



## Fisheries resources surveys at Marine Parks and the Marine Reserve

### The Importance of Fisheries Resources

Fisheries resources are crucial for maintaining ecosystem health, biodiversity, food resources, and fishery economy in the marine environment. The continuous monitoring of fisheries resources would help refine management strategies of marine parks and the marine reserve. The Agriculture, Fisheries and Conservation Department (AFCD) has commissioned a consultancy study to monitor the fisheries resources in marine parks and the marine reserve using a variety of fishing methods from 2021 to 2023.

### Methodology



A series of quarterly surveys were conducted in every marine park, marine reserve and then-proposed marine parks\* by different fishing gears including gill-netting, hand-lining and long-lining. Survey sites included Hoi Ha Wan Marine Park (HHWMP), Tung Ping Chau Marine Park (TPCMP), Yan Chau Tong Marine Park (YCTMP), Cape D'Aguilar Marine Reserve (CDMR) in the eastern waters, as well as the Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP), The Brothers Marine Park (BMP), Southwest Lantau Marine

Park (SWLMP), South Lantau Marine Park (SLMP), and North Lantau Marine Park (NLMP) in the western waters. An equal number of respective reference sites of each marine park and marine reserve were selected and surveyed for further analyses. Based on the survey results, several biological parameters, such as fish species richness, abundance and biomass, were summarised and analysed.

Besides the traditional sampling methods mentioned above, analysis of environmental DNA (eDNA) was adopted in this study. Study results showed that eDNA method could provide additional data on top of the traditional sampling method as a compatible survey method for supplementary information.

\* The SLMP and NLMP were designated in 2022 and 2024 respectively.

## Key Findings

1

In general,

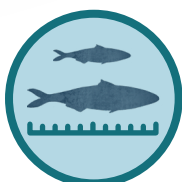
higher biomass



higher abundance



larger mean size



larger number of fish species

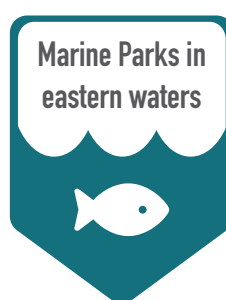


were recorded within marine parks and the marine reserve as compared to the respective reference sites.

2

In **eastern waters**, the biomass and abundance in marine parks were higher than the respective reference sites by 38.87% - 113.88% and 14.94% - 43.8% respectively.

Marine Parks in eastern waters



higher biomass  
(38.87% - 113.88%)



higher abundance  
(14.94% - 43.8%)



3

The difference in biomass and abundance of fish species between **CDMR** and its respective reference sites was particularly prominent, about 68.42% and 43.64% higher respectively.

Cape D'Aguilar Marine Reserve



higher biomass  
(>68.42%)

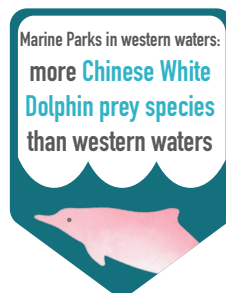


higher abundance  
(>43.64%)



4

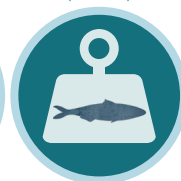
Marine Parks in western waters:  
**more Chinese White Dolphin prey species**  
than western waters



greater species number in SLMP  
(>11.11%)



higher biomass in SWLMP  
(>35.44%)



In general, marine parks in western waters have a **greater number of prey species** for the Chinese White Dolphin than in eastern waters. In the western waters, the diversity of prey fish species within the SLMP was 11.11% higher than its reference sites. The biomass of prey fish species for the Chinese White Dolphin was also 35.44% higher within SWLMP than at its reference sites.



## Examples of the most abundant species

Several species were found to be abundant in the surveyed marine parks and the marine reserve, examples include red pargo (*Pagrus major*), Japanese golden thread (*Nemipterus japonicus*) and threadfin porgy (*Evynnis cardinalis*). Prey species of the Chinese White Dolphin, which were found to have higher biomass within SWLMP than the respective reference sites, included tiger-toothed croaker (*Otolithes ruber*), greyfin croaker (*Pennahia aneus*), and yellow croaker (*Larimichthys crocea*), etc.

Red pargo



Japanese golden thread



Threadfin porgy



## Management of Marine Parks and the Marine Reserve

### Marine Parks:



Conservation



Scientific studies



Public education



Recreation



### Marine Reserve:



Conservation



Scientific studies



Public education



Recreation

Until 2024, a total of eight marine parks and one marine reserve have been designated in Hong Kong. Marine parks are established for conservation, public education, scientific studies and recreation. Activities compatible with the objectives of marine parks are generally allowed. On the other hand, in the marine reserve, any kind of recreational activities are prohibited, and the area is protected for conservation, education and scientific studies.

To further enhance the overall marine resources in Hong Kong, commercial fishing activity has been fully banned in HHWMP, TPCMP, YCTMP and SCLKCMP since 1 April 2022 under the new fisheries management strategy in marine parks. In addition, fisheries resources enhancement measures such as deployment of artificial reefs and restocking are being conducted in these marine parks.

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