

COLD-WATER RECREATIONAL DIVING EXPERIENCES: THE CASE OF KELP FORESTS

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ABSTRACT

Recreational diving is an important part of marine tourism and has been extensively studied, especially in the context of warm-water and tropical environments. Comparatively, research on diving and the segmentation of divers in cold water habitats remains scant. Ever since the award-winning documentary *My Octopus Teacher* came out in 2020, more attention has been drawn to kelp forests, which are typically cold-water habitats. Diving in kelp is a recreational activity that has the potential to become a major part of marine tourism in countries like South Africa. However, limited research exists on this niche type of diving. This study aims to segment and profile kelp divers, to guide the sustainable development and management of kelp diving as marine tourism activity. To reach this aim, qualitative research was conducted. Specifically, semi-structured interviews were used to gather data on the demographic, psychographic, behavioural and specialisation profiles of 50 divers in Cape Town. The divers were male and female in similar proportion, they were in their late thirties and had tertiary education. They were mainly from South Africa and resided in Cape Town. They were both scuba and free divers and moderately specialised. Motivations to dive in kelp included observation, being in nature, relaxation and escape, adventure and exercise, discovery and learning, and photography. Experiences diving in kelp were relaxation and wellbeing, awe and wonder, contact with nature, freedom, novelty, feeling safe, and social interaction. The divers ascribed extrinsic and intrinsic values to kelp and recognised ecosystem services of kelp forests. They were also aware of problems affecting kelp and could propose viable solutions to combat these problems. The divers showed strong conservation commitment and place attachment to the local coast and kelp forests. The results were used to make recommendations concerning marketing and management, including better patrol of kelp forests, codes of conduct for divers, education, and marketing of sustainable kelp diving and other non-diving activities.

Keywords: recreational diving, segmentation, recreation specialisation, diving motivation, phenomenology, values, attitude, conservation commitment, tourism management.

1 INTRODUCTION

Recreational diving is an important and profitable branch of the marine tourism industry [1]. Diving can impact the areas surrounding dive sites, supporting coastal communities through income sources, job creation and overall economic growth in an area [2]. Diving also supports conservation directly and indirectly by creating awareness, knowledge of the sites and their ecological importance, and positive attitudes among divers towards the conservation of dive sites [3]. Much research has been done on the structure and impacts of recreational diving, to guide its management and sustainable development. There has been a focus on positive and negative environmental, economic, and social impacts [1]. Poor management of the activity can lead to problems between stakeholders making use of resources, habitats suffering from degradation, and revenue leakage from the local economy [4].

Understanding the structure and impacts of recreational diving first requires research on the segmentation of divers. Diving segmentation research has mainly focused on popular diving areas to enhance their management, including warm-water or tropical regions like Indonesia, Thailand, Malaysia, the Philippines, Australia, and the Red Sea [5], [6]. Recently, the focus has shifted to colder-water diving which is increasingly popular. Areas of study have included subtropical or temperate sites such as the Mediterranean Sea and South Africa



[7], [8]. With increasing latitude, however, research on diving tourism remains proportionally scanty compared with lower latitudes, reflecting also the high niche activity nature of cold-water diving [9].

Kelp forests are seaweed forests that can be found in cold water on the coasts of temperate and Arctic zones [10]. These ecosystems house different aquatic life. They provide services to the life forms within them, such as food, habitat and protection against waves and bad weather, as well as services to humankind, such as fish stocks and recreation, in particular diving [11]. They are so biodiverse that they are compared to terrestrial rainforests and coral reefs in tropical destinations [12]. Given their compatibility with coral reefs, kelp forests potentially attract large numbers of divers and may require the same dedication towards tourism management and sustainability efforts as coral reefs do. This would call for research on kelp diving tourism, starting from segmentation. Studies have synthesised the economic value of kelp forests, including kelp tourism [13], [14]. The economic data from these studies suggest that kelp diving may be significant, and thus relevant to understand and monitor to ensure its management and sustainable development. However, limited or no research has looked at the state of the art of kelp tourism including diving. It would be important to begin by segmenting kelp diving, to manage the activity and secure its development as a sustainable recreational activity, cater for the different segments' needs, and prioritise actions to preserve kelp ecosystems and their services.

In South Africa, kelp distribution coincides with that of florid coastal tourism in Cape Town, a world-renowned coastal tourism destination surrounded by a marine protected area (MPA), where balancing human activities and conservation is paramount [15]. The local kelp forests were the setting of the award-winning Netflix documentary *My Octopus Teacher*. It has been argued that this and similar documentaries can raise awareness about ecosystems like kelp, possibly stimulating an interest in kelp tourism [16]. This documentary could draw attention to South Africa for kelp tourism including diving, which may represent an important factor of coastal and marine tourism in the area. Some research suggests this, although only indirectly [13], [15]. Thus, segmentation research on kelp diving is timely, given a research gap concerning this niche activity as well as cold-water recreational diving in general [9]. In times of COVID-19, inbound tourism has been subjected to a halt, which makes it important to explore the potential of domestic tourism and local coastal recreation. This study focused on recreational kelp diving by South African residents, contributing towards an appreciation and enhancement of domestic coastal tourism. A key question addressed in this paper is: what characterises segments of recreational kelp divers in South Africa? The study investigated the profile of kelp divers, with emphasis on their demographic profile, diving specialisation, motivations, the phenomenology of kelp diving, and conservation commitment. The novelty of this research is grounded on addressing a research gap in the segmentation of kelp divers, as well as contributing to segmentation research on cold-water diving tourism.

2 METHOD

This study used qualitative research and a phenomenology approach. According to Sokolowski [17], phenomenology is “the study of human experiences and of the way things presents themselves to us through such experiences”. A semi-structured telephonic interview was used to collect the data. The interview was structured to reflect different constructs in diving segmentation research, including demography, specialisation, motivations, and experiences (phenomenology) [18], [19]. Questions revolving around perceptions of kelp, including values and attitude, as well as conservation commitment, were added to understand the relationship between diving segments and disposition towards marine environments and



kelp [20], to better inform management, especially considering that kelp forests in Cape Town fall within the boundaries of an MPA.

Interviews were conducted and audio-recorded by a field worker with the consent of the participants. Once a week in September to December 2020, the fieldworker posted a message on randomly selected diving groups on social media. These included two WhatsApp groups of recreational divers in Cape Town, and two Facebook groups representing diving schools and shops in Cape Town. The message invited participants to partake in a half-hour interview via telephone (using WhatsApp or Messenger) to discuss diving in kelp. The message was formulated neutrally to attract different types of divers and a date was set by divers in which they could be interviewed. After 50 divers were interviewed, the data were transcribed to check for saturation, which had been achieved.

The recordings were transcribed verbatim into Microsoft Excel. Numerical and categorical answers, such as demographic ones, were analysed using basic statistics including frequency tables and averages. The transcribed data were analysed using thematic analysis, which is a method that is used in research to identify, sort and get meaning from patterns or themes that are found when doing qualitative research [21].

3 RESULTS AND DISCUSSION

3.1 Demographic profile and diving specialisation

Just over half (56%) of the participants were female as opposed to 44% male. Most were in their late thirties and had tertiary education. The participants mainly came from South Africa and resided in Cape Town. Only three participants claimed to be in a marine profession. The demographic profile of the participants partly corresponds with what is found in literature concerning divers, with a focus on the cold-water market. For example, the age range and education level of the participants matched with those highlighted by other authors [22], [23]. More females than males participated in the study, which is at odds with statistics from diving agencies like PADI [24]. Since the sample was characterised by many free divers, this group may have a high female representation, although no statistics could be found in this regard. It is also possible that females were more interested in participating in this study; research has shown that females are more cooperative and compliant when it comes to social science surveys [25]. The origin of the participants suggests that kelp divers in South Africa (it must be considered that this study happened during the closure of the country to international tourism) are local and from the Cape. Kelp forests can only be found in the cold-water regions of South Africa and around the Cape Peninsula [13], implying that the divers dived their local coast. This result also suggests attachment to the local coast, encountered in other cold water diving research [22].

Most participants practised both free diving and scuba diving and had a basic (e.g. PADI Open Water Diver) or advanced (e.g. PADI Advanced Free Diver) diving qualification. Among the participants, an average of 819 lifetime dives had been logged. Most had been diving for over 10 years and logged just over 65 dives per year. They were mainly not employed in the diving industry and were not subscribed to a dive magazine but belonged to a diving club. Cold-water divers are ranked high on the specialisation continuum, which goes from generalist or low-commitment to specialist or high-commitment people [7], [22], and the data in this study confirm this. Not many participants were employed in the diving industry and this result may be explained in their motivations to dive (discussed later), which included elements of escapism. The participants were part of a dive club which indicates that they are serious about the sport and want to be part of a community that is like-minded – this



is also an indication of a commitment to the sport and specialisation [26]. Being subscribed to a diving magazine may not be popular anymore since information about diving is now digital and can be found online [27].

3.2 Motivations to dive in kelp

Motivations to dive in kelp included observation, being in nature, relaxation and escape, adventure and exercise, discovery and learning, and photography (Table 1). Observation and being in nature were mentioned in the largest proportion (half of the participants). Observation focused on seeing the creatures thriving in the kelp forest as well as the aesthetic qualities of kelp. Being in nature involved wanting to be fully immersed in the kelp forests. Divers compared the aesthetic qualities of kelp to those of rainforests or described kelp diving as walking in a botanical garden. They also wanted to feel as if they were flying through a forest, which was described as a magical experience. Another two frequently mentioned motivations (over 30% of divers) were relaxation and escape, and adventure and exercise. The former is about escaping from life and finding a place where to relax. Kelp forests provided divers with a place where they could feel safe and where the world and everyday worries would not bother them. Diving in kelp was also a form of adventure, where divers could have “out of this world” experiences, be challenged, and be able to exercise and stay fit. Motivations that were described in lesser proportion (around 10%) included discovery and learning, and photography. Some people dived in kelp because they had an interest in learning while being engaged in a recreational activity. These divers wanted a place where they could learn about biodiversity and the organisms that can be found. Divers also enjoyed the opportunity to take pictures of the kelp forest and the creatures within. The underwater landscapes as well as documenting underwater life for further research were important driving factors in this case.

Motivations partly match with what is described regarding cold-water diving, for example, adventure, learning, and escapism [22], [23]. Motivations themes that emerged more strongly in kelp diving compared with general cold-water diving included observation, and the desire to dive in kelp to have magical experiences in nature. While observation is a more typical motivation in diving tourism, where curiosity is a strong driver, being in nature is also recurrent in marine ecotourism, adventure tourism, and nature sports literature [1], [28]–[30]. The results suggest that on the one hand, kelp diving may offer experiences that are similar to those offered in other types of cold-water diving, such as adventure and learning. On the other hand, it has unique properties attracting curious people wanting to enjoy the aesthetic qualities of the dive site and to be fully immersed in nature.

3.3 Experience of diving in the kelp

Experiences or phenomenology of kelp diving included relaxation and wellbeing, awe and wonder, contact with nature, freedom, novelty, feeling safe, and social interaction (Table 1). Relaxation and wellbeing were mentioned by most (62%). Divers found that diving in kelp is a meditative experience and a way to relax and step away from the stresses of everyday life. They declared that kelp diving helped them connect with their spiritual side as well as the beliefs they hold. It helped them “slow down” and “be in the moment”, and was also considered a coping mechanism when things got too difficult in life. It was an activity contributing to mental and physical wellbeing. The divers mentioned the benefits of cold water for human physiology, such as helping blood pressure. Other sub-themes frequently



Table 1: Main sub-themes extracted from the narratives of participants in this study (N = 50), and key quotes for each sub-theme.

| Sub-theme | Key quote |
|--|--|
| Motivations to dive in kelp | |
| Observation | <i>I want to see the life there, it is so interesting and beautiful.</i> |
| Being in nature | <i>I want to experience nature and witness local ecosystems.</i> |
| Relaxation and escape | <i>Free diving is total and utter relaxation.</i> |
| Adventure and exercise | <i>There is a lot of life and adventure to be found.</i> |
| Discovery and learning | <i>I dive for the colour, fish, critters, rocks, and the ecosystem where you find beautiful creatures that you would not find elsewhere.</i> |
| Photography | <i>The scenery for photography can be spectacular with good visibility.</i> |
| Experience of diving in the kelp | <i>The feeling is calm and relaxed, loving every second. It is very good for my mental health and wellbeing to go into the kelp forest.</i> |
| Relaxation and wellbeing | <i>I just have feelings of awe and wow when I am in the kelp forest.</i> |
| Awe and wonder | <i>I learned that kelp is your friend; it makes me feel at home to dive in the kelp.</i> |
| Contact with nature | <i>I go without wetsuits and gloves, I find it separating if you do.</i> |
| Freedom | <i>The first time I had anxiety, but then at the bottom, it was a lot quieter and got used to it.</i> |
| Novelty | <i>I get over my fear, it is about self-mastery.</i> |
| Feeling safe | <i>I was comfortable around my friends and instructors.</i> |
| Social interaction | |
| Perceived value of kelp | |
| Ocean ecosystems | <i>Like rainforests, kelp creates an environment supporting life.</i> |
| Marine life | <i>A huge food source and many species lay their eggs on the kelp.</i> |
| People | <i>Kelp has psychological benefits for people suffering from stress. Cold water and waves have calming effects. Without mentioning the massive tourism value. People coming to see great whites and seals, it is all connected. You will not have opportunities to snorkel, free or scuba or fish without kelp here.</i> |
| Perceived issues/solutions for kelp conservation | <i>Maybe climate change: kelp prefers colder temperatures, changing water temperatures and currents may affect distribution. Human impact (e.g. overfishing) causes an imbalance in the food chain. Removing the predators of animals that eat kelp, you get these barren lands.</i> |
| Problems affecting kelp | <i>We could designate protected and controlled reserves, but they need to be effective and we should create networks of interconnected sites, species are mobile. This may be important for climate change because species are likely to migrate. Also regulate activities within the kelp forests, whether it is recreation or fishing.</i> |
| Ways to protect kelp | |

mentioned were awe and wonder (44%) and being in nature (40%). For divers, it was a wonder to dive in kelp and an experience that humbled them. They were mesmerised by the movement of the kelp forests, which changed their perspectives on life and the “surface world”. Divers claimed that they had a deeper connection with nature when diving in the kelp forests, and enjoyed having interactions with nature and witnessing the balance of life. The connection with nature created awareness of the fragility of marine ecosystems.

Sub-themes mentioned by almost a third of the divers included freedom (26%) and novelty (22%). The former was related to the sense of freedom derived mainly from free diving as opposed to scuba diving, and from diving without basic equipment like wetsuits or gloves to feel in better contact with the water element. Novelty revolved around first-time experiences for some of the participants. For example, diving in kelp brought new experiences to already professional divers. Some of the divers stated how they were scared at first and felt claustrophobic but later came to enjoy kelp diving. Other divers added that kelp diving allowed them to switch from scuba to free diving to avoid incidents like being stuck in kelp. Feeling safe was an experience mentioned by 14%. Here, the kelp was described as a place protecting divers from the larger predators of the ocean while they had the opportunity to enjoy the scenery. For some, the experience was a combination of scary and feeling safe while for others, it was a way to conquer their fears. The last sub-theme was social interaction (6%), which revolved around experiences with family and friends during kelp diving. This was not a frequently mentioned sub-theme, because kelp diving emerged as an activity that divers enjoyed doing alone despite being connected with like-minded people.

The phenomenology of kelp diving echoed relevant sub-themes in the motivations category, especially relaxation and wellbeing, awe and wonder, and contact with nature. Kelp diving was described as a highly satisfactory experience stimulating the senses, generating mental and physical benefits, and creating awareness, in line with similar ecotourism activities [31]. The view that kelp diving is an invigorating and therapeutic activity echoes research focusing on the beneficial role of cold water in tourism [32]. Sinclair [33] confirmed the critical role of cold-water experiences as part of blue exercise on mental and physical wellbeing and their positive relationship with a sense of spirituality (including relaxation, meditation, awe and wonder, and contact with nature). Elmahdy [34] added that cold-water activities, such as cold-water surfing, effectively contribute to benefits including wellbeing, a deeper connection with nature, and feelings of freedom. The results highlighted a “sensorium seeking” or the involvement of the senses in the experience, which included kinaesthesia [35].

The participants experienced diving in kelp as heightening the senses and their awareness while making them feel like losing themselves, their social stature, and track of time, plus a sense of personal challenge especially in the case of free divers. These elements resemble “flow states” which have emerged in previous literature related not only to diving but also other nature-based recreational activities and sports [36], [37]. The divers described their immersion in cold water and the kelp forests as a unique experience, characterised also by interactions with the ecosystem and the silent observation of the unfolding of nature. This experience was also epiphanic since it led the divers to feel small and meditate on the greatness and vulnerability of nature. These experiences are typical of memorable embodiment experiences in wildlife tourism (and not exclusively diving) [38]. The divers’ narratives often revolved around personal and environmental contexts which contribute to place attachment, with emphasis on place dependence, place identity, nature bonding and environment bonding [39].



3.4 Extrinsic and intrinsic values ascribed to kelp

The perceived role and importance of kelp for the functioning of ocean ecosystems, marine life and people included different ecosystem services (provisioning, supporting, regulating, and cultural) of kelp (Table 1). The divers mentioned ecosystem engineering (i.e. species shaping and modifying ecosystems), coastal protection, water filtration, carbon sequestration, photosynthesis and oxygen production, habitat creation, food provision, wildlife protection (e.g. shelter, nursery grounds), raw materials for industries (e.g. health, agriculture), and tourism.

The results of the study show that kelp divers can identify extrinsic and intrinsic ecosystem services of kelp, with a strong focus on supporting ones but also mentioning regulatory, provisioning and cultural ones [10], [11], [13]. The participants identified and described ecosystem services that benefit people, but also emphasised the value of kelp for the ocean and species, such as biodiversity [11]. They did not differentiate between the natural environment and humankind, recognising that everything is connected. The cultural benefits ascribed to kelp echoed the most important experience theme identified, namely relaxation and wellbeing.

3.5 Problems affecting or threatening kelp and ways of mitigation

With regards to problems threatening kelp, most participants were concerned about pollution and global warming (Table 1). Other threats that were identified included the poaching and overfishing of certain species that help to keep kelp under control (removal of abalone causing a rise in sea urchins feasting on kelp). Other impacts that divers felt were important were coastal urbanisation as well natural phenomena (such as storms) and direct impacts such as from boats and divers. Concerning solutions to kelp threats, the divers mentioned no-take or no-go zones and the broadening of existing MPAs to create wider networks. Other important ways to combat kelp threats were to implement stricter regulations with regards to fishing and harvesting of kelp as well as getting the government involved with combating threats. The reduction of carbon emissions was also one way most of the participants indicated kelp problems could be stopped. Education and raising public awareness were also mentioned as ways to promote the protection of kelp, indirectly.

These results confirm that kelp divers are aware of several problems affecting kelp ecosystems, from pollution to overfishing and direct damage, as well as efforts to combat these problems [11], [12]. Divers were concerned about the environment in which they practised their activities, in line with research on the behavioural segmentation of divers, specialised divers and cold-water divers. Diving specialisation can be positively related to greater knowledge of and attachment to dive sites [18], [26]. Cold-water divers can show high levels of concern for and strong positive attitudes towards the environment [7], [22]. The results also show that kelp divers are strongly attached to the kelp forests of Cape Town and know what local problems are affecting kelp as well as ways to approach these problems [13].

3.6 Participation in marine conservation projects

Most participants (58%) had previously contributed to marine conservation projects. These included clean-up, research, film and photography, citizen science, and miscellaneous conservation projects (e.g. volunteering for bird conservation). Participation was with organisations that hosted conservation activities (e.g. large organisations monitoring coral,



aquariums partaking in wildlife rehabilitation). All participants were willing to be a part of kelp conservation projects in the future. These results show a strong conservation commitment on behalf of the participants in this study. Other research has demonstrated that cold-water divers show good conservation behaviour and keep up to date with conservation documentaries [7], [23], [26]. What was new with kelp divers was their determination about getting the community and the public involved with kelp conservation projects. Many said that the public needs to be educated and their knowledge and awareness about kelp needs to be increased.

4 CONCLUSION AND RECOMMENDATIONS

The study contributed towards filling a gap in knowledge about cold-water tourism in South Africa, with a focus on kelp diving. Given the circumstances of the global COVID-19 pandemic, it was only possible to investigate domestic recreation revolving around kelp forests. However, this factor provided an opportunity to promote new niches and guide their sustainable development. Based on the results of this study, the following management and marketing recommendations could be made.

4.1 Management

While the results of the study show that there should be no concern regarding the characteristics and behaviour of current kelp divers, the development and management of kelp tourism should remain sustainable. Documentaries like *My Octopus Teacher* might increase the demand for kelp tourism and this would need to be channelled into the proper promotion of this type of tourism, including diving. Since most of the kelp diving in South Africa happens within MPAs, the management plan of these areas should include regulations specific to kelp diving and kelp tourism in general (e.g. snorkelling, kayaking). Since South African MPAs lack sufficient manpower to enforce regulations [40], a possibility to enhance control of kelp tourism would be to have dive and tourism operators design and implement codes of conduct and best practice. These can include rules such as no-touch and no harassment of animals when diving. Additionally, dive and tourism operators have the potential to educate current and new kelp tourists including divers, acting as mediators and mitigators of improper conduct. Education surrounding kelp and codes of conduct and best practice can take place at dive centres, for example through briefings and de-briefings. Dive centres often host marine biologists and special guest speakers who talk about ecology and environmental threats. Kelp could feature as one of the themes discussed during planned events with these people, especially in areas like Cape Town where kelp forests are a dominant seascape.

Another management approach would be to distribute (due to a lack of resources) some of the responsibilities of MPA management bodies to supporting entities like NGOs and have different stakeholders working together to enhance patrol of MPAs and enforcement of regulations and codes of conduct around ecosystems including kelp forests. NGO and local tour operations and dive centres could be in charge of the codes of conduct and best practices at the MPAs as well as monitoring kelp tourism, including kelp divers and their behaviour. These role-players could have ambassadors and wardens to monitor kelp forests and guide education in and around kelp forests. For example, selected diving personalities, such as famous photographers or biologists, could be elected “kelp champions” and advocate for proper kelp tourism and diving using their communication channels (e.g. social networks, public talks).



4.2 Marketing

The results of this study show that the current kelp diving market in South Africa possesses certain characteristics that can be useful to direct future marketing of kelp diving as a form of tourism, as well as other forms of kelp tourism. Kelp diving can be marketed as a form of ecotourism. This is because it is an activity with low environmental impact and practised by conscious people who are committed to conservation and wish to observe and learn about kelp ecosystems. New offers can be created to cater for the needs of the current market of kelp divers, based on the characteristics that they share. For example, divers could be interested in offers including educational components, interpretation and participatory research or citizen science (e.g. monitoring kelp). Kelp tourism can be promoted to potential tourists, including both divers and non-divers. For example, dive centres and dive training facilities can use kelp forests as the perfect setting to teach people to dive, especially free diving. As for divers who have never dived in kelp, the same could be applied, especially if divers can scuba but do not free dive (free diving is easier than scuba around the kelp, as also highlighted in the narratives of the participants in this study). For scuba divers who do not wish to free dive, considering that kelp diving is a form of cold-water diving, dive centres could offer drysuit courses to enable access to cold water.

The participants in this study felt that diving in kelp was like floating in a forest and the aesthetic qualities of the kelp were an important element of the diving experience. Therefore, kelp forests can represent perfect settings for underwater photography and portrait photoshoots, creating products that can be attractive to divers, photographers and artists. The study also showed the strong meditative and therapeutic benefits of kelp diving. One could take advantage of this by promoting activities that can harness these benefits. For example, “kelp yoga” sessions can be offered by trained professionals to divers; these sessions can take place on the beach before diving sessions. Considering that kelp is abundant and a prominent feature of the coast in the Cape Peninsula, kelp could represent a symbol of the national heritage, to be promoted through events that can attract tourism and contribute to the concept of “Brand South Africa”. South Africa already is popular for creating festivals around marine life such as the annual Oyster Festival and the Whale Festival [41]. The City of Cape Town, in collaboration with local tour operators, businesses, communities and organisations, can organise and promote a kelp festival where tourists can experience all attributes of kelp (e.g. kelp as food, kelp as art) without having to dive. The idea of a kelp festival can contribute to the growing trend of slow tourism in and around Cape Town which has become popular in the past few years [42].

4.3 Conclusion

This study segmented and profiled kelp divers in South Africa with a focus on motivations, experiences and conservation commitment. The results informed the management and marketing of kelp diving tourism in the country as well as other potential forms of kelp tourism. There are limitations to this study that need to be taken into consideration in interpreting the findings and planning future research. COVID-19 caused some problems such as limited access to other markets and potential participants, particularly international visitors. The sample was relatively small with only 50 divers interviewed, although data saturation was reached. The number of variables investigated was also limited. Nevertheless, the study contributed important information with regards to domestic recreation during times of COVID-19, which are historically significant and will define the future of tourism trends.



ACKNOWLEDGEMENTS

Special thanks go to the participating divers, Terry Corr, Carlo Cerrano and Antonietta d’Agnessa. This work was funded by the National Research Foundation of South Africa (NRF Grant Number 119923), which was not involved in any part of the research. The research was approved by the Research Ethics Committee of the Faculty of Economic and Management Sciences at the North-West University, South Africa, under the ethics code NWU-00853-20-A4. This paper reflects only the authors’ view. The NRF and North-West University accept no liability whatsoever in this regard.

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