

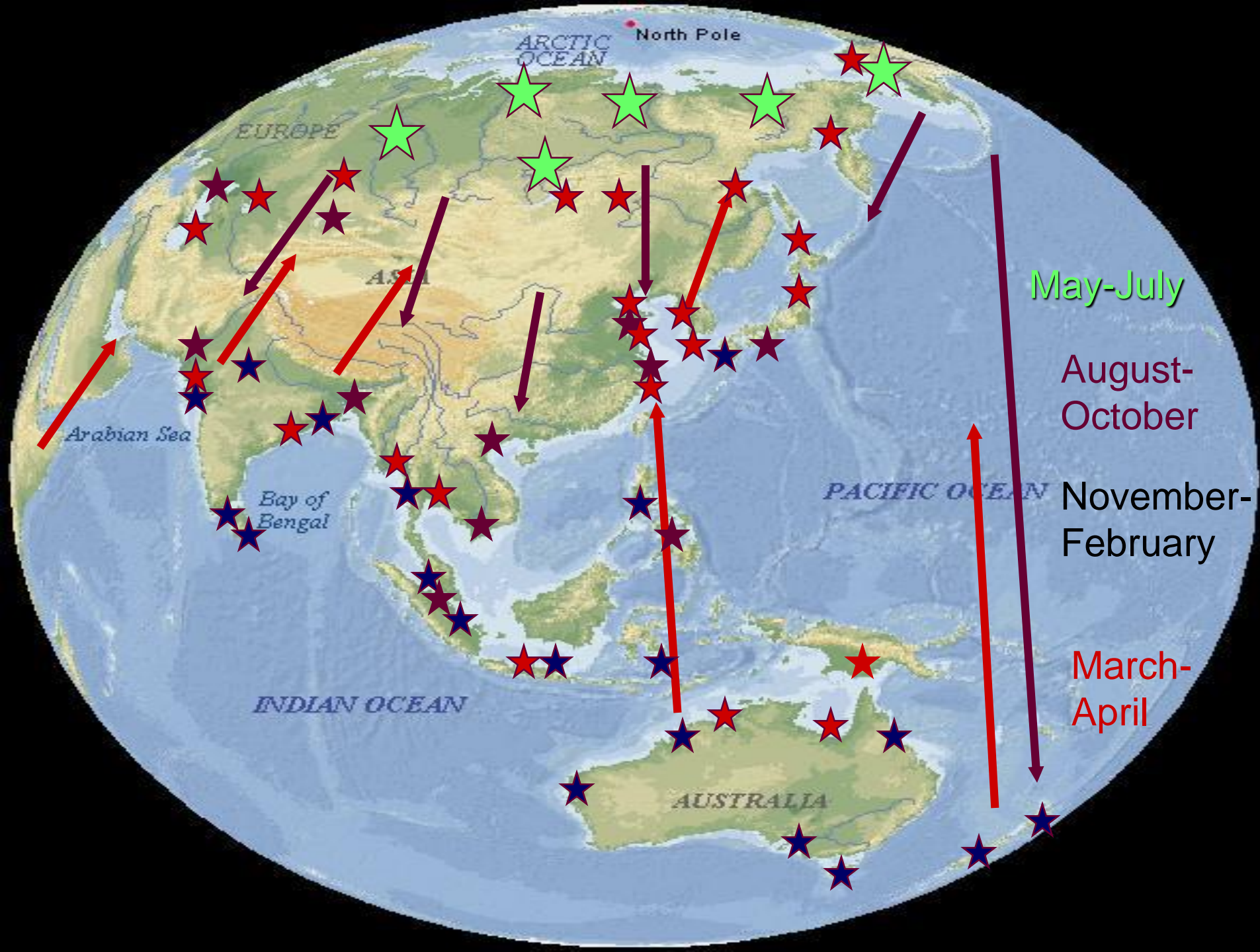
Waterbirds Monitoring in Yellow Sea China site

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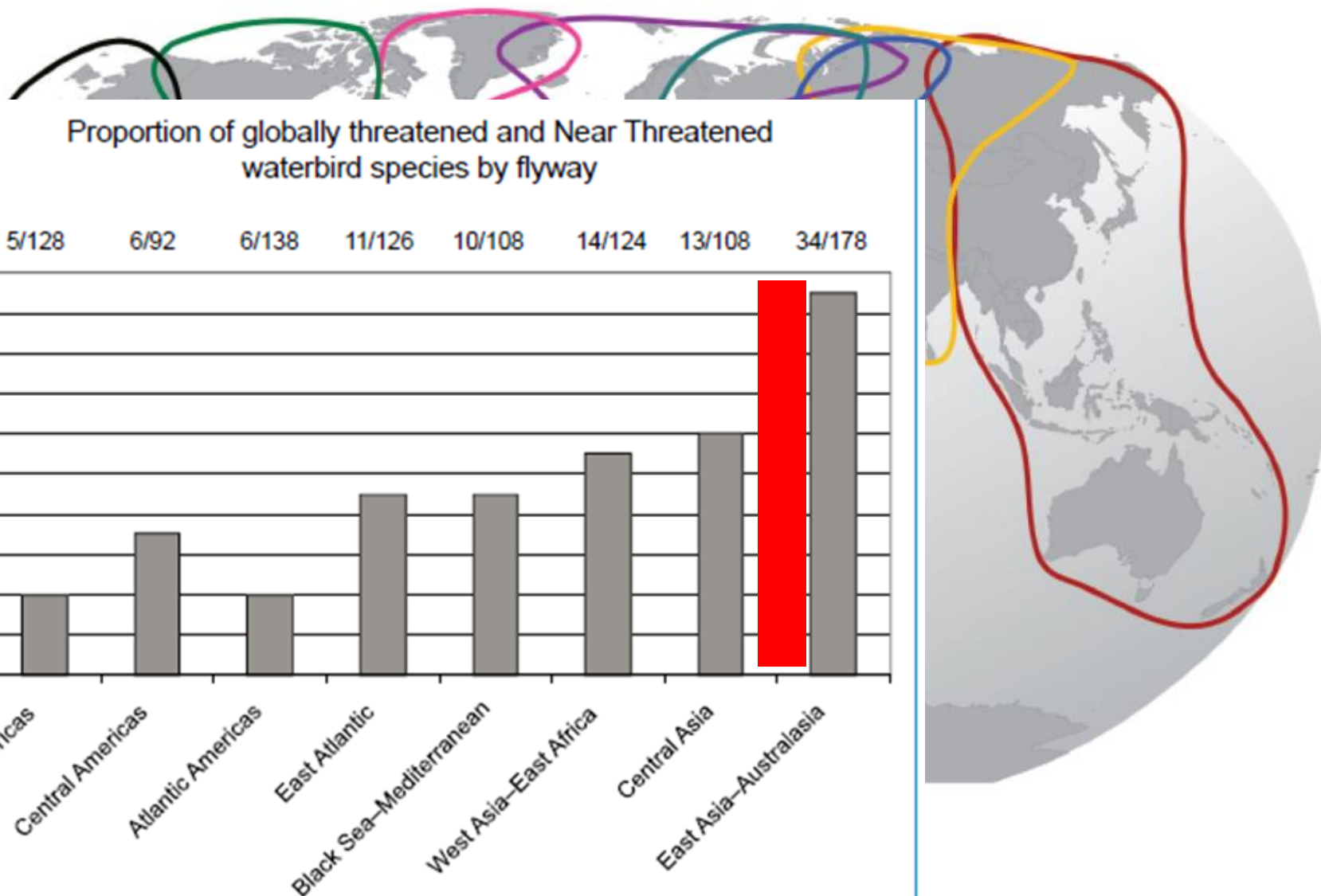
2020年1月14日





Major Waterbird Flyways of the world

A)



Waterbird Migration in the East Asian - Australasian Flyway (EAAFP)

- Millions of waterbirds flying over 22 countries and regions along the East Asian - Australasian Flyway every year
- To maintain waterbird population need to strengthen the management cooperation for international important wetland network
- In practice, an international, national and local triune waterbird migration management framework has been formed.



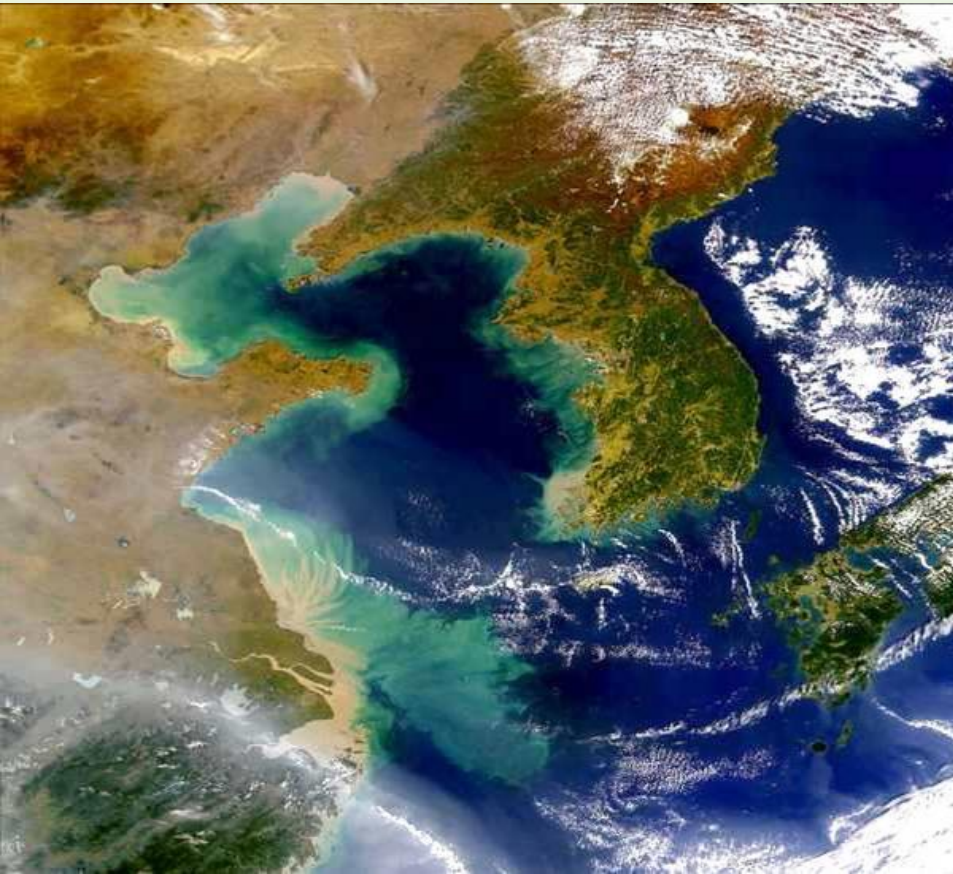
Site of international importance dotted on the East Asian - Australasian Flyway



The Flyway is dotted with over 700 wetlands of international importance and of stopover sites for migration waterbirds, many of which are adjacent to human settlements and are vulnerable to rapid socio-economic development.

The Yellow-Bohai Sea wetlands

Lies between Asian continent and the Pacific Ocean, the coastline stretching from the Yalu river, crossing Liaoning, Hebei, Tianjin, Shandong, Jiangsu, Shanghai 6 provinces (municipalities), end of Yangtze river estuary, with a total area of 45.8 square kilometers, is China's Marine type ecoregion.



Importance to migratory waterbirds:

The Yellow Sea-Bohai Sea wetlands are amongst the most important stopover areas for migratory waterbirds during the both northward and southward migration along the East Asian - Australasian Flyway

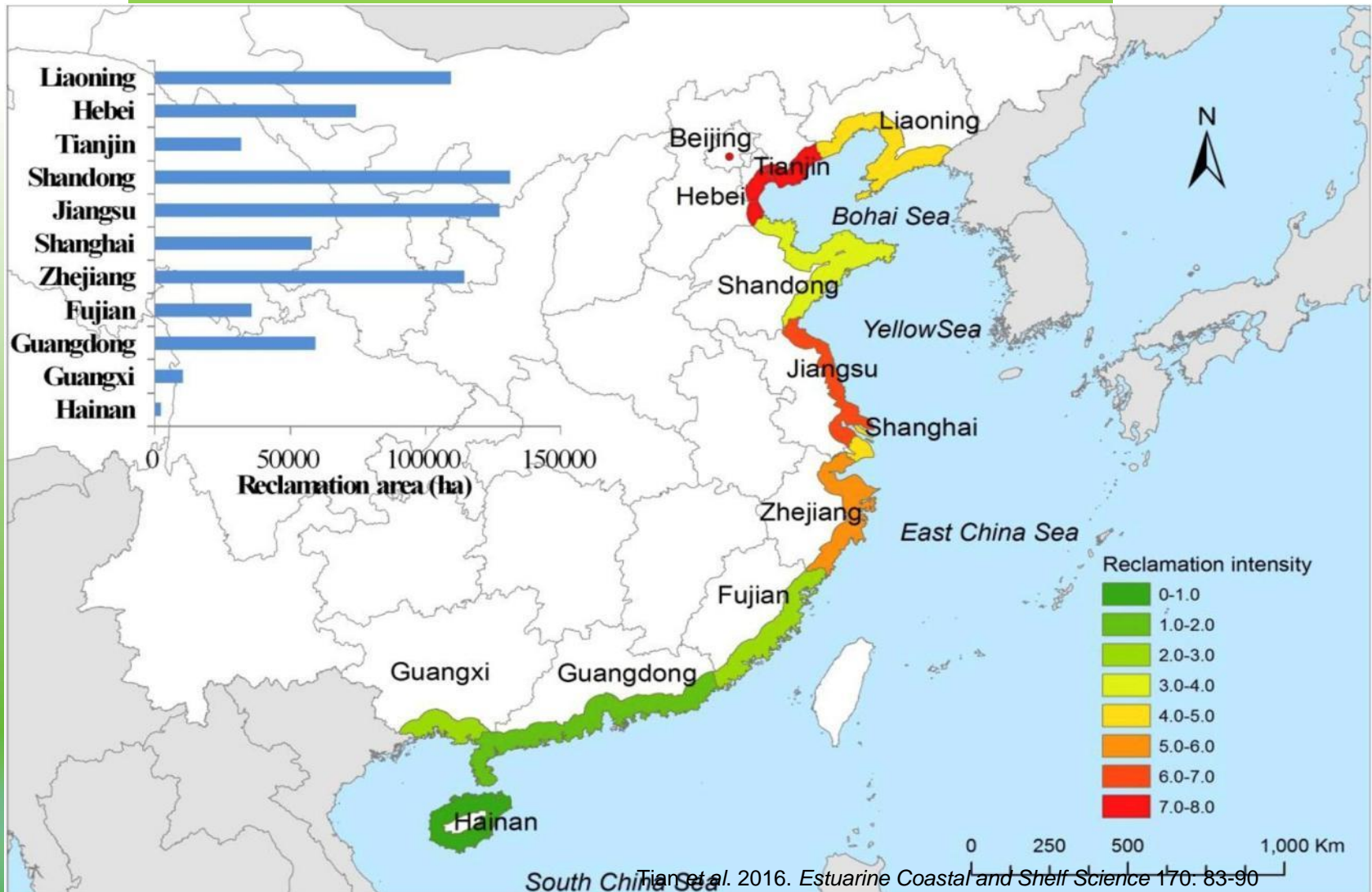
The Yellow Sea costal area is of great importance to shorebirds migrating along the East Asian - Australasian Flyway. The northern coast is the last stopover site for many species of shorebirds before they get to their breeding grounds

The disappearing coastline, where the migratory birds flying to?



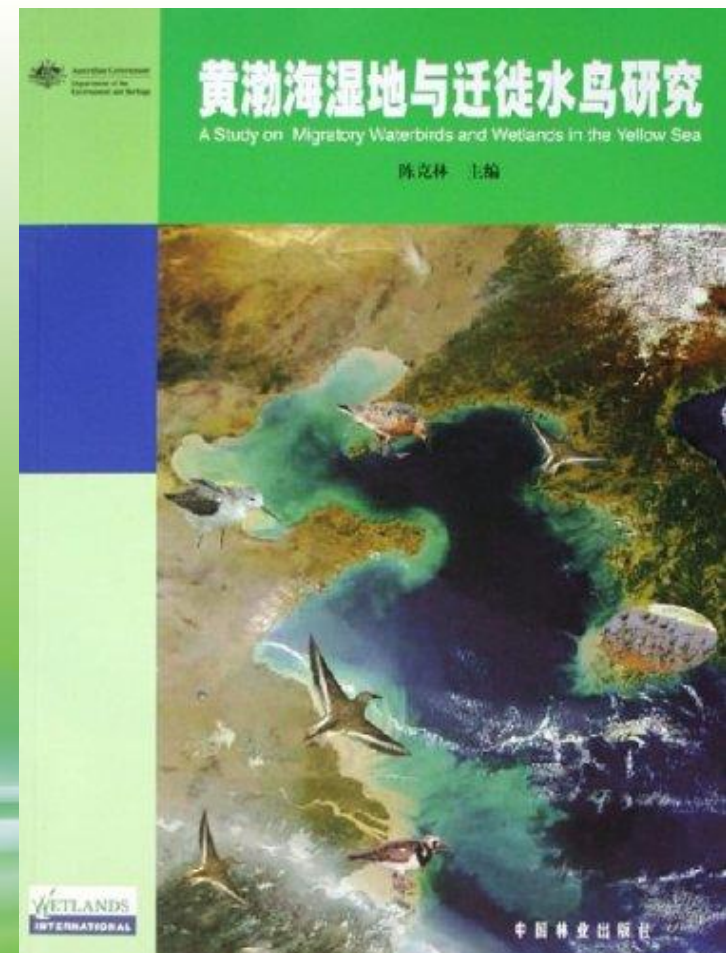
- ◆ The large reclamation works and aquaculture farms along the Yellow Sea coast spread over the coastline. The natural coastline which was affected by the tidal fall has been gradually replaced by artificial engineering.
- ◆ The Yellow Sea-Bohai Sea wetland faced huge exploitation pressure due to rapid economic development. The waterbird habitat lasting loss and degradation and population have decreased.
- ◆ A comprehensive water bird survey is urgently needed in the Yellow Sea-Bihai region.

Landclaim along China's coast (David.M)



Waterbirds Survey from 1996-2005

- ◆ Wetlands International has long been concerned about waterbirds migration in the Yellow Sea-Bohai Sea wetlands, and conducted twice comprehensive waterbirds survey jointly by national and international experts:
- ◆ From 1996 to 2005, mobilized national and international experts conducting continuous comprehensive survey on Yellow Sea-Bohai Sea wetlands and waterbirds, covering most coastlines of the region.



Waterbird Monitoring

Organizer:

- ◆ The CWCA
- ◆ The NIGA
- ◆ The BBCRC
- ◆ IWRB

Objectives:

- To find out status of waterbird population in Yellow Sea Wetlands
- To improve capacity building of management staff
- To enhance public awareness on waterbird protection
- To promote waterbird and biodiversity conservation and wise use in the region

Participating organizations

- **Duration:**
- **April 18th-24th 2016;**
- **April 20th-30th 2017;**
- **April 20th-30th 2018;**
- **April 15th-30th 2019;**
- **April 15th-30th 2020? ? ? ?**

Survey area:

The total length of survey area stretches about 6500 km, from the Yalu River estuary in the northeast (adjoining North Korea), along the sea coast to south of the Yangtze River estuary, covering six provinces and municipalities including Liaoning, Hebei, Tianjin, Shandong and Shanghai and Hangzhou bay in Zhejiang.

Participating organizations : 34 partners from institutions related to environmental protection, forestry, wetland reserves in the marine sector, wetland parks, universities and research institutes along the Yellow Sea Region (China site) worked together to undertake the survey.

List of roganization

- Dandong Yalujiang Estuary Wetland NNR
- Liaoning Snake Island Laotieshan NNR
- Liaoning Liaohe Estuary NNR
- Beidaihe National Wetland Park
- Shandong Yellow River Delta NNR
- Shandong Changdao NNR
- Shangdong Binzhou Shell Bank and Wetland NNR
- Jiangsu Yancheng NNR
- Jiangsu Dafeng Milu NNR
- Shanghai Chongming Dongtan NNR
- Shanghai Jiuduansha NNR

Beijing Normal University, Capital Normal University, Beijing Forest University, Qingdao University, State Marine Environment Monitoring Centre, Nanjing Environmental Science Institute, China Bird Banding Centre, China Subtropical Zone Forest Institute, Beijing Zoo
NGOs

Training Workshop

Training Workshop for the Yellow-Bohai Sea Synchronized Waterbird Monitor 2016 held in Beijing. More than 100 participants from nature reserves, universities, institutes and international experts attended the workshop.

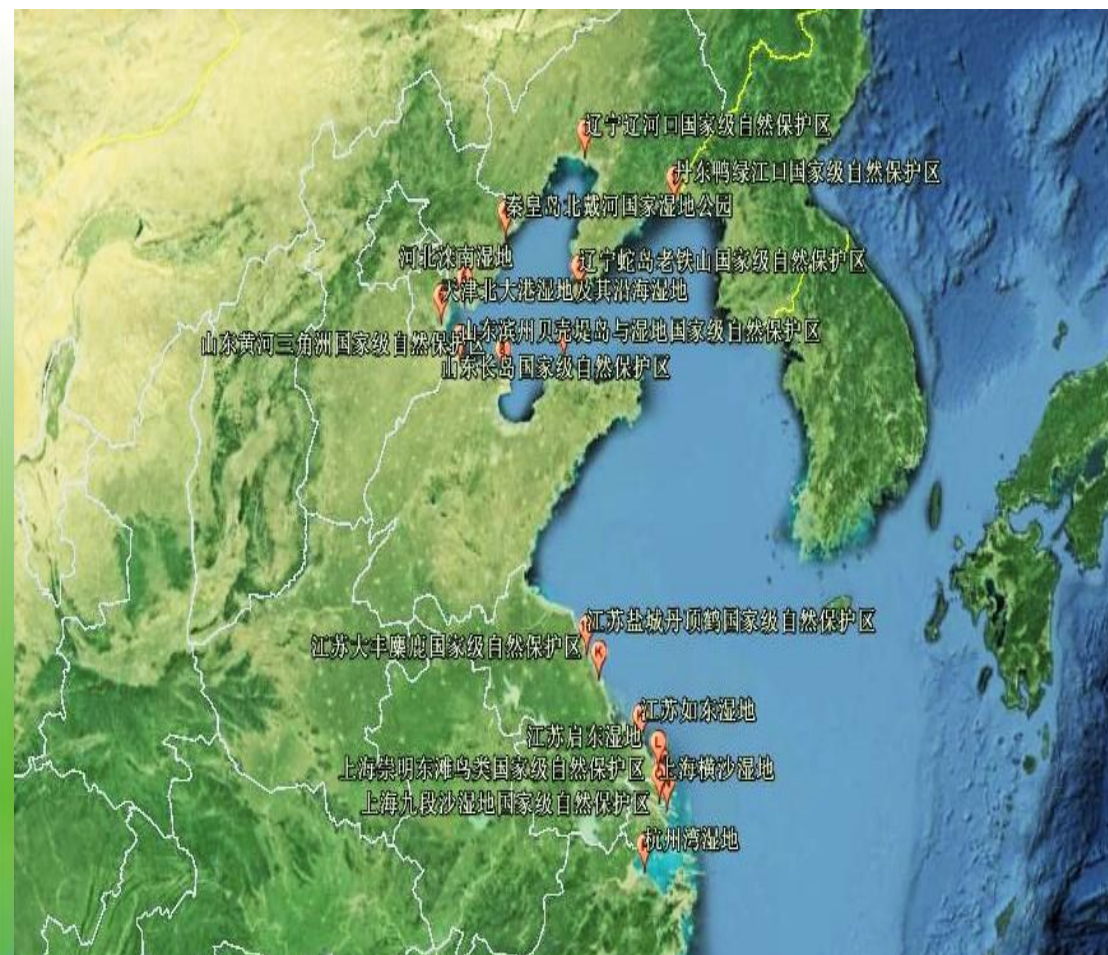




Photo by David Li, Zhanjiang, 6/12/2016



Area of Monitoring in China site



The total length of survey area stretches about **6500 km**, from the Yalu River estuary in the northeast (adjoining North Korea), along the sea coast to south of the Yangtze River estuary, covering six provinces and municipalities including Liaoning, Hebei, Tianjin, Shandong and Shanghai and Hangzhou bay in Zhejiang

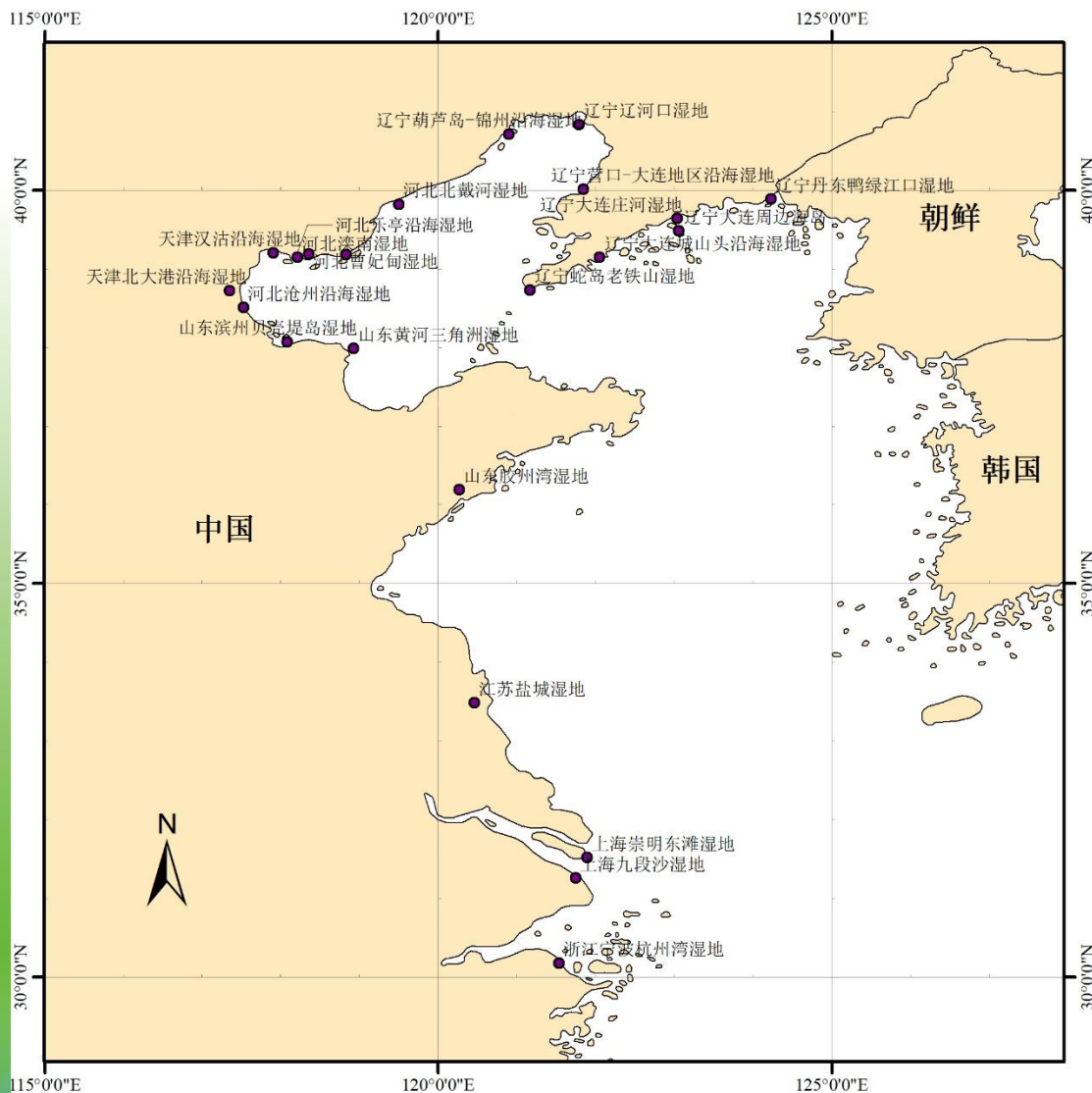
Route survey and fixed point observation, using binoculars and single-tube telescope for observation. Habitat investigation and waterbird survey conducted at the same time. Counting and record for waterbird species and numbers



- 水鸟同步调查统计采用路线调查法与定点观测法相结合的方法，借助双筒望远镜、单筒望远镜对区域内鸟类进行观测。生境调查和水鸟调查同时进行。
- 需要记录水鸟种类及其各自数量，同一区域不同频次的调查，以一次记录的最大鸟类数量作为该区域鸟类的数量。



Area of Yellow Sea China site



2016年-18个
2017年-18个
2018年-23个
2019年-22个

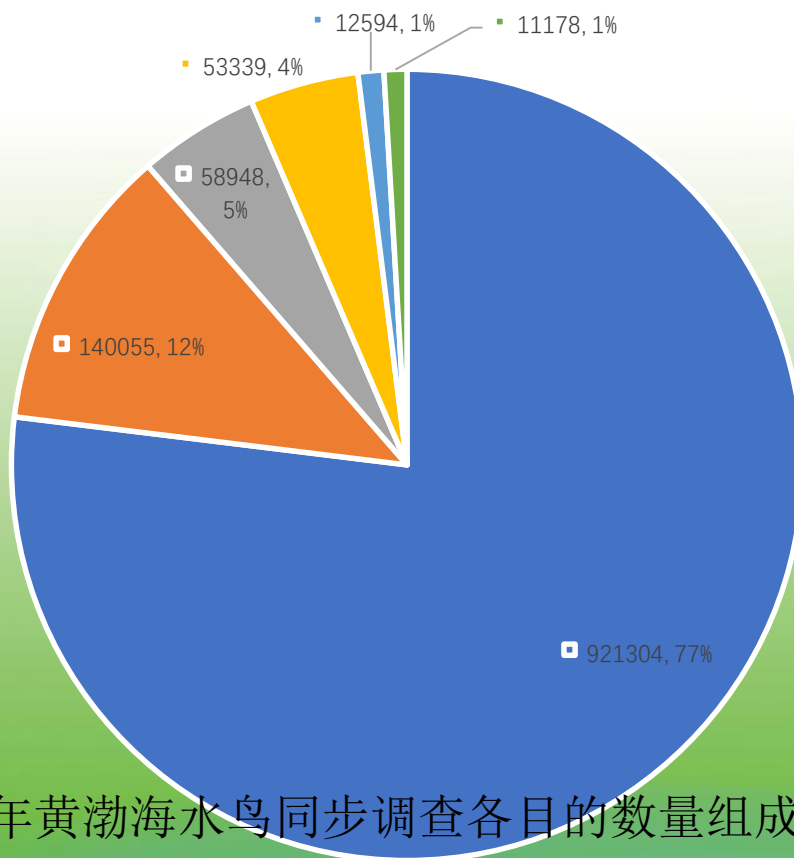
Results (Waterbirds Community Structure)

2016: The recorded a total of nearly **80,7000** waterbirds of **119 species in 18 major**. The count was dominated by shorebirds, with about 656,830 recorded (81.4% of the total), followed by 54,727 (6.8%) gulls and terns, 21,999 (2.7%) swans, geese and ducks, 17,114 (2.1%) herons (Ardeidae), 3560 (0.4%) coot and gallinules and 2990 (0.4%) other species, mainly cormorant, grebes, ibis, spoonbill, stork, crane and pelican.

2017: The recorded a total of nearly **896,984** waterbirds of **118 species in 18 major sites** along the Yellow Sea-Bohai Region. The count was dominated by shorebirds, with about 730,842 recorded (81.48% of the total), followed by 87,778 (9.79%) gulls and terns, 41,205 (4.59%) herons and bitterns (Ardeidae), 21,037 (2.35%) swans, geese and ducks, 6,666 (0.74%) coots and gallinules, and 9,456 (1.05%) other species, mainly cormorant, grebes, spoonbill, stork, crane.

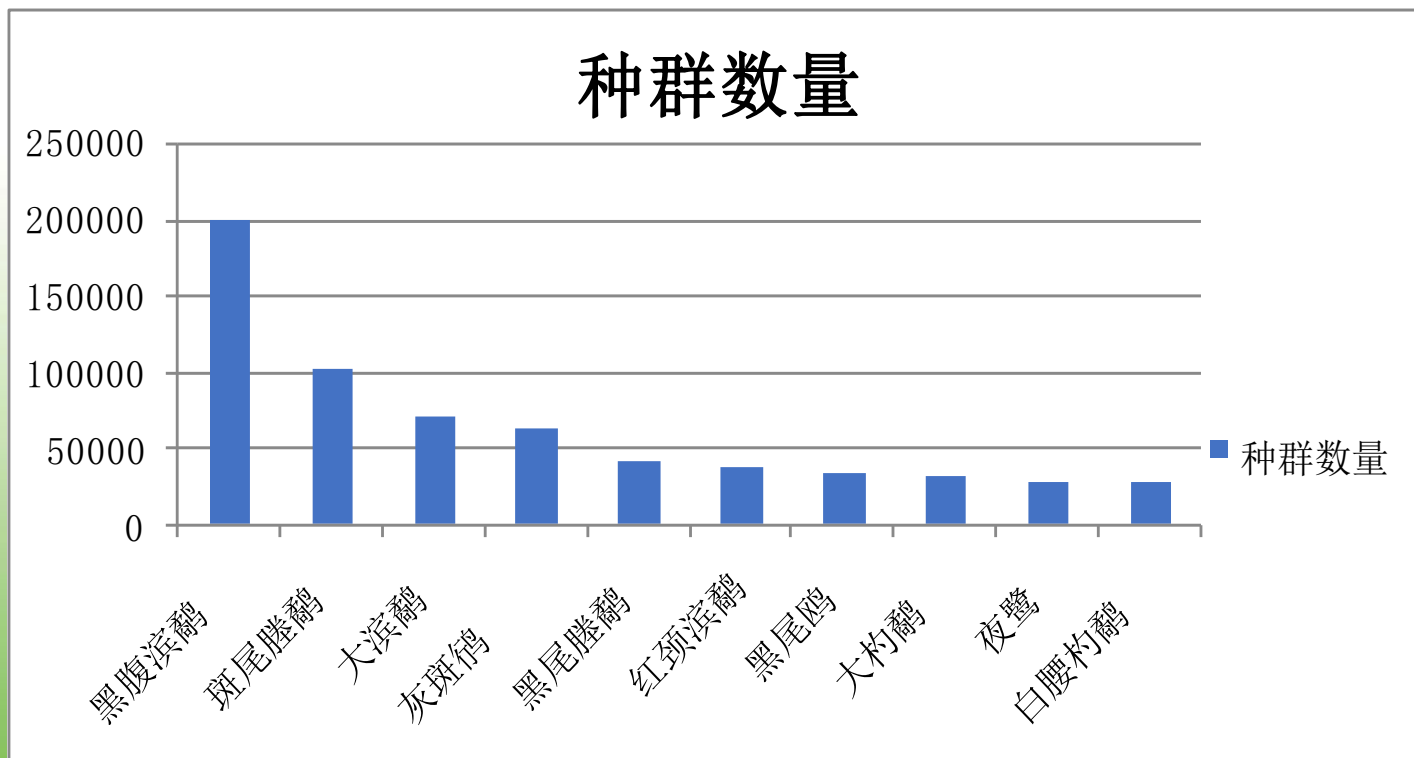
2018: The survey recorded a total of **884,940** waterbirds of 119 species in 23 major sites along the Yellow Sea-Bohai Region. The number of unidentified waterbirds was 6538, accounting for 0.74% of the total number of waterbirds. The count was dominated by shorebirds, with about 669,262 recorded (75.63% of the total), followed by 131,627 (14.87%) gulls and terns, 40,139 (4.54%) herons and bitterns (Ardeidae), 26,778 (3.03%) swans, geese and ducks, 8,194 (0.93%) coots and gallinules, and 8940 (1.01%) other species, mainly cormorant, grebes, spoonbill, stork and crane.

Result



124 specise were recorded with total of 1,197,418 birds, among of 47,485 birds unrealised specise, which is 3.97% of total birds
921,304 of shorebirds, which is 76.94%。

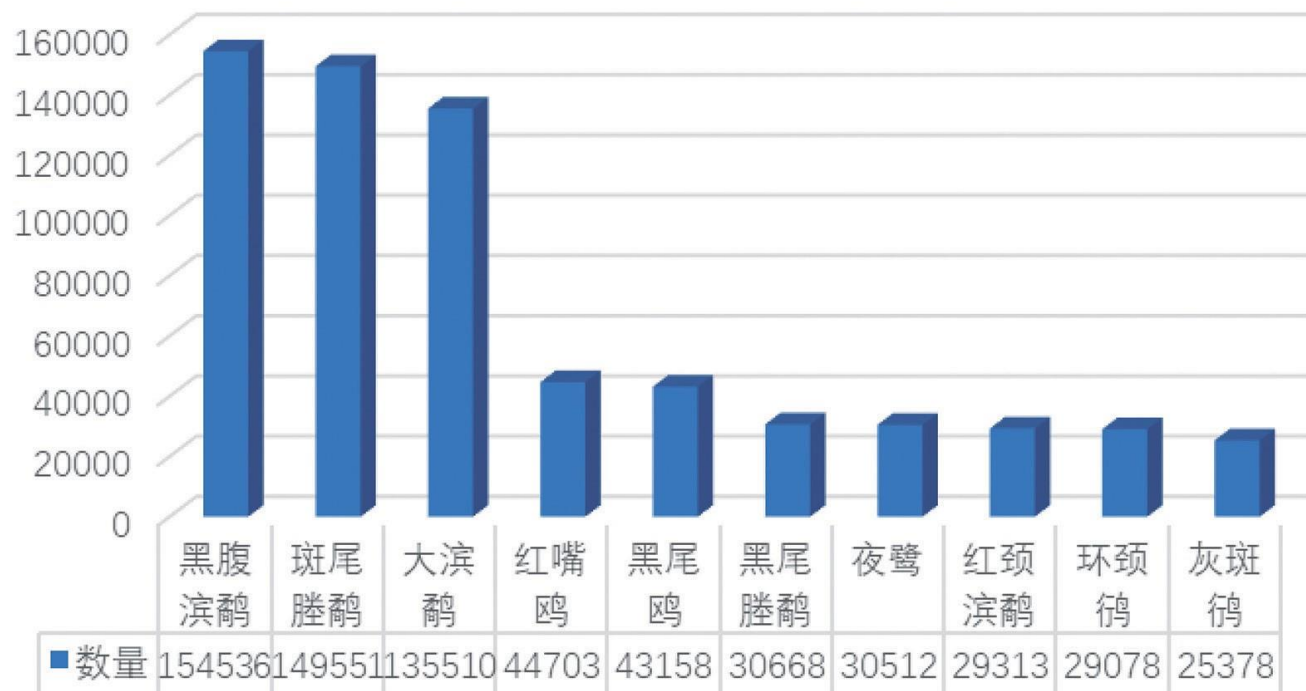
2019年黄渤海水鸟同步调查各目的数量组成



2017年调查水鸟数量最多的为黑腹滨鹬(199,430只, 22.23%), 数量最多的其它9个种类依次是(见图2)斑尾塍鹬、大滨鹬、灰斑鹬、黑尾塍鹬、红颈滨鹬、黑尾鸥、大杓鹬、夜鹭、白腰杓鹬。这十个物种共计630,739只, 占了统计总数的70.32%。

2018年同步调查水鸟数量最多的为黑腹滨鹬 (154,536 只, 17.46%), 数量最多的其它 9 个种类依次是斑尾塍鹬、大滨鹬、红嘴鸥、黑尾鸥、黑尾塍鹬、夜鹭、红颈滨鹬、环颈鸪和灰斑鸪 (见图 5)。这十个物种共计 672,407 只, 占了统计总数的 75.98%。

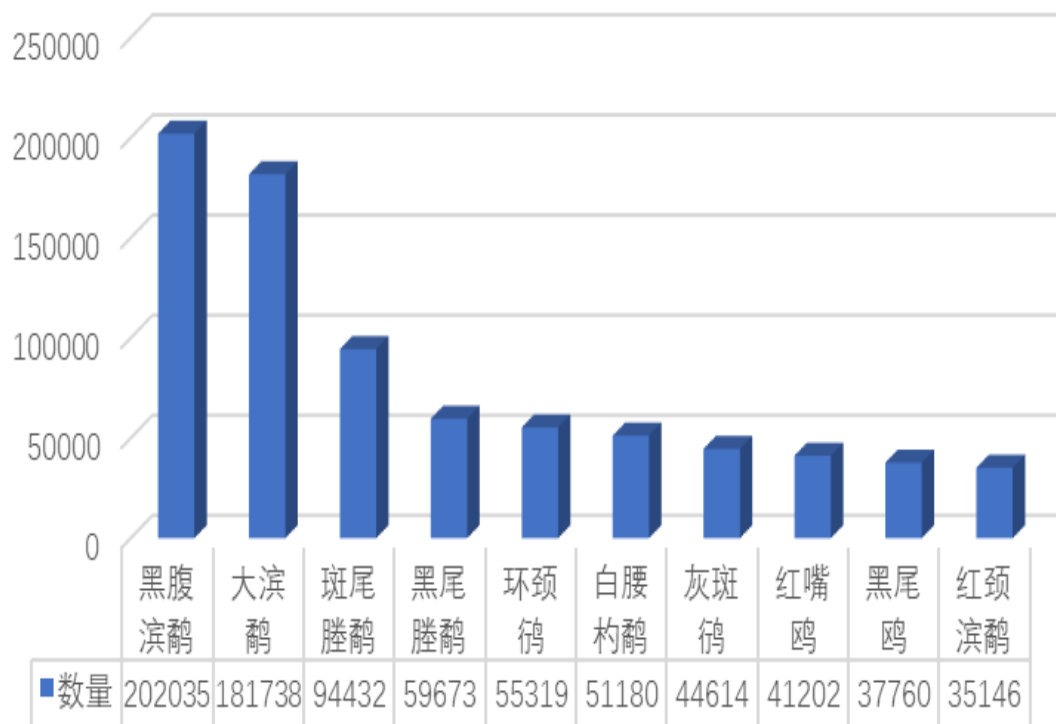
统计到数量最多的10种水鸟



2019年调查表明：个体数量在前10位的鸟主要以鸻鹬类为主，黑腹滨鹬、大滨鹬、斑尾塍鹬、黑尾塍鹬、环颈鸻、白腰杓鹬、灰斑鸻、红嘴鸥、黑尾鸥和红颈滨鹬等是本次调查中鸟类群落的优势种（见图8）。这十个物种共计803,099只，占了统计总数的67.07%。

（黑腹滨鹬202,035只，16.87%）

统计到数量最多的10种水鸟



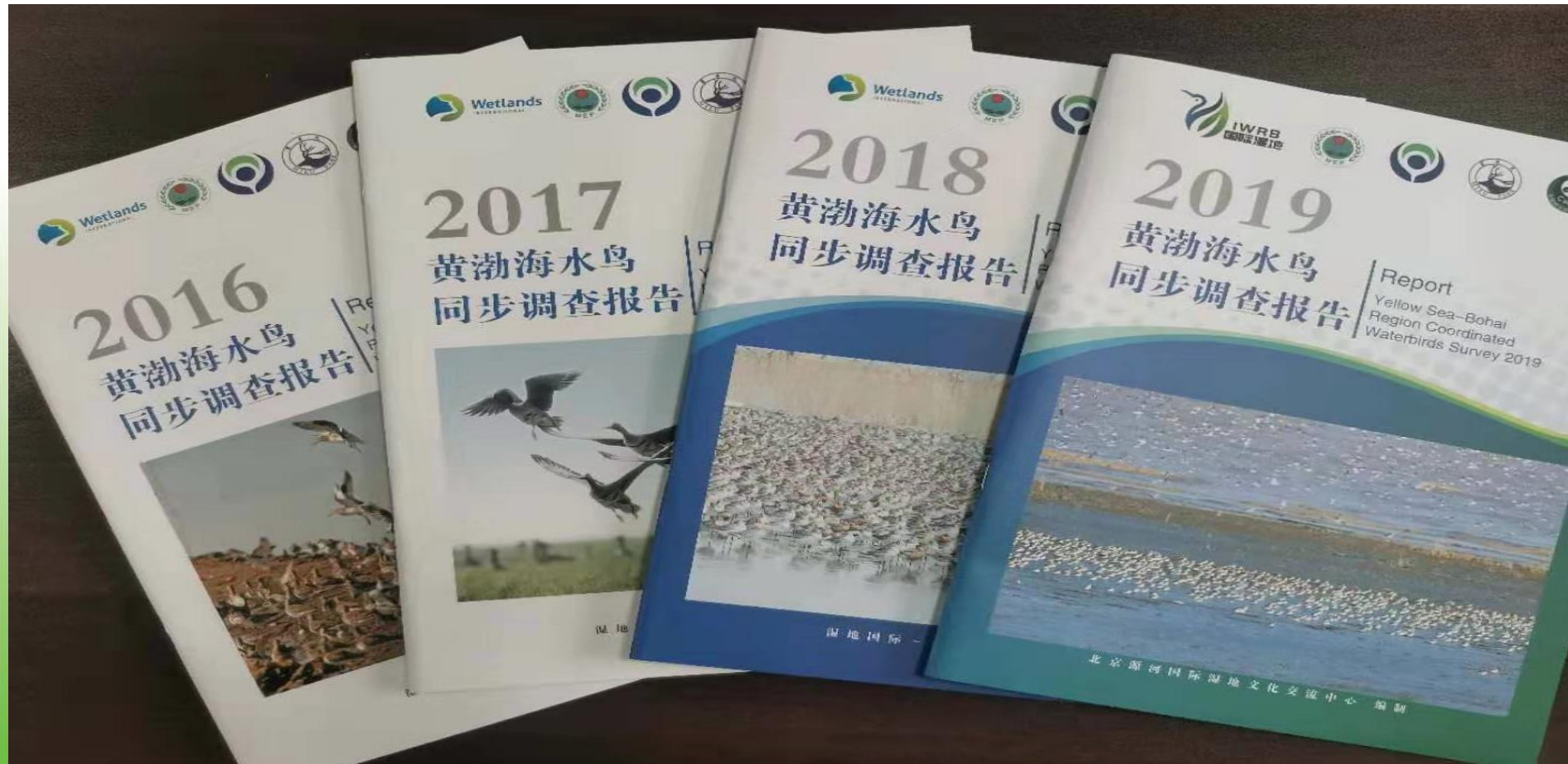
结果-重要和珍稀水鸟分布

物种名	CR 极危	EN 濒危	VU 易危	NT 近危
卷羽鹈鹕			VU	
鸿雁			VU	
罗纹鸭				NT
红头潜鸭			VU	
青头潜鸭	CR			
白眼潜鸭				NT
东方白鹳		EN		
黑脸琵鹭		EN		
黄嘴白鹭			VU	
丹顶鹤		EN		
白鹤	CR			
蛎鹬				NT
凤头麦鸡				NT
白腰杓鹬				NT
黑尾塍鹬				NT
斑尾塍鹬				NT
大杓鹬		EN		
大滨鹬		EN		
红腹滨鹬				NT
弯嘴滨鹬				NT
红颈滨鹬				NT
勺嘴鹬	CR			
半蹼鹬				NT
灰尾鹬				NT
小青脚鹬		EN		
黑嘴鸥			VU	
遗鸥			VU	
合计	3	6	6	12

上表：具有全球保护意义的物种

下表：国家重点保护水鸟种类

中 名	保护级别	
	I 级	II 级
卷羽鹈鹕		II
黄嘴白鹭		II
海鸬鹚		II
黑鹳	I	
东方白鹳	I	
白琵鹭		II
黑脸琵鹭		II
白额雁		II
大天鹅		II
小天鹅		II
灰鹤		II
丹顶鹤	I	
白鹤	I	
小勺鹬		II
小青脚鹬		II
遗鸥	I	
合计	5	11



Thank You