

Article

Do Sustainability Perceptions Affect Lake Destination Loyalty?

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Abstract: Despite a growing concern over sustainability in tourism, research on this domain, regarding, specifically, lake destinations, is still scarce. Although perceptions on lake destinations have been studied, no study is known that has analyzed the impact of visitors' perceptions on satisfaction and behavioral intentions. Thus, this paper aims to develop and test a model to analyze the effect of lake visitors' perceptions of destination's sustainability on both satisfaction and loyalty towards lake destinations. A questionnaire survey was conducted in the Shchuchinsk-Burabay resort area, an important lake destination in Northern Kazakhstan. The results support the proposed lake destination loyalty model, tested using partial least squares structural equation modelling (PLS-SEM). Sustainability proved to be decisively influential, with water quality being the dimension with the highest impact on satisfaction with the lakes, along with a positive key impact of other dimensions of perceptions of the lakes being the absence of congestion. In addition, both water quality and lack of congestion had, conjointly with other features, a significant indirect impact on satisfaction with lake destinations and on loyalty. Based on the research findings, theoretical conclusions and practical implications are drawn.

Keywords: lake destination perceptions; water quality; sustainability; satisfaction; loyalty; structural equation modelling



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1. Introduction

Sustainable development is an essential and popular concept in tourism, and its importance for the sector has been widely discussed in the tourism literature [1,2]. The sustainability of tourism has been examined by assessing its environmental, economic, and social impacts on society or local communities. Sustainable tourism has been defined as “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” [3]. Environmental sustainability must be ensured since the recent fast economic and social developments have led to the degradation of natural resources, such as water, in many parts in the world [4]. In 2015, the United Nations endorsed the 2030 Agenda for Sustainable Development, wherein the sixth goal aims to “Ensure availability and sustainable management of water and sanitation for all” [5].

Water resources are under threat and, thus, it is crucial to address vital resource challenges and adopt strategies towards sustainability. Water consumption patterns observed

in recent years are unsustainable [4]. Some organizations, such as the UNEP and the UNWTO, have developed actions to boost the sustainable use of water resources in tourism, including a World Tourism Day designed with this purpose [6].

The interest in examining water and tourism relationships has increased during the last decades [4,7]. Some attention has been paid to lake tourism and lake destinations [2,8–10].

Lakes are vital natural resources for human beings, and to ensure the sustainability of lake environments is of high interest for the population and industries. Sustainable management initiatives and interventions from local authorities and policymakers are required to preserve them [10,11].

In the context of tourism, lakes are considered important resources [11,12] due to their pleasant nature and attractive landscape, which make them meaningful places, often leading to positive mental images and feelings [13]. Nowadays, lakes correspond to key attractions in many destinations, such as the English Lake District, and some regions of Finland, Hungary, Italy, and Australia [14,15].

The literature suggests that the quality of water is of high value for lake tourism and the sustainability of lake destinations [10,14,16].

Some authors have highlighted the urgent need for environmental protection and the minimization of environmental threats in lake tourism development to enable its sustainable development [17–20].

Despite environmental concerns arising regarding lakes' ecological state, few studies have focused on lake tourism and lake destinations [10,21].

There have been studies examining the influence of tourism development on lake environments [22], exploring sustainable tourism planning in lake destinations [23], assessing the perception of lake destinations [10,24], and appraising satisfaction and loyalty towards a lake destination [25,26]. Nevertheless, to the authors' knowledge, no study has analyzed the impact of visitors' perceptions on lake destinations with a special focus on sustainability, on satisfaction with lakes and respective destination, and on loyalty towards lake destinations. A recent study acknowledged the existing gap in destination image research integrating sustainability dimensions. The authors assessed a destination image based on sustainability attributes and the influence of sustainability perceptions on tourists' satisfaction and their loyalty towards urban destinations [27]. The present paper aims to cover this gap by proposing and validating a model of the effects of visitors' perceptions concerning lake destinations (including those related to lakes and the surrounding territories), especially sustainability perceptions of lakes, on satisfaction and loyalty towards lake destinations.

This paper is grounded in the stimulus–organism–response theory (SOR), widely used in consumer behavior to understand tourists' behaviour and responses to various stimuli within a tourism environment [28,29]. The theory is helpful in developing effective strategies to enhance visitors' loyalty and understand its antecedents. This is one of the first studies employing the SOR theory to examine consumer behavior within the context of lake destinations, particularly the impact of lakes destination perceptions, and mainly on perceptions of lakes' sustainability, on satisfaction, and on loyalty towards lake destinations.

The empirical study was carried out in the Shchuchinsk-Burabay resort area in the Burabay region of Northern Kazakhstan, known for its charming landscapes, fresh air, and the possibility of enjoying recreational activities on lakes but affected, in recent decades, by external pressures, including tourism, which may worsen the image of the lake destination and influence future tourism flows to the destination. Thus, this study aims to help improve both lakes' sustainability and, consequently, visitors' satisfaction with lake destinations, as well as the tourism development of the region by increasing visitors' loyalty.

2. Literature Review and Proposed Hypotheses

Lakes are freshwater systems that play a vital role for humanity, the environment, and economic sectors. Their importance for tourism has been acknowledged, despite the existence of limited studies on lake tourism and lake destinations [8,13,14,21].

Some lakes have a crucial role in increasing the attractiveness of some regions and countries [14,21]. Visitors' perceptions, especially regarding the sustainability of lake destinations, are believed to significantly influence future travel behaviors to these places. In line with the definition of sustainable tourism previously presented [3], perceptions of sustainability in the context of lake tourism will be considered. Despite all the impacts on lakes, it is important to ensure the satisfaction of the needs of visitors, of the tourism industry, and of the territory of the destination, including the local communities. Thus, ensuring sustainability in lake destinations through a supply of water resources of good quality and guaranteeing that there are no congestions are fundamental issues for tourism development [2].

Lakes are subject to multifaceted pressures from population growth and water use for industrial purposes and agricultural activities, which threaten the sustainability of lake ecosystems [30], which is not favorable for the tourism sector's development. Some authors have stated that in the case of a water crisis caused by various external factors, the tourism industry will be the most seriously impacted [31].

Previous research regarding tourism and water has mainly been related to the impacts of tourism on the quality and quantity of water, water consumption issues [4], and the water quality challenges rising from tourism development [18]. Researchers are concerned with the challenges surrounding water resources and reinforce the relevance of its efficient use and protection and the implementation of sustainability practices. For example, some authors [32] explored the stakeholder engagement to foster cooperation towards the sustainability of Lake Taupo in New Zealand, encouraging the generation of new ideas and innovative approaches in this context. Other examined the sustainability of ecotourism in Lake Kenyir (Malaysia) using a set of economic, social, and environmental indicators and highlighted the importance of protecting the environment state of the lake [23]. Lake Balaton in Hungary, where the possibilities of the sustainable development of cycling tourism through visitors' engagement were examined, has attracted considerable attention in the fields of lake tourism and lake destinations, which would be beneficial for both visitors and tourism planners [2].

Although lakes are important attractions, generating visits to destinations [21] and possibly a growing sustainability awareness, limited research has examined this influence, likely due to the emerging nature of lake tourism. Nevertheless, visitor perceptions of lake destinations arguably impact satisfaction levels and loyalty [26]. Lakes are key assets in lake destinations, where visitors' behavioral intentions are determined by their perceptions [10]. Therefore, the process of forming lake destination images becomes decisive.

Several issues are important to differentiate lake destinations, with some of them being very relevant to ensure the sustainability of lakes. Some authors [21] highlight the relevance of the lacustrine tourism environment, which encompasses not only the lake itself, but also its surrounding areas (the infrastructure and facilities). The lake is a key asset in a lake destination's development, being complemented by the nearby components that form the entire lake ecosystem [24].

Research [10,24] suggests that lakes are heterogeneous regarding water quality, lake environment, and the extent of external pressures on the use of resources around a lake. Water quality could be considered an important perception aspect and one of the key components influencing destination selection decisions [14]. It is important to monitor the environmental state of lakes through water quality indexes and by taking certain steps and measures towards the sustainability of natural resources [30].

Some studies investigated water quality perceptions in a recreational or, specifically, a tourism context [10,33]. However, the assessment of water quality in lakes can be challenging for visitors due to their limited knowledge and experience in the field [16]. There is also no consensus regarding the appropriate model or set of attributes to be used to measure perceptions of water quality, possibly due to the complex nature of phenomena. In this context, visual and olfactory indicators of water quality may be more useful due to

their easily observable nature [16], such as odor, color, level of water, sediments, algae, and animal waste presence in water [33,34].

Growing human and tourism activities can themselves threaten a lake's vulnerable environment. Changes in water quality and availability may cause negative impacts for tourism, which is not favorable for the mentioned sector. It is the case of Québec, where the use of lakes for tourism and recreational activities caused algal blooms [35], which translated into a major issue concerning water quality in the region. This concern extends to other regions in the world, as declining water quality presents a challenge to the sustainable development of tourism. Pollution and congestion are considered sustainability challenges in destinations [27,36].

The wildlife variety on a lake, the landscape attractiveness, the tranquility, and the opportunities for water activities are also attributes that can influence lake perception [10,24]. Some research analyzes the importance of lake water for recreational activities [8,34]. Therefore, lake perceptions go beyond a lake's water and include the entire surrounding lake ecosystem (accessibility, peacefulness, and scenic beauty, along with water recreational opportunities and tourism amenities).

Congestion, i.e., the excessive concentration of visitors during the peak season in tourism destinations [27], is another important sustainability issue. In nature-based destinations, it can lead to the degradation of the natural environment, threaten resource sustainability, and negatively influence the visitors' perceptions. For example, crowding and noisiness at Sun Moon Lake National Scenic Area in Taiwan influence the mood of visitors and lead to negative experiences [37]. Ensuring a balanced number of visitors is of vital importance for lake destinations due to their vulnerable ecosystems.

The development of lake destinations demands tourism facilities, services, and activities, the presence of which may also affect perceptions of lakes [10,25], mainly when there are a high number of facilities. In addition, a lake ecosystem may be impacted due to its diverse use by various sectors, leading to potential conflict between stakeholders [14]. Thus, a positive image of lakes is affected by a variety of factors such as the prevention of conflicts between stakeholders and the absence of congestion on and near lakes.

There are also some other elements located slightly away from the lake itself, such as accommodation [10,24], tourist offices [24], restaurants [10], shopping areas, and parking [38], which are essential in the holistic assessment of lake destinations. In addition, some researchers refer to the history and heritage of an area [12], to the friendliness of local people or to cultural attractions, and to the beauty of the lake landscape [12,13] in the process of lake destination assessment [24]. Some natural features of lake destinations, even those unrelated to lakes—such as the presence of mountains and valleys or a pleasant climate—may also influence a visitor's perceptions [38].

This paper is grounded in the SOR theory, which has been widely used in various contexts, including consumer behavior in tourism. This theory was introduced by Mehrabian and Russell in 1974, suggesting that external environmental factors (stimulus) lead to the creation of an individual's intrinsic states (organism), which, in turn, define future behavioral outcomes (responses) [39]. It is useful to understand tourists' behavior and responses, as well as their antecedents, in order to elaborate effective strategies to enhance visitors' loyalty. Researchers have used the SOR framework to study the nexus between place attachment, positive emotions, place satisfaction, and behavioral intentions within the context of a ski resort [28]. Other authors [40] have used SOR to examine the impact of destination source credibility on tourists' environmentally responsible behavior. Others have considered it an adequate model in the context of events and festivals [29].

This is one of the first studies attempting to employ the SOR theory to examine consumer behavior within lake destinations, particularly the impact of lake destination images on satisfaction and loyalty. Within the lake destination context, the external factors (S) are composed of lake perceptions (on water quality, lake environment, lack of congestion) and lake destination perceptions (on tourism facilities, natural features, cultural heritage). The organism components (O) include satisfaction with lakes and satisfaction with lake

destinations, reflecting visitors cognitive and emotional responses regarding lakes and lake destination attributes. The response (R) is reflected in visitors' behavioral intentions, such as future repetitions of visits to the lake destination in question. The theory highlights that an individual's behavioral response is predicted by his/her emotional state, which is shaped based on destination-external factors. Considering this, the SOR theory is adopted as the theoretical basis for the present study, which is shaped on visitors' perceptions, satisfaction, and responses to external environmental and social causes.

Although research on visitors' perceptions of lakes is still scarce, some studies provide insights on potential consequences of the perceptions of lakes. Some authors [11] have pointed out that low water quality, including poor smell or color, or a polluted water surface, may affect visitors' experience outcomes. Others analyzed the effect of polluted lakes in China on the satisfaction level of visitors [10]. The authors noted that various levels of pollution may be present in lakes, but visitors may be naturally attracted by lakes' scenic beauty and pleasant surroundings.

Water quality is one of the most sensitive issues in the context of lakes [36]. It directly affects the overall health and sustainability of lakes, but the lack of this quality can also be harmful to recreational activities that take place around or within lakes. It is defined as the key aspect in the natural and ecological dimension of sustainability indicators, developed for Lake Boga in Bangladesh. Ensuring better water conditions will play a critical role in promoting sustainable tourism development in a lake area [20]. A study is already proposing the adaptation of transport innovations such as electric boats on lakes to mitigate the environmental impact of traditional boats and contribute to the sustainability of lakes [15]. The research of some authors [41,42], in the context of companies, suggests that perceptions of sustainability related to a company may lead to more satisfied consumers, since people are increasingly valuing sustainable development.

Due to the interest in the water quality dimension as a key lake element among lake stakeholders and researchers [2,10,11,32,33], this aspect is expected to be one of the most influential predictors of visitor satisfaction with lakes. In this context, it is considered relevant to test the impact of water quality perception on lake satisfaction based on the following hypothesis:

H1. *Perceptions of water quality have a positive influence on satisfaction with lakes.*

In addition, other characteristics of lakes, such as the recreational opportunities they offer for swimming and practicing other sports, also contribute to the value of lakes [13]. Moreover, some features in the vicinity of a lake, which shape the lake environment, such as a scenic lakeshore including the richness of wildlife and plant life and the overall sense of peacefulness, also can turn lakes into more attractive places [10,13]. The combination of these elements creates a holistic lakeside experience that may influence the satisfaction of visitors. Despite the scarce research in this scope, it is posited that:

H2. *Perceptions of lake environment have a positive influence on satisfaction with lakes.*

The lake ecosystem demonstrates its vital significance for destinations centered around lakes due to its multipurpose use for a variety of activities such as industry, agriculture, and tourism [14,18,30]. However, a lake environment is fragile, with some of these activities being potential sources of pollution and congestion, which leads to significant challenges in a lake destination [36]. Boating is one of the main causes [15,21]. Lake tourism is thus a very vulnerable tourism product, subject not only to external anthropogenic pressure but also to climate change, with environmental sustainability having special importance in this regard [17].

The degrading state of lakes due to various uses by the population (industry, agriculture, and tourism) [14] may affect visitors' images of lakes and lake destinations. It is essential to assess how visitors' perceptions of levels of congestion can affect their satisfaction. Therefore, it is posited that:

H3. *Perceptions of no congestion have a positive influence on satisfaction with lakes.*

Some research [43,44] suggests that the visitors' satisfaction with a destination is influenced by their positive perceptions of the destination. This may be true of lake destinations. Research on lake destinations concerning destination image and its impact on satisfaction is relatively limited, notwithstanding the last topics being popular in the tourism literature [9]. Some lake destination attributes, namely tourist facilities, infrastructure, and cleanness, were found to be essential antecedents of satisfaction [25]. Prasetyowati et al. and Jin et al. found that water park attributes such as good services and accessibility have a positive influence on visitor satisfaction [38,44]. Hence, tourist facilities and infrastructure such as hotels, restaurants, and walkways are considered important components shaping the experience in lake destinations and, probably, visitors' satisfaction [10]. Thus, it is hypothesized that:

H4. *Perceptions of provided tourist facilities and services have a positive influence on satisfaction with lake destinations.*

Taking into consideration a lake destination where the key natural asset is the lake itself, it is worth recognizing that other natural assets, such as scenic mountains and valleys and favorable climate, can enrich the visitors' experience and significantly influence visitors' satisfaction with the lake destination as a whole [10,11]. These features greatly contribute to the aesthetic value of lake territories [10,11], often considered idyllic landscapes. Visitors appreciating not only the natural beauty of lakes but also their surroundings are likely to be more satisfied with a lake destination as a whole. Consequently, we propose the following hypothesis:

H5. *Perceptions of natural features have a positive influence on satisfaction with a lake destination.*

There is limited research regarding the impact of specific attributes of a lake destination image such as cultural heritage. According to Tuohino et al. [13], the Finnish lakes have historical, cultural, and symbolic significance for visitors. The lake landscape encompasses not only what is seen but also people's feelings, emotions, and memories. There are lakes with symbolic meaning, and a variety of stories around them, which are interwoven by the locals [13]. Potocka postulates that for tourists, the attractiveness of places with lakes also depends on cultural attractions nearby [11], and cultural heritage has already contributed to the satisfaction with some lake destinations [10]. Moreover, cultural events have already been shown to contribute to place dependence and loyalty in the scope of nature tourism [45]. Therefore, this hypothesis is proposed:

H6. *Perceptions of cultural heritage have a positive influence on satisfaction with a lake destination.*

As widely acknowledged, lakes are the main resources and the key attractions in lake destinations [8,21]. Overall satisfaction with lakes, which is formed based on a visitor's perceptions of various lakes dimensions, can be an essential antecedent of satisfaction with a lake destination as a whole.

H7. *Satisfaction with lakes has a positive influence on satisfaction with a destination.*

Researchers agree that travel satisfaction is crucial for successful destination businesses and products and to promote willingness to revisit destinations [46]. Moreover, the positive link between visitors' satisfaction and behavioral intentions has also been a subject of heightened interest among tourism researchers [26,43,47,48], which may also be true in the case of lake destinations.

Based on the SOR theory, in the context of lakes, satisfaction, as a psychological and emotional state (O), resulting from staying in a lake destination and shaping an overall image of the destination based on a set of stimuli related to the lake or its surrounding area (S), is likely to positively affect the intention to visit the destination again in the future (R). Moreover, research [37] reveals that satisfaction with lake destinations is likely to positively contribute to loyalty towards these destinations. Thus, satisfaction with both a lake and a lake destination are expected to have a positive impact on behavioral intentions, namely on

destination loyalty and more specifically on the probability of returning to the destination. More precisely, it is proposed that:

H8. *Satisfaction with lakes has a positive influence on lake destination loyalty.*

H9. *Satisfaction with a lake destination has a positive influence on lake destination loyalty.*

Based on the above hypotheses, the following conceptual model built on SOR theory is proposed (Figure 1). The model proposes that perceptions of the lake, composed of various dimensions related to the sustainability of the lake—water quality, lake environment (the nearest surroundings of the lake such as the lake shore), and lack of congestion—have a positive influence on the level of visitors' satisfaction with lakes. On the other hand, dimensions measuring the image of a lake destination going beyond the lake itself (tourism facilities and services, natural features, and cultural heritage), providing a more holistic view of the destination, have a positive influence on satisfaction with the lake destination as a whole. As a visitor's experience outcome, satisfaction with the lakes is a key determinant of satisfaction with a lake destination as a whole. In turn, both satisfaction with a lake and with the destination as a whole influence loyalty towards the lake destination.

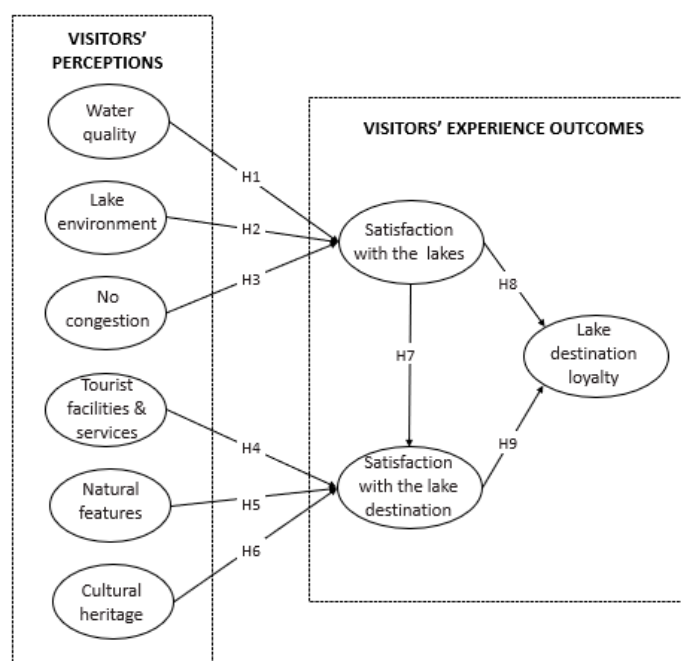


Figure 1. The conceptual model proposed.

3. Materials and Methods

3.1. Context of the Empirical Study

The present empirical study was carried out in the Shchuchinsk-Burabay resort area, an ecological zone situated in Akmola region in the north of Kazakhstan (Figure 2). This destination stands as one of the highly demanded tourist destinations in the country, with a beautiful natural landscape and a relevant set of hydrological resources. The region is famous for its lakes, which are well known for their favorable conditions for water-based activities, recreational tourism, and fishing, and its therapeutic and wellness properties [49]. The lakes Burabay, Ulken Shabakty, and Shortandy, among others, are widely used for recreational and tourism purposes. The attractiveness of the lakes' environments and, more particularly, of the lake water quality, has become a key factor attracting tourists to the area during the last decades. Thus, the growth and sustainability of the tourism industry requires the maintenance of the quality and quantity of the water of these lakes.

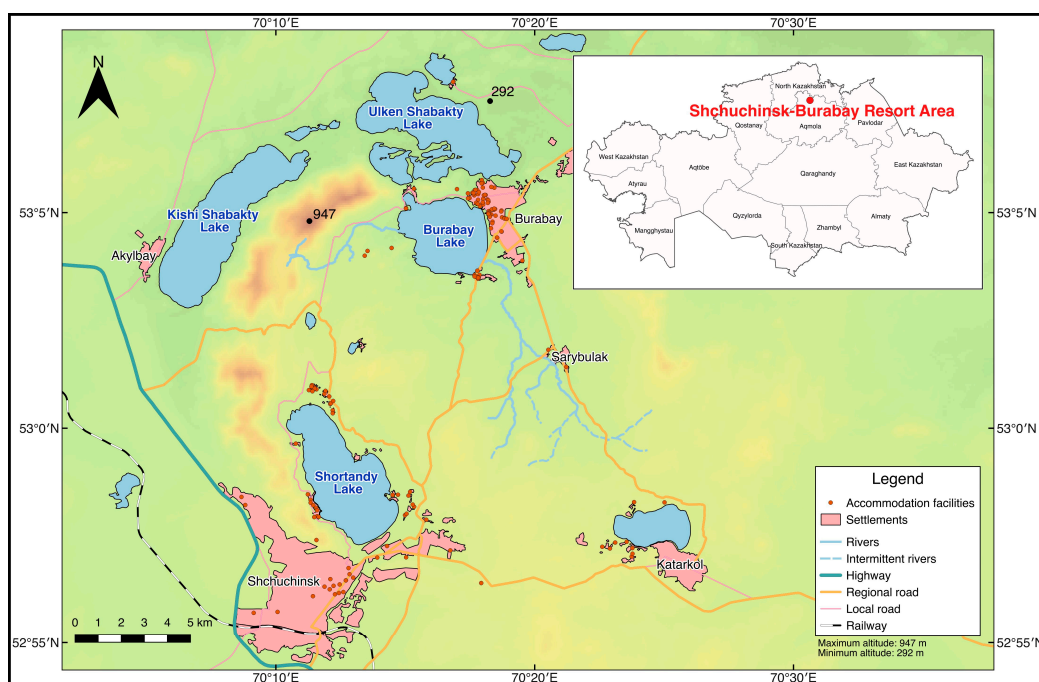


Figure 2. Map of the Shchuchinsk-Burabay resort area and its main lakes.

In recent years, however, these lakes have suffered environmental problems, as an increase in contamination levels and global climate change and growing human and tourism activities are the main causes for water decrease in these lakes [18]. The main lakes of the area are already contaminated, having different levels of pollution [50]. Tourism, which has a mass character and is mostly concentrated during summer, is blamed for being one of the stressors causing deterioration of lakes' water quality [18]. However, it is also widely considered that agriculture is one of the main economic activities of the region, which increases the pressure on the lakes' environments. The reasons for the environmental issues of these lakes are climate change, growing population, and expanding industry and agricultural activities, as well as unregulated water use in the lakes [51]. However, in the case of Lake Balaton in Hungary, it is complicated to separate only the tourism impact from that of other industries due to unavailability and unreliability of tourism data [36]. Despite that, the referred authors argue that water quality is one of the most sensitive environmental issues and is of high interest for all industries and local population to guarantee lakes' water quality and improve the sustainability of this destination.

3.2. Sampling and Data Collection

The population of the empirical study encompasses all the visitors of the resort area, including hotel, sanatorium, and guesthouse guests, and those walking around the villages, lakes, and parks. To form the sample, a convenience sampling approach was employed, primarily due to the impossibility of identifying all the individuals from the entire population.

A survey questionnaire was used as a data collection tool. The questionnaires were administered using two methods: face-to-face distribution among people visiting the study area and online. The second approach allowed to expand the audience, but it was clearly explained that the online respondents should have visited the area of study. The survey was conducted over a specific period—March to April 2018—reaching 450 visitors. As a result, 366 respondents completed the questionnaires, corresponding to a response rate of 81%.

To facilitate effective communication and ensure understanding of the content during the data collection process, the survey was translated into Russian. In addition, a pilot survey with 20 respondents who visited the lake area was conducted prior to data collection. Special attention was paid to their questions and comments, and minor changes were made to the survey questionnaire regarding spelling and some clarifications.

3.3. Questionnaire Design and Measures

The survey questionnaire is divided into four sections. The first section focuses on individuals' perceptions of lakes and their satisfaction with lakes. The second section includes questions related to lake destination image, satisfaction, and loyalty towards the destination. The third section gathers socioeconomic characteristics of the sample. The final section captures details about individuals' trip characteristics.

To evaluate lake perceptions, respondents were asked to indicate their level of agreement using a seven-point Likert-type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree), with a set of items describing lake image. These items were related to dimensions evidencing both sustainability of the lakes—water quality and inexistence of congestion—as well as to the lake environments, i.e., the environments immediately surrounding the lakes. Perceptions regarding other components of lake destinations—such as tourist facilities and services, natural features, and cultural heritage—were assessed through various items in this context. Attributes used to assess all these perceptions were mainly adapted from the works of different authors [10,16,24,34]. This list was complemented by some attributes from another work examining dimensions of destination image [43] (see Appendix A at the end of the paper, which encompasses all the items of the constructs of the model). It was always specified to respondents whether they were asked to report perceptions regarding a lake (including attributes directly related to the lake and its immediate surroundings, such as the lake shore) or about other components of the lake destination, which encompassed, for example, natural and cultural features located further away from the lakes.

Satisfaction of the visitors regarding the lakes and lake destination was assessed using two Likert-scale questions, drawn from the literature on consumer behavior in tourism [52,53]. The willingness to revisit the destination was used to measure destination loyalty. The question in this scope was answered with a seven-point Likert-type scale ranging from 1 (Very Unlikely) to 7 (Very Likely). The item was selected from previous research on consumer behavior in tourism [52,53]. The questions regarding the constructs included in the model are all in Appendix A in this paper.

Respondents were also asked about their sociodemographic profiles (e.g., country of residence, age, gender, marital status, and education) and the characteristics of their trips (e.g., whether they had visited the area before or not, length of stay in the destination, and activities undertaken at the destination).

To address the common method bias in the questionnaire, several approaches were adopted [54]: (i) information was provided to respondents in the introduction of the questionnaire to increase the probability of visitors answering with accuracy; (ii) we ensured respondents' anonymity and confidentiality; (iii) the questionnaire had a reasonable length; (iv) multiple indicators for constructs were used, with exception of loyalty; and (v) items considered ambiguous in the pilot test were removed [55].

3.4. Data Analysis

In order to calculate composite-based path models, partial least squares path modelling (PLS) as a variance-based method is used [56,57]. PLS is useful in examining relationships between multiple constructs, with a growing interest in its use in various business disciplines, including in the field of tourism [56]. PLS-SEM mainly focuses on the variances explained, rather than covariances, making it a prediction-oriented approach [57].

The research model of the present study was tested using the SmartPLS 4 program [58]. With all constructs in the model being reflective, the measurement model was assessed, taking into account the required criteria: indicator reliability, internal consistency through composite reliability and reliability coefficient, convergent validity, and discriminant validity considering HTMT—heterotrait–monotrait ratio [57]. In the assessment of the structural model, collinearity issues, significance and relevance of the structural-model relationships (path coefficients), its explanatory power (coefficients of determination), and its predictive power were taken into account [57].

4. Results and Discussion

4.1. Sample Profile

As for the demographic characteristics of the respondents, a slightly higher proportion of women (55%) than men (45%) were surveyed. The sample mainly consisted of domestic visitors (93%), with 7% being foreigners. It represented some age diversity, wherein both respondents aged 17 to 23 as well as those aged 24 to 34 represented about 30%. The next largest group consisted of persons aged 35 to 45 years (19%); 46–59 years represented 15%, and older people, aged 60 and over, corresponded to only 5% of the sample. As for marriage status, most respondents reported being married (49%) or single (46%). Regarding education, most individuals had an undergraduate degree (68%), followed by respondents with a postgraduate degree (24%). As for employment, 81% of the visitors were state employees (26%), workers at private organizations (27%), or students (28%). The distribution of income was as follows: a third (32%) reported a monthly income exceeding 132,000 Kazakh Tenge (KZT) (with 1 euro corresponding to 395.42 KZT), and there were 22% with an income between KZT 66,001 and KZT 90,000 and 20% with an income between KZT 90,001 and KZT 132,000.

Concerning the trip characteristics, most of the individuals (81%) had already visited the area before. As for average stay, 40% of respondents reported that they stayed, on average, for 1 to 3 nights; 27% of individuals stayed between 7 and 10 nights; and 26% between 4 and 6 nights. It should be noted that one-day visitors (who did not spend any nights in the destination) represented only 1%. Among the visitors, swimming emerged as the most popular activity, being undertaken by 75% of the sample, with boating being preferred by 51% and sunbathing by 27%.

4.2. Model Assessment

PLS path-modelling analysis incorporates two stages. Firstly, the measurement model (outer model) is assessed based on the analysis of each construct and the relationship between the constructs and their indicators (measures). Secondly, the structural model (inner model) is evaluated to test the hypotheses underlying the conceptual model proposed.

4.2.1. Measurement Model

Regarding indicator reliability, all outer loadings with the exception of one exceeded the recommended value of 0.708 [57]. However, the indicator with the lowest loading (0.660) was retained because removing it would not significantly improve other reliability and validity measures. The results also confirmed the data's internal consistency reliability (with composite reliability and reliability coefficient values clearly exceeding 0.70) and convergent validity (with average variance extracted values exceeding 0.50) (Table 1).

In addition, the discriminant validity of the model was established as the recommended criterion of the heterotrait–monotrait (HTMT) ratio of correlations ($HTMT_{0.90}$ criterion) was met (all values were below 0.90), as presented in Table 2.

4.2.2. Structural Model

Then, the structural model was assessed as required [57]. First, collinearity issues with VIF values well below 3 (ranging from 1.293 to 2.632) were discarded.

Direct Effects

Using the bootstrapping procedure (10,000 samples), the structural model was then analyzed, considering the significance of the effects, in order to test the suggested hypotheses. Figure 3 presents the structural model, the path coefficients, and the respective levels of significance.

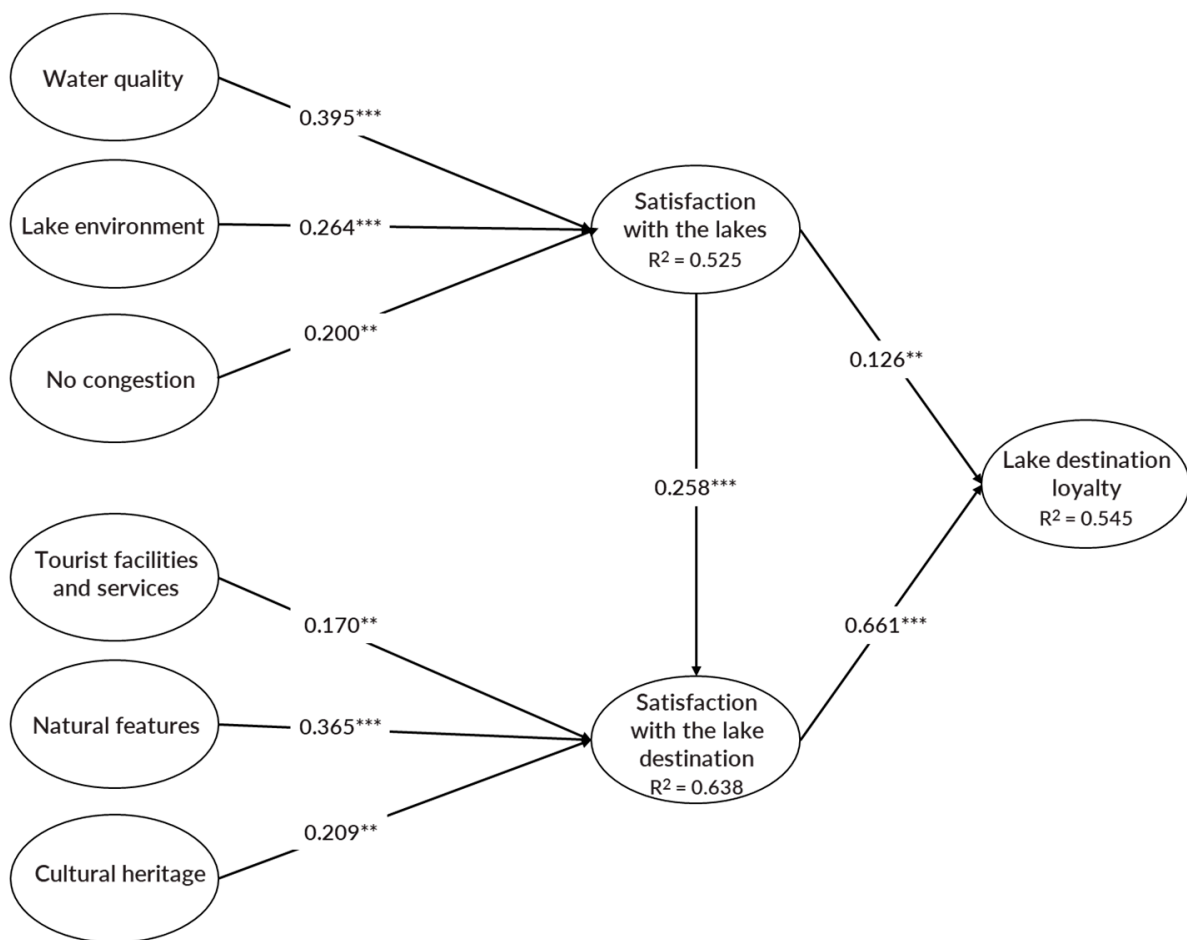
Table 1. Measurement statistics of construct scales.

Constructs/Indicators	M	SD	Loading	t-Value ^a	ρ_C	ρ_A	AVE
Water quality					0.941	0.931	0.639
Lakes have a color suggesting there is no pollution	3.82	1.65	0.815	28.675			
Lakes have very clear water	4.11	1.56	0.718	19.168			
Lakes do not have a bad odor	4.32	1.66	0.851	44.24			
There is no animal waste	4.46	1.66	0.742	30.665			
There are not plenty of algae/reeds	4.16	1.64	0.783	31.702			
There are no sediments on the surface of the lakes	4.02	1.68	0.837	34.181			
There are no sediments on the bottom of the lakes	4.14	1.68	0.862	50.044			
Water is not polluted	3.60	1.79	0.845	41.617			
Lake's water level is not decreasing	4.22	1.73	0.724	21.649			
Lake environment					0.877	0.856	0.543
Lakes are accessible	5.04	1.47	0.720	20.687			
Lakes are favorable for water-based activities	5.33	1.49	0.774	30.226			
Lakes have many species of wildlife and plants	5.86	1.25	0.771	26.95			
Lakes are very peaceful	5.42	1.35	0.700	20.021			
Lake shore has enough tourism facilities	4.75	1.55	0.787	33.657			
Lakes are very scenic	6.04	1.13	0.660	16.262			
No congestion					0.913	0.837	0.840
There is no conflict between users	4.78	1.49	0.899	50.688			
Lakes are not being harmed by overuse	4.60	1.54	0.934	111.624			
Tourist facilities and services					0.958	0.958	0.657
High quality of balneology services	5.01	1.66	0.723	21.076			
Clean and tidy environment	4.84	1.58	0.849	54.571			
Cleanliness of beaches	4.45	1.61	0.799	35.617			
Diverse shop facilities	4.33	1.60	0.848	50.193			
Easy access to tourist information	4.53	1.59	0.830	33.012			
Good local transport services	4.35	1.63	0.873	55.889			
Good quality accommodation facilities	4.83	1.44	0.835	42.353			
Good quality restaurants and cafes	4.74	1.50	0.860	58.987			
High quality of wellbeing services	5.19	1.58	0.782	38.508			
Reasonable price for accommodation	4.27	1.69	0.734	18.385			
Reasonable price for attractions and activities	4.34	1.67	0.759	24.341			
Safe and secure environment	5.09	1.50	0.820	42.476			
Natural features					0.868	0.781	0.689
Attractive lakes	5.82	1.31	0.909	65.783			
Scenic mountains and valleys	6.15	1.21	0.814	35.479			
Favourable and pleasant climate	5.26	1.35	0.760	22.978			
Cultural heritage					0.889	0.822	0.728
Friendly local people	4.97	1.56	0.814	28.864			
The range of cultural events, shows and exhibitions	4.90	1.65	0.885	47.89			
Rich historical and cultural heritage	5.60	1.51	0.860	52.208			
Satisfaction with the lakes					0.972	0.944	0.946
I am satisfied with the decision to visit these lakes	4.76	1.64	0.974	203.896			
Overall, I am very pleased with the lakes	4.56	1.74	0.972	168.705			
Satisfaction with the lake destination					0.966	0.930	0.934
I am satisfied with the decision to visit this destination	5.53	1.33	0.966	188.295			
Overall, I am very pleased with the destination	5.41	1.38	0.967	185.327			
Lake destination loyalty							
I will do a trip to this destination next year	5.64	1.40	1.000	n.a.	n.a.	n.a.	n.a.

Notes—*M* = mean; *SD* = standard deviation; ρ_C = composite reliability; ρ_A = reliability coefficient; AVE = average variance extracted; n.a. = not applicable (dummy variable; single-item construct). ^a Obtained through the bootstrapping procedure (10,000 samples).

Table 2. Heterotrait-monotrait ratio (HTMT) for discriminant validity.

Constructs	1	2	3	4	5	6	7	8	9
1. Water quality									
2. Lake environment	0.539								
3. No congestion	0.779	0.520							
4. Tourist facilities and services	0.640	0.536	0.448						
5. Natural features	0.488	0.792	0.456	0.698					
6. Cultural heritage	0.471	0.574	0.337	0.856	0.724				
7. Satisfaction with the lakes	0.702	0.590	0.663	0.429	0.493	0.340			
8. Satisfaction with the lake destination	0.522	0.672	0.530	0.686	0.825	0.711	0.584		
9. Lake destination loyalty	0.382	0.533	0.449	0.478	0.567	0.531	0.502	0.758	

**Figure 3.** Structural model. Note: ** significant at 5%, *** significant at 1%.

The explained variance (R^2) was examined to assess the predictive power of the structural model and indicates the considerably high prediction power of the model and predictive importance of the latent constructs. The satisfaction-with-the-lake-destination construct had the highest value ($R^2 = 0.64$), followed by the lake-destination-loyalty construct with the variance-explained value ($R^2 = 0.55$) and the satisfaction-with-the-lake construct ($R^2 = 0.53$).

All the hypotheses are empirically supported (Figure 3 and Table 3). The results demonstrate that lakes' sustainability perceptions have a positive and significant influence on satisfaction with lakes, with the greatest impact being that of water quality perceptions ($\beta = 0.40$) (H1) followed by that of the lake environment ($\beta = 0.26$) (H2) and the absence of congestion ($\beta = 0.20$) (H3). These results lead to interesting discussions, since the higher

perceptions on the sustainability of lakes concerning water quality, on the inexistence of congestion, and on lake environment are, the more satisfied visitors are with the lakes in question. This is in agreement with some authors [59], reinforcing the importance of the timely monitoring of the ecological state of water bodies to achieve sustainability. In a lake destination, the central focus is on the lake itself and on its water, which offers a variety of recreational activities [2].

Table 3. Hypotheses testing.

Hypothesis	Path Coefficient	<i>t</i> -Value ^b	<i>p</i> -Value	Supported
H1: Water quality → Satisfaction with lakes	0.395	7.566	0.000	Yes
H2: Lake environment → Satisfaction with lakes	0.264	5.376	0.000	Yes
H3: No congestion → Satisfaction with lakes	0.200	3.418	0.001	Yes
H4: Tourist facilities and services → Satisfaction with the lake destination	0.170	2.630	0.009	Yes
H5: Natural features → Satisfaction with the lake destination	0.365	6.679	0.000	Yes
H6: Cultural heritage → Satisfaction with the lake destination	0.209	3.340	0.001	Yes
H7: Satisfaction with lakes → Satisfaction with lake destination	0.258	6.816	0.000	Yes
H8: Satisfaction with lakes → Lake destination loyalty	0.126	2.957	0.003	Yes
H9: Satisfaction with a lake destination → Lake destination loyalty	0.661	13.781	0.000	Yes

Note: ^b *t*-values were obtained with the bootstrapping procedure (10,000 samples).

As previous studies demonstrated, the environmental attributes of a destination are crucial for the satisfaction of visitors [27]. In fact, the study in Lake Taupo in New Zealand demonstrated that water quality is of central importance for the region's sustainability [32]. Islam et al. enhanced the value of the environmental indicators of sustainability in lake destinations development [20].

The research findings highlight the value of the water quality dimension in visitors' assessment of a lake destination as a crucial antecedent of the satisfaction with lakes. However, the perceptions of visitors towards lake water pollution may not be accurate since visitors do not have significant environmental knowledge about water quality levels [16]. Moreover, the lakes in question may not have reached the levels of pollution required to be perceived by visitors as dirty. It is also important to consider that perceptions and satisfaction about lakes may also vary across lakes, mainly because lakes differ regarding their pollution levels. They can also differ for individuals due to these individuals' different competences in evaluating these issues, as well as to their sustainability attitudes, travel motivations, and expectations [37].

In the context of this study, the visitors probably perceive the lakes as a part of the overall landscape and enjoy the lakes' scenic views, mountains, and forests, and assess their accessibility, peacefulness, and opportunities for practicing water activities. Since most visitors are from Kazakhstan, these domestic visitors usually want to visit the lake destination focused in this study to escape from urban life—to relax and enjoy nature. They often walk along lakes to enjoy the beautiful scenery or wander around the Burabay village to socialize with families and friends, engaging in other activities that are not directly linked with lake water, and may not have accurate perceptions of water quality.

Undoubtedly, each destination attribute is vital in forming a holistic lake destination image and leading to destination satisfaction. These attributes can vary considerably depending on the features of the place being examined [48]. However, when evaluating the overall destination, it generally tends to have a positive impact on satisfaction levels [43,44,60]. The findings demonstrate that the perceptions about the lake destination's

offerings (tourism facilities and services, natural features, and cultural heritage) have a positive influence on the visitors' satisfaction with the lake destination (H4 to H6). Other researchers have stated that factors such as service quality are essential predictors of satisfaction with a lake destination [25]. The highest impact was found in the case of natural features' dimensions ($\beta = 0.36$; attractive lakes, science mountains, pleasant climate), which enhances the value of the environmental aspects of a destination, followed by cultural heritage ($\beta = 0.21$) and tourist facilities and services ($\beta = 0.17$). The Shchuchinsk-Burabay resort area is a popular place, with several sanatoriums providing health improvement and wellbeing services. The results suggest that visitors seeking lake destinations, particularly those promoting wellness and health, highly value destinations with natural features and diverse amenities for holistic relaxation. Findings also reveal that visitors' satisfaction with lake destinations is also positively influenced by the opportunities to walk around and visit cultural heritage attractions, with educational activities being more relaxing than the more physically demanding water-based activities.

It is of high interest to emphasize the positive and significant impact of satisfaction with lakes on visitors' satisfaction with lake destinations as a whole ($\beta = 0.26$) (H7). The more satisfied the visitors are with the lakes in a destination, the higher their satisfaction with the lake destination overall tends to be. This corroborates some studies in the tourism field that reveal that the more positive the perception about the attributes of a destination is, the higher the visitors' satisfaction is [43,44,52]. Emphasis should be placed on water quality due to the high positive effect of water quality on satisfaction with lakes. This is especially important in the destination under analysis, given the actual environmental state of the lakes here. Moreover, water quality has been found, in a few studies, to be important to visitors [10] and one of the key elements shaping visitors' overall satisfaction with a lake destination [11,61].

Although visitors are generally satisfied with the lakes and lake destination, sustainable tourism development in Burabay should fulfil the needs of tourists in all aspects without damaging the ecology, which is already of concern. This is especially true because the dimensions of lake destinations, such as water quality and natural features, have a high impact on satisfaction. Efforts should be made by authorities to improve the water quality for the wellbeing of both residents and visitors. Strategies aiming to reduce the number of visitors during the peak tourist season by differentiating tourism products and attracting visitors during other seasons can be helpful. These practices may reduce pressure and have beneficial effects on the lake environments.

The study revealed that (H8) satisfaction with the lakes has a direct positive impact on lake destination loyalty, though not a very substantial one ($\beta = 0.13$; $p < 0.003$). Hypothesis 9 was strongly supported by the study findings, showing a strong positive direct influence of satisfaction with the lake destination on lake destination loyalty ($\beta = 0.66$; $p < 0.000$). The findings demonstrate the role of satisfaction with both lakes and lake destinations in forming loyalty [37]. The results also suggest that, in turn, satisfaction is enhanced by lake perceptions and lake destination perceptions, subsequently increasing destination loyalty. The structural path linking satisfaction and loyalty aligns with the previous tourism literature [43,60]. All these results reveal that the SOR theory can be extended to the scope of sustainability perceptions of lake destinations. Specifically, they show that the more sustainable perceptions visitors have (S), the more satisfied visitors will become with lake destinations (O) and the more likely they are to visit them again in the future (R). Sustainability attributes as water quality and absence of congestion are crucial in lake destinations, since visitors perceiving these sustainability-related factors (S) more positively tend to trigger a cognitive and emotional response in the form of satisfaction, which is in turn reflected in the intention of visiting the destination again (R).

Indirect Effects

All indirect effects are significant and presented in Table 4. Satisfaction with the lakes has a positive indirect impact on lake destination loyalty, higher than the direct path coefficient, highlighting the relevance of assigning attention to lakes also in the context of the destination as a whole. Perceptions of components related to lakes, such as water quality, lake environment, and lack of congestion, were revealed to be significant antecedents of both satisfaction with the destination and visitors' willingness to return. In this context, it is important to highlight that the indirect impact of water quality was the element that had the highest significant impact, emphasizing the importance of this sustainability element.

Table 4. Indirect effects.

Path	Path Coefficient	t-Value	p-Value
Water quality → Satisfaction with the lake destination	0.102	5.673	0.000
Water quality → Lake destination loyalty	0.117	5.406	0.000
Lake environment → Satisfaction with the lake destination	0.068	4.100	0.000
Lake environment → Lake destination loyalty	0.078	3.967	0.000
No congestion → Satisfaction with the lake destination	0.052	2.841	0.005
No congestion → Lake destination loyalty	0.059	2.826	0.005
Tourist facilities and services → Lake destination loyalty	0.113	2.573	0.010
Natural features → Lake destination loyalty	0.241	6.062	0.000
Cultural heritage → Lake destination loyalty	0.138	3.160	0.002
Satisfaction with the lake → Lake destination loyalty	0.171	6.393	0.000

The relevance of the perceptions of tourism infrastructure and of natural and cultural heritage has also been confirmed in the context of lake destination loyalty. Visitors more positively assessing the components are more likely to have a greater willingness to return.

Environmental sustainability issues (regarding water quality and lake environment) seem to impact visitors' satisfaction (with the lakes or with the lake destination) and loyalty more than the social sustainability dimension (the absence of congestion). This may occur because the natural environment of the lake destination tends to be more valued and, eventually, visitors did not face high levels of congestion.

Predictive Power

Examining the explained variance (R^2) to assess the predictive power of the structural model, values range from 0.53 to 0.64, indicating the very high prediction power of the model and predictive significance of the latent constructs. Satisfaction with the lake destination has the highest variance explained ($R^2 = 0.64$), followed by the lake destination loyalty variance ($R^2 = 0.55$). This indicates that 55% of the variance in lake destination loyalty is explained by the model. Lastly, the out-of-sample predictive power of the model was assessed using the PLS predict method. Using lake destination loyalty as the key target construct, and root mean squared error (RMSE) as the prediction statistic, the model has a high predictive power because the indicator in the PLS-SEM analysis results in smaller prediction errors than the linear model [57]. However, this is a single-item construct, and if we use the other two endogenous constructs as targets, the validity of the out-of-sample prediction cannot be established.

5. Conclusions

5.1. Theoretical Implications

The findings underscore the importance of sustainability perceptions in the context of lake destinations, which in turn influence satisfaction and loyalty. Research extends the SOR theory to a new and different context, such as lake destinations, allowing us to understand visitor behavior and its antecedents in this kind of destination.

The confirmation of all the hypotheses of the study means that the research undertaken provides important theoretical contributions.

First, the theoretical contributions of the study encompass identifying a comprehensive set of items that may be adopted to assess the visitor's perceptions of the lakes in the study and of the entire lake destination, with special attention given to the sustainability aspect.

The identification of drivers of loyalty within the framework of SOR theory demonstrates a clear understanding that various elements of lake image and lake destination image (stimuli) contribute to tourists' satisfaction and loyalty. Other lake destinations with similar features may adopt these measurement tools. The study extends the destination attributes, which go beyond those related only to lakes.

Second, this study extends the SOR theory to the scope of sustainability of lake destinations, revealing that perceptions of sustainability are likely to increase visitors' satisfaction and boost loyalty towards lake destinations. This suggests that embedding sustainability practices in natural destinations, such as lake destinations, will positively influence visitor satisfaction and loyalty. Recognizing that people are becoming more concerned about environmental issues, this study demonstrates how sustainability development is essential for visitors, leading to more satisfied consumers.

Third, the empirical study emphasizes the importance of the water quality attribute as the most significant attribute of lake satisfaction. Recognizing water quality as a critical driver in the context of lake destinations is justified and well aligned with the global concern regarding water scarcity and availability issues. Further, this research adds value to this field by addressing a common challenge faced by previous studies, which is identifying a set of attributes to measure visitors' perceptions of water quality. The set of items used in this study can be applied in other lake destinations.

Fourth, the fact that both water quality and inexistence of congestion had a significant direct impact on satisfaction with the lakes and a significant indirect impact on both satisfaction and loyalty towards the lake destination provides empirical evidence for the relevance of the sustainability of lakes to ensure satisfaction and loyalty regarding lake destinations. Nevertheless, comparing the impact of different sustainability features, environmental sustainability issues, namely water quality, seem to have more impact on satisfaction with lakes than the social sustainability dimension, namely the absence of congestion. This probably occurs because the natural environment of the lake destinations tends to be more valued, and visitors in this study eventually did not face high levels of congestion.

Fifth, the natural features were identified as the strongest determinants of satisfaction with the lake destination. These findings highlight the importance of the natural environment for satisfaction in lake destination contexts. Nevertheless, the positive assessment of other dimensions of the lake destination, namely the lake environment, lack of congestion, tourist infrastructure, and cultural heritage, is also essential for ensuring satisfaction with the lakes and lake destination. This also reinforces the theoretical parts of the study, which underline the importance of the formation of a visitor-holistic image shaped by a variety of lake destination attributes, which, in turn, is an important antecedent of satisfaction and loyalty regarding lake destinations.

Sixth, the findings recognize that satisfaction both with the lakes and with the lake destination are significant determinants of loyalty, providing essential insights for lake destination management. The surrounding landscape, encompassing tourism attractions—including natural and cultural heritage—and tourist facilities and services in the areas around the lakes, has been found to have a strong influence on loyalty, rather than the lake itself. This study extends the SOR theory, showing that the behavioral response loyalty is influenced by the effect of both the intrinsic states of lake satisfaction and lake destination satisfaction (organisms), which are generated by a set of lake and lake destination perceptions (stimuli).

5.2. Practical Implications

As for practical implications, first, guaranteeing water quality is of major relevance, and not only for tourism; it is fundamental for the sustainability of the destination as a whole. Thus, destination managers should preserve the holistic appeal of the lake destination, but, at the same time, ensure water quality and an attractive natural environment around each lake. In this sense, the water quality indexes of the lakes can be helpful for local authorities to understand the present status in this context and take measures towards improving the lakes' water quality and their protection.

Moreover, to move towards sustainable tourism development at the destination, there is a need to guarantee all aspects of sustainability, including the favorable environmental state of the lakes. Therefore, new and innovative approaches are needed for lake destination management that will incorporate sustainability aspects. In this context, technical innovations and approaches to improve water quality in lakes, enhancing the overall sustainability and attractiveness of lake destinations, can be considered. Given the impact of lake environment perceptions on satisfaction, it is worthwhile to guarantee a pleasant experience at a lake destination, with a welcoming environment, well-maintained facilities, recreational opportunities, and accessibility, among other features.

5.3. Limitations and Suggestions for Further Research

Despite the contribution previously identified, there are also some study limitations that should be acknowledged. The model was tested on a particular lake destination in Kazakhstan during some months, which limits its geographical and temporal scope. Thus, it would be important to test the proposed model on other lake destinations. Given the study was conducted within a restricted timeframe, excluding the entire year and peak demand season, it is worthwhile to replicate it in the high season, when lake destinations offer more enjoyable recreational and water-based activities and the congestion tends to be higher. Future research can also test this model using some moderator variables, including, for example, the season of the year, nationality of visitors (comparing domestic residents with international residents), or activities practiced in the lake, to also examine whether the hypotheses are confirmed in different contexts.

Due to the relatively new area of this research, there is a need for further contributions to gain a deeper understanding of visitors' perceptions and the resulting impacts on variables such as satisfaction and loyalty. Nevertheless, this research, which provides insights into the impact of lake destination sustainability perceptions both on satisfaction and loyalty towards lake destinations, provides useful guidelines to design appropriate strategies for managing and planning the development of this kind of destination.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Lake image and satisfaction with the lakes

Please indicate your level of agreement with the following statements concerning the lakes.

Scale: 1—Strongly disagree, 7—Strongly agree

They are very scenic	1	2	3	4	5	6	7
They have many species of wildlife and plants	1	2	3	4	5	6	7
They are favourable for water-based activities like swimming, boating, fishing	1	2	3	4	5	6	7
They have very clear water	1	2	3	4	5	6	7
They are very peaceful	1	2	3	4	5	6	7
They are accessible	1	2	3	4	5	6	7
Their shore has enough tourism facilities	1	2	3	4	5	6	7
There is no conflict between users (agriculture, industry, local people and tourism)	1	2	3	4	5	6	7
They are not being harmed by overuse	1	2	3	4	5	6	7
Lakes water level is not decreasing	1	2	3	4	5	6	7
Water is not polluted	1	2	3	4	5	6	7
They have a colour that suggests there is no pollution	1	2	3	4	5	6	7
They do not have a bad odour	1	2	3	4	5	6	7
There are no sediments on the surface of the lakes	1	2	3	4	5	6	7
There are no sediments on the bottom of the lakes	1	2	3	4	5	6	7
There are no plenty of algal/reeds	1	2	3	4	5	6	7
There are no litter from animal	1	2	3	4	5	6	7

Please rate your overall satisfaction with visiting these lakes.

Scale: 1—Strongly disagree, 7—Strongly agree

I am satisfied with the decision to visit these lakes	1	2	3	4	5	6	7
Overall, I am very pleased with the lakes	1	2	3	4	5	6	7

Lake destination image, satisfaction and loyalty

Please indicate your level of agreement with the following statements concerning the lake destination attributes. Scale: 1—Strongly disagree, 7—Strongly agree

Scenic mountains and valleys	1	2	3	4	5	6	7
Attractive lakes	1	2	3	4	5	6	7
Clean and tidy environment	1	2	3	4	5	6	7
Cleanliness of beaches	1	2	3	4	5	6	7
Safe and secure environment	1	2	3	4	5	6	7
Favorable and pleasant climate	1	2	3	4	5	6	7
Diverse shop facilities	1	2	3	4	5	6	7
Good local transport services	1	2	3	4	5	6	7
Good quality accommodation facilities	1	2	3	4	5	6	7
Good quality restaurants and cafes	1	2	3	4	5	6	7
Easy access to tourist information	1	2	3	4	5	6	7
Reasonable price for accommodation	1	2	3	4	5	6	7
Reasonable price for attractions and activities	1	2	3	4	5	6	7
Rich historical and cultural heritage	1	2	3	4	5	6	7
The range of cultural events, shows and exhibitions	1	2	3	4	5	6	7
Friendly local people	1	2	3	4	5	6	7
High quality of balneology services	1	2	3	4	5	6	7
High quality of wellbeing services	1	2	3	4	5	6	7

Please rate your overall satisfaction with your visit to the lake destination.
Scale: 1—Strongly disagree, 7—Strongly agree

I am satisfied with the decision to visit this destination	1	2	3	4	5	6	7
Overall, I am very pleased with the destination	1	2	3	4	5	6	7

How likely are you to repeat your trip again to this destination?
Scale: 1—Very unlikely, 7—Very likely

Will you repeat your trip to this destination next year?	1	2	3	4	5	6	7
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References

- Ricart, S.; Arahuetes, A.; Villar, R.; Rico, A.M.; Berenguer, J. More Water Exchange, Less Water Scarcity? Driving Factors from Conventional and Reclaimed Water Swap between Agricultural and Urban-Tourism Activities in Alicante, Spain. *Urban Water J.* **2019**, *16*, 677–686. [\[CrossRef\]](#)
- Lőrincz, K.; Banász, Z.; Csapó, J. Customer Involvement in Sustainable Tourism Planning at Lake Balaton, Hungary—Analysis of the Consumer Preferences of the Active Cycling Tourists. *Sustainability* **2020**, *12*, 5174. [\[CrossRef\]](#)
- UNWTO. *Tourism in the Green Economy—Background Report*; UNWTO: Madrid, Spain, 2012.
- Gössling, S.; Michael Hall, C.; Scott, D. *Tourism and Water*; Channel View Publications: Bristol, UK; Buffalo, NY, USA; Toronto, ON, Canada, 2015; Volume 2. [\[CrossRef\]](#)
- UNDP. *The 2030 Agenda for Sustainable Development*; UNDP: New York, NY, USA, 2015.
- UNWTO. *World Tourism Day 27 September 2013. Tourism and Water: Protecting Our Common Future*; UNWTO: Madrid, Spain, 2013.
- Cole, S.K.G.; Mullor, E.C.; Ma, Y.; Sandang, Y. "Tourism, Water, and Gender"—An International Review of an Unexplored Nexus. *Wiley Interdiscip. Rev. Water* **2020**, *7*, e1442. [\[CrossRef\]](#)
- Tandyrak, R.; Parszuto, K.; Grochowska, J. Water Quality of Lake Elk as a Factor Connected with Tourism, Leisure and Recreation on an Urban Area. *Quaest. Geogr.* **2016**, *35*, 51–59. [\[CrossRef\]](#)
- Rodrigues, A.I.; Correia, A.; Kozak, M. Assessing Lake-Destination Image: Insights from the Industry Side. *Int. J. Cult. Tour. Hosp. Res.* **2017**, *11*, 5–17. [\[CrossRef\]](#)
- Ryan, C.; Huimin, G.; Chon, K. Tourism to Polluted Lakes: Issues for Tourists and the Industry. an Empirical Analysis of Four Chinese Lakes. *J. Sustain. Tour.* **2010**, *18*, 595–614. [\[CrossRef\]](#)
- Potocka, I. The Lakescape in the Eyes of a Tourist. *Quaest. Geogr.* **2013**, *32*, 85–97. [\[CrossRef\]](#)

12. Tuohino, A. In Search of the Sense of Finnish Lakes a Geographical Approach to Lake Tourism Marketing. Ph.D. Thesis, University of Oulu, Oulu, Finland, 2015.
13. Tuohino, A.; Pitkänen, K. The Transformation of a Neutral Lake Landscape into a Meaningful Experience—Interpreting Tourist Photos. *J. Tour. Cult. Chang.* **2004**, *2*, 77–93. [[CrossRef](#)]
14. Cooper, C. Lakes as Tourism Destination Resources. In *Lake Tourism: An Integrated Approach to Lacustrine Tourism Systems*; Hall, C.M., Härkönen, T., Eds.; Clevedon: Buffalo, NY, USA, 2006; pp. 27–42.
15. Bigerna, S.; Micheli, S.; Polinori, P. Willingness to Pay for Electric Boats in a Protected Area in Italy: A Sustainable Tourism Perspective. *J. Clean. Prod.* **2019**, *224*, 603–613. [[CrossRef](#)]
16. Stedman, R.C.; Hammer, R.B. Environmental Perception in a Rapidly Growing, Amenity-Rich Region: The Effects of Lakeshore Development on Perceived Water Quality in Vilas County, Wisconsin. *Soc. Nat. Resour.* **2006**, *19*, 137–151. [[CrossRef](#)]
17. Pomucz, A.B.; Csete, M. Sustainability Assessment of Hungarian Lakeside Tourism Development. *Period. Polytech. Soc. Manag. Sci.* **2015**, *23*, 121–132. [[CrossRef](#)]
18. Ramazanov, M.; Bulai, M.; Ursu, A.; Deyá Tortella, B.; Kakabayev, A. Effects of Tourism Development on Surface Area of Main Lakes of Shchuchinsk-Burabay Resort Area, Kazakhstan. *Eur. J. Tour. Res.* **2019**, *21*, 69–86. [[CrossRef](#)]
19. Jenkins, B. Sustainability Analysis of the Management Approach for Six New Zealand Lakes. *Lake Reserv. Manag.* **2016**, *32*, 101–115. [[CrossRef](#)]
20. Islam, M.S.; Lovelock, B.; Coetzee, W.J.L. Liberating Sustainability Indicators: Developing and Implementing a Community-Operated Tourism Sustainability Indicator System in Boga Lake, Bangladesh. *J. Sustain. Tour.* **2021**, *31*, 1651–1671. [[CrossRef](#)]
21. Hall, C.M.; Härkönen, T. *Lake Tourism: An Integrated Approach to Lacustrine Tourism Systems*; Channel View Publications: Clevedon, UK, 2006. [[CrossRef](#)]
22. Zhu, Y.; Li, Z.; Li, J.; Xia, X. Notice of Retraction: Water Pollution and Tourism Development—Case Study in Dongchang Lake in Shandong Province of China. In Proceedings of the 2011 5th International Conference on Bioinformatics and Biomedical Engineering, IEEE, Wuhan, China, 10–12 May 2011; pp. 1–3. [[CrossRef](#)]
23. Bhuiyan, M.A.H.; Siwar, C.; Ismail, S.M. Sustainability Measurement for Ecotourism Destination in Malaysia: A Study on Lake Kenyir, Terengganu. *Soc. Indic. Res.* **2016**, *128*, 1029–1045. [[CrossRef](#)]
24. Rodrigues, A.I.; Correia, A.; Kozak, M.; Tuohino, A. *Lake-Destination Image Attributes: Content Analysis of Text and Pictures*; Emerald Group Publishing Limited: Bingley, UK, 2015; pp. 293–314. [[CrossRef](#)]
25. Ogucha, E.B.; Riungu, G.K.; Kiama, F.K.; Mukolwe, E. The Influence of Homestay Facilities on Tourist Satisfaction in the Lake Victoria Kenya Tourism Circuit. *J. Ecotourism* **2015**, *14*, 278–287. [[CrossRef](#)]
26. Sun, M.L.; Lin, Y.H. The Effects of Motivation, Background, Attraction and Loyalty in the 2010 International Thousands Swimming Cross to Sun Moon Lake. In Proceedings of the APBITM 2011—Proceedings 2011 IEEE International Summer Conference of Asia Pacific Business Innovation and Technology Management, Dalian, China, 10–12 July 2011; pp. 19–23. [[CrossRef](#)]
27. Lee, S.W.; Xue, K. A Model of Destination Loyalty: Integrating Destination Image and Sustainable Tourism. *Asia Pac. J. Tour. Res.* **2020**, *25*, 393–408. [[CrossRef](#)]
28. Hashemi, S.; Jasim Mohammed, H.; Singh Dara Singh, K.; Abbasi, G.; Shahreki, J. Exploring the Effects of Place Attachment and Positive Emotions on Place Satisfaction and Intentional Behaviour in Iranian Ski Resort: A Perspective from S-O-R Model. *J. Sport Tour.* **2023**, *27*, 161–186. [[CrossRef](#)]
29. Cheng, W.; Tsai, H.; Chuang, H.; Lin, P.; Ho, T. How Can Emerging Event Sustainably Develop in the Tourism Industry? From the Perspective of the s-o-r Model on a Two-Year Empirical Study. *Sustainability* **2020**, *12*, 10075. [[CrossRef](#)]
30. Sudha, M.C.; Ravichandran, S.; Sakthivadivel, R. Water Bodies Protection Index for Assessing the Sustainability Status of Lakes under the Influence of Urbanization: A Case Study of South Chennai, India. *Environ. Dev. Sustain.* **2013**, *15*, 1157–1171. [[CrossRef](#)]
31. Cole, S. Tourism and Water: From Stakeholders to Rights Holders, and What Tourism Businesses Need to Do. *J. Sustain. Tour.* **2014**, *22*, 89–106. [[CrossRef](#)]
32. Roper, J.; Collins, E.M.; de Jong, J. Lake Taupo: A Multi-Sector Collaborative Partnership towards Sustainable Development. *J. Public Aff.* **2015**, *15*, 143–152. [[CrossRef](#)]
33. Ditton, R.B.; Goodale, T.L. Water Quality Perception and the Recreational Uses of Green Bay, Lake Michigan. *Water Resour. Res.* **1973**, *9*, 569–579. [[CrossRef](#)]
34. Stedman, R.C.; Lathrop, R.C.; Clark, B.; Ejsmont-Karabin, J.; Kasprzak, P.; Nielsen, K.; Osgood, D.; Powell, M.; Ventelä, A.M.; Webster, K.E.; et al. Perceived Environmental Quality and Place Attachment in North American and European Temperate Lake Districts. *Lake Reserv. Manag.* **2007**, *23*, 330–344. [[CrossRef](#)]
35. Priskin, J. Implications of Eutrophication for Lake Tourism in Québec. *Rev. Rech. Tour.* **2008**, *27*, 59–61. [[CrossRef](#)]
36. Puczkó, L.; Rátz, T. Tourist and Resident Perceptions of the Physical Impacts of Tourism at Lake Balaton, Hungary: Issues for Sustainable Tourism Management. *J. Sustain. Tour.* **2000**, *8*, 458–478. [[CrossRef](#)]
37. Lin, W.R. Structural Model of Hassles Experienced at Travel Destinations. *J. Destin. Mark. Manag.* **2018**, *9*, 97–103. [[CrossRef](#)]
38. Prasetyowati, A.A.; Harahab, N.; Soemarno, S. Tourist Perceptions On Supporting Infrastructure Facilities And Climate-Based Visiting Time Of Ngebel Lake, Ponorogo. *J. Indones. Tour. Dev. Stud.* **2014**, *2*, 47–54. [[CrossRef](#)]
39. Mehrabian, A.; Russell, J.A. *An Approach to Environmental Psychology*; MIT Press: Cambridge, UK, 1974.

40. Qiu, H.; Wang, X.; Wu, M.Y.; Wei, W.; Morrison, A.M.; Kelly, C. The Effect of Destination Source Credibility on Tourist Environmentally Responsible Behavior: An Application of Stimulus-Organism-Response Theory. *J. Sustain. Tour.* **2022**, *31*, 1797–1817. [[CrossRef](#)]
41. Chen, Y.-S. Towards Green Loyalty: Driving from Green Perceived Value, Green Satisfaction, and Green Trust. *Sustain. Dev.* **2013**, *21*, 294–308. [[CrossRef](#)]
42. Gelderman, C.J.; Schijns, J.; Lambrechts, W.; Vijgen, S. Green Marketing as an Environmental Practice: The Impact on Green Satisfaction and Green Loyalty in a Business-to-business Context. *Bus. Strategy Environ.* **2021**, *30*, 2061–2076. [[CrossRef](#)]
43. Chi, C.G.Q.; Qu, H. Examining the Structural Relationships of Destination Image, Tourist Satisfaction and Destination Loyalty: An Integrated Approach. *Tour. Manag.* **2008**, *29*, 624–636. [[CrossRef](#)]
44. Jin, N.P.; Lee, S.; Lee, H. The Effect of Experience Quality on Perceived Value, Satisfaction, Image and Behavioral Intention of Water Park Patrons: New versus Repeat Visitors. *Int. J. Tour. Res.* **2015**, *17*, 82–95. [[CrossRef](#)]
45. Lee, Y.K.; Pei, F.; Ryu, K.S.; Choi, S. Why the Tripartite Relationship of Place Attachment, Loyalty, and pro-Environmental Behaviour Matter? *Asia Pac. J. Tour. Res.* **2019**, *24*, 250–267. [[CrossRef](#)]
46. Yoon, Y.; Uysal, M. An Examination of the Effects of Motivation and Satisfaction on Destination Loyalty: A Structural Model. *Tour. Manag.* **2005**, *26*, 45–56. [[CrossRef](#)]
47. Kozak, M. Repeaters' Behavior at Two Distinct Destinations. *Ann. Tour. Res.* **2001**, *28*, 784–807. [[CrossRef](#)]
48. Wang, C.Y.; Hsu, M.K. The Relationships of Destination Image, Satisfaction, and Behavioral Intentions: An Integrated Model. *J. Travel Tour. Mark.* **2010**, *27*, 829–843. [[CrossRef](#)]
49. Ramazanov, M.; Tortella, B.D.; Kakabayev, A. Tourism Development in Kazakhstan. *J. Tour. Dev.* **2019**, *2019*, 35–45.
50. Kazhydromet. *Environmental Monitoring Bulletin*; The Ministry of Energy of the Republic of Kazakhstan: Astana, Kazakhstan, 2018.
51. *Results of Hydrogeological Work upon the Object Compilation of Modern Hydrogeological Map of the Shchuchinsk-Burabay Resort Area in Akmola Region*; Sevkaznedra: Kostanay, Kazakhstan, 2014.
52. Yoon, Y.-S.; Lee, J.-S.; Lee, C.-K. Measuring Festival Quality and Value Affecting Visitors' Satisfaction and Loyalty Using a Structural Approach. *Int. J. Hosp. Manag.* **2010**, *29*, 335–342. [[CrossRef](#)]
53. Lee, Y.K.; Lee, C.K.; Lee, S.K.; Babin, B.J. Festivalscapes and Patrons' Emotions, Satisfaction, and Loyalty. *J. Bus. Res.* **2008**, *61*, 56–64. [[CrossRef](#)]
54. Podsakoff, P.M.; MacKenzie, S.B.; Lee, J.-Y.; Podsakoff, N.P. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *J. Appl. Psychol.* **2003**, *88*, 879–903. [[CrossRef](#)]
55. Kang, T.-W.; Sinha, P.N.; Park, C.-I.; Lee, Y.-K. Exploring the Intra Entrepreneurship-Employee Engagement-Creativity Linkage and the Diverse Effects of Gender and Marital Status. *Front. Psychol.* **2021**, *12*, 736914. [[CrossRef](#)] [[PubMed](#)]
56. Cepeda Carrión, G.; Henseler, J.; Ringle, C.M.; Roldán, J.L. Prediction-Oriented Modeling in Business Research by Means of PLS Path Modeling: Introduction to a JBR Special Section. *J. Bus. Res.* **2016**, *69*, 4545–4551. [[CrossRef](#)]
57. Hair, J.F.; Howard, M.C.; Nitzl, C. Assessing Measurement Model Quality in PLS-SEM Using Confirmatory Composite Analysis. *J. Bus. Res.* **2020**, *109*, 101–110. [[CrossRef](#)]
58. Ringle, C.M.; Wende, S.; Becker, J.-M. *SmartPLS Release: 4*; SmartPLS GmbH: Oststeinbek, Germany, 2022.
59. Garcia, C.; Servera, J. Impacts of Tourism Development on Water Demand and Beach Degradation on the Island of Mallorca (Spain). *Geogr. Ann. Ser. A Phys. Geogr.* **2003**, *85*, 287–300. [[CrossRef](#)]
60. Chen, C.F.; Tsai, D.C. How Destination Image and Evaluative Factors Affect Behavioral Intentions? *Tour. Manag.* **2007**, *28*, 1115–1122. [[CrossRef](#)]
61. Markovic, J.J.; Pavic, D.J.; Mészáros, M.M.; Petrovic, M.D. Measuring the Quality of the Lakeside Tourist Destinations: Case Study of Lake Palić and Lake Srebrno (Serbia). *J. Environ. Tour. Anal.* **2015**, *3*, 63–81.

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