

**Confirmed Minutes of the  
32<sup>nd</sup> Nature Conservation Subcommittee Meeting  
held on 19 December 2019 at 9:30 a.m.  
in Conference Room, 33/F, Revenue Tower, Wan Chai, Hong Kong**

**Present:**

Prof Kenneth LEUNG, JP (Chairman)  
Prof Nora TAM, BBS, JP  
Ir Cary CHAN, JP  
Prof LAU Chi-pang, JP  
Dr Michael LAU  
Dr Winnie LAW  
Dr SUNG Yik-hei  
Ms Becky LAM (Secretary)

**Absent:**

Ms Carmen CHAN, BBS, JP  
Ms Julia LAU  
Ms Christina TANG  
Ir Conrad WONG, BBS, JP

**In Attendance:**

*Environmental Protection Department (EPD)*

Ms Daisy LO	Assistant Director (Nature Conservation)
Ms Thebe NG	Senior Administrative Officer (Nature Conservation)
Dr Rex SHIH	Forestry Officer (Nature Conservation)
Miss Dora CHU	Executive Officer (CBD) 1
Miss Carman LEUNG	Executive Officer (CBD) 2

*Agriculture, Fisheries and Conservation Department (AFCD)*

Mr Simon CHAN	Assistant Director (Conservation)
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**In Attendance for Item 2:**

Dr Flora MOK	Senior Nature Reserve Officer, AFCD
Ms Sunny CHOW	Nature Reserve Officer (Management), AFCD

**In Attendance for Item 3:**

Mr CHOW Wing-kuen	Senior Marine Conservation Officer (East), AFCD
Ms Shadow SIN	Marine Conservation Officer (Special Duties), AFCD

**In Attendance for Item 4:**

Mr Alex TANG

Senior Countryside Conservation Manager  
(Planning), EPD

Action

The Chairman informed that apologies of absence had been received from Ms Carmen Chan, Ms Julia Lau, Ms Christina Tang and Ir Conrad Wong.

**Item 1 : Matters Arising**

2. The draft minutes of the last meeting were confirmed by circulation on 21 June 2019.
3. There was no matter arising from the minutes of the last meeting.

**Item 2 : Conservation of Wetlands in Deep Bay of Hong Kong**  
*(ACE-NC Paper 4/2019)*

4. The Chairman informed that the paper briefed Members on the conservation measures for wetlands in the Deep Bay area of Hong Kong.
5. On the invitation of the Chairman, a Member declared that he had provided advice to on-going projects in the Deep Bay area as an independent consultant and was the Chairman of the Hong Kong Wetlands Conservation Association (HKWCA). Another Member advised that he was the director of a non-governmental organisation (NGO) which was involved in a project to revitalise a village at the Deep Bay. A Member also declared that he had collaborations with the Hong Kong Bird Watching Society (HKBWS) which was the project manager of a Management Agreement (MA) project in the Deep Bay. The meeting agreed that the three Members could stay on and continue participating in the discussion.
6. Dr Flora Mok gave an overview of the subject, and by way of a PowerPoint presentation, Ms Sunny Chow briefed Members on the background of the Deep Bay area and conservation management of the Deep Bay wetlands which involved various policies, statutory controls, and on-going conservation measures and initiatives.
7. Addressing the information note on “Recommendations for Wetland Conservation in Hong Kong” that was circulated to Members before the last meeting on 9 May 2019, a Member clarified that the recommendations made in the note were based on his understanding of the discussion of the Deep Bay Wetlands Forum held in April 2019, and not a representation of the views of the green groups and other stakeholders present at the forum.

*Status of the Deep Bay Wetlands*

8. A Member acknowledged that the Government had taken various actions to

conserve wetlands in Hong Kong. However, in the face of development pressures and decline of the pond fish farming industry, increasing areas of fishponds in the Deep Bay were being abandoned. Without active management, he was concerned that many of these fishponds would become susceptible to natural succession and tidal influence due to the lack of bund maintenance, and would gradually change into different habitats with altered ecological value.

9. In reply to a Member's question regarding the area of abandoned fishponds in the Deep Bay, Dr Flora Mok explained that it was difficult to define whether certain fishponds were abandoned since some might be tended to on a part-time basis. As a reference, she informed that fishponds in the Deep Bay area that were not registered under Agriculture, Fisheries and Conservation Department's (AFCD) Fish Pond Voluntary Registration Scheme covered approximately 300 hectares (ha), with only a very small fraction on Government land and they were scattered at different locations. Notwithstanding, she reminded that non-registration could not be directly interpreted as an inactive status of the fishponds.

10. A Member opined that all fishponds on private land within the Wetland Buffer Area (WBA) should be engaged in the MA projects at the Mai Po Inner Deep Bay Ramsar Site (the Ramsar Site) and Deep Bay Wetland outside the Ramsar Site as far as possible to facilitate better management and monitoring. She also enquired about the area of private land within the Ramsar Site. With reference to the Futian District and subject to the area of land involved, she suggested the Government consider the possibility of resuming private land within the Ramsar Site for inclusion into the Wise Use Zone for better management and planning.

11. Dr Flora Mok supplemented that there were only a few fishponds within the WBA, while the total area of leased land within the Ramsar Site was around 100 ha.

#### *Ecological monitoring in Deep Bay*

12. A Member considered that the bird monitoring data should be further studied with a view to establishing the correlation between the abundance and species of birds in active/abandoned fishponds and other wetland habitats in the Deep Bay. He suggested that the fishponds could be further categorised into specific habitats such as reed marshes.

13. Two Members concurred that it was important to establish a correlation between the abundance of birds and the management regime/status of the fishponds, i.e. active, semi-active or abandoned. A Member pointed out that the information could serve as a basis for devising better management plans for fishponds within and surrounding the Ramsar Site.

14. As advised by a Member, the Rural Sustainability Programme in Lai Chi Wo was a long-term research to study the impact of different farmland habitats, farming methods and crop selection on the farmland biodiversity. Based on the research results, practice guides for the farming industry would be published to help increase productivity and at the same time protecting species of conservation interest.

15. Dr Flora Mok advised that the AFCD completed a “Technical Review and Statistical Analysis of the Datasets of Waterbird Monitoring and Baseline Ecological Monitoring Programme for Mai Po Inner Deep Bay Ramsar Site” in 2013 to identify trends in waterbird abundance and environmental baseline parameters. The findings revealed that the abundance and diversity of species of waterbirds in mudflats was significantly higher than that in *gei wais*, which in turn was significantly higher than that in fishponds. However, correlation between the abundance and species of birds and different fishpond habitats could not be established due to the high variations in the conditions of the fishponds, for instance, the level of human activities, use of netting, vegetation coverage of fishpond bunds, level of drain-down, placement of fish feed, etc. Nevertheless, the collection of new data would be considered in the upcoming review of the Ramsar Site Management Plan.

16. Given that many interactive variables affected the abundance and species of birds at the fishponds, Ms Sunny Chow pointed out that experience from previous studies had revealed that it was difficult to make controlled comparisons across different fishponds to reach a statistically significant conclusion. Furthermore, many fish farmers were very dynamic in their management styles which changed from time to time.

17. A Member pointed out that the objectives for conducting monitoring should be clearly defined. Drawing reference from the studies conducted under the MA scheme that showed a strong correlation between fishpond drain-down and waterbird abundance, the Member pointed out that some major factors might override others and focus of the evaluation should be placed on these factors. Given that large areas of fishponds were under intensive management, or developed into different habitats due to the lack of management, he considered that the large sample size would enable the study of the impact of such changes on the abundance and species of waterbirds. He opined that the numbers of the Common Kingfisher which breed by nesting in holes in the bunds might have dropped in recent years in Mai Po given that the bunds were increasingly covered by cement or plastic sheets under intensive management. He considered that valuable insights could be gained even if the established correlation was not scientifically robust.

18. A Member opined that the review should cover not only the Ramsar Site, but the area surrounding it, and she invited AFCD to report the results of the review to this Subcommittee for further discussion in due course.

19. Mr Simon Chan advised that the review of the Ramsar Site Management Plan was one of the actions under the Hong Kong Biodiversity Strategy and Action Plan (BSAP) that was targeted to complete in 2021. The review would evaluate the existing datasets and identify information gaps, and a consultation would follow to invite the views of relevant stakeholders.

20. As advised by a Member, the Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme contracted to the HKBWS carried out monthly waterbird counts while environmental baseline data of the fishponds were also collected every

three to four months, for instance, the depth of the fishponds, and whether pumps were deployed and drain-down was conducted. Based on the available data, he considered that meaningful trends could be derived. He suggested that the long-term baseline monitoring of benthic infauna and epifauna should be extended to include not only invertebrates, but also fish and other organisms, which were factors affecting the abundance of waterbirds. Furthermore, the study area should be extended outside of the mudflats to include *gei wais* and other types of habitats. The Member drew the meeting's attention to the modification of the mudflat in Mai Po by sedimentation. He pointed out that the major foraging grounds might shift seawards and there might be implications on the long-term management of Mai Po Nature Reserve and the surrounding Inner Deep Bay wetlands.

21. In reply to a Member's question on whether there were any observable trends in the long-term baseline monitoring data of benthic infauna, Dr Flora Mok advised that the review did not show consistent trends in terms of the abundance of benthic infauna in mudflats, although there was a slight increase in the abundance of polychaetes. As regards the situation of the receding mudflats habitats in Mai Po, she advised that a study was kick-started in 2018 to monitor the sedimentation on the mudflat in Mai Po. The data obtained from the study could serve as the basis for devising better management plans for the area.

22. The Chairman suggested comparing the trends of waterbird abundance in similar habitats overseas along the flyway (e.g. in Korea, Mainland China and Australia), with a view to exploring whether certain shifts in waterbird populations were a regional or local phenomenon. He further opined that the baseline biodiversity survey should include insects given that it was a major food source for birds, and data on wetland amphibian species could also provide insights on the ecological functions of the wetlands.

23. Mr Simon Chan agreed that research could provide the necessary information for drawing up better management plans and strategies. He advised that there were various funding sources under the BSAP to support tertiary institutions and NGOs to conduct research relating to wetland conservation. He advised that the Government had also been collaborating with overseas counterparts on waterbird conservation, and had signed a Memorandum of Understanding for the Conservation of Migratory Waterbirds (the MoU) with the Environment Bureau of the Government of Incheon Metropolitan City in November 2019. The MoU served to strengthen the conservation of migratory waterbirds, especially the Black-faced Spoonbill, and establish the Sister Flyway Network Sites Arrangement between Mai Po Inner Deep Bay in Hong Kong and Songdo Tidal Flat in Incheon pursuant to the Sister Site Program of the East Asian-Australasian Flyway Partnership.

#### *Water and sediment quality monitoring*

24. In reply to a Member's enquiry on the water and sediment parameters under the Baseline Ecological Monitoring Programme (BEMP), Dr Flora Mok advised that the programme had included the monitoring of phosphorus and various heavy metals, but they were not highlighted in the presentation. She supplemented that a gradual

decrease in the concentration of Arsenic in the mudflat sediment over the long term was observed from the monitoring results, which indicated an improvement in the water quality as a result of the efforts undertaken by both Shenzhen and the Hong Kong governments. The Member suggested including all parameters in the presentation slides for clarity.

25. Ms Daisy Lo advised that the Deep Bay fell into one of the ten Water Control Zones in Hong Kong. Annual marine water quality reports showing the concentrations of various parameters were published and uploaded to the website of the EPD.

*[Post meeting notes: see*

<https://www.epd.gov.hk/epd/english/environmentinhk/water/hkwqrc/waterquality/marine.html>]

26. The Chairman considered that the parameters for water and sediment quality monitoring should be reviewed to include new contaminants of emerging concern as appropriate, for instance, brominated flame retardants and endocrine disrupting chemicals. With the increasing concern that certain food chains might accumulate these contaminants to toxic concentrations, he suggested conducting monitoring of these new contaminants at three to five-year intervals, and including them in the regular monitoring programme if deemed necessary.

27. Mr Simon Chan advised that the BEMP for the Ramsar Site had been implemented since 2001. He agreed with the Chairman that the parameters for water and sediment quality monitoring should be reviewed and updated and advised that this would be examined under the review of the Ramsar Site Management Plan.

#### *Planning and management*

28. As regards a Member's question on the prospects and long-term planning for the pond fish farming industry in Hong Kong, Mr Simon Chan advised that the AFCD had been actively promoting the sustainable development of the industry through various means. A dedicated team was set up to provide support and the Sustainable Fisheries Development Fund was established to provide the necessary funding. He mentioned that amongst the 1 100 ha of fishpond in Deep Bay, a large proportion of these fishponds was still active and the production of pond fish in 2018 amounted to more than 2 500 tonnes. Even though some fishponds had been converted into intensive management or shrimp rearing, they still entailed ecological functions. Mr Chan also remarked that MA projects in the area, despite many challenges encountered, were successful with approximately 600 ha of fishponds engaged. The financial incentives for the drain-down of fishponds also served as another source of income for the fishpond operators.

29. A Member suggested stepping up the effort in educating the public on the existing policies and measures to support the local fish farming industry. With a view to enhancing the sustainability of the industry, the Government may also consider devising more proactive policies to support fishpond operators.

30. The Chairman suggested the use of spatial ecological planning as an instrument towards better integration of different types of habitats with a view to conserving the ecology and enhancing the biodiversity. Data collection and analysis should underpin the setting of quantitative conservation objectives and targets from a macro perspective and the development of management strategies for different habitats types.

#### *Wetlands in Hong Kong*

31. Considering that the Wetland Advisory Committee established in 1999 was subsumed in the NCSC since 2004, a Member suggested with the support of the Chairman that reports on the conservation status of the wetlands in Hong Kong should be made available to the NCSC with a view to optimizing the management strategies for wetland conservation.

32. Mr Simon Chan welcomed the suggestion and agreed that issues relating to wetlands in Hong Kong would be brought up to the attention of NCSC Members for information and discussion as necessary.

#### *Conclusion*

33. The Chairman thanked AFCD representatives for the presentation and detailed explanation to address the questions and concerns raised by Members. He expressed appreciation for the efforts undertaken by AFCD and EPD in wetland conservation.

*[Dr Flora Mok and Ms Sunny Chow left the meeting and Mr Chow Wing-kuen and Ms Shadow Sin of AFCD joined the meeting at this juncture.]*

#### **Item 3 : Public Education Programmes on Marine Biodiversity** ***(ACE-NC Paper 5/2019)***

34. The Chairman informed that the paper briefed Members on the public education programmes on marine biodiversity organised by the AFCD.

35. The Chairman declared that he was one of the team members of the project entitled “Assessing the marine biodiversity and ecology of Tolo Harbour and Channel, with particular reference to coastal marine environments of Ting Kok and Shuen Wan Hoi – phases I and II” (i.e., Ting Kok+ biodiversity study) which was funded by Environment and Conservation Fund.

36. As invited by the Chairman, Mr Chow Wing-kuen gave an overview of the subject, and by way of a PowerPoint presentation, Ms Shadow Sin briefed Members on the background and the key public education programmes on marine biodiversity.

#### *Measuring effectiveness*

37. A Member expressed appreciation towards AFCD for organising diversified public education programmes on marine biodiversity with high participation rates. He

considered that the effectiveness of these programmes should be evaluated in terms of knowledge, attitude and behavioural change of the participants.

38. Ms Shadow Sin said that questionnaire was a major tool to assess the effectiveness of the education programmes. Participants were required to fill in pre-event and post-event questionnaires as far as possible such that comparisons could be made to identify the change in the level of knowledge and attitude towards nature conservation. While behavioural change might take time to effect, she said that questions were designed to collect information on whether participants would share their knowledge gained with their families and friends to assess the behavioural change indirectly.

39. A Member shared his experience in promoting green building and lifestyle, and suggested that the change in awareness, interest and habits of repeat participants could serve as an indicator to evaluate the effectiveness of the education programmes as the knowledge of an individual would affect by continuous participation in such activities.

40. A Member cautioned about the possible privacy infringement in the assessment on repeat participants in the questionnaires might infringe privacy that should be avoided. With reference to the overseas experience in studying the effectiveness of heritage conservation, she suggested that blockchain technology should be considered in which each participant was assigned a designated reference number with no connection to the personal data. The technology could support real-time response from participants on the activities through mobile applications and the data collected could serve as an indication of the effectiveness of the education programmes organised under BSAP through tracking the change in response from individual participants.

#### *Public education and promotion*

41. A Member expressed appreciation on the efforts made by AFCD in organising the education activities to arouse more interest in marine biodiversity. He suggested AFCD organise activities to educate those who had damaging acts to the marine biodiversity, such as clam digging and animal release, with a view to maximising the overall impact of these education programmes.

42. Mr Chow Wing-kuen advised that the lack of understanding of the general public on nature conservation could be one of the major reasons for damaging acts to the ecological environment. AFCD had been attaching high importance to public education by arranging roving exhibitions on Hong Kong Marine Biodiversity to enrich public understanding on the diverse marine biodiversity and promote marine conservation. Furthermore, tertiary students were recruited under the Ting Kok+ Ambassador Scheme to educate and engage the public to promote conservation of the Ting Kok area. These education programmes brought positive impact in terms of knowledge transfer through face-to-face interaction with the public.



43. Mr Simon Chan agreed that education was essential to instil a proper attitude and behaviour in the public towards nature conservation. He said that NGOs and tertiary institutions were encouraged to conduct education programmes on the promotion of biodiversity in different habitats under the Subventions for Biodiversity Education Scheme. In addition, AFCD had been organising a great variety of education activities in the Hong Kong Wetland Park, country parks, marine parks and Hong Kong UNESCO Global Geopark with a view to enhancing understanding on biodiversity.

44. A Member opined that in addition to repeat customers, more participants should be engaged in the education programmes. She considered that it was crucial to retain the ambassadors after the completion of the Ting Kok+ Ambassador Scheme in order to keep the momentum on conservation efforts. Apart from launching the dedicated website, namely Hong Kong Marine Classroom, she suggested that a mobile application could also be developed. The pamphlet on Hong Kong Marine Classroom should also be distributed to Members of relevant advisory committees which had been consulted on the subject, including this Subcommittee, BSAP Steering Committee and Inter-departmental Working Group on BSAP so that Members could be updated of the work done by AFCD from time to time.

*[Post meeting notes: The pamphlet on Hong Kong Marine Classroom provided by AFCD was circulated to Members on 23 December 2019.]*

45. Ms Shadow Sin supplemented that while Ting Kok+ Ambassador Scheme was a new programme, AFCD would invite the ambassadors to assist in other activities as volunteers, including “Tolo Appreciation 2019”, and explore other measures to strengthen the connection between the ambassadors.

46. Given the unique geographic location of Hong Kong with surrounding waters, a Member suggested that primary and secondary schools should implement similar education programmes in their vicinity with reference to the public education programmes on marine biodiversity of Ting Kok area organised by AFCD. As such, the marine environment in different locations of Hong Kong could be conserved by students conducting projects at the vicinity site on a regular basis.

47. A Member echoed the view of another Member that the public education programmes on marine biodiversity organised by AFCD served as a good example for schools to devise their own education programmes based on the surrounding natural habitats. For example, schools in Sha Tin could devise education programmes on the conservation and biodiversity of forests. The experiences gained should be shared among schools on the website and a greater impact to conservation could be brought at each district.

48. The Chairman suggested that AFCD conduct a review on relevant Facebook posts with the aim of identifying the type of posts that attracted more ‘Likes’ and shares and thereby develop focused marketing strategies to strengthen the promotion.

49. Mr Chow Wing-kuen thanked Members for their suggestions and advised that AFCD would strengthen the promotion with a view to increasing and sustaining participants.

#### *Conclusion*

50. With no further questions from Members, the Chairman thanked the subject team for its detailed presentation and explanations.

*[Mr Chow Wing-kuen and Ms Shadow Sin of AFCD left the meeting at this juncture, and Mr Alex Tang of EPD joined the meeting at this juncture.]*

#### **Item 4 : Any Other Business**

##### *Arrangement of the remaining Management Agreement (MA) projects funded by the Environment and Conservation Fund (ECF)*

51. As invited by the Chairman, Mr Alex Tang briefed Members on the setting up and operation of the Countryside Conservation Funding Scheme (CCFS) which was launched on 18 October 2019. Mr Tang informed Members that the ECF would continue to provide funding support to the seven on-going MA projects approved by the ECF Committee until their completion. The progress of implementation of the two MA projects on Sai Wan and Sha Lo Tung had already been reported to the NCSC at its meetings in April 2018 and May 2019, respectively. The remaining five MA projects would be completed in turn from August 2020 to September 2021, and the progress of implementation would be reported to the NCSC in due course.

52. In response to the Chairman's suggestion on circulation of half-yearly progress and completion reports of the MA projects (operated under CCFS) to Members for reference in future, Mr Alex Tang advised that for MA projects currently funded by the ECF, applicants were required to submit their reports to the secretariat of ECF for consideration and report the progress regularly to the NCSC. Ms Daisy Lo supplemented that the reports contained information not only on the implementation progress, but also financial statement, etc. Subject to the progress of implementation of the projects, she said that sharing of some useful and meaningful information with NCSC Members would be considered as appropriate.

##### *Site visit to Sai Wan*

53. The Chairman reported that a site visit to Sai Wan was organised on 12 December 2019 with four Members joining.

54. The Chairman and a Member appreciated the efforts and supported the work of the project proponent, Sai Kung District Community Centre, in the rehabilitation project for Sai Wan.

### *Capturing of non-protected animals in country parks*

55. As raised in the ACE meeting on 11 November 2019, a Member proposed with the support of Members that the capturing of non-protected animals in country parks should be discussed at NCSC meeting in due course. The Member pointed out that hunting/capturing of non-protected wild animals without using hunting/trapping appliance was not regarded as an illegal act under the Wild Animals Protection Ordinance (Cap. 170), and he was concerned that the spread of such information among the public might lead to mass capturing of animals, including Tokay Gecko as pets or for other purposes. He also noted that there were difficulties for the law enforcement actions to be taken by the authorised officers against capturing protected wild animals and fish at the same time as they were not regulated under the same ordinance. He considered that it was important to rectify the unregulated act as soon as possible.

56. Mr Simon Chan and Ms Daisy Lo advised that Members would be consulted on the review of the existing conservation measures in due course.

57. There was no other business for discussion at the meeting.

### **Item 5 : Date of next meeting**

58. The Chairman said that Members would be advised on the date of the next meeting and the agenda in due course.

59. The Chairman took the opportunity to wish Members a Merry Christmas and a Prosperous and Green 2020.

60. The Chairman and Members expressed sorrow over the passing of Dr Ng Cho-nam and articulated their gratitude and appreciation towards Dr Ng's contributions as a former Member of the ACE.

**Nature Conservation Subcommittee Secretariat  
March 2020**