ABSTRACT
This Paper focuses on beach users’ perceptions toward beach quality aspects and crowding as well as investigating beach users’ preferred activities and their motivations to choose different beaches in Udupi and Dakshina Kannada District. In recent years, the scope of beach management practices has broadened although; a complementary bottom-up perspective that considers beach users’ preferences and demands is still missing. A case study was carried out at Top 10 beaches on the Udupi and Dakshina Kannada district. Beach users’ perceptions were collected by means of a questionnaire and samples were selected randomly. In this study, beach quality was analyzed in four different aspects: (1) physical and morphological, (2) environmental, (3) facility and safety and (4) landscape and design. Along with beach quality, Beach users’ perception towards crowding was analyzed. In SPSS Cross Tab technique used to make comparative study between 10 beaches.

Keywords: Beach user, Perception, Beach quality, Crowding
1. **Introduction**

Tourism, has essentially been dependent upon the consumption of environmental resources and there has been a mutual dependency between environment and tourism because the quality of environment is strongly in danger by the growth in tourism, and on the other hand, tourism development is vastly reliant on the quality of environment [1]. According to UNEP [1], coastal tourism is highly dependent on natural resources such as climate, landscape and ecosystem, and cultural factors like historic and cultural heritage, arts and crafts, tradition, and so on. Tourists nowadays expect an experience on the beach that is more than sun, sand and sea. They look for a whole range of experiences like sea food, culture, natural beauty, sports, and so on. One of the prominent aims of this study is to understand the mutual interactive relationships between beach user’s and the physical environment. As far as tourism is concerned, the quality of any beach is determined based on factors like local access, security, the availability of services and physical settings, and the quality of sand and water [2, 3, 4, 5].

2. **Objectives of the Study**

- To know the perceptions of beach users’ towards quality and crowding of beaches.
- To know preferred activities of beach users in different beaches in Dakshina Kannada and Udupi District.
- To know level of satisfaction of beach users toward Beach Visit.

3. **Literature review**

According to Roca and Villares [6], in semi-natural beaches, users’ satisfaction of beach quality is affected by natural beauty and conservation of the beach, and the beachgoer’s profile. According to Williams and Micallef [7], five elements, which are very significant in ascertaining a successful beach setting, are safety, water quality, facilities, scenery and litter.

Williams and Micallef [7] also stated the importance of a variety of physical (local geology and geomorphology), biological (flora and fauna), socio-economic (recreational amenities, access, safety, landscape, archeology, and commercial interest) and environmental quality elements (hygiene, cleanliness and toilet facilities) which have been determined in the previous studies regarding the assessment of the beach quality.

According to Espejel et al. [8], the ideal beach should be sandy where water is not deep with pleasant temperature, dangerous animals are absent, sand and water are clean, and no bad smells
should be existent; it must be safe and basic infrastructure and services like access, lifeguards, bathrooms, shade, security, and minor shopping zones should be present.  

Roca \cite{9} assessed the beach occupancy and public perceptions of beach quality in six beaches in Spain. They divided quality parameters into four general groups as physical and morphological, environmental, facilities and services, and image and comfort. Characteristics of water, sand, beach dimensions and presence of waves, wind and rocks were studied in the physical and morphological group. The presence of items like waste and wastebaskets, toilet and shower, rain run-off, vegetation, fish and oil on water or sand, noise and animals were placed in environmental features group. Facilities and services group was divided into of stalls, deckchair, restaurants, life-saving equipment, walkway, beach and water game facilities, parking areas, and access subgroups. Finally, the quality of landscape, beach comfort, quality/price ratio and crowdedness were studied in image and comfort category.  

Duval \cite{10} conducted a study in France beaches in order to find users’ perceptions of beach quality. In the study of Duval \cite{10}, four major elements that affect the quality of the beach include coastal landscapes, the quality of the environment, quietness, and the natural properties of the beach. This study showed that users paid less attention to facilities in comparison with natural components. Majority of respondents expressed that physical characteristics of beaches play an important role in the quality of their visit including beach width and materials, sand quality and vegetation.  

Cervantes and Espejel \cite{11} also conducted a study in four beaches in USA and Mexico. The results revealed that beaches with higher facilities and services were more appreciated by respondents.  

Marin et al. \cite{12} also carried out a study in Italy to understand beach users’ perceptions which beach and sea cleanliness were judged to be much more important than other issues. Majority of respondents reported beach quality and safety as good. About half of respondents judged that water quality is sufficient and the availability of recreational activities was stated as poor. In addition, crowding and its related noise were perceived high.  

4. Methodology

In order to identify beach users’ profile (socio-demographic characteristics, main activity and the reason of their choice) and perceptions toward beach quality and crowding, the questionnaire survey was carried out to collect the data from a total sample size of 285 respondents. To obtain
data from respondents, the questionnaire was prepared in four parts: the first part for identifying beach users’ profile (7 items); the second part for evaluating the preference of beach visitors and the third part for evaluating beach users’ perceptions toward beach quality regarding physical and morphological, environmental, facility and safety, landscape and design aspects (33 items) in a 5 Likert scale range from poor to excellent; the fourth part for evaluating beach users’ perceptions toward beach crowding (8 items) in 5 Likert scale range; and the fifth part that aimed to identify beach users’ future decision for visiting the beach based on their perception of the beach quality and crowding (5 items) in 5 Likert scale range from highly satisfied to highly dissatisfied. There are more than 25 beaches are there in Udupi and Dakshina Kannada District. In order identify Top ten beaches out these beaches a small online survey was conducted with help of surveymonkey.com

4.1 Reliability Analysis

| Variables                          | No. of items | Cronbach’s Alpha |
|------------------------------------|--------------|------------------|
| Preference to Visit Beach          | 9            | 0.819            |
| Physical and morphological aspect. | 12           | 0.855            |
| Environmental Aspect               | 9            | 0.849            |
| Facility and Safety Aspect         | 9            | 0.911            |
| Landscape and design aspect        | 7            | 0.922            |
| Perception Towards Crowding        | 8            | 0.748            |

Source: Survey Data

To measure the reliability of the questionnaire used, the Cronbach’s alpha was applied to analyze the data collected. The results indicated that the Cronbach’s alpha coefficient was I = 0.819 for Preference to Visit Beach, I = 0.855 for Physical and morphological aspect., I = 0.849 for Environmental Aspect, I = 0.911 for Facility and Safety Aspect, I = 0.922 for Landscape and design aspect and I = 0.748 for Perception Towards Crowding. Given that all of the measured values are well above 0.60, it can be concluded that there is a high consistency and reliability among the statements in questionnaire (DeVellis, 1991). The results of the reliability analysis are shown in Table No.1.
4.2 Limitations of the study

- Some of the respondents were not ready sharing the opinions.
- Findings are purely based on response of the respondents; therefore there may be chance of biased response. If so then result may not be accurate.

5. Data Analysis and Interpretation

5.1 Demographic Profile of the respondents

Demographic profile of the respondents helps researcher to know the diversity of the respondents. By this it can be seen whether the data has been collected randomly or non-randomly. This analysis also helps to see the homogeneity and the heterogeneity of the respondents.

Table No.2 Demographic Profile of the Respondent

| Variables               | Category               | Frequency | Percentage | Variables               | Category               | Frequency | Percentage |
|-------------------------|------------------------|-----------|------------|-------------------------|------------------------|-----------|------------|
| Gender                  | Male                   | 170       | 59.6       | Monthly Income          | Below Rs.10000         | 27        | 9.5        |
|                         | Female                 | 115       | 40.4       | Rs.10000 - Rs.25000     | 151                    | 53        |            |
|                         | Total                  | 285       | 100        | Rs.25001 - Rs.50000     | 94                     | 33        |            |
| Age                     | Below 20 years         | 50        | 17.54      | Work Status of the Visitor | Salaried               | 178       | 62.45      |
|                         | 20-29                  | 152       | 53.33      |                         |                         |           |            |
|                         | 30-39                  | 56        | 19.65      |                         |                         |           |            |
|                         | Total                  | 285       | 100        |                         |                         |           |            |
| Education Qualification | No formal education    | 20        | 7          | Agriculturist           | 7                      | 2.46      |            |
|                         | Primary Education      | 9         | 3.2        | Student                 | 14                     | 4.91      |            |
|                         | High School            | 30        | 10.5       | Unemployed              | 4                      | 1.4       |            |
|                         | PUC                    | 21        | 7.4        | Housewife               | 17                     | 5.96      |            |
|                         | Degree or Diploma      | 23        | 8.1        | Daily Wage Worker       | 10                     | 3.5       |            |
|                         | Post Graduate          | 151       | 63.5       | Total                   | 285                    | 100       |            |
|                         | Professional           | 51        | 0.4        |                         |                         |           |            |
Among the respondents the majority are between the age of 20-29 years (59.6%) and majority are post graduates(63.5), Most of the respondents(53%) are have an income between Rs.10000 – Rs.20000 per month and most of them are salaried(62.45)

5.2 Beach Users’ Preference to Visit Beach

It is notable that the reason of choosing the beach is different in every context. There may be numerous reasons to visit beaches. Here researchers identified some of the preferred reasons based on literature (12).Table No.3 explains preference of beach users across the top ten beaches in Udupi and Dakshina Kannada District.

Table No 3: Preference of Beach Users’ to Visit Beach across beaches (Comparative Table)

| Preference | Thanniru Bhavi Beach | Panambur Beach | Someshwara Beach | Ullala Beach | Kaup Beach | Nitk Beach | Sasibhlu Beach | Maravanthe Beach | St.Mary’s Island | Malpe Beach | Overall |
|------------|----------------------|----------------|------------------|-------------|------------|------------|---------------|------------------|-----------------|-------------|---------|
| 1          | SC                   | NL             | SC               | CL          | SC         | SC         | SC            | SC               | SC              | SC          | SC      |
| 2          | NL                   | SC             | NL               | NL          | NL         | CL         | NL            | CL               | NL              | RA          | NL      |
| 3          | RA                   | RA             | RA               | RA          | RA         | RA         | NL            | RA               | NL              | RA          | RA      |
| 4          | CL                   | CL             | SS               | SC          | CL         | NL         | WS            | SS               | CL              | CL          | CL      |
| 5          | SS                   | RP             | RP               | SS          | SS         | WS         | SS            | RA               | WS              | SS          | SS      |

Source: Survey Data

WS- Water and sand quality  RA- Relaxed/friendly atmosphere  FS- Facilities
SS- Security and safety  CL- Cleanliness  SC- Scenery
NL- Nature and landscape  VA- Variety of activities  RP- Reputation

Table No.3 clearly explains that Most of the respondents visit Thanniru Bhavi Beach for its good Scenery. According to them cleanliness is the most preferred factor for visit the beach. It is clear that for visiting the above beaches scenery is the main reason, followed by nature and landscape, relaxed/friendly atmosphere, cleanliness with security and safety prepared the least.
5.3 Beach Users’ Perceptions toward Beach Quality

In this study, beach quality was analyzed in four different aspects: a) physical and morphological, (b) environmental, (c) facility and safety and (d) landscape and design which mentioned in the study of Hamed Mehranian et al(12).

Table No.4: Beach Users’ Perceptions toward Beach Quality (Comparative Table)

| Beaches            | Physical and morphological aspects | Environmental aspects | Facility and safety aspects | Landscape and design aspects | Overall Quality |
|--------------------|-----------------------------------|-----------------------|-----------------------------|-----------------------------|-----------------|
| Thanniru Bhavi Beach | 35.65                            | 23.03                 | 25.32                       | 23.10                       | 26.78           |
| Panambur Beach     | 32.61                            | 21.96                 | 26.96                       | 22.96                       | 26.12           |
| Someshwara Beach   | 30.74                            | 20.87                 | 23.78                       | 20.52                       | 23.98           |
| Ullala Beach       | 32.27                            | 24.63                 | 26.70                       | 22.5                        | 26.53           |
| Kaup Beach         | 35.64                            | 22.75                 | 27.73                       | 24.20                       | 27.58           |
| Nitk Beach         | 33.97                            | 21.97                 | 25.77                       | 21.87                       | 25.90           |
| Sasihithlu Beach   | 34.33                            | 22.13                 | 25.38                       | 22.72                       | 26.14           |
| Maravanthe Beach   | 33.36                            | 20.88                 | 24.32                       | 22.00                       | 25.14           |
| St. Mary's Island  | 35.71                            | 22.06                 | 25.94                       | 22.82                       | 26.32           |
| Malpe Beach        | 33.17                            | 23.78                 | 27.35                       | 22.74                       | 26.76           |

*Source: Survey Data*

Table No.4 explains about Perception of Beach User towards different aspect of Beach quality and also indicate overall quality in terms of Mean Scores (M). From the above table it indicates Thanniru Bhavi Beach has highest quality in Physical and morphological aspects (M=35.65) and it dominates all other aspects also which up brings overall quality (M=26.8). According to respondents response Someshwara Beach has lowest quality with mean score of 23.98.

5.4 Beach Users’ Perceptions toward Beach Crowding

Some destinations will always be very popular, particularly at peak times. There’s also a degree to which overcrowding is a perception. Some might consider a place ‘too crowded’ whilst others
wouldn’t find it a problem. This perception also influences the visitors on their visiting decision and satisfaction level. Table No.5 explains beach users’ perceptions towards crowding.

**Table No.5: Beach Users’ Perceptions toward Crowding (Comparative Table)**

| Statements                                      | Thanniru Bhavi Beach | Panambur Beach | Someshwara Beach | Ullala Beach | Kaup Beach | Nik Beach | Sasihithlu Beach | Maravanthe Beach | St. Mary’s Island | Malpe Beach |
|-------------------------------------------------|----------------------|----------------|------------------|--------------|------------|-----------|-------------------|-------------------|------------------|-------------|
| I like if there is more crowd in the beach      | 3.03                 | 2.83           | 3.22             | 3.17         | 3.09       | 3.20       | 2.90              | 3.12              | 3.00             | 3.13        |
| Large number of people implies beach is good    | 2.65                 | 2.78           | 2.78             | 3.50         | 2.45       | 2.97       | 2.54              | 2.92              | 2.94             | 3.04        |
| If there are large number of people beach will not be clean | 2.45                 | 2.35           | 2.57             | 3.03         | 2.57       | 2.90       | 2.23              | 2.24              | 2.18             | 3.22        |
| Crowd represents more fun in the beach          | 2.45                 | 2.52           | 2.52             | 3.27         | 2.70       | 2.90       | 2.36              | 2.68              | 2.71             | 2.70        |
| Number of stall and shops are more when there is more crowd | 2.29                 | 2.09           | 2.3              | 3.50         | 2.14       | 2.80       | 2.08              | 2.36              | 2.35             | 2.78        |
| If sunset view is clear in the beach there will be more crowd | 2.06                 | 2.39           | 2.43             | 3.33         | 2.32       | 2.63       | 2.10              | 2.32              | 2.41             | 2.52        |
| If beach is near to city or colleges then crowd will be more | 2.9                   | 2.7            | 2.52             | 3.77         | 2.5        | 3.03       | 2.67              | 2.60              | 3.18             | 3.39        |
| Visitors show decency in the beach              | 3.32                 | 3.00           | 2.83             | 3.43         | 3.14       | 3.33       | 3.03              | 2.92              | 3.76             | 3.43        |

*Source: Survey Data*

Table No.5 shows that Thanniru Bhavi Beach visitors shows more decency in the beach (M=3.32). Most of the Respondents believe that due to Malpe Beach is near to city or more number of colleges exist near the beach causes huge crowd. Ullala Beach Users believe that large number of people implies beach is good. Malpe Beach users opinioned that if there are large numbers of people beach will not be clean. Most of the Ullala Beach users agreed that if number of stall and shops will be more when there are more crowds.
5.5 Satisfaction Level toward Beach Visit

One of the important factors which determine decision making and behavioural process of Beach user is the satisfaction level that they derived by visiting a particular beach. If visitors are highly satisfied they will visit the beach one more time and suggest to other also (17). Table No.6 shows satisfaction level of beach users’ toward Beach Visit.

Table No.6: Satisfaction Level towards Beach Visit

| Level of Satisfaction | Thanniru Bhavi Beach | Panambur Beach | Someshwara Beach | Ullala Beach | Kaup Beach | Nitk Beach | Sasihithlu Beach | Maravanthe Beach | St.Mary’s Island | Malpe Beach |
|-----------------------|----------------------|----------------|------------------|--------------|------------|------------|------------------|----------------|----------------|------------|
| Mean Score(M)         | 1.84                 | 2.48           | 2.00             | 1.70         | 2.18       | 1.97       | 1.79             | 1.56           | 2.00           | 1.96       |
| Standard Deviation (SD)| 0.523                | 1.08           | 0.603            | 0.466        | 1.04       | 0.765      | 0.459            | 0.507          | 0.707          | 0.475      |
| Variance (V)          | 0.273                | 1.170          | 0.364            | 0.217        | 1.082      | 0.585      | 0.22             | 0.257          | 0.5            | 0.225      |

Source: Survey Data

Table No.6 shows that the Panambur beach has got the highest satisfaction level (2.48) from the beach visitors, among top ten beaches of Dakshina Kannada and Udupi district. Beach users’ were least satisfied with Maravanthe Beach.

5.6 Google Reviews about studied Beaches

The quality and quantity of reviews on Google is one of the most important ranking factors for local SEO. And, when a person scans the search results for a local product or service in Google, the business listings that include customer reviews present greater credibility and, naturally, receive more clicks. The below table shows that Google ratings and Number of reviewer.

Table No.6: Google Reviews about Selected Top Ten Beaches

| Beaches               | Ratings(Out of 5 Point) | No. of Reviewers |
|-----------------------|-------------------------|------------------|
| Thanniru Bhavi Beach  | 4.4                     | 1287             |
| Panambur Beach        | 4.2                     | 11327            |
| Someshwara Beach      | 4.4                     | 612              |
| Ullala Beach          | 4.2                     | 342              |
| Kaup Beach            | 4.6                     | 3878             |
| Nitk Beach            | 4.6                     | 418              |
| Beach Name             | Rating | Visitors |
|-----------------------|--------|----------|
| Sasihithlu Beach      | 4.2    | 25       |
| Maravanthe Beach      | 4.5    | 931      |
| St.Mary's Island      | 4      | 648      |
| Malpe Beach           | 4      | 570      |

*Source: Google search, as on 5th December 2019 (3:56 PM)*

Table No.6 indicates more number of people visit Panamburu beach and it also indicate that rating by the reviewer is more to the Kaupu Beach (4.6). May be due to interior location there are less number of visitors in Sasihithlu Beach.

### 6. Major Findings

- Most preferred beach among top ten beaches in Dakshina Kannada and Udupi District is Thanniru Bhavi Beach.
- According to respondents Thanniru Bhavi Beach is the cleanest and more entertaining beach.
- Most of the beach visitors are Male.
- Young people visit more into beaches.
- In every beach, most of the respondents prefer safety and security among top five preferences to visit beaches.
- In all studied beaches, visitors visit beaches with the expectation of Friendly atmosphere and for relax.
- Beach Visitors opinioned that Thanniru Bhavi Beach is best in Physical and morphological aspects.
- Beach Visitors have an average opinion about Environmental aspects, Facility and safety aspects and landscape and Design aspect.
- Most of the people don’t like if there are huge crowd.
- Majority of the respondents opinioned that number of Stalls and Shops will increase if there are large numbers of visitors in Beach.
- As per Google reviews Kaupu Beach is quality beach to visit.

### 6.1 Suggestions/Recommendations

- Most of the respondents opinioned that Malpe Beach is dirty but it has great landscape design to convert into great beach. Therefore it is suggested to concerned department focus on cleanliness of the beach.
There is need of proper toilet and dress changing room for Thanniru Bhavi Beach. It is suggest to Thanniru Bhavi Beach Maintenance department to keep security to avoid problems from predators and drug addicts.

The access to the Malpe beach is through an industrial area, with heavy traffic and oil stained roads. The beach is very crowded and filthy. Therefore it is recommended to maintenance department to keep road clean and clear from over crowd.

There is no proper sitting facility in Someshwara Beach and Ullala Beach. Therefore it is suggested to respective department to maintain proper infrastructure facility.

The Ullala beach area smells horrible its one of the dumping ground in Mangalore. Therefore it is Recommend Corporation department don’t make tourism place as dumping yard.

6.2 Conclusion

Although overall satisfaction of respondents towards all beach was good. Beach visitors were most satisfied with natural and physical characteristics of the beach and the most dissatisfied with environmental issues. These findings highlight the need of the attention and consideration of local managers and authorities. Nature conservation should be prioritized to other functions of the beach in order to assure satisfaction of users, as nature and landscape were the primary reasons for choosing this beach to visit. Moreover, based on beach users’ perceptions, management should pay more attention to beach sanitary and cleanliness issues and improve the facilities and services to the extent that there is no harm to the ecosystem. In specific, the result of this study reveals that beach users expressed the need for removing litter and abrasive material and install more public toilets, shower and foot-wash with better maintenance. In addition, more attention should be paid to beach’s security and safety. For example, local management needs to apply security and adjust lifeguard tower in a better area.

References

1. UNEP. Sustainable Coastal Tourism Planning. 2009. Available from: http://www.unep.fr/shared/publications/pdf/DTIx1091xPA-SustainableCoastalTourism-Planning.pdf
2. Pereira LCC, Jiménez JA, Medeiros C, da Costa Rauquirio M. The influence of the environmental status of Casa Caiada and Rio Doce beaches (NE-Brazil) on beaches users. Ocean & Coastal Management. 2003;46(11):1011-1030
3. Silva JS, Leal MMV, Araújo MCB, Barbosa SCT, Costa MF. Spatial and temporal patterns of use of Boa Viagem Beach, Northeast Brazil. Journal of Coastal Research. 2008; 24(sp1):79-86

4. Silva IR, Pereira LCC, Sousa RC, Oliveira SMO, Guimarães D de O, Costa RM da. Amazon Beaches (São Luís, Brazil): Recreational Use, environmental indicators, and perception of beachgoers. Journal of Coastal Research, SI 64 (Proceedings of the 11th International Coastal Symposium). 2011. pp. 1287-1291

5. Roca E, Villares M. Public perceptions for evaluating beach quality in urban and seminatural environments. Ocean & Coastal Management. 2008;51(4):314-329

6. Williams AT, Micallef A. Beach Management: Principles and Practice. London, UK: EarthScan; 2009. 480 p. ISBN: 978-971

7. Espejel I, Espinoza-Tenorio A, Cervantes-Rosas O, Popoca I, Mejia A, Delhumeau S. Proposal for an integrated risk index for the planning of recreational beaches: Use at seven Mexican arid sites. Journal of Coastal Research, SI 50 (Proceedings of the 9th International Coastal Symposium). 2007. pp. 47-51

8. Roca E. Bringing Public Perceptions in the Integrated Assessment of Coastal Systems [thesis doctoral] (Inédita), Universitat Autònoma de Barcelona. 2008

9. Duvat V. Public perception of beach quality: lessons learnt from a French case study. Paper presented at the Public perception of beach quality: lessons learnt from a French case study. 2012

10. Cervantes O, Espejel I. Design of an integrated evaluation index for recreational beaches. Ocean & Coastal Management. 2008;51(5):410-419

11. Marin V, Palmisani F, Ivaldi R, Dursi R, Fabiano M. Users’ perception analysis for sustainable beach management in Italy. Ocean & Coastal Management. 2009;52(5):268-277

12. Cervantes O, Espejel I, Arellano E, Delhumeau S. Users’ perception as a tool to improve urban beach planning and management. Environmental Management. 2008;42(2):249-264

13. Van Dyck, I. P., Nunoo, F. K. E., & Lawson, E. T. (2016). An Empirical Assessment of Marine Debris, Seawater Quality and Littering in Ghana. Journal of Geoscience and Environment Protection. https://doi.org/10.4236/gep.2016.45003
14. López-del-Pino, F., & Grisolía, J. M. (2018). Pricing Beach Congestion: An analysis of the introduction of an access fee to the protected island of Lobos (Canary Islands). *Tourism Economics*. https://doi.org/10.1177/1354816617740065

15. García-Morales, G., Arreola-Lizárraga, J. A., Mendoza-Salgado, R. A., Rosales-Grano, P., García-Hernández, J., Padilla-Arredondo, G., & Ortega-Rubio, A. (2017). Análisis de la aptitud recreativa orientada a la gestión ambiental de la playa El Cochorit, Sonora, México. *Revista Internacional de Contaminacion Ambiental*. https://doi.org/10.20937/RICA.2017.33.esp02.03

16. Villares, M., & Roca, E. (2007). Analysis of beach users’ perception in tourist coastal areas: A case study in the Costa Brava, Spain. In *Proceedings of the 8th International Conference on the Mediterranean Coastal Environment, MEDCOAST 2007*.

17. Rodella, I., & Corbau, C. (2019). Linking scenery and users’ perception analysis of Italian beaches (case studies in Veneto, Emilia-Romagna and Basilicata regions). *Ocean and Coastal Management*. https://doi.org/10.1016/j.ocecoaman.2019.104992

18. García-Morales, G., Arreola-Lizárraga, J. A., Padilla-Arredondo, G., Mendoza-Salgado, R. A., Ortega-Rubio, A., Rosales-Grano, P., & García-Hernández, J. (2017). Recreational fitness analysis for environmental management of the beach El Cochorit, Sonora, Mexico. *Revista Internacional de Contaminacion Ambiental*. https://doi.org/10.20937/RICA.2017.33.esp02.03

19. Van Dyck, I. P., Nunoo, F. K. E., & Lawson, E. T. (2016). An Empirical Assessment of Marine Debris, Seawater Quality and Littering in Ghana. *Journal of Geoscience and Environment Protection*. https://doi.org/10.4236/gep.2016.45003

20. López-del-Pino, F., & Grisolía, J. M. (2018). Pricing Beach Congestion: An analysis of the introduction of an access fee to the protected island of Lobos (Canary Islands). *Tourism Economics*. https://doi.org/10.1177/1354816617740065

21. García-Morales, G., Arreola-Lizárraga, J. A., Mendoza-Salgado, R. A., Rosales-Grano, P., García-Hernández, J., Padilla-Arredondo, G., & Ortega-Rubio, A. (2017). Análisis de la aptitud recreativa orientada a la gestión ambiental de la playa El Cochorit, Sonora, México. *Revista Internacional de Contaminacion Ambiental*. https://doi.org/10.20937/RICA.2017.33.esp02.03
22. Villares, M., & Roca, E. (2007). Analysis of beach users’ perception in tourist coastal areas: A case study in the Costa Brava, Spain. In Proceedings of the 8th International Conference on the Mediterranean Coastal Environment, MEDCOAST 2007.

23. Rodella, I., & Corbau, C. (2019). Linking scenery and users’ perception analysis of Italian beaches (case studies in Veneto, Emilia-Romagna and Basilicata regions). Ocean and Coastal Management. https://doi.org/10.1016/j.ocecoaman.2019.104992

24. García-Morales, G., Arreola-Lizárraga, J. A., Padilla-Arredondo, G., Mendoza-Salgado, R. A., Ortega-Rubio, A., Rosales-Grano, P., & García-Hernández, J. (2017). Recreational fitness analysis for environmental management of the beach El Cochirit, Sonora, Mexico. Revista Internacional de Contaminacion Ambiental. https://doi.org/10.20937/RICA.2017.33.esp02.03