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武汉白鳍豚保护基金会
Wuhan Baiji Conservation Foundation

Population status and conservation of East-Asian finless porpoise in China

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Wuhan, China

September 2025

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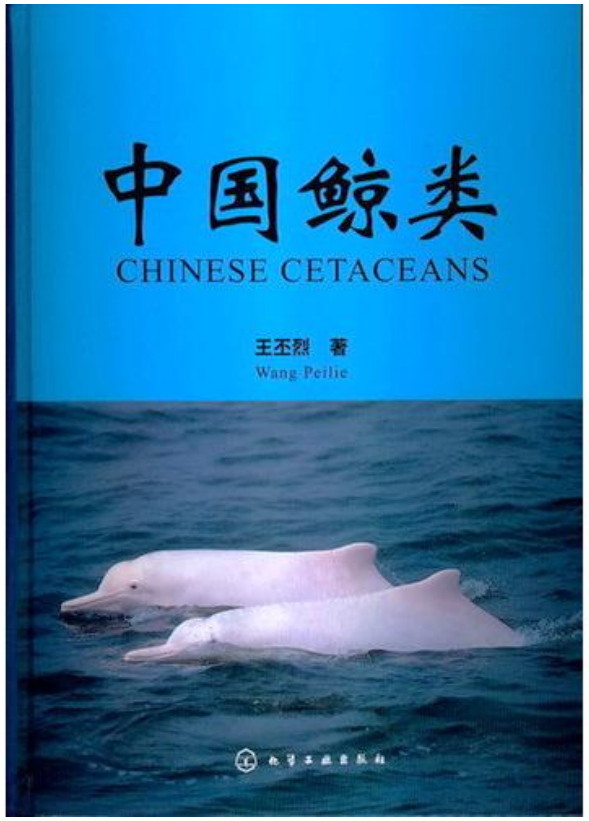
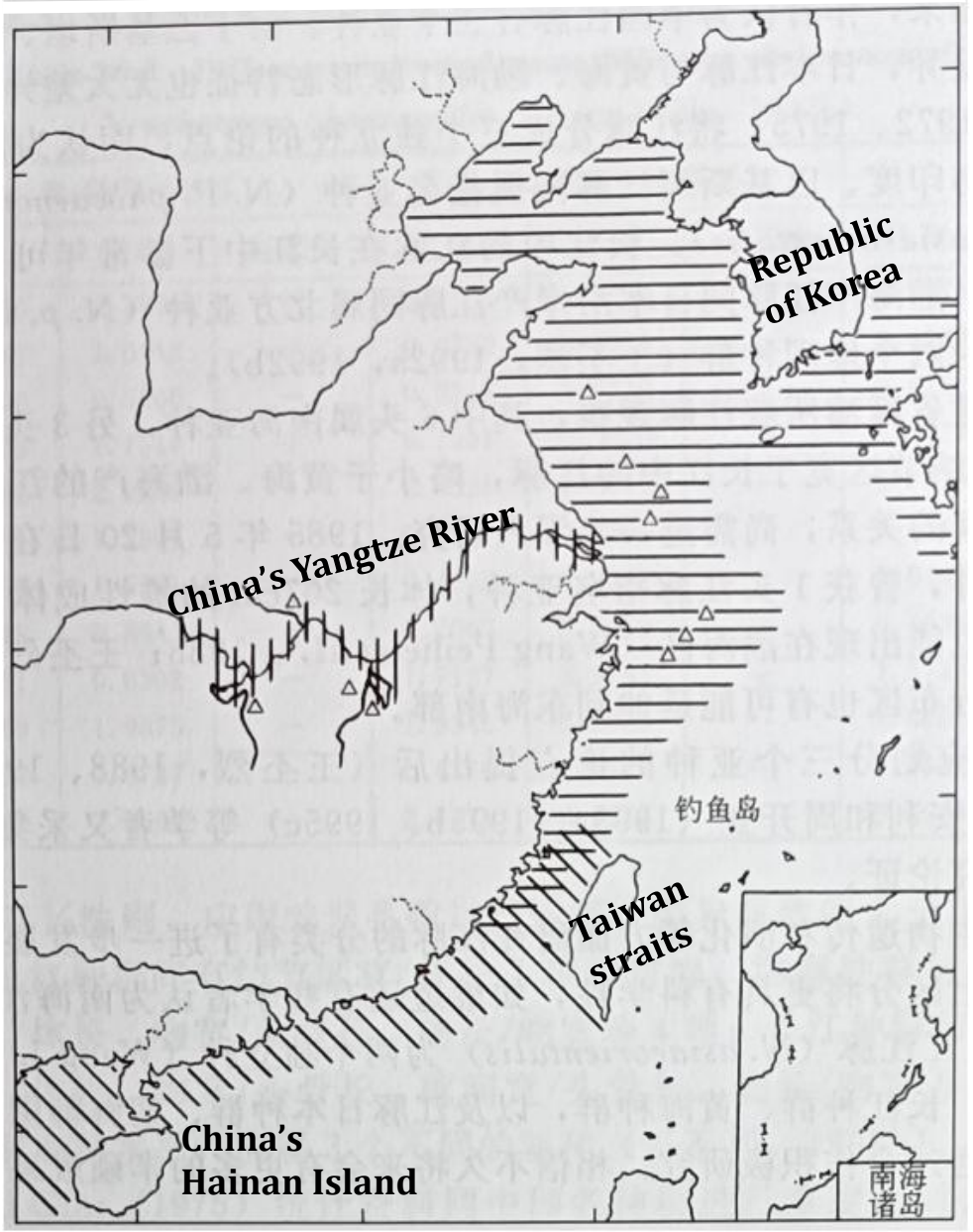
- Main threatens faced by the EAFP and some conservation considerations

Distribution of the finless porpoise

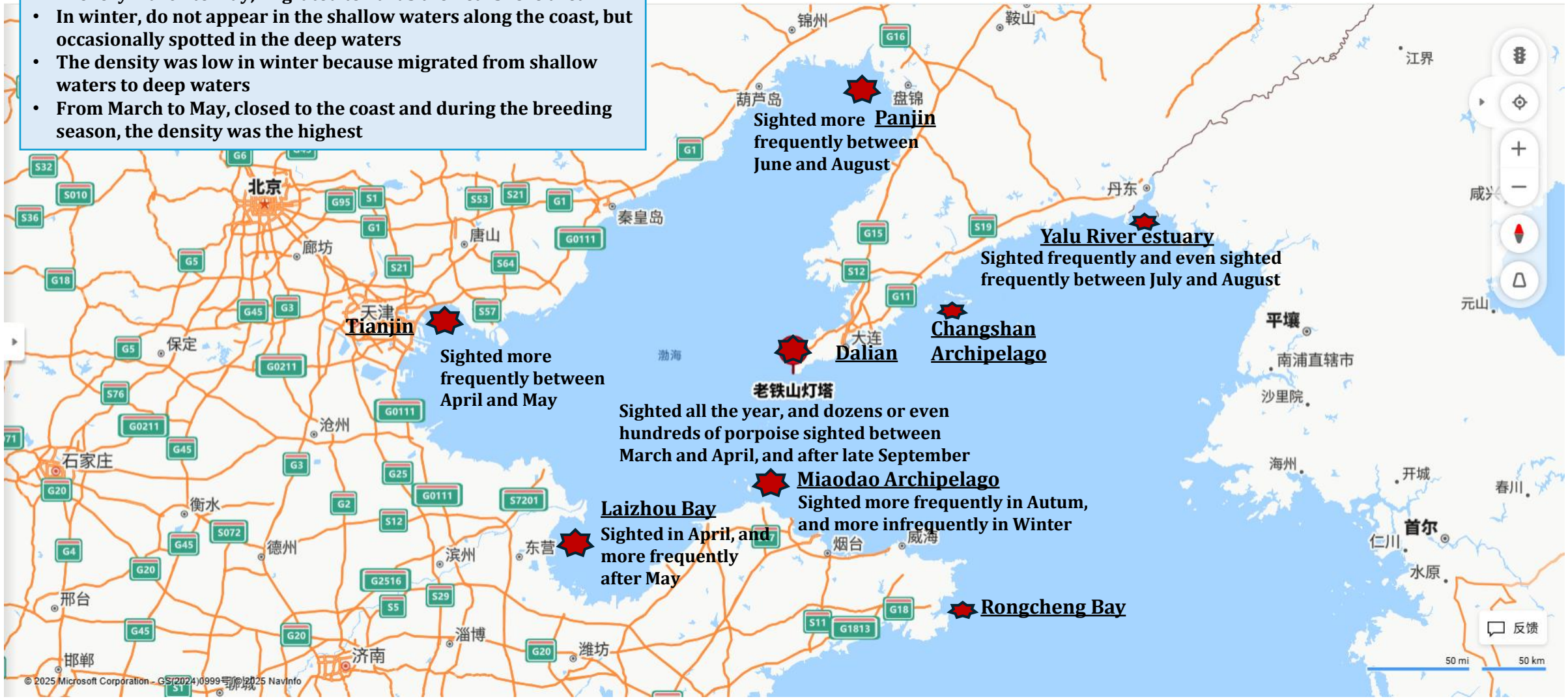


Wang, PL, 2012. **Chinese Cetaceans**, published in Beijing



Population and distribution of the East-Asian finless porpoise in Chinese waters (Dong, JH, 1993; Wang, PL, 2012)

- In every March to May, migrated towards the nearshore area
- In winter, do not appear in the shallow waters along the coast, but occasionally spotted in the deep waters
- The density was low in winter because migrated from shallow waters to deep waters
- From March to May, closed to the coast and during the breeding season, the density was the highest



Distribution and movements of the East-Asian finless porpoise in Chinese waters (Dong, JH, 1993; Wang, PL, 1992)

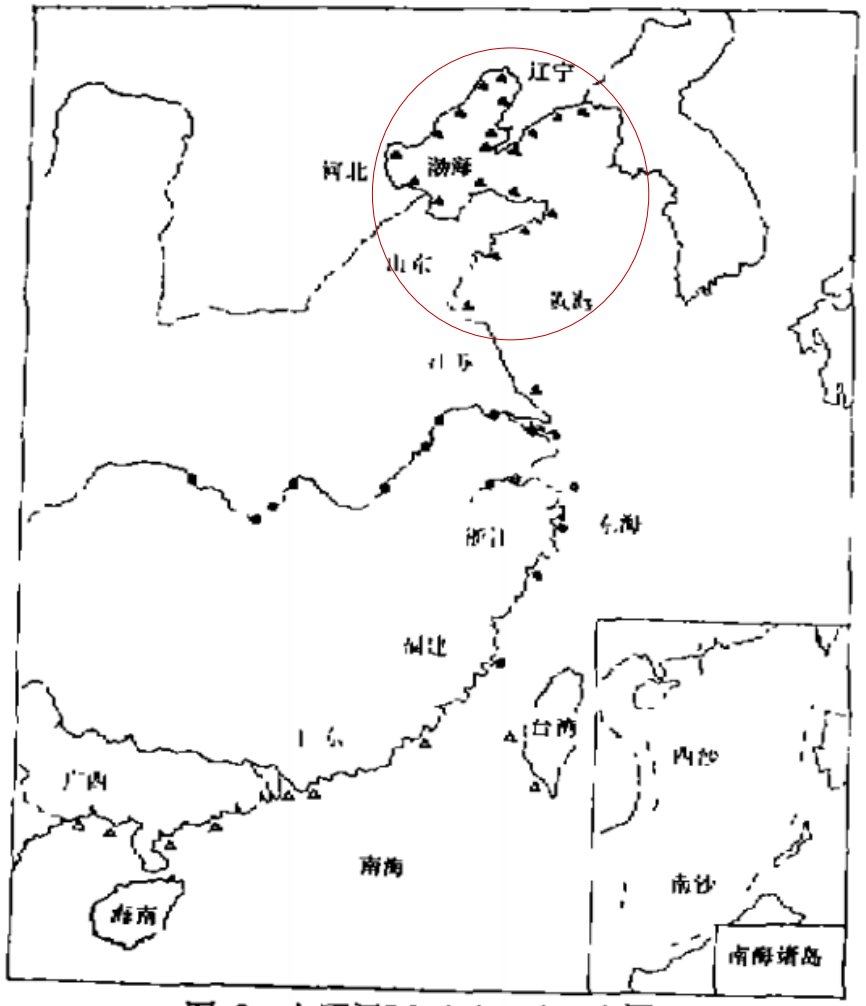


图 2 中国江豚不同亚种分布图

△ 指名亚种*N. p. phocaenoides*

● 扬子亚种*N. p. asiaeorientalis*

▲ 北方亚种*N. p. sunameri*

Fish distribution area

Fish wintering area

Porpoise migration route

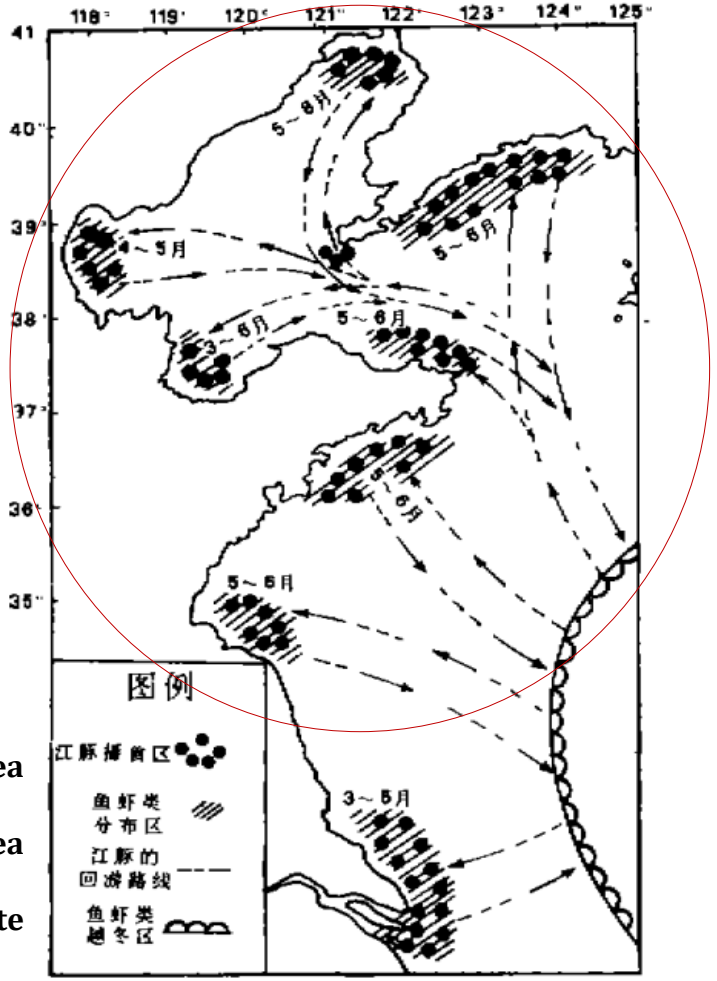


图 1 江豚的洄游与摄食区域

Fig. 1 Area of return and taken food of *Neophocaena phocaenoides*

Distribution and movements of the East-Asian finless porpoise in Chinese waters (Cheng ZL, et al, 2021, 2023)

- Based on the local ecological knowledge of 186 fishermen, April and September were the two months when porpoises were most frequently sighted, while February, November and December were when sightings were rare
- A passive acoustic monitoring station was deployed in an East Asian finless porpoise habitat in Laizhou Bay to investigate potential relationships between East Asian finless porpoises and their prey
- During spring, fish choruses were present throughout the afternoon, and this was the time when porpoise vocalizations were the most frequently detected
- During autumn, when fish choruses were absent, porpoise detection rates decreased, and diurnal patterns were not detected
- The close association between fish choruses and finless porpoise activities implies an “eavesdropping” feeding strategy to maximize energetic gains

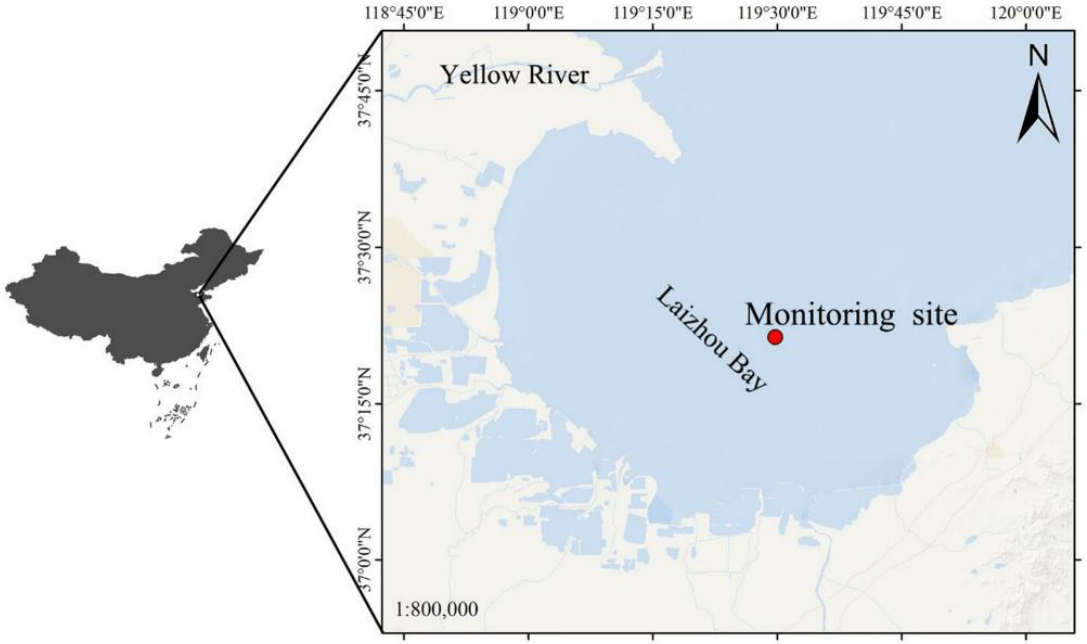


Figure 1 Map of the study area showing the location of the passive acoustic monitoring site in Laizhou Bay, China.

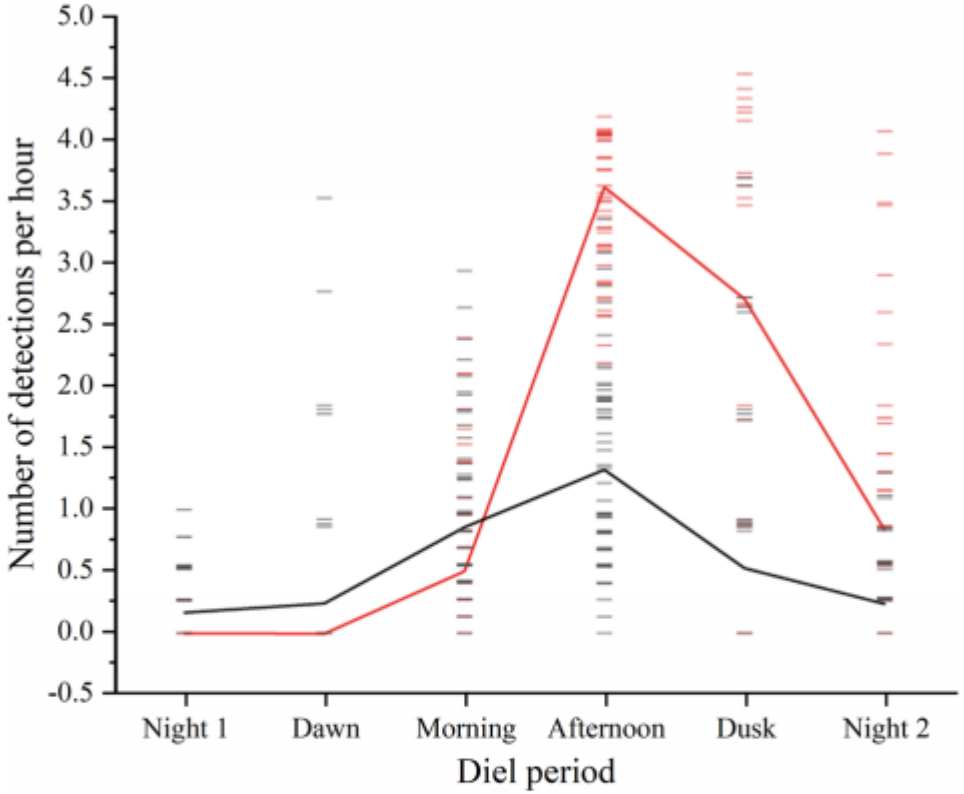


Figure 5 Number of East Asian finless porpoise acoustic detections and fish chorus detections per hour in each diel period in 62 days when fish chorus was identified between May 17, 2019 and July 26, 2019 (each red - and black - represent detection value of fish chorus and porpoise in a given period of a day, respectively, and red line and black line represent the mean detection value of fish chorus and porpoise in each period of the 62 days, respectively).

Distribution and movements of the East-Asian finless porpoise in Chinese waters (Li, YT, et al, 2023)

- A passive acoustic monitoring station was deployed in an East Asian finless porpoise habitat in Laizhou Bay to investigate potential relationships between East Asian finless porpoises and their prey
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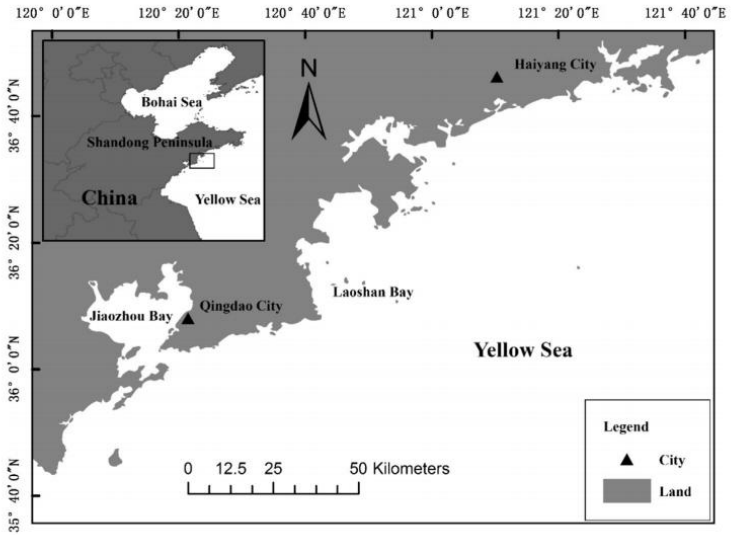
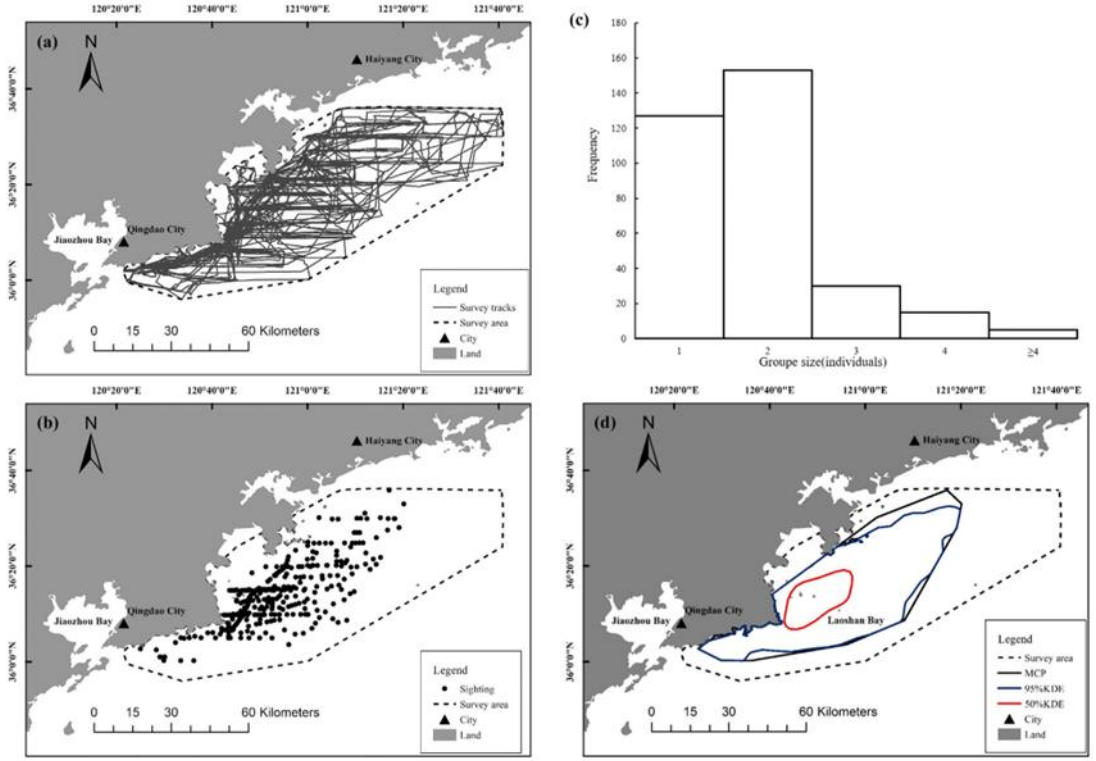
FIGURE 1 The study area located in the northern waters off Qingdao, China.





(a) Study area: 4532 km2 that enclosed all survey routes, totalling 7314 km, conducted from 2018 to 2021; (b) locations of 330 East Asian finless porpoise group sightings in the study area; (c) the frequency distribution of group sizes of all encountered groups; and (d) the areas enclosing the minimum convex polygon (MCP), 95% kernel density estimates (95% KDE) and 50% kernel density estimates (50% KDE) of East Asian finless porpoise

Distribution and movements of the East-Asian finless porpoise in Chinese waters (Li, YT, et al, 2023)

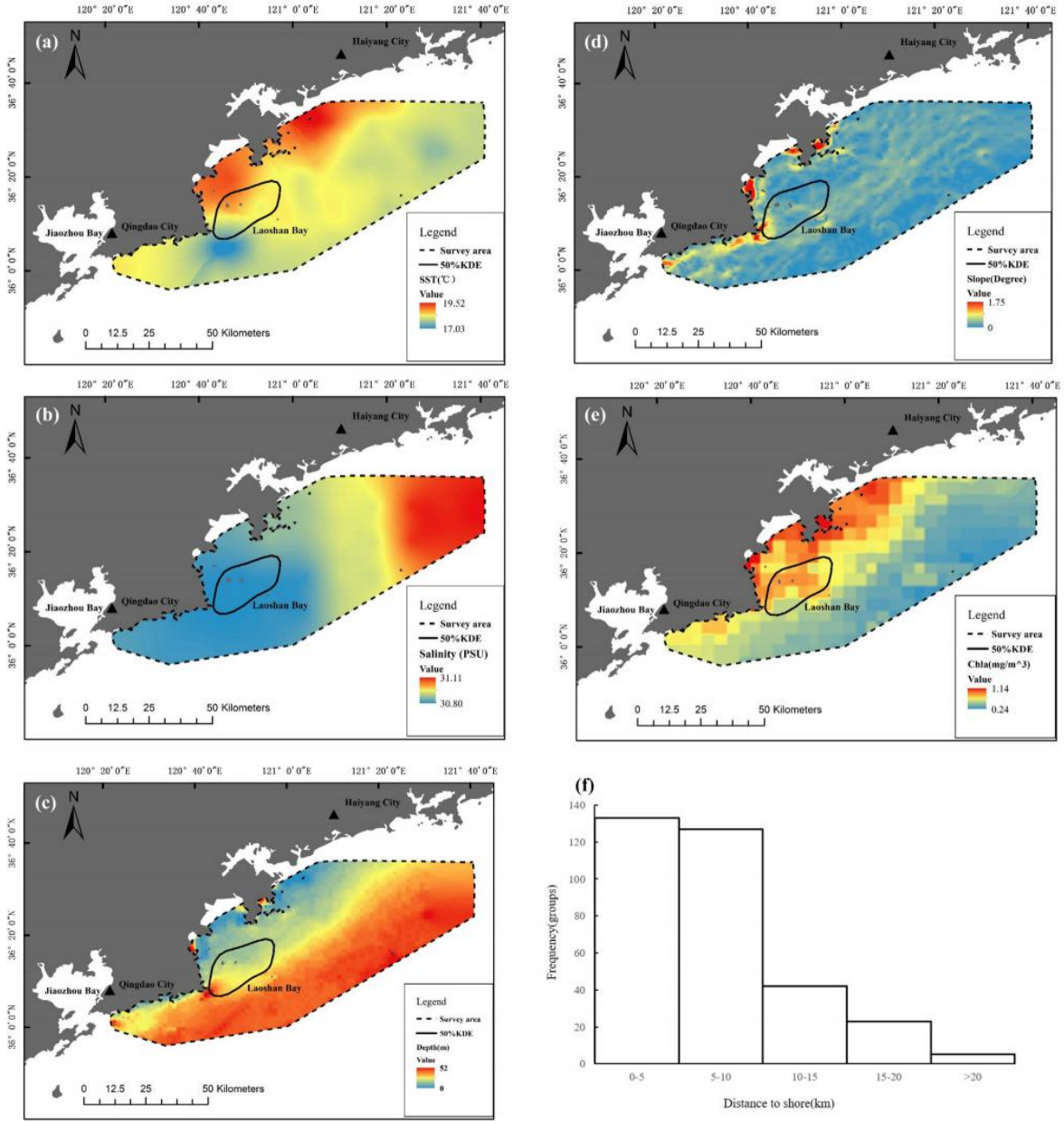
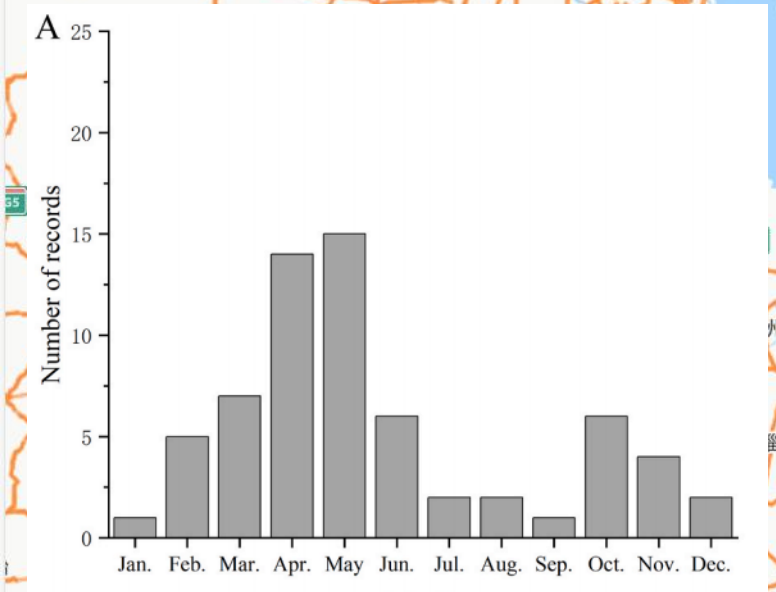


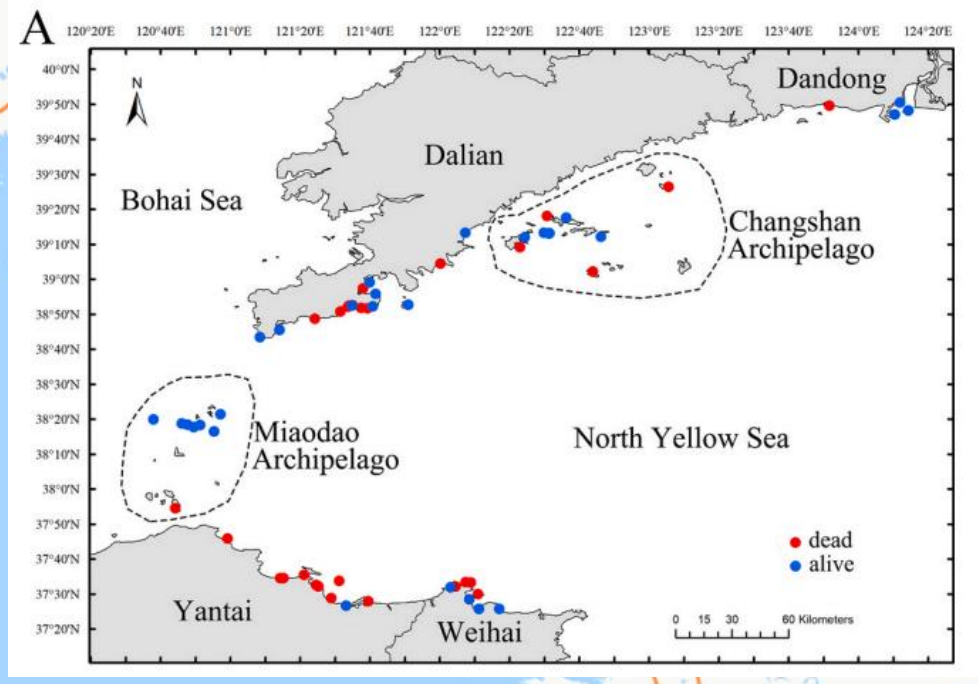
FIGURE 3 Habitat environmental characteristics in the survey area. (a) SST; (b) salinity; (c) water depth; (d) slope; (e) Chla; and (f) distance to shore.

Population and distribution of the East-Asian finless porpoise in Chinese waters (Cheng, ZL, et al, 2021, 2025)

- **It was confirmed that the Laihou Bay (the estuary of the Yellow River) area in the Bohai Sea, the Changdao area, and the Laoshan Bay area in Qingdao are important habitats for the East Asian finless porpoise**
- **The estimated population size of the East Asian finless porpoise in the Bohai Bay is 5,000, and the population size along the coast of the Shandong Peninsula is approximately 15,000**



Monthly patterns of the East Asian finless porpoise records (2010–2024) in the coastal waters of the North Yellow Sea, China



Spatial distribution of occurrence records (2010–2024) for the East Asian finless porpoise

Changdao Island

Laizhou Bay

Laoshan Bay

Main threatens faced by the EAFP (Yang, G et al, 1998; Cheng, ZL, 2021; Chen, BY, 2024)

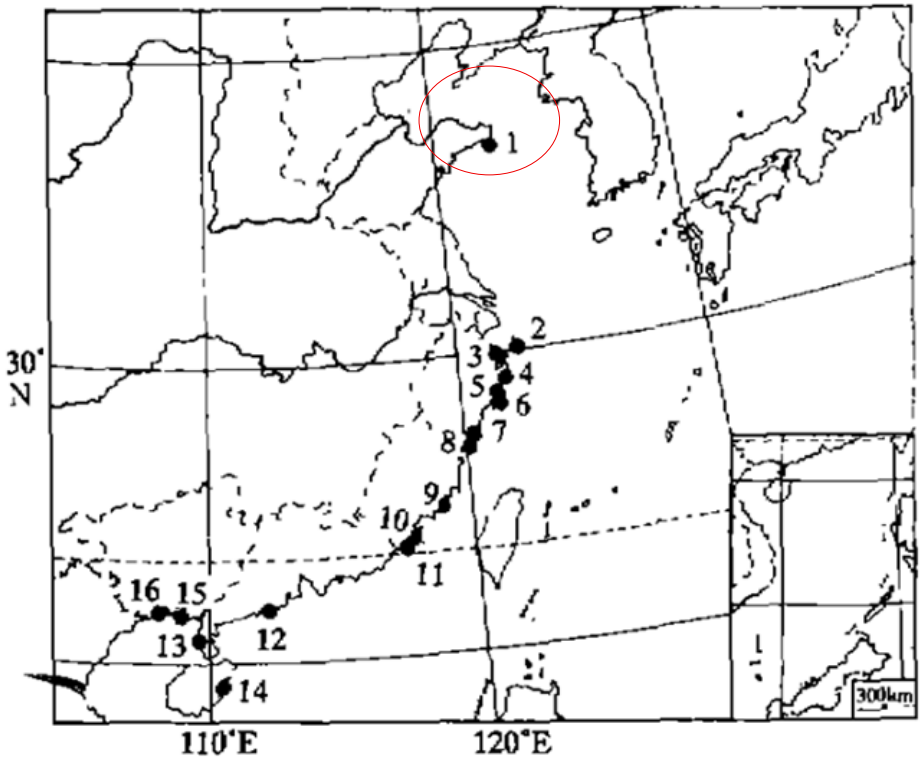


图 1 调查渔港的分布

Fig. 1 Fishing ports surveyed in 1994～1995

1. 石岛港 Shidao Port, 2 沈家门 Shenjianmen Port, 3. 宁波港 Ningbo Port, 4 石浦港 Shipu Port, 5. 椒江港 Jiaojiang Port, 6. 瑞安港 Ruian Port, 7 沙埕港 Shacheng Port, 8. 三沙港 Sansha Port, 9. 崇武港 Chongwu Port, 10. 佛昙港 Futan Port, 11. 东山港 Dongshan Port, 12. 闸坡港 Zhapo Port, 13. 企水港 Qishui Port, 14 潭门港 Tanmen Port, 15. 北海港 Beihai Port, 16. 防城港 Fangcheng Port.

表 2 误捕小型鲸类的渔具种类(根据 BMEL 历年收集的资料)

Table 2 Gear types responsible for the incidental catches of small cetacean, based on the data collected by BMEL in the past years

种 类 Species	样本数 Sample number	拖 网 Trawl nets	刺 网 Gillnets	张 网 Stow nets	围 网 Surrounding net
江豚 *Neophocaena phocaenoides*	53	3(5.7%)	19(35.8%)	31(59.5%)	–
瓶鼻海豚 *Tursiops truncatus*	19	12(63.3%)	1(5.3%)	–	6(31.4%)
长喙真海豚 *Delphinus capensis*	9	9(100%)	–	–	–
点斑原海豚 *Stenella attenuata*	2	–	–	–	2(100%)
伪虎鲸 *Pseudorca crassidens*	6	1(16.7%)	1(16.7%)	–	4(66.7)
总计 Total	89	25(28.1%)	21(23.6%)	31(34.8%)	12(13.5%)

- **From 1994 to 1995, an investigation was conducted on the bycatch of small cetaceans along the coast of China**
- **The finless porpoise was the most frequently caught species, with approximately 640 to 3,610 individuals in 1994**
- **Gear types responsible for bycatch were stow-nets (59.5%) and gillnets (35.8%)**
- **The annual number of accidentally caught East Asian finless porpoises is estimated to be several hundred**
- **It reveals that the spring and late autumn seasons each year are the peak periods for the stranding and accidental capture of East Asian finless porpoises**
- **It identifies fishing accidents, environmental pollution, resource depletion, and construction projects as the main factors causing accidental injuries and deaths of East Asian finless porpoises**
- **Western coastal of Laizhou Bay and southern regions around Yellow River Estuary were identified as hotspots for sightings. More than half of the fishermen reported an overall decline in population through increasing water pollution, lower food resources and sustained fishery bycatch**

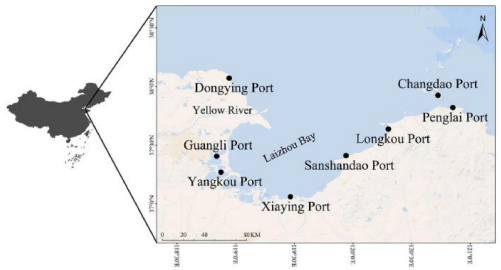


Fig. 1. Location of 8 surveyed fishing ports around south Bohai Sea, China.

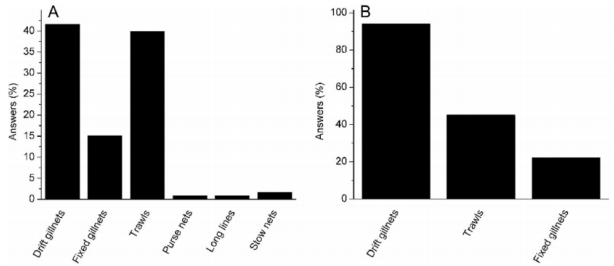
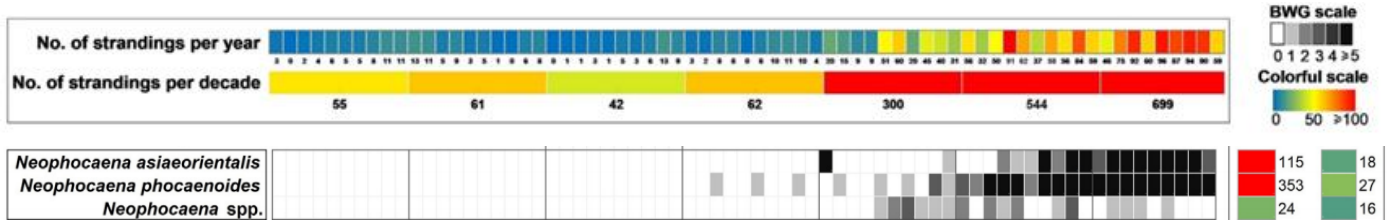


Fig. 2. Fishing gear types commonly used (A) and types likely cause porpoise bycatch (B) reported by fishermen.

Main threatens faced by the EAFP

(Liu, MM, 2022)

- The most commonly recorded species were finless porpoises (Neophocaena spp., n = 492) and Indo-Pacific humpback dolphin (Sousa chinensis, n = 291)



A yearly matrix heatmap (row: species/taxon; column: year) of cetacean strandings in the coastal waters of China, 1950–2018. The BWG (black-white-gray) scale indicates the number of strandings per species in each year. The RGB (red-green-blue) scale indicates the total number of strandings per species, number of years that a stranded species occurred, and number of strandings per decade/year

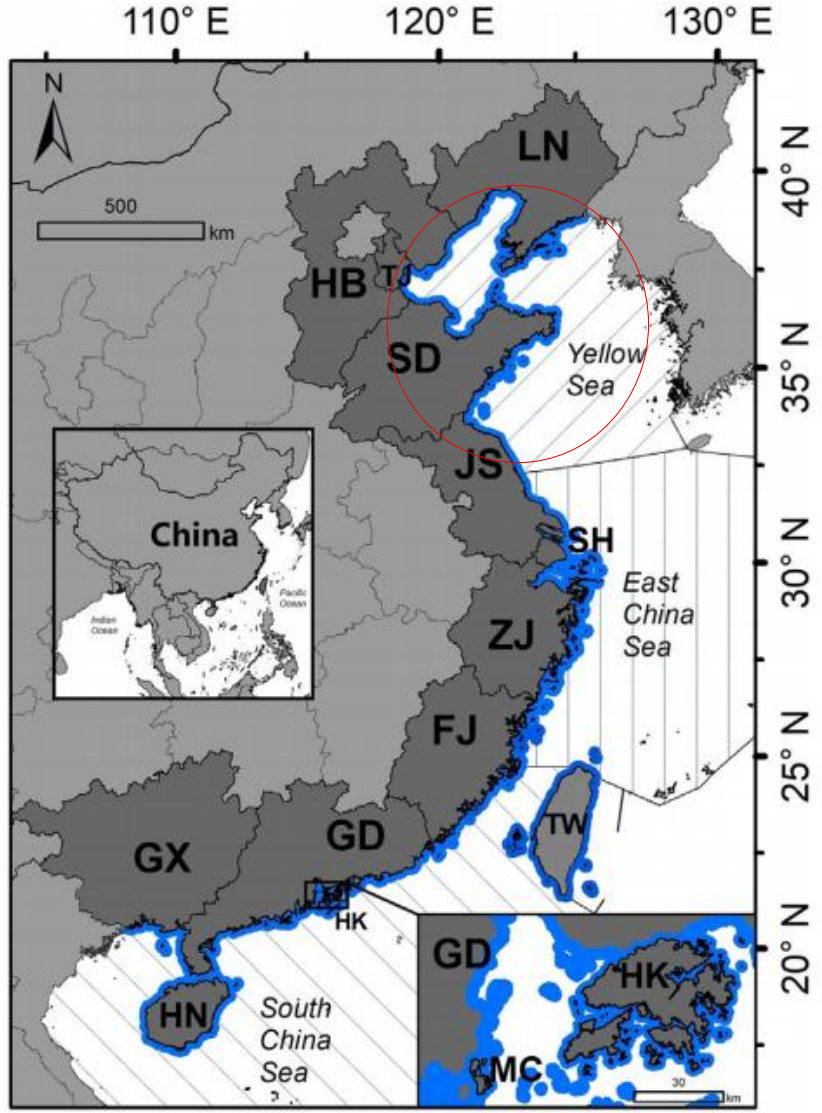


Fig. 1. Map of the study area: the coastal areas of China. Chinese territorial waters consist of the Yellow Sea (including Bohai Sea), East China Sea, and South China Sea. There are 14 coastal regions: Hainan (HN), Guangdong (GD), Guangxi (GX), Hong Kong (HK), Macao (MC), Taiwan (TW), Fujian (FJ), Zhejiang (ZJ), Shanghai (SH), Jiangsu (JS), Shandong (SD), Hebei (HB), Tianjin (TJ), and Liaoning (LN).

Conservation Recommendations from Office of the Ministry of Agriculture and Rural Affairs, China, 2021

1. Strengthen the protection and scientific research of marine mammals, and thoroughly understand the status of marine mammals and their habitats
2. Enhance supervision measures for fishing vessels and fishing ports to reduce the harm caused by the near-sea fishing industry to marine mammals
3. Fulfill the conservation and management measures of regional fishery organizations, and strengthen the protection of marine mammals in the open sea
4. Strengthen supervision and guidance of aquatic farming production to reduce the impact on marine mammals
5. Implement graded fishery management, and formulate targeted supervision plans and measures.6. Expand international exchanges and cooperation, and strengthen supervision of imported and exported aquatic products