



自然環境
Natural Environment

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淡水生態系統與生物多樣保育的神秘關係 Freshwater Ecosystems VS Biodiversity

大嶼山的淡水生態系統擁有豐富的生物多樣性，具有多個重要生態地點。然而，河溪渠化及水塘集水區正影響香港淡水生物多樣性，當中收集水源供本地使用所造成的威脅尤甚。築壩對淡水生態系統帶來多種影響，包括降低下游的流量、改變養分供應和妨礙動物的上游遷移。河流的物種豐富度及食物網結構會被嚴重地影響，並降低系統對入侵物種和環境干擾的抵抗及復原能力。因此，了解控制淡水流量所帶來的影響，對設計保育及緩解方案非常重要。



河溪 Water Canal

The freshwater ecosystems in Lantau harbour an exceptionally high biodiversity and many ecologically important sites were identified. However, habitat modification through flow regulation by water canals and dams, of which collect water for local usage, represent a major threat to freshwater biodiversity. Damming exhibit multiple impacts on the functioning of the freshwater ecosystem, including reduce flow rate, alter nutrient supply and impede animal migration. As a result, this will greatly affect species richness and food web structure of the stream and reduce the resilience of the system to invasive species and environmental disturbance. It is, therefore, important to evaluate the impact of flow regulation and to design mitigation options.

研究流量減少對大嶼山重要生態價值淡水溪流的系統功能和生物族群連接度的影響：對棲息地修復和生物多樣保育的啟示 Investigating the impacts of flow regulation on the ecosystem functioning and fauna connectivity in ecologically important freshwater streams of Lantau: implications to habitat restoration and biodiversity enhancement

香港中文大學的團隊將比較大嶼山集水區對具高生態價值河溪環境及動物群的影響；分析及對比天然及受集水區影響溪流的食物網結構及生態系統的健全度，以及利用分子技術研究集水區對指標物種的遺傳連結及多樣性的影響。研究結果有助了解淡水群落的健康狀況，並為有效的棲息地管理及保育規劃提供重要建議。為提高公眾對保護生物多樣性的意識和參與，團隊將製定標準作業程序用於大嶼山常見淡水物種鑑定和調查、水質變化調查監測，以供公民科學和未來的STEAM教育使用。

The team from the Chinese University of Hong Kong will compare the physiochemical environment and biodiversity distribution pattern of freshwater fauna in various streams on Lantau to identify impact of water canals and dams, quantify food web structures in order to evaluate their current healthiness, and estimate the population connectivity and genetic diversity of selected freshwater fauna across the dams. The findings will reveal community health and contribute insights on efficient habitat management and conservation. To promote public awareness on biodiversity conservation planning, standard operation procedures for species identification and survey, and physiochemical parameter measurements on Lantau freshwater fauna will be developed for citizen science and future STEAM education.

