珊瑚移种研究
Coral Transplantation Study

香港國際機場 HONG KONG INTERNATIONAL AIRPORT

三跑道系统项目的环评报告估计，填海工程将会影响现有机场岛北面海堤的柳珊瑚群落。根据环境许可证的要求，香港机场管理局（机管局）承诺进行珊瑚移植，并将附着在可移动石块上的珊瑚移至北大屿山的接收地点 - 阴仔湾。

The Environmental Impact Assessment for the Three-Runway System project anticipated that gorgonian coral communities (*Guaiagorgia* sp.) at the northern seawall of the existing Airport Island would be impacted by the reclamation works. According to Environmental Permit requirements, Airport Authority Hong Kong (AAHK) is committed to carrying out coral translocation, in which corals attached to moveable boulders were translocated to a recipient site at Yam Tsai Wan (YTW) on North Lantau.

机管局在环境许可证的法定要求外，进一步完成了全港首项大型柳珊瑚移种计划。研究人员取下附着在不可移动石块上的珊瑚，并分两阶段共移种超过1,000个珊瑚群落及珊瑚断片至阴仔湾。

As a "beyond statutory requirements" initiative, AAHK completed the first ever large scale gorgonian coral transplantation in Hong Kong. Researchers removed corals from the immovable boulders and transplanted them to YTW. Two rounds of transplantation were conducted for the study with a total of over 1,000 coral colonies and fragments transplanted.


清理准备移种到接收地点的珊瑚群落
Cleaning of coral colony prior to transplantation to recipient site


移种後的珊瑚群落
Transplanted coral colony


标签以作未来监察
Tags for future monitoring

第一轮珊瑚移种
First round of coral transplantation

时间 Time	2017年初 Early 2017
珊瑚移种规模 Scale of transplantation	约50个珊瑚群落及450个珊瑚断片 Some 50 coral colonies and 450 coral fragments
结果 Result	3个受监察的珊瑚群落存活 Three monitored colonies survived
汲取经验 Lessons learned	• 珊瑚群落比珊瑚断片存活较好 Colonies survived better than fragments • 移种珊瑚的高死亡率及脱落情况受不利的环境因素相互影响，包括移种位置的高沉积率，台风和极端的季节性水温 High mortality and detachment rate of transplanted corals resulted from an interplay of particularly adverse environmental factors, including high sedimentation rates, typhoon disturbance and extreme seasonal water temperatures at the recipient location • 移种珊瑚及对照（现有）珊瑚均发现有高死亡率的状况 High mortality rate was observed in both transplanted and control (naturally existing) corals

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第二轮珊瑚移种
Second round of coral transplantation

时间 Time	2018年初 Early 2018
珊瑚移种规模 Scale of transplantation	超过500个珊瑚群落 Over 500 coral colonies
结果 Result	98%受监察的珊瑚群落在移种16个月後仍然健康存活 98% of the monitored transplanted colonies were healthy with high live tissue coverage after 16 months of the transplantation
汲取经验 Lessons learned	• 移种到阴仔湾其他位置，尽量减少不利的环境因素 Transplanted in an alternative location in YTW minimises adverse environmental factors • 珊瑚群落沿海岸移种，位於水流较大且沉积物较少的区域，有助珊瑚生存 Transplanted colonies spread along the coast in an area exposed to higher current flow and less sedimentation to help the survival of corals

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整体而言，珊瑚移种研究取得成果，并为在香港水域成功进行柳珊瑚移种提供了非常有用的资料。

Overall, the coral transplantation study was fruitful and provided very useful information for a successful gorgonian coral transplantation in Hong Kong waters.

监察过程中在移种後的珊瑚上及其周围观察到的海洋动物
Marine fauna observed on and around the transplanted corals during monitoring


海马 Seahorse


螃蟹 Crab


老虎鱼 Wispy Waspfish


梭螺 Ovulid snail