Fishponds as biodiversity hotspots: Implications for management and restoration of wetlands in Hong Kong

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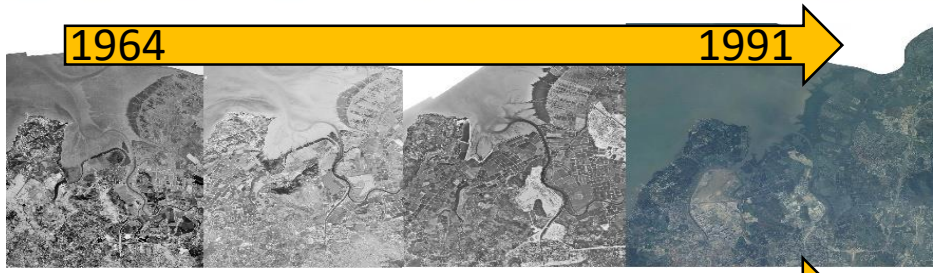
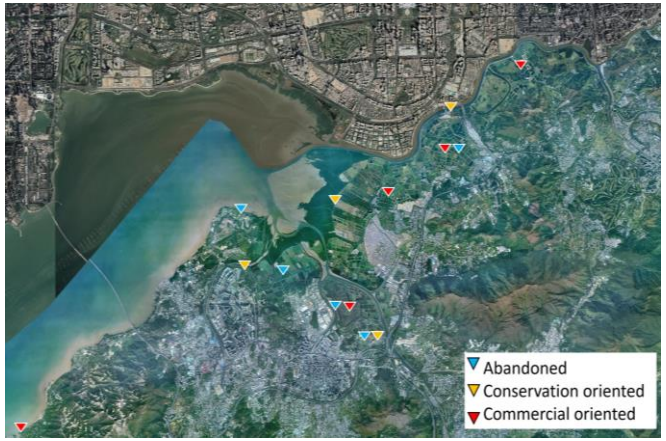
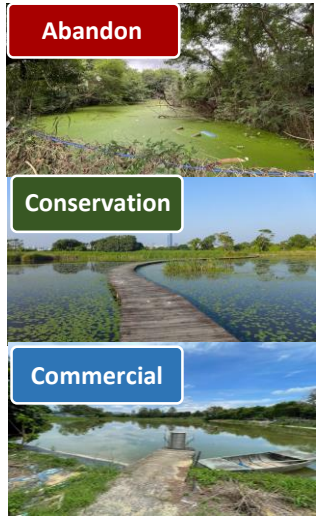


Hong Kong has a long history of utilising wetlands; starting in the 1940s, the coastal regions were converted into fishponds and "Gei Wei".

Surrounding environmental changes such as drainage, reclamation, over utilization…etc., solely or cumulatively threaten the fishponds, resulting in the fragmentation and loss of the wetland. Nowadays, the overall area of this habitat is about 11.13 km^2, which decreased from 24.47km^2 in the 1980s.

They are now mainly managed in 3 ways with different management efforts: Abandoned, Commercialized, and Conservation oriented.



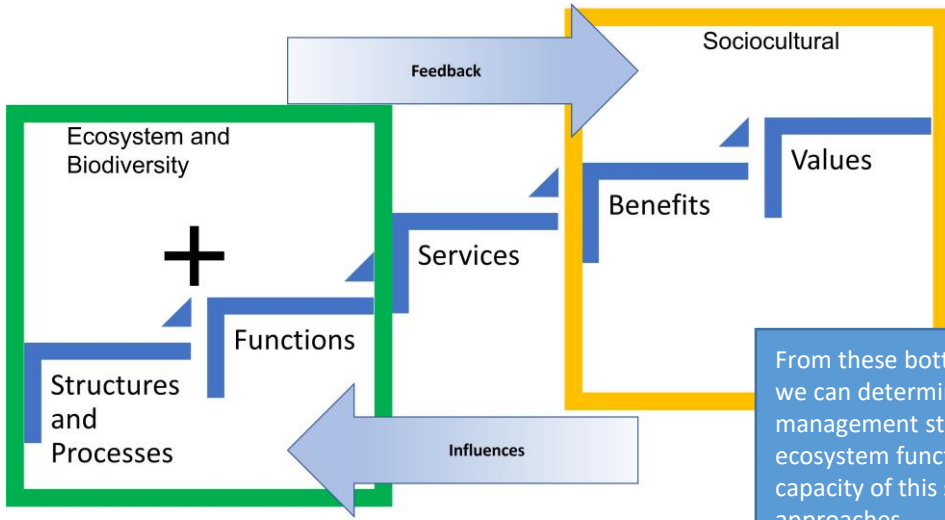


- Species richness
  - IUCN Red List species richness
  - Commercial species richness
  - Invasive species richness
  - Other detected species
  - Phylogenetic diversity

Fishponds in Hong Kong are critical for biodiversity. We would consider how is the biodiversity influenced within the fishponds under different levels of human-influenced fishpond management.

By using the environmental DNA technique, DNA fragments can be collected within these fishponds.

The species richness differences can be reflected from the result. We can identify how diverse the species appear in the habitat.



From these bottom-up points of view in the system, we can determine the more beneficial management strategies in terms of biodiversity and ecosystem functioning and determine the resilience capacity of this system according to management approaches.