

中华白海豚监察工作：水底声学调查

Chinese White Dolphin Monitoring Works Underwater Acoustic Surveys



香港机场管理局在三跑道系统项目施工前#、施工期间、随后的工程完成及营运阶段均持续在大屿山水域进行中华白海豚水底声学监察，并定期公布相关数据。监察结果显示，中华白海豚持续使用北大屿山水域，尤其是在冬季，而晚间的整体活动较日间频繁。

Airport Authority Hong Kong continuously conducts underwater acoustic monitoring of Chinese White Dolphins (CWDs) in Lantau waters during the pre-construction #, construction, and the subsequent post-construction and operation phases of the Three-Runway System (3RS) Project, aiming to collect information of CWDs, which is published regularly. Monitoring results indicated CWDs continue to use the northern Lantau waters, especially in winter and the overall activities are more during night-time than daytime.

#以三跑道系统项目施工前收集的数据作为参考基准线以进行相关的评估工作
Information gathered during the pre-construction of the 3RS Project forms a baseline reference for the relevant assessment work

静态声音监测 Passive Acoustic Monitoring (PAM)

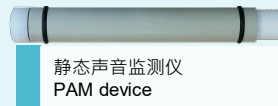


静态声音监测通过识别中华白海豚用作探测猎物、定位及互动的回声定位讯号来侦测中华白海豚的出没。在沙洲以南水域设置的静态声音监测仪用来补充陆上监察的数据，并在沙洲经纬仪追踪监察站有观察记录时将数据同时使用，为晚间海豚声音模式提供了有用的信息。自2016年监察工作开展至2023年中，调查工作已进行超过2,400天。

此外，在机场西面、沙洲及龙鼓洲海岸公园、大小磨刀海岸公园和拟议的北大屿海岸公园水域亦设了六部静态声音监测仪，收集相关区域海豚出没时间及地点的资讯作为补充资料。

Underwater PAM detects CWD occurrence by recognising the echolocation click trains they make to detect their prey, orientate and interact. PAM device has been deployed in south Sha Chau waters to supplement the land-based survey by providing useful information on patterns of dolphin vocalisation at night, and to coincide the data when there is sighting from Sha Chau Theodolite Tracking Survey Station. Since the commencement of monitoring works in 2016 and up to mid-2023, a total survey effort of over 2,400 days was conducted.

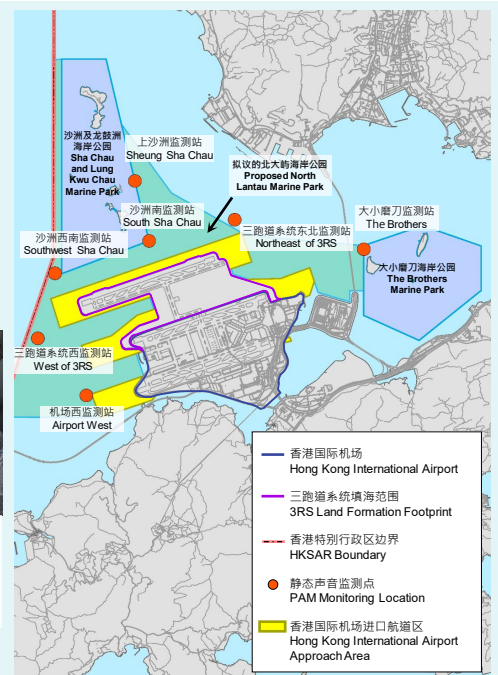
Six more PAM devices were deployed in waters around Airport West, Sha Chau and Lung Kwu Chau Marine Park, The Brothers Marine Park and the proposed North Lantau Marine Park to provide supplemental information on the temporal and spatial patterns of dolphin usage in the area.



静态声音监测仪
PAM device



定期收回静态声音监测仪作数据下载
PAM devices are retrieved regularly for data download



晚间声学调查 Night-time Hydrophone Survey



为了进一步研究中华白海豚使用栖息地的模式，在晚间亦进行了声学调查。水底声音监测仪能探测和记录中华白海豚全部已知的声音频率。调查于晚上6时至早上6时期间进行，过程中调查船拖着水底声音监测仪沿东北大屿山、西北大屿山及西大屿山的调查样条线行驶。这些晚间数据将有助补充日间船上样条线调查所收集的观察数据。自2022年监察工作开展至2023年中，调查总航程超过1,900公里。

To further explore patterns of CWDs' habitat use, night-time hydrophone surveys are also conducted. Hydrophone systems are capable of covering and recording the entire known range of CWD vocalisation. During the surveys, conducted between 18:00 and 06:00 hours, the monitoring vessel tows a hydrophone along the transect lines in Northeast Lantau, Northwest Lantau and West Lantau. These night-time detections contribute to supplementing visual sightings collected during daytime vessel line-transect surveys. Since the commencement of monitoring works in 2022 and up to mid-2023, a total survey effort of over 1,900 km was conducted.



水底声音监测仪
Hydrophone device

