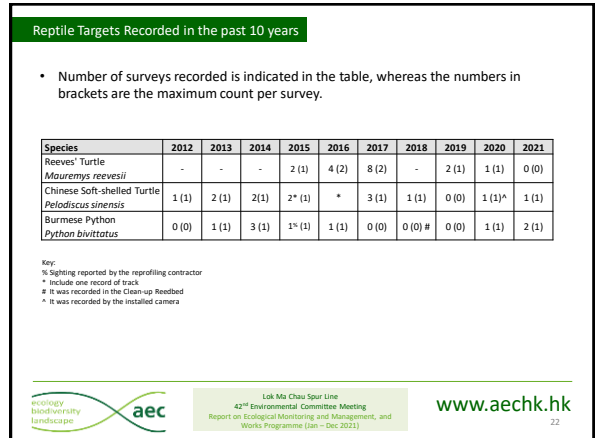
19



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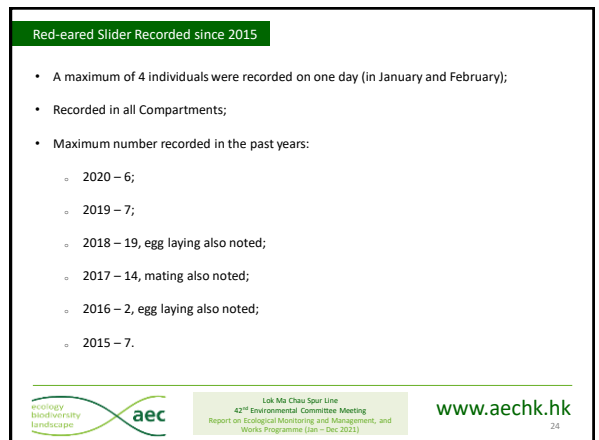
21



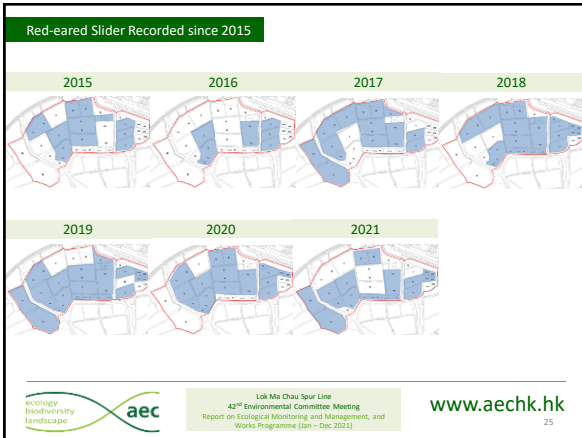
22



23



24



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### Maximum Number of Red-eared Slider Recorded in Each Pond since 2015

Pond	Year						
	2015	2016	2017	2018	2019	2020	2021
2	-	-	2	-	1	-	1
3	1	-	1	3	2	2	-
4	-	-	1	-	1	1	1
5	-	-	2	1	-	-	-
6	1	1	-	-	2	2	1
7	1	1	-	3	1	2	1
8	1	-	1	1	-	2	1
9	2	-	1	3	2	1	-
10	1	-	1	1	2	3	-
11	-	1	4	17	3	1	1
12	2	1	7	2	4	1	2
13	-	1	-	1	1	1	-
14	-	-	-	6	1	-	2
15	6	1	1	1	-	1	4
16	-	-	1	-	1	-	-
17	1	-	-	1	2	-	-
18	-	-	-	1	-	1	-
19	1	1	-	7	1	1	-
20	-	-	-	3	3	5	1
21	-	-	-	1	1	-	4
22	-	-	-	-	-	-	-

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### Amphibian Findings since 2006

- Target species, Chinese Bullfrog, was not recorded in 2021.

Species/ Maximum Total Number of Individuals Recorded in All Ponds in LMC EEA	2006-2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Asian Common Toad <i>Bufo melanostictus</i>	4	1	2	7	1	7	15	6	8	3
Asiatic Painted Frog <i>Kaloula pulchra</i>	2	1	-	-	-	-	1	2	1	1
Butler's Pigmy Frog <i>Microhyla butleri</i>	2	2	-	-	-	-	45	-	3	-
Ornate Pigmy Frog <i>Microhyla ornata</i>	128	7	4	-	-	-	20	18	-	4
Marbled Pigmy Frog <i>Microhyla paludra</i>	-	-	1	-	-	-	50	-	-	-
Paddy Frog <i>Fijayarana limncharis</i>	35	6	1	10	35	19	13	6	7	9
Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	4 (9)	1 (2)	1 (2)	0 (0)	0 (0)	4 (9)	0 (0)	1 (2)	0 (0)	0 (0)
Günther's Frog <i>Rana guentheri</i>	157	108	293	115	82	342	172	127	73	65
Two-striped Grass Frog <i>Rana taiopehensis</i>	2	1	-	2	-	-	-	-	-	-
Brown Tree Frog <i>Polypedates megacephalus</i>	33	14	7	3	6	6	1	5	7	5
American Bullfrog <i>Lithobates catesbeianus</i>	-	-	-	-	-	-	-	-	1	-
Number of species recorded	8	9	7	5	4	5	8	7	7	6

Maximum count (per survey) is indicated in the table; for Chinese Bullfrog, the number in brackets are the total number of individuals recorded in the year.

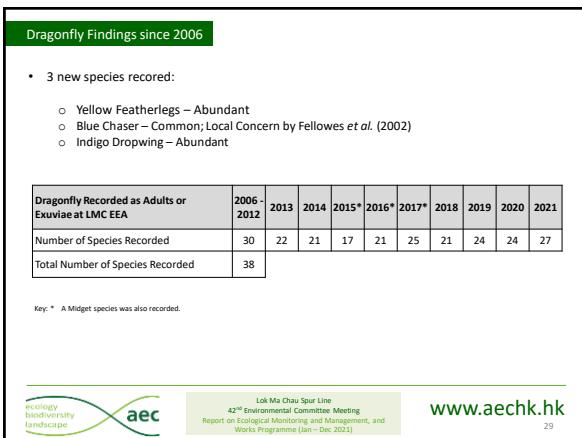
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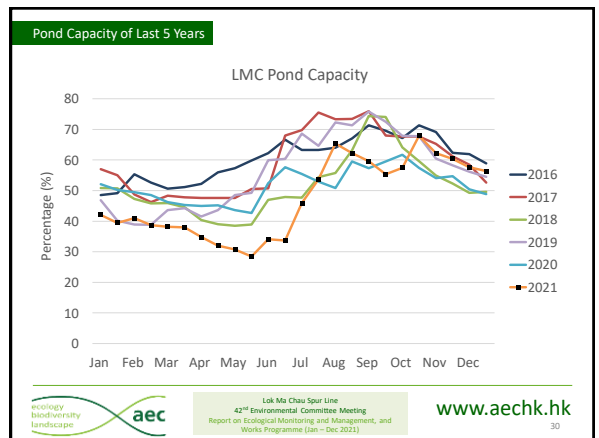
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**Increased Trespasser Cases**


- In 2021

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Numbers of Trespasser Case Recorded	2	2	3	3	1	1	3	2	1	16	25	25


- In 2020: 7 days in total




7-Nov (Sun), 09:26 am



27-Nov (Sat), 10:59 p.m.



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**Increased Trespasser Cases**


- In 2021

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Numbers of Trespasser Case Recorded	2	2	3	3	1	1	3	2	1	16	25	25


- In 2020: 7 days in total




16-Nov (Tue), 12:18hrs



06-Nov (Sat), 13:47hrs



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**Increased Trespasser Cases**

- Measures to address the increased trespasser cases:

**Short Term:-**

- Arrange guard to escort AEC staff to resume bird count activities.
- Meeting arrange with Corporate security to share the trespasser cases on 24 Dec 21.
- Conduct foot patrol during day (08:30 – 15:00) and night time (Random check).
- Message conveyed to Hong Kong Police Force via email on 31 Dec 21 and a meeting was held on with Hong Kong Police Force on 18 Jan 22 to address our concerns.
- A direct line was provided by Hong Kong Police Force for immediate action.

**Long Term:-**

- Corporate security is preparing a security review report for enhancement of security in wetland.



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**Five-yearly Review (2017-2021)**

- Review target species
- Review long-term bird target data – any relationship with fish stocking, peanut residue/lime application, disturbance
- Review the benefit of rice
- Review the bund conditions – upgrade existing grasscrete track/ have more grasscrete track
- Review site security



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Thank You



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