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The Influence of Water Quality Views on Visitor Behaviour at a South African Beach

Vyasha HARILAL
School of Tourism and Hospitality, University of Johannesburg, South Africa, Email, vyashah@uj.ac.za

Abstract

Beach tourism is an integral component of Durban's tourism economy but has been afflicted by issues related to a decline in water quality and beach closures in recent times. Causes of this stem from the destructive effects of unprecedented flooding, as well as the damage to property from looting that occurred during mid-2021 in the city. These events have led to or exacerbated existing problems of aging infrastructure, such as water and sanitation pipes and treatment plants, resulting in water pollution at the beaches. The compounded effects of these crises have severely impacted the beach tourism economy in Durban. Thus, this study explores the impacts of water quality on beach tourism in Durban, considering tourist perceptions thereof, and how this impacts their usage of the beach. The study adopted a quantitative approach, using a self-designed survey that was administered to respondents at the beaches located along the Golden Mile in Durban. A total of 386 surveys were collected and analysed using SPSS. Key findings indicate that whilst there is awareness of poor water quality at the beaches, visitors have opted to continually engage in beach and water-based activities. Regarding the perceptions of water quality, indications are that beach users are influenced by the visual cleanliness of the area/water and the presence of security personnel at the beaches. Overall, this study provides valuable insights into the relationship between water quality and tourism activities, and how this can be leveraged for the local tourism economy in Durban.

Keywords Beach tourism, water quality, Durban, local tourism economy

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Introduction

The city of Durban is famed for its beautiful, warm water beaches and favourable weather (Chetty & Ndlovu, 2022; South Africa, 2021; Vetrimurugan et al., 2018), with the local tourism economy in the city being hinged upon these resources (Bond. 2011). The well-known 'Golden Mile' in the city is synonymous with tourism, being home to many flagship hotels, restaurants and beaches (Cloete & Yusuf, 2018), as well as being a tourism attraction itself (Hlengwa, 2021). This forms the cornerstone of Durban's tourism economy, with many tourists, both local and international, traveling within or to the city to enjoy the beach and coastline for various activities. Many of the local businesses are geared towards offering activities based on the beach, such as surfing, scuba diving and other water sports, and fishing. This demand feeds into the many small local restaurants, cafes and other eateries, as well as to the numerous accommodation establishments in the area. Thus, the tourism economy in the area is mutually beneficial to many stakeholders in the value chain, as well as to the creation of local economic development (LED) in the area (Van Heerden, 2015). Central to the upkeep and success of the local tourism economy in the city, is the upkeep and maintenance of the beaches, and the beach water quality (Saayman & Saayman, 2017). The quality of beach water is a longstanding concern, with Bond (2011) noting that high levels of bacteria in the water has been the cause of health issues for swimmers. Causes of this are due to the inflow of polluted water from rivers, which are polluted as a result of industrial waste and untreated sewage and other such effluent from informal settlements, and effluent from rain which carries with it various forms of urban pollution and runoff (Majola, 2022; Times Live, 2018). Apart from the negative effects of this pollution on marine life, and users of the beach (Saayman & Saayman, 2017), there are also implications for the upkeep and maintenance of beach water quality certifications, such as the Blue Flag status. A series of unfortunate events over the recent years have served to compound the predicament of worsening beach water quality, and ultimately, its impact on the tourism sector. These events included civil riots which resulted in damage to infrastructure, as well as chemical plants; and unprecedented flooding in the city, resulting in the further damage of key infrastructure (Naidoo, 2022). Consequently, large amounts of untreated wastewater, raw sewage and toxic chemical substances were released into rivers and ultimately the beaches in the city, rendering them unsafe for use (BusinessTech, 2022).

The COVID-19 induced crisis in South Africa saw the tourism sector come to a standstill, with the state of disaster and subsequent lockdown levels bringing movement of all tourists to a halt. These restrictions also resulted in the closure and limited use of public spaces, such as beaches and the promenade. Consequently, tourism businesses within the city struggled to remain open (China Daily, 2021). Compounding the drawn-out impact and effects of the COVID-19 crisis in Durban, was the riots and looting that occurred in July 2021 (Ngema, 2021). The widespread violence and property destruction worsened the socio-economic and environmental state that the city was in. The destruction of a major chemical warehouse during the riots resulted in the water systems coming under strain, with much of the run-off contaminating river systems and the ocean (Carnie, 2025; Carnie, 2021). This only served to add to the woes of the state of water and sanitation in the city, which is already plagued by issues stemming from ailing (and failing) infrastructure (Johnson, 2015, lack of maintenance, as well as high levels of corruption. The cumulative sum of these problems had major implications for tourism in the city, primarily centered on a reduction in bookings and increase in cancellations (Naidoo, 2022). In April 2022, the city faced another crisis, due to extreme weather events, which resulted in

widespread flooding in parts of the city. The consequent damage extended to road networks, buildings, including water, sanitation and electricity infrastructure (Joubert, 2023). One of the major issues that was exacerbated by the flooding was the poor state of water infrastructure and treatment plants (Johnson, 2015). Much of the untreated (raw) sewage and effluent was being released directly into the river systems, harbor and oceans, resulting in high levels of pathogens in the water. The presence of these pathogens led to the closure of many beaches for swimming and other activities, including fishing (Majola, 2022). Within the context of the tourism sector, the floods occurred at a time when the city expected to receive large crowds (of predominantly domestic tourists) over the Easter public holidays. However, as road networks were damaged, traveling to or within the city was impeded (Naidoo, 2022). Furthermore, accommodation and other tourism service businesses were damaged and could not operate, as well as much of the city being without electricity and piped water. This exerted strain on an already struggling sector, with reported estimated losses for the tourism sector in KwaZulu-Natal estimated at R25 million per day (BusinessTech, 2022). The tourism sector in Durban has borne the cumulative impact of the aforementioned crises, especially as each one had an impact on usability and accessibility to the city's beaches. Thus, of significance to interrogate is how beach user perceptions have been altered, given that they are key stakeholders in the local tourism economy. It is against the foregoing background that the current paper was conceptualised to assess beach users' perceptions of Durban's beach water quality, and how this affects their usage and visits to the beach and surrounds.

Literature review

Beach water quality, Blue Flag status and tourism in Durban

Durban tourism's tag line 'the warmest place to be', coupled with imagery of blue water beaches creates an expectation of what the destination has to offer (Visit Durban, 2025). In the past, before key infrastructure began to break down, before water quality standards were changed, and before extreme weather events ravaged the city, this tag line was appropriate. A preliminary requirement for beach tourism is the existence of a safe and usable beach. Given that much of Durban's coastline fits this classification, most tourism initiatives were developed in the region. This ranged from accommodation, restaurants and tourism operators. The Golden Mile in Durban is a prime example of how tourism development in the city is built around the beaches, as the primary tourist attraction. Up until the recent past, most of the beaches along the coastline carried the 'Blue Flag' status, indicating that the water quality of the beaches met internationally recognised standards, and that the waters were safe for people to swim in. The Blue Flag status is a voluntary scheme that cities apply for to gain certification that indicates a beach has met international water quality standards, as well as other qualities related to environmental education, preservation of marine life and sustainability of the beach (Tourism Update, 2020). The programme is operated by the Wildlife and Environment Society of South Africa (WESSA) in South Africa, with the certification being valid for the period of one year. This measure of water quality was developed in the European context, and aimed at improving the environmental management of beaches, thereby enhancing tourism offerings (Mukaronda & Sucheran, 2023). Hence, the secondary effect of having beaches certified inspires an element of trust and confidence in beachgoers, encouraging usage of the beach and its associated facilities (Sayedwa & Queiros, 2022). The status also plays a role in the sustainable tourism development of coastal destinations, ensuring that harmful impacts of development and tourism are mitigated (WESSA, 2024). Considering the emphasis on the sustainability of tourism offerings in contemporary tourism discourse, and tourists' increasing consciousness thereof, significant importance is attached to it from the perspective of the tourism industry (Ferreira, 2021). Despite this importance, the beaches along the Durban coastline are no longer in possession of the Blue Flag status. Although beaches along the Golden Mile held previous Blue Flag statuses, the deterioration of the beach water quality and other conditions required for the continuance of this status, coupled with political strife, resulted in a retraction of the status and withdrawal from the scheme, circa 2008 (Carnie, 2024). However, in 2013, a decision was made to rejoin the scheme by the then city manager, but this was relatively short-lived due to deteriorating water quality (Times Live, 2018). Some of the city's beaches, including uShaka and Point beaches along the Golden Mile were recertified in 2020, having met the criteria (Tourism Update, 2020), but this was unfortunately short-lived. The deterioration of the beach water quality, due to various causes, meant that the beaches did not qualify for the certification or to rejoin the scheme in the following year, or since then (Phooko, 2022). Given that the tourism industry is easily affected by perceptions of safety, the retraction of the Blue Flag status signaled a problem with beach water quality for many users and deterred many potential people from engaging in tourism in the city, thus resulting in losses for the local tourism economy (Phooko, 2022). Saayman & Saayman (2017) share similar sentiments, noting that possession of the status has a positive impact on the local tourism economy, with the status being appealing to beach tourists. Ferriera (2022) further notes that possession of the status can increase the competitive advantage of the destination, thus elevating the local tourism sector and economy at large.

Public and private beach water quality testing impact on tourism

Ongoing regular beach water quality monitoring has been conducted by both public and private stakeholders. This is intended to notify beach users about whether or not beaches are open for swimming and other water activities. The results have shown that whilst the water quality fluctuates, it is often times highly contaminated and deemed unsafe for any activities to take place (Elumalai et al., 2022). The high levels of contamination and subsequent ad hoc closure of the beaches had an impact on the tourism sector, with many tourists opting to visit other beaches or destinations. Although most beaches were closed intermittently from the incidents of looting and flooding, with water quality tests often indicating unsafe and unsanitary conditions, the December 2022 peak summer season saw the reopening of the beaches (Liebenberg, 2023). Despite the efforts to convince the broader public and tourists of the safety of the destination, many were hesitant to accept the sudden recovery, which incidentally coincided with the December tourism peak season (BusinessTech, 2022; Singh, 2022). Even when the water quality was indicated as safe by the

municipality, users were reluctant to accept this as reliable and truthful information. This had a knock-on effect on local businesses in the area, many of which are reliant on beach tourism (Guy, 2021). In response to this, an online water quality tracker for central beaches in the city was developed, in an attempt to combat uncertainty around water quality and safety (Woz'Olwandle, 2025). According to experts, the level of contamination at beach locations is not stagnant, and changes constantly, with water temperature, rainfall and currents contributing to the fluctuations (Johnson, 2015). Additionally, breakdowns in key infrastructure can result in large volumes of effluent and raw sewage being released into the water, thus compromising the state of water quality further (Mardon & Strech, 2004). Without knowledge of these underlying factors, the picture painted by the water quality statistics can appear to be one-dimensional and can also lead to people questioning how two locations in close proximity to each other can have such varied results. Given that the tourism sector is one that is based on, as well as relies on, the perceptions of tourists, the lack of clarity surrounding the narrative on beach water quality is problematic for the local tourism economy and its businesses. Thus, understanding the perceptions of water quality on beach users is an important strategic step in ensuring that beach tourism in Durban is reignited and tailored to the needs of tourists.

Methodology

The current study adopted a quantitative approach, using a self-designed survey that was administered to respondents (beach visitors and tourists) at the beaches located along the Golden Mile in Durban, from March to April 2024, which is the Easter peak season. This research design was deemed appropriate, given the exploratory nature of this paper, as well as the ability to sample a relatively larger group of respondents, compared to a qualitative research design (Ghanad, 2023). Furthermore, the appropriateness of this method was demonstrated by other similar studies employing the same (see Mukaronda & Sucheran, 2023). A self-designed survey was used for the collection of data and was piloted with a small sample population of 10 respondents to pre-test the surveys and identify any potential issues. Additionally, piloting the survey served to ensure the reliability and validity of the instrument (William, 2024). The survey consisted of two main sections, with the first section centered on the collection of demographic and beach usage information, whilst the second section collected information on the perceptions of beach water quality. Types of questions included in the survey were closed ended questions, as well as a five-point Likert scale, to gauge the perceptions of respondents on beach water quality. A total of 386 surveys (excluding the pilot surveys) were collected and analysed using the Statistical Package for Social Sciences (SPSS) software.

Results and discussion

Tourism forms an important aspect of Durban's local economy, contributing a substantial amount before the onset of COVID-19. In the aftermath of the pandemic and the crisis that it triggered in the tourism sector, restarting tourism, especially through domestic tourism, became a priority. Clean and usable beaches are of utmost importance, for beachgoers and tourists alike to participate in water-based activities and engage in general usage of the beach.

An overview of the demographic profile of respondents

The majority of respondents were aged 26 – 45 years of age, with 31.1% possessing up to a tertiary certificate or diploma, and 17.6% possessing an undergraduate degree. Additionally, 46.1% of the respondents were employed on a full or part-time basis, whilst 18.1% were self-employed. The overwhelming majority of respondents resided in KwaZulu Natal. Moreover, 8.8% of respondents described themselves as a day visitor from outside of Durban and surrounds, whilst 13.5% described themselves as a domestic tourist/visitor from another province. This is indicative of the popularity of beaches along the Durban coastline as a hotspot for tourism activities (Cloete & Yusuf, 2018) and emphasises the importance of ensuring that the beach water quality is safe for use by tourists/visitors, ensuring the functioning of the local tourism economy in the city (Sayedwa & Queiros, 2022). Many of the respondents visit the beaches a few times a week to once or more per month (64.3%), with 7.3% being daily visitors to the beaches. Respondents also indicated that they visit the beaches at all times, during all seasons (60.1%), which attests to the beach tourism friendly climate that prevails in Durban, and further underscores the importance of this type of tourism in the city (South Africa, 2021). A significant 68.9% of respondents indicated that they visit the beach for the purpose of swimming, whilst 16.1% indicated that they visit the beach for walking/exercise. Other activities included picnicking, sunbathing, sports, fishing and cultural activities. These results are also reiterated by Table 1 below, which showcases a crosstabulation of results related to the frequency of visits to Durban beaches against perceptions of beach water quality.

Table 1: Crosstab: perception of beach water quality versus frequency of visit to the beach

		How often do you visit the Durban beaches?				Total
		Daily	Few times per week	Once or more per month	Once or a few times per year	
Do you think that there is a problem with the beach water quality in Durban?]	Yes	20 (5.18%)	88 (22.8%)	104 (26.94%)	59 (15.28%)	271
	No	8 (2.07%)	20 (5.18%)	36 (9.33%)	51 (13.21%)	115
Total		28	108	140	110	386

The results in Table 1 indicate that although there are respondents who think that there is a problem with the beach water quality, it has not affected their visits to the beach. More than half of respondents collectively (54.92%) acknowledge that there is a problem with the water quality, but still frequently visit the beach, ranging from daily visits to once or more per month.

Perceptions of beach water quality

The results contained in Table 2 above relate to respondents' perceptions of beach water quality. Interestingly, although 70.2% of respondents think that there is a problem with the beach water quality, only 37% of respondents follow or track the reports on it,

with 62.7% indicating that this has not affected their visits to the beach, for various activities. Furthermore, 70.2% of respondents believed the beach would not be open for use if it was unsafe. Since the onset of publicised water contamination, as well as lockdowns because of the previous COVID-19 pandemic, there have been many instances where beaches were closed for use by the public, especially in relation to swimming and other water-based activities (Majola, 2022). Thus, these instances of closure could have influenced public sentiment, that beaches would be closed if conditions were deemed unsafe (Naidoo, 2022).

Table 2: Perceptions of beach water quality (n=386, in %)

Perceptions of beach water quality	Yes	No
Do you think that there is a problem with the beach water quality in Durban?	70.2	29.8
Are you aware of the reports in the media which detail the problems with beach water quality in Durban?	51	49
Have you been following these reports?	37	63
Has this affected your visits to the beach?	37.3	62.7
Do you think that the beach would be open for use if it was unsafe?	29.8	70.2

The impact of perceived water quality on beach activities was somewhat surprising, with the results contained in Table 3 indicating that there was little impact of poor water quality on beach activities that beachgoers and visitors engaged in. Collectively, 95.6% of respondents indicated that there was either no impact or a positive impact of the perceived water quality in terms of them engaging in water sports, such as surfing, swimming and paddling. Similarly, 89.3% of respondents collectively indicated that there was no impact or a positive impact of this on fishing activities, whilst 91.5% of respondents indicated the same for engaging in diving and snorkeling. The results in Table 3 also indicate that there was a minimal impact of the perceived water quality on other activities, such as various cultural practices (religious ceremonies that occur in the beach water or on the shore), photoshoots and events. These results indicate that although there is a definite problem with contaminated beach water in the various beaches along Durban's coastline, the impact of such on usage of the beach is nominal. However, this is not to underplay the problem, which has been clearly elucidated by many (BusinessTech, 2022; Carnie, 2024; Johnson, 2015).

Table 3: The impact of perceived water quality on the beach on activities (n=386, in %)

	No impact	Positive impact	Negative impact
Engaging in water sport (surfing, swimming, paddling, etc.)	37.8	57.8	4.4
Engaging on fishing activities	35.2	54.1	10.6
Engaging in diving and snorkeling	42.5	49	8.5
Use of the beach for cultural practices	49	44	7
Use of the beach for photoshoots	55.4	34.7	9.8
Use of the beach for events	47.7	43.5	8.8

One-way ANOVA tests

One-way ANOVA analysis was used to determine the difference between groups on the impacts of water quality on beach activities versus the times that respondents commonly visit the beach, as shown in Table 4 below.

Table 4: Impacts of water quality on beach activities (Q12) vs Times they commonly visit (Qn 8)

		F	Sig.
Please indicate if the water quality of the beach has had any impact on the following: [Engaging in water sport (surfing, swimming, paddling, etc.)]	Between Groups	6,813	0,000
Please indicate if the water quality of the beach has had any impact on the following: [Engaging in fishing activities]	Between Groups	2,747	0,028
Please indicate if the water quality of the beach has had any impact on the following: [Engaging in diving and snorkelling]	Between Groups	4,117	0,003
Please indicate if the water quality of the beach has had any impact on the following: [Use of the beach for cultural activities]	Between Groups	2,816	0,025
Please indicate if the water quality of the beach has had any impact on the following: [Use of the beach for photoshoots]	Between Groups	2,389	0,050
Please indicate if the water quality of the beach has had any impact on the following: [Use of the beach for events]	Between Groups	2,841	0,024

There was a significant difference between the times respondents commonly visit Durban beaches and impacts on the following beach tourism activities: (1). Engaging in water sport (surfing, swimming, paddling, etc.) F = 6.813, p = 0.000; (2). Engaging in fishing activities F=2.747, p=0.028; (3). Use of the beach for events F=4.117, p=0.003; (4). Use of the beach for cultural activities F=2.816, p=0.025; (5). Use of the beach for photoshoots F=2.389, p=0.05; (6). Use of the beach for events F=2.841, p=0.024. The overall implication of these results indicates that the time at which tourists/visitors frequent the beach has a distinct impact on the activities that they participate in, a general sentiment that has been broadly found in other studies (Jozić et al., 2024; Furey et al., 2022).

Visitor perceptions of Durban beaches

To gain further insights into the visitor perceptions of Durban beaches, a five-point Likert scale was utilised. Table 5 above details the perceptions of respondents on beach water, the beach itself and on improvements to the beach. Although the results in Table 4 have been presented according to a 5-point Likert scale, where SA= strongly agree; A=agree, N= neutral, D= disagree, SD= strongly disagree; for the purposes of the proceeding discussion, the results for 'strongly disagree' / 'disagree' and 'strongly agree' / 'agree' will be presented collectively. With regard to perceptions of clean beach water, the majority of respondents believe that beach water is clean and safe because it is odourless (65.3%), clear and colourless (70.5%), due to a lack of litter/visible pollution (71.8%), presence of small fish (66.1%) and because there are workers who are actively cleaning and maintaining the beach area (68.1%). Additionally, other people also using the beach influences respondents' perceptions that the beach is clean. In terms of perceptions of the beach and its facilities, it is interesting to note that 61.1% of respondents indicated that it is possible to see if there are disease-causing bacteria in the water. This highlights the lack of understanding on the complex issue of water quality, and the importance of public awareness and education on the matter (Chetty & Ndlovu, 2022). Interestingly, respondents were in disagreement with many of the statements related to the beach facilities, accessibility and infrastructure. For example, 83.7% of respondents disagreed that the beach is safe due to the presence of metro police and other security guards, and 84.4% of

respondents disagreed that there are sufficient lifeguards present at the beach. Additionally, with regard to sanitation facilities, public showers and bins, the overall sentiment was that these were insufficient. The issue of accessibility for differently abled people was also highlighted as an area for improvement, with 52.1% of respondents disagreeing that the beach is accessible for differently abled/disabled people. These results highlight important areas for improvement, to ensure that these beaches continue to attract tourists and visitors alike. If basic safety standards and infrastructure are not maintained, there is a high risk of reduced visitors and tourists to the beaches, as well as a consequent reduction in the domino effect on spending in the surrounding area. This is critical for the local tourism economy in the city, given that the city is often marketed as a 'sun, sea, and sand' (SSS) destination (Van Heerden, 2015), and that many of the businesses in the area are reliant on the business generated from tourists and visitors (Ngema, 2021).

Table 5: Visitors perceptions of Durban beaches

Perceptions of clean beach water (n=386, in %)	**SA**	**A**	**N**	**D**	**SD**
The beach water is clean and safe to be in because it is *odourless*	29,5	35,8	3,9	18,1	12,7
The beach water is clean and safe to be in because it is *clear and colourless*	30,3	40,2	4,1	23,3	2,1
The beach water is clean and safe to be in because *there is no litter/pollution in the water*	29,3	42,5	3,9	15,8	8,5
The beach water is clean and safe to be in because *there are visible, small fish in the water*	22,8	43,3	15,0	15,3	3,6
The beach water is clean and safe to be in because *there is signage that indicates safety*	17,4	27,7	10,4	35,0	9,6
The beach water is clean and safe to be in because *the shore and surrounding area is clean and well kept*	14,0	36,8	10,9	33,2	5,2
The beach water is clean and safe to be in because *there are many other people using the beach*	15,3	39,1	8,3	32,6	4,7
The beach water is clean and safe to be in because *there are municipal workers who actively maintain and clean the area*	6,5	17,9	7,5	40,4	27,7
Perceptions of the beach					
It is possible to see if there are disease-causing bacteria in the water	32,6	28,5	14,8	16,8	7,3
This beach is safe due to the presence of metro police and other security guards	3,1	9,3	3,9	62,2	21,5
There are many trash bins available along the beach and promenade	2,8	7,3	6,0	66,1	17,9
This beach is centrally located and easily accessible by public and private transport	1,8	13,7	7,0	57,3	20,2
There are many different restaurants/food and beverage outlets available at or near this beach	0,3	7,0	6,0	49,5	37,3
There are lifeguards present at this beach	1,3	9,6	4,7	54,1	30,3
All swimmers comply with the demarcated bathing area at this beach	2,3	29,8	11,4	45,3	11,1
The safety standards at this beach are very high	7,3	24,4	11,1	45,3	11,9
There are plenty functional public showers available at this beach	3,4	16,8	10,1	55,4	14,2
This beach is accessible for differently abled / disabled people	12,2	23,1	12,7	42,0	10,1
There are enough sanitary facilities (toilets, hand washing) available at this beach	4,9	16,6	11,4	54,1	13,0
The sanitary facilities are clean and functional	4,7	23,8	10,1	45,6	15,8
Improvements to the beach					
Achieving Blue Flag status will improve water quality of the beach	1,8	7,3	14,2	35,8	40,9
Credible, real-time water quality results will improve recreational use of the beach	2,3	3,6	7,8	52,8	33,4
Water quality indicators do not need to be based on sample testing, but on water current and recent weather	12,4	14,5	14,8	35,8	22,5
Reducing litter on the shore and in the ocean will improve the quality of the beach	2,3	5,4	6,7	54,1	31,3
Overcrowding at the beach affects (reduces) the quality of the beach	4,4	14,0	9,3	50,0	22,3
Infrastructure and signage available at the beach is sufficient	14,2	15,0	11,1	42,5	17,1
There have been visible negative changes in the beach and surrounds, due to climate change, over the last 10 years	1,6	7,0	13,0	40,4	38,1

Pertaining to improvements to the beach, interestingly, 86.2% of respondents disagreed that credible, real-time water quality results will improve recreational use of the beach, whilst 85.4% of respondents also disagreed that reducing litter on the shore and in the ocean will improve the quality of the beach. Interestingly, the majority of respondents (76.7%) disagreed with the statement that achieving Blue Flag status will improve water quality. Blue flag status is an international certification of beach water quality. Many of Durban's beaches were previously certified, but have since lost the certification (Times Live, 2018). Another interesting finding is that 78.5% of respondents disagree that there have been visible negative changes in the beach and surrounds, due to climate change, over the last decade. This is particularly interesting, given the increasing occurrence of extreme weather events, specifically flooding and erosion that the promenade, beach front and shoreline have experienced in the last decade.

Conclusions and recommendations

The findings reveal a clear disconnect between respondents' perceptions of beach water quality and actual beach-use behaviour along Durban's coastline. Although a significant proportion of respondents acknowledge that water quality is problematic, interestingly, this has not translated into reduced usage of and visitation to the beach, nor has it resulted in decreased participation in recreational beach activities. Many beachgoers continue to engage and participate in water-based activities such as swimming, surfing, paddling, fishing, diving, as well as various cultural practices in and at the beach. This suggests that the perceived risk associated with (poor) beach water quality remains low and may stem partly from the perception that beaches would be closed if conditions were unsafe, which is a sentiment shaped by past beach closures during pandemic restrictions and times of high bacterial load in the water. Furthermore, the findings revealed that respondents demonstrate limited understanding of water quality indicators and rely heavily on visible cues such as water clarity, the absence of odour, litter and deceased marine species, as well as beach maintenance by municipal workers to judge cleanliness and overall usability of the beach. The research also highlights the broader infrastructure and safety concerns of respondents, including insufficient lifeguards and security at the beach, a lack of sanitation facilities and the need for enhanced accessibility for differently abled people. These issues point towards the shortcomings on Durban's beaches, which are essentially risks to Durban's competitiveness and overall sustainability and viability as a coastal tourism destination (Ferreira, 2021), particularly given its strong positioning as a SSS destination (South Africa, 2021; Van Heerden, 2015). Based on this, a key recommendation emanating from the current research is the strengthening of water quality monitoring and management, with the view to support the continuance of Durban's local tourism economy, centered on the beach and its resources. Further to this, other recommendations relate to the improvements of beach infrastructure, safety and accessibility of the beach, as well as enhancement of communication and education regarding beach water quality. Similar to other studies (see Sayedwa & Queiros, 2022; Hlengwa, 2021; Saayman & Saayman, 2017), the key findings and recommendations from this research point towards the need for stronger governance and management of the beach water quality, and systems that

contribute to its deterioration. Additionally, improved public awareness, as well as continued investment in the beach and associated infrastructure is necessary to ensure that Durban's beach tourism remains a key economic contributor that is also environmentally and socially sustainable, a sentiment that has also been echoed in the literature (Republic of South Africa, 2025; Chetty & Ndlovu, 2022).

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