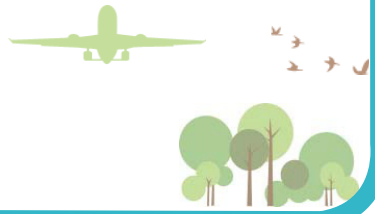


# 投放幼魚先導計劃 投放後監察 Fish Restocking Pilot Test Post-release Monitoring



香港機場管理局（機管局）正實行改善海洋生態及漁業提升策略，以助提升北大嶼山水域的生態價值及漁業資源。其中一項措施是投放幼魚先導計劃。機管局已在香港國際機場進出口航道區的人工海堤附近投放幼魚，並進行為期六個月的監察以評估投放計劃的效用。機管局採用了不同的監察方法以增加成功追蹤幼魚的機會，包括利用傳統的漁業調查方法、誘餌式水下遠程攝錄系統及聲學監察。

Airport Authority Hong Kong (AAHK) is implementing a Marine Ecology and Fisheries Enhancement Strategy to help enhance marine ecology and fisheries resources in North Lantau waters. One initiative is a fish restocking pilot test involving the release of fish fingerlings near the artificial seawall within the Hong Kong International Airport Approach Area and a six-month post-release monitoring exercise to evaluate restocking effectiveness. Different methods of fish monitoring were adopted to ensure the best chance of tracking released fish, including traditional fisheries surveys, a Baited Remote Underwater Video System (BRUVS) and the use of acoustic monitoring.

## 誘餌式水下遠程攝錄系統 BRUVS

誘餌式水下遠程攝錄系統由防水攝錄機、水下燈光系統及放置在攝錄機前的魚餌組成。魚餌會吸引海魚，令攝錄機能近距離監察海魚以助識別海魚品種。此技術屬於非侵略性的方法，適用於能見度較低的水下環境。

BRUVS comprises a waterproof camera, an underwater lighting system and fish bait placed in front of the camera. The bait attracts fish and close-up images allow identification of the fishes attracted to the bait. This technique is a non-invasive method that is well suited to low visibility underwater environments.



誘餌式水下遠程攝錄系統上設有麵包、磷蝦及人工飼料的混合魚餌以吸引海魚  
BRUVS with bait bag containing a mixture of bread, krill and artificial fish feed to attract fish



誘餌式水下遠程攝錄系統拍攝的影像  
Image captured by BRUVS

## 聲學監察 Acoustic Monitoring

聲學監察是將聲學標籤植入部分已投放幼魚，並以聲波接收器記錄幼魚的位置及動態。此方法能有助理解幼魚投放後的動態及棲息環境。

Acoustic monitoring involves implanting acoustic tags into some of the released fishes and using an acoustic receiver to record the location and movement of released fish over time. This method facilitates a much better understanding of fish movements after release as well as the preferred habitat of the released fishes.

聲學標籤植入到幼魚腹腔位置  
Acoustic tags are implanted into the peritoneal cavity



聲波接收器  
Acoustic receiver



## 漁業調查 Fisheries Survey

以傳統手釣及浸籠等的捕獲方法有助監察在調查地點是否有已投放幼魚出沒及記錄捕獲的海魚大小。所有捕獲的海魚在完成紀錄後會放回監察位置以減低對魚群造成的影響。

Traditional capture methods such as hand-lining and cage-trapping are also used to record the presence or absence of released fish at survey locations and the size of captured fishes is also recorded. All captured fishes are released back to the survey location to minimise disturbance to local fish assemblages.



監察結果顯示在投放幼魚位置、以及在大澳、深屈、礮石灣、沙螺灣的自然海岸和機場島及東涌的人工海堤附近均發現投放的幼魚。這結果有助評估投放幼魚計劃的效用，以及進一步研究未來在香港西面水域進行投放幼魚計劃的可行性。

Monitoring results indicated the released fishes were detected near the release location and at natural shores near Tai O, Sham Wat, San Shek Wan, Sha Lo Wan and at artificial seawalls near Airport Island and Tung Chung. The results would be useful to help evaluate the effectiveness of the fish restocking programme and study the feasibility of future fish restocking exercises in the western Hong Kong waters.

- ▲ 投放幼魚後錄得監察信號的位置  
Locations of Signal Detected for Released Fish
- 聲學監察的位置  
Locations for Acoustic Monitoring
- ★ 投放誘餌式水下遠程攝錄系統及漁業調查的位置  
Locations for BRUVS Deployment and Fisheries Surveys

