

# Geographical study design based on the concept of man-land coordination —Taking the Yellow (Bohai) Sea migratory bird habitat in China as an example

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**ABSTRACT:** The design of geography study tours should fully reflect the geography teaching concept in the new era. When designing geography study tours, we should make full use of the humanities and natural resources of the destination, and use modern information technology to cultivate students' core geographical literacy and enhance students' geographical abilities. At the same time, the design of geography study tours should include multiple sub-themes to enrich the connotation of study tour activities. This article takes China's Yellow (Bohai) Sea migratory bird habitat as an example, and designs research travel routes around Yancheng with different spaces and themes based on local characteristics of humanities and natural geographical resources, providing a reference for schools to carry out geographical research travel education activities.

**Keywords:** geographical research, China's Yellow (Bohai) Sea migratory bird habitat, man-land coordination concept, core geographical literacy

## 1. Preface

With the progress of society and the development of science and technology, traditional classroom teaching cannot meet the knowledge needs of high school students. High school geography education is facing new challenges and opportunities. High school geography education emphasizes the combination of nature and humanities, and the connection of theory and practice. At this time, geography study travel courses, as a brand-new geography education method, can fully satisfy students' thirst for knowledge.

The overall goal of geography study tours is to enable students to get close to and explore nature, contact and integrate into society, pay attention to and reflect on themselves, experience and feel collective life, and cultivate core competencies in geography

during the study process, so that high school students can strengthen the coordination between man and the environment. The concept of development, the ability to improve geography disciplines, and the feelings of family and country and world perspective. [1]

However, how to design a successful geography study trip is a question worthy of in-depth consideration. First of all, geography research design should pay attention to problem-based teaching. Teachers should choose appropriate destinations based on students' cognitive status and design a chain of interlocking problems to allow students to use open thinking to solve practical problems; secondly, geographical study design should strengthen geographical practice. When conducting study tours, the principle of teacher-led and student-centered should be adhered to. Teachers should mobilize students' enthusiasm and encourage students to observe, discover, question and explore problems on their own. Finally, the geography study design should deepen the application of information technology. When designing geographical research, the application of 3S technology should be added to allow students to feel the differences between GPS, GIS and RS in actual operations, and enhance the technicality and interest of the research. [2]

The Chinese Yellow (Bo) migratory bird habitat is a series of important habitats along the East Asian-Australasian Flyway. It is a key stopping place, wintering ground or breeding ground for some of the most concerned endangered species in the world. [3] Yancheng, where it is located, is a famous city with a thousand-year history and rich cultural heritage. The scenic spots in Yancheng, taking the habitat of Chinese yellow (Bo) migratory birds as a clue, are excellent destinations for geography research and education.

To sum up, geography study tours aim to cultivate students' geographical literacy in the classroom of nature. This article will take the Yellow (Bo) migratory bird habitat in China as an example, and use the core literacy of geography as a clue to explore the feasibility and importance of high school geography research.

## 2. Goals and principles of study design

Research travel is an off-campus educational activity that combines research study and travel experience, carried out by the school in a planned, organized and purposeful manner through collective travel and centralized food and accommodation. Study tour activities should promote students to cultivate and practice socialist core values, inspire students' love for the party, the country, and the people, promote the comprehensive implementation of quality education, promote the in-depth integration of book knowledge and life experience, and meet the growing needs of students. With the increasing demand for tourism, the goal is to cultivate students' awareness of civilized tourism from an early age [4].

Study tour design should follow the following five principles: ①Practical principle. When teachers design study tours, they should provide students with more practical opportunities to stimulate and improve students' practical abilities and innovative spirit. ②Principle of inquiry. When teachers design study tours, they should conduct inquiry activities on specific issues to cultivate students' self-confidence [5]. ③Safety. Teachers must fully consider the safety issues of every link when designing study plans to fully protect the safety of students' lives and property. ④Educational[6]. When designing study plans, teachers should pay attention to the educational significance of the activities, so that the study activities are both educational and active. ⑤Geography. When designing research activities, teachers should consider the geographical nature of the activities and be oriented towards revealing geographical phenomena and laws.\

## 3. Ideas and concepts of study design

This research course is based on the characteristics of Yancheng's Yellow (Bohai) Sea migratory bird habitat, and uses the protection and development of this area as a clue to carry out green research activities, allowing students to learn and explore local ecological civilization construction and industrial construction in real situations, and cultivate students' Geography core literacy [7].

Yancheng Coastal Wetland has been affected by both natural and human activities. The habitat and biodiversity of migratory birds have been seriously reduced, and migratory birds cannot spend the winter

here [8]. After many efforts, the Yancheng coastal wetland finally became a good ecosystem. The number of birds coming to spend the winter increased sharply, creating huge ecological and economic value. Leading students to investigate how local green development of ecological economy can help cultivate students' important core literacy of man-land coordination, and make students realize that in order for human society to develop better, it is necessary to coordinate human beings on the basis of respecting objective laws. The relationship between activities and geographical environment [9]. At the same time, students use the geographical knowledge they have learned to conduct on-the-spot investigations, which is conducive to improving their "geographical practical ability", enhancing students' awareness and ability to act, and enhancing their sense of social responsibility [10].

## 4. Theme and route of study design

This research activity is based on the general theme of "Thousand-Year Salt City, Green Research", with "Appreciating Cranes Flying and Listening to Deer Crying" as the main theme. Through on-site understanding of the construction of Yancheng coastal wetlands, students can understand the relationship between man and land during development and protection, and "play with greenery". "Water, Watching Birds and Beasts" teaches students how to connect textbook knowledge to real life, cultivates students' geographical practical ability and "Visiting the Salt City, Showing the Future" students can understand the cultural heritage of Yancheng, a thousand-year-old salt city, and lead students to visit Local production methods, students can understand the three sub-themes of how to achieve rural revitalization locally.

### (1). Research on man-land relationship

1. Route : Jiangsu Yancheng Wetland Rare Bird National Nature Reserve → Chinese Elk Park  
2. Content: ①Jiangsu Yancheng Wetland Rare Bird National Nature Reserve: Every winter, the red - crowned cranes that migrate south will rest and spend the winter in Yancheng Coastal Wetland. After the temperature rises and warms up, they will return to the north. From November to Wednesday every year, July is the best season for bird watching. The reserve is located in the transition zone from warm temperate zone to northern subtropical zone. It is mainly affected by oceanic and continental climates and has rich hydrothermal conditions. It is a natural refuge for red-crowned cranes that come to spend the winter. The Yancheng coastal area is a fragile ecological zone, but after years of human efforts, a large number of

species have been preserved in the reserve and it has become a coastal biologically rich area.

②Chinese Elk Park: Elk were once widely distributed in the middle and lower reaches of the Yangtze River in my country. Later, due to excessive hunting and destruction of their habitats by humans in the early 20th century, the elk became extinct in the country. In 1986, Yancheng airlifted 39 elk back from the United Kingdom, and they rapidly multiplied in the Huanghai Sea, and now the number exceeds 5,000. The China Elk Park is a nature reserve, and the elk are in a semi-wild state. Students can only feed and watch the elk in the car. Then we came to the deer king display area. A deer king competition is held every spring. After the deer king is born, it will be displayed alone in this area. The swamps are intertwined, the water is vast, and herds of elk are running and foraging freely in the protected area where the water is exposed to the sky. This artistic conception of "deers singing in the wild" is the best answer to insisting on the harmonious coexistence between man and nature.

3. Exploration activities: ① Jiangsu Yancheng Wetland Rare Bird National Nature Reserve: 1. Students use cameras to take photos of the observed birds and summarize and classify them

4. Visit the Red-crowned Crane Artificial Breeding Center and learn how to breed and domesticate red-crowned cranes in the wintering grounds of red-crowned cranes ②Chinese Elk Park: Elks love a humid environment. Folks in our country believe that they have considerable medicinal value. They were once widely distributed in the lower reaches of the Yangtze River in China. It was once extinct in the mainland at the end of the century and the beginning of the 20th century. Please analyze the reasons for the extinction of the elk in the mainland and how to strengthen the protection of the existing elk.

(4) Comprehensive research: Complete according to popular science road signs

exploratory tasks	reason
Why is the elk called Si unlike?	
What is the purpose of an elk's ankle-length tail?	
Can elk swim?	
Why kings of all ages loved elk	

## (2) Research on geographical practical ability

1. Route : Tiaozini→Huanghai National Forest Park  
 2. Content: ①Tiaozini: Tiaozini is named after its strip-shaped harbor branch. It has the largest intertidal wetland in the world and is one of the most important coastal wetland ecosystems in the world. It is also on the migration route of East Asia-Australasia migratory birds . key areas. Two large rivers have shaped the world's largest and unique radiating sand

ridge group, changing the coastline and its ecological processes. Tiaozini is of considerable importance to organisms and human society. On the one hand, it provides a good habitat and sufficient food for rare creatures such as red-crowned cranes. It is a transfer station for migratory birds during their spring and autumn migrations. The ecological and environmental impact of Tiaozini It reflects the diversity of migratory birds. On the other hand, the large number of fish and shrimps in the tidal wetlands are the basis for the survival of local fishermen. The protection and development of Tiaozini promotes the development of the local economy. The development and utilization of Tiaozini mud should be based on the principles of protection and sustainability. On the basis of maintaining its ecological environment and biodiversity, scientific development should be carried out to promote local development.

②Yellow Sea National Forest Park: The Yellow Sea National Forest Park consists of a sea forest area and a seaside area. It is the only unpolluted wetland on the west coast of the Pacific Ocean.

It's called "immersed in a sea of green." Huanghai National Forest Park is located in a subtropical monsoon climate zone with a pronounced monsoon. The vegetation is dominated by artificial deciduous broad-leaved and evergreen broad-leaved forests, mainly metasequoia, ginkgo, etc. Its landform belongs to the marine accumulation plain in northern Jiangsu, and the terrain in the forest park is flat. The abundant water and heat resources and flat terrain in the forest park provide good habitats and a variety of food for birds and mammals. The lush and tall trees in the park make it seem like you are walking in a green ocean. Trees, birds and animals that are not usually seen in the city can be seen everywhere here.

3. Exploration activities: ①Tiao Zini: 1. Visit the Wetland Museum to understand the types, causes and characteristics of wetlands 2. The rising tide is the sea and the low tide is the beach. Observe and record the rising and falling tides ②Yellow Sea National Forest Park: Use the Xingse app to record the plants you see , summarizes the families, genera and characteristics of plants.

4. Study and explore: ①Tiaozini: Tiaozini Wetland is the largest intertidal wetland in the world. It is a key area for migratory birds from East Asia to Australasia. A large number of migratory birds inhabit here in spring and autumn, just like a gas station on the highway . . Tiaozini has now built a large-scale ecological freshwater aquaculture area and a planting-breeding integrated agriculture demonstration area. The industrial area and ecological area complement each other, and a map has been drawn on the coast of the Yellow (Bohai) Sea.

A beautiful picture of the harmonious coexistence of man and nature.

1. Question: Please analyze the reasons why Tiaozini Wetland has become a transit station for migratory birds; 2. Question: Please briefly describe how Tiaozini Wetland can be developed greenly and the significance of green development.

②Yellow Sea National Forest Park: The Yellow Sea National Forest is located in the subtropical monsoon

climate zone. The forest park consists of a sea forest area and a seaside area.

It is the largest man-made forest ecological park in the region. The landform in the park belongs to the marine accumulation plain in northern Jiangsu. Please analyze why Huanghai National Forest Park is rich in species from natural reasons.

5. Comprehensive research: Take photos and collect two types of trees, shrubs and herbs in the two parks, and investigate and analyze their characteristics.

arbor				
name	Distribution area	Hydrothermal conditions	Identify characteristics	application

shrub				
name	Distribution area	Hydrothermal conditions	Identify characteristics	application

vegetation				
name	Distribution area	Hydrothermal conditions	Identify features	application

**(3) Research on rural revitalization**

1. Route : Moon Bay Resort

2. Content: The Moon Bay Tourist Resort was once the estuary of the Yellow River Ancient Road. This scenic spot uses the history of the Yellow River Ancient Road and the rich local natural resources to create a place that carries the memory of the Yellow River, fishing and farming civilization, marine culture, sea salt culture , Moon Bay, a lakeside ecological area with red culture, adopts the spatial structure of "one island, four areas", with "green as the rhyme and water as the vein", perfectly integrating nature and ecology. This place combines a fishing village wharf and a leisure fish market to display the entire process of fishing, trading, and processing, allowing tourists to experience it and experience coastal culture while enjoying delicious food. The scenic spot has now developed into a green industrial structure integrating green ecological agriculture and green sightseeing and tourism.

5. Comprehensive inquiry: Students form their own teams to explore the development of new industries in Yancheng

3. Research activities: Visit the Yellow River Art Corridor and think about the pros and cons of changing the Yellow River’s course to Yancheng

4. Learning and inquiry: The new energy industry is one of the pillar industries of Yancheng. Relying on its unique geographical location, Yancheng has formed green and efficient power generation industries such as photovoltaics and large windmills . Photovoltaic power generation equipment mainly consists of three parts: solar panels, controllers and inverters. The production of solar panels is characterized by high pollution and high energy consumption, and its power generation conditions also have strict environmental requirements. 1. Question: What are the advantages of developing large windmill power generation industry in Yancheng? 2. Question: Analyze the advantages and disadvantages of developing photovoltaic industry

Industry name	Industry type	Industry characteristics	Direction of development

### 5. Study trip evaluation

After the study trip, teachers should evaluate the students' performance during the study trip. This article uses a questionnaire survey and adopts the methods of teacher evaluation, student self-evaluation and student peer evaluation to comprehensively and objectively evaluate students' various behaviors during the study trip.

### 6. Questionnaire survey

- What is your attitude towards study tours ( )  
 A. A waste of time B. A burden C. School requirements D. Broaden horizons
- Your satisfaction with the activities of this study trip is ( )  
 A. Very satisfied B. Average C. Unsatisfied
- The teacher's satisfaction with the guidance of the study trip is ( )  
 A. Very satisfied B. Average C. Unsatisfied
- Mastery of exploratory activities in research ( )  
 A. Very B. Average C. Not mastered
- The degree of compatibility between this study trip and the textbook knowledge ( )  
 A. Very B. Average C. Don't know
- Are you willing to participate in such research activities next time ( )  
 A. Willing B. Unwilling C. Unsure
- Through this study, your understanding of the local industrial structure ( )  
 A. Very knowledgeable B. Average C. Don't know
- (Multiple choice) What knowledge did you acquire during the study trip ( )  
 A. The importance of the relationship between man and land B. The improvement of geographical practice  
 C. Fully understand the local history and culture D. Understand the importance of rural revitalization
- What do you think is the biggest gain from participating in research activities?

### 7. Research summary

This study trip was safe, smooth and successful, and all the teachers and students gained a lot. Walking out of school and walking in the nature classroom, all teachers and students broadened their horizons. By observing nature reserves, students fully understood the importance of the harmonious development of the relationship between man and land; students learned to use apps such as "Shape and

Color" to identify flowers and plants, and understood Acquiring knowledge with the help of tools enhances students' geographical practical ability; leading students to visit Yancheng's characteristic industrial parks to popularize the development trends of new industries to students, which is conducive to helping students understand related industries and providing guidance for students' major choice; students live in the local area For two days, I had contact with local residents and learned about the local customs and culture. This study trip fully completed the four major goals of this subject and further cultivate students' core competencies in geography.

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