

**DETERMINANTS OF WETLAND BIRDWATCHING TOURISM:
A STUDY AT HUANGGANG CITY, CHINA.**

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ABSTRACT

The objective of this study is to investigate factors influencing the decision-making of the actual wetland birdwatching tourists in Huanggang City, China. Based on the previous literatures, all the influencing factors were categorised into three groups, namely industrial factors, social factors and personal factors. This study employed the Factor Analysis as the main data analysis method. By utilising purposive sampling method, a total of 419 tourists participated in this study. The results showed that the overall quality and social level of wetland birdwatchers in Huanggang City is high, however the consumption level is low. The main influencing factors of birdwatching decision are attraction of scenic spots, family members, traffic conditions, interests and hobbies. Through factor analysis, the 16 influential factors of birdwatching decision were divided into 3 dimensions: industry, society and individual. Based on the findings of this study, the following countermeasures and suggestions were provided: stimulate interest and hobbies, form local dependence and identity, encourage the wide participation of all walks of life, turn birdwatching into tourism fashion, perfect infrastructure construction and improve tourism service level.

Keywords: *Wetland birdwatching, tourism decision making, impact factors, Huanggang City, China.*

INTRODUCTION

Background of the Study

Wetland birdwatching tourism is a kind of world leisure tourism activity (Tan, Huang & Wu, 2016). Its typical characteristics of long industrial chain and high added value had been widely recognized as the best carrier for developing ecotourism. Wetland birdwatching tourism is a very popular outdoor ecological leisure activity in Western countries, and has a history of more than 200 years (Ortega-Alvarez, Sanchez-Gonzalez, & Rodriguez-Contreras, 1997). It has been industrialized in developed countries, but the early development of bird watching tourism in China began in the 1990s, as far as the huge tourism market of China is concerned, the scale of bird watching tourism is small (Chen et al., 2019; Cheng, 2013).

Huanggang City is a member of the old revolutionary area of Dabie Mountain in China. Although the city has a weak industrial base, but its natural ecological environment is well protected (Chen et al., 2019). The vast forest land is a good place for the habitat and reproduction of many central China residents and summer migratory birds. With the improvement of the natural environment, the wild bird resources in Huanggang have become more and more abundant in recent years. The large number of rare wild birds overwinter here, such as black stork (*Ciconia nigra*), white crane (*Grus leucogeranus*), great bustard (*Otis tarda*), oriental white stork (*Ciconia boyciana*), white-headed Crane (*Grus monacha*), Big Swan (*Cygnus cygnus*) and so on, it has attracted a large number of birdwatchers, but also caused widespread concern from all walks of life (Chen et al., 2019; Cheng, 2013; Chen, 2003).

Objective of the Study

Taking Huanggang city as an example, a questionnaire survey was conducted to investigate the factors influencing the decision-making of the actual wetland bird-watching tourists, the importance of influencing factors was analysed by factor analysis method. Based on the present situation of bird resources in Huanggang city and the reality of social economic development, some suggestions on the development and management of bird-watching tourism in Huanggang Wetland are put forward.

Research Questions

Just like the current situation of wetland bird watching tourism in China, the number of tourists in the newly-developed bird watching wetland tourism in Huanggang is still relatively small, and insufficient attention has been paid to their development and management, there are also problems such as the destruction of the environment and birds by tourists and community residents, the lack of bird watching guidance institutions, backward conditions of professional service facilities such as the rental and sale of bird watching equipment, and the lack of bird watching tour guides. What kind of factors influence the decision-making of tourism consumers to a tourism destination is the most concerned factor of the managers? Only on the premise of fully resolving the tourists'

demands on the bird tourist spots, can the development and management of the destination be carried out pertinently (Steven, Morrison & Castley, 2015). However, because the consumption of bird-watching tourism in wetland is different from the daily consumption and the ordinary tourism consumption, it is a special kind of ecological service tourism consumption, and the consumers will consider many things when they choose the tourism destination, the influencing factors of their decision intention are naturally different. In this paper, the following issues are discussed:

- Q1. What is the social and consumption level of behaviour preferences of wetland birdwatching tourists in Huanggang City?
- Q2. Whether there is any difference in the degree of the impact of the various factors on the decision-making of wetland bird-watching tourism?

Hypothesis

The purpose of this study is to explore whether the actual wetland bird-watching tourists' choice of destination will be affected by the factors listed in this paper. Therefore, based on the previous research, and combined with the research purposes, this paper proposes the following research hypotheses:

- H₁: Industrial factors such as infrastructure condition, service facilities level have a direct and significant impact on bird-watching tourism decision-making.
- H₂: Social factors such as social organization advocacy and government support have a direct and significant impact on bird-watching tourism decision-making.
- H₃: Leisure time, personal interests and income level have direct and significant influence on bird-watching tourism decision-making.

LITERATURE REVIEW

Birdwatching tourism refers to the observation of wild birds and their activities in the natural state with the help of naked eyes or optical tools such as telescope, on the premise of not damaging the ecological environment and normal activities of birds (Chen et al., 2019). It is a kind of tour form which is mainly to broaden the experience and relax the mood. It can also be called ecological birdwatching tourism (Zhao, Cheng & Harkness, 2006). Recently, birdwatching tourism is increasingly influential in China, and the birdwatching population is growing rapidly. As the most important form of Eco-tourism, birdwatching tourism is conducive to further accelerating the construction of ecological civilization system and promoting green development (Sekerciogluc, 2002). Meanwhile, relying on abundant bird resources to develop birdwatching tourism plays an important role in promoting environmental protection and the development of regional social economy, and in achieving regional poverty reduction and poverty alleviation (Liu, Wang & Ren, 2019). In addition, many birdwatching organizations have established long-term good cooperation

with local schools (Cheng et al., 2013), integrating birdwatching activities into the curriculum, which is conducive to the improvement of teenagers' environmental awareness and the development of primary and secondary school students' research travel activities. Birdwatching, as the most important form of eco-tourism (Zhao, Cheng & Harkness, 2006), is the most typical of all types of eco-tourism (Zhao, Cheng & Min, 2007).

Because of the complexity and difference of tourists' decision-making behaviour, birdwatching decision-making, as an important part of tourists' behaviour research, is a hot and cutting-edge topic of tourism research. Tour decision-making is a continuous process, including four stages: (1) The generation of tour motivation; (2) Information collection and analysis; (3) Final decision-making; and, (4) Post tourism evaluation. The influencing factors of each stage are different (Guo, 2009). Most foreign scholars believe that tourism decision-making is generally affected by multiple factors, including internal factors, external factors and comprehensive factors. Ercan, Mclellan and Muzaffer (1996) found that the importance of individual differences in holiday destination decision making. According to Ortega-Alvarez, Sanchez-Gonzalez and Rodriguez-Contreras (1997), children's physical needs, such as meal times and sleep needs, influence group decision making and behaviour. Another research conducted by Asunción, Gonzalo, and Sergio (2007) found that the greater the participation of tourists in leisure tourism, the greater the ability to predict destination choice.

Domestic scholars also pay more attention to the study of the influencing factors of tourism decision-making. Li, Guan, and Wu (2018) proposed the key impact of filial piety on family tourism decision-making behaviour. Yang (2015) suggested that the demographic characteristics such as marriage, age, income and educational background are significantly related to the decision-making of female tourists. In the study conducted by Tan, Huang and Wu (2016), they found that age, education level, health status, destination ecological environment, leisure facilities for the aged, medical treatment level, tourists' own economic conditions and other seven variables have significant correlation with the decision-making of the aged health leisure tourism. Yu and Xia (2016) pointed out that the factors that had a significant impact on the decision-making behaviour of pension tourism were residence, employment before retirement, annual income level after retirement, whether there were family members in need of care, education level, pension savings, the highest frequency of individual inter-annual travel and the frequency of dynamic hobby activities. Another research conducted by Fu, Yao and Zhao (2017) found that self-media as a huge platform for information exchange has an important impact on every aspect of college students' tourism decision-making behaviour. As for Liu (2018), his study discovered that online word-of-mouth (WOM) can strongly stimulate tourists to make demand decisions. Meanwhile, Wang, Xiu and Lan (2018) found that catering, WOM and cost information factors have a greater influence on college students' travel decisions, college students try to gain the experience of former tourists before they go on a trip.

Generally speaking, in addition to the constraints of demographic characteristics, the influencing factors of tourism decision-making include six categories: individual social-economic, individual psychological, group support, social supports, tourism service and others (Qiu & Wu, 2004). Individual social-economic conditions are still the primary consideration of travel decision-making (Qin, Lin & Tang, 2010). At present, the research

on birdwatching behaviour mainly involves the satisfaction (Yu & Xia, 2016), but the research on the influencing factors of decision-making is rare.

RESEARCH METHOD

Research Region

Huanggang City is situated in the east of Hubei Province, the south foot of Dabie Mountain and the North Bank of the middle reaches of the Yangtze River. It connects provinces Henan in the north, Anhui in the East, and cities Ezhou, Huangshi and Jiujiang in the south. It is located at 114°24'-116°07'E and 29°45'-31°40'N. It is the most eastern city in the Yangtze River Economic Belt of Hubei Province. The lake type reserve and Wetland Park located in the middle reaches of the Yangtze River and its tributaries are ideal winter habitats for many herons, cranes and other winter migratory birds (Chen et al., 2019). In addition, the mountainous counties and cities in Huang-gang have many famous scenic spots, such as Tiantangzhai, Wujiashan, Triangle mountain, Tiantai Mountain, and so on, which are integrated with the surrounding artificial wetland (reservoir pond type), and have the advantages of forest eco-tourism and water eco-tourism meanwhile. According to the statistics of Huanggang Forestry Bureau in 2017, there are 23 wetland parks in Huanggang, covering an area of 817.15km². Yi-Ai Lake, Longgan Lake, Wushan Lake and Chidong Lake have become famous wetland tourist areas in Huanggang.

The migratory route through Huanggang brings a large number of migratory birds for this area. Three of the world's eight migratory bird routes are in China, which are East Africa-West Asia migration route, Central Asia migration route and East Asia / Australia migration route (Chen, 2003). The Central Asia migration line passes through Huanggang in the east of Hubei Province from north to south or from south to north. With the advancement of ecological civilization construction and economic and environmental protection of the Yangtze River, the natural environment has been significantly improved. In recent years, the wetland bird resources in Huanggang are more and more abundant. In Longgan Lake Nature Reserve, there are 184 species of birds that are mainly wetland waterfowl. The first level national protection includes *Grus Monacha*, *Grus Leucogeranus*, *Ciconia Nigra*, *Ciconia Boyciana* and *Otis Tarda*. The population number of overwintering *Grus Monacha* and *Ciconia Nigra* reached 425 and 54 respectively at the maximum. They are the largest overwintering populations found in China. That was why Huanggang is awarded the "hometown of white headed cranes in China" by China Animal Association.

Research Instrument

To ensure the scientific of questionnaire design and the validity of survey data, at first, referred to the relevant literature on the influencing factors of tourism decision-making (Guo, 2009; Qiu & Wu 2004; Qin, Lin & Tang 2010; Yu & Xia, 2016), and carry out the preliminary design of the questionnaire; Then, asked for expert opinions, including 3 experts in tourism and 3 experts in ecology; Finally, after two rounds of consultation and modification, the questionnaire was determined, it includes three parts: personal information

of bird watchers (6 questions), behaviour preference of bird watchers (9 questions), influencing factors of birdwatching decision-making (16 small questions as a whole). The influencing factors of birdwatching decision are in the form of matrix multiple choice questions, and the respondents choose from 5 items of “very unimportant”, “unimportant”, “general”, “important” and “very important” by Likert 5 scale. After being revised through the pre-test, the formal survey was carried out from November 2018 to April 2019. The field survey was carried out in Huanggang Yi-Ai Lake Wetland Park and Longgan Lake Nature Reserve. Meanwhile, the online questionnaire was released on the “questionnaire star”, QQ and Wechat. In total, we collected 423 questionnaires, and selected 419 of them were useable. The effective rate was 99.52%.

Data Analysis

Factor analysis is used in this study. It is a kind of multivariate statistical analysis method, which can reduce the variables with complex relationship or overlapping information to a few uncorrelated comprehensive factors. In this paper, exploratory factor analysis is used to extract main factors. The extracted main factors are arranged in descending order of variance, and the principal components that meet the requirements in the front row are selected as main factors (Geng & Liao, 2018; Zhang, 2018). The steps are as follows: (1) Supposing there are “m” influencing factors, and each influencing factor has “n” evaluation options. According to the results of the questionnaire, the matrix data table of the importance of influencing factors of birdwatching tourism was constructed; (2) If the Cronbach’s alpha is more than 0.9, it means the reliability is good, and if it is between 0.8 and 0.9, it means the reliability is acceptable. KMO is a common indicator to measure the effectiveness of factors. If its value is higher than 0.8, it indicates that it is very suitable for factor analysis; if between 0.7 and 0.8, indicates that it is suitable; if between 0.6 and 0.7, indicates that it can be implemented, but not ideal; if the value is less than 0.6, means it is not suitable; (3) Use principal component analysis to extract main factors. The number of main factors is determined according to the criterion that the eigenvalue is greater than 1 and the factor load is greater than 0.5.

RESULTS

Research Question 1: What is the social and consumption level of behaviour preferences of wetland birdwatching tourists in Huanggang City?

Table 1: Demographic Factors of Birdwatching Tourists in Huanggang City

Factor	Category	Frequency	%
Gender	Male	210	50.12
	Female	209	49.88
Daily Residence	Huanggang City	88	21.00
	Wuhan City Circle	168	40.10
	Neighboring Provinces (Henan, Anhui, etc.)	49	11.60
	Other Provinces in China	108	25.78
	Other Countries or Regions	6	1.43
Occupation	Primary and Secondary School Students	34	8.11
	College student	130	31.03
	Staff of Enterprises and Institution	53	12.65
	Business and Service Staff	25	17.42
	Peasant	73	5.97
	Worker	32	7.64
	Army man	7	1.67
	Retiree	15	3.58
Age	Others	50	11.93
	≤18	42	10.02
	19-30	176	42.00
	31-45	86	20.53
	46-60	75	17.90
Academic Qualification	≥60	40	9.55
	Junior High School and Below	51	12.17
	High School and Equivalent	93	22.20
	Junior College	70	16.71
	Undergraduate	183	43.68
Income	Master degree or above	22	5.25
	RBM ≤1000	86	20.53
	RBM 1000-3000	105	25.06
	RBM 3001-5000	92	21.96
	RBM 5001-7000	74	17.66
	RBM 7001-9000	27	6.44
	RBM ≥9000	35	8.35

From Table 1, among the birdwatchers, male (50.12%) are slightly more than female (49.88%). Most of them were college students (31.03%). This is followed by enterprise employees (12.65%) and staff of government departments and public institutions (12.16%). Majority of birdwatchers from Wuhan city circle (62%). The majority of birdwatchers are young and middle-aged, with the largest number of them aged 19-30 (42.00%), this is followed by 31-45 (20.53%). Many birdwatchers are highly educated, 48.93% of them have bachelor's degree or above. Birdwatchers are mainly middle-income people, with the highest monthly income of 3001-5000 yuan RBM (25.06%), followed by 1000-3000 yuan RBM

(21.96%). Therefore, the overall quality and social level of birdwatchers are relatively high. This conclusion is consistent with the reality that birdwatchers are gradually popular under the background of individualized tourism demand and refined tourism industry

Table 2: Behaviour Preferences of Birdwatching Tourists in Huanggang City

Behaviour Preference	Option	Frequency	Percentage (%)
Familiarity	Know Absolutely Nothing	102	24.34
	Know Nothing	159	37.95
	Common Understanding	111	26.49
	Understand	32	7.64
	Very Understanding	15	3.58
Travel Mode	Self-service Tour	283	67.54
	Organized by Travel Agencies	155	36.99
	Organized by Relevant Associations	142	33.89
	Others	54	12.89
Means of Transportation	Walk	158	37.71
	Self-driving	257	61.34
	Public Transportation	161	38.42
	Rent Vehicles	94	22.43
	Others	40	9.55
Accesses to Information	Personal Experience	88	21.00
	Introduction of Relatives or Friends	172	41.05
	TV / RADIO	146	34.84
	Internet (Microblog/QQ/Wechat/etc.)	245	58.47
	Travel Agency	123	29.36
	Relevant Associations	96	22.91
	School or Professional Institution	94	22.43
	Others	58	13.84
Accommodation Option	Camping	138	32.94
	Birdwatching Dormitory	205	48.93
	Hotel	191	45.58
	Home-stay	232	55.37
	Others	30	7.16
Preferable Season	Spring	307	73.27
	Summer	118	28.16
	Autumn	236	56.32
	Winter	92	21.96
Selection of Activities	Birdwatching Exchange Meeting	211	50.36
	Painting / Photography	245	58.47
	Match / Game	172	41.05
	Outward Bound	284	67.78
	Others	49	12.41
The Highest Acceptable Per Capita Consumption	RMB300	126	30.07
	RMB500	145	34.61
	RMB1000	76	18.14
	RMB2000	41	9.79
	RMB5000	9	2.51
	Others	22	5.25

As a new type of eco-tourism, birdwatching has a low degree of familiarity. Table 2 shows that there are 62.29% tourists did not know about birdwatching at all and only 3.58% of them knew about it very well. Tourists tend to choose self-help travel (67.54%), besides; relying on travel agencies (36.99%) or professional associations (33.89) is also a hot option. Under the background of the popularity of self-help tourism, self-driving is the main mode of transportation for birdwatching tourism (61.34%). About the choice of accommodation, 55.37% of the respondents chose homestay and 48.93% chose birdwatching dormitory. The access to birdwatching information mainly relies on the Internet (58.47%), followed by the introduction of relatives or friends. Outdoor activities, creative photography and birdwatching exchange are all favourite projects of the vast majority of respondents. The highest acceptable per capita consumption is generally low, with 64.68% tourists choosing less than RMB500, while the proportion choosing RMB1000 (18.14%), RMB2000 (9.79%) and RMB5000 (2.15%) decreases in turn; compared with the purchase of birdwatching equipment, 77.33% of the respondents chose to rent.

At present, the tourists who participate in the birdwatching activities in Huanggang are neither professional nor mature birdwatchers, birdwatching tourism is mainly in the form of loose self-help. From the economic and social perspective, since there is very little publicity about birdwatching tourism, we can conclude that the consumption level of behaviour preferences of birdwatching tourism in Huanggang City is still very low.

Research Question 2: Whether there is any difference in the degree of the impact of the various factors on the decision-making of wetland bird-watching tourism?

Table 3: Descriptive Analysis of Factors Influencing Birdwatching Decision

Factor	Mean	Standard Deviation
Hobby	3.89	1.007
Time	3.79	0.947
Income	3.68	0.970
Family Member	3.97	0.880
Understanding of Birdwatching	3.55	1.002
Fashion Oriented	3.40	0.989
Recommendation from Others	3.28	0.833
Propaganda and Advocacy of Social Organizations	3.46	0.881
Government Support and Promotion	3.56	0.927
Tourism Atmosphere	3.69	0.890
Local Food	3.82	0.876
Accommodation Condition	3.84	0.884
Traffic Condition	3.97	0.835
Attraction of Scenic Spots	3.99	0.834
Featured Items	3.58	0.978
Tour Guide Service	3.81	1.006

Descriptive statistics were made on the results of the survey on the influencing factors of bird-watching decision-making. The results in Table 3 show that the mean value of each factor is between 3.28-3.99, with little difference. The mean value of “attraction of scenic spot” is the highest, which is 3.99; the second is “family members” and “traffic conditions”, which are both 3.97. The mean value for interest is 3.89, accommodation (3.84), local food (3.82) and tour guide service (3.81). Meanwhile the standard deviation for “interest and hobby”, “tour guide service” and “understanding of birdwatching” is greater than 1, which shows that there is significant difference in tourists' cognition of these three factors.

Factor Analysis

The results of reliability and validity tests reveal that the Cronbach Alpha coefficient of the overall reliability is 0.911, which shows that the internal consistency of the questions designed in this questionnaire is high and the reliability of the questionnaire is strong. KMO is 0.897 (>0.6), which meets the requirement of Factor Analysis; it shows that measurement items of the questionnaire has high degree of agreement and it is suitable for factor analysis. The Bartlett value is 3604.474, *df* value is 120, and the probability of significance is 0 (less than the significance level of 0.01). The spherical hypothesis is rejected, indicating that factor analysis can be carried out.

Table 4: Factor Analysis Result

Factor	Evaluating Indicator	Factor Loading	Characteristic Value	Variance Contribution Rate (%)	Cumulative Variance Contribution Rate (%)
Industrial	Traffic Condition	0.804	7.064	7.064	25.132
	Resource Attraction	0.798			
	Accommodation Condition	0.775			
	Local Food	0.684			
	Featured Items	0.657			
Social	Tour Guide Service	0.616	1.557	1.557	45.405
	Social Organizations	0.836			
	Government Support and Promotion	0.814			
	Recommendation from Others	0.737			
	Fashion Orientation	0.616			
Personal	Tourism Atmosphere	0.580	1.259	1.259	61.746
	Time	0.758			
	Interests	0.695			
	Income	0.661			
	Family Members	0.596			
	Understanding of Birdwatching	0.521			

In view of the sociological characteristics of tourism discipline and the uncertainty of the questionnaire survey, it can be seen from Table 4 that the cumulative contribution rate of the first three main factors is 61.764%, which already contains most information of the original

variables, so three main factors can be extracted. Then, according to the index commonness of each common factor, they are named industry factor, social factor and individual factor.

According to the variance contribution rate of the three main factors, the “industrial factor” explains 25.132% of the information contained in the decision-making influencing factors of wetland birdwatching tourism, which is the most important of the three. This factor includes infrastructure conditions, service facilities and level, of which traffic conditions have the most significant impact, followed by resource attraction, accommodation conditions, local food, featured items, and tour guide service. The second is “social factor”, which explain 20.273% of the information contained in the decision-making influencing factors. Among these factors, social organizations play the most important role, followed by government support, others’ recommendation, fashion orientation and tourism atmosphere. Finally, the “personal factor”, which explains 16.341% of the information contained in the decision-making influencing factors of wetland birdwatchers. In this factor, time is the most difficult for tourists to control, so the impact is also the largest; followed by personal interests and hobbies, income, family members and the understanding of birdwatching. The combination of the three groups of factors contributed 61.746% in variance change in birdwatching tourism decision. The results show that all the three factors have significant and direct impact on bird-watching tourism decision-making in Huanggang City. Therefore, we can conclude that all the hypotheses - H_1 , H_2 and H_3 in this study are supported.

CONCLUSION AND SUGGESTIONS

Wetland birdwatching tourism is helpful to speed up the construction of ecological civilization system and promote green development. It plays an important role in promoting environmental protection and regional socio-economic development, so as to reduce poverty in the region. It is also conducive to raising the awareness of young people’s environmental protection education and the development of primary and middle school students’ study travel activities. Study of wetland birdwatching tourism is a hot and frontier topic in birdwatching tourism research.

This study has achieved its objective - to investigate factors influencing the decision-making of the actual wetland birdwatching tourists in Huanggang City, China. It was found that the overall quality and social level of wetland bird-watchers in Huanggang City is high, most of them are non-professional and immature bird-watchers, mainly in loose self-help form, however the consumption level is low. The results also showed that all the three groups of factors contributed 61.746% in variance change of decision-making in birdwatching tourism. Furthermore, industrial factor was found to be the most dominant predictor factor of decision-making in birdwatching tourism. Social factor and personal factor were also found to be fairly good predictor factors too.

It is an important part of wetland tourism to carry out recreational activities of different types and levels in birdwatching environment. It has become a new type of tourism that increasingly favoured by tourists (Li et al., 2018). Huanggang has rich advantages in birdwatching tourism resources, and birdwatching tourism has gradually been highly valued

by the government departments and relevant enterprises. However, compared with the well-known birdwatching places such as Poyang Lake, Dongting Lake, Yancheng and so on (LV et al., 2003; Fu et al., 2008; Li et al., 2012), birdwatching tourism in Huanggang has just started, and there are still many problems. As a city with a coastline of 220km of the Yangtze River, Huanggang has a unique location advantage in the construction of the entire Yangtze River economic belt. The construction of the Yangtze River Economic Belt brings Huanggang good opportunities. To seize the opportunity to promote the development of the Yangtze River economic belt, the following development suggestions are put forward from the perspectives of individuals, society and industry based on the experience at home and abroad and the research results of this paper.

Stimulate Interests and Hobbies, Develop Local Dependence and Identification.

Creating event effects and trying various channels to do well in the statistics and release of birdwatching tourism information, for example, publishing bird resources statistics on government websites, especially the variety, quantity and pictures of rare birds, so that tourists and local residents can learn their own birdwatching resources, so as to improve the popularity of birdwatching. It is recommended to develop Wechat official account and introducing advanced birdwatching skills at home and abroad. Based on the natural resources such as birds and their habitats, fully integrate to the regional characteristic culture, such as Red Culture, Zen Culture, Celebrity Culture and other humanities resources, and enrich the connotation of birdwatching tourism in Huanggang, and improve the form of birdwatching tourism products. Stimulating the interest of tourists with the theme of “No.1 general county - the most beautiful bird: Blue-throated bee-eater viewing place in China”, “go one step beyond the prescribed limit, the journey of *Grus monacha* in Longgan Lake”.

Local identity significantly promotes the production of natural empathy (Li et al., 2019). Under the premise of protection, develop tourism projects that are easy to be carried out in the wetland birdwatching tour and have strong participation and experience, such as creating a wild environment suitable for human stay, making tourists and birds exchange identities, and experiencing the living conditions of birds in a short distance; introduce interactive projection, use VR, AR and somatosensory technology to build a wetland science museum, and the “experiential” design concept can be used in design practice. This method can promote tourists to generate empathy for birds, stimulate tourists to generate local dependence and recognition of birdwatching in Huanggang.

Encourage People from All Walks of Life to Participate Widely and Turn Birdwatching into a Studies Fashion

Birdwatching tourism is still in the development stage in China, likewise in Huanggang, it is still in the initial stage, so people should take part in it with the help of all sectors of society. Industry players should seek leadership from the government in their effort to promote birdwatching tourism. They should also cooperate with birdwatching organizations, wildlife protection organizations, photo enthusiasts' associations and others, and regularly carry out

science popularization publicity and environmental education activities by bird week and community science popularization, so as to improve the awareness of birdwatching.

Secondly, education institutions such as primary and secondary schools and research and learning structures to open relevant courses, attracting primary and secondary schools in the source areas to carry out research and learning travel. Thirdly, there should be cooperation between local authority with the surrounding provinces and regions to carry out joint development and integrated marketing, radiate the main tourist distribution centres such as Beijing, Shanghai, and Guangzhou in creating the brand effect of birdwatching. Besides, the government can introduce incentive measures to encourage major travel agencies to promote parent-child birdwatching. With reasonable distribution of benefits, could encourage community participation in birdwatching. Community-based birdwatching programme are promising, which can improve the popularity of scientific knowledge, sustainable development practices and support bird protection in areas with high biodiversity (Ortega-Alvarez et al., 2012).

In addition to relying on traditional methods, such as TV, radio and newspaper, uses official account such as micro-blog, Dou Yin, Xiao Hong Shu, WeChat and other new media to spread wetland birdwatching tourism information is another way to boost the industry. Select the spokesperson of wetland birdwatching tourism through birdwatching photography, painting, popular science and other events, displays the spread power of the internet celebrity, and create an internet celebrity's birdwatching tourist card punching place; train special personnel to manage the netizens' comments in the online platform, and good comments will be strongly recommended, which will affect tourists to make positive tourism decisions. Last but not least, strengthening the propaganda and guidance, expand the brand awareness of wetland birdwatching tourism in Huanggang, and create the social effect of the popularity of wetland birdwatching studies tour will certainly beneficial to the industry.

Improve Infrastructure Construction and Tourism Service Level

Local authority should seize the policy opportunities of the construction of tourism demonstration area, ecological civilization and research tourism development, actively strive for national funds and policy support, strengthen infrastructure construction, improve the ancillary facilities, and provide outdoor accommodation and rest places and corresponding birdwatching equipment. The accommodation can be combined with the characteristics of wetland birdwatching, setting birdwatching dormitories, camping sites, so as to enhance the tourists' experience; and taking the accommodation style as the highlight of publicity, to increase the possibility of tourists staying. About the food, use the existing Dongpo Culture and delicacies of Huanggang, the characteristic vegetarian of Zen, the old revolutionary area of Dabie Mountain remembering bittersweet rice, Li Shizhen's health medicine diet as the themes, meanwhile, attach great importance to the creation of folk culture diet, such as Luotian hanging pot, Macheng meat cake, Xishui fish noodles, etc. Industry players should also pay attention to the packaging design of landmark products, such as Hongan peanut, sweet potato, Luotian chestnut, Qichun Bergamot yam. Besides, set up the rent and sale shops of birdwatching equipment for tourists to choose. Using online and offline

transactions, extensively open online trading platforms such as WeChat, Alipay and cloud flash payment to facilitate the tourists' birdwatching trips.

In terms of improving the level of tourism services, first of all, vigorously introduce and train professional and technical personnel in zoology and ecotourism, and train professional birdwatching talents in birdwatching knowledge and guide service skills. Secondly, on the premise of strict protection of birds and their living environment, birdwatching facilities should be designed based on the principles of animal suitability and meeting the needs of human use, which can be divided into two categories: direct birdwatching facilities and auxiliary birdwatching facilities (Gao, 2019). In addition, strengthen the construction of intelligent tourism system, set up QR code for explanation, and provide high-quality tourism services together with artificial guide service.

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