

# *Study on Tourism Image Perception of Wetland Eco-Tourism Area-Taking Poyang Lake National Wetland Park as an Example*

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**Abstract:** This paper takes Poyang Lake National Wetland Park as the research object, selects 910 effective comments from Ctrip and Meituan, and uses ROST CM6 software and network text analysis method to carry out high-frequency vocabulary, semantic network and emotional analysis. The results show that tourists' cognition focuses on natural resources such as migratory birds and grassland. The negative experience of tourists comes from the lack of personnel services, the aging of infrastructure, the inconvenience of internal and external transportation, the strong seasonality of the landscape, the lack of play items, and the low cost performance of ticket prices, forming a disparity between travel expectations and actual experience. Based on this, this paper puts forward optimization schemes from the dimensions of upgrading off-season business forms, improving global transportation, optimizing personnel services, digging deep into historical and cultural resources, and implementing differential pricing in off-season and peak seasons, so as to help improve tourists' satisfaction and provide practical reference for the sustainable management of similar wetland scenic spots.

## **1. Introduction**

With the continuous improvement of the quality of life of the Chinese people and the continuous development of the tourism industry, the perception of tourism image, which represents tourists' cognition of tourist destinations, has become one of the important methods for major scenic spots to establish their own uniqueness in the fierce market competition. At the same time, according to the 56 th' China Internet Development Statistics Report, as of June, the number of Internet users in China reached 11.23 billion, and the Internet penetration rate reached 79.7%[1]. The perception of tourism image based on network text analysis is a full use of current information technology. At the same time, according to the latest disclosure of the National Forestry and Grass Bureau, the number of national ecotourism tourists in 2024 will reach 27.61 billion[2]. It shows that the prosperity of ecotourism is higher than the national expectation, and the potential of ecotourism has not been fully tapped. With the comprehensive development of wetland tourism potential, maintaining the uniqueness of the scenic spot, improving the tourism experience of tourists, and promoting the

economic development of the scenic spot have become the top priority of major ecological scenic spots.

## **2. Research trends**

### **2.1 Wetland eco-tourism area**

Abroad, the research purpose of Rajashree Samal (2025) is to propose strategies for the sustainable development of ecotourism in the key tourist destinations within Chilika, particularly Mangalajodi, Barugaon, and Barkul.[3]. Georgia Trakala (2023) aims to identify and evaluate existing ecosystem services in the Kala Lake Basin based on recent literature and field surveys, focusing on cultural ecosystem services, especially eco-cultural tourism routes and paths[4]. In China, Liu Shanchen (2024) takes the characteristics of existing healing scenes as the core, which has guiding significance for the construction and development of healing landscape places in other ecological tourism areas in the future[5]. With the concept of low-impact development as the core concept, Longmei Rao (2024) put forward the concept of "three-boundary low-tech" ecological wetland park development[6]. Based on the integrity and dynamics of the ecosystem of the wetland eco-tourism area, the research of Rongdandan (2025) constructs a multi-scale linkage balance mechanism framework[7].

### **2.2 Tourism image perception**

Abroad, Yang Wang(2025)'s innovation is that user-generated content (UGC) video on platforms such as Tik Tok positively affects tourists' willingness to participate in rural tourism, and combines tourism image perception with big data[8]. Ana Leiras (2025) comprehensively analyzed the different tourism image perceptions felt by different types of people, providing a new perspective for analyzing tourism image perception[9]. In China, Liu (2025) believes that the overall tourism image presents functional and superficial characteristics through network text analysis, which constitutes an experience pattern of "natural landscape dominance, cultural symbol suspension, service perception sensitivity, and profound tourist experience[10]. Yu Shuyue et al. (2025) proposed to use new technologies to optimize the travel experience and enrich cultural symbols, so as to iterate the overall tourism image of the scenic spot[11]. Yang Ruiting (2025) put forward optimization countermeasures from three aspects: activating intangible cultural heritage context, optimizing service and creating cultural tourism IP, so as to retain the characteristics of the ancient city and improve the image and comprehensive competitiveness of the scenic spot[12].

### **2.3 Research Review**

Both at home and abroad are concerned about the sustainable development of wetland eco-tourism, foreign emphasis on ecological service theory, domestic combined with national conditions to form a localized planning evaluation system, the research is based on ecological protection first. Network text analysis has been a common research method for tourism image perception, and there are abundant cases in the optimization of protected area image in China. There are many single studies on wetland tourism and image perception, but the cross-study on the image perception of wetland scenic spots is insufficient. Wetland scenic spots are ecologically fragile and have public tourism attributes. Relevant research can promote the improvement of scenic spots and the coordinated development of ecology. The value of Poyang Lake wetland resources is outstanding. The existing research focuses on ecological protection, and the empirical research based on the image of network text is still lacking.

### 3. Data acquisition and preprocessing

#### 3.1 Data collection

The data of this study comes from Meituan, Dianping and Ctrip.com. In these three websites, the data of tourists' comments collected by crawler software were collected, and a total of 1244 articles were captured. After deleting duplicate, irrelevant, blank content, default praise, garbled, meaningless irrigation, and obvious wrong posts, a total of 910 valid text comments from May 2021 to May 2025 were obtained (Table 1). The data show that the evaluation of scenic spots is polarized, with 56 % favorable comments and nearly 30 % poor comments, showing bimodal characteristics. The following text analysis is used to explore the causes. The research uses ROST CM6.0 to process the comment data : first segment words and unify synonyms, and then correct non-standard expressions such as emoticons and network terms to ensure the accuracy of analysis.

Table 1: Comment star statistics obtained by each travel website

	quantity	percentage
Good review (4 ~ 5 stars)	679	56%
Medium review (3 ~ 3.5 stars)	175	14.1%
Bad review (0.5 ~ 2.5 stars)	372	29.9%
Grand total	1244	100%

#### 3.2 Data analysis

##### 3.2.1 Analysis of high frequency words

This study first uses ROST CM6 software to segment 910 comment data, and then uses the word frequency analysis function of the software to identify and extract words with high frequency. According to the four dimensions of core attraction, equipment and facilities, experience perception and perceived cost, the first 15 high-frequency words in each dimension are analyzed, as follows Table 2.

Table 2: Classification of High-frequency Words in Online Reviews from Four Dimensions

Core Attraction	Word Frequency	Facilities & Equipment	Word Frequency	Experience Perception	Word Frequency	Cost Perception	Word Frequency
Poyang Lake	1248	Scenic Area	1105	Experience	567	Admission Ticket	986
Migratory Bird	762	Sightseeing Bus	285	Poor	542	Expensive	645
Grassland	658	Boat Ticket	298	Good	528	Cost-performance	598
Bird	495	Queueing	312	Visit & Play	482	Price	415
Wetland	251	Facility	135	Time	465	Boat Ticket	298
Inner Lake	235	Outdated	131	Minute	432	Sightseeing Bus	285
Outer Lake	228	Under Maintenance	128	Worthwhile	398	Queueing	312
Peacock	276	Closed	125	Suggestion	382	Waiting	138
Swan	264	Unopened	122	Not Recommended	365	Misleading	119
Science Museum	243	Restroom	133	Rip-off	145	Deceptive	116
Dock	215	Air Conditioner	99	Disappointed	98	Package-bundled Ticket	113
Season	94	Crowded	105	Boring	172	Mandatory Purchase	110
Grassland	96	Queue-jumping	102	Nothing to See	165	Ticket Collection	108
Scenery	85	Order	185	Regretful	152	Hotline Busy	81
Sunset	65	Chaotic	178	Hour	448	Free of Charge	53

### 3.2.2 Core attraction

The main reasons for tourists to visit the scenic spot include the attraction of natural landscape, wildlife resources and characteristic projects. “Poyang Lake”, “migratory birds” and “prairie” are the absolute core attractions, and the word frequency is very high, which is the main force of scenic spot publicity. Tourists come to the grasslands and migratory birds of Poyang Lake. In fact, they can only see some 'artificial' and 'captive' birds. In addition to these natural landscapes and wildlife resources, Poyang Lake National Wetland Park has no other characteristic projects to attract. Most of the artificial landscapes are related to “dirty and disorderly”, “dilapidated”, “abandoned”, and “closed”. In general, the core attraction of Poyang Lake National Wetland Park is insufficient, and the recognition is not high. The core attraction landscape has a strong seasonality, and the non-seasonal artificial landscape or characteristic projects have not been well developed.

### 3.2.3 Traffic facilities

The traffic facilities here mainly refer to internal traffic and external traffic. Internal traffic is one of the reasons for tourists' dissatisfaction. “Sightseeing car”, “ticket” and “boat” are the main forms of internal traffic, and they do not leave a good impression on tourists. The “waiting” period, the “chaos” in the “order”, led to problems such as “queue jumping” and “crowding”, and “compulsion” became the main reason that kept tourists dissatisfied throughout the entire process. The external transportation is inconvenient for “parking”, and the frequent appearance of “routes” and “signs” mainly reflect the connection problem for traveling to and from Poyang Lake National Wetland Park. Public transportation requires a long waiting time, while the number of ride-hailing vehicles is scarce.

### 3.2.4 Perceived service quality dimension

The service perception of Poyang Lake National Wetland Park is dominated by negative emotions. Issues related to the “services” and “attitudes” provided by the “staff” frequently occur. Specifically, there is “chaos” in the “order”, “dirty and messy” environment, “bundled” various tickets, all of which make tourists feel that the “management” by the staff is poor. Tourists wanted to “complain”, but the result was a “busy line” problem. Of course, the staff also provided services such as “performing” and “explaining”, hoping to better serve tourists, but it is obvious that it cannot improve the overall perceived service quality.

### 3.2.5 Perceived cost dimension

It refers to the tourists' evaluation of ticket price, secondary consumption and overall cost performance. “Tickets” is the most frequent word except for place names, indicating that the attention to ticket prices from the perspective of tourists, “expensive” is not only the evaluation of tickets, but also the evaluation of the overall consumption of scenic spots. The high frequency of words such as “bundling”, “coercion” and “pit man” reveals that the ticket price of the scenic spot is expensive from the perspective of tourists, but there is still a problem of bundling to coax tourists to make secondary purchases.

## 3.3 Emotional image analysis

This study uses the sentiment analysis tool provided by ROST CM6 software to process the data of tourists' comments, and calculates the proportion of different emotional comments (Table 3), so as to grasp the tourists' emotional attitude towards the scenic spot.

Table 3: Statistical Analysis of Tourists Emotional Perception of Scenic Image

Emotion Type	Proportion /%	Intensity Level	Proportion /%	Sample Comments
Positive Emotion	15	Mild	5	Beautiful scenery, pleasant climate and vibrant ecology featuring harmonious coexistence between humans and nature.
		Moderate	5	Pretty surroundings with fresh air; it is a desirable tourist destination worth recommending.
		Strong	5	Great fun with lovely views. We fed swans here and our kids enjoyed themselves so much that they were reluctant to leave.
Neutral Emotion	10	—	—	Overpriced admission; long waiting time for ferry rides and mediocre scenic spots.
Negative Emotion	75	Mild	20	Few attractions available; the ticket mainly covers a boat ride with poor cost performance.
		Moderate	30	It is a total waste of three hours. There is barely anything worth seeing, even less interesting than domestic poultry in countryside. Save your money and drive around the lake instead; the 155-yuan ticket is a terrible deal.
		Strong	25	Avoid visiting! Limited recreational options with overpriced tickets.

As can be seen from Table 3, the proportions of positive, neutral and negative comments from tourists at Poyang Lake South Wetland Park are approximately 15%, 10% and 75% respectively. The overall satisfaction level of tourists is relatively low, and negative comments dominate. The positive comments focus on affirming the excellent ecology of the park, recognizing the achievements of ecological construction such as wetlands, migratory birds and popular science exhibitions, which are suitable for parent-child travel; the proportion of neutral comments is the lowest, and tourists feel mediocre. Negative comments are subdivided into three categories: general (20%), moderate (30%) and severe (25%), and the degree of dissatisfaction is gradually increasing. The negative focuses on the high ticket price, insufficient management and connection facilities, idle shutdown of amusement and bird watching facilities, excessive seasonality of the landscape, difficulties in internal and external transportation, and poor cost performance of services and catering in the park. The landscape of the scenic spot is only attractive in the bird watching season, and the rest of the season experience is not good, and some tourists do not evaluate it as well as ordinary zoos. Affected by the old supporting facilities and the lagging operation mode, the scenic spots rely on bundled consumption to increase income, which further causes tourists' disgust. A large number of negative evaluations damage the reputation of the scenic spots and need to be rectified.

### 3.4 Semantic network analysis

In this study, the semantic network analysis module in ROST CM6 software was used to analyze the effective tourist comment data and form the semantic network of Poyang Lake National Wetland Park (Figure 1). According to Figure 1, the semantic network of scenic spots is divided into four layers, with the name of scenic spots as the core, and closely connected with the sub-core nodes such as tickets, migratory birds, boats, and grasslands; relying on the largest freshwater lake in China to carry out publicity, pull up the psychological expectations of tourists. Tourists focus on scenic spots, grasslands, migratory birds and wetlands, which are in line with the positioning of



the pain points such as disorderly waiting ships, unclear waiting time, and unreasonable fares, the queuing moving line is standardized, and electronic screens are arranged in the waiting area to broadcast the queuing progress and departure time in real time; in the peak season, additional personnel and encrypted connection voyages are allocated. The classification system of train and ship ticket price is implemented, and economic traffic tickets and high-end sightseeing tickets are set up. The former mainly focuses on fast passage and regular traffic conditions, while the latter has better ride facilities and longer tour time along the way. It is difficult for tourists to purchase external traffic on demand in a short period of time. Completely improve, the scenic area sorts out key tourist sources and opens fixed-point direct tour buses. It can connect with nearby well-known attractions, divert tourists from the main tourist routes, establish an interconnection transportation mechanism among the attractions, operate shuttle buses to run between the attractions, and enable tourists to complete one-stop transfer to other attractions, solving the problem of tourists' transfer and enhancing the convenience of tourism in remote areas.

### **4.3 Perceived service quality**

The disparity in the proportion of personnel in the scenic area leads to insufficient service supply in the peak season, and it is difficult for employees to guarantee the quality of service after taking into account revenue and safety. Several optimization measures have been proposed for this: First, regular all-staff business training is carried out, and passenger flow contingency plans are formulated during peak seasons. During off-peak seasons, job rotations are implemented to enhance the comprehensive business capabilities of employees and ensure the efficiency of labor allocation during peak seasons. Second, interns and volunteers are regularly recruited at a low cost to expand the service team. Through mutual learning between new and old employees, the overall service level is improved. Third, a reward feedback system for tourists is implemented, complaint channels are opened, on-site problems are dealt with immediately, and information of tourists with difficult-to-immediately-rectify issues is retained and follow-up visits are conducted. In addition, by publishing booking and check-in data in real time online, tourists can be guided to avoid traveling during peak periods, enabling them to plan their trips reasonably and establish service expectations, thereby effectively reducing tourism disputes.

### **4.4. Improving perceived costs**

The scenic spot implements differential pricing in off-season and peak seasons, splits the bundled tickets that tourists resent, enriches the play format on the basis of managing and protecting existing facilities, and optimizes the revenue structure. Relying on distinctive projects to extend the duration of tourists' stay and improve the value of their visit: Specialized explanations on the park's unique flora and fauna should be added, combined with the development of live-action script experiences based on local historical anecdotes. This will change tourists' consumption perception, making them view their travel expenses as investment in academic enrichment and expanded knowledge, rather than just entertainment spending. At the same time, the catering facilities should be optimized, with an expansion of catering categories, standardization of dish pricing, and the integration of local customs and local stories to create distinctive cuisine. By leveraging distinctive catering, tourists can be retained, further extending the duration of the visit and enhancing the sense of enjoyment. The cost-effectiveness will be improved from multiple dimensions such as ticket prices, entertainment, and catering, thereby dispelling tourists' negative impression of high ticket prices.

## 5. Conclusions and prospects

### 5.1 Research conclusion

From the perspective of tourists, this study takes Poyang Lake National Wetland Park as an example to study the perceived image. This paper uses the crawler software to collect the tourism information and comment information of Ctrip, Meituan, Dianping and other websites, and processes them through ROSTCM6.0, so as to obtain the research data of the image cognition of the wetland ecological tourism area. Through high-frequency word analysis, emotional image analysis and semantic network analysis, the tourists' perceived image is obtained. This paper analyzes all aspects of its tourism image cognition, and on this basis, puts forward some countermeasures to optimize the tourism image.

Based on the tourists' emotional feedback, their opinions were completely polarized. There was a significant dissatisfaction regarding the management and service quality of the scenic area (negative evaluations accounted for 75%). Most of the tourists who gave positive ratings did not leave any comments, while those who gave negative ratings usually provided detailed explanations, resulting in an overall negative tone in the online text. The deficiencies of Poyang Lake National Wetland Park were summarized from three aspects: cognitive image, emotional image and overall image. Relevant suggestions were also given for these deficiencies. By enhancing core competitiveness, optimizing internal transportation, the cognitive image can be improved; by improving the perceived service quality and perceived cost, the emotional image can be enhanced; by changing the publicity positioning and adding continuity experiences, the overall image can be reshaped.

### 5.2 Research deficiencies and prospects

This study uses the network text analysis method, mainly based on the data samples of tourists' evaluation on Ctrip, Meituan and public comment platforms. By constructing the tourism image perception of Poyang Lake National Wetland Park, there are some limitations in providing the basis for improving the quality of scenic spots. After that, the latest and most intuitive tourist comments and suggestions can be collected through questionnaires. The suggestions for the optimization and improvement of scenic spots in this study are from the perspective of tourists. After that, through in-depth interviews with the heads of scenic spots, we can have a deeper understanding of the difficulties faced by the development of scenic spots.

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