

Extract

**Confirmed Minutes of the 216th Meeting of
the Advisory Council on the Environment (ACE)
held on 5 September 2016 at 2:30 pm**

Present:

Prof Paul LAM, SBS, JP (Chairman)

Ir Cary CHAN

Dr Billy HAU

Dr HUNG Wing-tat, MH

Dr Michael LAU

Prof Albert LEE

Ir Prof Irene LO

Ir MA Lee-tak, SBS

Prof John NG

Prof Nora TAM, BBS, JP

Dr Eric TSANG

Ir Conrad WONG, BBS, JP

Prof Jonathan WONG, MH, JP

Dr Carrie WILLIS, SBS, JP

Mr Stanley WONG, SBS, JP

Ms Pansy YAU

Mrs Alice CHEUNG, JP (Secretary)

Absent with Apologies:

Prof CHAU Kwai-cheong, BBS, JP (Deputy Chairman)

Prof FUNG Tung

Mr Anthony LOCK

Miss Yolanda NG, MH

Mr Luther WONG, JP

In Attendance:

Ms Anissa WONG, JP

Permanent Secretary for the Environment / Director of
Environmental Protection

Mr Wilson CHAN

Assistant Director of Planning / Technical Services,
Planning Department (PlanD)

Mr Simon CHAN

Assistant Director (Conservation), Agriculture,
Fisheries and Conservation Department (AFCD)

Mr K F TANG

Assistant Director (Environmental Assessment),

Miss Heidi LIU
Ms Becky LAM
Miss Dora CHU
Miss Apple Leung
Mr Alan CHUNG

Environmental Protection Department (EPD)
Principal Information Officer, EPD
Chief Executive Officer (CBD), EPD
Executive Officer (CBD) 1, EPD
Executive Officer (CBD) 2, EPD
Executive Manager (CBD), EPD

In Attendance for Item 2:

Mr Dick CHOI
Mr Lawrence NGO

Senior Marine Conservation Officer (West), AFCD
Senior Environmental Protection Officer (Regional Assessment) 1, EPD

Project Proponent Team

Airport Authority Hong Kong

Mr Kevin Poole, Executive Director, Third Runway
Mr Peter Lee, General Manager, Environment, Third Runway
Mr Martin Putnam, Senior Manager, Environment, Third Runway
Mr Lawrence Tsui, Senior Manager, Environment, Third Runway
Mr James Tsui, General Manager, Corporate Communications
Ms Mabel Quan, Manager, Project Liaison

Mott MacDonald Hong Kong Ltd

Mr Eric Ching, Divisional Director

Clymene Enterprises

Dr Thomas Jefferson, Dolphin Specialist
Dr Bernd Würsig, Dolphin Specialist

Action

Item 2 : Expansion of Hong Kong International Airport into a Three-Runway System - Report on the Effectiveness of SkyPier Plan on Chinese White Dolphins

(ACE Paper 10/2016)

3. The Chairman said that the discussion today would be divided into two parts. The Presentation and Question-and-Answer Session would be opened to the

public while the Internal Discussion Session would remain closed.

4. The Chairman recapped that the Marine Travel Routes and Management Plan for High Speed Ferries (HSF) of SkyPier (the SkyPier Plan) was a submission required under one of the conditions of the Environmental Permit (EP) for the project on “Expansion of the Hong Kong International Airport into a Three-Runway System” (3RS). In compliance with the EP condition, the SkyPier Plan had been submitted to ACE for comment prior to the submission to the DEP for approval, and ACE had requested the Airport Authority Hong Kong (AAHK) to report to the Council on the effectiveness of the mitigation measures on Chinese White Dolphins (CWDs) six months after the implementation of the SkyPier Plan. AAHK would also take the opportunity to update Members on the recent media concerns on the Coral Translocation Plan.

[The presentation team joined the meeting at this juncture.]

Presentation cum Question-and-Answer Session (Open Session)

5. At the invitation of the Chairman, Mr Peter Lee briefed Members on the latest progress of the 3RS. Mr Eric Ching recapped the background of the SkyPier Plan and provided an overview on the implementation progress, and then Dr Thomas Jefferson and Dr Bernd Würsig briefed Members on the monitoring data and effectiveness of the SkyPier Plan on the conservation of CWDs.

6. In response to the Chairman's enquiry concerning the monitoring data, Dr Bernd Würsig advised that the mapping of CWDs' distribution was filtered to include only CWD tracks with more than two positional fixes as recorded by land-based theodolite tracking in every 10 minutes. Limitations were that CWDs only surface to breathe once in a while and were underwater for 80% to 90% of the time, and it was difficult to tell apart individuals/groups of CWDs, unless the CWD(s) concerned had special marks/features which allowed easy identification via observation by binoculars.

7. A Member requested AAHK to clarify the meaning of “prevailing speed” as used in the Report on the Effectiveness of SkyPier Plan on Chinese White Dolphins (the Report), and to explain the method for tracking the speed of vessels other than HSFs. He further asked AAHK to clarify why the daily and annual average of HSF movements were capped at 125 and 99 respectively, when the actual daily HSF movements were between 25 and 31 only. The Member

observed that very few CWDs were detected at the north of the speed control zone (SCZ), and enquired if there was a correlation between the speed of vessels and density of CWDs. He also requested AAHK to provide the number of CWD sightings recorded after the implementation of the SkyPier Plan, and whether such data could be compared with the figure collected before the implementation of the SCZ.

8. Mr Peter Lee explained that the “prevailing speed” referred to the average speed of HSFs within the SCZ. A Member opined that the term “prevailing speed” should not be adopted to avoid misunderstanding, and suggested AAHK to provide a better presentation of the speed of HSFs within the SCZ. Mr Lee agreed to review if the data could be presented in a better way. Regarding the determination of speed of vessels other than HSFs, Mr Lee explained that the position and speed of objects including CWDs and vessels could be detected and determined by land-based theodolite tracking. Dr Bernd Würsig clarified that the position of vessels travelling in the vicinity of CWD groups could be identified via land-based theodolite tracking, and the speed of the vessels could be computed from their different positions over a certain period of time. Concerning the cap on HSF movements, Mr Lee advised that the daily movements of 25 to 31 only accounted for the operation of SkyPier HSFs to/from Macau and Zhuhai, while the cap on the annual daily average of 99 HSF movements included other ferries heading north to the Pearl River Delta (PRD). He reported that the maximum number of daily HSF movements was about 97 to 98 in the past few months and the cap of 125 movements was needed to allow operational flexibility especially for the peak demand. AAHK

9. A Member pointed out that at the meeting of the Environmental Impact Assessment Subcommittee (EIASC) in May 2016, Members raised that whether a ferry was speeding or not should be based on the instantaneous speed rather than the average speed. With only the “prevailing speeds” of diverted HSFs from April to July 2016 provided to ACE, the Member opined that AAHK should make available records of instantaneous speed to show more clearly the speed profiles of the HSFs travelling within the Speed Control Zone. Mr Peter Lee replied that vessel movements were monitored in real time by the Automatic Identification System (AIS), and ferry operators would be required to provide explanations for every incident involving the speed of HSFs exceeding 15 knots, even if such speeding persisted for less than one minute. Mr Lee mentioned that the relevant monitoring data had been presented in the monthly Environmental Monitoring and Audit reports since February 2016, and was made available for public inspection on

the 3RS dedicated website.

10. A Member recalled that as reported by AAHK in the EIASC meeting in May 2016, there had been cases of instantaneous speed of HSFs exceeding 15 knots recorded in April 2016. She opined that such information with the follow-up and precautionary measures taken should also be included in the Report. Mr Peter Lee advised that amongst the data points collected for over 800 HSF monthly trips to/from Macau and Zhuhai, over 99% of the data points complied with the speed limit of 15 knots, and all the speed deviation cases were due to navigation safety reasons. Another Member suggested AAHK to incorporate information that was available in the presentation slides into the Report.

11. In reply to a Member's question concerning the routing of HSFs, Mr Peter Lee confirmed that there were no longer any HSFs from SkyPier taking the route aligned to the north of the airport island. With the observation that many of the ferries travelled at around or even below 10 knots, the Member further enquired the reason for not setting the speed restriction at 10 knots which was deemed to be infeasible by AAHK in the earlier Council meetings. Mr Lee explained that the ferries would have to travel at a speed a few knots below the speed limit in order to comply with the speed limit, i.e. 6 to 7 knots on average if the speed limit was set at 10 knots, and there were safety concerns associated with ferries operating at such a low speed. Addressing the Member's observation that some HSFs were recorded to operate at 6 knots, Mr Eric Ching explained that the speed of HSFs might sometimes be deterred by the countercurrent.

12. Replying to a Member's questions concerning the correlation between the speed of vessels and density of CWDs, Dr Bernd Würsig advised that there was a potential trend observed for CWDs swimming at slower speeds when vessels within 500 metres travelled slower. Dr Würsig confirmed that while a total of 52 groups of CWDs had been sighted at Lung Kwu Chau after the implementation of the SkyPier Plan, the figure being shown in their presentation was filtered to include only the CWD tracks that met the criteria for further analysis, in which two or more dolphin tracks were recorded within 10-minute segments. Dr Würsig said given that an individual/group of CWDs could be sighted more than once and photo-identification of sighted individuals in theodolite survey was very difficult, it would not be possible to derive the actual number of CWDs sighted. He added that shore-based data were for the determination of behaviour rather than for providing information on the density or the numbers of CWD.

13. A Member said that the CWD monitoring data collected after the implementation of the SkyPier Plan, including the encounter rate and information on CWDs' behaviour, should be compared to the historical data collected by AFCD in order to assess the effectiveness of the SkyPier Plan. Dr Thomas Jefferson explained that it might not be meaningful to combine or compare sighting/encounter rates obtained by different survey teams as a number of factors, including the qualification of surveyors, type and speed of the vessels, and survey effort etc. might affect the data collected. As regards CWDs' behaviour, Dr Bernd Würsig said that there were no data on CWDs' behaviour collected by AFCD using land-based theodolite tracking before the implementation of the SkyPier Plan, and he mentioned that comparison of the data collected by different survey teams and/or from different theodolite tracking platforms should be avoided as far as possible, given that the determination of behavioural states was somewhat subjective and relied in part on investigators' interpretations. Dr Würsig supplemented that he would try to compare CWDs' behaviour in wet and dry seasons when more data were obtained.

14. A Member expressed his concern that it was not meaningful to conduct monitoring if the data obtained did not allow comparison to reflect the effectiveness of the mitigation measures on CWDs. He suggested that a comparison between data collected before (e.g. by AFCD) and after the implementation of the SkyPier Plan be made. Another Member also pointed out that if such a comparison was not feasible, there was apparently no quantitative evidence to substantiate AAHK's concluding remarks in the Report that there were no obvious negative behavioural impacts on CWDs based on the current findings. Dr Thomas Jefferson clarified that the methodology adopted by the survey teams was the same as that of AFCD. He just wished to caution against conducting quantitative comparisons based on the data sets collected by different survey teams, as the results would tend to be unreliable due to the distinctive physical and acoustic characteristics of different vessels deployed by different survey teams and the varying ability of individual observers to detect CWDs.

15. A Member echoed that it was undesirable to assert that data obtained by different survey teams could not be compared due to the inter-team differences. If different vessels had been used was a concern, he suggested that the project team should hire the same vessel in which AFCD used before in the CWD monitoring. Another Member was of the view that inter-observer bias should not be highly significant. He agreed that it was important to standardize the survey instruments so as to control and minimize the influence of the variables on the survey results as

far as possible.

16. Dr Thomas Jefferson explained that efforts had been devoted to minimize inter and intra-team differences by establishing standardized protocols and procedures, hiring some of the surveyors who had been involved in conducting AFCD surveys, providing periodic training to observers, and auditing the work of the observers to ensure that the same techniques were used. Nonetheless, Dr Jefferson said that while general comparisons could be carried out, quantitative comparisons would have to be conducted in a very precise manner especially when the sample size was small at this stage. In reply to a Member's enquiry on the inclusion of general data comparisons in the Report, Dr Jefferson said that the estimate on density and abundance of CWDs based on data obtained from vessel surveys were very similar to that from AFCD surveys. With the view that qualitative analysis was not convincing, the Member suggested the project team to compare data from the same month in the previous years to see if there was a distinctive trend, and to include a note on possible scientific/experimental errors in the Report if deemed necessary.

17. Dr Thomas Jefferson responded in the affirmative to a Member's question on whether a baseline study had been conducted. While vessel survey data before and after the establishment of the SCZ were available for comparison, he mentioned that there were no comparable data for the same season from the land-based Lung Kwu Chau theodolite tracking survey station. As only 6 months of data from the CWD baseline monitoring period were obtained at this stage, comparison with the previous data was not possible. In reply to a Member's question on the period and methodology of conducting the baseline study, Dr Jefferson said that CWD monitoring conducted under the EIA study covered a period of over 12 months from 2012 to 2013, while this baseline study was for a period of 6 months from December 2015 to June 2016. Having considered the seasonal differences, he said that a proper comparison of the 6-month CWD baseline vessel survey data could be conducted when a full year of monitoring data were available. On top of the Member's request to AAHK for including the methodology and data of the CWD baseline survey in the Report, another Member opined that statistics and data obtained during the environmental impact assessment (EIA) study should also be included in the Report. A Member followed that AAHK should also address the issue concerning the statistical power of the survey in terms of the sample size, study design and validity of the results.

18. Regarding the behaviours of CWDs, Dr Bernd Würsig said that there were

insufficient data to support in-depth analysis on the changes in CWD's behavioural pattern, especially when CWDs' behaviour varied greatly in different seasons and locations. In consideration of the statistical power, Dr Würsig said that quantitative analysis and comparisons supported by a greater sample size would be conducted when a full year of pre-construction monitoring data was available.

19. Regarding the monitoring of CWDs, a Member requested AAHK to provide the number of CWDs spotted by photo identification frequenting the areas around the Sha Chau and Lung Kwu Chau Marine Park (SCLWCMP). He opined that survey efforts should be strengthened if such statistics could not be obtained. For clarity, he suggested AAHK to graphically present the CWD data with the co-occurrence of HSFs. Given that land-based surveys were limited by a range of reliable visibility, the Member asked whether an additional survey station could be set up at the west of Lung Kwu Chau. He further enquired the reason for not conducting sound navigation and ranging (SONAR) scan at the SCZ. Considering that there were more HSFs trips during the day than at night time, data obtained during the day could be compared to that at night to assess the impact of HSFs on CWDs. The Member stressed the importance of data comparison, and suggested AAHK to align their survey methodology with that of AFCD so as to enable systematic analysis and comparison of current data with historical data. Dr Thomas Jefferson agreed to take Members' comments into account for preparing future reports. He reiterated that AAHK adopted the same methodology as AFCD for vessel surveys, and considered that the influence of the variables on the survey results would be reduced when the sample size grew larger.

20. The Chairman summarized that Members had raised concern on the way of measuring and presenting the speed of HSFs and the lack of data comparisons when assessing the impact of HSFs on CWDs. AAHK should make better use of past data and also take steps to ensure that future data sets could be compared to the current data sets.

32. Mr Kevin Poole thanked Members for their comments/suggestions and assured Members that AAHK was committed to devoting their efforts in the area of environmental conservation. The Chairman concluded by asking AAHK to take into account the comments/suggestions raised by Members, and remarked on the significance of reporting the progress to ACE to facilitate further review and improvements.

[The presentation team left the meeting at this juncture.]

Internal Discussion Session

33. A Member recalled that AAHK had provided data on both instantaneous speed and average speed in the EIASC meeting in May 2016, showing that such data should be readily available for inspection. Another Member pointed out that as required by the SkyPier Plan, the speed of HSFs within the SCZ should be maintained at 15 knots or below at all times. A Member suggested that AAHK should provide statistics on the number of exceedance committed by HSFs.

34. The Chairman suggested and Members agreed to request AAHK to provide supplementary information as follows :

- (i) provide further record of the speed of HSFs of SkyPier, including instantaneous speed, so as to reflect more details and show more clearly the speed profiles of the HSFs travelling within the Speed Control Zone; AAHK
- (ii) provide a comparison of the CWD data collected after the implementation of the SkyPier Plan, with relevant data collected beforehand, including those commissioned by other parties such as AFCD ;
- (iii) provide an estimated abundance of dolphins in Northwest Lantau and the number of individuals using the water along the diverted route particularly within the Speed Control Zone.

[Post meeting note: A finalized list of the requested supplementary information was sent to AAHK for follow-up action on 22 September 2016.]

**ACE Secretariat
September 2016**