

Overview of the Current Status, Challenges and Opportunities of Sea Turtle Research and Conservation in China – Finding the Key to Navigate Conservation Actions across Disciplines and Boundaries



Authors: Dr. Connie Ka-yan NG^{1*} and Prof. Min LIU²

¹ Hong Kong Maritime Museum, Hong Kong Special Administrative Region, People's Republic of China

(Email: connieng@hkmaritimemuseum.org or kayan.ng.connie@gmail.com)

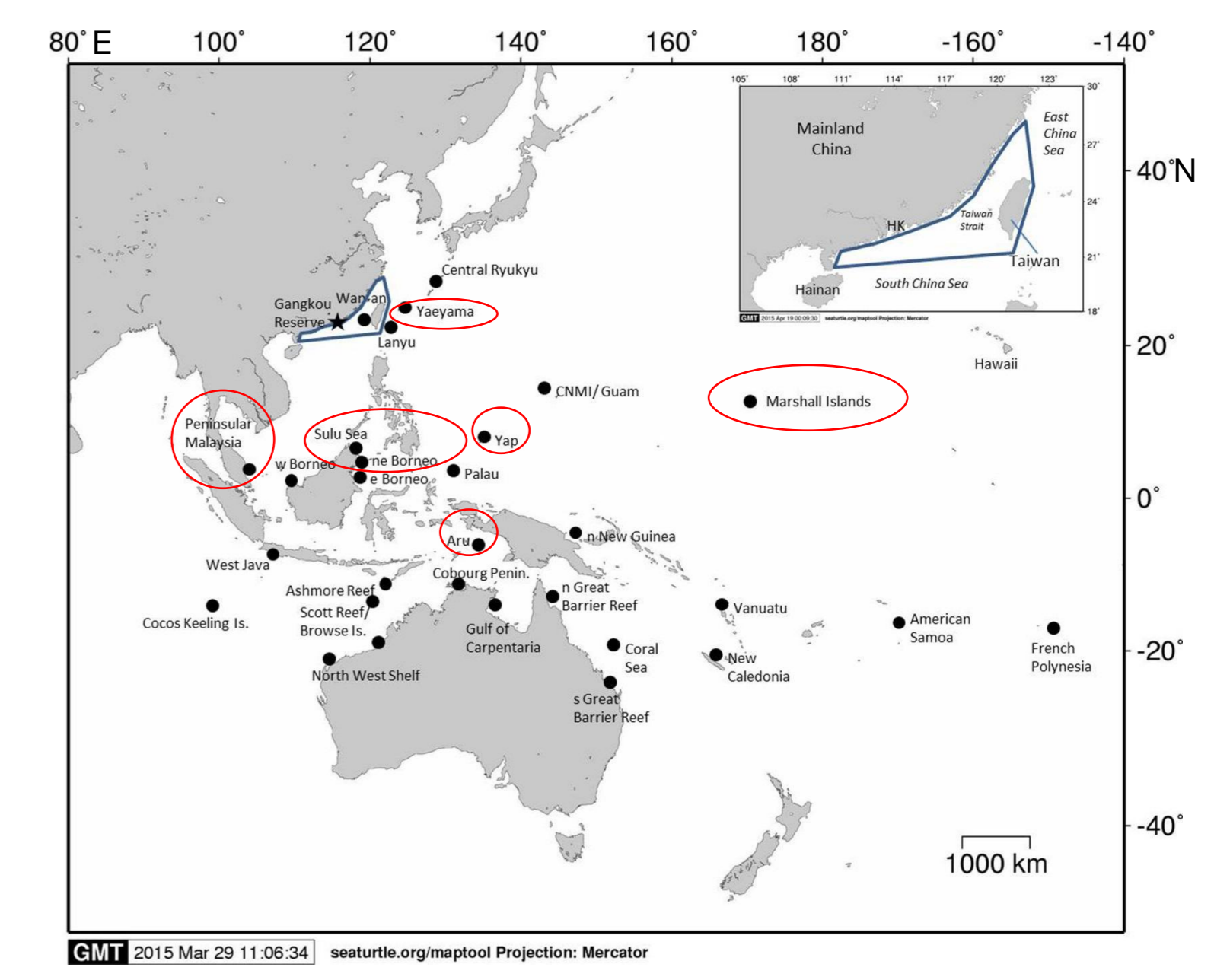
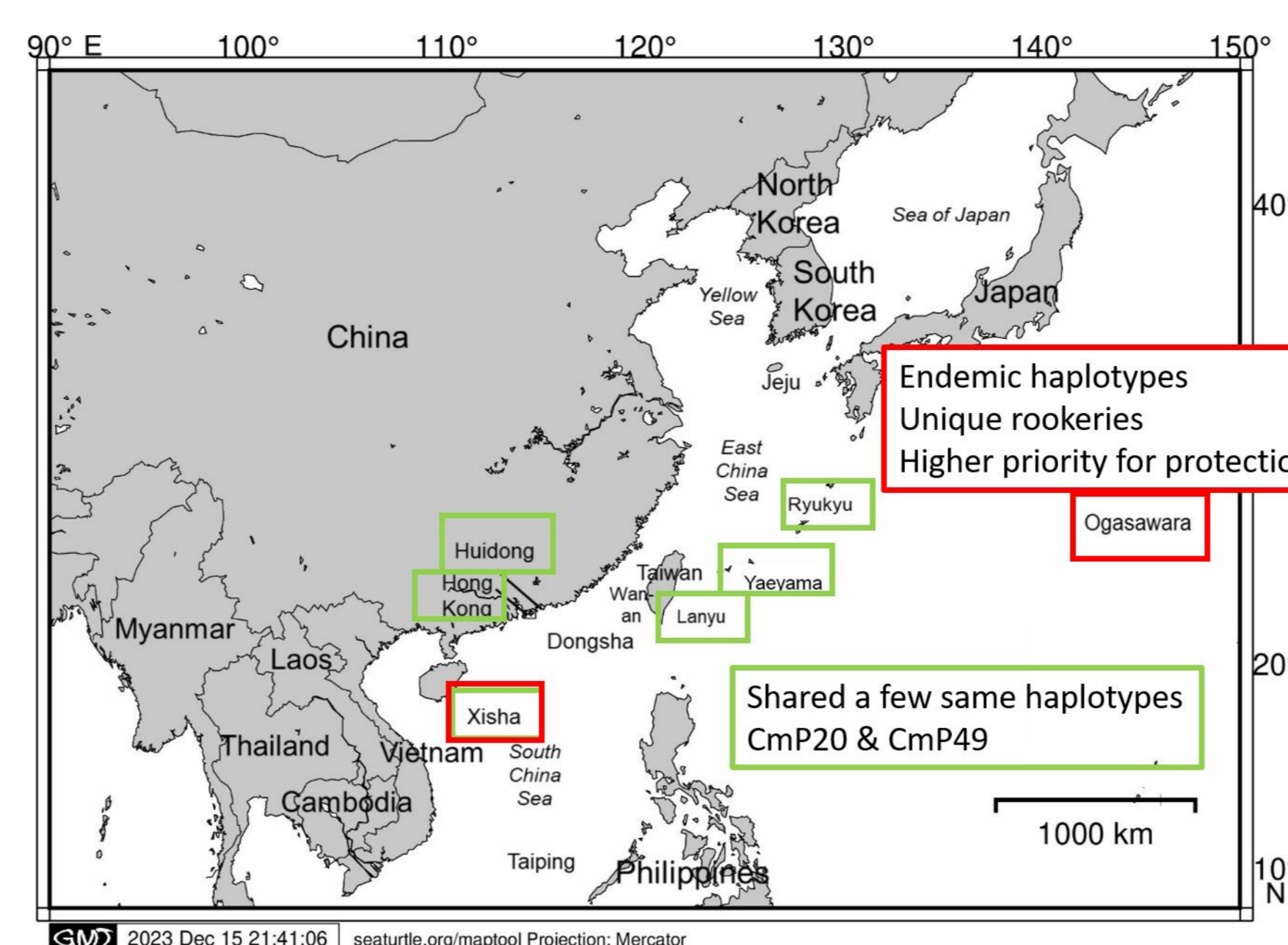
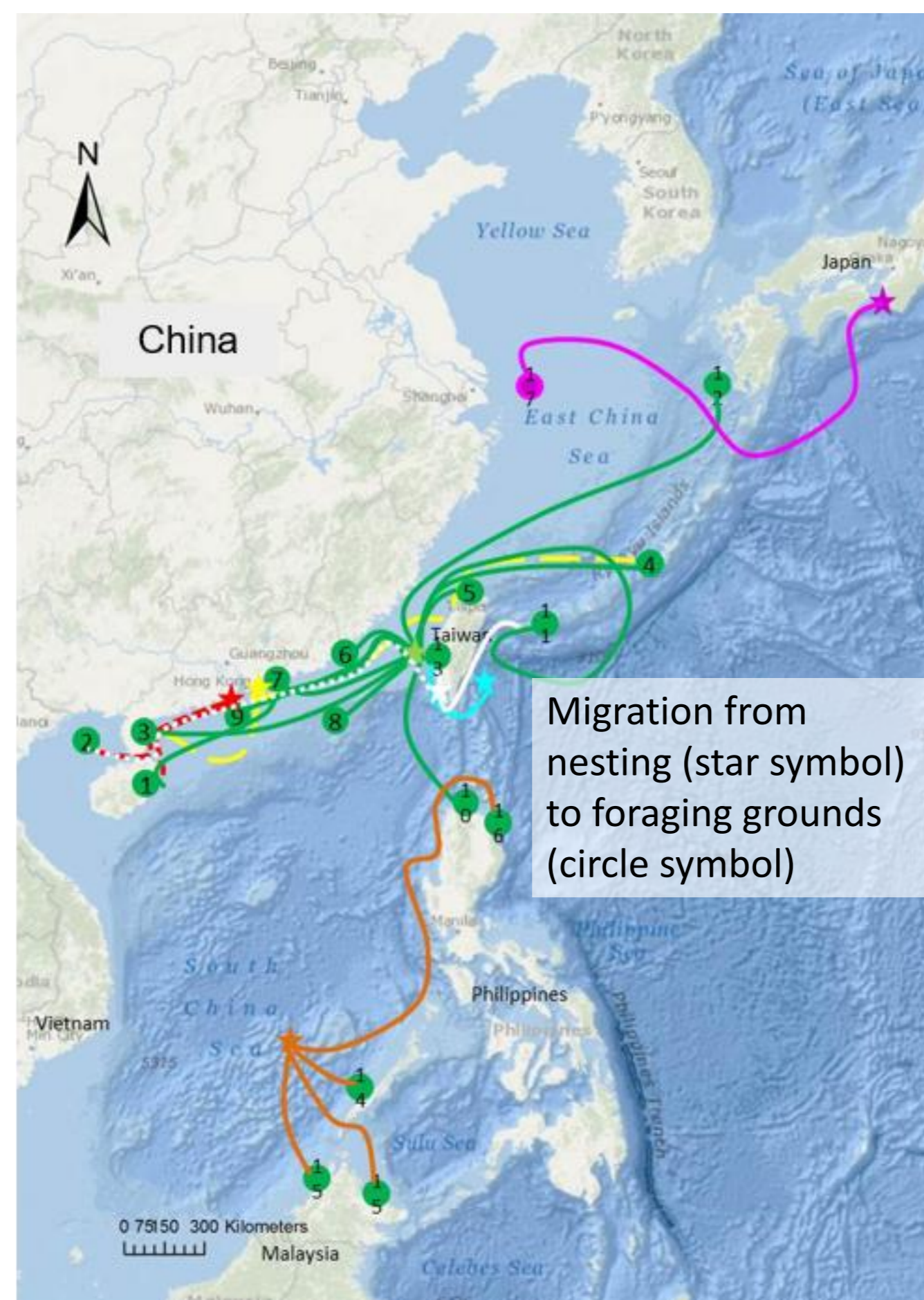
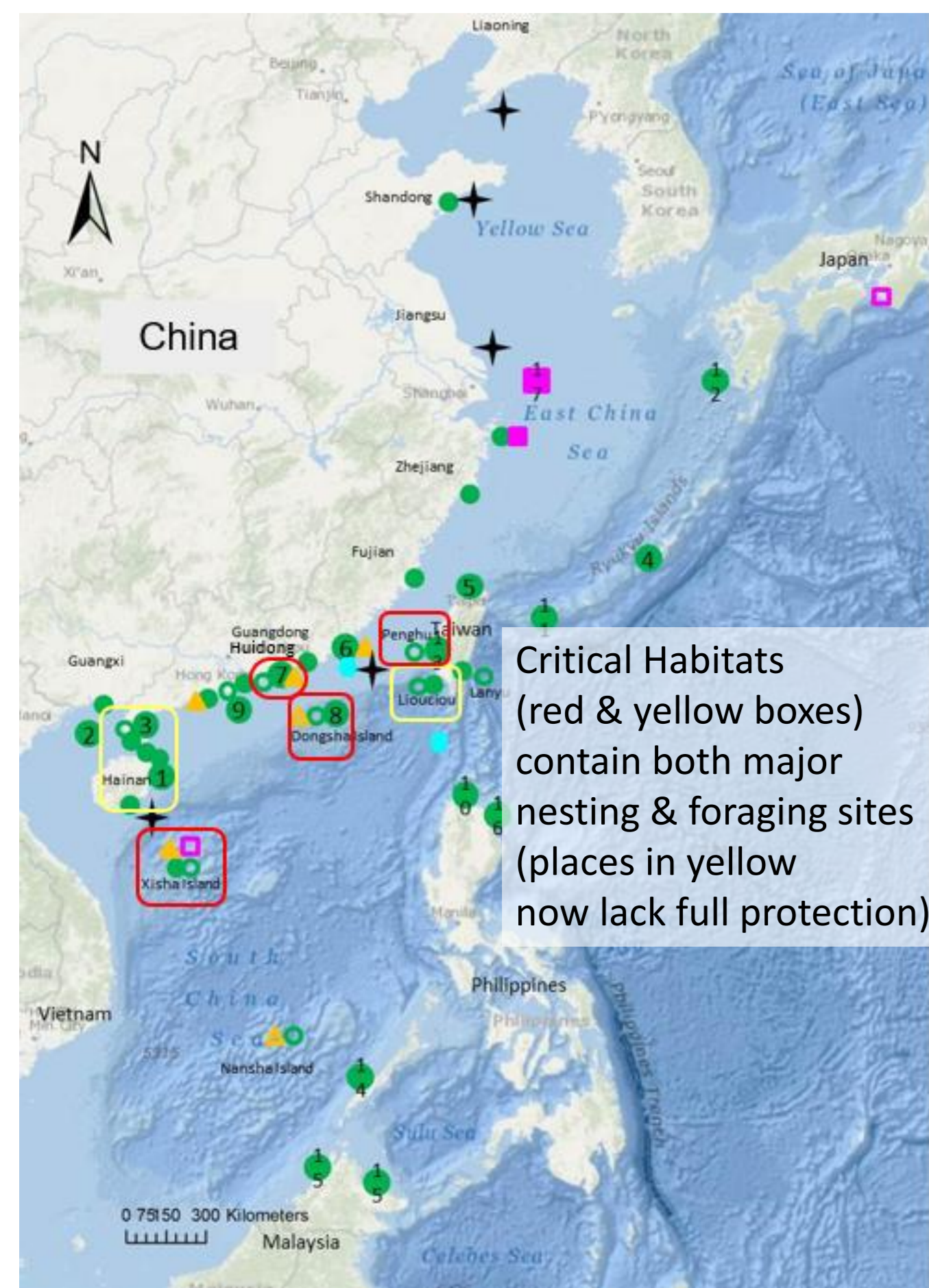
² College of Ocean and Earth Sciences, Xiamen University (Email: minliuxm@xmu.edu.cn)



Connie NG's LinkedIn

All sea turtle species are listed as the Category I of the national protected animals in China. Together with the Government, the China Sea Turtle Conservation Alliance, established in 2018, has formulated a 15-year Sea Turtle Conservation Action Plan (2019-2033). By building on our scientific knowledge from existing studies on the population demography, habitat use and connectivity, and ecology of sea turtles, coupled with the perspectives of current conservation effort and public education, this presentation aims to identify essential information gaps, propose potential research opportunities, and explore collaboration. We wish to draw attention to the two below key directions, to facilitate and engage stakeholders, including you, in a cross-sectoral discussion for developing sustainable conservation measures, rooted with the local community and traditional knowledge.

1. The need of studies on ecology and threat assessment which are instrumental to sustainable conservation



▲ Genetic connectivity of green turtle rookeries, Xisha & Ogasawara were unique (Ng et al. 2024)

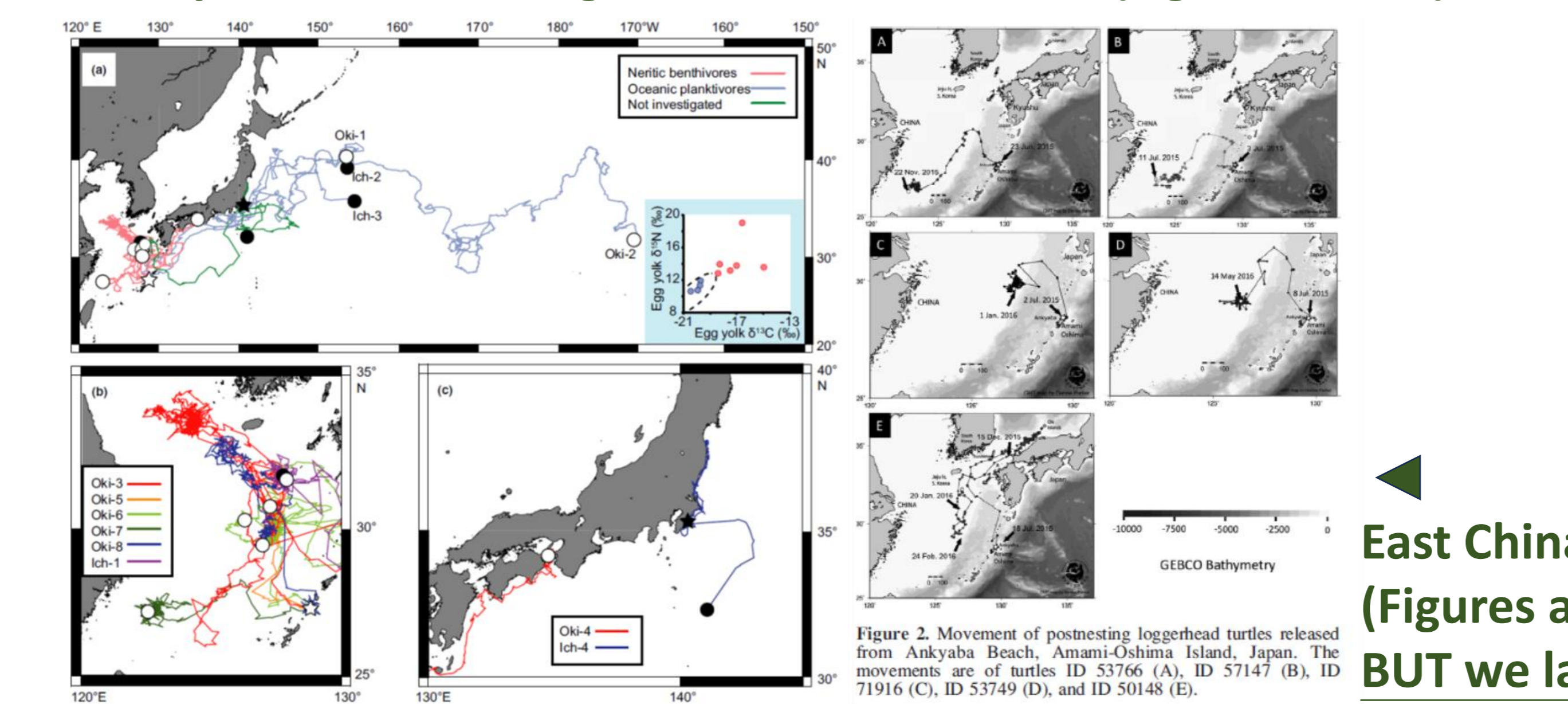
▲ Foraging green turtles (blue) came from potential source rookeries (red) in the Pacific (Ng et al. 2017)

What should be done in response to information gaps & protection?

Besides existing protection of major nesting sites, e.g. Xisha and Huidong, we should -

1. Protect a network of critical habitats and migratory corridors identified in published and future further studies from (2) to (4)
2. Build a National database of standing & salvage network for monitoring population
3. Explore innovative means to identify or monitor sea turtles in potential nesting/ foraging sites, e.g. by environmental DNA (Ng et al. 2024)
4. Focus study on wild-ranging sea turtles, e.g. at Xisha Islands & East China Sea
 - (i) Tracking movement on nesting green turtles in Xisha Islands (Song et al. 2022)
 - (ii) Pursue collaborative research on habitat use by loggerhead and other sea turtles, and their interactions with human activities in East China Sea (Ng et al. 2024)

▲ Critical Habitats & Migratory Corridors used by Sea Turtles identified by Satellite Tracking and Literature Review (Ng et al. 2018)



East China Sea is a major foraging ground of nesting loggerheads from Japan (Figures adopted from Oki et al. 2019 & Okuyama et al. 2022) BUT we lack important information of habitat use by sea turtles from other nesting sites or life stages

2. Who are the stakeholders? How should we co-develop and navigate our conservation actions and public education?



Develop Science-informed Conservation Action Plan Review Each Action Objective & Effectiveness



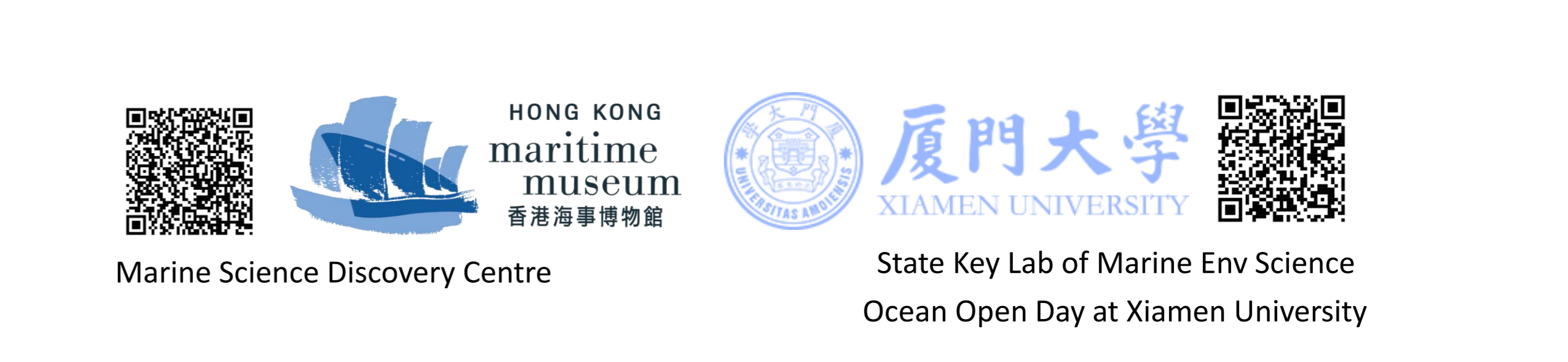
Adopt and Emphasise Blue Economy Leverage on Socio-economic Initiatives



Energise Communication & Collaboration in China and Across Regions



Integrate Local Knowledge & Community Respect Tradition & Cultural Significance



PEOPLE are the KEY Public Education as Facilitator & Influencer to Engage Public & Stakeholders

The above photos were captured by Connie NG in her professional and personal occasions when working with colleagues and friends on marine conservation and education in China and East Asia Region. Those moments earmarked the trust and friendship, along with the collaboration opportunities, in her career with marine science education and sea turtles.