ANNEXE: Research projects supported by facilities at National Marine Research Station (NMRS)

In **ecosystem restoration**, the National Parks Board (NParks) and NMRS are working together for the 100K Corals Initiative — Singapore's largest coral restoration effort to date that builds on the outcomes from decades of reef restoration research. As part of NParks' Marine Park Outreach and Education Centre, NMRS hosts the large-scale coral culture facility that supports the 100K Corals Initiative. Complementing these efforts, a project under the Marine Climate Change Science (MCCS) programme combines expertise from NUS and Nanyang Technological University (NTU) to investigate how microbial communities help corals withstand climate stress in busy tropical port environments. Through a regional network, the knowledge and solutions emerging from such research and efforts can be shared, adapted and applied to support coastal restoration projects across Southeast Asia.

In **marine oceanography and climate mitigation**, ongoing research focuses on seagrass restoration, blue carbon dynamics and tracing organic matter flows from land to coastal seas. NMRS is operationalising the Marine Environment Sensing Network (MESN) to serve as a high-tech marine observatory that tracks environmental changes in near real time. Expanding this sensing network regionally could enable seamless data sharing, giving scientists a unified understanding of oceanographic fluxes and coastal water quality in connected regional seas.

In **marine biodiversity**, recent research highlights how much remains to be discovered in Southeast Asian waters. NMRS plays an important role as a research infrastructure supporting efforts to advance the understanding of marine life in Singapore and beyond. These include projects such as the Comprehensive Marine Biodiversity Survey II by NParks and NUS, and deep-sea expeditions which have contributed to exciting discoveries of marine species new to science. A regional network will help amplify these efforts by enabling joint research expeditions, shared taxonomical expertise and coordinated conservation strategies to protect the region's rich marine heritage.