

**Summary of key questions/concerns raised at the EIASC meetings held in August/September 2014 on the EIA report on  
“Expansion of Hong Kong International Airport into a Three-Runway System” and Response from AAHK**

**(i) Proposed marine park**

**(ii) Marine Ecology Conservation Plan and Marine Ecology Enhancement Fund**

**(iii) Fisheries Management Plan and Fisheries Enhancement Fund**

<b>Chinese white dolphins (CWD) and the proposed marine park</b>	
<b><i>Questions/Concerns of Members</i></b>	<b><i>Response from Proponent Team</i></b>
Experience in designating Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP) in 1990s as mitigation measure for marine works relating to the construction of Hong Kong International Airport (HKIA) at Chek Lap Kok	<ul style="list-style-type: none"> <li>➤ AFCD data over the past years show a general increase in the density and abundance of CWD in SCLKCMP; there is some local experience from CWD monitoring done during the development of the Airport Fuel Receiving Facility near Sha Chau to suggest that CWD are likely to re-establish use of previous habitats within their range when disturbance (e.g. noisy construction activity) is reduced and if the habitats are returned to a healthy state</li> <li>➤ A decrease in dolphin population between the airport and SCLKCMP is noted since 2004/05 and this is possibly as a result of an increase of high speed ferries (HSF) in the area including from the SkyPier</li> </ul>
<ul style="list-style-type: none"> <li>● Effectiveness of designating the proposed marine park in North Lantau waters which is not the most critical habitats for CWD</li> <li>● Practicability for the mitigation measures to be implemented only in 2023 when 3RS is in full operation</li> <li>● Quantitative analysis on dolphins (e.g. fidelity to own habitats) to support the claim that CWD would return to North</li> </ul>	<ul style="list-style-type: none"> <li>➤ Areas identified as critical habitats for CWD activities which require the highest standards of protection include Sha Chau and Lung Kwu Chau, Brothers Islands extending to the North Lantau coastline, and West Lantau extending to Fan Lau and Soko Islands; certain parts of these areas are already covered in the proposed marine park areas by the 3RS EIA and other studies</li> <li>➤ Mitigation measures will focus on the areas immediately affected by the 3RS construction phase</li> <li>➤ A multi-pronged approach will be implemented to address construction phase impacts on CWD, which will include management of SkyPier HSF traffic, management of construction vessel traffic, adoption of advanced design and specific construction methods (e.g. non-dredge during land formation, deep cement mixing (DCM) over the contaminated mud pits (CMPs), horizontal directional drilling (HDD) for submarine pipeline diversion, and acoustic decoupling of noisy</li> </ul>

<p>Lantau waters in 7-10 years' time after all the disturbances and human activities which have been made in the area</p> <ul style="list-style-type: none"> <li>● Feasibility of phased designation of the proposed marine park before or during construction to lessen the construction impacts on CWD, i.e. 2 400 ha of the proposed marine park less the actual temporary works area during different phases of construction</li> </ul>	<p>equipment on barges), avoidance of bored piling during peak calving season for CWD, and enforcement of pre-defined routes for works vessels, etc.</p> <ul style="list-style-type: none"> <li>➤ AAHK experts reckon that while CWD will temporarily vacate habitats immediately when affected by marine works, dolphins will return once construction disturbance is reduced and the remaining habitats return to a healthy state and are well protected and this is supported by experience in other areas including in Hong Kong and by overseas examples (e.g. San Francisco Bay)</li> <li>➤ The proposed marine park will be approximately 2 400 ha and will offer large area of good protection and will provide critical linkage between other 'hotspot' CWD habitats in North Lantau waters; AAHK will assist and cooperate fully with Government and the relevant authorities in relation to CWD mitigation/compensation measures and will set up a Marine Ecology Enhancement Fund (MEEF) to provide funding support to these measures</li> <li>➤ It is not practicable to designate the proposed marine park before commencement of construction or to adopt the phased designation proposal as much of these area covered by the proposed marine park will be situated right in the area where construction works will take place</li> <li>➤ That said, AAHK has proposed a Marine Ecology and Fisheries Enhancement Strategy (MEFES) in the EIA report and will work towards a 3-pronged proposal with a view to long-term protection/ conservation of CWDs, in particular during the construction stage :- <ul style="list-style-type: none"> <li>(a) collaborate with the Mainland authorities to conduct further studies on CWDs in Pearl River Estuary (PRE);</li> <li>(b) work on enhancing dolphin protection in an area of some 1 000 ha around the proposed Third Runway site during the construction phase through administrative means, including imposing speed limit on the SkyPier HSFs and construction vessels, and deploying artificial reefs and releasing fish fry as well as other practicable measures if confirmed as having benefits; and</li> <li>(c) set up the MEEF to fund and support research studies in collaboration with marine ecology experts, NGOs, etc., on marine ecology including CWDs, enrichment of fisheries resources</li> </ul> </li> </ul>
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	in other parts of HK waters around Lantau
	<ul style="list-style-type: none"> <li>➤ The range of specific construction practices such as non-dredged reclamation method and DCM in the CMPs , mitigation measures and monitoring programmes defined in the EIA report can address or directly mitigate impacts on the marine environment and are considered adequate and appropriate by AAHK experts</li> <li>➤ Additionally, a Marine Ecology and Fisheries Enhancement Plan (MEFEP) comes under MEFES, which is proposed to outline a tentative management plan and measures to enhance marine ecology in North and Southwest Lantau waters, as well as to address the concerns raised by fishermen groups over impacts arising from the 3RS reclamation and the expected increase in marine protected area. The latter is important to smooth out the process of designation of the proposed marine park</li> <li>➤ It is envisaged that enhancements and support initiatives as proposed in MEFEP will serve to further ensure that during and after the 3RS project a range of practicable actions and measures will be taken to give cumulative benefits to marine ecology and fisheries in North Lantau waters</li> </ul>
Impact assessment on CWD over the proposed speed limit of 15 knots and route diversion for high speed ferries (HSF) by the SkyPier, i.e. reduction of speed limit vs congestion of vessels and increase in journey time in Sha Chau and Lung Kwu Chau waters	<ul style="list-style-type: none"> <li>➤ Speed of HSF activities are considered the major threats to CWD :- <ul style="list-style-type: none"> <li>(a) large number of HSF moving at high speed will increase the chance of collision with dolphins causing injuries or death; and</li> <li>(b) high underwater noise levels generated by HSF activities will cause disturbance to dolphins</li> </ul> </li> <li>➤ SkyPier accounts for 60% of daily HSFs (34 in 2011) navigating between HKIA and Sha Chau while the preferred route for other HSFs traveling between HK (Sheung Wan and Tsim Sha Tsui piers) and Macau/Zhuhai is via south of Lantau</li> <li>➤ The proposed 15-knot speed limit for diverted SkyPier HSFs is a reasonable compromise for protection of dolphins at CWD hotspots and what is practical for HSF normally traveling at 30-40 knots particularly on making turns without causing unacceptable safety and operational impacts on passengers. According to overseas research and AFCD studies any reduction in speed from the 40 knots of HSFs will provide some benefit to CWDs</li> <li>➤ Management of the SkyPier HSF traffic will include removing HSF traffic from the water</li> </ul>

	<p>channel between SCLKCMP and the third runway to be constructed, re-routing HSF to the north of Sha Chau and Lung Kwu Chau from as early as the construction phase to minimize chances of collision and disturbance to CWD, and reducing HSF speed close to and within any known CWD hotspots</p> <p>➤ An additional initiative is proposed to cap the number of all HSFs operating to and from SkyPier at the current level of operation (i.e. an annual daily average of 99) prior to designation of the proposed marine park</p>
Alternative or fall back in the event that the proposed marine park cannot proceed as planned	<p>➤ The Administration has given its firm commitment to seek designation of the proposed marine park in North Lantau in accordance with the statutory process as a mitigation measure for the permanent habitat loss arising from the 3RS project</p> <p>➤ AAHK will be required under the EIA Ordinance to implement all mitigation measures, and AAHK will seek to assist in completing the designation of the proposed marine park tentatively around 2023 to tie in with the full operation of 3RS</p> <p>➤ A marine park management plan will be submitted for approval by EPD and AFCD before commencement of the project</p>
<ul style="list-style-type: none"> <li>● Information on the performance of the Pearl River Estuary (PRE) CWD National Nature Reserve where some dolphins are expected to move in during construction of the 3RS project</li> <li>● Pollution and contamination in PRE and that the PRE CWD National Nature Reserve may not provide suitable habitat for CWD</li> </ul>	<p>➤ AAHK has identified rather limited information quantifying the performance of the PRE CWD National Nature Reserve</p> <p>➤ Estimates on effectiveness of conservation measures of the Nature Reserve cannot currently be prepared as credible data are not available</p> <p>➤ A MEEF under MEFEP will be set up and part of the planned efforts under the CWD mitigation measures will be to help establish a holistic conservation framework for the PRE CWD population in collaboration with NGOs and CWD experts in HK and elsewhere, for example the Ocean Park Conservation Foundation</p>
Information on the proposed Marine Ecology and Fisheries Enhancement Plan (MEFEP) under the Marine Ecology and Fisheries	<p>➤ MEFEP intends to achieve the following key objectives, and AAHK will provide funding support to achieve these objectives :-</p> <ul style="list-style-type: none"> <li>● enhancement of habitats for marine ecology and fisheries resources;</li> </ul>

<p>Enhancement Strategy (MEFES) made in the EIA report which AAHK will implement for the 3RS project</p>	<ul style="list-style-type: none"> <li>● promotion of a sustainable fisheries industry (e.g. initiatives to enhance fisheries resources);</li> <li>● encouragement of scientific research and studies; and</li> <li>● promotion of environmental education and eco-tourism</li> </ul> <p>➤ A MEEF will be set up under MEFEP for CWD conservation to focus on :-</p> <ol style="list-style-type: none"> <li>(a) <u>CWD conservation around the 3RS marine works area</u> – formulate some 1 000 ha of dolphin protection area for implementing CWD protection measures earlier during the construction phase; protection measures will include (i) construction vessels should need permission to enter into these areas; (ii) SkyPier HSF speed should be limited to 15 knots, and that of construction vessels to 10 knots; (iii) implement conservation and fisheries enhancement measures; and (iv) set up a management committee with representatives from relevant stakeholders including green groups to oversee the implementation of the fund</li> <li>(b) <u>CWD conservation for HK territory</u> – develop and implement HK territory-wide marine ecology enhancement initiatives and assist proactively in CWD conservation; these measures will include (i) analysis of long-term CWD stranding data to better understand the threats and factors affecting reproduction and survival of CWD including water pollution and toxins in the food chains; (ii) comprehensive cumulative impact assessment of marine anthropogenic activities; (iii) conduct acoustic studies to evaluate noise impacts of marine construction activities; (iv) promote eco-tourism and support NGOs to conduct related education programme; (v) assist in CWD conservation in Southwest Lantau waters; (vi) evaluate habitat quality so as to maintain/enhance the quality standard; (vii) skipper workshops for HSF captains to raise awareness on CWD/ dolphins collision risk; and (viii) information sharing on CWD studies and status on both sides of HK/PRE border</li> <li>(c) <u>CWD conservation for PRE</u> – develop a holistic conservation framework for the PRE CWD population; the conservation framework is planned as follows :- (i) develop a “Conservation Strategy and Action Plan” in 2015; (ii) conduct initial study to assess the availability of PRE CWD data and to identify data gaps; (iii) carry out broader-scale PRE CWD surveys and studies to provide critical ecological information necessary for an effective conservation</li> </ol>
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	<p>plan; and (iv) implement the conservation plan involving elements of research/public education/engagement and advocacy and review regularly, with the participation of NGOs and CWD experts in HK and elsewhere, for example the Ocean Park Conservation Foundation</p>
<p>Feasibility of relocating the SkyPier from the east end to the west end of the airport island so as to shorten ferry voyage distances and to avoid routing through CWD frequented areas, within and outside HK waters</p>	<ul style="list-style-type: none"> <li>➤ The SkyPier facility was located in its current location within the Restricted Area of HKIA to readily connect the transfer passengers between the aircraft terminal with mainland ports facilities via the Automated People Mover (APM) system.</li> <li>➤ Relocating SkyPier to the west will not bring about reduced impacts on CWDs, for the following reasons: <ul style="list-style-type: none"> <li>(a) HSFs to northern ports would have to re-route into and through the PRE CWD National Nature Reserve, whereas from the current SkyPier this is not necessary;</li> <li>(b) HSFs to some northern ports in Shenzhen (e.g. Shekou, Fuyong) may still need to re-route via airport north into Urmston Road to gain efficient access to and from these ports. This will render HSF travel through the future marine park areas; and</li> <li>(c) 3RS EIA surveys have identified that the Airport West area is regularly used by CWDs, mainly for travelling but also for some foraging, with the area considered of slightly higher habitat quality than the Airport North.</li> </ul> </li> <li>➤ In considering the viability of relocating SkyPier to the west, an apparent and significant disadvantage of the western location is that available water depth in the approach waters to a potential western HKIA SkyPier location are comparatively shallow, therefore a SkyPier location to the west would necessitate access channel dredging along with associated ongoing maintenance dredging to support the operation of SkyPier in this location.</li> <li>➤ Moving SkyPier to a western HKIA location may also lead to operational challenges and restrictions, not limited to :- <ul style="list-style-type: none"> <li>(a) The need for substantial redevelopment of an existing and functional airport facility;</li> <li>(b) The westerly location being much further from passenger processing terminals (e.g. existing Terminal 1 and future Third Runway Concourse); and</li> </ul> </li> </ul>

	(c) The need for substantial associated works to re-establish the connectivity between the pier and passenger processing terminals (e.g. provision of new APM or equivalent)
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<b>Fisheries and coral</b>	
<i>Questions/Concerns of Members</i>	<i>Response from Proponent Team</i>
Mitigation measures for the loss of fishing grounds during the construction phase, e.g. artificial reefs, eco-design of seawall, etc. and supporting evidence on the suitability and sustainability of these measures	<ul style="list-style-type: none"> <li>➤ The proposed 2 400-ha marine park, to be connected with the existing SCLKCMP and the planned The Brothers Marine Park (BMP), is designed to compensate for the permanent loss of fishing grounds and fisheries habitats (and resources) upon completion of the 3RS project</li> <li>➤ Mitigation measures during the construction phase include minimization of land formation footprint to 650 ha, alternative alignment for submarine pipeline diversion and use of modern construction methods (e.g. non-dredge, DCM and HDD) to minimize impacts on the marine environment</li> <li>➤ Fisheries resources recovery as a result of the protection measures to be applied for the proposed marine park can be achieved and will benefit the adjacent fishing grounds by spillover effect with the support by overseas examples</li> <li>➤ A Fisheries Enhancement Fund (FEF) will be set up to support sustainable development of the fisheries industry, e.g. support and enhance ongoing fisheries operations, improve mariculture, fishing technologies and techniques, and support the promotion of fisheries-related business opportunities; fisheries stakeholder groups will be engaged during formulation of the FEF and the associated management arrangement, funding amounts and allocation mechanism, as well as implementation of the FEF. With all these measures in place, the designation process for marine park should be smoothened</li> </ul>
Comparison of the economic loss over the loss of fishing grounds/fisheries resources with that in the HZMB project	<ul style="list-style-type: none"> <li>➤ There is no specific data available for a direct comparison between the two projects</li> <li>➤ Overall fisheries production in the 3RS project in terms of weight is assessed based on AFCD Port Survey results, as moderately low (100 - 200 kg/ha/year) and in terms of value as moderately</li> </ul>

	low to moderate (\$1,000 - \$5,000/ha)
Conservation of marine fauna and species of conservation importance, e.g. longheaded eagle ray, long-tooth grouper and gorgonian coral species	<ul style="list-style-type: none"> <li>➤ Impact of direct habitat loss is assessed to be moderate in view of high mobility of these marine fauna, small population to be affected and availability of suitable habitats in the neighbouring waters such as SCLKCMP and Brothers Islands</li> <li>➤ The gorgonian coral species to be affected is of very low coverage (&lt;1%) and assessed as low-moderate impact significance</li> <li>➤ There are relevant mitigation and enhancement measures recommended in the EIA report to sufficiently and adequately compensate the impacts</li> </ul>
Translocation plan for coral colonies identified in the land formation area	<ul style="list-style-type: none"> <li>➤ Potential for translocation will be reviewed prior to the commencement of construction and will be based on the conservation importance of the coral species, health conditions of the coral, size of the colonies and feasibility for translocation</li> <li>➤ A coral translocation plan will be developed which will include information of coral colonies to be translocated, the proposed recipient area and baseline conditions, translocation methodology and monitoring of the transplanted coral colonies; approval by EPD and AFCD will be sought before implementation of the plan</li> </ul>

**EIASC Secretariat**

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