



In Hong Kong

### Marine Habitat Conservation



SEA-ING Through

## SEA the Vision

WWF's Vision



In Hong Kong

### Marine Habitat Conservation



SEA-ING Through

## SEA the Vision

WWF's Vision

## Hong Kong's Precious Marine Ecosystem

over **5,900** marine species

Hong Kong may be tiny on the map, its marine biodiversity is mighty. With just 0.03% of China's marine area, Hong Kong waters host over 5,900 marine species - more than 1/4 of all marine species recorded in China.

### Beautiful Bay

Hong Kong's Mirs Bay has been selected as an "Outstanding Example of Beautiful Bays" announced by the Ministry of Ecology and Environment, recognising its "clear water and clean beaches, thriving marine life, and harmonious coexistence between humans and the sea".

¥4.9trillion

Our study estimated that the Greater Bay Area's Gross Ecological Product value reached over RMB 4.9 trillion in 2022, within which 82% is contributed by the marine ecosystems.

about **6%** are protected

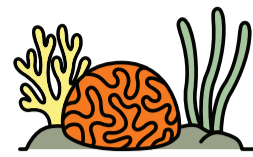
Positive strides in marine conservation has been made. With newly designated marine parks in recent years, about 6% of Hong Kong waters are now protected through marine parks, marine reserves, and measures like restricted areas.

It's urgent!

However, many of our marine biodiversity hotspots remain under significant pressure. Rapid coastal development, pollution, unsustainable fishing practices, heavy marine traffic, and excessive recreational use continue to threaten the resilience of these ecosystems.

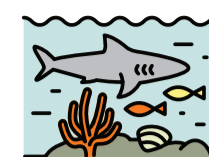
Concurring with the overall target set out in the Hong Kong Biodiversity Strategy and Action Plan 2035 to achieve "an expanded network of effectively managed protected areas and other effective area-based conservation measures", it has been WWF's focus to advocate for sustainable ocean governance in Hong Kong's waters. We are calling the society to focus collective conservation efforts especially at 5 priority sites, namely **Shui Hau, Tolo Harbour and Channel, Sharp Island and Inner Port Shelter, the Ninepin Group, and Pak Nai**.

## Benefits of a Healthy Ocean



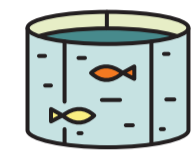
### 1 Climate Stability and Coastal Resilience

Thriving coastal habitats act as natural breakwaters to protect shorelines against extreme weather; healthy seagrass meadows reinforce the ocean's capacity as a blue carbon sink.



### 2 Safeguard Biodiversity

A healthy ocean supports marine species with spawning, nursery and feeding grounds.



### 3 Source of Blue Food

The production of locally-cultured marine fish is around 600 tonnes annually and has the potential to grow sustainably. A healthy ocean improves food security.



### 4 Economic Stability

Protected coastlines and pristine marine sites benefit the development of industries such as sustainable eco-tourism and create green job opportunities.



### 5 Well-being

Research demonstrates that stronger connections to nature correlate with improved mental health and higher life satisfaction. Being close to a healthy ocean helps our city stay healthy and happy.

Plan wisely. Protect what matters. Restore what's lost. Innovate for a blue future.

Hong Kong's marine ecosystems face increasing pressures from development, climate change, and unsustainable activities. To ensure a healthy and climate-resilient ocean for future generations, we must strengthen protection, restore degraded habitats, and adopt innovative approaches. WWF proposes four key strategies:

### Expand Marine Protected Areas (MPAs)

Area-based protection is essential for long-term biodiversity recovery. Well-designed and well-managed MPAs safeguard high-value habitats, rebuild fish populations and enhance climate resilience.

### Recognise and Apply Other Effective Area-based Conservation Measures (OECMs)

Support conservation beyond statutory protected areas that deliver long-term ecological benefits.



### Restore Habitats

Revitalise damaged ecosystems such as corals, seagrass meadows and other key functional habitats as nature-based solution to enhance biodiversity, support fisheries recovery and strengthen coastal resilience.

### Harness Smart Technologies

Anchoring technology as an enabler of ocean governance, to support place-based management that strengthens the observe-analyse-respond-adapt cycle, while enabling conservation actions to be scaled-up, replicated and delivered at speed.

## Marine Habitat Conservation Milestones

**2012 and Earlier** Trawl Ban advocacy  
Years of advocacy contributed to the territory-wide trawl ban which officially came into effect in 2012, marking a historic step towards restoring Hong Kong's depleted marine ecosystem

**2012** Hong Kong's first marine biodiversity map compiled

**2014** Territory-wide marine litter campaign launched  
in response to a massive plastic pellet spill, uniting volunteers, industry, and the government to address marine litter

**2015 - 2018** Identifying marine conservation priorities  
A territory-wide, comprehensive assessment is conducted with experts and stakeholders to identify marine biodiversity hotspots, and priority sites for marine conservation are proposed

**2018** Marine conservation work at Shui Hau, Lantau commences  
The on-the-ground conservation project begins with a rigorous ecological study of the sandflat, followed by the formulation of conservation tools to minimize impacts from unregulated recreational activities

**2020** Emergency Action Plan for Chinese White Dolphins  
Co-developed with scientists and government agencies in Peral River Delta to identify conservation priorities for the species

**\* Southwest Lantau Marine Park** comes into effective

**2021** Scuba diving impact survey at Sharp Island and industry empowerment on ocean-friendly dive training  
**\* Sham Wan Restricted Area** expanded

**2022** **\* South Lantau Marine Park** comes into effect and fishery management in marine parks strengthened

**2022 - 2023** Deepening coastal stewardship of Shui Hau through co-creation and dialogues

**2023** Reviving Our Corals initiative kicks off with strong collaboration with the Coral Academy, Chinese University of Hong Kong (CUHK), to upscale coral restoration efforts in Hong Kong

**2024** Advancing smart, cross-sectoral tech-enabled ocean solutions to tackle marine litter, and enhance conservation monitoring, visitor management and carrying capacity assessments

**2024** Seagrass bed restoration pilot begins  
**\* North Lantau Marine Park** comes into effective

**2025** The Valuing the Invaluable Blue report published, featuring the pilot marine ecosystem services accounting study across the Greater Bay Area

**2025** Fisheries mapping and fish population health assessment in Tolo Harbour and Channel begins

**2026** Exemplary coastal management and public education initiatives launched at Sharp Island in partnership with the Agriculture, Fisheries and Conservation Department  
**\* Government-led measures**

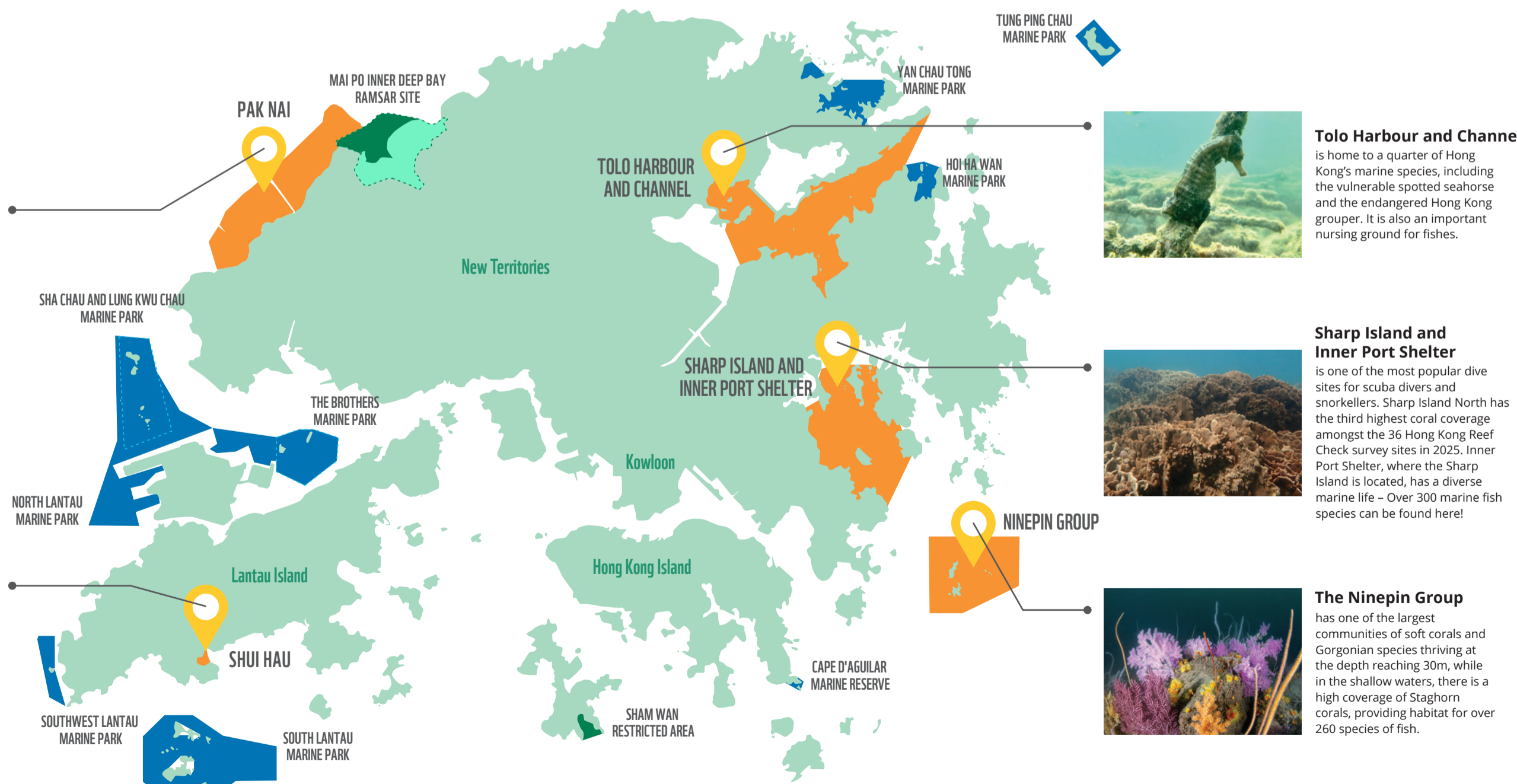
## Ocean Conservation Priority Sites

5 priority sites proposed by WWF for enhanced area-based protection:

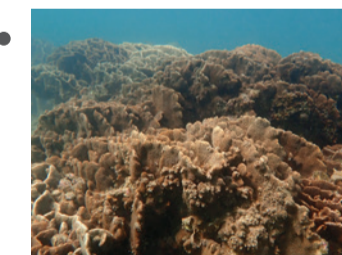
**Pak Nai** has a wide range of habitats, from intertidal mudflats, mangroves to seagrass meadows. Historically, it is an important site for traditional benthic oyster farming. Pak Nai is also one of the last habitats for horseshoe crabs in Hong Kong.



**Shui Hau** hosts a mosaic of interconnected ecosystems that together supports over 600 species, including 84 of conservation importance. Its sandflat is a unique landscape in Hong Kong and is a vital spawning and nursery ground for the endangered Chinese horseshoe crab.



**Tolo Harbour and Channel** is home to a quarter of Hong Kong's marine species, including the vulnerable spotted seahorse and the endangered Hong Kong grouper. It is also an important nursing ground for fishes.



**Sharp Island and Inner Port Shelter** is one of the most popular dive sites for scuba divers and snorkellers. Sharp Island North has the third highest coral coverage amongst the 36 Hong Kong Reef Check survey sites in 2025. Inner Port Shelter, where the Sharp Island is located, has a diverse marine life - Over 300 marine fish species can be found here!



**The Ninepin Group** has one of the largest communities of soft corals and Gorgonian species thriving at the depth reaching 30m, while in the shallow waters, there is a high coverage of Staghorn corals, providing habitat for over 260 species of fish.

# Sharp Island and Inner Port Shelter



## Our Work Highlights

**Scuba Divers' Awareness-raising**  
In 2021 and 2024, more than 60 citizen scientist divers were trained to conduct **over 100 survey dives** to collect data that help track long-term pressure on major coral areas. Additionally, a set of scuba diving training cue cards and dive map were co-developed with the scuba diving industry to facilitate the incorporation of conservation messages into dive trainings. The "Mind your Fins" communication campaign was also launched to strengthen divers' awareness of minimising physical contact with marine life and seabed habitats.

**Coastal Management and Public Education**  
In summer 2026, WWF partnered with the Agriculture, Fisheries and Conservation Department (AFCD) to launch a series of exemplary coastal management and public education initiatives. WWF and AFCD jointly developed "**coral-friendly routes**" by adopting a zoning concept that clearly identifies ecologically sensitive waters at Sharp Island. Trained snorkelling and kayaking guides, and Ocean Ambassadors were deployed, devoting at least **3,000 service hours**, to promote marine conservation principles, and recommend appropriate entry and exit points to snorkellers and kayakers to reduce direct disturbance to coral communities, as well as to encourage responsible ocean-use practices. Simple visitor surveys were conducted to understand visitor-use patterns to support future coastal management and planning work.

**Water Sports Best Practice**  
At the industry level, apart from snorkelling map and instructor cue card, WWF actively engages with snorkelling and kayaking operators to share ecological information and best-practice guidelines, while encouraging voluntary compliance and positive peer influence within the sector, envisioning that more frontline practitioners will become key partners in conveying conservation messages to visitors.

## Our Work Highlights

**Ecological Findings & Evidence-based Management**  
Since 2018, multi-year surveys—supported by 450 citizen scientists—have tracked clam and horseshoe crab populations at Shui Hau sandflat. IoT devices, including water-level sensors, visitor counters, and badge trackers, have been deployed since 2024 to capture real-time environmental and visitor data. Findings show **declining clam densities**, **sensitive zones where recreation overlaps with horseshoe crab hotspots**, and provide insights informing **ecological carrying capacity**.

**Public Education & Visitor Engagement**  
**Over 80 public education activities**—including guided eco tours and awareness days—were organised from 2019 to 2025, reaching **more than 6,000 visitors**. These programmes deepened public understanding of **responsible coastal behaviours** and the **ecological importance of Shui Hau**, particularly during peak visitor seasons.

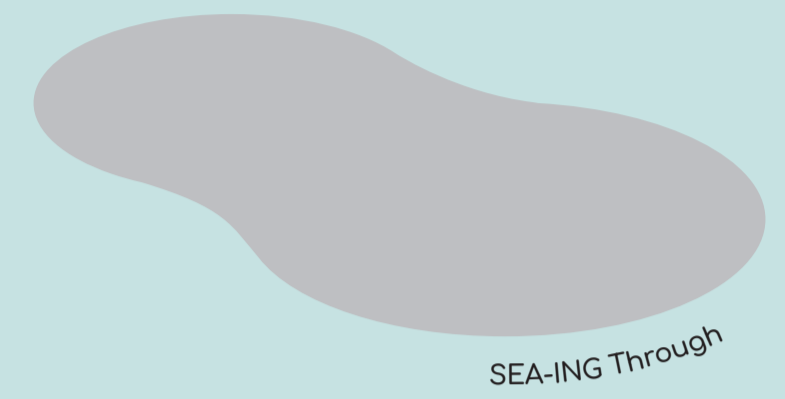
**Ongoing Dialogue with Villagers and Stakeholders**  
**Clam gauges** and **visitor codes of conduct** were co-developed with academics and villagers to ensure community-aligned solutions. Local aspirations were reflected through **co-created community artworks** showcasing biodiversity, culture, and respectful visitor behaviours.



# Shui Hau

## WWF's vision on Marine Habitat Conservation

To achieve sound ocean governance — driven by ecosystem-based marine spatial planning that sustainably manages all of Hong Kong's waters, and strengthened through expanded Marine Protected Areas and Other Effective Area-based Conservation Measures, to secure long-term protection of marine biodiversity, so that people and nature can thrive together in a healthier, safer and more resilient Hong Kong.



Working to sustain the natural world for people and wildlife  
為人類及野生生物延續大自然  
together possible. [wwf.org.hk](http://wwf.org.hk)

Learn More

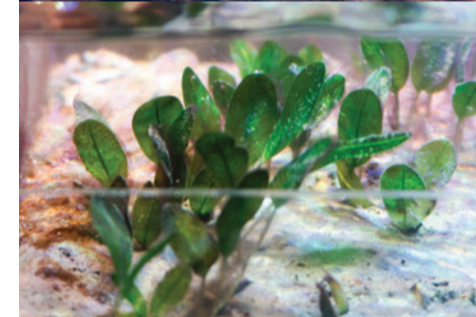
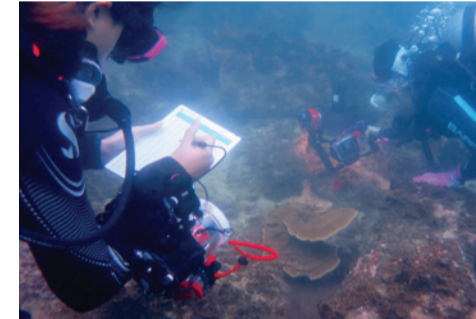
Support Us

© 1989 Panda symbol WWF. © "WWF" is a WWF Registered Trademark.  
© 1989 熊猫标志 WWF. © "WWF" 是世界自然基金会注册商標。  
1 Tramway Path, Central, Hong Kong  
香港中環德輔道中一號  
Tel 電話: (852) 2526 1011 Fax 傳真: (852) 2845 2764 Email 電郵: [wwf@wwf.org.hk](mailto:wwf@wwf.org.hk)  
Registered Name 註冊名稱: World Wide Fund For Nature Hong Kong 世界自然基金會(香港)基金會  
(Incorporated in Hong Kong with limited liability by guarantee 於香港註冊成立的擔保有限公司)

## Our Asks

- 1 To develop an effective management plan for the soon-to-be-established Sharp Island Marine Park, providing statutory protection for coral-rich areas, and managing visitor and vessel activities to reduce disturbances to coral habitats.
- 2 To conserve the broader Inner Port Shelter area through OECM, enhancing overall management coherence and conservation connectivity. Introduce an industry-wide "Ocean-Friendly Code of Conduct" to encourage relevant operators to follow best practices.
- 3 Install mooring buoys to prevent anchor damage to corals, and use floating devices to guide snorkelling or kayaking routes in reducing physical impacts on corals by visitors.

- 4 Leverage smart technology for visitor management, such as monitoring real-time visitor flow and adjusting entry numbers timely to avoid exceeding ecological carrying capacity.



## Our Asks

- 1 Strengthen protection of areas with high horseshoe crab density to reduce spatial overlap with human activities.
- 2 Consider regulating the use of destructive clam-digging tools to minimise changes to the benthic community structure of the sandflat.
- 3 Regulate the quantity and size of harvested clams to avoid impacts on species density and availability.
- 4 Conduct ecological carrying capacity assessment and implement visitor flow management with a view to ensuring the long-term provision of ecosystem services.



# Tolo Harbour and Channel



## Our Work Highlights

**Reviving Our Corals**  
Through collective efforts with the Coral Academy at CUHK since 2023, the 3-year target of restoring **1,000 coral fragments** in Tolo Harbour and Channel has been achieved, with a promising **85% survival rate** and 88 fish species recorded at the restoration sites.

**Seagrass Restoration**  
WWF is also pioneering local seagrass recovery. In 2024, two native species were transplanted to a mudflat in Tolo Harbour with the University of Hong Kong, resulting in a **fivefold increase** in coverage during the trial period. Work will continue to refine techniques and expand restoration to other suitable sites.

**Mapping Fishery Landscape and Fish Health**  
Once an important fishing ground, the area is part of a WWF initiative since 2025 assessing **fish population health** and genetic risks, combining with **local ecological knowledge** to understand changes in fishing grounds. These insights will guide future conservation priorities and support sustainable, area-based marine management.

**Technology in Conservation**  
An indoor nursery has been established at the Hoi Ha Marine Life Centre to support habitat restoration. Real-time water monitoring systems, together with advances in AI, photogrammetry and image segmentation tools, are enhancing coral monitoring, streamlining data analysis and assisting in the detection of illegal fishing activities.



# Pak Nai



## Our Work Highlights

The marine biodiversity hotspot analysis initiated by WWF in 2016—conducted with the collective expertise of more than 30 scientists and partners—identified **31 marine ecological hotspots across Hong Kong**, including Pak Nai and the Ninepin Group. Using criteria aligned with the Convention on Biological Diversity's Ecologically or Biologically Significant Areas (EBSA), both sites were recognised for their outstanding ecological importance.

Since then, WWF has consistently advocated for their formal protection and effective management. This includes providing evidence-based recommendations to government in policy formulation and development planning processes. WWF has called for comprehensive plans and stronger enforcement efforts, and has submitted technical comments on environmental impact assessments and major development proposals to safeguard ecological connectivity.

WWF also works closely with partners, such as the Hong Kong Marine Protection Alliance, to amplify shared conservation priorities through coordinated advocacy and collective engagement with policymakers, strengthening protection outcomes for Pak Nai, the Ninepin Group, and other priority marine areas.

# Ninepin Group



## Our Asks

- 1 Ensure the proposed Coastal Protection Park at Pak Nai meets MPA standards, delivering effective management, ecological connectivity, and long-term habitat protection.
- 2 Designate the Ninepin Group as MPA or adopt OECMs with clear, science-based zoning that safeguards the most sensitive habitats and regulate fishing efforts.
- 3 Conduct carrying-capacity assessments for both sites to understand ecological thresholds, recreational use limits, and sustainable ecotourism potential.
- 4 Address site-specific threats, including marine refuse, unsustainable fishing, trampling, and disturbances to mudflats, seagrass beds, soft corals and other key habitats.
- 5 Promote inclusive, community-based stewardship. Involve local community in conservation decisions and share the benefits of sustainable opportunities.

# Glossary

**Marine Protected Areas (MPAs)**  
MPAs are designated zones in the ocean where human activities are regulated to conserve biodiversity, protect habitats, and sustain ecosystem services.

**Other Effective area-based Conservation Measures (OECMs)**  
OECMs are areas managed for conservation outside formal MPA frameworks, and is a complementary approach that offers inclusive opportunities to strengthen conservation efforts, which will be suitable for complex and shared marine spaces like Hong Kong.

- In Hong Kong, following examples could be applied:
- |  |   |
|--|---|
| <p><b>MPAs</b></p> <ul style="list-style-type: none"> <li>• Marine Reserves</li> <li>• Marine Parks</li> <li>• Restricted Areas for wildlife protection</li> </ul> | <p><b>Potential OECMs</b></p> <ul style="list-style-type: none"> <li>• Frontier Closed Areas that deliver conservation benefits</li> <li>• Community-managed zones, or areas protected for cultural values</li> </ul> |
|--|---|

## Our Asks

- 1 Designate the area as Fisheries Protection Area to support fishery resources recovery. Encourage alternative livelihoods for fishers during transition periods.
- 2 Promote sustainable aquaculture to increase community income.
- 3 Facilitate upscaling of habitat restoration as NbS to enhance ecosystem resilience and rebuild fishery resources.
- 4 Adopt a community-led, co-management model involving academics, fishers, local communities and NGOs.

