



Journal of Sport & Tourism

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To cite this article: Steven Andrew Martin (2022): From shades of grey to Web of Science: a systematic review of surf tourism research in international journals (2011–2020), Journal of Sport & Tourism, DOI: <u>10.1080/14775085.2022.2037453</u>

To link to this article: https://doi.org/10.1080/14775085.2022.2037453



Published online: 17 Mar 2022.



From shades of grey to Web of Science: a systematic review of surf tourism research in international journals (2011–2020)

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ABSTRACT

Previous research outlined the genesis of a new body of surf tourism research based on a wide array of gray and published literature (Martin, S. A., & Assenov, I. (2012). The genesis of a new body of sport tourism literature: A systematic review of surf tourism research (1997–2011). Journal of Sport and Tourism, 17(4), 257–287). The aim of this paper is to further investigate the development of the field through an evidence-based informetric analysis of international journal articles listed in Web of Science or Scopus databases. Employing a systematic review of journal papers published from 2011 to 2020, the study addresses the previous gray literature problem of accessibility and eligibility criteria for citation. Findings are drawn from explicit and tangential studies which capture an up-to-date overview of the evolution of surf tourism research. The study identifies active journals, authors, field locations, and leading areas of research, suggesting that the field has entered a period of 'academic professionalization'. A bibliography of 96 journal articles presents academics and readers with a corpus of accessible research.

ARTICLE HISTORY

Received 16 November 2021 Accepted 31 January 2022

KEYWORDS

Citation criteria; Scopus; surf tourism research; systematic review; Web of Science

From grey literature to Web of Science and Scopus

Previous research outlined the genesis of a new body of surf tourism research based on mainly gray literature (i.e. unpublished and/or non-commercial government and not-forprofit (NPO) reports, commercial economic impact studies, paper presentations without inclusion in conference proceedings, and graduate theses and dissertations) along with available works published in the academic literature from 1997 to 2011 (Martin & Assenov, 2012). The purpose of this paper is to further explore and analyze the development of surf tourism literature based on published international journal articles listed on Web of Science or Scopus databases from 2011 to 2020.

Although diverse sources of gray literature are of particular interest in an emerging field of study such as surf tourism (Martin & Assenov, 2012), gray literature can be problematic primarily in terms of accessibility and eligibility criteria for citation. The decision to place an academic lens on the research and focus exclusively on journal articles was deliberately intended to address the 'shades of grey' literature problem, and to provide a corpus of new, accessible, peer-reviewed published studies. Ninety-six articles contributing to surf tourism met accessibility and eligibility criteria and are identifiable either on Web of Science or Scopus databases ('WoS or Scopus' from hereon), and all but five articles provide digital object identifier (DOI) links.

A systematic review was employed across the 96 articles in order to outline the types and quantities of research emerging, offering an up-to-date evidence-based informetric approach to the development, content, and current status of surf tourism research. As suggested by Eom (2008), this type of knowledge mapping identifies features of intellectual structures which can be systematically counted, calculated or measured, such as the growth, productivity, subjects, and types of studies. The bibliography provides a newly-framed seminal body of documentary research materials on surf tourism, including supplementary works of interest.

Defining surf tourism

For the purposes of this study, surfing is defined as those sport activities recognized by the International Surfing Association (ISA), including body-boarding, long-boarding, short-boarding, standup paddle (SUP) surfing and tandem surfing (ISA, 2021) as well as surf-riding activities on any type of waves, including big wave and tow-in surfing. Literature on windsurfing and kitesurfing is not essentially included in this study as these activities do not necessarily require waves.

In defining surfing, Canniford (2005) suggests that surfing presents a complex jumble to researchers. Surf tourism is similarly ambiguous. Defining surf tourism was paramount to determining criteria for inclusion of research in the study. There is an ongoing debate in the scholarly community as to what constitutes and encompasses surf tourism as an activity. Broad considerations include social aspects and economics, including stakeholders and business activities, along with environmental issues and concerns over management, governance and sustainability (Borne & Ponting, 2015, 2017; Hough-Snee & Eastman, 2017; Laderman, 2014; Martin & Assenov, 2014a; McGregor & Wills, 2016; Scheske et al., 2019).

In practical terms, surf tourism is traveling for the purpose of riding a wave on a surf-board, or perhaps attending a surfing-related tournament (Martin & Assenov, 2012). In order to address the significance, complexity, and rapid global expansion of surf tourism as an activity and industry, Orams and Towner (2013) provide us with a more in-depth scholarly approach, reviewing previous definitions and proposing a typology of 'surf-riding' tourism based on spatial, temporal, and intentional considerations explored by previous researchers, suggesting a wide variety of current and progressive surfing experiences and business activities framed as nature-based tourism. They offer a broad, employable definition of surf-riding tourism for researchers: 'the recreational use of waves where the participant has travelled for the purpose of riding these waves for enjoyment' (Orams & Towner, 2013, p. 175). This approach aligns with Jafari's (2016, p. 741) discussion of the postmodernist 'dedifferentiating' trends in tourism.

The genesis of surf tourism research

Finney (1960) was among the first to place surfing and tourism together in an academic historical context, exploring how Hawaiian surfing culture in Waikiki was promoted and

adopted by Westerners to become a sport practiced at beaches throughout the world. It was not until the end of the twentieth century that surfing as a sport tourism activity gained more thorough academic attention (Augustin, 1998; Orams, 1999; Poizat-Newcomb, 1999a, 1999b).

Martin and Assenov's (2012) systematic review of surf tourism research (1997–2011) suggested 'a new body of sport tourism literature' based mainly on emerging sources in the gray literature. Of the 156 pieces of research they reviewed, only 42 were from peer-reviewed journals and just 26 of those studies were explicitly about surf tourism. Only 19 of these articles were in journals listed on WoS or Scopus, and this suggests that surf tourism was a popular activity and well-reflected in the gray literature before attracting much mainstream academic attention. This is not to discount the works of three established professors, whose studies were among the first to find publication in international journals (see Augustin, 1998; Buckley, 2002a, 2002b; Persoon, 2003), experts in geography, environmental science, and environmental anthropology, respectively.

Jess Ponting, a graduate student at the University of Sydney, bridged the gap from student to professor through researching, publishing, teaching, and founding the Center for Surf Research at San Diego State University, as well as serving as academic adviser for a new generation of scholars-to-be in the field.

In Martin & Assenov's (2012) trend analyses, the first fifteen years of surf tourism research were divided into three periods of growth: early (1997-2000), formative (2001-2006), and progressive (2007-2011). The early period witnessed the development of coastal resorts near surfing areas in France (Augustin, 1998), the recognition of surfing as a marine tourism activity (Orams, 1999), and the peculiarities of a new sports tourism activity (Poizat-Newcomb, 1999a, 1999b). It was during this early period that the field of study took shape.

The 'formative period' was characterized by 'surf tourists' at the center of studies highlighting demographic and economic statistics, travel patterns and behavior (Buckley, 2002a, 2002b; Dolnicar, 2005; Dolnicar & Fluker, 2003; Ford & Brown, 2006; Ponting, McDonald, & Wearing, 2005). The use of surf imagery as a psychodynamic construct, including the chimera of paradise as a marketing device and the commodification of 'surfing space' alongside the impacts that surf tourists had on host communities, particularly in developing countries (Buckley, 2002a, 2002b; Canniford, 2005; Ford & Brown, 2006; Ormrod, 2005; Persoon, 2003; Ponting et al., 2005) were central themes. Field research expanded to include Africa, Australia, the Caribbean, Europe, the Indo-Pacific, and North and Central America.

The 'progressive period' produced a flurry of Master's and PhD theses and dissertations, studies commissioned by governments, tourism associations, not-for-profit organizations, and private interest groups, signaling concern over social, economic, environmental, and institutional implications and relationships between surf tourists and coastal communities (see Martin & Assenov, 2012, pp. 272-274).

In 2009, a series of published post-doctoral works by Jess Ponting further exposed the unchecked surf tourism practices in Indonesia's Mentawai Archipelago as examples of neoliberal colonialism. This work spotlights the role of the surf tourism industry and media in the social construction of an idealized surf-tourist space with very little benefit to host communities (Ponting, 2009a, 2009b; Wearing & Ponting, 2009), igniting a debate that subsequently drew a new generation of surf tourism researchers to Indonesia and other surf tourism destinations across the developing world.

The progressive period was also the dawn of the socioeconomic surf study revolution known as 'surfonomics' (Bicudo & Horta, 2009; Lazarow, 2007; Lazarow, Miller, & Blackwell, 2008; Nelsen, Pendleton, & Vaughn, 2007; Ntloko & Swart, 2008; Wagner, Nelsen, & Walker, 2011), which brought home the value of local surf sites in urban areas and broadened an understanding of the implications of domestic surf tourism, including surfing tournaments and the advent of Artificial Surfing Reefs (ASRs) (Martin & Assenov, 2012).

Systematic approach to the study

The aim of this research is to systematically review, and provide an evidence-based informetric analysis of the state of, the academic literature on surf tourism found in international journals from 2011 to 2020.

Weed (2021) points out that systematic reviews are widely accepted and valued as primary research activities in their own right, and are appropriate methodologies for understanding the relationship between sport and tourism. Supporting this case, he notes the established use of systematic reviews in health care and medicine to ensure that clinical decisions are based on the best evidence (see Cook, Mulrow, & Haynes, 1997), highlighting the value of this type of endeavor in order to inform policy and contribute to evidence-based practice (Weed, 2021).

A systematic literature review is a formal structured approach to reviewing all the relevant literature on a topic and providing the current state of research. Further bibliometric analysis enables an understanding of the structure of the research field, its evolution, and trends in academic activity (Jiménez-García, Ruiz-Chico, Peña-Sánchez, & López-Sánchez, 2020). In the context of sport tourism, Weed (2006) identified how the boundaries of such studies are determined:

The key to systematic review is that the criteria for the inclusion or exclusion of studies in the review is explicit from the outset, and while others may not agree with the inclusions, the criteria for such inclusions, and thus the scope of the review, are clearly delimited. (p. 6)

Locating, organizing and reviewing articles

The research employed the standard academic databases, including Web of Science, Scopus, Crossref, ProQuest, Google Scholar, and ResearchGate, in addition to communication and collaboration with scholars in the field, and the manual checking of further references in papers as they were located. References were also drawn from the Center for Surf Research (CSR, 2021) and the Research Cluster on Surfing and Sustainability of Coastal Areas (NIS, 2021) online bibliographies.

Search terms included, but were not limited to, 'surf(ing)' and 'surfer(s)' paired with 'tour(s)', tourist(s)', 'tourism', 'travel', 'surfaris', and/or 'adventure', 'camp(s)', 'conservation', 'destination(s)', 'economics', 'event(s)', 'leisure', 'marketing', 'recreation(al)', 'school(s)', 'sport(s)', 'stakeholder(s)', and 'tournament(s)'.

The foundation of the review was to build a private local database of surf tourism research articles as PDF files, organized alphabetically by primary author's last name.

Each article was reviewed manually three times and outlined with extensive notes to identify and document areas of research. Aims, approaches, content, methods, references, themes, and theories of papers, along with the aims and focus of journals were considered in determining criteria for inclusion or exclusion of studies.

Inclusion and accessibility of studies

While diverse sources of literature can prove useful, they are not always easy to access. Once accessed, it may be difficult to assess these materials consistently or decisively. Many references found on the internet or quoted in others' written works do not meet accessibility criteria and/or are too ephemeral, and hence of limited value to future researchers reading the material in terms of citation eligibility (Martin & Assenov, 2012; Martin & Ritchie, 2020). To address this issue, articles in this study were determined to meet measured accessibility and eligibility criteria, and are therefore 'identifiable' or 'retrievable' from journals listed on WoS or Scopus. All but five articles provide digital object identifier (DOI) links.

Criteria for inclusion were based mainly on Martin and Assenov (2012) to determine that each article makes an apparent contribution to the field of study, including both 'dedicated' (i.e. explicitly surf-tourism-centered) and 'non-dedicated' (i.e. tangentially related) papers. Bearing in mind the progressive definitions of surf tourism provided above, the focal point of research included for review is not necessarily the traditional definition of 'tourism' per se, and given the infancy of the field, a range of papers with discussion on the visitation of surf sites for leisure, recreation and tourism, be it domestic or international, have been included. For example, studies on touristic surf films, surfing careers, or recreational well-being have been considered, particularly when the methodology includes interviews or interactions with surf tourism practitioners. Relevant studies on national parks, protected areas, and surfing reserves have been included, along with adventure tourism papers, on topics from climate change to ineffable experiences, featuring discussions on surf tourism. Several published research notes and extended abstracts in tourism journals with DOI have also been included. The author generally chose to err on the side of inclusion when evaluating whether contributions passed the criteria threshold.

Exclusion of studies

As this study adheres to journals listed on WoS or Scopus, other materials of interest published during the study period (2011-2020) were excluded from this research, including eight non-indexed journal papers (see Appendix), six books featuring surf tourism content (see Borne & Ponting, 2015, 2017; Evans, 2015; Hough-Snee & Eastman, 2017; Ingersoll, 2016; Laderman, 2014), three E-books with ISBN (see Atkin, Bryan, Hume, Mead, & Waiti, 2019; Bosquetti & Souza, 2019; Bosquetti, Pizarro, Taboga, Lang, & Hodges, 2020), two published university reports (see McGregor & Wills, 2016; Raybould, Anning, Ware, & Lazarow, 2013), and twelve book chapters (apart from those appearing in the above mentioned books).

Further excluded from this study were the following: (1) surfing medical sciences (albeit the most researched area in the surfing literature) (Perez-Gutierrez & Cobo-Corrales, 2020); (2) scientific works related to surfing (i.e. the 'surf science literature'),

including technically-based artificial surfing reef literature (the 'ASR literature'), save for three articles with discussion on surf tourism; and (3) the general body of social science 'surf literature'.

Articles in foreign languages were not included in this study given the practical difficulty of reviewing non-English texts, because English remains the scientific lingua franca globally, with no likely substitute forthcoming, and because the accessibility of English-language materials and sources is key to opening fields of study to the broader international research community (Martin & Ritchie, 2020).

The author realizes that the year 2011 was a carryover from the previous study (Martin & Assenov, 2012), which originally listed one journal article for that year, and this was done to capture several pieces of research which were previously in-press. Accordingly, this study ends at 2020, is limited only to articles assigned journal volume/issue numbers, and does not account for 2020 advanced online publications. Thus, 2011–2020 accounts for a 10-year period and is considered as a new stage for the sake of this study.

Web of Science and Scopus

Inclusion was considered based on WoS or Scopus journal listings rather than article listings, and several papers published prior to a particular journal's database listing were included. It is suggested that WoS and Scopus ensure the academic rigor of a given journal, that the review process to become listed with the database provides a measure of quality assurance, and that the accessibility and indexing increase the likelihood of public availability and citation (i.e. find-read-cite). Elsevier launched Scopus in 2004, while Web of Science is a consolidation of much older indices gathered together in 1997 as the *Web of Science* on the internet, to which the *Emerging Resources* database was added in 2015 (Clarivate, 2021). It can be noted that WoS and Scopus are private businesses, currently owned by *Clarivate Analytics* and *Elsevier*, respectively. The Author has no vested interest in promoting these companies.

Publications by year and journal (2011–2020)

Applying criteria from the current study to the work of Martin and Assenov (2012), there were 19 WoS and Scopus journal publications on surf tourism from 1998 to 2010 published across 16 journals. During the ten years that followed (2011–2020), 96 articles published across 54 journals mark a five-fold increase and a three-fold increase in new journal activity in the field (Tables 1 and 2).

Table 1 indicates that publication rates are increasing, with 41 articles published from 2011 to 2015, compared to 63 articles published from 2016 to 2020. It is suggested that this trend will continue and expand based on scoping 2021 advanced online articles.

Articles by journal (2011–2020)

Looking across 96 explicit and tangential publications contributing to the field of study, surf tourism research is dispersed across 54 journals, 20 of which are 'tourism' journals and

Table 1. Surf Tourism	Journal Publications	bv Year	(2011-2020).
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Year	Indexed*	Non-Indexed**	Total
2011	3	1	4
2012	5	0	5
2013	7	3	10
2014	12	0	12
2015	10	0	10
2016	10	0	10
2017	13	1	14
2018	12	3	15
2019	14	0	14
2020	10	0	10
Total	96	8	104

^{*}Articles in journals listed in WoS or Scopus with either explicit or tangential content on surf tourism.

4 of which are 'leisure' journals, and 49 of the 96 total articles are published across these 24 journals. *Journal of Sport and Tourism* and *Tourism Planning and Development* are the two most active journals in surf tourism research, with seven and six articles respectively, followed by *Annals of Leisure Research*, *Ocean and Coastal Management*, and *Tourism in Marine Environments* (Table 2).

The interdisciplinarity nature of the field is evident in the diverse range of publishers, with 12 journals focusing on management, planning and policy, eight journals in the environmental field, seven journals in the area of sport, six journals in the area of history, and four journals in the area of economics and marketing. Other areas of interest include four geography journals and two in anthropology.

Table 2 suggests that surf tourism is a field in the process of definition, and articles attesting to the history of the field represent a significant part of the research, evident in the 6 history-related journals mentioned above. In terms of interdisciplinary research, the 'tourism' in 'surf tourism' may cross any number of boundaries to include leisure, lifestyle, recreation, sport, and travel in the contexts of any of the above-mentioned publishing areas. This is suggestive of the postmodernist de-differentiation occurring in tourism studies as proposed by Jafari (2016). Even the idea of surfing as a recreational activity may mean different things to different people depending on their background and travel experience, and meaning might also change with one's own age (Wheaton, 2017).

Table 2. Research Articles by Journal (2011–2020)

Journal	Articles*
Journal of Sport and Tourism	7
Tourism Planning and Development	6
Annals of Leisure Research; Ocean and Coastal Management; Tourism in Marine Environments	5
Annals of Tourism Research; Journal of Sport and Social Issues	4
Asia Pacific Journal of Tourism Research; Journal of Sustainable Tourism; Tourism Management	3
European Journal of Tourism Research; International Journal of the History of Sport; International Journal of	2
Tourism Research; Journal of Park and Recreation Administration; Journal of Tourism and Cultural Change;	
Leisure Sciences; Tourism Economics; Tourism Review International	
Other journals with one surf tourism article each**	35
Total journal articles	96

^{*}Includes dedicated and tangential articles in journals listed on WoS or Scopus.

^{**}Articles published in reputable international journals <u>not</u> listed in WoS or Scopus which are dedicated to surf tourism (see Appendix).

^{**}See 'Bibliography of surf tourism research included in the systematic review'.

Prolific authorship (2011–2020)

Table 3 identifies six authors leading the field as primary authors in terms of citations according to Google Scholar. Buckley's four papers drew the highest total citation. However, two of these papers are focused on wider adventure tourism and include other board-sports, such as wind- and kite- surfing, and snowboarding. Based on the four articles as first author focused explicitly on surf tourism, Ponting is the most cited researcher in the field from 2011 to 2020. As citations for secondary authorship are not reflected here, representative numbers are likely considerably higher if including secondary authorship, as well as books, book chapters, etc. It can be noted that as the study period is only ten years, older articles are likely to have more citations those recently published. Of interest, Martin, Ponting, Towner, and Usher are surfers whose doctoral dissertations were based on surf tourism research, and this finding is consistent with Martin and Assenov (2012) who suggest that surfers are driving the field of study in line with their academic backgrounds. Buckley, an environmental scientist, is also a surfer.

Field research locations

There are currently 195 official countries and 39 dependencies and other territories dispersed across six regions of the world (Worldometer, 2021). As of June 2021, the were 104 members and associate member nations of the International Surfing Association (ISA), the World Governing Body for Surfing as recognized by the International Olympic Committee (IOC) (ISA, 2021). Table 4 indicates continents, regions, countries and coasts where surf tourism research has been conducted alongside the total number publications in WoS or Scopus indexed international journals to provide a global snapshot across the previous decade. Some papers in the systematic review are not aimed at a particular destination.

As it is not possible to discuss the advent of new research for the entire planet in this paper, the following regional cases are reviewed here.

As first suggested by Martin and Assenov (2012), Australian and US research benefits from the presence of universities near the coast and from students and scholars who surf and have taken up research accordingly. Notably, research on the US East Coast shows interest in the states of Virginia and North Carolina (Hritz & Franzidis, 2018; Larson, Usher, & Chapmon, 2017; Usher, Goff, & Gomez, 2016; Usher & Gomez, 2017, 2018).

Table 3. Shortlist of Prolific Authorship in Surf Tourism (2011–2020)¹

Journal papers (primary authorship)				
Authors ²	Citations (Google Scholar) ³	Publications	Secondary authorship	Total research publications
Buckley, R.4	446	4	0	4
Ponting, J.	320	4	4	8
Martin, S.	277	5	0	5
Usher, L.	238	8	3	11
Barbieri, C.	204	2	1	3
Towner, N.	203	8	1	9

¹WoS or Scopus Indexed Journals.

²Arranged by number of *Google Scholar* citations (primary authorship only).

³As of 1 November 2021.

⁴2 of Buckley's papers are focused on adventure tourism and include other activities and boardsports.



Table 4. Surf Tourism Field Research Locations (2011–2020)*

Region	Locations/countries	Studies	Total Studies	Total countries
North America	East coast	5	14	2
	West coast	4		
	Hawaii	4		
	Mexico	1		
Central America	Nicaragua	3	8	2
	Costa Rica	5		
South America	Brazil	2	6	4
	Ecuador	1		
	Peru	2		
	Chile	1		
Europe	Ireland	1	20	5
	United Kingdom	4		
	Portugal	10		
	Spain	3		
	Italy	2		
East Asia	China	1	5	4
	Japan	1		
	South Korea	1		
	Taiwan	2		
Southeast Asia	Indonesia	13	17	3
	Philippines	1		
	Thailand	3		
South Asia	Indian Ocean	1	4	1
	Maldives	3		
Oceania	Australia	6	10	4
	Fiji	1		
	New Zealand	1		
	Papua New Guinea	2		
Africa	East coast	2	3	1
	West coast	1		
Total			86	25

^{*}Articles in journals listed in WoS or Scopus. Not all studies included field research locations.

The Mentawai archipelago, Indonesia, remains the most studied location in surf tourism (Martin & Assenov, 2012) and this is largely due to a series of seven studies led by graduate field researcher N. Towner (Towner, 2016a, 2016b, 2016c, 2018; Towner & Davies, 2019; Towner & Milne, 2017; Towner & Orams, 2016). The work of Pakan and Pellis (2020) in the archipelago also marks the advent of Indonesian researchers who bring local eyes to this wave-rich region, renowned for attracting surf tourists and commercial interests for over twenty years (Buckley, 2002a, 2002b).

Portugal stands out in the European theater with 10 studies; its long Atlantic coast-line, weather, and active surf culture attracting mainstream research, perhaps sparked by the discovery of the Nazaré surf break and subsequent media campaigns aimed at specialist big wave surfers, spectators, and branding the Nazaré municipality as one of the world's most iconic surf tourism destinations (Cunha-e-Sá, Freitas, Nunes, & Otrachshenko, 2018). Portuguese research is primarily interested in surf tourist travel behavior, the value of resources, and environmental planning and development, with a focus on surfing resources, drawing a wide range of specialists across disciplines and approaches (Boqué Ciurana & Aguilar, 2020; Brochado, Stoleriu, & Lupu, 2018; Frank, Pintassilgo, & Pinto, 2015; Lopes & Bicudo, 2017; Machado, Carrasco, Contreiras, Duarte, & Gouveia, 2018; Ng, Phillips, Calado, Borges, & Veloso-Gomes, 2013; Portugal, Campos, Martins, & Melo, 2017; Ramos, Pinto, Chaves, & Formigo, 2019; Silva & Ferreira, 2014).

The number of published surf tourism studies from Central and South America has increased considerably since 2014, especially due to the work of graduate field researcher L. Usher (see Usher & Gomez, 2016; Usher & Kerstetter, 2014, 2015a, 2015b) who has examined the transnational behaviors of long-stay surf tourists and foreign residents. There is increasing research interest in this area, given its expansive coastline, high quality waves, and social and environmental interests promoted by the non-profit and conservatory sectors (Mach, 2019; Scheske et al., 2019).

New research areas include East Asia, with studies focused on surf tourism in Hainan Island (Guibert & Taunay, 2013), Japan (Doering, 2017), South Korea (Kim & Kwon, 2020), and Taiwan (Cheng & Lu, 2015; Cheng & Tsaur, 2012). These studies not only increase knowledge of surf tourism resources, they suggest a disciplinary connection with Area Studies and East Asian Studies.

While Table 4 showcases research around the world, it also indicates a research gap in a global geographical context, with only 25 countries listed. Martin and Assenov (2012) suggested 171 countries with recreational surfing activities, and this has been updated here to 181 countries when including dependencies and other territories, and when taking into account bodies of water with short wave periods that are beginning to see surf tourism activities, such as the Black Sea and the Persian Gulf, with the case of Dubai as one example.

Research areas in surf tourism literature

Table 5 was constructed through the review of papers, and the categories presented here were not predetermined, but were developed in the course of the review, representing an ongoing typology of the field generated by the researchers themselves. The table provides an index of topics and key terms. Some topics are related, and entries may appear across topics. Subtopics are organized alphabetically.

Table 5 provides 27 key topics, suggesting that research areas have increased in breadth and depth since Martin and Assenov's (2012) systematic review. Emergent topics in the literature include, but are not limited to constraints, feminism, forecasting, real estate, seasonality, serious leisure, and wellness. A *full* discussion of these and other topics outlined in Table 5 is beyond the scope of the current paper. The following discussion is conceptual and intended to briefly scope the expansion and trends in the current literature.

Surf tourism is a field in the process of defining itself. Nearly every article provides historical background, which while appropriate in any literature review, surf tourism research pays particular attention to it. Nearly fifteen percent of the articles published are explicit to the history of surf tourism as a phenomenon, resonating with ongoing interest in how early surf tourism developed, particularly as a means of context to understand and address current trends and events (Bourgette, 2016; Canniford & Karababa, 2013; Carlsen, 2019; Doering, 2017; Guibert & Taunay, 2013; Kim & Kwon, 2020; Mahler-Coetzee, 2017; Martin & Assenov, 2012; Orams & Towner, 2013; Mateos, 2016; Moser, 2020; Nardini, 2019; Samuelson, 2017; Thompson, 2011; West, 2014).

With 41 studies, the most researched area in surf tourism is the characteristics and profiles of surf tourists, with continued emphasis on market segments, expenditure and travel preferences, with applied marketing and socioeconomic interests in mind, and



Table 5. Leading Areas in the Surf Tourism Literature (2011–2020).

Studies	Topics	Subtopics
41	tourist profiling/ characteristics (31 studies)	behavior; demographic profiling; expenditure; experience; market segmentation; motivation; participation; perception; travel preference; voluntourists
	tourist identity/ mobility (10 studies)	expatriate; foreign resident; foreign locals; lifestyle migration; local identity residential tourists; spatial divisions; transitory residents; trans-local; transnationalism
29	stakeholder perspectives	host communities; governments; indigenous communities; local surfers; opportunities; participation; problems; residents; tourists; tour operators
28	sustainability	communities; community-based tourism (CBT); ecology; ecotourism; frameworks; habitat protection; indexes; socio-cultural, economic, and environmental aspects; sustainable livelihood (SL); sustainable surf tourism (SST)
27	resource management	conservation; development; governance; planning; over-tourism; policy; policy making; policy recommendation; protection; reserves
15	history	cultural heritage; defining the field; heritage; historical overview
13	commercial business	surf camps; surf charters; surf resorts; surf schools
13	economics	economic impacts; socioeconomics (surfonomics); surf clusters; transnational economy; valuation of waves; valuation processes
13	marketing	branding; campaign; destination image; mass marketing; surf cities; tourism media
11	amenity	accessibility; engineering; place attachment; resource assessment; resource quality; surf quality
10	serious leisure	leisure; recreation involvement; recreationists
9	coloniality	colonialism; cultural appropriation; modernity; neo-colonialism; neo- liberalism
9	localism	crowding; entitlement; territoriality
7	entrepreneurship	careers; lifestyle entrepreneurs
7	seasonality	climate change; off season expenditure; physical and cultural settings; wave quality
6	media	film; literature; magazines; other print media
6	parks, protected areas and reserves	conservation values; management; world surfing reserves
5	constraints	cultural constraints; leisure constraints
5	feminism	female empowerment; women's studies
5	waves	abiotic resources; human-wave engagement; materiality of waves
4	events	event experience; event management; event policy; surf festivals; tournaments
4	non-profit sector	public and private organizations; surfing organizations
3	artificial surfing reefs (ASR)	coastal engineering; coastal management; economics; policy; stakeholder perspectives
3	forecasting	surf reports; wave activity; weather
3	wellness	aging; health; well-being
2	real estate	access; development; land value
1	artificial waves	authenticity; hyperreal; surf parks; wave pools

this is consistent with Martin and Assenov (2012). New interest has also arisen in how we define surf tourists in the context of the current mobility paradigm in tourism (Sheller & Urry, 2006), with trans-local and transnational surfer identities, including expat, foreign resident, and lifestyle migration impacts at surfing destinations and communities (Anderson, 2014; Christensen, 2020; Kim & Kwon, 2020; Thompson, 2011; Towner & Lemarie, 2020; Usher, 2017; Usher & Gomez, 2016; Usher & Kerstetter, 2014, 2015a, 2015b).

Sustainability is at the heart of much current surf tourism research, embracing sociocultural, economic, environmental, and governance aspects from the perspectives of diverse stakeholders including host and indigenous communities, environmentalists, governments, local surfers, tourism providers, and tourists, among others (Arroyo et al., 2020; Higgins-Desbiolles, 2018; Hunt & Harbor, 2019; Larson et al., 2017; Mach, 2019; Mach & Ponting, 2018; Machado et al., 2018; Mahler-Coetzee, 2017; Martin & Assenov, 2014a, 2014b, 2015; Martin & Ritchie, 2019; O'Brien & Ponting, 2013; Ponting & O'Brien, 2014, 2015; Porter, Orams, & Lück, 2015; Ramos et al., 2019; Ratten, 2020; Reineman & Ardoin, 2018; Scheske et al., 2019; Thomsen, Taylor, & Hughes, 2016; Towner, 2016a, 2016c; Towner, 2018; Towner & Davies, 2019; Towner & Milne, 2017; Towner & Orams, 2016).

Tangential studies may indicate research gaps in a dynamic and developing field of study where publications serve to broaden understanding and research directions, encouraging scholars from other disciplines to write across and connect topics of interest. For example, the early works of Preston-Whyte (2001, 2002) on surfing spaces in Durban, South Africa, are among the most cited papers in the field, yet 'surf tourism' does not appear in his papers. This type of conceptual broadening is increasingly evident in surf tourism research over the previous decade, as indicated in this paper. As suggested by Fadda (2019) on the Mediterranean island of Sardinia, the concept of 'recreational surf tourism' should be welcomed in a productive way in order to embrace the 'recreational' trends and spirit of the field, as local and domestic surf tourism adapts to opportunity and change in a modern context (Orams & Towner, 2013). Leisure, serious leisure, and recreational involvement in surfing as a touristic activity invite social scientists to the field to explore lifestyle choices of surfers from all ages and backgrounds (Barbieri & Sotomayor, 2013; Beaumont & Brown, 2015; Cheng & Tsaur, 2012; Kim & Kwon, 2020; Portugal et al., 2017; Ratten, 2018; Sotomayor & Barbieri, 2016; Usher & Gomez, 2018; Wheaton, 2017), including surf camps and schools (Brochado et al., 2018; Fadda, 2019, 2020; Lopes & Bicudo, 2017). With increased interest in surfing as a physiological and psychological wellness experience, addressing aspects of aging, health and well-being (Cheng & Lu, 2015; Hunt & Harbor, 2019; Wheaton, 2017), individuals, communities, and the tourism industry can benefit greatly from 'recognizing and appreciating coastal surfing resources' (Martin & Assenov, 2015, p. 116).

Concluding thoughts and research directions

This research has developed and reviewed a corpus of international journal publications to provide an up-to-date purview of available, accessible, surf tourism research indexed in WoS or Scopus, offering an informetric analysis of active journals, authors, field locations, and leading areas of research.

Martin and Assenov (2012) originally suggested three periods in the development of surf tourism research based largely on emergent sources in the gray literature: early (1997-2001), formative (2002-2006) and progressive (2007-2011). Based on the current review, the study suggests that 2011–2020 signals a new period of surf tourism research, which we can label as 'academic professionalization'. The period of 'academic professionalization' (2011-2020) is marked by the advent of more than a hundred international journal articles, 96 of which are in journals listed on WoS or Scopus, signaling that surf tourism has entered the mainstream academia to become an academic field of study in its own right.

As was seen between 1997-2011, graduate students and their advisers were at the heart of academic research, and current paper suggests that graduate students are also maturing to become academics in their own right, contributing significantly to

publications in the field. A new generation of graduate students produced theses and dissertations, publishing in journals and becoming academics and university lecturers.

Systematic reviews, although generally desk work, are a viable approach to research when travel and fieldwork face challenges, such as during a pandemic, offering an opportunity to review and synthesize the vast knowledge already available to produce something new and worthwhile. Future systematic reviews could incorporate published books, book chapters, and e-books. Surf tourism researchers and publishers are also addressing the gray literature dilemma concerning accessibility and eligibility criteria for citation by providing ISBNs (International Standard Book Numbers) for e-books, including published commissioned studies and university reports, and accessibility issues are increasingly addressed through the use of digital object identifier (DOI) numbers and links for printed book chapters and other materials.

As English remains the scientific lingua franca globally, with no likely substitute forthcoming (Martin & Ritchie, 2020), there is an opportunity for native English speakers to team up with local researchers in other countries to co-publish in international journals. Existing and ongoing studies in languages other than English can also be internationalized, peer-reviewed and published in accessible journals in order to reach a wider audience within the global research community.

Very little published research in the field discusses different types of surfing, such as body-boarding, long-boarding, short-boarding, standup paddle (SUP) surfing (Perez-Gutierrez & Cobo-Corrales, 2020) as well as other wave-riding activities, including bodysurfing, wind-surfing, kite-surfing, or big wave 'tow-in' surfing.

From early peer-reviewed research on surf tourism in Waikiki (see Finney, 1960), to the present, as researchers look back to make sense of how this novel sport tourism activity began, the field has seen new discoveries and innovations, and we may need to further reimagine the field of study as technology delivers new possibilities, such as foil-boarding (Orams & Towner, 2013). For example, artificial surfing reefs, artificial wave pools, and jetgenerated wave machines reinvent what it means to travel to ride a wave. Roberts and Ponting (2020) argue the onset of a new era - the 'hyperreal' - as we connect with ever-improving man-made wave environments. Although early designs of artificial surfing reefs (ASRs) have not turned out to be as successful as anticipated in terms of tourism revenue (Rendle & Rodwell, 2014), moderate enthusiasm for construction continues (Lopes & Bicudo, 2017; Ng et al., 2013), and designs will surely improve over time. In contrast, wave pool technology and development are in the vanguard of expansion, with any number of highly successful 'surf parks' that challenge our imagination of what it means to be a surfer, and similarly, open Pandora's box to new research areas and opportunities — those providing captive audiences of participants, bystanders, and industry stakeholders in predictable, approachable settings.

Based on the results of this study, surf tourism research is expanding in breadth and depth in the academic community and may warrant the establishment of a dedicated 'journal of surf tourism research'.

Beyond the obvious opportunities in unstudied geographic locations around the world, opportunities exist in approaches, methodologies and innovations in the research, as evidenced by the growing multidisciplinarity and interdisciplinarity of recent publications presented herein. In addition to the many studies reviewed in this article which focus primarily, though not exclusively, on surf tourists, stakeholders and sociocultural aspects, it is hoped that future research will further emphasize the conservation of surfing resources, extending to biosphere boundaries and protection of habitat, and consider future implications of human impact on the Earth's ecosystems. To this end, it is also hoped that the methods and findings provided in this article will benefit and support the next generation of surfers and researchers from diverse academic backgrounds.

Note

1. The Author acknowledges that published research on other countries exists in books and other academic sources, both in English and other languages, which are beyond the scope of this study.

Acknowledgements

I would like to thank my colleagues, Raymond Ritchie and Peter Coan, who assisted in proofreading. I apologize to any authors whose works may have been overlooked and not included in the study. Please send questions, comments, or relevant research to: surftourism@gmail.com

Disclosure statement

No potential conflict of interest was reported by the author(s).

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In order to avoid the repetition of works cited in this article, yet provide a full bibliography of the 96 articles analyzed in the systematic review, the reference list has been partitioned into two sections.

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Appendix

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