Proceedings of CMT 2015

The 8th International Congress on Coastal and Marine Tourism

Learning from the Past, Looking to the Future
Welcome from the CMT 2015 Co-Chairs

It is a pleasure to welcome you to 2015 International Congress on Coastal and Marine Tourism (CMT 2015). This is the 25-year anniversary of CMT, which was first held in Hawai'i in 1990, and over the years the conference has grown to be a major international gathering for researchers and practitioners working in the area of coastal and marine tourism. It is an honor to preside over the 25-year anniversary CMT, and on behalf of the International Coastal and Marine Tourism Society (ICMTS) we are delighted to welcome you to Waikoloa, Hawai'i, USA. We are sure that the venue guarantees a successful conference and provides ample opportunities for professional networking amid the culture and scenery of the Big Island of Hawai'i.

Our technical program is rich and varied with a keynote speech and almost 100 technical presentations split among 26 parallel sessions and a poster session with 19 posters. We also are also hosting a special Panel Discussion on Marine Wildlife Viewing sponsored by the Hawaiian Islands Humpback Whale National Marine Sanctuary; special sessions on Working to Achieve Sustainability and Community Resilience in Coastal and Marine Tourism sponsored by the University of Hawai'i Sea Grant College Program; and a post-conference workshop on Tourism Quality Control Tools sponsored by the School of Travel Industry Management at the University of Hawai'i at Mānoa. Our keynote speaker is Kumu Ramsay Taum whose address is titled: “Ka Wa Ma Mua, Ka Wa Ma Hope: Looking to the Past to Sustain the Future”

As co-chairs, we recognize that the success of this conference relies on the support of many people who worked with us during the organization of the technical program and supporting social events. In particular, special gratitude is extended to Dean Denise Konan of the College of Social Sciences at the University of Hawai'i at Mānoa for offering to act as local host, and the ICMTS International Steering Committee for their organizational efforts. We would also like to thank the session chairs and student technical coordinators who generously offered their time. We would like to specifically recognize Ms. Ivy Yeung of the University of Hawai'i at Mānoa for her fiscal management support, Mr. Bill Morrison for his stellar work on the CMT 2015 website, and staff at the Hawaii Tourism Authority who provided valuable guidance. Without the effort and commitment of all these people, organization of this conference would simply not have been possible. Finally we would like to recognize our sponsors including: the University of Hawaii Sea Grant College Program; the Hawaiian Islands Humpback Whale National Marine Sanctuary; the National Oceanic and Atmospheric Administration; the School of Travel Industry Management at the University of Hawai'i at Mānoa; and the Hawai'i Tourism Authority.

We hope that you find CMT 2015 to be practical, informative and intellectually challenging; and that you find time to enjoy the cultural diversity and natural beauty of the Big Island of Hawai'i. Aloha.
CMT 2015 International Steering Committee

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The University of Hawai‘i Sea Grant College Program (UH Sea Grant) is part of a national network of 32 programs that promote better understanding, conservation, and use of coastal resources.

- [http://seagrant.soest.hawaii.edu/](http://seagrant.soest.hawaii.edu/)

The Hawaiian Islands Humpback Whale National Marine Sanctuary was created in 1992 to protect humpback whales and their habitat in Hawai‘i through education, outreach, research and resource protection activities.

- [http://hawaiihumpbackwhale.noaa.gov/](http://hawaiihumpbackwhale.noaa.gov/)

The School of Travel Industry Management (TIM) at the University of Hawai‘i at Mānoa is recognized as a leading educational institution in hospitality, tourism, and transportation management.

- [http://tim.hawaii.edu/](http://tim.hawaii.edu/)

The National Oceanic and Atmospheric Administration (NOAA) is a federal agency focused on the condition of the oceans and the atmosphere. It plays several distinct roles within the Department of Commerce.

- [http://www.noaa.gov/](http://www.noaa.gov/)

As Hawai‘i’s state tourism agency, the HTA uses its research, industry and marketing expertise to develop and implement the state’s strategic tourism marketing plan. Equally important, the HTA is responsible for supporting programs that enhance and showcase Hawai‘i’s people, place and culture in order to deliver an incomparable visitor experience.

# Table of Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Abstracts</td>
<td>6</td>
</tr>
<tr>
<td>Poster Abstracts</td>
<td>98</td>
</tr>
<tr>
<td>Workshop Abstracts</td>
<td>117</td>
</tr>
</tbody>
</table>
Paper Abstracts

Cumulative visitation by expedition cruise vessels along the remote Kimberley coast, northern Australia

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Adequate management of the coastal waters of the remote, tropical Kimberley region in northern Western Australia requires knowledge of the spatial and temporal extent of human use by the various sectors of the economy (commercial, recreational and traditional). Vessel-based expedition cruising is popular along the central and eastern Kimberley coasts where the flooded ria coastline, remarkable geology, enormous tides, noteworthy marine and terrestrial biodiversity, and indigenous cultural assets attract discerning visitors. In order to investigate the extent of the expedition cruise industry, a desk-top study was undertaken to quantify the numbers, and passenger capacity of, expedition cruise vessels advertising voyages along the Kimberley coast, details of their itineraries and the types of shore-based and water-based activities offered to the passengers. The cruise vessels operate in the coastal waters of the Kimberley mainly during the dry season from April to September between the ports of Broome and Wyndham though some include visits to Darwin in the adjacent Northern Territory and neighbouring countries such as East Timor or Indonesia. Eighteen cruise vessels (12-103 m in length) operated in the Kimberley in 2013 and 80% of these vessels carried less than 40 passengers. In the itineraries, more than 110 sites were listed as places visited by the cruise vessels although one third of the listed sites were visited less than 20 times during the season and then, only by the smaller vessels. Excluding the port of Broome, Montgomery Reef (275 vessel visits with 7,382 passengers), Horizontal Falls (260 vessels visits with 7,068 passengers), Raft Point (250 vessel visits with 6,786 passengers), Prince Regent River (235 vessel visits with 6,308 passengers) and Talbot Bay (211 vessel visits with 6,176 passengers) were the most frequently visited sites. Much of the area frequented by the expedition cruise vessels is encompassed by the newly proclaimed Lalang-gurram Camden Sound Marine Park and the designated Horizontal Falls and Northern Kimberley Marine Parks. Activities at the sites usually included small boat excursions to the shore for picturesque visits to waterfalls, wildlife spotting (e.g., crocodiles), historical sites and Aboriginal rock art as well as walking, swimming in waterholes, fishing and scenic helicopter rides. The entire Kimberley coastline was also surveyed by two observers in a Cessna 210 light aircraft during the peak tourist season over four consecutive days in July 2013 to verify the actual locations and activities of expedition cruise vessels in the region. Results of this survey showed high concurrence with the advertised itineraries. Despite the many limitations of this desk-top study, the cumulative estimates of visitation to the Kimberley coast provide managers and traditional owners, particularly the Dambimangari, Uunguu and Wunambal Gaambera people, with an indication of where potential impacts may occur and where future monitoring and management might be necessary.

Keywords: cruise, remote, activities, aerial survey, Kimberley, Australia
Benchmarking human use of Eighty Mile Beach Marine Park prior to implementation of the management plan

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Systematic conservation planning and subsequent management of Marine Protected Areas requires adequate knowledge about human use of the area. The proclamation of a new Marine Park in the coastal waters off the coast of north-western Australia necessitated an evaluation of the spatial and temporal distribution of people along this remote stretch of coast. Human use of the coast between the towns of Broome and Port Hedland, 500 km apart in north-western Australia, was examined by undertaking monthly aerial surveys (November 2012 to October 2013) using a Cessna 210 aircraft flying at 1,000 feet altitude with two observers equipped with digital cameras and a GPS logger. Aerial Survey Assistant software and a Geographical Information System were used for analyses. Results with respect to the number of people on the shore and number of boats in coastal waters showed that there was much higher usage in the winter, dry season (May to October) than the summer, wet season (November to December). Areas with highest densities of people were near Eighty Mile Beach Caravan Park, Cape Keraudren and Barn Hill and, to a lesser extent, Port Smith and Bidyadanga. Of the people recorded along the shore, 46% were fishing with rod and line and 33% were walking along the beach. Fishing was particularly popular near Eighty Mile Beach Caravan Park with anglers, and their associated four-wheel drive vehicles, spread along about 30 km of coastline. Camping along the coast during the dry season was largely within the confines of the large caravan parks at Eighty Mile Beach and Port Smith but there were also nodes of camping at Barn Hill Station and Cape Keraudren. Boating activity occurred mainly in the northern part of the study are around Port Smith and, to a lesser extent, near Cape Keraudren. These boats were engaged in recreational fishing or motoring and vessels engaged in pearl aquaculture were also recorded between Port Smith and Barn Hill. The distribution of human use was also examined relative to the designated sanctuary zones of the new Eighty Mile Beach Marine Park. This study provides spatially explicit data on coastal recreational activities that can be used by managers as a benchmark of use prior to the implementation of the management plan for the 220 km long Eighty Mile Beach Marine Park.

Keywords: Eighty Mile Beach, human use, Marine park, fishing, seasons
Understanding marine wildlife harassment by visitors to Hawai'i

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Tourists are moving away from viewing wildlife in captivity in favor of “authentically” experiencing wildlife in its natural habitat. Given the high volume of visitors to Hawai'i, resource managers are concerned about the negative long-term impacts of wildlife viewing on threatened and endangered marine wildlife (e.g., bottlenose dolphins, green sea turtles, monk seals) caused by inappropriate wildlife viewing practices (i.e. touching, feeding, etc.). While agencies in Hawai'i recognize the need to change visitor behaviors, a more comprehensive understanding of the motivation underlying these behaviors is necessary to do so. The goal of this research project was to better understand the attitudes and behaviors of visitors who engage in inappropriate viewing practices. A survey (n = 241) was conducted online using the web-based marketplace Amazon’s Mechanical Turk. Visitors were asked about a number of issues, including their likelihood of viewing/harassing wildlife, the importance of encountering wildlife versus engaging in other activities, and their understanding of what types of behavior was appropriate when viewing wildlife. The results confirmed previous research that suggests that visitors prefer to view wildlife on self-guided tours in natural habitats, as compared to guided tours and/or captive viewing. While respondents were interested in viewing wildlife while on vacation, they were interested other activities as well (cultural, dining, etc.). Results showed that a majority of visitors are unfamiliar with Hawaii’s eco-certification programs and marine conservation laws, and nearly half were not aware that harassing wildlife (i.e. touching or feeding) would affect them negatively. Factor analysis identified an “eco-scientific” factor (learning about wildlife within its broader ecological context) and a “harassment” factor (a desire to interact physically with wildlife), which were positively correlated. The “harassment” factor correlated strongly wanting to include wildlife in one’s vacation, and “harassers” were highly interested in guided dolphin tours. The results provide useful information that can assist wildlife managers in reducing wildlife harassment by visitors. First, visitors lack information as to what constitutes harassment, suggesting that public information campaigns are helpful in informing visitors about proper behaviors. Second, visitors care about wildlife, but they are more concerned with other issues typical of visitors (where to eat, where to stay, etc.). This suggests that, should wildlife managers want to encourage pro-environmental behavior, they first must first recognize the other concerns of tourists, thus “freeing up” the capacity to be concerned about wildlife. Third, the demand for wildlife tours is being largely driven by those likely to engage in harassment behaviors. This puts pressure on the industry to offer tours that include wildlife harassment. There is a market segment that is interested in wildlife and concerned about it's protection, and it could be more fully capitalized on. Finally, wildlife harassers are often the same respondents who are interested in wildlife and care about it deeply. Therefore, wildlife managers should attempt to connect the protectionist attitudes of visitors with their desire to interact with wildlife, explaining to visitors how their interest in the species’ survival is threatened by their disturbing behaviors.

Keywords: wildlife harassment, marine tourism
Analyzing the effect of political ideology on individuals’ perceptions of climate-related risks to coastal recreation using ocular tracking technology

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Many of the characteristics that define the quality of coastal recreation opportunities, such as the health of wildlife populations and the quantity of sand on beaches, are being impacted by climate change. Many of these impacts can cause direct shifts in the demand for recreation and tourism destinations. Understanding visitor perceptions of climate-related risks to coastal recreation sites is an immediate and pressing need for many resource managers. Research focused on quantifying how psychological factors, such as ideological beliefs, influence visitors’ perceptions of climate-related impacts can aid managers’ effort to effectively communicate and address climate-related risks. A large body of literature suggests individuals’ political ideology plays a role in shaping their environmental risk perceptions. This relationship has been cited as one explanatory factor contributing to observed differences between liberals and conservatives in attitudes and beliefs towards climate change. Numerous surveys have confirmed liberals and conservatives differ in perceived climate change related risks associated with both global and local impacts. Previous research also consistently suggests political ideologies affect individuals’ willingness to learn about and becoming involved in mitigation or adaptation planning (Leiserowitz, 2006; Smith, Anderson, & Moore, 2012). Individuals are known to assimilate climate change information in a way that agrees with their previously held beliefs; this phenomenon is especially notable when individuals do not trust the information being presented or its source (Corner, Whitmarsh, & Xenias, 2012). This study utilized data collected via ocular tracking as well as pre- and post-surveys to analyze differences between self-identified liberals and conservatives in perceptions of four different types of climate-related risk in coastal North Carolina. Ocular tracking serves as a complimentary measure in reducing the subjective nature of social surveys, and also has the potential to capture objective and empirical evidence of biased assimilation. The pre-survey questionnaire solicited demographic information and participants’ concerns about global climate change and its risk to: 1) recreation opportunities; 2) built infrastructure; 3) wildlife populations; and 4) beaches and dunes. The ocular tracking session captured participants’ gaze behavior on two separate images shown in succession, which included an infographic highlighting the four types of climate-related impacts and a digitally-manipulated photograph of a coastal North Carolina beach scene. The post-survey questionnaire solicited participants to rate the trustworthiness of the images shown during the ocular tracking session and to also assess the scientific validity of the information presented. Results of the pre-survey were consistent with previous research; conservatives and liberals differed significantly in the level of risk they associated with climate change impacts globally, in the U.S. and to coastal North Carolina recreational opportunities, wildlife populations and beach erosion. Analyses of the ocular tracking data revealed significant differences between conservatives and liberals in the amount of time before they observed information describing vulnerable recreation opportunities, built infrastructure and wildlife populations. These results are consistent with biased assimilation theory and offer some of the first objective data on ideological differences in climate-related risk perceptions. The results of the post-survey trustworthiness measure will also be presented with insights on how to best use ocular tracking to inform our understanding of climate-related coastal recreation and tourism issues.

Keywords: climate change, coastal tourism, natural resource management, ocular tracking, North Carolina, biased assimilation
Planning for sustainable human uses of large scale coastal zones: Issued-based planning in Prince William Sound

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An enduring problem for managing recreation and tourism in large scale ecosystems is to accommodate and even encourage human uses at the same time as protecting the natural environment. But most planning efforts by state and federal agencies treat recreation and tourism as ecological disturbances; they inventory recreation impacts, and then design management strategies to reduce those impacts. This is not integrative planning; it inherently assumes environmental protection is the primary or even sole goal of environmental planning, and ignores the need to provide recreation and tourism opportunities in natural areas. Ironically, it can also unintentionally exacerbate the ecological impacts of recreation and tourism. This paper will present an argument for a novel approach to ecotourism planning in coastal regions using a sustainable human use plan developed by the Chugach National Forest for Prince William Sound (PWS) in South Central Alaska. The plan emphasizes the integrated objective of encouraging public use while simultaneously protecting the natural environment and cultural heritage of the region. It also provides practical guidelines for monitoring human use and implementing adaptive management for PWS. The plan takes an issue-framing approach focusing on protecting certain ‘keystone’ recreation activities as well as addressing existing and potential impacts on cultural and physical resources. First, data were collected that addressed specific social and ecological problems in the Sound. Then we identified four keystone recreation activities and six planning issues that most needed management attention. Next, we used an issue framing process to develop management objectives, evaluate management actions, and identify relevant and actionable monitoring needs for each human use issue. Management actions and monitoring were designed for three different scales of analysis: region-wide, analysis area (landscape level), and site. Finally, we developed recommendations for implementing long term monitoring and adaptive management. Most ecosystem management plans are massive, data driven documents that are never applied; they tend to “sit on the shelf and gather dust.” We believe the sustainable human use framework developed for PWS addresses many weaknesses of traditional planning such as use of broad or inconsistent objectives, lack of relevant data or integration of social and biological data, inappropriate scales of analysis, impractical monitoring requirements, and, the most important element of sustainability, conducting adaptive management.

Keywords: Sustainable Human Use, Issue-based planning, Prince William Sound
Understanding human-dolphin interactions along the Gulf Coast, USA

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Resource managers are increasingly recognizing the potential and often negative effects that increased human-wildlife interactions can have on wildlife populations. Specifically, with over half of the global population residing within 60 miles of coastal ecosystems, wild dolphins residing in coastal waters near large population centers are under constant threat from increased human disturbances. Moreover, with global trends indicating increased participation in marine based recreation and tourism activities, it is imperative that managers recognize the potential impacts that these activities can have on local dolphin populations. Currently, a substantial body of scientific literature exists documenting the many impacts that human-dolphin interaction can impart. These include direct impacts to individual dolphins (i.e. injury/death), and many indirect impacts. Indirect impacts include changes in dolphin behavior, such as habituation to human disturbance, and long term population effects. While there are a plethora of studies documenting the ecological impacts of human-dolphin interaction, considerably fewer studies exist examining the sociological factors that influence such interactions. In order to best manage human-dolphin interactions, a thorough understanding of both the ecological and sociological determinants must be addressed. Ergo, the purpose of this study is to further understand what sociological variables influence human-dolphin interactions. Data for this study were collected during the summer of 2013 at two locations along the Gulf Coast, United States. Specifically, data were collected at two main tourist destinations in Mississippi and Alabama that had direct access to coastal ecosystems and subsequently wild dolphin populations. A total of 351 surveys were collected. After cleaning data for incomplete and missing responses, 246 surveys were used in this analysis. The survey was designed to address whether or not respondents had interacted with wild dolphins (approached/fed), their attitudes towards these encounters to dolphin populations (helpful/harmful), how they typically encounter wild dolphins (private/commercial watercrafts), and if they knew of anyone who had previously interacted with wild dolphins. Preliminary analysis found that 22% of respondents had previously interacted with wild dolphins. The majority of respondents typically encountered dolphins using private watercrafts (61%) and also felt these behaviors were harmful to wild dolphins (60%). Furthermore, only 15% of respondents knew someone who had interacted with wild dolphins. In order to predict whether or not an individual reported prior interactions with wild dolphins, discriminant analysis was used as the preferred statistical approach. Our model was significant at p < .001 and correctly classified 81% of cases. Results suggest that knowing someone who had interacted with a dolphin was the strongest predictor of an individual reporting previously interacting with wild dolphins. Individuals who viewed human-dolphin interaction beneficial to wild dolphins were also more likely to report interacting with wild dolphins than those who viewed these interactions more negatively. Respondents who encountered dolphins on private watercrafts were also more likely to report interacting with wild dolphins than those who encountered dolphins on commercial watercrafts. Possible implications of these findings are advanced. While it is critical to address the ecological impacts of human-dolphin interactions, managers must not fail to incorporate sociological dimensions into managing human-wildlife interactions.

Keywords: human-wildlife interaction, human-dolphin interactions, social science
In celebrating its 40th year, the iconic American movie “Jaws” is as infamous as it is famous. Based in a New England resort town, the 1975 film features a giant man-eating great white shark that attacks beachgoers. While fictional, the film stoked people’s fears about these important predators by placing them in a precarious position – as a predator hunting people. The fears and attitudes that were prevalent in the post-Jaws era saw people favor the hunting and killing of these predators over their conservation. These fears and attitudes are beginning to change as people are now understanding that sharks play a vital role as an apex predator (Bloomberg, 2/14/14; NY Times, 10/4/11). In the United States, shark tourism has been a developing ecotourism activity. Given that seeing a great white shark was rare in New England for many years, shark tourism has not played a role in the economies of the region until recently. The lack of great white sharks in New England was, in part, a response to a change in their environment in that a favorite food source, the gray seals, were culled by regional fishermen as the fishermen believed that seals were taking their catch. This retaliatory behavior ended when the Marine Mammal Protection Act of 1972 (MMPA) was passed. The MMPA prohibited the killing of seals and since then the seal population has increased to traditional numbers (Tech Times, 2014). Given the increase in the seal population in New England, and especially Cape Cod, Massachusetts, there has been a similar increase in the numbers of great white sharks. In fact, over the last ten years (2004 – 2014), the number of sightings increased from an average of two per year to more than 20 (NY Post, 7/21/14). In the last two years alone, there have been a combined 69 sightings of great whites off the coast of Cape Cod (Tech Times, 2014; White Shark Research, 2015). As a result, residents and businesses on the Cape have begun to embrace the great whites as a potential tourism draw. Local business owners are considering opening up cage diving and shark viewing businesses while there has also been an increase in shark-related merchandise throughout the Cape Cod region. Given this trend, a number of questions need to be addressed: (1) What is the actual tourism demand for shark-based excursions? (2) How do tourists to Cape Cod really view the increase in the number of sharks spotted off Cape beaches? (3) How many people are already running businesses impacted by the increase in sharks? (4) What is the need for more shark-related businesses? To address these questions, a survey of tourists and business operators in the Cape Cod towns of Chatham and Orleans will be conducted between July – October 2015. The purposes of the exploratory study will be to develop a baseline understanding of Cape Cod tourist attitudes towards sharks and shark-based experiences and to develop an understanding of opportunities for potential shark tourism operators in the outer Cape Cod region.

Keywords: tourism, sharks, Cape Cod, coastal
The power of whales: The influence of whale watching on creating environmentally friendly behavior change

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As a form of non-consumptive wildlife tourism, whale watching has become a significant recreational activity involving more than 13 million people while occurring in more than 119 countries and bringing in more than $2 billion annually (IFAW, 2009). Viewing whales in their natural environment can be a powerful experience that, when coupled with on-boat interpretation, can also act as a motivating factor for the creation of personal behavior change. Interpretation, as a primary communication methodology, allows for visitors to natural and cultural resource-based areas to connect with the resource through providing information, conveying the significance of the resource and the rationale for conserving the resource, and enhancing the enjoyment of the experience (White et al., 2005). One of the preferred outcomes of interpretation is change whether it be attitudinal or behavioral (Ham, 2007). Few studies have documented the impact of interpretive naturalist-lead boat-based experiences on individuals. In a study of on-shore whale watchers in Oregon, Christenson, Needham, and Rowe (2009) looked at the influence of experience on value orientations and personal environmental behaviors. They found that those people with more viewing experiences had stronger biocentric beliefs and values which in turn influenced personal behavior. The findings from this study further the findings of other studies that have focused on the development of environmental values. Environmental values are values that people have toward the relationship between people and the natural environment. These values can range from purely anthropocentric to purely biocentric or ecocentric (Zografos & Allcroft, 2007; Lück, 2003). Lück (2000) found that environmental values are important for ecotourism travel choice and behavior. Understanding the impact of the whale watching experience and environmental values on visitors is important for the interpretive naturalist not only in terms of enhancing the methodology for delivering conservation-based messages but also for creating a connection with a resource in the hope that it spurs future behavior changes. This study seeks to examine the impact of an interpretive-naturalist lead boat-based whale watching experience on an individual’s emotional and intellectual responses and behaviors. Between July 2014-October 2015, randomly selected individuals on 30 pre-selected whale watching trips out of Gloucester, Massachusetts were chosen to participate in pre-experience, post-experience, and follow-up surveys addressing the impacts of the trip on their knowledge of whales & whale behavior as well as on their own personal behaviors and attitudes. Individuals were asked to fill out the surveys by hand during the pre- and post-experience phases. Follow-up surveys were sent out via survey monkey one month after the whale watch experience. Interpretive speech data points were coded based upon the whale behaviors that were highlighted on a specific day to minimize survey bias. Results demonstrate that the whale watch experience provokes both emotional and intellectual responses in the participants and that those experiences may lead to behavior change.

Keywords: Whale Watch; Interpretation; Behavior Change
Sustainable coastal tourism: Connecting people, places and the economy through balanced use of Great Lakes natural resources

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Michigan Sea Grant (MSG) educators are taking a collaborative approach in supporting sustainable coastal tourism development to address the problem of helping stakeholders advance Michigan’s tourism industry while still protecting cultural and natural resources. MSG helps to foster economic growth and protect Michigan’s coastal, Great Lakes resources through research, education and outreach. A collaborative effort of the University of Michigan and Michigan State University, MSG is part of the NOAA National Sea Grant network of more than 32 university-based programs around the country. MSG seeks to nurture diverse partnerships and contribute to regional efforts exploring coastal tourism development as an economic driver and source of conservation education. Home to nearly 6 million residents, Southeast Michigan is one of North America’s most heavily industrialized areas. For over a decade, MSG has worked with non-profit organizations, federal and local governments, and industrial property owners to restore coastal habitats, increase public access to the waters, and elevate awareness of nature-based tourism opportunities. MSG facilitated public-private partnerships have resulted in over 2000 acres of habitat improvements, business expansion/retention and improved public access. Through water trails, greenways and motorized boat tours, the public can access the nation’s only international wildlife refuge and learn of the region’s transition from Rust Belt to Green Belt. An MSG initiative in northeast Michigan solicited input from community developers, tourism professionals, and local residents to better understand their needs, regional assets, goals and opportunities. The resulting publication, “Sustainable Coastal Tourism Development in Northeast Michigan,” will help tourism professionals, resource managers, and community leaders balance preservation of cultural and natural resources with tourism expansion and economic growth. The guide includes basic information about the coastal tourism industry, stakeholder profiles, recommendations, and “best practice” case studies. A web-based tool-box, “Discover Northeast Michigan,” was also developed to assist businesses looking for more information about sustainable coastal tourism development in Northeast Michigan. These tools promote sustainable coastal tourism, conservation and stewardship, and collaborative working relationships in that area. Great Lakes boating activity infuses Michigan’s economy with nearly $2.4 billion each year through direct and secondary spending. However, persistent low water levels in the past 10 years, combined with economic downturn have taken their toll on local waterfront communities. In northwest Michigan, MSG coordinated a project to determine the key threats to sustainability for small, local harbors. MSG hosted charrettes (facilitated community planning sessions) in four communities selected to represent variations in geography, type of harbor, population size and type of adjacent water body. This project resulted in a sustainability model and toolkit for small harbors. It includes the strategies used by the four communities to implement the model and their results, two additional case studies illustrating how the model was applied to two other harbors, fact sheets, and a website that will assist communities in their planning efforts.

Keywords: sustainable coastal tourism, community based tourism, Sea Grant
Understanding anglers’ satisfaction with fisheries management to improve recreational fisheries management

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Research has shown that angler satisfaction, particularly satisfaction with catch is important for understanding how anglers view management policies. Furthermore, it is important to understand angler satisfaction to develop high quality fishing experiences that will ultimately satisfy these anglers (Beardmore et al. 2015). Research has also shown a strong relationship between angler satisfaction and preferred management policies (Arlinghaus and Mehner 2005). Research on anglers’ motivations has shown that catching fish is not the primary motivation for fishing (Holland and Ditton 1992). Satisfaction with overall fisheries management may be more related to non-catch motivations than catch motivations. Recreational fisheries management must provide elements beyond the simple availability of species to target and catch. When managers are tasked with the charge to improve satisfaction with recreational fishing, oftentimes they are stumped. How can government implement management strategies that will fulfill constituents’ desires? In order to better understand the relationship between anglers’ motivations, preferences and satisfaction with fisheries management, NOAA Fisheries implemented a survey of saltwater recreational anglers across the United States (with the exception of Hawai’i). The survey collected information on anglers’ attitudes and preferences towards fisheries management. Anglers were asked to rate how important or unimportant certain trip characteristics were to most of their fishing trips; they were also asked to rate their preferences for management strategies and to rate their satisfaction with management. Surveys were administered using a mail survey and followed the Modified Dillman Method (Dillman 2007). Following two mailings and a reminder postcard, 35% of the surveys were returned (Brinson and Wallmo 2013). Overall, anglers who held specific motivations for fishing, those who did not prefer management restrictions on the individual, those who were younger and purchased fishing permits in the North Atlantic region tended to be more satisfied with recreational fisheries management. The model further explored anglers’ satisfaction with specific fishery management goals. The results of these analyses can be used to target fishery management policies that address anglers’ areas of concern. If management can target areas that anglers are least satisfied, then these targeted policies may improve overall angler satisfaction with recreational fisheries management.

Keywords: recreational fisheries, fishery management, angler satisfaction, angler attitudes
The impact of stakeholder relationships on natural resources in Zanzibar, Tanzania

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About 2.1km off the north-east coast of Zanzibar, Tanzania is a small island called Mnemba. Mnemba Island is surrounded by over 15km of shallow water fringing coral reef. This reef is an important source of tourism revenue for Zanzibar while also being a vital fishing ground for rural communities living on Zanzibar. The Mnemba Island Marine Conservation Area (MIMCA) was declared in 2001 and is administered by the MIMCA authority. The island is leased to a tourism company called And Beyond, a stakeholder that was instrumental in the development of the conservation area. The working relationships between stakeholders are poor, with some stakeholders claiming that the conservation area is ineffective. Healthy marine ecosystems around Mnemba Island are vital to tourism and to the livelihoods of communities living in the MIMCA. Social outcomes such as trust and communication between stakeholders are vital for the successful co-management of protected areas, and as such are important to the health of ecological systems (Jones et al., 2012; Niedzialkowski et al., 2012; Young et al., 2013). We set out to investigate the impact of trust, communication, and benefit sharing on the state and management of natural resources. We visited the study area in August 2014 and March 2015. We used in-depth interviews and focus groups to speak with 62 people from local government, local tourism operations, and communities living in the MIMCA. We found that poor social outcomes between stakeholders were linked to declining ecosystem health in the MIMCA. At the establishment of the conservation area, funds collected from tourism to the reefs were used to buy boats for local communities. There was communication about finances, benefits were shared between stakeholders and trust developed. Not long after its establishment, the MIMCA was expanded to include about 30 communities, and the bureaucracy of the conservation area became unwieldy due to its size. As a result, open communication about finances ceased, benefits no longer accrued to local communities and trust began to decay as communities felt they were sidelined for conservation and tourism objectives. As a result, fishermen from communities in the conservation area have begun to fish indiscriminately on the Mnemba Island reefs. One of the many environmental impacts reported was that in the last four years professional divers have reported a 10 to 15% decrease in the number of schooling fish seen in the waters around Mnemba Island. Poor communication and low levels of trust need to be changed in order to stop the degradation of natural resources. If the status quo continues unchanged, local quality of life and tourism may decrease as natural resource health declines. This will have negative consequences for local livelihoods and the local economy, where more than half the people living in nearby communities are reliant on fishing. It is recommended that the MIMCA management authority meets with stakeholders to discuss zoning the conservation area to improve administration, as well as how natural and financial resources should be managed. Without such changes, the future of the conservation area is uncertain.

Keywords: Tanzania; Zanzibar; Mnemba Island; marine protected areas; governance
Community perspectives on change in an iconic national park: A human-artifactual-natural system (HANS) inquiry on San Cristóbal Island, Galápagos, Ecuador

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Iconic national parks are protected areas valued by the research community for scientific iconicity, and appreciated by visitors for touristic iconicity. While nature preservation is a key goal, parks provide employment to residents and recreational and transcendental experiences for tourists. The Galápagos National Park covers 97% of the islands’ land mass. The park also encompasses a large marine reserve. On the island of San Cristóbal, the second largest human population in the Galápagos is found in Puerto Baquerizo. The goal of this study was to clarify community understandings of change on San Cristóbal with an emphasis on: (1) the Galápagos National Park, (2) fisheries, and (3) tourism.

Employing a human-artifactual-natural system (HANS) approach (Miller et al., 2014), data were collected by semi-structured and focus group interviewing, a pile-sort task, observation, and the review of secondary source information. Focus group and pile sort activities (N=32) were conducted with locals and tourism brokers (e.g., national park officials, rangers, and guides, tourism workers) and locals (e.g., researchers, fishermen). Human component questions concerned the “good and the bad” of livelihood realities (in fisheries, tourism, government), and opportunities/challenges to improve conditions. Artifactual component questions focused on material artifacts (infrastructural developments) and also non-material artifacts (policies, regulations, laws). Natural component questions focused on the environment. With the pile-sort task, respondents grouped 26 flora/fauna stimuli including iconic, endangered and introduced species according to their similarity and gave their reasons. In addition to a thematic analysis of interview and focus group data, the pile-sort data were subjected to multidimensional scaling and hierarchical clustering analyses. Selected results confirm that community members: are proud of the Galápagos National Park and generally believe that a good job of management is being done; would like to see tourism development on San Cristóbal conform with an ecotourism model and not to resemble the more mass-tourism form found at Puerto Ayora on the island of Santa Cruz; would like to see more effort spent on helping fishermen and agriculturalists diversify into the tourism sector; are especially troubled by reports that a series of very large and high-end hotels will be constructed at the edge of Puerto Baquerizo; and sorted the fauna/flora stimuli in ways that reflect biological/taxonomic, instrumental, conservation biology, and touristic/aesthetic dimensions. Findings confirm that the artifactual topic of infrastructural expansion is highly salient to community members and warrants immediate policy attention. Methodologically, the HANS framework proved useful in this study and would seem to have utility in future studies in the Galápagos and elsewhere.

Keywords: scientific iconicity, touristic iconicity, marine protected areas, Galapagos National Park
The Presque Isle visitor survey: A systematic approach to determine recreational user demographics, tendencies, preferences, satisfaction and the economic impact of Presque Isle State Park in Erie, Pennsylvania

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Resource management of Lake Erie is unique as recreation and tourism have become an increasingly important component of the economy, displacing the presence of manufacturing that once dominated the landscape. Subsequently, water-based recreation is the most prevalent form of outdoor recreation in the region, providing opportunities for beach use, swimming, sunbathing, angling, and both motorized and non-motorized boat use. However, little is known about the behaviors, attitudes, and preferences of these water-based outdoor recreation stakeholders or their economic contributions to the region’s economy. To answer these questions, Pennsylvania Sea Grant worked with the Penn State Department of Park, Recreation, and Tourism Management and the Pennsylvania Department of Conservation and Natural Resources to conduct the Presque Isle User Survey. While previous studies have looked at visitors’ characteristics and desired improvements, they were limited in scope and did not assess seasonal variation in park use and expenditures, user preference or perceptions of beach conditions and management techniques, or where, what and how regional or park specific information was being obtained by tourists. This study was conducted from May 2012 to May 2013 providing a total of 300 sampling days. The study area was geographically divided into five survey zones covering the various activity areas. Researchers implemented a roving intercept technique, traveling within each of the zones to locate and interview park visitors. Three versions of the survey were used, each focusing on a different area of interest such as overall trip expenditures, experience on Presque Isle State Park, and experience at the Tom Ridge Environmental Center. All three survey versions assessed demographics, available amenities, activity types, length of stay, and use of information for trip planning. Results obtained from this study provided an updated socio-demographic user profile for those visiting the park, as well as information regarding preferences, visitation and usage of popular park amenities. For example, results of the survey showed that Presque Isle State Park was the primary destination for 92% of visitors. While most visitors were Pennsylvania residents, 27% were from out-of-state and 30% traveled more than 50 miles. The average amount spent across all visitors was approximately $80, although those traveling greater than 50 miles spent almost three times more. Results also showed seasonal variability in distance traveled, expenditures, and types of tourism related information obtained. Summer visitors were more likely to use information such as maps, visitor’s guides, and reports obtained from the internet whereas winter and spring users were more prone to use sources such as a newspaper or magazine. Users also shared their attitudes and opinions on issues such as beach closures, beach safety, and other nearby attractions visited. Answers obtained from this survey provide a representative snapshot of recreational use at Presque Isle State Park. This Information can be used by stakeholders to acquire additional resources that improve the experience of both local and non-local users. This study provides a framework that can be used to explore user perceptions, preferences, and the impacts of water-based recreation in localities driven by coastal tourism.

Keywords: tourism, water-based recreation, resource management, Lake Erie, seasonal variation, Sea Grant
Tourism resilience in small island developing states (SIDS): A conceptual framework for policy and planning

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This paper draws on long-term ethnographic fieldwork in the small Pacific island nation Vanuatu. In particular, this paper draws on findings from a larger project that examines the nexus between tourism and traditional culture and the extent to which islanders have developed greater resilience to the vicissitudes of international tourism. SIDS adopt tourism for economic diversification and to exploit what are considered rare comparative advantages. In this paper, a conceptual framework to examine how SIDS economies reliant on international tourism may develop greater resilience to tourism is constructed. The adaptive capacity of SIDS to deal with external and internal shocks is questioned because of inherent vulnerabilities of being coastal and marine-based, as well as developing or less-developing. SIDS are narrow-based economies with restricted access to export markets and vulnerability to global and regional economic fluctuations. Secondly, governance is ineffective as institutions are ill-equipped to deal with political, development and policy challenges. Thirdly, SIDS are reliant on development partner funding toward administrative, health, education, trade and infrastructure initiatives. Fourthly, vulnerability to natural disasters is commonplace causing widespread damage to critical infrastructure. Lastly, SIDS have low primary, secondary and tertiary education outcomes limiting improvements to enterprise, productivity and innovation. In abidance with resilience thinking and the Stockholm Resilience Centre’s (SRC) Principles for Building Resilience on Socio-Ecological Systems, the proposition that “a resilience thinking approach tries to investigate how these interacting systems of people and nature – or social-ecological systems – can best be managed to ensure a sustainable and resilient supply of the essential ecosystem services on which humanity depends” (SRC, p. 3, 014) is adopted. In this paper, resilience is demarcated via slow change variables and secondly via fast or quick change variables. The conceptual framework in this paper pays particular attention to slow change variables. This paper argues that SIDS must develop greater resilience to international tourism and implement policy that delimits a dangerous and disproportionate reliance on it, as well as ensure that coastal and marine resources return a benefit to traditional owners.

Keywords: resilience, SIDS, Vanuatu
An economic and spatial baseline of coastal recreation in Washington

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The Surfrider Foundation and Point 97 collaborated with Washington State Agencies, recreational stakeholders, and the Olympic Coast National Marine Sanctuary staff on a Non-Consumptive Recreational Ocean & Coastal Use Study for Washington’s Pacific coast. The study was intended to provide high-quality spatial and economic information to inform the state’s marine spatial planning (MSP) process and other relevant decision-making. Previous studies have shown non-consumptive recreational uses can be directly affected by new activities, either by altered physical conditions, restricted access or depreciated sea-scapes, which may result in the relocation of existing uses, hindering the local economies (existing jobs) they help sustain. This study used an online survey instrument to collect data on coastal use patterns, trip expenditures, and demographic characteristics of coastal users. This presentation will share results focusing on areas of high recreational use, popular recreational uses, and economic contributions related to trip expenditures. Non-consumptive recreation is widely practiced along the extent of Washington’s coast (Pacific Coast & Strait of Juan de Fuca). Popular activities include beach going, sight seeing/scenic enjoyment, wildlife viewing, photography, and hiking & biking. Washington residents visit the coast regularly and participate in a broad range of recreational activities. A random sample of six thousand residents found that over 40% had visited the Washington coast at least once in the past 12 months. The most popular activities were shore-based, with over 60% of respondents indicating they had participated in beach going and scenic enjoyment in the past year. Wildlife viewing activities such as bird and whale watching were also popular, with over a third of respondents indicating participation. Meanwhile, ocean-based activities such as surfing, kayaking, and boating captured between 2-7% of the survey sample. Spatial data on recreational activities were collected through a web-based survey that incorporated OpenOcean Map, an interactive mapping tool developed by Point 97. Respondents provided information by “dropping pins” on specific locations to reflect areas of use during their last trip to the coast. Data were collected through both a random sample of Washington residents, as well as through an “opt-in” survey that allowed interested stakeholders to participate. The opt-in survey also enabled respondents to indicate other places of use aside from areas visited during their last trip. Non-consumptive recreation provides significant economic and social benefits to coastal communities and the state—these include direct expenditures, as well as social benefits such as citizen enjoyment. In 2014, Washington residents took an estimated 4.1 million trips to the coast, with nearly 60 percent indicating their primary purpose was recreation. The average respondent spent $117.14 per trip, translating to an estimated $481 million dollars in total direct expenditures.

Keywords: recreation, coastal, ocean, Washington
Shoreline properties as the last line of defense for coral reefs

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The negative effects of coastal development on coral reefs have been well documented around the world. In West Maui, coastal development has contributed to: an increase in impervious surface through pavement and building construction that has led to an increase in polluted stormwater runoff entering the nearshore environment; an increase in wastewater volume, taxing an outdated and overburdened wastewater infrastructure, leading to additional nearshore pollution from wastewater injection wells; and nutrient inputs and pollution to the nearshore environment from heavy use of pesticides and fertilizers in shoreline property landscapes. While these threats represent a serious concern for reef health, the Coral Reef Alliance (CORAL) believes that shoreline properties such as hotels, resorts, and the broader tourism sector can (and must) be enlisted as partners in reducing and eliminating the above threats in order to maintain healthy nearshore water quality and overall coral reef health. Hawai‘i’s tourism sector can be a global leader in sustainability and marine stewardship by improving the sustainability of their businesses, while also advancing regional conservation initiatives and efforts, and acting as a “last line of defense” for the nearshore environment. CORAL has built a productive partnership with the hotel and accommodations sector in West Maui and South Kohala to address these threats by: increasing the use of Low Impact Design/Development (LID) within shoreline properties to manage stormwater and prevent polluted runoff from reaching the ocean; assisting shoreline properties with the preparations necessary to connect to recycled water (R-1) for irrigation and other non-potable uses; providing guidance and promotion of best management practices for “reef-friendly landscaping.” CORAL and its partners are providing direct in-person consulting as well as resources, tools, and strategies that hotels can utilize to improve their level of sustainability. Specific improvements include: improving landscaping fertilization and chemical application practices; utilizing pervious pavement options, green rooftops, and rain gardens; irrigating golf courses and gardens with recycled water; and harvesting rain water and recycling of pool water. An ever-increasing number of sustainability initiatives are being implemented by shoreline properties. Each addition helps to reduce the overall impact of coastal development on the marine environment, and solidifies CORAL’s belief that shoreline properties can be the last line of defense for coral reefs. Examples of significant changes can be found at the Westin Maui Resort and Spa and the Four Seasons Hualalai in South Kohala. While CORAL’s work and theory of change requires involvement from all players within a watershed, the tourism and accommodations industry in particular have immense potential to assist in marine conservation because they have a direct interest in a healthy marine environment and have the influence to help protect it. Finding solutions to stormwater runoff, wastewater disposal, and other issues impacting the marine and coastal environment can only be done when interested parties work together and when those who are impacted by it most, like the tourism sector, participate in the solution.

Keywords: coral reefs, conservation, tourism, accommodation sector, shoreline property
Understanding perceptions of recreational and commercial uses in Rhode Island’s coastal salt ponds

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As recreational and other uses increase along the shoreline and in coastal waters in the United States, there are likely to be increasing interactions among users, and between users and the coastal environment. These human-environment interactions are going to be viewed differently by various members of the public. Some coastal users might think that the combination of sailing vessels, recreational motor boats, and aquaculture farms is a safety hazard, while others might find this diversity of activities in the water to be aesthetically pleasing or interesting. Because coastal managers and local decision makers are charged with managing human-environment interactions in a way that meets societal goals, they must understand how different segments of society (i.e. recreational users, local residents, commercial users, and others) view these interactions. This study investigates human-environment interactions within and along the shoreline of RI’s coastal salt ponds, which host numerous activities including recreational boating & fishing, commercial shellfishing, aquaculture farming, swimming, birding, coastal development, and other activities. In the summers of 2014 and 2015, we conducted in person structured surveys of individuals who use and appreciate Rhode Island coastal salt ponds. Surveys were conducted at public access sites around three coastal salt ponds (Quonochontaug, Ninigret, Point Judith) at various times of the day on weekends and weekdays throughout the summer. Survey questions asked respondents about their use of RI’s coastal ponds, their perceptions of other uses and features (i.e. water quality, accessibility), and their personal characteristics (i.e. how frequently a respondent visited the ponds, distance traveled to get to the pond, education level). In addition, respondents were asked to indicate areas on a map where they had traveled during their visit to the pond. Using spatial analysis in GIS and other statistical methods, we examined how respondents were using RI coastal ponds and how perceptions of different uses and features varied according to characteristics of respondents. Here we present our findings and discuss how they can be used to help guide coastal planning activities related to recreational and commercial activities in Rhode Island’s coastal salt ponds and other coastal areas.

Keywords: perceptions, interactions, recreational uses, surveys
Learning from the past, looking to the future: SCUBA diving in Thailand

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Corals are the most rapidly declining species group in the world according to IUCN. Diving can provide an incentive-based mechanism to help achieve marine conservation goals through providing alternative livelihoods that actively promote conservation rather than more consumptive activities, such as fishing. We have been conducting research on diving for over 20 years in Thailand, to ascertain the nature of the activity and optimal management strategies. The paper reports on several studies over this time period that allows an assessment of the trajectory of the industry in Thailand and its potential relationship to conservation in the future. The main focus of the paper is a comparative study undertaken of divers visiting Phuket, Thailand’s main dive center, in 2000 and 2012. The original survey (Dearden et al 2006) involved 506 useable responses with 591 in 2012. The 2012 survey instrument was designed to be as comparable as possible with the original, although changes within the industry meant that some changes had to be made. The results were analyzed and compared for motivations, satisfactions, specialization and willingness to return using SPSS chi-squares, t-tests and ANOVA. The results show that the industry is becoming increasingly dominated by low-paying generalist divers with modest diving skills that have greater potential to negatively affect reef conditions and with lower interest in reef ecology. In 2000 there was an approximately even split between low, medium and highly specialized divers, by 2012 only 10 percent of divers were considered specialists. There was a 40 percent drop in per capita spending per dive trip, and a 37 percent drop in overall trip spending. There was also significantly reduced interest in participating in reef conservation activities, such as restoration and monitoring, in 2012 compared with the earlier survey. When asked about future diving plans under current trajectories for the impacts of global climate change, more than a third of divers interviewed said they would not return to dive on bleached reefs. The results suggest that diving is becoming a less effective tool for conservation in the future in Thailand due to increased impacts, lower economic returns, the potential impacts of global change and changing nature of the clientele. These findings are consistent with the predictions of the Wildlife Tourism Model (Duffus and Dearden 1990) that has been used to analyze the sustainability of several marine tourism activities, and suggest the applicability of the findings to sites outside of Thailand. Management interventions to address these trends include maintaining a broad-based diver clientele including specialist divers, establishing appropriate dive zone designations for different specialization groups, implementing a Limits of Acceptable Change (LAC) approach to management and improved educational and outreach programs.

Keywords: diving, sustainability, Thailand, coral reefs, trends
Insights for coastal destination development: The practices of kiteboarders

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Coastal destinations especially in Northwestern Europe are occupied with finding possible ways of reinventing themselves. Due to stagnation or even decline of visitors during last years, they are searching for ways to gain increased market share once again. With funding always being limited, it often results in strategies stressing the improvements of existing products and enhancement of contemporary destination image. The competitiveness of destinations requests for differentiation of the tourism product and emphasizes uniqueness as well as identity of place. Soft adventure could be seen as a popular niche these coastal destinations are increasingly targeting. The rough coasts, the lack of sun and water temperatures compared to the Mediterranean or the tropics do make this a logical and potential niche. Horse riding, hiking, cycling along the coast are activities of appeal to tourists in seaside resorts along the cold water coast. Water sports in particular invites adventurous coastal tourists that together with a sense of freedom, wellbeing and health in general is of use in branding efforts. The province of Zeeland, the Netherlands, also concentrates on coastal product improvement and destination image enhancement. One water sport that has gained enormous popularity during last decade is kitesurfing, or kiteboarding as referred to in different countries. The sport itself is seen as extreme and even dangerous. Still, the amount of practitioners increases and with Zeeland being an ideal province for it due to the spots and wind available, it not only serves local kiteboarders but also visiting ones. Informed by practice theory and conceptualized by the visitor journey, the practices of kiteboarders are studied by mixed methods as desk research, expert interviews, kiteboarder interviews, qualitative survey and observations. By studying their practices, insights could be compared to desired destination situations in terms of environmental sustainability, tourism product supply and health policies. With Zeeland developing as a health region that hosts many tourists yearly and the association of surfing in general with freedom and health, it sure is interesting and useful to gain a better understanding of the practices of kiteboarders throughout the visitor journey. These insights results in hands-on practical recommendations for deliberate interventions in the practices, possibly aiming at a better tourism product, lesser environmental harm and a healthier population.

Keywords: destination reinvention, kiteboarding, practice theory, health region
Climate Change Risk: Perceptions of Visitors To Acadia National Park, Maine

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Climate change poses many risks for nature-based tourism, especially in vulnerable environments such as coastal protected areas. Climatic variability is expected to have significant implications for Maine’s tourism seasons. The state is predicted to have wetter summers, milder winters, and other effects that will influence Maine’s outdoor recreation and tourism industry. Given these changes, it is also expected that visitation is likely to be impacted in the future. An online survey was used to assess visitor perceptions of the likelihood of climate change impacts to affect Acadia National Park, and potential changes in travel behavior. This study addressed the following research questions: (1) What impact factors of destination vulnerability to climate change are relevant to visitors to Acadia National Park?; (2) Which climate change impact factors are perceived by visitors to Acadia National Park as major threats to future visitation?; and (3) Which factors of climate change impacts are likely to affect visitation to Acadia National Park? Randomly selected visitors to Acadia National Park were asked to participate in the survey. Using 5-point Likert-scales, respondents were asked to rate 16 impact statements in terms of (1) their likeliness to occur as a result of climate change, (2) the potential of these impacts to represent a risk to visitors to Acadia National Park, and (3) as a potential threat to visitors/recreationists. Exploratory factor analyses with varimax rotation identified four impact factors that accounted for 83% of the total variance: weather patterns, impacts on wildlife, access and health, and physiological and safety needs. Results from logistical regression modeling suggest perceived vulnerability, perceived risks, factors that may influence travel behavior, socio-demographic variables (age and income), and reasons to visit the destination explain variance of importance of weather in the decision to travel to MDI. It was found that the majority of visitors believe climate change impacts such as sea-level rise, more frequent extreme weather events, wildlife migrations, increased presence of tick and mosquitoes, will significantly affect recreation and tourism in the region within the next ten years. The survey also showed that if weather conditions become unsuitable for pursuing visitors’ preferred recreational activities, a large portion of participants would not continue visiting the region. Because nature-based tourism is highly-weather dependent, understanding visitor perceptions of destination vulnerability and risk will be crucial for sustainable tourism destination development. This study shows that climate change will likely influence future visitation patterns at Acadia National Park, ME. Results suggest the majority of visitors are concerned about climate change in a national park they visit, and would support agencies efforts to mitigate possible climate change effects. Findings suggest education and interpretation efforts to be relevant strategies for parks to use to enhance visitors’ understanding of climate effects in the region and their role in reducing carbon-footprint. Management efforts should contemplate differences in perceptions of the effects of climate change and travel behavior according to visitor characteristics and their individual perceptions of risk.

Keywords: vulnerability, protected areas, coastal tourism, nature-based tourism
How resilient is coastal tourism demand to climate change?

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Managing challenges related to climate change is becoming a major focus for the tourism industry because much of coastal tourism depends on climate. In general, changes in seasonal patterns, loss of beach areas, and shifts in tourist destinations are now expected as results of the planet’s climate change (Berrittella, Bigano, Roson, & Tol, 2006; Hamilton, Maddison, & Tol, 2005). Khan et al. (2002) note that small island economies like the Maldives are projected to experience land losses in coastal areas due to a sea level rise; similar impact is expected for countries that depend heavily on coastal tourism such as the Mediterranean countries. Most studies analyze the effects of change in climatic variables such as temperature and precipitation and climate change scenarios on tourist flows (see, e.g., Amelung, Nicholls, & Viner, 2007). Destinations do gradually adapt to changing climatic conditions based on their economic, social, and political conditions. Such strategy is already underway for the most vulnerable destinations like small island economies. Recently Kiribati, an island nation, purchased land in Fiji to relocate the entire nation to escape from severe climate change effects (Caramel, 2014).

In general, mitigation and adaptation strategies can be undertaken as policy responses to the climate change. Smit and Wandel (2006) note however that these strategies cannot be developed appropriately without a vulnerability assessment. Therefore, the purpose of the study is to develop and test a model examining the effects of vulnerability to climate change on tourism demand. Tourist arrivals and tourism receipts are described as a function of exposure, sensitivity, human well-being, and economic, social, and political development. Accordingly, two empirical models were specified representing a logarithmic form of tourist arrivals, logarithmic form of tourism receipts, exposure, sensitivity, human well-being, economic development, social development, and political development. Data from 17 countries that have coastline on the Mediterranean Sea and heavily depend on coastal tourism were used for the period of 1995-2012. Cointegration analysis was employed to examine the relationships between variables that are not stationary in levels I(0). The results of the analyses indicate that vulnerability to climate change significantly affects tourism. Contrary to the notion that climate change will result in disastrous outcomes for the tourism industry, improvements in overall well-being and progress in economic, social, and political developments will more than offset the decline in tourism demand due to climate change. Policy makers need to consider rebranding their tourism product, increasing environmental taxes, preserving natural and environmental resources that are under risk, changing target markets, for example, from long haul to short haul to reduce CO2 gas emissions.

Keywords: vulnerability theory, vulnerability assessment, climate change, demand
Understanding attitudes toward illegal feeding and harassment of wild dolphins

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The sociable, charismatic nature of dolphins has ensured their prominence in mass entertainment as well as the general public’s fascination with the species (Gales, Hindell, & Kirkwood, 2003; Lavigne, Scheffer, & Kellert, 1999). A substantial portion of local Gulf Coast economies, such as Panama City, Florida, and Corpus Christi, Texas, is associated with wildlife-related recreation, much of it involving viewing and closely interacting with (i.e., swimming with, touching, or petting) wild dolphins. Advertising for opportunities to closely interact in the wild with these marine mammals is abundant. With such commonplace messaging, human-dolphin interactions are increasingly viewed as acceptable and more people desire to interact with dolphins in the wild. These activities are illegal under the U.S. Marine Mammal Protection Act and are considered harmful by the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. Illegal feeding and harassment of wild dolphins, however, continues despite outreach efforts to deter such activities. Over the past four years, studies by Responsive Management for NOAA have been conducted specifically to explore human interactions with wild dolphins. This presentation will examine why illegal and harmful behavior has become so commonplace and how to effectively reduce such behavior. The four studies used for this presentation include a quantitative study of Panama City residents, visitors, and business operators; a qualitative study of Panama City residents, visitors, and charter boat captains; and a quantitative study of Corpus Christi residents, visitors, and business operators; and a study of communication efforts involved in the restoration of bottlenose dolphin following the impacts of the Deepwater Horizon Oil Spill. The study designs entailed quantitative surveys (on-site and telephone) of three groups, including residents, visitors to the area, and local water-based and dolphin-related commercial businesses; focus groups with residents and visitors; and a literature review and analysis of communications efforts related to human interaction with dolphins and dolphin restoration. Findings of the analysis indicate that public and industry concern for the protection of wild dolphins does not necessarily translate into adherence to or even awareness of laws and regulations designed to ensure dolphins’ well-being. Many of those who expressed the most concern about protecting wild dolphins also indicated interest in feeding, swimming with, and touch dolphins in the wild. These results highlight the undesirable consequences of dolphin-related advertising and media in shaping public attitudes toward the species. Despite the existing outreach to reduce such human interaction with dolphins, these studies reinforce the need for marine organizations to produce messaging that counterbalances inaccurate beliefs and irresponsible forms of recreation.

Keywords: dolphin, interaction, illegal, harassment, feeding
A data driven approach to managing diver impacts on underwater cultural heritage

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Dive heritage tourism is a popular and growing industry, particularly throughout the Asia-Pacific region. Many divers are drawn to Pacific Island destinations to visit underwater cultural heritage sites to dive ship and aircraft wrecks, especially those resulting from World War II. While this interest is positive, diving wrecks may result in adverse impacts on their cultural heritage and tourism values. This is concerning because underwater cultural heritage sites are non-renewable, fragile, and irreplaceable. Understanding the characteristics of the people who visit these sites, their motivations for wreck diving and their attitudes to management controls can assist managers in developing more effective and sustainable management strategies. However, little is known about wreck divers. The aim of this study was to inform the management of underwater cultural heritage sites in the Asia-Pacific region by surveying wreck divers in Australia and those visiting Chuuk Lagoon in the Federated States of Micronesia, a world renowned and iconic wreck diving destination. This research addresses four key questions: what are the demographic and dive experience characteristics of wreck divers, what are the motivating factors for participating in wreck diving, what are the attitudes of divers to management controls that may be put in place to protect wrecks, and are there any differences in the demographic and dive experience characteristics, motivations and attitudes between and within the two wreck diver sample groups? Data from the wreck divers were obtained using a self-completed survey questionnaire in hard copy format that was given to divers who stayed on a live aboard dive vessel in Chuuk Lagoon, and an electronic web-based survey of Australian wreck divers. The study found that wreck divers are predominantly male, middle-aged, well educated, above average income earners, and experienced divers with high levels of diver certification. They primarily visit wrecks to see marine life, historically significant sites, artifacts and to enjoy the peace and tranquility of the underwater environment. Most wreck divers considered a number of the management controls currently used to protect wrecks acceptable. Interestingly, significant differences in motivations and attitudes were found between genders and divers from Australia and North America. Research into the characteristics, motivations and attitudes of divers provides knowledge critical to reduce diver impacts and improve tourism experiences. This study has provided baseline information that may assist managers in developing more informed and robust management strategies for wreck sites, which better meet diver aspirations and also provide more effective protection of underwater cultural heritage. It has also indicated that management strategies may need to be tailored to the demographic profile and origin of divers visiting these sites. Sites with more diverse demographics may need a range of controls, while sites with one demographic may have more focused management efforts.

Keywords: scuba diving, wreck diving, underwater cultural heritage, heritage management
Coastal tourism and climate change in Hawai‘i

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Climate change impacts to Hawai‘i’s natural resources and built systems pose challenges to both the natural environment and coastal tourism. All sectors of society eventually need to adapt to these inevitable changes. Likewise, all industries need to plan for a sustainable future in the face of the predicted changes. Tourism, as one of the world largest economic sectors, is no exception. Tourism is closely linked to major industries like energy and transportation requiring visionary thinking on innovative ways to develop a more efficient and sustainable model of tourism. A Hawaii-based research initiative and tourism model recognizing opportunities for a more sustainable pathway will serve as a model to the international tourism sector. In 2014, in response to climate change impact concerns from local industry the University of Hawai‘i Sea Grant College Program (UH Sea Grant) developed a series of climate Change Impact assessments and stakeholder workshops. In many regions of the world tourism represents the major economic resource. In these areas tourism is frequently an integral part of the community, as well as the chief generator of employment. Hawai‘i is one of these regions that need to plan for a new, sustainable and innovative future to survive the change. The new report series, titled Climate Change Impacts in Hawai‘i: A summary of climate change and its impacts to Hawai‘i’s ecosystems and communities, and the companion document Stakeholder Outreach Workshop Summaries and Risk Perception Analysis were both produced with funding from the Hawaii Tourism Authority. These efforts help to answer questions about climate-related impacts to Hawaii. By answering fundamental questions of climate-related impacts, UH Sea Grant and the Hawaii Tourism Authority are striving to improve the general understanding of climate change and its associated impacts, which in turn will help communities be better prepared to undertake climate adaptation and mitigation efforts. This presentation will explore the evolution of Sea Grant’s research and extension work in the area of coastal/marine tourism and recreation. It will also highlight key events and environmental occurrences that helped to shape the direction and content of coastal tourism and recreation programming over time. Finally, we will discuss the recent development of a sustainable coastal tourism policy white paper (2012) that aims to position Sea Grant as the ‘go to’ organization for science-based information that enhances the local economy, improves quality of life, increases resilience, and sustains the environment in our nation’s coastal cities and towns. This presentation will "set the stage" for a series of presentations about current research and extension activities occurring throughout the Sea Grant network. These talks will demonstrate how the Sea Grant model assists coastal communities develop and enhance their tourism potential in a sustainable, environmentally-friendly, and resilient manner.

Keywords: marine extension, sustainable coastal tourism, community resilience, Sea Grant
Understanding the Sea Grant model to enhance the tourism potential of coastal communities

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The mission of the National Sea Grant College Program is to provide applied research, extension, and education to help enhance the understanding and wise use of our nation’s coasts and Great Lakes to benefit the citizens of the United States. There are 33 university-based programs across the nation addressing important coastal and marine issues at the local level. Research and extension activity on coastal tourism and recreation issues, and their impact on coastal ecosystems, has been a vital component of Sea Grant during its 50 year history. Understanding the Sea Grant model of – research, extension and education – can be invaluable to others who work with coastal communities on tourism-related issues and concerns. Historically, Sea Grant’s initial interest was through its research and extension efforts centered on traditional commercial fisheries. In its early years the program was often referred to as “Fish Grant” due to the preponderance of funding that was directed to fisheries efforts. But, during the early to mid-1970’s a shift occurred to begin supporting research/extension on sport fishing, recreational boating and other coastal tourism and recreational activities. This was due in part to the passage of the Coastal Zone Management Act (1972) which focused attention to all forms of activities occurring in our nation’s coastal settings and required multi-use management actions by states and the federal government. In addition, academic programs were emerging at colleges and universities that began training students in the social sciences in addition to the physical sciences. New programs focused on training students in the field of coastal resource management, which necessitated coursework in law, economics, sociology, tourism, and the new field of human dimensions. As the new breed of social scientists and their students gained a better understanding of recreational and tourism user groups and the issues and challenges they faced, state Sea Grant programs ultimately began supporting these new areas of investment other than commercial fisheries. Also, during this period new extension agents and specialists trained in the social sciences and resource management fields were being hired at state programs to help transfer the research and identify new research questions to study. This presentation will explore the evolution of Sea Grant’s research and extension work in the area of coastal/marine tourism and recreation. It will also highlight key events and environmental occurrences that helped to shape the direction and content of coastal tourism and recreation programming over time. Finally, we will discuss the recent development of a sustainable coastal tourism policy white paper (2012) that aims to position Sea Grant as the ‘go to’ organization for science-based information that enhances the local economy, improves quality of life, increases resilience, and sustains the environment in our nation’s coastal cities and towns. This presentation will “set the stage” for a series of presentations about current research and extension activities occurring throughout the Sea Grant network. These talks will demonstrate how the Sea Grant model assists coastal communities develop and enhance their tourism potential in a sustainable, environmentally-friendly, and resilient manner.

Keywords: marine extension, sustainable coastal tourism, community resilience, Sea Grant
Replicating success: A comparative study of Nevisian marine management and Bonaire National Marine Park

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Coral reefs have been coined the “jeweled belt” of our planet (Weeks, 2014) – beautifully diverse, shockingly fragile ecosystems on which coastal communities worldwide rely. St. Kitts and Nevis, a nation spanning two volcanic islands in the Lesser Antilles of the northern Caribbean, depends heavily on its coral reefs and coastal environment for sustenance, job security and millions of dollars in annual tourism revenue, yet in recent years, a decline in reef health has begun to threaten marine recreation, diving and fishing on the islands (Bruckner, 2011). As a nation, St. Kitts and Nevis must quickly begin to manage its coasts and waters, or watch its main cultural and economic sectors decline. In similarity with St. Kitts and Nevis, the island of Bonaire depends on its coral reefs to draw tourists to its shores. Both countries’ economies rely heavily on tourism revenue to sustain themselves, yet Bonaire’s exemplary marine management practices, fueled by the tourists themselves, have resulted in highly sustainable marine ecosystems and marine tourism industry. Bonaire’s marine zoning system, comprised of marine reserves and marine parks, is one of the most stringent and highly regarded systems of marine management in the Caribbean, and Bonaire National Marine Park, a 27-square-kilometer protected area, is funded entirely by user fees (10- and 25-dollar tag fees). The STINAPA National Parks Foundation, which runs the marine park, also runs extensive education and outreach programs to strengthen their impact. The question is raised whether or not a similar system could be replicated on other Caribbean islands, such as St. Kitts and Nevis, and if similar conservation and tourism successes would result. This study began with the collection of twenty-eight interviews from local Nevisians, all of whom work directly for a marine-related industry, are involved with marine conservation efforts on Nevis, or are highly affected by marine policy and the health of Nevisian marine areas. Following these interviews and quantitative data collection on Nevis, an analysis of Bonaire National Marine Park was conducted. Interviews with former and current Park Directors and Park leaders were held, and the potential for marine park replication on smaller islands was discussed. The leaders of Bonaire were asked to consider what aspects of their marine park could be successfully replicated throughout the Caribbean. Findings suggest several key components that are crucial for successful marine park management and strengthened marine tourism, including strong educational programs, outreach initiatives and monitoring practices. While many aspects of Bonaire National Marine Park could successfully be replicated on St. Kitts and Nevis, findings also highlight how cultural aspects of a country must be factored into a marine management plan, emphasizing the difficulties of replicating a successful marine management system in a new location, however similar the two locations may be.

Keywords: Caribbean, marine, management, culture, reef
Exploring visitor experiences: Introducing pictures as a visitor monitoring tool in outdoor recreation management

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Visitor monitoring is an invaluable tool and source of information in recreation planning and management (Kajala et al. 2007). Traditionally, these monitoring activities involve quantitative based investigations on visitor numbers, profiles and spatial behavior, while the monitoring of visitor experiences rarely is prioritized. This is problematic, especially because recreation management includes managing both material and symbolic landscapes (Greider & Garkovich 1994). To solve this challenge, a growing number of researchers have announced that qualitative based monitoring methods should be introduced into recreation management (Wynveen et al. 2012). In this case, picture studies have been suggested as an interesting method strategy to use, as pictures often work as visual symbols of important experiences (e.g. Tonge et al. 2013). The main aim and contribution of the paper is to investigate how picture studies can be applied as a qualitative based monitoring strategy in recreation management in order to study what visitors consider to be important experience values and qualities. To support this aim, a case study from Sweden is introduced, where a purposive sampling strategy was used to recruit 41 participants based on the most frequent visitor groups in the case area. The task given to the 41 participants was to take a maximum of 25 pictures during an agreed period of time and to also fill out a photo logbook and participate in a follow-up interview. Additionally, an important aspect was to test smart phones use when taking pictures. All together, this gave the paper a somewhat experimental-methodological character. The results show that visitors tend to focus on six different categories of experience values and qualities: natural elements, social situations, cultural environments, recreational activities, emotional reactions and disturbing factors. These categories are supported by photos and statements provided by the participants. Furthermore, in terms of management implications, the results also show that the application of the method first and foremost requires social science competences. The management implications are included in the discussion, which also evaluates on pros and cons concerning the method approach. The main conclusion is that picture studies not only can be used as a valid strategy to monitor and study visitor experiences, but that it is also realistic in its application. It is therefore important that future research continues with the development of visual methods in recreation management, including a focus on the growing potential in new technology.

Keywords: outdoor recreation, pictures, monitoring, management, coast
Tourist health and safety in coastal volcanic environments

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Despite the potential risk to human life, volcanic activity in coastal and marine environments has become a popular attraction for tourists (Heggie, 2009). One such example is the ongoing eruption of Kilauea Volcano and the Pu’u O’o Vent in and around Hawaii Volcanoes National Park, where tourists and other spectators regularly gather to view and walk to active lava flows and locations where lava is entering the ocean (Heggie, 2005). This activity often requires tourists to hike distances over sharp and rugged basaltic terrain underlined by unseen lava tubes while exposing themselves to dense volcanic fumes, scorching heat from active lava flows, frequent coastal bench collapses and hydrochloric acid steam explosions resulting from lava interacting with ocean salt water (Heggie, 2010; Heggie et. al, 2009). This study reviews the occurrence and severity of fatalities, injuries, and illnesses along volcanically active coastal areas in Hawaii Volcanoes National Park. A retrospective analysis was conducted to analyze 470 reported incidents in Hawaii Volcanoes National Park where tourists were either found injured, ill, or dead along volcanically active coastlines. Each incident was classified as a fatality, severe incident, or minor incident. In addition, the primary and secondary contributing factors for each incident were tabulated. The analysis identified two fatalities near the point lava enters the ocean, 218 severe injuries requiring medical attention, and 250 minor injuries. Pulmonary edema resulting from the inhalation of volcanic fumes was the cause of the two fatalities while respiratory irritation, thermal burns from lava and heat ocean water, heat stroke / heat exhaustion, lacerations, and broken bones were the most common severe incidents. Scrapes and abrasions, general muscle sprains and strains, eye irritation, dehydration, and sunburns were the most common minor incidents. Statistical analysis found a general lack of experience in the conditions, a lack of preparedness and knowledge, and pre-existing health conditions, and the natural environment to be significant contributing factors. No baseline visitation data was available to the study but the findings show that severe and even fatal incidents in volcanically active coastal environments do occur. Hawaii Volcanoes National Park is the top tourist attraction on the Big Island of Hawaii. In order for the park and other Hawaii County and State authorities to sustain the safest conditions possible, it is recommended that health and safety information be made available to tourists on-line prior to them arriving in Hawaii. The same information and updated conditions can be provided on-line and via a free telephone hotline once the visitors arrive in Hawaii.

Keywords: Volcano tourism, health, safety, risk management.
Vessel traffic management planning for urban rivers and marinas, Melbourne Australia

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The Yarra River, in Melbourne Australia is a small but important waterway that connects the city to the Port of Melbourne and Port Phillip Bay. The waterway is evolving rapidly as much of the old industrial port is being transferred to urban commercial and residential land uses. The scope of the transformation is significant as represented by “The Docklands” precinct which essentially is an extension of Melbourne’s urban core with new residential, business, and recreational land uses in Victoria Harbour and the banks of the Yarra River. The dramatic changes in the Yarra River and Victoria Harbour are dramatic, including the introduction of over 1000 new marina berths, commercial ferry services, floating restaurants, river tour boats, sailing, dragon boat, rowing and canoe clubs and private recreational motorised boating. Where the land based uses such as residential and commercial development has been well planned, the development of marinas, especially in Victoria Harbour has been more complex as competing interests have established themselves through a maze of different jurisdictions including the City of Melbourne, Parks Victoria (the waterway manager), VicUrban (the state planning authority), and three different developers responsible for three development precincts. The problem is social and economic cast in both spatial and temporal dimensions. The problem for the Melbourne Waterways Committee is how to characterise the problem, how to frame the issues so they could be resolved in a logical consistent fashion considering all stake holders, and how to develop a vessel traffic management plan that would be responsive to changes over time. This paper describes a method for vessel traffic management planning that uses social/behavioural science techniques combined with geographic planning methods for characterising the goals, objectives, environmental and safety requirements of competing user groups and casting their waterway use into a spatial and temporal framework that allows a logical basis for identifying and resolving conflicts between recreational and commercial waterway uses with marina layout and planning. Methods include: identification of stakeholders; face to face user interviews including regulatory authorities; site level observations of waterway use; construction of a shoreline development plan; a review of pre-existing planning and development agreements; development of a map delimiting the “minimum requirements” for small boat sailing; dragon boats and outrigger canoe clubs in Victoria Harbour; an understanding of Australian Standards for marina design; focus groups to review issues and develop management alternatives; and the development of a vessel traffic management plan which includes limits to marina development and layout. Viewing the problem of vessel traffic management as a complex social/spatial/temporal issue rather than simply an engineering approach for laying out marinas and managing traffic allows for a more complete understanding of the problem, a systematic way of identifying issues, and a logical way of accommodating competing interests in a rapidly evolving urban waterway.

Keywords: vessel traffic management, marina planning, urban rivers, social science approaches
Coastal community, tourism development, risk, and vulnerability to tsunami disaster: The case of Khao Lak area in Phang-nga Province, Thailand

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In the past 20 years, several Andaman coastal areas in Phang-nga province with fishing villages and para rubber plantations have been developed into tourism sites. Among these sites, Khao Lak, an area with fishing villages and local agricultural lands has gain popularity with both domestic and foreign tourists, and the pre-tsunami expansion of tourism service areas was very rapid. After it was severely affected by the December 26, 2004 tsunami disaster, the area was selected as a case study to develop adaptive guidelines to assess coastal community risk and vulnerability in an attempt to mitigate future tsunami impact and other coastal hazards. An integrated approach incorporating both physical science and the socio/cultural/economic dimension was adopted in the research. Three regions consisting 4 subdistricts and 30 villages representing coastal communities with different social and economic structures were examined, but this paper only focused on Khao Lak, 123 square kilometers in Khuk Khak municipality, Phang-nga Province. Seven physical parameters (including land elevation, slope, land cover, soil erodibility, distance from shoreline, beach type, and presence of coral reefs) and eleven socio-economic parameters (population structure (population density, gender, age, and disability), education level, household income, occupation, presence of disaster warning towers, and presence of evacuation buildings and shelters such as temples/schools/mosques) were investigated. High resolution satellite images of the study site was also analyzed. Field surveys and meetings with locals were done to encourage community involvement. Subsequently, Analytic Hierarchy Processes (AHP) were applied and Multiple Criteria Decision Analysis (MCDA) was conducted to analyze the significance of each parameter using Pairwise Comparison, Weighting and Rating Processes. Subsequently, the 18 parameters were assessed using the Geographic Information System (GIS) and presented in Tsunami Hazard maps, Socio-economic Vulnerability maps, and Disaster Risk maps. In Khao Lak, seven villages were identified as highest tsunami risk areas. Among these, over half of Village 3 Ban Khuk Khak area was the area most at risk. This village is not only located directly on a low-lying long beach openly exposed to the ocean but also natural sand dune and beach forest protective features have been altered to accommodate tourism development. The frequent presence of tourists and others unfamiliar with the region also add to the area’s vulnerability. Such findings provide information that can be of value to local authorities and coastal villagers in their efforts to reduce coastal hazard impacts. Major recommendations embrace Integrated Coastal Management (ICM) principles in order to reduce the degree of the conflicts of interest among stakeholders, local vulnerability, and the socio-economic inequalities, thus promoting better local well-being and resilience. Positive socio-economic enforcement is also suggested as tools in national policies on coastal area utilization. Coastal beach forest ecosystem restoration, conservation outreach program, designation of public access routes to the beach front and set back areas, especially in high risk areas are also needed in the future planning.

Keywords: tsunami, natural hazards, tourism, community resilience, integrated coastal management
Trust thy neighbor? Perspectives on the management of Oregon’s marine areas

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Trust between citizens and agencies responsible for managing coastal and marine environments is essential for accomplishing conservation goals. The increasing designation of marine protected areas around the world, for example, necessitates examining influence and trust associated with agencies managing these resources. This study focused on Oregon’s marine areas and addressed three research questions. First, how much influence do coastal residents believe agencies and other organizations should have in managing Oregon’s marine areas? Second, how much trust do residents have in these institutions? Third, what are the relationships between these attributions of trust and influence, and are there differences among subgroups (e.g., consumptive vs. non-consumptive ocean users; tourists vs. residents)? Data were obtained from a mail survey of 596 residents of Oregon’s coast. Residents were asked how much influence 19 different agencies and organizations should have in managing Oregon’s marine areas, and how much they trusted these institutions. Based on responses, each of these 19 institutions was classified into high influence/high trust, high influence/low trust, low influence/high trust, or low influence/low trust. The largest proportions of respondents categorized the Oregon Department of Fish and Wildlife (ODFW; 73%) and US Fish and Wildlife Service (USFWS; 70%) in the high influence/high trust category. Conversely, people who fish commercially (28%) and recreate in marine areas (i.e., recreationists; 25%) were most frequently categorized as high influence/low trust, suggesting they are perceived as having influence over marine areas, but are less trustworthy. In total, 66% of respondents categorized people who do not live on the Oregon coast (i.e., nonresidents) in the low influence/low trust category, suggesting that many coastal residents thought that non-residents (e.g., tourists) should not have influence over this state’s marine areas. There were differences in these attributions between consumptive and non-consumptive ocean users. Those who participated in consumptive activities perceived greater influence and trust in anglers and other recreationists, whereas non-consumptive users were more likely to categorize scientists, environmental organizations, and government agencies as high influence/high trust (e.g., ODFW, USFWS). There was a similar result between those opposed versus in favor of the new marine reserves in Oregon. Those opposed perceived greater influence and trust in people fishing recreationally and commercially, whereas those in favor perceived greater influence and trust in scientists, environmental groups, and agencies. Similar differences were also observed between long-term residents of Oregon (30+ years) and those who have not lived in the state as long. Long-term residents had greater desired influence and trust in anglers, other recreationists, and people fishing commercially. Residents who have not lived as long in Oregon perceived more influence and trust in scientists, environmental groups, and agencies. These findings are useful for all institutions involved in managing Oregon’s marine areas. With a clearer picture of who is trusted and in what context, those involved can build trust where needed, exert appropriate influence, and anticipate conflict among stakeholders concerned with the management of coastal and marine environments. Future research will compare these findings to new data collected from non-coastal residents of Oregon.

Keywords: trust, influence, management agency, Oregon, marine reserve
Recreation, tourism and marine spatial planning in Denmark: A human-artifactual-natural system (HANS) approach

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This paper reports on the applicability of the Human-Artifactual-Natural System (HANS) framework (Miller et al. 2014) to the documentation, mapping and classification of marine and coastal tourism and recreation as part of Marine Spatial Planning in Denmark. Denmark is a small, highly populated and low-lying country dominated by agricultural land uses. The 5,000 miles of coastlines represent the most natural environment in Denmark and are highly used for outdoor recreation and tourism. In 2014, the European Union passed a Directive requiring all member states to establish Marine Spatial Planning before 2021 (European Parliament and European Council, 2014). Member states decide which sectors to include and a list of suggested sectors includes tourism but not outdoor recreation. The Directive emphasizes land-water integration, stakeholder involvement, and requires an ecosystem based approach. MSP pose a new planning challenge and is coordinated by the Danish Nature Agency. While Denmark has a well-established comprehensive spatial planning system on land implemented in 1969, the upcoming marine spatial planning represents a major new challenge for spatial planning. Inclusion of the marine recreation and tourism sector into the MSP process requires documentation and spatial mapping of these combined land-sea uses. Our project used a multi-methods approach including a crowd-source based survey and mapping engaging recreational groups, a representative national survey and mapping, GIS modelling of tourism and recreational flows and pressures on the coast in combination with mapping of the touristic and recreational ‘systems’ including both the human, artifactual and natural aspects. The applicability of the HANS framework to this process was tested in a case area in the Northern part of Zealand, approx. 30 miles north of Copenhagen. The area has 143 miles of shoreline, a population of 133,000 local residents, and annually receives 6.63 million overnight stays or one-day visits. It has a high number of second homes and commercial tourism establishments, diverse marine activities, coastal communities and artifactual icons such as the Kronborg Castle enlisted as UNESCO world heritage. The tourism sector is branding the area as the ‘Danish Riviera’. The three municipalities are already cooperating on coastal issues as the effects of a hurricane ‘Bodil’ caused severe damage to the area and a need to restore and rethink the coastal and marine uses. The experiences from the application of the HANS framework to the recreation and tourism component of MSP in the Danish case area are evaluated. Results show that the Human-Artifactual-Natural System approach provides a useful framework for identifying and classifying key assets, stakeholders, and dynamics of marine recreation and tourism and hereby facilitates the inclusion of these sectors into marine spatial planning.

Keywords: marine spatial planning, human-artifactual-natural system, recreation, tourism, Denmark
The politics of activism related to the cruise industry and cruise tourism

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Based on analysis of case studies this paper adds to the literature on social and political challenges to the development of cruise tourism, building most directly on Klein’s (2007) study of activism around environmental issues and factors influencing success and failure of the challengers and of the industry. In this study, nine cases where grassroots groups have challenged the development and expansion of cruise tourism in their locale are identified; each commenced in 2005 or later and all but one continue in 2015. Two of these groups were involved in environmental activism and included in the previous study. The case studies include: Save Our Spit (Gold Coast, Australia), Stop Cruise Ship Pollution (Sydney, Australia), No Grandi Navi (Venice, Italy), Last Stand (Key West, USA), Charleston Communities for Cruise Control (Charleston, USA), No Mass Cruise Ship Tourism in Southern Belize (Placencia, Belize), James Bay Neighbourhood Association (Victoria, CANADA), Responsible Cruising in Alaska (Juneau, USA), and KAHEA: The Native Hawaiian Environmental Alliance (Honolulu, USA). Data for case studies is gathered from media sources, from key actors involved in each associations or organization, and through the author’s participation with each of the groups. Each case is described and then analyzed with a view toward identifying elements internal to each case and elements or themes that cut across cases. The analysis of case studies will in this regard identify factors related to success of the challenge to the cruise industry (such is the case twice in a decade with Save Our Spit) and will also look factors that are related to failure to succeed (such as the five year battle over construction of a cruise terminal in Charleston, South Carolina). It clearly distinguishes three types of factors: factors related to the nature and constituents of the challenger, factors related to the cruise industry (including mobilization of diverse allies), and factors related to the political and social dynamics separate from either the challenger or the cruise industry. The study finds that groups with a broad base of supporters and a strong centralized coordination have the best chance of success in challenging the cruise industry, however this success may be mediated by the breadth and depth of allies mustered by the industry. Organizations that fail to coordinate its constituents are less likely to succeed. As well, organizations that base their confrontation on science and on sound research (such as James Bay Neighbourhood Association and Save Our Spit) increase their stature and their likelihood of success. These findings will be of interest to both activists and cruise industry insiders, and will also interest students and researchers of cruise tourism and the cruise industry. It also adds to a base of knowledge about the success and failure of activism in relation to the cruise industry.

Keywords: cruise industry, cruise tourism, social activism, political activism, marine tourism
Barriers for sustainable consumption of antifouling products in the Baltic Sea

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The purpose of this paper is to identify the main barriers of sustainable consumption of antifouling products by studying consumer, marina and producer/selling practices in the Baltic Sea. Around 3.5 million leisure boats in the Baltic Sea use coastal areas for recreational boating. A great majority of these boats use toxic compounds such as copper to prevent fouling organisms like barnacles and mussels to attach to the boat hull. Today the most present metal component in antifouling products is copper, which is known to be harmful to most organisms including humans. Marine biologists have examined the effects of copper and discovered that Cu-ions (copper) in the sea are problematic to crustaceans and fish at very low level as they interfere with their olfactory sense, which is necessary for these creatures to find nourishment (Baldin et al, 2003; McIntyre et al, 2012; Beyers et al, 2001). On the market for antifouling there is a wide range of alternative products available like brush wash for boats, hand scrubbing devices, hull covers and boat lifts. Even though painting the boat hull includes a lot of work (scrap off old paint layers, grinding and painting) and furthermore boat owners are exposed to toxic paint, painting is still predominant in the antifouling market. Environmental psychology has concentrated on developing models of human behavior, including the main factors that influence pro-environmental behavior. The main focus of these models was directed to the individual's attitudes, principals and beliefs. However, social practice theory emphasizes the importance to study practices, as they have a stronger explanatory power than attitude-behavior as attitudes can change easily (Shove, 2010). Reckwitz (2002:250) defines practice as: a routinized type of behavior which consists of several elements, interconnected to one and another. This study focuses on the social and cultural embeddedness of practices and its interdependencies with institutional and political frameworks. Phenomenological interviews were conducted with boat owners using antifouling products such as paints and alternative methods. In addition to that in-depth interviews with producer and seller of alternative antifouling techniques were undertaken as well with board members of marinas. This data collection was supplemented with observations in marinas. The data collection is not enclosed now, there will be some further interviews. Preliminary results indicate that different factors have an impact on the consumption of antifouling products such as costs, traditions, advertising, frequency of use, marinas, application of method. Marinas have a big influence on the consumption of antifouling goods as for example several marinas in Stockholm area subsidize costs for using environmental friendly alternatives or even forbid toxic paints. This study contributes to broader understanding of factors influencing sustainable consumption of antifouling products by studying practices instead of attitudes and furthermore provides a new perspective on looking at environmental issues in the marine environment.

Keywords: sustainable consumption, antifouling, practice-approach, Baltic Sea
A motivation-based typology for natural event viewers: The case of the Pacific salmon run in British Columbia, Canada

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Natural events are events not organized by man that occur in a specific place and at a specific time, lasting from a few seconds to a few weeks. An understanding of natural event tourism and specifically the tourists is hampered by the lack of data about current and prospective visitors to these events, which hinders effective marketing and holds back development efforts. The issue is further complicated by the fact that different visitors to these events may have different expectations of their natural event experience. This research covers a marine event, one of the biggest salmon runs in the world on the Adams River in British Columbia, Canada. Every year in October millions of fish swim to an area 400 kilometers upstream, returning from a journey that took them out into the ocean back to the exact spot where they were born, to spawn and die. The purpose of the research was to identify viable target markets at the salmon run and we segmented the markets according to their motives to witness the natural phenomenon. As this was a quantitative study, a structured questionnaire was used to collect the data at the Roderick Haig-Brown Provincial Park over the peak weekends of the Festival. A total of 400 questionnaires were administered and 395 usable questionnaires were included in the analysis. The statistical analysis was done in three stages: two factor analyses (of memorable experience factors and visitors’ motives for viewing the salmon), a cluster analysis based on visitors’ motivational factors, and an analysis of significant differences between different market segments of salmon viewing visitors. The cluster analyses gave us a typology of viewers, which we labeled Novelists, Naturalists, Enthusiasts and Escapists. The four clusters differed according to their spending behaviour and the factors they regards as important for a memorable experience. The results provide a motivation-based typology of natural event viewers, as it is likely that these four types of motivational clusters of visitors will be present at natural events and other nature-based experiences, thereby filling a gap in the current tourism literature. Our results furthermore show that such clustering is a useful research tool for producing a clear visitor profile. It enabled us to provide strategic insights for managing the salmon run viewing experience, and similar natural events, according to the preferences of specific market segments. Our study fills a gap in the current literature on this topic and offers park managers and marketers some ideas for improving visitors’ experience and thus encouraging return visits.

Keywords: motivation-based visitor typology, marine tourism, salmon run, British Columbia, Canada
Projections of surf quality with climate change

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Climate change effects on coastlines are expected to impact humans’ ability to recreate. We used this theory to drive our questions of surf quality as assessed by surfers at a unique surf spot in Hilo, Hawai‘i; Honoli‘i Bay. Reliance of tourism on Hawaii’s beaches is commonly publicized, yet the importance of beaches and in particular, ocean recreation activities such as fishing, diving, paddling, and surfing, to residents and native Hawaiians are rarely discussed. Ocean observers, those with daily, direct contact with the seascape, mentally model the changes, both social and physical, they perceive. By interviewing ocean observers, surfers in particular, we can gain a better understanding of what they consider suitable surfing conditions and how climate change may impact their surfing quality. We addressed four research questions; (1) are surfers in Hilo a heterogenous population (2) what constitutes preferred surfing conditions (3) what have surfers witnessed over time (socially and physically), and (4) how are climate change predictions likely to influence their surf quality (socially and physically). We administered a survey to 102 surfers at Honoli‘i, and follow-up interviews with select individuals, to understand surfer demographics, place dependence, and predictions about past and future surf quality. Evaluation of the survey concluded surfers at Honoli‘i could not be classified using traditional recreational specialization or leisure science indices as all surfers tended to have high centrality to surfing and identity associated with Honoli‘i. Physical surf quality descriptions were found to be homogeneous (swells out of the ENE, offshore winds 0-10 mph), yet social surf quality was harder to identify. Overall, no trend in surf quality was evident over the last 20 years, even though climate change variables that impact surf have clearly shown decreasing trends. When presented with forecasts of a range of weather and climate predictions, surfers generally expect no change in surf quality due to decreasing streamflow, sea level rise, and the likelihood of drier days. A decrease in surf quality was forecasted due to decreasing trade wind days and strength, and decreased wave heights. An increase in surf quality is expected as the frequency of extreme events (rainfall, wave heights, and intense hurricanes) may increase. Surf quality, both the social and physical components of surfing, are evaluated as a component of the surf culture of a place. The quality of the physical wave is only part of the overall surfing experience; people will continue to surf in mediocre wave conditions. When surfers assessed historical surf quality, their recollections included not only the physical conditions, but the social conditions they remembered such as surf sessions with friends. These social conditions of past surf events are as important to surf quality as the physical conditions of a wave breaking. We found that people’s dependence on place provide them with the resiliency to adapt to future coastal conditions allowing their preferred surfing recreation to persist.

Keywords: surfing, climate change, hawaii, surf quality, recreation
Path to manta protection in the State of Hawaii

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Manta conservation is an important topic, especially since March 2013 when manta rays were listed on Appendix II at the Convention on International Trade of Endangered Species (CITES) in Bangkok. Global conservation measures may stop manta extinction in areas where manta fisheries occur, but manta conservation efforts also exist in areas of manta tourism. Kona, Hawaii is one of the best places in the world to observe manta rays in the wild on scuba diving or snorkeling tours at night. Underwater lights attract plankton and plankton attracts manta rays. Keller Laros, co-founder of Manta Pacific Research Foundation (MPRF), has been keeping track of the Kona rays since 1991 and with a dedicated group of people, worked toward manta ray protection in the State of Hawaii. As a PADI Scuba Instructor and manta dive guide with Jack’s Diving Locker, Laros started a catalog of the local manta ray population in 1991 using the spot patterns on the manta’s ventral sides. After a decade of collecting sighting data, Laros created Manta Pacific Research Foundation, a 501 (c)(3) non-profit organization dedicated to research, education, and conservation concerning manta rays and the marine environment. In 2002, a growing demand for dried manta gills in Asian markets led to manta rays being fished aggressively throughout the Pacific. Fearful that the Kona manta population had no protection, Manta Pacific Research Foundation embarked on a journey to protect the rays in Hawaii. In 2003, the organization started with an entity called the West Hawaii Fisheries Council, a group of stakeholders in the Kona community with the ability to formulate recommendations to state regulatory agencies on local fishery issues. Finding the penalties too lenient, Manta Pacific shifted to state lawmakers by contacting local representatives in the House and Senate. With unrelenting commitment from 2003 to 2009, Laros and MPRF paved the way to manta protection in the State of Hawaii by submitting 5600 signatures in support of manta protection, providing testimony in-person during committee sessions at the state capitol, submitting testimony in writing from supporters, and presenting hand-drawn illustrations from school children. Local television news personalities were invited to snorkel with manta rays and they became instant advocates. They broadcasted the story on local news programs and this helped to raise awareness. With additional scientific data and support from manta researchers from University of Hawaii, Tim Clark and Mark Deakos, lawmakers were convinced that a proactive approach to protect manta rays was crucial. On June 5, 2009, the Governor of the State of Hawaii signed Act 092(09) making it illegal to kill or capture manta rays in Hawaii. Penalties include up to a $10,000 fine and forfeiture of any manta rays, commercial marine license, vessel, and fishing equipment. Laros shares his experience and gives insight to the path of manta protection in a more localized arena. He offers three take-away tools that may be helpful to those involved in marine tourism that seek to protect a marine wildlife species.

Keywords: manta protection, manta rays, Kona, Hawaii
The manta naturalist course for manta tour guides and operators

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Marine tourism on the Kona coast of the island of Hawaii is key to the local economy. One activity that sets Kona apart from other worldwide tourist destinations is the opportunity to observe one of the largest animals in the ocean – the manta ray. Manta excursions originated in the 1980’s when scuba diving operators took certified divers on underwater tours at night to view mantas. The divers’ lights attracted plankton and the plankton attracted manta rays. With wingspans up to twelve feet across, manta rays would glide, pivot, or somersault above the divers. Popularity in this tour grew rapidly. For over two decades, the Kona Manta Ray Night Dive was primarily an activity for scuba divers. From 2007 to 2012, changes occurred in the manta tour industry. The overall numbers of boats, divers, snorkelers, and mantas increased, however, the most significant change was the increase in snorkelers and this caused problems at the manta site. In the fall of 2012, the United States Coast Guard and officials from the State of Hawaii Department of Land and Natural Resources mandated operators to create standards of best practices for the safety of mantas, the environment, and the people on the manta night tours. Keller and Wendy Laros of Manta Pacific Research Foundation led a working group of operators to produce a more comprehensive code of conduct. The Manta Tour Operator Standards are now available for all users. Today, over 30 manta tour operators conduct manta trips throughout the year and that number is growing. In recent months, the Makako Bay site had 45 mantas, 22 boats, and 250 people. Annually, up to 50,000 people participate in manta tours and approximately 200 guides are employed in the industry. Manta tour guides act as authorities about manta rays while conducting nightly tours, however, there was no official course for these guides. To fill this need, Wendy Laros designed, developed, and implemented the Manta Naturalist Course for Manta Tour Guides and Operators as her master’s project through the College of Education at University of Hawaii, Manoa. The purpose of this instructional design project was to develop and evaluate the manta naturalist course offered through the community college in Kona, Hawaii. The goals of the Manta Naturalist course are to expand the students’ basic knowledge of manta rays, create awareness of manta ray research and conservation, and to familiarize students with the Manta Tour Operator Standards. Students also create and practice an interpretive educational briefing. Ultimately, students transfer the knowledge and skills to the workforce when conducting manta tours so the experience of their guests is enhanced and the Manta Tour Operator standards are followed. Keller Laros, founder of Manta Pacific Research Foundation, was the guest speaker. The course was delivered with success in February 2015 and scheduled for September 2015 through Hawaii Community College, Office of Continuing Education and Training. Certificates of completion are issued through the college and eligible students receive workforce training funds through the State of Hawaii and their employers.

Keywords: naturalist course, Manta rays, Kona, Hawaii, scuba diving, snorkeling
The effects of U.S.-Cuba normalization efforts on travel motivations to Cuba

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Cuba is located in the “most tourism-penetrated” area in the world, the Caribbean Sea, and expected to become a major player in Caribbean tourism when travel restrictions are lifted. To prepare for the influx of future American tourists, the emerging Cuban tourism industry needs to understand their motivations for visiting Cuba. This study explored American visitors’ motivations for visiting Cuba before and after the current normalization efforts. Destination images have been identified “as influential ‘pull’ factors in destination choice” (Prayag, 2010, p. 3). Gartner (1993) argued that the affective component of image “is related to the motives one has for destination selection” (p. 196) and “takes place when the choice set of destination is considered (p. 196). Using the “images as pull factors” premise (Prayag, 2010), the “affective image component” (Gartner, 1993) leading to selection of Cuba as a destination was explored. Pull factors for nine participants in professional delegation to Cuba in January 2013 were examined. Semi-structured interviews were conducted via Skype prior to the trip. In May 2015, follow-up semi-structured interviews were conducted to examine 2013 Cuba trip participants’ motivation for revisiting Cuba after their trip in 2013. Two independent researchers transcribed interviews verbatim, coded data, and identified emergent themes. During the pre-trip interviews, participants identified four main motives for traveling to Cuba: ‘intriguing place’, ‘forbidden fruit’, ‘unique/living culture’, and ‘gaining own perspective’. Perception of Cuba as an exciting place, forbidden destination, and having a unique culture were key motivators for travel to Cuba. Participants wanted to gain their own perspective (validate or discredit image portrayed by various sources) of Cuba by visiting and also hear the "locals" perspective. The follow-up interviews revealed participants intended to revisit Cuba in the future and identified three main motives for returning to Cuba: ‘independently exploring new places’, ‘revisiting natural beauty, and ‘socializing with Cubans’. Participants wanted to revisit the beautiful natural resource they had visited during their 2013 trip, but also explore new natural resources independently and ‘hang out’ with Cubans which they felt they were not allowed to do during their professional trip to Cuba. Motivation for visiting Cuba reflected a positive affective image of Cuba, which in turn influenced participants’ decision to visit and revisit Cuba. Participants revealed that due to the US-imposed restrictions on travel to Cuba, their first trip to Cuba was a rare opportunity they could not decline. They also wanted to return to Cuba. However, they felt they had to revisit Cuba to further explore Cuban natural beauty in a near future before the island becomes “Cancunized” due to the influx of American tourists once relations with Cuba are normalized.

Keywords: Cuba, Americans, travel motives, normalization
Applying a tri-modal leisure corridor to Little Cayman

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A Tri-Modal Leisure Corridor (TMLC) is a set of motorized (auto/bus – Road, Rail), non-motorized (biking, hiking, etc – Route/Path/Trail), and Nautical (paddling, sailing, boating – Rivers, Lakes, Ocean, Canals). A Linear TMLC can be Riparian (along a river or canal), or Shoreline (along a seashore or lakeshore). Loop TMLC’s can be Internal (around a lakeshore or enclosed bay) or External (around an island) (1). The TMLC model was developed originally for Lake Michigan in the US and was the focus of the Lake Michigan Trails Conference in 2012 and the Great Lakes Coastal Trails Conference in 2014. The research problem in this investigation is to determine whether the tri-modal leisure corridor model developed for a loop around Lake Michigan can be applied to a tropical island in the Caribbean. The island selected for the study is Little Cayman. Little Cayman is a small island (about 10 miles (16km) by 1 mile (2km)) with a permanent population of about 200. The focus of the tourism on Little Cayman is world-class diving and fishing. For those not diving or fishing, there are many other potential activities, and the promotion of the ring road around the island as a TMLC could be a means to serve those not on the boats. The research questions to be investigated are the following: 1. does Little Cayman possess the infrastructure and coastal access required for a tri-modal leisure loop?; and 2. is there potential demand for a tri-modal leisure corridor on Little Cayman? The researcher inventoried the 22 mile coastal loop road around Little Cayman by car and by bicycle. The inventory included coastal access, natural and cultural points of interest, and other amenities and infrastructure. The researcher also interviewed individuals in local hospitality, transport (rental cars and scooters), natural and cultural interpretation, and shore diving experts for opinions on the demand for and viability for the concept of the corridor. The field inventory revealed Little Cayman has more than 20 beach accesses suitable for shore diving, snorkeling, kayaking, and paddle boarding with no gap between accesses greater than 3 miles. There are also many existing birding overlooks, historical sites, and nature trails accessible on the loop. The road is fine for cycling and for the cars and motor scooters available for rent. Limitations include few restrooms available on the north shore, limited shelter and water, and a number of commonly used shore informal access points that are privately owned and might need to be formalized with greater use. Based upon the inventory and queries with local experts, applying the TMLC model on Little Cayman does show promise for enhancing local tourism attractions.

Keywords: coastal trails, island tourism, snorkel trails, bike trails, kayak trails
Are some leisure boats becoming mobile summer houses?

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This study addresses important knowledge gaps in understanding the social driving forces for expansion in leisure boating, with a particular focus on boat size. It tests the potential contribution of the consumer value theory (theory that deals with questions why people buy what they buy, Sheth & Newman, 1991) in the field of leisure studies for increasing understanding of leisure participants and their decisions. The main research questions of the paper, Why boaters boat and what drives boaters to strive for larger boats? is addressed through a sequential exploratory mixed research approach. This includes interviews with 50 boaters and a questionnaire answered by 151 boaters visiting the Swedish West Cost in the summers of 2012 and 2013. While questionnaires commonly accompany consumer value theory applications, qualitative interviews are rarely used. The mixed research design of this paper provides new methodological, empirical as well as theoretical insights. Conditional (growing up with boats) and epistemic (freedom to be adventurous and curious) aspects contribute to becoming fond of boating. Among control variables, as expected, financial condition, such as income, is positively correlated with the boat length. Among the emotional, social, and functional, emotional dimension of a larger boat has significant importance for wishing for it. Through expansion in size, this paper suggests that some vacation boats offer more independence and comfort and are thus becoming increasingly perceived and used as mobile summer homes. Besides the empirical, theoretical, and methodological contribution of this paper to the field of leisure studies, this study underlines the importance of understanding the driving forces behind the expansion in leisure boating and that such an understanding as that may question the current management of leisure boating. Management implications: 1. Related to an increase in size, certain larger leisure boats are becoming increasingly perceived as summer homes. 2. As boats are becoming more technically advanced, they are more and more independent from the shore. Consequently, the practices relating to these boats are also changing and being re-distributing from the land out towards the sea. This has significant management implications for dealing with environmental impacts of leisure boating. 3. The driving forces for expansion in leisure boating are not bound by any single specific location or agency. The question therefore arises whether an area based management (such as zoning), the dominating management technique in outdoor leisure management, is optimal. 4. Overall, there is a great need for an alternative, creative approach in spatial management that does not hinder the boaters’ needs for freedom, yet can still promote better boater-sea relationships.

Keywords: leisure boating, expansion, social driving forces
Tourism, community resilience and cultural ecosystem services in coastal wetland conservation in Taiwan

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Coastal wetlands are often targeted as key ecosystems for conservation, including both protection and rehabilitation, because of the wealth of ecosystem services that they have been shown to provide. Conceptually, the ecosystem services that wetlands provide include Provisioning Services (e.g., fish and wildlife habitat, and water supply), Regulating Services (e.g., storm, flood and erosion protection, water purification, and plant pollination), and Cultural Services (e.g., aesthetics and inspiration, education, recreation and tourism, and sense of place). Much of the research on ecosystem services has focused on the sustainability of provisioning services and regulatory services, with only passing acknowledgement of the cultural services that are so crucial to the economic and social wellbeing and resilience of communities. To better understand the nuances of coastal wetland tourism in supporting community wellbeing, we apply a comprehensive scale and change resilience model (Lew 2013) in communities associated with two wetland area in Taiwan. The model articulates the separate but related roles of (1) tourism business management, (2) community cultural and natural resource management, (3) community development planning, and (4) disaster and change response planning. Qualitative interviews with community leaders at Wu Wei Gang Wetland (northeast Taiwan) and Aogu Wetland (Southeast Taiwan) demonstrate that as an attraction, wetlands can hold a broad iconic image for tourists, if only because of their size and subsequent prominence in the landscape. However, in practice they perform more as a niche specialty product for bird watchers and recreational fishing enthusiasts. As such, the direct economic benefits of wetland tourism is often modest. The research findings, using the scale and change resilience model, are summarized as: (1) for some individuals the wetland provides a foundation for a meaningful tourism business (often food-related) and other tourism-related career options (such as interpretive guiding); (2) interpretive activities (education) for both local communities and tourists are a crucial part of creating buy-in and support for the successful conservation of wetland resources; (3) Government support through a variety of policy and financial mechanisms is fundamental in building local community capacity to develop entrepreneurial and interpretive activities, as well as management skills; (4) wetland regulating services can reduce the impact of the most common forms of natural disasters (typhoon flooding), leading to an over sense of confidence and a reduced preparedness for other sudden change events, though this varies among communities due to different levels of social capital and capacity building. Tourism development in association with wetland conservation is seldom significant from a purely economic standpoint. However, from ecosystem services and community resilience perspectives, wetland conservation can contribute significantly to local community wellbeing through the development of local education and skill capacities, local pride and sense of place, and environmentally sensitive changes in attitude and behavior.

Keywords: wetland conservation, community based tourism, Taiwan, community resilience, cultural ecosystem services
Community satisfaction and residents’ perceptions of coastal and marine tourism development

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This paper examines the local residents of three coastal communities on the Swedish west coast, their ideas of sustainable community development and their perceptions of the role of tourism in such development. The aim is to investigate the relationships between general ideas of sustainable community development, the attitudes towards tourism and ideas of the potential of tourism development. The study poses two research questions: How satisfied are the local residents with the place they live in and its community structure and organization? What are their attitudes towards tourism and how do they perceive the potential of tourism development as a strategy to spur sustainable community development? Traditionally, the importance of including the local population in tourism development has too often been neglected, nevertheless increasingly stressed as a key element in sustainable tourism (Eligh et al. 2002). Knowledge about how residents of a tourist destination perceive tourism is important, both as an asset and a condition in successful and sustainable tourism planning and management. This calls for more research in this field (Andereck & Nyaupane, 2011). Furthermore, in spite of the awareness of the importance of involving local residents in tourism studies, a more holistic approach is more seldom applied. Hence, in this study the aim is to analyze the relationships between residents’ perceptions of community development in a more general sense, applying the concept of community satisfaction (cf. Ko & Stewart, 2002), and their perceptions of tourism development in the community. By doing so local residents’ attitudes towards tourism is put in a wider context. Case-studies were conducted in three coastal communities on the Swedish west coast. Qualitative interviews and quantitative surveys were conducted with real estate owners (including second-home owners) in these coastal communities. Results show that the local populations perceived a high quality of life due to the uniqueness of the natural and cultural landscapes. Hence, these were assets of the local communities that made the local residents proud of being part of the community, at the same time as they expressed worries about future development and the risk of exploitation due to increased coastal and marine tourism. That is, at the same time as the majority of local residents welcomed tourism development. Nevertheless, preliminary results also indicate variations within the group and, hence in spite of relative consensus, several sub-categories of community satisfaction and perception of tourism development emerged. A more holistic approach to understanding resident attitudes to tourism development, including the concept of community satisfaction, would improve destination management in small coastal communities highly dependent on the development of sustainable coastal and marine tourism activities.

Keywords: resident attitudes, tourism development, sustainability, coastal and marine tourism
Pre-trip expectations and post-trip satisfaction with interpretation information on marine tours in Hawaii

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As the popularity of tourism and recreation in coastal and marine environments such as Hawaii’s MLCDs continues to grow, developing strategies to mitigate adverse environmental (e.g., trampling reefs) and social (e.g., crowding) impacts is paramount to maintaining the integrity of natural resources, quality of experiences, and sustainability of economic benefits. Recreationist behaviors such as standing on coral, feeding fish, harassing marine life, or removing natural artifacts have direct impacts on the ecological and economic sustainability of marine sites. Routinely, visitor management strategies in natural settings focus on regulatory, physical and economic approaches that emphasize ‘hardening’ a site and controlling visitor. Despite the merit of such management strategies, these approaches require enforcement, can be costly, can generate a negative connotation to visitors, and permanently alter the natural setting. Moreover, these strategies fail to recognize that most impacts are not due to malicious acts, but primarily result from lack of knowledge, skill and insensitivity to the consequences of an individual’s actions. As an alternative option, environmental interpretation is an effective visitor management strategy that encourages visitors to adopt site-specific conservation intentions and behaviors, while increasing understanding and awareness. Previous research in the field of interpretation has focused on behavior change through attitudes and social norms with limited success.

The overall goal of this research is to reframe interpretation within the norm activation model by examining marine recreation users’ educational expectations, levels of satisfaction, and how satisfaction correlates to a specific part of the model to encourage pro-environmental behaviors. The norm activation model posits that personal norms to engage in pro-environmental behaviors are activated by four situational concepts: problem awareness, ascription of responsibility, outcome efficacy and ability. Previous studies applying the norm activation model to recreation/tourism have demonstrated promising results. In this study, recreationalists at the Molokini Shoal Marine Life Conservation District in Hawai’i were found to have relatively high pre-trip educational expectations, but expressed post-trip dissatisfaction with their educational experience. Results showed that recreationalists who had their learning expectations met had higher levels of problem awareness and were more likely to ascribe responsibility for their actions than those that did not. These results suggest interpretation is both desired by recreationalists and can promote on-site pro-environmental behavior. This research provides further support for the norm activation model in tourism and the potential of focusing on activating personal norms as a strong predictor variable for influencing site-specific pro-environmental behavior in recreationalists. Further research is needed to improve our understanding of environmental responsibility, and support more effective visitor management strategies that avoid impacts in tourism destinations.

Keywords: education, norm activation, marine, recreation
The interpretation anatomy of swim-with-dolphin tours: A case study of Kaikoura, New Zealand

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With continuing growth of the tourism industry over the past decades there has been a change in tourist behaviour, with a shift from the traditional stereotypical 3-S tourist (sun, sand, sex) to an increasingly sophisticated and demanding tourist. These "new" tourists want to learn about history, nature, and wildlife. The early 1990s saw the emergence of interpretation experiences on marine mammal tours. Forestell and Kaufman’s (1990) and Forestell’s (1991, 1993) work was the basis for the development of enhanced models, such as Orams’ proposal for and effective interpretation programme (1994, 1996, 1997). From a customer perspective, the demand for interpretive experiences and education on marine wildlife tours has increased as well. Research showed that tourists even expect an educational component on marine wildlife tours (Lück, 2003, 2015). A recent study by Hrycik and Forestell (2013) on whale watching tours in Massachusetts indicated that types of tourist questions vary, depending on the actual phase of the tour (pre-contact, contact, post-contact) they are being asked. This study looks at the satisfaction with the interpretive experience, and which phases of the tours are used for the provision of interpretation. It investigated swim-with-dolphin tours in Kaikoura, New Zealand with regards to the educational content and the overall anatomy of these tours. Paper-and-pen questionnaires included closed-ended questions in Likert-type scale format, and open-ended questions. An Importance-Performance Analysis was employed to elicit information about the on-tour educational programme. Empirical thematic analysis was used for the qualitative data, stemming from the open-ended questions of the survey. Using an inductive approach, responses were manually coded, and concepts and themes were drawn in concept maps. Finally, structured on-tour observations provided details on the temporal aspects and content of interpretation provided by the tour staff. The demographic profile of the participants in this study is similar to those of previous studies on marine mammal tours. Respondents show high satisfaction with the educational components. However, they also reveal that there is room for improvement, by indicating what they would have liked to learn about, in addition to the information already provided by the guides. In particular, themes involving the human’s affective domain were of importance to respondents, and reinforce Orams’ (1997) model. In terms of the anatomy of the tour, it was clear that in contrast to common marine wildlife watching tours, the important contact-phase is not suitable for interpretation. This is due to the fact that tour participants are in the water, and interpretation is impossible. However, the surveyed tour operator has a structured interpretation programme in place, which extends over the other phases of the tour. Given that there is a match between the proposed models and the tourists’ learning desires, it is prudent that marine mammal tour operators develop interpretation programmes based on these models to achieve both effective interpretation programmes and tourist satisfaction. On-tour observations indicate that the surveyed tours display a structured approach to interpretation, which is customised to the specific tour anatomy of a “swim-with” tour, as opposed to a “watch only” tour.

Keywords: dolphin tours, interpretation, education, wildlife tourism, New Zealand
From 'fringe' to 'core': Contemplating surfing’s (potential) contribution to sustainable tourism and development (in Africa)

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The 2015 Africa Integrated Maritime Strategy (AIM) provisions cite surfing as a (tourism) development vector for that continent. This paper commences with a brief exploration of the AIM provisions. It then contextualises this prima facie surprising elevation of the status of surfing into an African Union policy document on the development of an entire continent, by briefly considering a) the historical socio-economic space inhabited by surfing/ surfers (i.e. the ‘fringe’), and then b) contrasting same with post-millennium case studies of how surfing and surfers have become central actors (i.e. the ‘core’) in the environmental, commercial (e.g. tourism) and social development (especially coastal) spheres. Examples here include: a co-operative initiative between regional academic scientists, municipal government and local surfers in formulating the structures and goodwill for a ‘less-than-marine protected area’ (MPA) surf ‘reserve’ at an internationally renowned African surf mecca; a local case study in which surfers contribute environmental commentary/ activism in relation to a commercial aquaculture pilot; a case study of where surfing is co-opted for mainstream travel-related financial product marketing; and a new mainstream (non-cult) cinematic film which situates surfing as a vehicle for problem-solving human relationship dynamics in modern communities (and the self-actualisation of a modern single mother). In all cases surfers/ surfing appear or are portrayed as hero’s/ heroic, actualising mainstream personal and global human needs/ concerns that extend far beyond the activity itself, and in some instances appearing as touchstones of ethical, moral and value-driven pro-activity. The implication of the above is that there is a ‘new surfing’ which still pays homage to its origins, long-standing traditions and mythology, but has evolved and is re-situating itself, leveraging (and being leveraged for?) its powerful core ethos and iconic appeal to serve modern and future, local and global, concerns impacting surfers and non-surfers alike. Threats to surfing, such as surf rage & ‘localism’, are from this perspective contextualised as extreme and ‘fringe’ and require to be revisited, as these now have a further impact beyond the activity or the individual surfer, potentially undermining the arguably valuable, core economic (tourism) and activist (stewardship) roles that surfing, as suggested by the above case studies, plays in current social and environmental (coastal) development discourse. It is suggested that the finding of this shift in the ‘location’ of surfing in our (African) scientific, socio-economic and cultural spaces, from past ‘fringe’ to post-millennium ‘core’, may be usefully extrapolated to the examination of potentials and pitfalls of other recreational coastal activities in the context of the development of coastal tourism.

Keywords: surfing, sustainable development, history & heritage, policy/ governance/ stewardship, social & environmental impacts
Coastal tourism community adaptation: Toward the teaching of resilience thinking

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In the context of coastal tourism, resilience pertains to the processes by which human-artifactual-natural systems (Miller et al. 2014) persevere in the face of global pressures (exerted by, for example, environmental and globalization drivers) and local pressures (both environmental and social) that bear on touristic dynamics. Depending on the setting, tourism growth (or decline) can represent either a serious problem or a fine opportunity. This paper discusses principals of coastal resilience outlined by Beatley (2009), focusing on the human dimensions of resilience and its application to coastal communities likely to experience touristic change. Beatley appropriately notes that coastal communities consist of individuals, families and diverse social groups and that resilience efforts must be generated by them, or aimed directly at them. He reasons that a community will be more resilient the more emotionally and physically healthy residents are. We focus on individual/family resilience (Skodul, 2010) and social/community resilience (Keck and Sakdapolrak, 2013) as these measures are associated with three of Beatley’s 15 principles: 1) promotion of social resilience by nurturing critical social networks and institutions, 2) encouragement of an active, healthy community and citizenry, and 3) engagement of the community by nurturing forward-looking leadership. Definitions of individual/family resilience speak to the psychological, emotional and physical needs of people; the characteristics of resilient individuals; and the adaptive processes they inherently have or develop. In contrast, social/community resilience focuses on the system as a whole and its subsystems (e.g., organizations, associations, networks of people) (Krasny et al., 2010). We follow Zautra et al (2010) in observing that communities, like people, can learn to be resilient, and accordingly can be taught resilience thinking. Support for this view is found in case studies of adaptive learning in coastal communities in Queensland, Puget Sound (USA) and the Galapagos (Ecuador) that contend with tourism pressures. We conclude that the resilience concepts advanced in this paper together with the social/adaptive learning paradigm have great potential to assist coastal communities in developing resilient local populations and organizations, strengthening environmental strategies, and designing a responsible/sustainable tourism agenda.

Keywords: individual/community resilience, social/community resilience, human-artifactual-natural systems (HANSs), social/adaptive learning
Qualitative analysis of satisfaction and on-board education, by specialization, for whale watchers in Bahía de Banderas, Mexico.

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We conducted a questionnaire survey of tourists (n=283) on whale watching vessels in Bahía de Banderas, México. The purpose of the research reported here was to explore four open-ended questions regarding trip satisfaction and education, and to further analyze the responses by specialization. The questions were “What did you like?” (Q1), “What did you dislike?” (Q2), “What did you learn about?” (Q3) and “What would you have liked to learn about?” (Q4). Answers were categorized into themes and expressions using key word and word repetition qualitative sorting techniques. Q1 and Q2 produced two main themes, “whales” and “trip”. In Q1 “whales” contained six expressions within the theme (e.g. “seeing surface behaviours”) while “trip” was composed of five (e.g. “vessel staff”). In Q2 “whales” contained five expressions (e.g. “not enough time with whales”) while “trip” contained six (e.g. “trip too short”). Q3 and Q4 produced three main themes, “behavior,” “biology,” and “conservation.” In Q3 “behavior” was composed of six expressions (e.g. “migration”) and “biology” contained seven (e.g. “identifying individuals”); “conservation” had no expressions within the theme. In Q4 there were two expressions for both “behavior” (e.g. “migration”) and “biology” (e.g. “reproduction”) and “conservation” was composed of four expressions (e.g. “whale watching regulations”). Five Likert format questions focused on previous whale watching experiences and learning about whales were used to create the specialization continuum. Specialization group membership was calculated using a k-means cluster analysis on 274 cases for three groups: Low (L) (n=181, 66.1%), Intermediate (I) (n=73, 26.6%), and Higher (H) (n=20, 7.3%). Similar frequencies of themes/expressions and numbers of responses per person were present across the specialization groups for the “positive” questions, Q1 and Q3. Response rates were lower for the “negative” questions, Q2 and Q4. The Higher specialization group provided a significantly lower number of responses per person (mean=0.29) for Q2 versus Low (0.6) respondents (U=288.5, p=0.018), although “nothing” (L=35.4%, M=25.9%, H=62.5%) and “not enough time with whales” (L=26.8%, M=20.7%, H=12.5%) were the two highest responses for each group. The Low specialization group provided significantly less responses per person (mean=0.17) for Q4 versus Medium (0.37) and Higher (0.4) (F=4.627, df=2, p=0.011). The frequency of response items in Q4 was also significantly different for the Low group, in which a greater percentage of respondents indicated “nothing” (66.3%) versus Medium (40%) and Higher (42.9%) (F=8.626, df=2, p=0.013). For all groups “conservation general” was the second highest response (L=13.5%, M=13.3%, H=21.4%) to Q4. The analyses reveal the utility of a combined qualitative and quantitative approach to explore what whale watchers experience, learn and desire from a whale watching trip, without providing lists of items to prompt responses. In general, respondents reported higher numbers of positive than negative comments and many items were reported to have been learned. Lesser specialized individuals were more inclined to provide more responses per person regarding what they didn’t like about the trip and less responses per person, and more often “nothing,” regarding what else they would like to have learned about, compared to the higher specialized whale watchers.

Keywords: whale watching, satisfaction, education, qualitative, specialization
Crowding at coastal wilderness areas: A study at Olympic National Park

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Crowding has been a long-term focus of research in parks and outdoor recreation. However, relatively few studies have been conducted in coastal and marine areas, and even fewer in coastal and marine wilderness areas. This study was conducted in the coastal wilderness portion of Olympic National Park, USA. The study relied on the conceptual framework of indicators and standards and employed normative theory and associated empirical methods. Indicators and standards form the heart of contemporary approaches to managing crowding and other visitor-caused impacts in parks and outdoor recreation. Indicators are measurable, manageable variables that are proxies for management objectives. Standards define the minimum acceptable condition of indicators. Contemporary approaches to managing outdoor recreation rely on 1) formulating indicators and standards, 2) monitoring indicator variables, and 3) taking management action to ensure that standards are maintained. Normative theory and related empirical methods have been used extensively in guiding formulation of standards in parks and outdoor recreation. As the word suggests, norms represent what is considered “normal” or generally accepted within a cultural context. Olympic National Park is located on the Olympic Peninsula of Washington state. In 1988, Congress designated 95% of the park as wilderness under the provisions of the Wilderness Act of 1964. The wilderness portion of the park includes a 73-mile strip of coastline. The Wilderness Act requires that wilderness be managed for “opportunities for solitude” or lack of crowding. A survey of wilderness visitors to Olympic National Park was conducted in the summer of 2012 and received a response rate was 50.4%, yielding 1,019 completed questionnaires. The questionnaire included two batteries of questions addressing crowding. The first focused on the maximum number of groups it is acceptable to see per day (“encounters”) on wilderness trails. Respondents were presented with a range of encounters from zero to 80 or more and asked to rate the acceptability of each number of encounters on a scale from -4 (“highly unacceptable”) to +4 (“highly acceptable”). The second battery of questions focused on the maximum number of people-at-one-time (PAOT) it is acceptable to see at coastal wilderness attraction sites. Respondents were presented with a series of visual simulations in the form of photographs showing a range of zero to 12 PAOT at a coastal wilderness attraction site and asked to rate the acceptability of each photograph on the same response scale described above. Related questions addressing crowding were also asked in both batteries of questions. Acceptability ratings of respondents were plotted to form a series of social norm curves. The point at which the social norm curves cross the neutral point of the acceptability scale suggest a minimum standard. These social norms curves and related measures can be used to inform formulation of indicators and standards for crowding at the coastal wilderness portion Olympic National Park and are being used by the National Park Service in developing a Wilderness Stewardship Plan for the park. The theory and methods used in this study can be extended to other coastal and marine recreation areas.

Keywords: recreation, crowding, coastal, wilderness
Cross-cultural introspections of Korean visitors to Hawaii: Etic interpretations of emic reports

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Hawaii as a destination and brand evokes images of palm trees, tiki bars, and hula dancers wearing grass skirts. Evidence suggests these images have been prevalent at least since the 1950s (Borgerson and Shroeder, 2003), and visitors continue to arrive expecting these picture postcard images (Martin and Woodside, 2008). While mass media continues to reinforce these images, they serve to create myths that people need to make sense of the world (Holt, 2003). Embedded within these myths are powerful icons that help people to cope with their lives. Arguably, Hawaii has created a compelling myth. What happens when foreign travelers visit Hawaii with this inauthentic view? This study examines emic (self) interpretations of foreign visitor accounts and includes an etic (researcher) analysis of written communications (Pike, 1967). Translated travel blogs of Korean visitors provide the stories for analysis. Using netnography, this study examines how three Korean tourists interpret people, places, and situations that they experience while visiting Honolulu, Hawaii (Kozinets, 2002). These emic interpretations support McKee’s (2003) proposition that “inciting incidents” throwing life out-of-balance serve as powerful stories. Interpretive maps help to understand the emic reports of travel experiences. Etic interpretations explain positive and negative associations of concepts, events, and outcomes. This study addresses three propositions. P1 advocates that Heider’s (1958) Balance Theory helps to interpret the informants’ experiences. P2 posits informants’ memories include stored and retrieve episodic information to assist informants understand experiences, outcomes/evaluations, and summaries/nuances (Shank, 1999). P3 proposes that stories expressing life changes are highly persuasive (McKee, 2003). Results support all three propositions. The three cases demonstrate how unexpected surprises create tension and the travelers learned from the situation and adjusted. Study results suggest destination icon building can create a compelling reason to visit a destination. While netnography limits the visitors’ reporting experiences, a mixed-method approach offers greater potential combining to understand tourist behavior than reliance on empirical positivistic research methodology.

Keywords: Hawaii, netnography, international tourism, travel blogs, unconscious thought
Let the oceans speak

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This paper presents the results of a PhD, regarded by one of the examiners as a “seminal work”. It investigates the interaction effects between the intensity of wild dolphin tourism experiences in the presence of high quality education/interpretation on overall satisfaction, knowledge, pro-environmental attitudes, beliefs, behaviours and actions of participants. Existing models for nature interpretation concentrate on the cognitive domains of learning and were therefore considered to be inadequate in their treatment of the affective domain as a key player in wildlife interpretation. Contemporary models did not attribute a high value to, or recognise the importance of, the role of intensity of experiences in a wildlife tourism context as a major part of the education/interpretive process. The research question: Does the level of intensity of wildlife interactions – in this case wild dolphins - work synergistically with education/interpretation commentaries in tourism environments? Methods: Matched pairs of watching dolphins from boat-based platforms, feeding wild dolphins from shore and swimming with wild dolphins in Australia were deliberately chosen for the study. One business from each pair included high quality education/interpretation commentaries. Self-administered questionnaires were completed by 600 participants (100 participants from six businesses). Results of Chi-square analysis for “within case analysis” of each matched pair and “cross case analysis” of each matched pair were presented for feeding, watching and swimming-with with dolphin encounters. High intensity wild dolphin experiences are highly satisfying. Overall Satisfaction of participants is not enhanced by the inclusion of a high quality education/interpretation component. Minimal information in these instances appears to gain maximum satisfaction. The greatest change in knowledge occurred with the high intensity encounter. High intensity wildlife experiences in themselves appear to have significant educative impact or power. In the presence of high intensity encounters, education/interpretation has a minor role. The interactive relationship between intensity of experience and education/interpretation can be summarised in three statements: in the presence of low intensity dolphin tourism encounters, high quality education/interpretation commentaries have a major role; in the presence of moderate intensity dolphin tourism experiences, high quality education/interpretation commentaries have a major role; and in the presence of high intensity dolphin tourism experiences, high quality education/interpretation commentaries have a very limited role. As intensity levels of wild dolphin encounters decrease, interpretive guides need to deliver increasingly high quality commentaries. Well-trained intuitive guides who can integrate relevant information and appropriate conservation messages are the key to effective, high impact and powerful wildlife encounters. Australia and other nations need to consider following the lead of Scotland and the EU Atlantic area where marine wildlife operators are required to gain knowledge and practices in sustainable wildlife tourism and best practice interpretation as a part of their business development.

Keywords: sustainable marine wildlife tourism, interpretation
Three small islands and the surrounding waters of the Gili Matra Marine Park (GMMP) on the north-west coast of Lombok are the main tourism destination and economic drivers for the region. However, a combination of unsustainable factors and poor tourism management have resulted in damage and degradation of up to 90% of the GMMP islands, reefs, and marine ecosystem, and 87% reduction of fish species (Suana & Ahyadi, 2012). The research question: Is this ‘the beginning of the end’ of Gilli Matra as a tourism destination? is based on Butler’s (1980) model, suggesting that tourist motivations, levels of satisfaction with aspects of the marine tourism experience and perceived attribute performance, will, in turn impact on intention to return and positive word-of-mouth (Weaver & Lawton, 2014; Meng, Tepanon & Uysal, 2008; Ritchie, Mules & Uzabeaga, 2008; Kozak & Rimmington, 2000). Results of 100 self-administered questionnaires consisting of six Likert scales and three open ended questions, showed that the main motivation for visiting GMMP were Snorkelling and/or SCUBA diving, Resting and relaxing on the beach and Experiencing the marine wildlife. The three most important attributes in determining level of enjoyment for visitors were: Seeing live coral in the ocean, Seeing fish and Seeing turtles. Satisfaction scores for Maintenance of the Landscape, Cleanliness of Restrooms, Cleanliness of the Beaches, Cleanliness of the Ocean and Presence of Wildlife were low. The lowest tourist satisfaction scores occurred for Health of the Coral, Abundance of Coral, Abundance of Algae or Plants and Abundance of Marine Animals. The greatest anthropogenic impacts on the islands were perceived as being Dynamite Fishing, Tourism Development, Human Settlement and Climate Change. The government and the operators need to be made aware of the impacts that the tourism industry is having on the GMMP, then work collaboratively to reduce impacts and enhance the quality of and satisfaction with the tourism experience. Key pro-environmental actions are: regeneration of coral and fish species; enforcing zoning to restrict and reduce tourism, fishing and commercial vessel impacts; introduction and enforcement of permits for harbours/vessels; and better practices with rubbish, water and waste management.

Keywords: sustainable island tourism; Gili Matra; marine tourism
Climate models, place meanings, and risk perceptions: Understanding the influences on nature-based tourism in coastal communities

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Changes in hydro-climatic conditions (e.g., long-term shifts in average temperature, precipitation, etc.) can affect the supply and quantity of outdoor recreation opportunities. Changes to outdoor recreation settings can alter visitation patterns and result in subsequent impacts to businesses and communities dependent on tourism revenues. Understanding climate-related risks to outdoor recreation settings is critical to help tourism-dependent communities, and recreation and tourism providers, build their capacity to respond to shifts in nature-based tourism demand. This paper presents the results of an interdisciplinary study evaluating the ‘climate change readiness’ of Minnesota’s (USA) North Shore region of Lake Superior. The North Shore region is a popular tourism destination for nature-based and coastal-dependent recreation. Winter tourism is characterized by ice fishing, snowmobiling, and skiing; summer tourism emphasizes boating, fishing, hiking, and waterfall viewing. On-site survey research was conducted in January, February, July and August 2015 to assess changes in tourism demand. The survey instruments included projections of critical climate and environmental variables likely affecting the supply and quantity of outdoor recreation opportunities based on: a) significant relationships between historical visitation and historic weather data; b) identification by key local stakeholders; and c) ability to reliably project the climate and environmental variables into the future under various GHG concentration scenarios. We used three GHG concentration scenarios (RCP2.6, RCP4.5 and RCP8.5) to construct six empirically driven future scenarios (three winter scenarios, three summer scenarios). Respondents were presented with recent conditions and one of the future scenarios, along with recreation risk messages (ice thickness, wind chill, fire risk, flood warning), and asked to estimate their future trip-taking behaviors. Questionnaire items also measured place attachment and perceptions of climate-related risks. We hypothesized greater deviations from current climate and environmental conditions would result in decreased frequency of visitation. As climate change risk perceptions and place attachment can be significant predictors of contingent behaviors, we included these in our analyses, hypothesizing stronger place meanings would result in sustained or increased visitation, while greater perceived climate change risk would be related to decreased visitation. These hypotheses were tested using separate behavioral models for winter and summer data. Results from the winter survey data (n=852) show the magnitude of deviations from current climate and environmental conditions (exposure to projected conditions derived from either the high, medium or low GHG concentration scenarios), does not significantly impact tourists contingent (future) trip taking behavior. One place meaning, individual identity, was found to be correlated with future trip taking behavior. Lastly, only one of the five measures of climate change risk perceptions, perceived climate-related impacts to future trips, was significantly correlated with contingent trip taking behavior. Results from the summer 2015 survey will also be presented and discussed. Insights gained from this analysis will be integrated into climate adaptation planning workshops in 2016. The results will enhance coastal tourism providers’ capacity to respond to changing environmental conditions and potential shifts in tourism demand.

Keywords: coastal tourism, nature-based recreation, climate change, travel-cost model
Promoting excellence in tourism destinations

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Quality has become a basic strategic tool for differentiation of specific and composite tourism products. Provide quality service at all levels is considered an essential strategy for success of organizations and tourist destinations in a competitive environment (Martín, 2000; Camisón, 1996; Zeithaml, Berry & Parasuraman, 1996; Richard e Sundaram, 1994; Reid e Sandler, 1992). The search for competitive advantages through better quality products for tourists is an undisputed issue in literature. Pursuing total quality goals or excellence in tourist destinations is part of the logic and principles that underpin the integrated quality management approach. The model of excellence of the European Foundation for Quality Management (EFQM) was considered as the most suitable for research development framework. The model holds that RESULTS excellent with regard to PERFORMANCE, CUSTOMERS, PEOPLE and SOCIETY are achieved through LEADERSHIP in conducting POLICY AND STRATEGY, the PEOPLE, the PARTNERSHIPS AND RESOURCES and PROCESSES. The study focused on a sample of 184 managers from 16 Destination Management Organizations (DMO’s). The resulting response rate was 44.56%. The results show that there is a marked discrepancy between the level of evidence MEANS and the level of achievement of RESULTS. Results show yet that top managers perceive all criteria always in a more positive way that middle managers, recognizing more evidence in implementing MEANS, as well as best RESULTS concerning the intervention of the DMO’s. The comparative position of the 16 tourist destinations in terms of evidence or performance criteria that embody the quality according to the EFQM model, demonstrates the existence of sharp disparities between tourism destinations. The range of variation among the destinations classified into first and last is 65.4% and 24.3% of evidence, respectively. According to the view of respondents, about 50% of the cases observed levels of achievement of excellence criteria are between 23% and 47%, which means that in terms of improving the quality of tourism, there is a whole effort to be deployed to amend this situational picture. The tourist destinations are included in the remaining 50% record levels of evidence and achievement of very favorable excellence criteria, which may be a symptom of a strategic orientation for the pursuit of goals and improvement objectives quality of the respective tourist products.

Keywords: Excellence, Quality Management, Tourism Destinations
Sea Grant’s niche in a highly urbanized tourism destination: Using science and data to support recreational tourism

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Chicago is a top 10 tourist destination attracting $30.7 billion annually and supplying 1 in 10 jobs. The Illinois-Indiana Sea Grant College Program has worked with partners and recreational user communities to develop a suite of products that use science and data to support recreational coastal tourism. IISG's role in providing data, analysis, and web-based infrastructure includes: 1) science as a featured attraction in the Chicago Waterwalk; 2) data buoys to support recreational fishing and boating; 3) catch data to support angling decisions; and 4) building and linking public access and service data to create a Lake Michigan water trail. Recent experiences and outcomes using this approach will be discussed from a programmatic perspective.

Keywords: coastal tourism, data to support tourism, Sea Grant
Modelling coastal tourism visitation

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Beaches function as important natural tourist attractions. To facilitate prudent coastal planning and visitor management, knowledge is required about why people visit beaches and on the nature and frequency of that visitation. Typically, beach patron statistics reported in many countries by government, coastal or tourism agencies, have limited sample coverage or have unknown accuracy (King & McGregor, 2012). This is not surprising given the difficulty of census counting persons in recreational locations, including beaches, characterised by high variation in use over time, multiple unguarded entry points, and varying lengths of stay. A recent study by Smale (2011) of a multiple entry-point recreation site found that systematic sampling procedures based on standard entry-time intervals did not provide an acceptable level of accuracy for estimating the total population. Smale concluded that methods based on average (mean) estimates using repeated trials held more promise.

To advance methodological knowledge of population estimation for multiple entry-point coastal recreation areas, the reported study tested a novel method for estimating total visitation at the peak-use summer time for a set of coastal beaches nearby Melbourne, in Victoria, Australia. Beach visitor counts were recorded by direct observation for two time-periods (over 39 days for two summer seasons) across 20 consecutive beaches using stratified random sampling. The first time-period provided population point estimates and the second a check on estimate accuracy. Total beach visitation estimates (with 95% confidence intervals) were derived from summated beach visitor counts. Estimates were then used calculate average visitors per beach. Results demonstrate high daily variability in beach visitation ranging from 0-5,221 persons across the 20 sampled beaches, with fewer than 1,000 visitors for the majority of survey days. One-quarter of estimated visitors were bathing when sampled. The levels and patterns of visitation estimates were similar across both time periods. Total visitor population estimates for 20 beaches over 39 summer days was 39,326 persons in time period 1 and 42,218 persons in time-period 2. No statistical difference (p<0.05) was found for the two time-period distributions. The novel method of visitor population estimation is particularly suited to coastal beaches and similar recreational areas. Using the readily-implementable procedure, land-use planners and managers will gain pertinent information for making informed decisions. For example, study results show that three-quarters of beach visitors used one of three beaches. This information is useful to assess sufficiency of carparks, toilets and available drinking water to meet demand on high-use days. The data inform safety management by showing that many persons bathe at beaches without lifeguard patrols. Similarly, visitor levels in environmentally sensitive locations inform impact-reduction strategies (e.g., on coastal nesting birds). Extension of the method to locations and over time will provide valuable data for monitoring coastal amenity values and responses to climate change.

Keywords: beaches, visitors, measurement methods, estimation
Swimming with manta rays in Hawaii: Interpersonal and social values conflicts, sanctions, and management

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Wildlife viewing is a popular form of tourism. Scuba diving and snorkeling with manta rays at offshore sites near Kailua-Kona in Hawaii, for example, have increased in popularity with the number of tour boats doubling in the last decade. Studies have examined biophysical impacts of these activities, including damage from feeding or getting too close to marine species. Increasing use, however, can also generate social impacts such as conflict among participants, but little is known about conflict when viewing manta rays. This research was conducted at these sites in Hawaii to address four questions: (a) to what extent is conflict occurring among snorkelers, scuba divers, and videographers; (b) what types of conflict are occurring (one-way, two-way, in-group, out-group, interpersonal, social values); (c) are users who experience conflict more supportive of strategies for managing use than those not experiencing conflict; and (d) are users who experience conflict more likely to impose sanctions in response? Interpersonal conflict involves the physical presence or behavior of a group interfering with other groups. Social values conflict involves different norms about an activity and occurs without physical contact between groups. Data were obtained from an onsite survey of 444 participants immediately following their trip to view the rays (89% response rate). Conflict was measured by asking how frequently five events per activity happened (e.g., bumping people, being rude/discourteous, blinding people with lights) and whether each was problematic. In total, 92% of snorkelers saw other snorkelers bumping into people, and 73% witnessed snorkelers not being aware of others. Similarly, 65% of scuba divers saw other divers bumping people, and 56% saw divers blinding people with lights. Cluster analysis revealed that 66% of snorkelers experienced in-group conflict with other snorkelers and this was split between social values and interpersonal conflicts. Only 29% of scuba divers experienced out-group conflict with snorkelers. In total, 45% of divers experienced in-group conflict with other divers with most of this being interpersonal. Similarly, 41% of snorkelers experienced out-group conflict with divers with this split between social values and interpersonal conflicts. Fewer than 25% of respondents experienced conflict with videographers, and less than 2% experienced both social values and interpersonal conflicts with any group. The majority of respondents supported information on how to behave with other users and limiting numbers of snorkelers, divers, and boats at these sites. Those experiencing conflict were significantly more supportive of these management actions and were also more likely to directly sanction other tourists causing the problems, but were not more likely to indirectly sanction managers or tour operators. This is important because researchers who have found conflict in other studies have usually just suggested approaches for mitigating problems, and little research has investigated the role of sanctions in conflict situations. It is possible that tourists could experience conflict, but not do anything about it and not support management actions because they restrict access. Questioning users directly about personal and managerial responses to conflict can take the guesswork out of speculating about how tourists will respond.

Keywords: conflict, sanctions, management, tourism, wildlife, manta rays
Coastal tourism for “every body”? An examination of outdoor leisure constraints for individuals who are significantly overweight

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Obesity is an ongoing global narrative with the majority of Americans classified as overweight, and one-third of the population qualifies as ‘obese’ with a body mass index (BMI) greater than or equal to 30 (Flegal, Carroll, Ogden, & Curtin, 2010). While some research illustrates the general constraints to leisure in coastal areas, there is no literature specifically targeting the outdoor leisure constraints to participation for people who are significantly overweight. This focus group research study examined the those intrapersonal, interpersonal, and structural constraints for individuals who are significantly overweight and provides valuable information to guide the next steps needed to adequately understand and address these issues in coastal areas for a variety of tourism organizations and activities (i.e. sea kayaking, scuba diving, snorkeling, swimming, parasailing, surfing, stand-up paddle boarding, etc.). Past research is related specifically to the identification and management of leisure constraints as they reduce or preclude leisure participation, leisure satisfaction and/or general achievement of other desired leisure benefits. Crawford, Jackson, and Godbey (1991) presented a hierarchical model of leisure constraint negotiation, which categorized leisure constraints into three distinct barriers: intrapersonal, interpersonal, and structural. What are the intrapersonal, interpersonal, and structural outdoor leisure constraints for individuals who are significantly overweight in coastal areas? To examine these three constraints for individuals who consider themselves significantly overweight or obese, six focus group sessions (three for men only and three for women only) were facilitated. After listing all the constraints, the participants voted on the top four constraints of all those listed. The voting on constraints followed with a further focus on highest voted items by providing strategies to overcome the constraint and specific examples. Those constraints with the highest votes for the women were “frustration about keeping up and slowing down others, self-conscious about wearing outdoor gear (i.e. swimsuit), finding clothes that are comfortable and functional, and motivation”. Those constraints with the highest votes for the men were “motivation, lack of support group, time, tired easily, and injuries, aches, and pains”. Utilizing a constant comparison analysis for the qualitative data from recorded audio that was professionally transcribed, the researchers then analyzed the themes for the men and women and any commonalities between the gendered focus groups. Strategies for constraints provide important implications for coastal tourism in marketing, instructor training, safety, equipment, and mentoring. With this research and potential topics for future research, coastal tourism has an exciting opportunity to position ourselves as leaders in providing outdoor leisure opportunities to this population. This focus group research study not only identified the intrapersonal, interpersonal, and structural constraints for individuals who are significantly overweight, but, most importantly, provided valuable information that may lead to better strategies designed to promote tourism for “every body” in coastal areas.

Keywords: obesity, overweight, coastal tourism, constraints, outdoor recreation
Hawai'i Sea Grant’s Hanauma Bay Education Program: Promoting Marine Conservation through Education

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The City and County of Honolulu's Hanauma Bay Nature Preserve is a popular tourist destination and is reveled for its beautiful, scenic surroundings. Because of its declaration as Hawai'i’s first Marine Life Conservation District in 1967, it has become one of the premier snorkeling locations in the main Hawaiian Islands. Hanauma Bay has become an ideal site to promote marine education and stewardship to residents, visitors, schools and community groups. The Hanauma Bay Education Program (HBEP) is administered by the University of Hawai'i Sea Grant College Program with funding support from the City and County of Honolulu. HBEP staff and volunteers oversee the daily operation of the education program and develop resources that enhance ocean literacy and conservation awareness in visitors to the bay. On an annual basis nearly 800,000 visitors are educated on the value of marine resources and stewardship that reduced their environmental impact at Hanauma Bay. HBEP volunteers staff an information booth on the beach and introduce an orientation film in the theatre that covers the formation of the bay, important ocean safety information, introduces visitors to some of the marine life they may encounter, and describes actions that visitors can employ to help protect the reef. In addition to volunteer efforts, HBEP hosts weekly public presentations for the community member and provides relevant educational programs including service-learning activities for school and community groups who visit Hanauma Bay.
Does it make a difference? Exploring the potential effects of youth expedition to New Zealand's sub-Antarctic

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Coastal and marine tourism occurs in a wide variety of contexts. Tours or voyages to remote islands across the seas are increasingly popular. In particular, there are a growing number of offerings for cruises and tours to polar regions. Many of these tours promote their experiences as educational, 'once in a lifetime' experiences that can be transformative and even 'life-changing'. One aspect of such activities are programmes that directly target youth. The contention that nature-based wilderness experiences are transformative for young people has been widely argued. There are numerous organisations worldwide that have, as their primary purpose, the provision of programmes and opportunities based in nature that target adolescents’ growth and development (eg. Boy and Girl Scouts, Outward Bound, YMCA, Semester at Sea, outdoor pursuits, adventure and leadership centres etc.). Furthermore, many of these programmes seek to build self-esteem, confidence, environmental awareness and leadership skills. In many cases significant resources and effort are put into the provision of these opportunities. However, while there have been a range of studies that have explored outcomes from structured outdoor education programmes there are no published works which have empirically examined the outcomes for adolescents involved in programmes based on remote marine or coastal locations. More specifically, the effects of expeditions to remote polar regions on the young people involved has not been undertaken, despite over a decade of youth-based programmes being offered in both the Arctic and Antarctica. This paper reports on in-depth qualitative exploratory research into the experiences of 12 New Zealander teenagers who were selected to participate in the 2014 Young Blake Expedition to the sub-Antarctic Auckland Islands. The research uses participant observation, semi-structured face-to-face interviews and auto-driven photo-elicitation to provide insights into the most important experiences of these young people. Findings reveal that five inter-related themes emerged from the data; experiential learning, uniqueness of the setting, uniqueness of the experience, sharing with others and adventure and sense of accomplishment. These findings are consistent with other research on the experiences of adolescent participants on other wilderness-based outdoor education programmes. However, the findings are the first reported empirical evidence on the experiences of adolescents involved in an education-focused expedition to remote islands in polar regions.

Keywords: Auckland Islands, expedition, youth education
Smooth sailing or rocking the boat? Safety and risk in yacht sailing in the United Kingdom

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Like many coastal activities, yacht sailing in the United Kingdom (UK) is a diverse activity, embracing a huge variety of forms of participation, vessels, locations, duration and participants. Given the nature of the activity and the weather and latitude of the UK coastline, safety of participants is an important issue. This paper reports on research undertaken on the attitudes and practices of the UK sailing community relevant to safety. An online survey (n=4,996) and face to face interviews (285) were undertaken. A majority (58%) of respondents had been sailing for more than 20 years, 31% sailed for more than 51 days a year and 88% learned to sail in the UK. The vast majority of respondents stated they felt safe when sailing, although the interviews suggested that this was contingent upon conditions and sailing companions. Sailing with a partner/spouse who isn’t experienced and drinking small amounts of alcohol were actions least likely to be considered high risk/very high risk by respondents. However, the influence of alcohol and inexperience in on-water sailing fatalities and accidents is of concern in the UK.

The research revealed that a large majority of sailors take some safety precautions when sailing (eg. having a VHF radio on board or checking fuel before departure), however, in other areas significant proportions of the population do not take precautions. For instance, in terms of equipment, just over 20% of sailors did not wear a personal flotation device (PFD or life-jacket) for the duration of their trip; nearly three quarters (73.7%) did not have a personal locator device; just under half did not rig a gybe preventer; and 58% sailed without wearing a harness/lifeline. Between a fifth and a third also sailed without having an alternative plan communicated to all on board, had not practiced the use of safety equipment and had not had their life jacket serviced in the preceding 12 months. One other important safety issue was that over a quarter (27.6%) had sailed when there was nobody on board skilled enough to rescue them or sail the yacht if they went overboard or became incapacitated. These results suggest that safety messaging should focus on encouraging the use of specific safety equipment, such as personal location devices and encouraging the wearing of lifejackets. In addition, an important area for improving practice is emphasising that a person’s ‘safety’ is dependent on others (family, spouses, crew) and their ability levels. The research also revealed that a highly valued component of the sailing experience was the ‘sense of freedom’. As a consequence, it is likely that attempts to mandate and enforce the use of safety equipment or practices would be met with resistance or non-compliance. The alternative approach of education, training and persuasive communication strategies (such as the use of social marketing techniques) are more likely to be effective.

Keywords: sailing, yachting, risk, safety, United Kingdom
Swim-encounters with free-ranging killer whales (Orcinus orca) off northern Norway: Interactive behaviours directed towards human divers and snorkelers obtained from opportunistic underwater video recordings

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The worldwide increase of commercial swim-with programmes targeting wild cetaceans is demanding research on behavioural responses initiated by the animals involved. While the responses of animals being habituated to commercial swim activities have been studied for several species and regions, behavioural studies on in-water encounters with unhabituated animals are still scarce. Such studies are important to illustrate natural responses before commercial operations are established. So far, swim encounters with wild killer whales have not been studied at all. Interactive behaviours initiated by cetaceans and shown in close proximity to human swimmers can be described using an ethogram. Such a behavioural catalogue provides baseline data for managing in-water encounters. During this study, an ethogram of interactive behaviours displayed by wild killer whales (Orcinus orca) and directed towards human divers and snorkelers was established. In January 2015, the first author conducted two swim encounters with wild groups of killer whales in northern Norway. Animals were encountered from a 6m sailing vessel using snorkelling gear. Two persons entered the water simultaneously. Behaviours were documented using an underwater video camera. Additional video material was obtained from three professional filmmakers being recorded during the winter seasons 2000-2015. In a first stage, all videos were scanned for interactive behaviours using the ad libitum method. In a second stage, all videos were viewed and analysed again, and the relative occurrence of behaviours per video recording was recorded using one/zero sampling. Overall, 58 video clips with a total duration of 2 hours 27 minutes and 32 seconds (minimum length 8 seconds, maximum length 19 minutes 14 seconds [M=2.5 min]) were analysed. The resulting ethogram describes nine interactive behaviours that are considered to be exclusively affiliative in nature. The most frequent behaviours were ‘whistling/calling’ [M=0.74] and ‘eye contact’ [M=0.67]. Previously described interactive behaviours found for other unhabituated toothed whales encountering human swimmers and divers were matched in the scientific literature (Shane et al., 1993; Ritter & Brederlau, 1999; Ritter, 2002; Scheer et al. 2004, 2014). In contrast, no aggressive behaviours were found during this study, which might be explained by the low data quantity and the applied code of conduct (such as, low swimmer numbers, the prevention of physical contact and the passive behaviour of the swimmers during encounters). The application of footage not being recorded for scientific purposes can give valuable insights into a species’ behavioural repertoire notably when relevant information is scarce and data acquisition through field work is difficult (such as, extreme weather conditions, the limitation of daylight hours and the low predictability to find the animals in a distinctive area). The present results facilitate the first description of interspecific killer whale behaviours occurring during swim-with encounters with snorkelers and divers which is essential to manage interactions properly in the future. Further research is recommended to obtain a more comprehensive ethogram as well as repetition rates and age/sex-related occurrences of behaviours.

Keywords: Ethogram, Orcinus orca, swim-with programmes, behaviour, whale-watching
Fishers' perceptions of the impacts of tourism on the social ecological system resilience of marine protected areas in Bali, Indonesia

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The establishments of marine protected areas (MPAs), which regulate fishing efforts, and the presence of tourism, which relies on healthy marine ecosystems, often posed conflicts among MPA resource users, particularly fishers. Unmitigated conflicts among MPA resource users will lead to the weakening of social ecological system resilience. Understanding fishers perceptions of the impacts of tourism in MPAs are crucial because they are the most affecting and affected stakeholders in MPAs, especially in many coastal communities of developing countries. I conducted mixed methods to assess fishers' perceptions of tourism impact in three different types of MPAs. The methods comprised key informant semi-structured interviews involving nine fishers, structured interviews with 229 fishers, and four focus group discussions consisting of 6-12 members per focus group. By adapting the resilience assessment framework, I assessed fishers perceptions on: The systems (i.e. the MPAs, and tourism in the MPAs), factors affecting the system (e.g. fisheries, tourism, government and/or local regulations and customs), and system development and thresholds (e.g. determination of adaptive cycles, future scenarios, and potential thresholds). Most fishers perceived that the health of the marine ecosystems and fish productivity in their fishing grounds have significantly declined over the past ten years. While the majority of the fishers who took part in the structured interviews did not perceive fishery contributed towards the decline of the marine ecosystem health, results from the key informant interviews and focus group discussions suggested that both over-fishing and destructive fishing played significant part in the reduction of fish population and degradation of marine ecosystem health. Fishers in the three MPAs perceived that the presence of tourism in the MPAs was beneficial for local fishery, but somewhat divided over the benefits of tourism in the MPAs towards the improvement of socio-economic conditions in their communities. While fishers in the two larger MPAs that are managed by the national and regency’s governments have higher inclination to ‘exit from fishery’ and switch to tourism sectors than those fishers in the village managed MPA, the majority of fishers across the three MPAs prefer their children to work in tourism rather than in the fishery sector. Understanding fishers’ perceptions will help MPA managers to anticipate interventions to mitigate potential conflicts among resource users within MPAs. The application of mixed methods to assess both qualitative and quantitative information is recommended to avoid biases among MPA stakeholder group, while the use of resilience assessment framework helps to promote participatory planning among key stakeholder groups such as fishers and inform adaptive management in MPAs. Customized tourism capacity building should be considered and facilitated for fishers who want to exit fishery and their children.

Keywords: marine protected area tourism, social ecological system resilience, perception, fishers
Roadmap to sustainable coastal and marine tourism: Rote-Ndao Regency, Indonesia

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Problem statement: Rote Ndao Regency government identified marine tourism as one of its development priorities, which requires management and protection of its marine and coastal ecosystem to retain its health, functionality and value for tourism. Sustainable tourism in Rote Ndao requires a model that integrates socioeconomic benefit with the conservation of ecosystems while maximizing community’s participation. However, Rote-Ndao Regency’s planners are still struggling to understand the concept of sustainability and how to achieve it. This problem is demonstrated in Rote’s tourism planning, which lacks integration of conservation with socioeconomic objectives for its coastal and marine environment. We reviewed government’s tourism development plans and interviewed government officials, community members, and a private tourism operator to understand their tourism development priorities and concerns. As a portion of Rote Ndao Regency is located within the Savu Sea Marine National Park (SSMNP), we also reviewed the management and zoning plan of SSMNP and assessed the alignment of these designated tourism zones with reef health condition and tourism potential at 16 sites around Rote. Our reviews indicated that to develop a competitive coastal and marine tourism destination, Rote Ndao Regency should ensure that its tourism planning integrates sustainability approaches and conservation measures as a tool to achieve its sustainable development objectives. Our recent underwater assessment of Rote Ndao Regency’s designated marine tourism zones suggests that the quality of marine biodiversity features is variable among the sites surveyed, but has potential to support top class diving and snorkeling; and that upholding the tourism zone regulations prohibiting any extractive activities should be implemented to help recovery of fish populations and coral communities. Furthermore, we recommend the following actions to achieve sustainable coastal and marine tourism in Rote Ndao: 1. emphasize sustainability instead of growth that promotes number of tourists and overnight stays; 2. develop the market niche for tourism in Rote Ndao that emphasizes low impact high quality tourism over high impact mass tourism which generates lower socioeconomic benefits; 3. align conservation and tourism development objectives, especially relating to the tourism use zones in the SSMNP to support the variety of potential tourism pursuits; 4. encourage the participation of Rotenese in coastal and marine recreational activities to contribute towards their prosperity and sense of pride; and 5. create and promote opportunities for local people and businesses in tourism related activities. Healthy marine and coastal ecosystems are crucial for sustainable marine tourism in Rote Ndao. Thus, the roadmap to sustainable tourism should consider both socioeconomic and conservation objectives. The establishment of the SSMNP can be the vehicle to align socioeconomic and conservation objectives, while enhancing marine tourism potential in Rote Ndao through zoning to separate conflicting pursuits and improving management. Furthermore, the process of developing sustainable marine tourism should involve multiple stakeholders to accommodate different sectors’ interests and aspirations anddf develop a common understanding of what sustainability means in the context of tourism development in Rote Ndao.

Keywords: sustainability, sustainable marine tourism, tourism development
Systematic planning approaches to balance local resident parks and recreation needs with tourism benefits and drivers

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While tourism for coastal communities is often desirable from an economic standpoint, it can come at a large cost or provide a substantial benefit for local residents. This research covers systematic community level planning approaches that help capitalize on the latest mixed method approaches to answer the basic research question of: How do we balance the needs of local residents for parks and recreation services with the needs for economic drivers from tourism in the community? Methods Overview: The process outlined includes an overview of tools, protocols, results, and analysis. To begin, the community project manager worked with team members from GreenPlay LLC and NC State University to design an engagement protocol. Instruments included an open link and random quantitative survey of residents, focus groups, key stakeholder interviews, staff interviews, and open public meetings. The goal was to involve and engage residents, along with second homeowners and tourism providers to gauge overall balance for publicly funded services and assets within the community. The methods included needs assessment (including various engagement and information gathering techniques), along with quantitative and qualitative component-based, system-wide, geo-spatial assets and affordances level of service analysis and mapping. The process overview included SWOT analysis, risk management inventory and documentation techniques. Comparisons were made to identify important tourism and local resident use of assets along with potential economic, financial, and operational analysis impacts. From creation of a Key Issues Analysis Matrix and facilitated findings and visioning focus groups, prioritized recommendations and an agency Action Plan were created. The outcomes included articulation/presentation tools from the planning process to garner local decision maker and public buy-in. The research focuses on a recent community planning process in Martin County, FL, with 9 miles of beach management responsibility, along with comparative analysis and practice highlights from other Florida, Virginia, and California coastal communities during their master and strategic planning processes. The findings indicate clear conclusions related to specifying implications for managing coastal and/or marine tourism, especially related to economic, environmental, social, and health related benefits from parks, recreation, beaches, and trails for residents of the community.

Keywords: community, planning, tourism, systematic, balance
Quantifying distributions of vessel activity to address tourism and coastal management questions at multiple spatial scales

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Too often resource managers fail to adequately characterize human use with the same rigor applied to describe species distribution or habitat types. In part this is because methods to quantify the distribution of species and habitats have been well developed as a high priority for science investment by natural resource management agencies. By comparison, methods to quantify the spatial and seasonal distributions of human use have received significantly less attention. This is particularly true when it comes to describing human use in marine and coastal environments. This paper presents two case studies where innovative methods were developed and employed to quantify vessel use patterns in the marine waters of Alaska to address management issues. In 2007, the U.S. Forest Service initiated a detailed analysis of the human use patterns in Alaska’s Prince William Sound to inform recreation and tourism planning efforts. The waters of this region are relied on by numerous and diverse recreationists, thriving commercial tourism and fishing industries, as well as rural communities practicing traditional harvest of fish and wildlife resources. We will describe an issue-driven approach to quantify marine and coastal use patterns of these four groups in a spatially explicit way that has benefitted multiple land and resource managers in the region. We will present methods from kayak and boat-based survey efforts to map recreation vessel use; a questionnaire quantifying the spatial activity of traditional harvest activity; and two efforts to translate use permit data into spatial distributions of commercial tourism and fishing activity. The second case study addresses increasing vessel traffic in the Arctic. Industry regulators, resource managers, indigenous peoples and non-governmental organizations are struggling to understand the potential implications to species and remote human communities in the region. Recently, The Arctic Council has identified an increase in Arctic tourism traffic as key concern as the ice-free season continues to expand allowing greater access to the region. Potential threats include disturbance of key wildlife species and habitats, disruption of traditional hunting activities of indigenous peoples, as well as potential risk of vessel incidents like oil spills. The Bering Strait between Northwest Alaska and Russia is a key access point for vessels transiting between the Pacific and Arctic Oceans. The Aleutian and Bering Sea Islands Landscape Conservation Cooperative has launched efforts with the Wildlife Conservation Society and the National Park Service to describe current patterns of vessel activity and evaluate scenarios of potential traffic expansion in the Bering Strait. By conducting spatial analysis of millions of vessel locations collected over three years by Automatic Identification Systems (required for all vessels over 300 gross tons, including passenger ships) we have produced maps to inform the planning efforts of coastal managers and communities relative to risks associated with vessel traffic. Methods associated with both efforts will be presented in the context of specific questions held by coastal managers relative to the management of human use. Our approaches to quantifying vessel use in spatially explicit terms have broad potential application relative to issues faced by coastal tourism planners and resource managers.

Keywords: vessel; traffic; coastal; planning
Evaluating erosion management strategies under future sea level rise in Waikiki, Hawai‘i

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Waikiki is an internationally renowned tourist destination, attracting visitors from around the globe and providing a platform for a significant portion of Hawai‘i’s economic activity. Erosion, however, is a constant threat to Hawai‘i’s developed coastline, including Waikiki Beach, and is expected to continue particularly under the threat of future sea level rise. Beach nourishment has been the predominant method to combat erosion in Waikiki over the last decades and looks to be the central mitigation strategy in the foreseeable future. Recognizing the threat erosion poses, recent legislation provides funding for the development of a comprehensive beach management plan for Waikiki. To ensure that a nourishment-centric strategy to manage erosion in Waikiki is appropriate in this setting, a comparison of nourishment to other predominant erosion management strategies, such as armoring and managed retreat, is presented and discussed in the context of Waikiki. This paper addresses the following research questions: 1) What are the spatial impacts of erosion along the Waikiki coastline through 2050 and 2100; 2) what are the estimated costs of each erosion management strategy, given these spatial impacts; and 3) how does beach nourishment compare to other predominant strategies in terms of its suitability for a tourist-centric, urban beach setting, such as Waikiki? To answer these questions, this study uses geographic information system (GIS) to project historical erosion trends along the Waikiki coastline through the years 2050 and 2100, while approximating the effects of sea level rise on shoreline migration using the Bruun Rule. This GIS analysis is used to identify erosion impacts to land and structures along Waikiki and to estimate costs of each management strategy. Costs are estimated using tax map key (TMK) and local construction cost data. The comparison of strategies also draws on erosion management literature to identify the advantages and limitations of each strategy. The pros and cons of each management approach are compiled and categorized according to their impacts to the economy, environment, recreation, storm protection, and natural resources. Findings from the analysis indicate that armoring may be an effective and economical approach to manage erosion along the Waikiki coastline. While retreat may be the ideal approach in terms of storm protection and armoring may be the least expensive among the strategies, the significant impacts associated with these strategies, including, beach loss (armoring), land loss (retreat) and lost economic activity (armoring & retreat), justify employing nourishment as a central erosion management strategy in Waikiki. Although further research is necessary to better understand the optimal combination of strategies and the complexities of implementation, this study can serve to understand the value of nourishment and other strategies as part of an effective comprehensive beach management plan for a highly valued coastline and tourist destination.

Keywords: erosion, sea level rise, coastal management
Social entrepreneurship tourism: An intermediary strategy for community-based tourism in remote coastal communities

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Many remote coastal communities in the less developed world are dependent on artisanal fishing activities for their livelihoods. Unfortunately, for many of these communities the fisheries are declining. As a consequence, many development strategies for these areas are focused on creating alternative or supplemental livelihoods in the hope that an increase in alternative income-generating activities will result in a reduction in fishing efforts, thus, reducing the pressure on this declining resource (and potentially creating conservation benefits). The diversity of the coastal and marine tourism (CMT) industry and its associated potential for equal employment opportunity make CMT a potential development strategy for livelihood diversification. Community-based strategies including community-based management (CBM) and community-based tourism (CBT) are part of the development vernacular. The goals of community-based strategies are commendable; however, there are many challenges in transitioning remote coastal communities from traditional fisheries livelihoods to CMT opportunities. First, recreational tourism is a foreign concept to many subsistence fisherfolk. The worldviews of remote fishing communities become apparent in the context of tourism development. Second, remote coastal communities often lack direct exposure to tourism activities. This under-exposure to tourism affects the level of awareness of tourism. Thus, the lifestyle gap between remote fishing communities and those who travel to them coupled with low levels of awareness of tourism may inhibit community members from meaningfully participating in CBT. Particularly, the inclusive planning processes advocated by CBT development strategies may be unrealistic for some remote coastal communities in developing nations. This paper presents research that sought to explore the viability of CMT based on both the realities of fisherfolk in remote coastal communities and the characteristics of small-scale surf tourism development projects in the Philippines. Fisherfolk interviews revealed that awareness of tourism activities (costs and benefits) within three remote coastal communities in the Philippines was minimal. These results indicate the limited potential for effective participation in tourism development as called for by CBT strategy. To place the documented lack of tourism awareness into a larger development context, in-situ observations combined with key informant interviews were conducted on two small-scale surf-riding tourism projects in remote coastal communities. Both projects are run by outsiders, yet were planned with intended benefits for the respective communities. Using a constructivist approach, this research drew comparisons and interpretations between the two existing tourism development models. Similarities between the two models were combined to suggest an alternative strategy for small-scale tourism development in remote coastal communities. The proposed outcome, the Social Entrepreneurship Tourism Model, aims to fulfill the social benefits associated with CBT. The Social Entrepreneurship Tourism Model relies upon projects where social benefits are prioritised over financial profits. Thus, Social Entrepreneurship Tourism Model is suggested as an intermediary strategy for CBT for achieving CBT-like goals in remote coastal communities where participation may be hindered by a lack of tourism awareness.

Keywords: remote coastal fishing communities, Philippines, surf tourism, community-based tourism, social entrepreneurship
Laidback coastal resorts setting the pace for sustainable hotel practices

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Sustainability, generally, implies achieving a balance between environmental, economic and socio-cultural aspects, otherwise known as the ‘triple bottom line’ (Elkington 1998). The property development and hotel industries are active in operationalising sustainability and CSR practices. Despite this, empirical data that comprehensively describes and organises these practices are lacking from the literature (Weaver et al., 2013). Certification and award programs provide a promising source of information to examine the sustainability practices of hotels. This paper examines the sustainable hotel practices of Asia-Pacific hotels utilising an inductive content analysis of self-reported award submissions. All award submissions, a total of 64, for the 2009 and 2010 Hotel Investment Conference Asia Pacific (HICAP) Sustainable Hotel award scheme were content analysed. According to the HICAP website (HICAP 2011), the Awards: …aim of recognizing hotel and developers in the Asia Pacific region who demonstrate exemplary sustainable practices and environmentally and culturally responsible development. Through these awards we hope to inspire industry-wide commitment to embracing and proliferating sustainable development as standard practice to help preserve our global local environments and cultures. Award submissions are reports of no more than 2,000 words describing and documenting their practices. The database contained over 100,000 words of text, which provides a critical mass of information across a diversity of practices and depth. The sample consisted of a range of hotels (Independent, Regional Chain, National Chain and Multi-National Chain) from a broad range of countries across the Asia-Pacific Region (India, China, Australia, Malaysia, Thailand, Indonesia, Maldives, Philippines, Singapore, South Korea, Sri Lanka, Fiji, Japan and Vietnam). Over 594 sustainability practices were identified. Three primary categories of sustainability practices emerged; operations based, community related and design initiatives. The results were geographically differentiated between urban (n = 38), coastal (n = 19) and other (n = 7) locations. Urban located hotels reported the most number of sustainable practices (290), followed by coastal (247) and other hotels (57). However, coastal hotels averaged twice as many sustainable practices per application (13) when compared against other (8.14) and urban hotels (7.63). Methodologically, the results provide a detailed replicable methodology for the analysis of sustainable practices of hotel developments. Theoretically, the paper proposes a sustainability framework that aspirational hotels can utilise to benchmark sustainability practices against. The results also emphasise that coastal hotels, particularly those within this sample, are more acutely aware of their locational sensitivities and are thus innovative adopters of sustainable practices. The identification of a range of specific sustainability practices can also be utilised by coastal hotels to assist their operations and CSR commitments.

Keywords: sustainability practices, hotels, Asia Pacific, coastal hotels
Projecting sea level rise impacts on waves and surfing

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Climate change and sea level rise will impact coasts, threatening infrastructure, property, livelihoods, and ecosystems, including beaches. Millions of people visit beaches each year, many of them to go surfing. Waves are critical physical components of these coastal ecosystems and are essential for the pursuit of surfing; surfers rely on specific places in the coastal ocean—surf-spots—where waves reliably break. Surf-spots are significantly valuable to the lives and identities of surfing’s adherents, who number in the millions worldwide, and to the identities and economies of many coastal communities. Waves and surfing are at the heart of a multibillion dollar recreation industry and individual surf-spots can sustainably generate millions of dollars annually for adjacent towns and cities. Despite their value as cultural and economic resources, the potential impacts on waves from environmental change and sea level rise in particular are, in many cases, poorly constrained. Most efforts to predict such impacts are either too unwieldy or too low resolution to be of use to coastal communities or to surfers themselves. Using the philosophy of a citizen-science approach, I surveyed more than one thousand California surfers to characterize the depth of their local knowledge about specific surf-spots. In order to surf safely and successfully, in addition to physical skills, surfers must develop Wave Knowledge—an understanding of the dynamic interactions of waves with the coastal environment. I combined Wave Knowledge with basic principles of oceanography to generate a projection for how sea level rise will impact waves on a surf-spot by surf-spot basis. My results suggest that in California, of the 105 surf-spots evaluated by three or more survey respondents, more than one third are vulnerable to sea level rise. These surf-spots are characterized as Endangered or Threatened based on their attributes: their future quality—and thus their utility for surfing and surfers—could be diminished or they could drown entirely by the end of this century. Five percent of surf-spots evaluated in this study could improve as a result of sea level rise. Coastal management actions not related to waves or surfing have the potential to alter the complex coastal processes and can affect waves, both directly in the present as well as through a coastal system’s innate capacity to adapt to rising sea levels in the future. It is possible that some Threatened surf-spots could survive in higher sea levels if these natural coastal processes are allowed to adapt unhindered. By highlighting these relationships, this study presents an important step towards bridging surfers, wave resources, and coastal management. Closing this gap entirely is essential to appropriately respond to and mitigate the threats that sea level rise, environmental change, and human activities pose to waves and to manage and protect these valuable cultural resources for coastal communities and future generations.

Keywords: waves, surfing, sea level rise, local knowledge, coastal management
Contemporary issues and challenges in the Lagunas de Chacahua National Park, Oaxaca, Mexico: An application of the human-artifactual-natural system (HANS) framework

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Marine protected areas constitute not only a recognized tool for the sustainable management of goods and services in coastal areas, but also are places for diverse touristic, recreational and subsistence activities, involving multiple stakeholders with different economic interests, cultural backgrounds and environmental attitudes. Thus, for public policy purposes, protected areas must be seen as complex systems linking humanity and nature. The overarching goal is to design institutional arrangements to preserve the protected areas without detriment of the well-being of the protected area-dependent communities. As special cases of marine protected areas, national parks are especially interesting because the stakes are high. As a result, advocates of both sides of the sustainable equation - preservation and development- are too often in prolonged conflict. Lagunas de Chacahua National Park is located along the west coast of Mexico. The park has great natural beauty and resource richness. However, the park also has a long history of poverty and marginalization in the local communities. Presently, the park does not have a high touristic profile; the major activities are subsistence fishing in the ocean and in the estuary and agriculture. With the construction of a major highway, the park will soon be integrated with other touristic destinations along the Oaxaca coastal corridor, between Acapulco and Huatulco. This imminent development will create great challenges for park governance and ecotourism development. With this background, the aim of this study was twofold. First, to explore the key components and linkages of the activities in the park, by using the Human-Artifactual-Natural System (HANS) conceptual framework (Miller et al. 2014). Second, and based on the outcomes of the previous step, to identify the institutional challenges and policy opportunities for managers regarding 1) the quality of life, livelihood and income diversification for the resident population (composed of locals and tourist brokers), 2) the quality of the touristic experience and environmental education for tourists, 3) the opportunities for environmental protection, and 4) the infrastructural needs and development. Quantitative and qualitative information was collected through semi-structured interviews, focus groups and social surveys (involving the elicitation of seasonal calendars). Results show 1) locals are seriously interested in diversifying occupationally into the tourism sector, 2) critical infrastructure needs include ecotourism facilities compatible with environmental protection, 3) there is a great need for interpretative centers to provide environmental education to tourists and residents alike, and 4) institutionally, parks policies and regulations are appropriate, but greater enforcement in needed. The study concludes that the HANS framework is useful in helping managers to set priorities regarding policy options and the types of research needed for the future.

Keywords: marine protected areas, livelihoods, park-dependent communities, sustainable tourism
Commercial home experiences the Samoan way: Family holidays at beach fale

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In Samoa, most of its tourism accommodation is locally owned and operated. As an alternative livelihood strategy to increasingly foreign owned large hotels and resorts, local families have built low-cost beach fale accommodation (consisting of thatched beach huts) in prime side coastal locations (Scheyvens, 2006). These beach fale are proving popular with visiting families from overseas as offering cultural immersion into the Samoan way of life or fa’a Samoa. There have been several development studies on fale operations but none on the demand side of the growing family market from overseas. Many Western families are no longer satisfied with traditional sun and sea resort holidays but want to expose their children to more holistic living with a slower pace and deeper connection to place and people (Fullagar, Markwell, & Wilson, 2012). Holidaying at the seaside have a long tradition for families and are associated with wellness benefits. A better understanding is then needed about what is perceived as beneficial about Pacific Island hospitality and why families choose to immerse their children in the local culture and place. Little is known about the hospitality experiences of families and their social interactions which are paramount to the memorable experiences sought on family holidays (Schänzel & Lynch, forthcoming). The aim of this study is to provide insights into the neglected social hospitality experiences of families offered by commercial homes (Lynch, McIntosh, & Tucker, 2009) or beach fale compared to commercial resorts in Samoa. This explorative study is based on 10 semi-structured whole family group interviews conducted with New Zealand and Australian families (30 parents, grand-parents and children (aged 7-18)) while on holiday in July 2014. Because of the explorative nature of this research an interpretative paradigm and in-depth interviewing with thematic analysis was chosen. The findings support a trend towards families looking to have more authentic, culturally educational and socially interactive experiences on holiday. The Samoan hospitality offered at the beach fale succeeded in providing a shared, fun experience for the visiting families that is unique, sensory stimulating and memorable through the cultural immersion in the Samoan way of life. It is argued that beach fale tourism can offer a more sustainable alternative to commercial resorts for families which allows for a culturally richer and sensually deeper experience and provides wellness benefits through promoting a sense of affinity between culture and nature in Samoan society. This study seeks to capture deeper insights into managing issues of families, culture, social hospitality and Pacific Island coastal tourism.

Keywords: coastal tourism, family tourism, beach fale, Samoan culture, commercial homes
Can coastal tourism preserve cultural heritage? A qualitative inquiry of artisanal fishermen and the Caballito de Totora in Huanchaco, Peru

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Coastal tourism is most commonly comprised of visitors seeking “sun and beach”. However, many cultural resources are located within coastal zones and, thus, can be a key decision factor in selecting a particular coastal destination. What is unknown is how tourism can facilitate cultural heritage preservation when cultural resources are threatened by climate change, globalization and urban development. In this study, we interviewed artisanal fisherman (13) and non-locals pursuing tourism initiatives (4) to explore the role of tourism in cultural heritage preservation of the Caballito de Totora in Huanchaco, Peru. The Caballitos de Totora are fishing boats handcrafted from reeds (totorales) that predate the Incan civilization. These watercraft are still made and used by fishermen in this coastal tourism destination of northern Peru. However, this once thriving group of fishermen now only has about forty individuals continuing this practice, which is considered to be of national significance (Patrimonio Nacional). Additionally, this cultural practice is threatened by declines in the number and quality of marshes in which the fishermen can harvest the reeds. The goal of our study was to understand the fishermen’s perceptions of threats and opportunities related to tourism development and cultural heritage preservation, as well as assess prior and current tourism development efforts that promote the Caballito de Totora. We intercepted and conducted semi-structured interviews with fishermen along the coastline where they store their watercraft (convenience sampling), asked for recommendations of other fishermen with whom we should interviews (chain referral sampling), and followed leads to find nonlocals working on tourism development initiatives (strategic sampling). Interviews were conducted in Spanish, audio recorded, transcribed, then translated; observations of the activities of fishermen were documented and debriefing memos were made daily while onsite. We coded these data using thematic analysis and conducted continual insider peer debriefing throughout the analytical process. Our findings highlight the threats of sea level rise and development pressures on the marshes, the role of government in both protecting and hindering the tradition, the opportunity for surf tourism to maintain youth engagement in the practice, and the concern for a loss of cultural pride with tourism development. Furthermore, our study revealed that the capacity for tourism development is hindered by several factors, including the limited awareness of a link between the Caballito de Totora and a thriving tourism economy, the lack of an orchestrated tourism development effort, major adjacent destinations (Chan Chan and Huaca del Sol y de la Luna archeological sites), and success yielding invidious attention among fishermen. These insights illustrate the potential for coastal tourism to preserve cultural heritage; however, successful development efforts will need sustained and consistent coordination, a strategy to deal with additional development threats as the tourism economy expands, and a commitment to facilitating ownership and pride among the communities with direct links to cultural heritage (such as a focus on youth heritage education and adult entrepreneurial training).

Keywords: development, climate change, culture, surf tourism
Recreation impacts of wave energy projects: Who’s concerned about what?

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Wave energy is an emerging technology employing floating devices to extract power from surface waves or associated pressure fluctuations. Wave power is expected to become an important “green” energy source, but it may affect other coastal marine resources such as fisheries, wildlife, and recreation. Several wave power projects have been proposed for the th the 300 mile Oregon Coast, which has consistent high-energy wave power (as much as 40-70 kW per meter of coastline). Recent studies by EPRI suggest wave projects could provide up to 500 MW off the Oregon coast, and the state has actively supported development of this new energy sector through policy decisions and public-private partnerships (OWET). Nearly one hundred conceptual designs of wave devices have been developed worldwide, but only a few have been tested at full size, and fewer have been developed at commercial scales. Several projects have been licensed for pilot deployments, and commercial projects are being proposed. Potential impacts to commercial fishing and coastal marine ecology have received considerable attention. But wave energy projects may also impact recreation resources, including access, aesthetics, wave or hydraulic characteristics, wreckage, salvage, recreation-relevant fish and wildlife, and displacement to other recreation areas. Public perceptions of impacts may affect the ways they are studied and/or considered when siting and developing wave energy projects. Although some local residents are well informed about wave power development, many Oregonians have little knowledge of potential projects or how they may affect coastal resources. A content analysis of media articles about wave power (and the public comments those articles induce) provided initial data describing public concern about recreation impacts. We analyzed wave power articles published by the Oregonian, as well as responding comments posted on the paper’s website. The Oregonian is the largest newspaper in the state. Results show that articles emphasize the power benefits of wave projects, rarely providing more than a simple listing of possible negative impacts. Online comments provide a more balanced view and bring in a wider range of concerns. An online survey of surfers provides additional information. The survey was conducted by contacting members of Surfriders, an organization of avid surfers many of whom are actively interested in coastal issues. The survey identifies concerns about impacts from wave projects, as well as support for mitigation options. Wave power projects are likely to become an important part of the overall energy picture. But good information is needed to sort through positive and negative impacts. The process for identifying studies, reviewing findings, and integrating them into long-term management and mitigation plans involves a variety of stakeholders, so public perceptions play a role in what gets done. The presentation will discuss implications for agencies and other stakeholders requesting and reviewing studies conducted by utilities as projects are licensed and built-out.

Keywords: wave energy, hydro-kinetics, recreation impacts, public perceptions
Managing heavily visited marine sanctuaries serving diverse nationality groups: The case of Hanauma Bay Nature Preserve

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As immigration and international tourism burgeon unabated, stewards of marine sanctuaries are challenged with managing growing and increasingly diverse visitor populations comprised of various nationality groups, with attendant language barriers. Fortunately, meeting this challenge can be greatly facilitated by understanding the characteristics, opinions, and behavior patterns of visitors and how these differ across nationality groups. This paper reports on the achievement of such an understanding in the case of Hanauma Bay Nature Preserve, a heavily visited and intensively managed marine sanctuary located 12 miles from Waikiki on the Hawaiian island of Oahu. The Preserve maintains interpretive exhibits and operates a mandatory video presentation that teaches visitors how to minimize their environmental impacts. Insights were gained from an intercept survey of visitors that was conducted in 2013-14 and obtained a response rate of 87.2%. Self-administered questionnaires available in five languages were completed by 2,282 visitors. Eighty-nine percent of respondents were nonresidents of Hawaii. Respondents resided in a total of 35 countries, the most frequently mentioned of which were the U.S., Canada, Japan, South Korea, and Australia. An estimated 22.0% of visitors did not speak English. Given this diverse visitor population, Preserve managers need to expand multilingual signage and the hiring of multilingual staff and translate all educational and interpretive materials into multiple languages. Many respondents complained about snorkelers and swimmers standing on reefs or otherwise abusing marine life. Such abuse may result in part from the fact that the mandatory video insufficiently explains that the reef supports attached lifeforms that sustain fish and other marine creatures, and that treading upon these lifeforms will destroy them. Also, prior to video showings, headsets that provide simultaneous interpretation in seven languages are made available to international visitors but such availability is announced in English and international visitors must voluntarily request a headset. As a result, many international visitors do not receive the video’s “look but don’t touch” message. Adding foreign language subtitles to the video would mitigate this problem. Subtitles in Japanese are especially needed since Japanese-speakers comprised the largest foreign-language group and displayed the lowest levels of self-assessed environmental learning. Forty-five percent of respondents did not view any educational exhibits and those who did view exhibits devoted only 5.7% of their time to this activity, possibly due in part to the fact that the exhibits do present information in languages other than English or employ the latest forms of educational and interpretive technology. Adopting such technology would make the interpretive program more exciting, interactive, and effective, especially for young people. Given that the percentage of visitors in their 20s has declined vis-à-vis comparable results from a visitor survey conducted in 1989-90, such improvements would help to stimulate environmental awareness among 20-somethings, who grew up with computers and video games and some of whom will be making environmental policy in one generation.

Keywords: Marine sanctuaries, visitor management, intercept surveys, language barriers, Hawaii
Monitoring destination sustainability: The case of Hawaii

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Destinations seeking to achieve sustainable tourism must monitor key indicators of their progress in so doing. The purpose of this paper is to document trends in such indicators in the case of Hawaii. Since the sustainability of tourism in Hawaii is linked to the sustainability of Hawaii in general, which, in turn, is linked to the sustainability of the world, separate sets of “micro-”, “meso-”, and “macro-” indicators of the sustainability of tourism in Hawaii, of Hawaii in general, and of the world, respectively, were assembled. Whenever possible, a base year of 1995 was used. However, in the case of some analyses missing older data for some indicators necessitated a base year of 2004. Most of the indicators run through 2011. If the paper is accepted, all indicators will be updated. Trends in “macro-indicators” during 1995-2011 were mixed. World population and the NOAA Greenhouse Gas Index both grew at an average annual rate (AAR) of 1.3%. International visitor arrivals, international tourist receipts (through 2010), nominal GDP per capita, and real oil prices grew at AARs of 3.9%, 5.6%, 4.2%, and 9.1%, respectively. Trends in the “meso-indicators” for “Hawaii in general” during 2004-2011 were also mixed. While pounds of fish landed per commercial fisher increased at an AAR of 1.9% and pounds of toxic chemicals released declined at an AAR of 3.9%, de facto population and number of vehicle-miles traveled increased at AARs of 1.0% and 1.3%, respectively; real GDP per capita declined at an AAR of 0.2%; real fossil fuel expenditures increased at an AAR of 3.6%; the number of threatened or endangered species increased at an AAR of 2.9%; and Monk Seal births declined at an AAR of 3.6%

Trends in “micro-indicators” for Hawaii’s tourism industry during 2004-2011 were more negative than positive. Although the percentage of visitors that rated their experience “excellent” increased at an AAR of 1.6%, aggregate attraction attendance and real visitor expenditures declined at AARs of 1.4% and 1.7%, respectively. Moreover, the percentage of residents that agreed with the survey statement, “this island is being run for tourists at the expense of local people” increased at an AAR of 0.8%. An experimental index was created to simultaneously monitor the economic, sociocultural, and environmental components of tourism sustainability in Hawaii and its principal islands. The index was conceptualized as per capita “economic benefits” minus per capita “sociocultural and environmental costs,” adjusted for variations in the sizes of the islands. For a given island, real visitor spending per resident was a proxy for “economic benefits”, the number of accommodations units per square kilometer was a proxy for “environmental costs”, and average daily visitors per 1,000 Native Hawaiians per square kilometer and average daily visitors per 1,000 non-Native Hawaiians per square kilometer were proxies for “sociocultural costs”. After normalization, the “cost” variables were subtracted from the “benefits” variable for each island. Results revealed that the islands’ tourism sustainabilities have not fluctuated dramatically in recent years but varied significantly across islands.

Keywords: destination sustainability, indicators, monitoring, Hawaii
Viability of non-resident open water swimming event competitors as a target market: A case study

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Tourism in any destination must be economically viable to be sustainable, requiring destinations to responsibly generate profits to support residents’ livelihoods and fund environmental protection efforts. The economic viability of destinations can be significantly enhanced by conducting successful events designed to increase visitor expenditures. This paper presents a profile of nonresident participants in the Waikiki Roughwater Swim (WRS) that emerged from a survey of participants conducted in September 2011. This profile was generated to provide the Swim organizers with actionable marketing intelligence. The WRS is a 2.4-mile community-based, amateur swimming competition held annually on the Hawaiian island of O‘ahu. Self-administered questionnaires were distributed to participants shortly after they completed the race. Four hundred nineteen participants, representing 48.4% of race finishers, completed the questionnaire. The response rate was 70%. The questionnaire included an 11-item battery of attitude statements designed to measure “athletic identity”, i.e., the extent to which one’s life revolved around athletics. It also included a 9-item battery of attitude statements designed to measure the extent to which “flow”, i.e., a state of total absorption in an intrinsically enjoyable task, was experienced during the race. Both phenomena were measured on scales from 1 to 5, in which 1 meant “strongly disagree” and 5 meant “strongly agree.” Thirty-three percent of respondents were nonresidents of Oahu. Because the expenditures of these nonresidents stimulated Oahu’s economy and those of residents did not, the findings reported below pertain strictly to nonresidents. Seventy-five percent were members of a swimming organization, suggesting that personal selling to the organizations’ leaders and advertising via the organizations’ newsletters and Websites may be effective channels through which to reach them. Sixty-five percent of nonresidents had 2010 pre-tax household incomes of $100,000 or more. Forty-two percent reported that the event was only one of several trip purposes. This finding, together with the substantial number and high incomes of nonresidents, evidence nonresident potential profitability as a market segment. Nonresidents on average experienced a high level of flow during the swim (3.99), were intrinsically motivated, and placed high importance on the event’s locale. On a scale from 1 (“not at all important to me”) to 7 (“extremely important to me”), high levels of importance were ascribed to “challenge myself physically” (5.90), “do something exciting” (5.70), “swim in a warm open water swim” (5.19), and “swim the famous Waikiki coastline” (5.07). These results suggest that advertisements should explicitly mention the event’s attractive and unique geographic and historical setting and include reminders of the psychic rewards of race participation. Eighty-seven percent had previously traveled to an open water swim competition. Eighty-six percent trained for the event. On average, they had 18.6 years of formal education, completed 12.1 open water swims in the past three years, finished the race more quickly than did residents (p < 0.001), and scored high on the athletic identity (3.70) scale. These results suggest that advertisements must be sufficiently sophisticated to resonate with well-educated, accomplished, and committed athletes.

Keywords: sports events, ocean-based recreation, marketing, Hawaii
Deep, dark and cold: Risk and the UK leisure diver experience

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This abstract relates the findings of a study conducted in collaboration with the Royal National Lifeboat Institute (RNLI) and the British Dive Safety Group (BDSG) in 2013/14. The overarching aim of the research was to profile recreational scuba divers (hereafter referred to as ‘leisure divers’) in the UK according to their perceptions of, and behaviours relating to, risk and safety in diving practice. The development of a ‘risk profile’ would be used to inform methods of effectively communicating safety messages to high-risk diver groups. In 2012 there were an estimated 208,000 leisure divers in the UK, and 80% (417,592) of diving ‘experiences’ took place in the sea (Arkenford 2012). Despite these figures, scuba diving in the marine environment is a relatively under-researched activity in the UK. Moreover, with the exception of a few key studies (Wilks & Davis 2000; Todd 2004; Coxon, Dimmock & Wilks 2008), there has not been detailed analysis of the interaction between risk and the leisure diving experience. The research employed a comprehensive, multi-method data collection process including surveys, interviews and focus groups. The basis of the discussion for this abstract is the primary data collected via a large survey questionnaire designed to gather information about UK divers’ participation; their perception and experience of risk; and their demographic profile. This survey was administered online (electronic), face-to-face and via the telephone. In total 3,848 usable survey responses were received, of which 3,484 were submitted through the online survey. Analysis of a selection of survey questions and responses was conducted to provide both an experience score and a risk score for each respondent. K-means clustering analysis of the data was undertaken in order to identify six clusters of divers amongst the respondents who exhibited statistically significant difference to each other in relation to their risk score. These six clusters were reduced to five audience segments (two of the clusters were very similar). The five audience segments were ranked in terms of risk (where 1 is the most risky and 5 is the least risky grouping) and were labeled as follows: 1. Club Divers (Risk rank 4); 2) Young Intermediates (Risk rank 1); 3): Learner Divers (Risk rank 2); 4) Young Aspirers (Risk rank 3); and 5) Time Served Instructors (Risk rank 5). Clear differences emerged between the higher risk groups (Segments 2 and 3) and lower risk groups (Segments 1 and 5). The variables where differences were observed include respondent life stage, motivation, experience (involvement) level, country/location of training, precautionary practices, and incidents. The research generated specific implications for the management of leisure diving in the UK, and these warrant further investigation. Most notably, the study revealed a view within the UK diving community that ‘if you are trained in UK waters, you are more prepared to dive in them’. By extension, the logic informing this view suggests that those who are trained abroad are at more risk when diving in the UK – unless additional training and preparation is undertaken. This premise was supported by the survey data, as the divers who emerged in the higher risk segments were more likely to have been trained, and dive most often, outside of UK waters.

Keywords: scuba diving, safety, risk profiling, perceptions
Taking stock: Community perception of a mangrove restoration and alternative livelihood program in the Verde Island Passage, Philippines

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Community-based management has a long history in the Philippines, especially when it comes to marine resources. The Verde Island Passage (VIP), located in the northern Philippines and dubbed the “center of the center” of the world’s marine biodiversity, is no exception. This case study looked at community perception of a mangrove protected area located in the VIP, in the small barangay (village) of Silonay, within the province of Oriental Mindoro. I used a participatory research approach called the Community Voice Method (CVM), which employs filmed interviews to reveal community perceptions. For this project I used CVM to understand residents’ views of the current state of a mangrove restoration and alternative livelihood program Conservation International established several years earlier. The program, officially known as the Silonay Mangrove EcoPark Project (SMEP), included several types of ecotourism initiatives, including programs where visitors paid to plant mangrove propagules as well as more traditional tourism in the form of tours along a mangrove boardwalk and in kayaks. Overall, CVM revealed that SMEP has been a success in the eyes of the community by bringing additional income, increased visitors and visibility, increased attention from government and NGO agencies, and increased protection from storms. Additionally, the analysis revealed that on the whole interviewees perceived improvement in the condition of their ecosystems and felt that SMEP had engendered Silonians to be more conscientious about caring for their environment. However, it is of course important to emphasize that the results of this qualitative evaluation need to be triangulated with other quantitative socio-economic studies as well as ecological surveys to confirm the success of the project. Looking at factors such as whether or not there has been a quantifiable increase in income and biological resources is critical to fully understanding the status of SMEP. This study represents the first time CVM has been implemented specifically as a program evaluation tool, and the project revealed that CVM has potential to be a useful qualitative evaluation tool. Though imperfect, the film and other data from subsequent focus groups and surveys give CI systematic insights into where SMEP stands from the viewpoint of the community, which prior to this study, the staff only had an idea of anecdotally. However, despite this utility, I also noted that due to the small size of Silonay, little of what was expressed in the film seemed to be an entirely new insight. It seems that CVM could prove to be a more useful evaluation tool in larger communities that may not already be meeting regularly, as seemed to be the case in Silonay. The film and focus groups, though still useful as a self-reflexive tool within the context of Silonay and SMEP, could prove more powerful in communities where less dialogue surrounding a project is already occurring prior to the evaluation.

Keywords: Philippines, mangroves, participatory, community-based, ecotourism
Social carrying capacities for recreational uses of coastal lagoons: A mixed methods approach

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Coastal lagoons can be highly valued for a wide range of recreational activities such as fishing, clamming, boating, and water tubing; and commercial activities such as fishing, clamming and aquaculture. Yet these water bodies are limited and without careful spatial planning, it is possible that avoidable controversies and conflicts will occur. Thus, managing coastal lagoons can require high quality environmental and social spatial data. However, the quantity and quality of geospatial data concerning the biophysical environment have typically been much better than the data for human uses and attitudes. Furthermore, monetary values have been quantified and mapped much better than intangible cultural values. This study explored methods for improving the spatial data on human uses and connecting it to the spatial data concerning the biophysical environment. Because the lagoons are complex spatially and temporally as well as ecologically and socially, a mixed methods approach was required to understand where uses occur, how they vary over time, what different user groups think about the co-occurrence and intensity of different uses, and the interaction between recreation and the lagoons' ecology. The objectives of this research were to use multiple methods to quantity, value, and map recreational and commercial activity on coastal lagoons along the south coast of Rhode Island, USA, and to examine the relative strengths and limitations of each method individually and the potential benefits of a multiple methods approach. High-resolution geospatial data for activities on the ponds and along the shoreline were created using a laser rangefinder, GPS, and ArcPad from boat based transect lines on the ponds. The researchers also used maps that were derived through exercises with key stakeholders. Finally the project used random intercept surveys at boat ramps, beaches, and marinas to record such information as travel patterns, perceived areas and sources of conflict or beneficial interaction, zip codes, etc. and to allow surveyees to partake in a participatory mapping exercise. This paper will (1) review the strengths and weaknesses of the different methods of collecting and representing data on coastal recreational uses, (2) discuss different methods of combining surveys on attitudes with actual measurements of use to create weighted use interaction maps within which interactions can be positive or negative and have varying levels of intensity, and (3) discuss the potential implications of this research for management.  

Keywords: spatial planning, social carrying capacity, coastal recreation, GIS, mixed methods
Cowboys or conservationists: Surfing tourism operators and sustainable development

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Surfing tourism has the potential to generate significant income and employment opportunities. Surfing tourism is a relatively recent activity in the Mentawai Islands, Indonesia, with the number of surf resorts and charter boats increasing every year since the early 1990’s. Current surfing tourism development in the Mentawai Islands has raised concerns regarding impacts and sustainability. Economic leakages, increased pressure on the environment and resources and adverse effects on the host population have been shown to be main obstacles to sustainable development. The host communities’ limited ability to partake in the tourism industry due to a lack of relevant education and unavailability of tools to assist them presents another key challenge. Katiet was selected as the case study village to be examined since it has been in the international surfing spotlight for more than two decades – it is located adjacent to Hollow Trees (HT’s), which is one of the most photographed waves on the globe. Due to this media exposure, Katiet has received the greatest number of surf tourists in the Mentawais. This paper utilises interviews with resort and charter boat surfing tourism operators to assess their perceptions concerning the development of the industry in the Mentawai region. Findings from the paper show that charter boat operators and resort operators had differing views as to how surfing tourism had developed, with resort operators considering it to be sustainable and well within carrying capacities, while charter boat operators felt it was unsustainable. There was agreement between charter boat operators that the growth of the industry was hindered by greed and had stumbled forward in an unregulated, “Wild West” manner. Several operators thought that even though the present situation of surfing tourism in the Mentawai Islands was not ideal in terms of regulation and sustainable management, it was a lot better than other surfing tourism destinations in Indonesia. A significant finding of this study was that operators believed that surfing tourism had radically altered the traditional fishing village of Katiet and was generating adverse socio-cultural impacts on the local community. Impacts identified by operators included unequal distributions of profits, creation of a handout mentality, and the demonstration effect. Operators also recognised the establishment of Surfaid, increased incomes, employment and business opportunities as benefits Katiet has received form the surfing tourism industry. This paper provides further evidence that surfing tourism development in isolated destinations is not a magic bullet for economic growth or even necessarily a positive influence. It illustrates a fundamental challenge that occurs in many remote, unspoiled destinations offering high quality and unique experiences for tourists - that the popularity of such locations often provides the catalyst for long-term degradation.

Keywords: Surfing tourism, operators, Mentawai Islands, sustainable tourism development, local community
Cumulative exposure of Hawaiian spinner dolphins (Stenella longirostris) to human activities

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The spinner dolphins of Hawaii Island are a small 668 ± 62 SE (95% CI = 556-801), genetically isolated population that rely on four sheltered bays to rest during the day. These bays however, are also used by people for recreational, tourism and subsistence purposes. Consequently the dolphins are repeatedly exposed to human activities on a daily basis. This repeated exposure to human activities may affect individual vital rates and ultimately population viability. Concerns have been raised regarding the effect of human activities on the Hawaii Island spinner dolphin population. The National Oceanic and Atmospheric Administration (NOAA) are considering a number of mitigation approaches to reduce the number and intensity of human-dolphin interactions. Prior to the implementation of any mitigation approach however, baseline information on the exposure to human activities is required. Here, we modelled the daytime cumulative activity budget (resting, socialising and travelling) of dolphins under impact (human activities within 100 m) and control (no human activities within 100 m) conditions. First, a systematic photo-identification study of individual dolphins (n = 235) was used to record their presence/absence in each of four important dolphin resting bays, based on the proportion of time they were observed in each bay. Secondly, concurrent passive acoustic recordings (n = 2148 days) were used to document the daily presence/absence of dolphins within bays. Thirdly, data from land-based and boat-based group focal follows (n = 428 hrs) inside and outside resting bays were used to provide behavioural time series of dolphins under control and impact conditions. Simulations were used to estimate location specific (inside bays/outside bays) activity budgets for individual dolphins. Finally, the cumulative activity budget of the population was estimated. During the day, individual spinner dolphins spent between 49.5% and 69.4% of their time resting (mean=61.7%, SD=6.5) and were exposed to human activities for 82.7% of the time. Despite the high level of exposure, human activities seemingly did not have a significant effect on dolphin activity budgets. This result is, likely an artifact of the low level of control data available (< 18% of observations) to make robust comparisons between behavioural patterns in control and impact conditions. Furthermore, intervals between interactions were short (median duration = 10 min), before dolphins were exposed again, which may prevent individuals recovering from disturbance and deprive them of rest. Control observations, as defined in this study, may not accurately represent true resting behaviour of spinner dolphins. Specifically, it is likely I quantified resting behaviour when dolphins were in a “light” rather than a “deep” sleep behavioural state, which may lead to rest deprivation, impaired cognitive abilities and ultimately effects on population viability. The chronic exposure of spinner dolphins to human interactions and the concurrent use of the resting bays for recreational, commercial and subsistence purposes must now be of major concern for management.

Keywords: human exposure, spinner dolphins, tourism
Pavones, Costa Rica has one of the longest left-breaking waves in the world and draws foreigners (primarily Americans) to surf and live there since the 1970s. Anderson (2014) and other researchers (Daskalos, 2007; Usher & Kerstetter, 2015) have remarked on the strong feelings of attachment resident surfers feel towards “their” local surf breaks and the need they feel to defend that territory. Other studies have found these expatriate surfers to be more territorial than native local surfers (Krause, 2013). The research questions guiding this study are: (a) In what ways have expatriate surfers claimed Pavones as their territory? (b) What effect does this have on the local Costa Rican community and (c) What implications does this have for past, present and future tourism development? The first author conducted an ethnographic study in Pavones from May to July of 2014. She engaged in participant observation and took extensive field notes on life in the community and interactions in the surf break. She conducted interviews with 23 current and former surfers, 28 resident foreigners and 35 tourists. The interview transcripts and field notes were coded in NVIVO for themes related to territoriality, in addition to other emergent themes. The second author reviewed a majority of the expatriates’ transcripts and the first author’s field notes in order to confirm or challenge the first author’s findings through peer debriefing (Creswell & Miller, 2000). Expatriate surfers in Pavones have been at the center of land and wave disputes in Pavones for decades. The purchase of a large amount of land by one foreign surfer in the 1970s has been the source of considerable controversy. Other expatriates have continued to claim rights to the wave due to the years they have spent surfing there. Expatriate, tourist and Costa Rican surfers noticed how much more aggressive expatriate surfers were in the water compared with local surfers. While the continual land disputes appear to have stunted tourism development in Pavones, claims to the surf break from some expatriates have created an unwelcome environment for tourists. A potential solution for mitigating future conflicts could be tighter government regulations on foreign land ownership and residency. Local residents and foreigners could also establish a joint council in order to manage use of the surf break and address conflicts that arise between resident and visiting surfers.

**Keywords:** surfing, territoriality, expatriates, Costa Rica
Virginia is for surfers? Perceived crowding and recreation conflict among local surfers in Virginia Beach

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Statement of the problem: Since it became mainstreamed in the 1960s, surfing has increased in popularity. The last estimated number of surfers worldwide was around 35 million, and with the prevalence of surf schools in many coastal communities, that number continues to grow (O’Brien & Eddie, 2013; Stranger, 2011). In many urban areas of the Eastern United States, surfers share beaches with swimmers, kayakers, boaters and other recreationists during the summer season. In Virginia Beach, a popular mass tourism destination, the city has created zones and regulations surfers must abide by in the summer in order to keep beachgoers safe. However, these surfing areas have become increasingly crowded due to surfing's popularity and have created conflicts for surfers. The research questions guiding this study are: (a) Which surfing areas are the most crowded in Virginia Beach? (b) What is the relationship between where people surf most and barriers to surfing? (b) What is the relationship between where people surf most and conflicts between surfers? (c) What are surfers’ preferred management scenarios, based on where they surf most? Methods: Data were collected by on-site surveys at public beaches in Virginia Beach and an online survey in fall of 2014. The online survey link was sent out through local surf organization listservs. A total of 407 surveys were collected. Results: The most crowded surfing areas were First Street, Croatan/Pendleton and the Virginia Beach Fishing Pier. There were significant differences between surfers in the more crowded surfing areas and surfers in other areas related to maneuvering around other surfers and surf school participants. There were significant differences between surfers in the more crowded surfing areas and surfers in other areas in terms of how often they saw surfer collisions and verbal conflicts. There were also significant differences between surfers in the more crowded surfing areas and surfers in other areas in their preferences for different management scenarios. Conclusions/Implications: The results suggest that crowding in the surfing areas has created interpersonal conflicts for surfers (Vaske, Needham, & Cline, 2007). The management scenarios most preferred by surfers could be solutions to alleviating recreation conflict. Increasing the size of the surfing areas, increasing the number of surfing areas and having a separate area for surf schools were some of the preferred management options, which could be implemented by the local municipal government.

Keywords: crowding, recreation conflict, surfing
Should we protect more if we account for tourism in marine protected areas?

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Marine reserves (MR) are areas designated by law or local communities to protect the natural environment and ban all forms of fishing. MR where initially proposed as a means to preserve the marine environment and protect against intensive fishing practices and habitat destruction. Although numerous research papers have explored in which conditions MR can produce economic benefits from fisheries, it has ignored the tourism value, which in many settings can be more important than fisheries. MR enables communities and governments to collect fees that would support the management of the area. Furthermore, increase biomass and diversity over time inside the MR can attract additional tourists to the area and increase its value. The objective of the present work was to explore the tradeoffs between fisheries and tourism benefits for different MR designs. To illustrate this tradeoff we present a simulation based on tourism data from the Mendes islands MR in Spain. A bioeconomic model is used to predict the fisheries profits and the biomass over time, which tourism benefits are dependent on. The model divides a hypothetical region in 4 patches and simulates an age-structured subpopulation of 3 species in each patch connected by adult dispersal. Fisheries profits are calculated based on the fishing mortality, price of fish and cost of each unit of effort. Tourism benefits are calculated based on the demand for diving in Mendes Islands, where there is a predicted number of divers based on the biomass and price per dive (Sala et al 2013). The model predicts the equilibrium economic outcomes from fisheries and tourism for different combinations of fishing mortality and marine reserves. We found that there is a concave tradeoff between fisheries and tourism, in which there can be a substantial increase on the delivery of one service without a large cost to the other service. As expected, best tourism outcomes occur when there is no fishing and all the area is protected. Best fisheries outcomes occur with no MR. Optimal management is likely to seek a combination of the two services, where it maximizes total value of the whole system. If the area is open access (high fishing mortality) there is a clear win-win situation with marine protected areas, where one can have the best fisheries outcomes while at the same time maximize tourism value. With well manage fisheries there is a clear tradeoff, and optimal management will seek a combination of the two services depending on stakeholders priorities. Taking into account tourism values into marine spatial planning can be the determinant factor for MRs to be part of the optimal design. This research has shown the importance of accounting for tourism when doing marine spatial planning of coastal areas and proposes a framework to evaluate the tradeoff between fisheries and tourism benefits.

Keywords: dive tourism, marine reserves, fisheries management
The non-market value of private recreational boating in the Channel Islands National Marine Sanctuary

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The Channel Islands National Marine Sanctuary, located in central California (USA), provides environmental, economic, and social value to a variety of users. A lack of information on private recreational boaters (PRBs) limits the ability of managers to integrate the comprehensive socioeconomic value of the Sanctuary into policy. In particular, information is lacking on a subgroup of these stakeholders, non-consumptive users, who participate in activities that involve no “take” of marine resources (e.g. snorkeling, wildlife viewing, and kayaking). In contrast to other uses of the Sanctuary, such as recreational charter operations or commercial fishing, private recreational boating is not associated with a direct monetary value because these activities do not take place within a market. As a result, the interests of PRBs have the potential to be underrepresented in policy and the resources on which they depend may be at risk of being undervalued. To address this need, we developed an empirically-driven economic model that translates the choices of PRBs into direct monetary value. Data from a survey conducted in 2006 and 2007 on PRBs’ utilization of the CINMS indicated which sites and activities individuals chose for recreation. These individual choices were then correlated with site-specific biological and physical characteristics using a Random Utility Model (RUM) in order to evaluate which characteristics most influence boaters’ site choice. By integrating travel cost into this analysis, the value of a trip to the Sanctuary was monetized. The marginal value of site characteristics was also obtained using travel cost data and represents what boaters would be willing to pay for a particular site characteristic. The model estimates that non-consumptive PRBs receive a consumer surplus of $53.25 per trip. Taking into account the average number of boat trips per year, the total non-market value of non-consumptive private recreational boating is conservatively estimated to be $86,325 annually. Regardless of activity, all boaters were found to be positively influenced by biological characteristics and negatively affected by site exposure. Biological characteristics were considered as a composite index of fish species richness and abundance with invertebrate species richness and abundance. The marginal willingness to pay for one unit of this biological index (range of 16) varied from $10.11 to $16.78. Site exposure, which was measured as the angle between the predominant winds and the coastline (range of 165), was associated with a negative marginal cost between $ - 1.32 and $ - 0.91. Our model suggests that management actions that improve the biological quality within the CINMS, such as marine protected areas have the potential to increase the Sanctuary’s value to the non-consumptive private recreational boating community. This project demonstrates the feasibility of applying a Random Utility Model to recreational use of a National Marine Sanctuary and presents recommendations on future research of this nature. Additionally, our study is relevant to the non-market valuation of coastal and marine recreation worldwide, especially locations with high intensity of yachting/boating tourism. The results can be used in management decisions that affect marine resources and the stakeholders who value them.

Keywords: private recreational boating, random utility model, marine protected areas
How many is too many on Southeast Alaska shorelines? Commercial use capacities in the Tongass National Forest

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The Tongass National Forest is analyzing recreation use along 5,000 miles of shoreline as part of its “Shoreline II Draft Plan.” Due in fall 2015, the plan will revise commercial use capacities for 48 use areas in three ranger districts and Admiralty National Monument. Data from Forest Service encounter monitoring and commercial outfitter/guide use reports provide descriptive information about group sizes, lengths of stay, use locations, and the frequency and types of encounters. The present paper reviews this information, shows how the forest develops commercial use capacities, and suggests improvements and implications for management. Encounter monitoring was conducted through convenience sampling during patrols from 2012-2014. Although limited, the data distinguish different types of encounters based on mode of travel (different types of aircraft, boats, or on-shore groups), encounter distance, encounter length, communication between groups (via radio or in-person), and a subjective evaluation of the impact of each encounter. Outfitter-guide use reports from 2009 and 2010 identified shore-based commercial recreation use by location, along with group size, length of stay, and activities. Findings show stability of group sizes but variation in use and encounter levels. Use data show that few commercial groups use shore areas at the same time, so shore-based encounter rates are probably low. However, some higher-use locations have greater proportions of sea- and air-based encounters, so low capacities based on shore encounters may not substantially improve overall conditions. Monitoring and use information is helpful for grouping locations with different ROS characteristics, estimating current use levels, and characterizing the range of encounters at different types of locations. It is less well-suited for developing use-impact relationships or assessing how capacities might affect the number of encounters or related-social impacts. An improved monitoring system could integrate existing data. The forest has used monitoring information to develop seasonal capacities. The management system groups sites and locations, and then applies a formula based on average group sizes and number of days in a season. Capacities, and the proportions of overall use available for commercial outfitters, are expressed in service days per season. Limits on group size and the number of landings per vessel per day, and allocations to specific outfitters are part of the management prescription. Findings show shore-based seasonal service day capacities may not control sea- or air-based encounters, nor effectively distribute use in time or space. Improved capacities would match spatial and temporal scales, and prioritize the impact of different types of encounters. Other management actions such as registration or reservations may better target encounter impacts and allow higher capacities. Options ranging from voluntary registration and self-scheduling to formal reservation systems have been successful on rivers and could be applied in marine settings.

Keywords: capacity, visitor impacts, commercial recreation, vessel management
**Swim with us: Snorkeler attitudes and behavior towards dolphin tourism experiences**

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The popularity of interactive cetacean activities has led to the expansion of businesses that incorporate in-water experiences. The Hawaiian Islands is one example of these locations due to the Hawaiian spinner dolphin population. Dolphin tourism has been debated as a positive tool for education, conservation, and economic growth. In spite of this, the practice of swimming with these animals can negatively affect their ability to feed and reproduce (Tyne, 2015). Apprehension over the spinner dolphin has led to investigation of the population's health, yet few have examined the social considerations. Human attitudes and physical interactions with spinner dolphins were gathered to understand how proposed management will influence attitude and behavior towards dolphin tourism in Hawaii. Using a mixed-methods approach, four procedures were included: 1) participant observation of dolphin swim encounters; 2) video analysis of human dolphin-swims; 3) semi-structured interviews; and 4) survey of participants following swim activities (n=203) and three months later (n=143). Data collection was completed utilizing 11 different tour vessels and conducted from 2012 to 2013. Participants wore head-mounted video cameras and were asked to complete a post-snorkel survey examining their attitudes towards the dolphin swim experience. Over 85 hours of video was coded, characterizing 564 encounters. SPSS was used to run a bivariate correlation and chi-square analysis to compare the effects of snorkeler numbers, distance, and behaviors on dolphin response. Tours spent an average of 13 minutes per boat drop and direct contact between snorkelers and dolphins occurred in less than 3% of interactions. This number went up when dolphins were within arm’s reach of participants. Aggressive behavior was observed more frequently in swimmers who initiated closer interactions, however, the majority were not able to approach dolphins within arm’s reach. Participants indicated that space was a critical component; 48% said that that they would consider the swim successful if they got within 10 ft. of a dolphin. This distance was only observed 6.7% of the time, with the majority of swimmers staying between 14-21ft. Federal guidelines suggest a distance of 150 ft. from any dolphin, and do not condone water entry. These laws are not strictly enforced, as evidenced by the number of respondents (26%) who were aware of the recommendations. Self-reported reasons for wanting to swim with a dolphin remained reliable from the post swim and three month follow up surveys (t(203) = 0.0098, p< 0.05). The number one reason cited for wanting to swim with a wild dolphin was to have a unique experience (80.6%), the least popular motive was to touch a dolphin (6.5%), which was consistent with the self-regulated behaviors reported. Differences currently exist between Federal recommends for dolphin encounters and what is desired by the participant. By providing a comprehensive analysis of dolphin-swim tourism, this research can help to inform policy as the government considers new regulations pertaining to dolphin-swim activities.

**Keywords:** dolphin tourism, swim, video analysis, mixed methods
No lifeguard on duty: Swim at your own risk

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The law requires a tourism operator to undertake due diligence in relation to reasonably foreseeable risks. In the marine environment it is now well established that international tourists are a particular 'at risk' group for drowning and near drowning events due to factors such as poor swimming ability, unfamiliarity with aquatic environments and marine recreational activities, language, alcohol and drug use, and general disorientation (Wilks, 2011). The employment of lifeguards is increasingly recognized as an appropriate risk management and quality service response, as other injury prevention initiatives may not work with tourists. This paper examines the pattern of drowning and near drowning events involving international visitors and reviews the law and practice relating to the supply of lifeguards in tourist settings. A case study methodology was employed to describe the pattern of tourist drowning and near drowning events in marine settings. This was supplemented with a review of legislation, duty of care responsibilities and actual cases with tourists in marine settings across four countries. Finally, an historical data analysis of drowning and rescues of tourists on Queensland beaches was undertaken, including an examination of 44 overseas visitor deaths. The case studies confirm a pattern where tourist drowning and near drowning events are largely the result of unfamiliarity with the marine environment, and the activities in which they are involved, rather than intentional risk taking behavior. Rip currents are responsible for most incidents on surf beaches, while pre-existing medical conditions and panic are critical factors in snorkeling and scuba diving. A lack of supervision figures prominently with children drowning in tourist settings. These reasonably foreseeable and well documented risks to customers create a duty of care for tourism operators that goes beyond putting up a sign saying ‘No Lifeguard on Duty: Swim at Your Own Risk’ (Wilks & Davis, 2003). Research shows that visitors to beaches most often do not notice prominent safety signs put there to warn them of dangers (Matthews et al., 2014) and safety advice through mass media campaigns are unlikely to be seen or appreciated by short term visitors to a destination. An effective measure to prevent tourist drowning and near drowning events is the provision of lifeguards, an approach recently legislated for all commercial swimming pools in Hong Kong. Successful rescues and resuscitation occur near lifeguard supervised areas, and decrease with distance from supervision (Wilks et al., 2007). More importantly, lifeguard supervision can prevent injuries from occurring in the first place.

Keywords: lifeguard, duty of care, tourists, drowning, supervision
Beach safety education for tourists in Australia

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Australia has over 30,000 km of coastline and 11,912 beaches. The country is internationally recognized as a holiday destination, ranked number 1 for the ‘beach’ dimension of tourism from 118 countries in the 2013 Country Brand Index (FutureBrand, 2013). While most tourists enjoy safe visits to the beach, the coastline can be a hazardous environment. During the last patrol season Surf Life Saving Australia members made 11,711 rescues. There were also 84 coastal drowning deaths. Since only 3% of beaches are patrolled surf lifesavers emphasize the catch-phrase ‘If we can’t see you, we can’t save you’ and devote considerable time and resources to educating the public about swimming between the red and yellow flags on patrolled beaches. Since tourists feature prominently in rescue and drowning statistics this paper reviews key educational messages and argues that tourist beach safety education must start well before visitors reach their destination. The acronym FLAGS is used as a memory aid in many beach safety campaigns (Wilks et al., 2007) and was applied as scaffolding for the present review as it covers the main educational messages to keep visitors safe at the beach. Published research covering the FLAGS topics was examined.

Find the flags and swim between them
Look at the safety signs
Ask a lifesaver for some good advice
Get a friend to swim with you
Stick your hand up for help

Tourists continue to swim outside the flagged patrol areas and lack basic beach safety knowledge (Williamson et al., 2012). Most tourists cannot recognize a rip (narrow seaward moving water current) and when presented with color photographs of a beach that includes a rip most nominate the rip area as the place they would choose to swim (Sherker et al., 2010). Rip currents remain the main cause of rescues and beach drowning deaths in Australia. Adult beachgoers generally do not notice prominent safety signage positioned at entry points to beaches (Matthews et al., 2014). Beach safety messages for tourists rely largely on distribution of printed material, signage and electronic media at the destination - all of which may be ineffective with short term visitors focused on having a holiday and ignorant of hazards (too little, too late). Basic beach safety education must be made available earlier, ideally in schools and for international visitors before travel, focusing on key FLAGS messages.

Keywords: beach safety, tourists, education, surf lifesavers, Australia
Beyond VBN theory: The role of trust, knowledge, and efficacy in promoting pro-environmental behavior in the Great Barrier Reef Marine Park

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In the past 15 years, the total area set aside for conservation in marine protected areas has increased by more than 300% (McGrath, 2014; Toropova, et al., 2010). However, our understanding of how to manage these resources, particularly visitor pro-environmental behavior, has not grown as quickly (Agardy, 2004; Bellwood et al., 2004; Wynveen, Connally, & Kyle, 2013). While information campaigns have increased awareness of negative impacts on protected areas, there often has not been widespread adoption of behaviors that mitigate these impacts (Gifford, 2011). Hence, there is a need to understand the relationships between the antecedents to pro-environmental behavior and to identify the factors that promote (or dissuade) the adoption of pro-environmental behaviors. In a series of analyses, we used Stern et al.’s (1995) Value-Belief-Norm Theory (VBN) as a framework to understand the antecedents to pro-environmental behavior. Our survey measured the five constructs in the causal chain outlined by the theory (i.e., the respondents’ environmental worldview, their awareness of the consequences of impact(s), their belief in their personal responsibility concerning the impact(s), their sense of obligation to act, and a self-report of their own pro-environmental behaviors). We also measured the respondents’ institutional trust in the management agency and their perceptions of barriers thought to prevent the adoption of pro-environmental behaviors. Data were collected from Australian residents living adjacent to the Great Barrier Reef Marine Park who were contacted via telephone and asked to complete a phone survey and a follow-up email survey (n=324, 49% response rate). T-test results indicated that lower intensities of institutional trust were associated with a less biocentric worldview, a lower reported awareness of consequences, and a lower sense of obligation to adopt pro-environmental behaviors. Moreover, path analyses indicated that respondents’ trust in the management agency (Great Barrier Reef Marine Park Authority) moderated the relationships identified in the VBN theory. Finally, respondents’ perception of their level of understanding of the impacts (knowledge) and their ability to have an effect on mitigating them (efficacy) mediated several of the relationships between the antecedents of pro-environmental behavior. Recommendations based on these findings are two-fold. First, managers should attempt to increase visitors’ knowledge of the consequences of impacts and attempt to increase visitor efficacy in their ability to mitigate the impacts. Furthermore, findings indicate that programs designed to engage visitors in pro-environmental behavior should also focus on addressing the connections between knowledge and efficacy barriers and each of the antecedents of pro-environmental behavior, not just the behaviors themselves. Second, in order for such environmental communication and education to be received, processed, and used managers should attempt to foster the trust their stakeholders have in their agency. This is because, as our observations indicated, when trust increases, stakeholders develop stronger relationships among the antecedents of pro-environmental behavior. Specifically, managers should attempt to develop relationships with stakeholders through formal and informal interactions that provide accurate and objective information in a manner that demonstrates that the individual staff member and the agency care about the resource and respect the stakeholders’ thoughts and feelings.

Keywords: VBN theory, Great Barrier Reef, trust, pro-environmental behavior
Effects of interpersonal service at resorts on customer satisfaction and loyalty behavior at Japanese resorts

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Employees of tourism industries play important roles in customer satisfaction and emotion (cf. Wan, 2010). However, little research has investigated what are appropriate interpersonal service of employees at resorts and in Japan. This study, therefore, (1) explores what kinds of interpersonal service of employees at resorts will promote customer satisfaction in Study 1, and (2) examines the effects of interpersonal service at resorts on customer satisfaction and loyalty behavior in Study 2. Study 1 conducted interviews with 7 highly reputable and luxury resort hotel managers in Japan with 20 questions. All interviews were voice-recorded and transcribed. The results revealed that two kinds of services, “service based on individual customer needs” and “service concerned with customers’ privacy,” were important to enhance customers’ positive experiences and satisfaction. A previous study (Henning-Thurau, Gwinner, & Gremler, 2002) showed that the critical roles of customer satisfaction, trust, and commitment in influencing loyalty behavior are important in the consumer behavior. Based on this study and the results of Study 1, we postulated four hypotheses: H1. Interpersonal service will affect customer’s emotional experience; H2. Customer’s emotional experience will affect customer satisfaction; H3. Customer satisfaction will affect trust and commitment; and H4. Trust and commitment will affect loyalty behavior. Study 2 was conducted by Internet survey. We collected 624 customer evaluations on Japanese resorts. We translated some questions of Kuo, Chen & Lue(2012) and Han & Jeong(2013) into Japanese and added some questions on individual customer needs and service concerned with guest privacy, which were revealed at Study 1. Factor-analysis with principal component analysis and promax rotation revealed three factors which were, “dealing with customer issues,” “courteously greeting” and “feeling of distance” on the questionnaire of interpersonal service. And four factors which were, “healing,” “comfort,” “peace of mind” and “excitement” of customer's emotional experience, were found. Customer satisfaction, trust, commitment and loyalty intention were single factors. We conducted covariance structure analysis with a satisfactory fit to the data (CFI = .983, AGFI = .904, RMSEA = .088). Interpersonal service was a significant antecedent of the customer's emotional experiences. Thus, Hypothesis 1 was supported. While healing, comfort, and peace of mind were found to be significant and positive predictors of customer satisfaction, but not for excitement. Customer satisfaction positively and significantly affected trust, except commitment. The link from trust to loyalty behavior was found to be positive and significant, except commitment. Therefore, Hypothesis 2, 3, and 4 were partially supported. Results showed that interpersonal service was related to the customer’s emotional experience, customer satisfaction, trust, and loyalty behavior. Feeling of distance was an especially important factor of interpersonal service and promoted emotional healing of the customer at resorts. These two factors, which were discovered in this study, were critical for customer satisfaction and loyalty behavior in Japanese resorts.

Keywords: interpersonal service, customer satisfaction, loyalty behavior, resort
The emergence of the new museology has spurred a trend to motivate museum visitors to explore the world. Museum travel programs fall under several segments of the tourism industry, most notably the educational tourism segment. However, museums are becoming aware of the popularity of marine and coastal tourism, a segment of tourism in which they are often do not participate. Many museums are forming partnerships and strategic alliances with firms in this tourism industry to plan and execute profitable travel programs. Shaw and Williams (2004) define a strategic alliance as “an inter-organizational relationship, in which partners invest time, effort and resources while collaborating to achieve both individual and shared goals”. This poster approaches inter-broker relations using the broker-local-tourist model (Miller, 2008) as a framework for understanding the benefits for inter-organizational collaboration. The intention is to give tourism brokers an idea of ways and levels in which they can participate in partnerships with museums in travel program planning and execution and why it would be lucrative to do so. This exploration covers successful museum travel programs in the marine and coastal tourism segment, benefits for tourism brokers participating in partnerships with museums as well as what benefits the tourists experience. These benefits include, stability, consistency, access to new tourism segments, experiences and types of tourists as well as significant financial benefits.

**Keywords**: museum travel programs, marine and coastal tourism, the new museology, partnerships
Applying wildlife conservation tourism to marine endangered species conservation

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As global marine biodiversity decreases at an unprecedented rate, there is an increased demand for innovative, sustainable alternatives to consumptive natural resource usage. Non-consumptive uses, like tourism and recreation, are rapidly developing to meet this demand. Wildlife conservation tourism (WCT) is one tourism and recreation strategy that has arisen to explicitly prioritize wildlife conservation but also encourage responsible interaction between humans and their natural environment. These new developments are especially applicable to marine endangered species conservation as traditional consumptive uses are prohibited without proper licensure. Framed as a Human-Artifactual-Natural System (HANS) (Miller et al., 2014) this poster lays out the advantages and disadvantages of tourism and recreation for businesses implementing WCT as a means for protecting marine endangered species. These impacts can be biological, social, economic, legal, ethical, etc.; and they can be positive or negative. It presents recommendations that any organization can use as general guidelines to successfully implement WCT for marine endangered species. It also develops an outline for monitoring and evaluating an organization that chooses to endorse the recommendations. WCT has the potential to support endangered species conservation while simultaneously providing an impactful experience for the tourist. Conservation of endangered species can often lead to conflict, but collaboration between the human and natural components is possible through the exploration of new resource management strategies.

Keywords: sustainable tourism, wildlife conservation tourism, HANS model
This paper presents experiences and findings reached at a Nordic workshop on 'Monitoring and managing outdoor recreation in coastal and marine areas'. This is a topic that has yet to find its place within academia, resource management and policymaking and is an important future challenge, particularly for popular coastal destinations due to increasing visiting pressures (i.e., impacts, conflicts, etc.). The workshop, which took place in December 2014, was hosted by the Unit for Human Geography, University of Gothenburg, and invited researchers, practitioners and policy makers to present their situation and engage in fruitful discussions. A total of 17 persons participated; 12 participants from Sweden, 1 from Norway, 2 from Denmark and 2 from Finland. The workshop had three main aims. The first one was a presentation of the current status and importance of outdoor recreation monitoring and management in coastal and marine areas in the Nordic countries. Secondly, the workshop was also a way to discuss and direct future research, management and policy efforts on the topic with a basis on sharing knowledge and experiences among the participants at the workshop. Third, the workshop was a good opportunity to create a platform and network for Nordic experts who are actively involved with outdoor recreation/tourism planning and management in coastal and marine areas either academically, in practice or as policy makers. The main results from the workshop were twofold. The first result was four short presentations from each of the four countries with a focus on sharing current and up-to-date knowledge about the topic on outdoor recreation monitoring and management in coastal and marine areas. The second result was important findings from two group discussions that focused on four central questions. The first question concerned what knowledge managers and practitioners need in order to monitor and manage for outdoor recreation in coastal and marine areas. The second question concerned the consequences of viewing outdoor recreation as a land/sea interest in its own right and in what way this view interacts with other land/sea interests. The third question concerned a discussion about where outdoor recreation and nature conservation meet in terms of monitoring efforts and how better integrated studies across different disciplines can assist in improving outdoor recreation monitoring and management of coastal and marine areas. Finally, the fourth question concerned the issue of whether it is possible to transfer experiences from terrestrial monitoring and management efforts to coastal and marine areas. On the basis of these discussions, several important findings were reported and are the main topic of the paper. The paper and the reported results will be of special interest to other professionals that work within outdoor recreation/tourism planning and management. The presentation at CMT will furthermore open up the opportunity to critically discuss the workshop findings with thoughts and examples from international expertise and experience. The presentation will therefore primarily be aimed at international researchers, practitioners and policy makers that work within the workshop topic.

Keywords: outdoor recreation, monitoring, management, coast, marine
Cultural seascapes of Keaukaha, Hawai‘i

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Cultural seascapes are coupled systems that symbolize both the physical dimensions of ocean and coastal areas, as well as the meanings humans ascribe to their observations, interactions, and relationships to the coast. In Pacific Island communities, seascapes are important given that coastal area's (1) contribute considerably to the well-being of coastal communities, (2) are an area of high overlap between tourists and residents, and (3) are threatened with significant changes as our climate continues to change. To understand the important role of freshwater and the interconnections with the pressure of ocean activities along this coastline we collected both cultural and physical data regarding these resources. Our first approach included collecting oral histories, legends, and stories of places of cultural significance in Keaukaha. Then we conducted interviews with residents, lifeguards and surfers in Keaukaha, Hawaii to map out patterns of ocean activities. Then we quantified the abundance, distribution, and presence of springs along the coastline while also gathering lifeguard data regarding ocean use, activities, and trends in access. Data gathered informs us demographically on the spatial and temporal resolution of ocean knowledge. The resulting maps have been presented and analyzed spatially in ArcGIS 10.1 and when viewed within the framework of seascape communities, can be integrated in context for future marine spatial planning. We suggest that managing complex seascapes requires the integration of many sources of knowledge; strengthening our understanding of seascapes and their resiliency in this changing climate.

Keywords: cultural seascapes, lifeguards, climate change, Hawaii, springs
Proposal for the redevelopment project of Suyeong marina in Korea focused on the marina’s function

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The number of marinas in Korea has increased for the last 5 years. Korean government politically supports the development of marina. Among the presently operating marinas, Suyeong marina that was originally developed for the Asian games in 1986, is one of the most typical marinas in Korea. It is the largest and oldest, and has the greatest number of clients and boats. In 2008, it made the announcement about the redevelopment project, which until now has not yet been implemented and still in dispute, because of controversies with the community and law for 8 years. It spawned clients' complaints owing to superannuated facilities. Therefore, this study will propose the solutions through an analysis of the process of redevelopment and suggests positive direction through a survey on the various aspects of the marina’s functions. For this, a multilateral research is executed, such as literature study, visiting investigation, foreign case study, and expert interview. As the result, the redevelopment plan has been restricted by Korean Tourism Promotion Act. And Suyeong marina has considerably functional problems, such as deterioration of facilities, management insufficiency, manpower shortage, and environmental problems. In conclusion, it is necessary to revise the Korean Tourism Promotion Act so that the redevelopment plan is carried out. Also, government needs to lead local residents become fully enlightened about it. Lastly, remodelling and efficiency of mooring system, expanding of hardstand and dry stack storage, arranging an accommodation, securing of repair and maintenance facilities, refuelling system, information offering and boat lift system are recommended.

Keywords: marina, Suyeong marina, tourism promotion act, marina function
Marine tourism in the Galapagos Islands: Analysis of participant reflections using Kellert’s typology of environmental values

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The Galapagos Islands are rich in endemic flora and fauna and have the potential to provide tourists with a unique experience. This study investigated how visitation to the Galapagos Islands could affect environmental ethics and values of tourists participating in a one-week cruise. Two tour operators that conducted cruise tourism participated in the study. We asked tourists from these tours to complete a questionnaire at the end of each trip. Fifty-seven respondents completed the post voyage questionnaire, a 93% response rate. For this analysis we asked tourists to respond to the question: how did this tour affect you? We adapted Kellert’s Typology of environmental values as a framework for categorizing the responses provided by each respondent. Results suggest that 36% of the participants had a humanistic (strong emotional appreciation) response, 42% a scientific, 32% a moralistic and 21% a naturalistic during their tour. It was also found that 19% of respondents could be categorized as having a utilitarian response to their voyage. These results demonstrate that the tourists on these two vessels experienced an elevated appreciation for nature, scientific information and value of the environment.

Keywords: ethics, tourism, environmental values, Galapagos Islands
Dolphin-directed tourism can disturb Hawaiian spinner dolphins in their near-shore daytime resting habitat

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Hawaiian spinner dolphins (Stenella longirostris) routinely utilize shallow, sandy-bottom coves, bays, and coastlines close to shore off of the Hawaiian Islands during the day to rest, care for their young, socialize, and avoid predators, before traveling to deeper water offshore at night to hunt for food. Dolphin-directed tourism enabling close interactions with Hawaiian spinner dolphins in these daytime resting habitats has increased over the past three decades, with the dolphins being the target of viewing or swim-with tourism on a daily basis. NOAA’s National Marine Fisheries Service (NMFS) is concerned that these interactions are disturbing the dolphins and disrupting their natural daytime behavioral patterns. The cumulative impacts of these interactions on Hawaiian spinner dolphin populations are also of concern as many of these dolphins may be targeted multiple times per day, which could lead to population-level effects from a reduction in the dolphins’ overall health and fitness.

To enhance protections for spinner dolphins in the main Hawaiian Islands, NMFS is proposing regulations to prevent disturbance from human activities that may cause "take," as defined in the Marine Mammal Protection Act (MMPA). NMFS is also implementing Dolphin SMART in Hawaii, a voluntary education and recognition program for tour operators that promotes responsible wildlife-viewing tourism and complements the proposed regulations.

Keywords: spinner dolphins, tourism, regulations
Exploring coastal leisure value in Muriwai New Zealand

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Leisure amenities play a significant role in attracting tourists as well as 'costal commuters' and life-style migrants to destinations located in proximity to large cities (Gurran, 2008; Williams & McIntyre, 2012; Glover & Stewart, 2013). Leisure is also strategically important in nurturing community development (Reid, 2006; Gallant, Arai & Smale, 2013), promoting healthy lifestyle changes amongst local residents (Fullagar, 2003), and forging community networks (Misner & Mason, 2006). This paper introduces a study on the value of coastal leisure resources in Muriwai, New Zealand, a regional park situated 40 km northwest of Auckland. Muriwai has a population of around 1,400 residents, with more than 1.4 million of people on its beach each year, and has a long tradition of surfing and life-guarding. It offers a large array of leisure activities and events, and is also home to one of the only three mainland Gannet colonies in New Zealand. The investigation aims to gain insight into perceptions of residents and visitors with regards to the value created by four community leisure plans: the surf school, the surf club community-hub, the village green area, and kaitiaki service. Kaitiaki is a trial project that will involve the local Māori Iwi, Ngā Maunga Whakahii o Kaipara, and municipality in informing / educating visitors about Muriwai, its ancestral heritage, activities and regulations of the park. This study frames a research agenda for understanding ways in which Muriwai community could manage patterns of leisure consumption on its journey towards a sustainable future.

Keywords: coastal management, community leisure planning, coastal tourism and events, sustainable recreation, coastal amenity region
Government tourism initiatives are aimed at improving lives of communities through sustainable development. A policy on responsible tourism was successfully adopted in Belize, a small country located on the northeastern coast of Central America. The University of Belize encouraged a study to understand how tourism is implemented in the livelihoods of the indigenous people of Belize and if it truly benefits their lives. The purpose of my research was to provide an assessment of the economic and social contribution of tourism to the livelihood strategies of two communities in southern Belize— the inland community of Laguna and the coastal community of Hopkins Village. Particular goals were: first, to analyze communities’ perception of benefits that tourism brings to their everyday life, and compare this with the actual economic effect; second, to learn how those perceptions and effects depend on various factors, such as location, cultural settings, and benefit distribution in the tourism development. Gender was a cross-cutting element of the analysis as men and women from these indigenous communities participate in the process of development and in the distribution of perceived benefits differently. For the purposes of this study a multiple case study strategy was used. A detailed description of each case and themes within the case, followed by a thematic comparative analysis across the cases was performed. In order assess community perceptions of benefits of tourism a number of semi-structured interviews with the representatives of two communities was conducted. The results of the research were presented to both communities, and a number of recommendations was provided.

**Keywords:** sustainable tourism, livelihood strategy, indigenous community, gender, benefit distribution
Using a participatory approach to voluntary whale watch management measures

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In 2008, NOAA Fisheries Greater Atlantic Regional Office, Whale and Dolphin Conservation (WDC), and NOAA's Stellwagen Bank National Marine Sanctuary partnered on a program to engage US Atlantic whale watching companies in the design of an education and recognition program aimed at promoting responsible, voluntary whale watching viewing guidelines. The Atlantic region is home to one of the largest whale watching industries in the world, attracting approximately 1 million passengers each year (O'Connor, et. al 2009). While all marine mammal species are federally protected in the US, specific regulatory approach restrictions do not exist in the Atlantic for the most commonly viewed whale species. Instead, voluntary guidelines consisting of 19 recommendations including speed reduction zones, distance recommendations, and operational procedures for viewing large whales are in place. In 2007, Wiley et al. published a study showing low compliance rates with the voluntary speed reduction zones. While this study did not address distance recommendation compliance, it did raise concerns over the effectiveness of voluntary measures for managing wildlife viewing activities. In 2008, NOAA and WDC hosted several public meetings with industry members to discuss compliance and steps forward, proposing to implement a cause-marketing recognition and educational program called Whale SENSE that would help to standardize educational training for whale watching companies, while increasing pressure to comply with voluntary standards. Whale watching participants continue to be integral components of the program, providing annual feedback on best practices, and insight into species-specific behaviors and vessel operation. This participatory approach has led to the program's success, which has been measured by the number of staff trained, the number of passengers reached, continued growth in company participation, and the expansion to other regions such as Alaska and California.

Keywords: whale watch, ecotourism, management, education
Uncovering the coastal tourism development mystery in rural communities of North Carolina’s Inner Banks

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Coastal tourism is a major economic driver in North Carolina, USA. However, most economic impact is captured within the barrier island communities (“Outer Banks”). For example, the difference between one “Outer Banks” county and the three most proximate counties of the “Inner Banks” region exceeds $900 million. With abundant opportunities for nature-based tourism (hunting, fishing and bird watching), the Inner Banks appears to be ripe for tourism development—particularly as traditional economies (timber and agriculture) are increasingly threatened by salinization and sea level rise. Yet, past ecotourism development efforts have not significantly increased tourism-related revenue. We present interview data generated in June 2015 as part of an interdisciplinary research project aimed at building community climate-readiness to the salinization of the Inner Banks. Interviews with 21 key informants illustrate a general lack of capacity for and disinterest in tourism development. Aging populations more interested in retirement compounded by rural to urban migration of local youth has led to a dearth of entrepreneurs that could enter the tourism market, and there is a general perception that tourism development would alter the rural way of life. Local industries’ dependence on migrant labor through visa programs further highlight a weak local workforce. Furthermore, we uncovered that extant wildlife tourism development opportunities are particularly mysterious, as hunting leases do not yield the county-level benefits of other types of tourism industries (e.g., bed taxes) and special use permits for canoe and kayak tour operators on National Wildlife Refuge lands are already at their cap.

Keywords: capacity, climate change, ecotourism
Pollution, ocean currents, beach closures, and impacts on visitors: What happens if closures are mis-timed?

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Polluted marine waters impact coastal tourists and residents. In California, for example, 150 to 400 million people visit beaches each year, including 64 to 172 million swimmers. In 2000, polluted recreational ocean waters caused 600,000 to 1.5 million diseases in Los Angeles and Orange Counties, incurring $21 to $51 million in lost productivity and medical expenses. Marine water quality is tied to a plethora of other social issues such as overpopulation, emissions, fossil fuels, and what to do with sewage, trash, and urban runoff. Long-term solutions are complex and challenging, while shorter-term efforts focus on mitigating the risks for beach-goers. But existing water quality monitoring and beach closure programs are inefficient, and may close beaches unnecessarily or fail to close them when the water is dangerous. The former could cost local businesses millions of dollars, while the latter result in substantial public health impacts. A recent closure of Sunset Beach on the Oregon coast provides a case study example. The poster session will describe the source and dispersion of pollution, how water quality was monitored and reported, responses of authorities and beach-goers, and impacts on local communities. Better water quality monitoring, based on faster testing and multi-input models, could report water safety in real time. These schemes should help keep people out of unsafe water, while minimizing impacts on visitors and local businesses.

Keywords: pollution, ocean currents, beach closures, impacts, monitoring systems
The study on improvement plan through analysis on actual status of marine safety education in Korea after Sewol ferry disaster

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Recently, Korea’s leisure pattern is changing from tourism based on land area to marine area owing to improvement of national income and introduction of five-day work system. As people become more interested in the ocean, the number of marine accident will also increase. It is the worst hindrance of marine tourism. On April 16, 2014, the Sewol ferry sank and 304 passengers died out of the 476 people on board. Following this accident, confidence in marine activities enormously suffered and the marine tourism industry has worsened dramatically. After the Sewol ferry accident, the government decided to break up the Department of the Korean Coast Guard and then established the Ministry of Public Safety and Security. The government also implemented new laws and policies based on information learned from international conferences and forums on marine safety and security. Education about marine safety and security was emphasized to raise awareness of this problem, although the progress in this respect has been low. This means that education about the marine safety and security needs to be changed and developed. I conducted research on documents pertaining to Korea marine safety education, researched the best practice cases in other countries, and did a survey and a statistical analysis. Presently, Korea marine safety education is an elective system and largely based on video presentations and classroom theories because there are not enough education facilities to practice it. So, students who got lessons on developing practical techniques in general show a better and higher sense of safety. As the result of this study, the following four ways of developing Korea marine safety education are suggested: 1. Teach practical marine safety, not just theory in classrooms. 2. Secure enough regional marine safety education centers. 3. Introduce a regular class in the school system. 4. Provide professional manpower training for marine safety education and increase the number of professionals in the field.

Keywords: marine safety education, Sewol ferry, marine tourism
Socio-economic and ecological considerations in the development whale-watching industry in Clayoquot Sound, B.C., 1986 – 2013, and recommendations for future management

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Whale-watching in Clayoquot Sound originated in the early 1980’s as the eastern North Pacific gray whale (Eschrichtius robustus) population began to recover from commercial whaling activities. During their annual migration from Mexican breeding lagoons to northern foraging grounds, gray whale sightings increased over time. For three decades, the University of Victoria Whale Research Lab has studied the nature of human-whale interactions in the area. Our research has included the documentation of the development of the local industry, human dimensions of whale-watchers, behaviour of whale-watching vessels in the presence of whales, regional movements of individual whales and prey dynamics. Prey availability affects the location and residency time of gray whales in this area, which in turn affects the whale-watching industry. Management has mainly been driven by local owner-operators who were concerned about their whale-watching activities potentially disturbing marine wildlife. Provincial and federal governments were slow to become involved, leading local operators to draft their own best practices as voluntary boating guidelines in 1995 before the international Be Whale Wise guidelines were enacted in 2008. Since research began, there has been a diversification of tours offered and infrastructure available, indicating a mature tourism industry that attracts a generalist tourist. Understanding the history of whale-watching within a specific area is central to creating an effective management regime that can be adapted to a variety of wildlife tourism outfits. This study demonstrates the merit of long-term tourist site research, offering insight into the value of management interventions throughout the lifecycle of a whale-watching industry.

Keywords: whale-watching, management, ecology
Using molecular markers to dissect invasion dynamics: Does spatial variation in temperature predict spread of a fouling marine organism?

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The cosmopolitan marine bryozoans of genus Watersipora are invading globally, with introductions triggered by movements of the larval-dispersing organism on ship hulls. Two cryptic species exist within the complex, based on mitochondrial cytochrome c oxidase subunit I (COI) sequences, referred to as W. subtorquata (clades A/B) and W. New sp. Studies of California coastal range expansions suggest Watersipora introductions fit a temperature-determined pattern. A cline exists of Watersipora ranges, with W. n. sp. common in northern California, but not found south of Pt. Conception. We tested whether Watersipora sp. distributions within San Francisco Bay (SFB), an area of high shipping, are predicted by local temperatures as observed along the coast. A multiplex PCR method was used to rapidly distinguish clades, characterizing large numbers of colonies from several bay marinas. Regional temperatures were derived based on water-quality monitoring stations. Watersipora sp. distribution within SFB reflected a larger coastal spatial trend such that New sp. colonies were restricted to comparatively colder sites while W. subtorquata was found at sites experiencing warmer summer averages. A strong association between SFB ship traffic, i.e. ferrying services, cruises, or personal recreational vessels, and the large tourist industry surrounding the bay likely has a significant impact on the spread of Watersipora sp. Tourism-related water vessel activities should be considered as significant vectors of W. subtorquata and W. New sp. movement into new SFB habitats in conjunction with these regional bay temperature-driven dispersal patterns that most strongly occur summer when the tourist industry is also most prevalent.

Keywords: invasive marine bryozoan, genus Watersipora, water temperature, San Francisco Bay, recreational vessel transport
Perceived crowding and support for management action at a manta ray viewing site in Hawaii

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Marine environments are increasingly popular for nature-based tourism, and wildlife viewing is a focus of many of these activities. Whale watching, for example, generates billions of dollars in annual revenue from 13 million participants in 119 countries, and other marine species also generate significant tourism activity. Viewing manta rays at offshore sites near Kailua-Kona on the Big Island of Hawaii is increasingly popular with the number of tour boats visiting these sites doubling in the last decade. Studies have examined biophysical impacts of these types of activities, including damage caused by tourists feeding or getting too close to marine species, but increasing use can also generate social impacts such as crowding. This research uses data collected from Garden Eel Cove, a popular Manta ray dive site on the Kona Coast of Hawai'i, to examine the following: (a) encounters; b) perceived crowding; and c) support for management to control crowding. Data were collected onsite over eight consecutive nights during April 2012. A total of 444 surveys were completed. Over 85% of visitors felt crowded and at least 85% supported management actions that directly limit use at the site.

Keywords: crowding, Manta ray, Hawaii
Connecting coastal tourism to corporate social responsibility: Applying a preliminary market research approach

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Since the 1987 publication of the Brundtland Report, concern for sustainable development has permeated throughout academic disciplines and into the public and private sectors. Common to the lexicon of sustainability is the idea of a triple bottom line, which refers to concern for economic development, environment, and society. Tourism is one industry that increasingly embraces a sustainable ethos. Ecotourism, geo-tourism, and responsible tourism, are broadly concerned with the economic, environmental and cultural impacts of tourism development. Elevate Destinations, a sustainable tourism broker, has pioneered personalized, environmentally-friendly and socially-conscious itineraries for individuals, private groups and non-profits. The private firm works as a global broker to create transformative travel experiences focused on the marine and coastal zone. Within the context of sustainability, Elevate Destinations may be well positioned to pioneer a new form of travel: connecting corporate firms engaged in sustainability with transformative travel experiences.

Increasingly, corporations are embracing a trend to integrate social and environmental responsibility into their decision making processes. Corporate social responsibility (CSR) describes private industry sustainability. Broadly, CSR is concerned about the role of business in society and the environment, and assumes some level of business practice responsibility (Coombs & Holladay, 2011). One aspect of CSR includes triple bottom line accounting, which refers to the measurement of three values to judge a company’s performance; people, planet, and profits (Elkington, 1998). Recognizing the increased commitment to CSR, and the shared triple bottom line paradigm, we asked the question: can we connect corporate socially responsible firms with sustainable tourism opportunities as a sort of moral supply chain? It is within this context that a first-step market research approach was applied to understand and develop a strategy for engaging private firm clients in the coastal and marine tourism sector. Research included an extensive literature review of the terms corporate sustainability, CSR, and triple bottom line accounting, as well as sustainable tourism. Next, internet research was conducted to identify industries, firms, and organizations who are leaders in CSR, and to understand their mechanisms for reaching sustainability goals. Results indicate that there are various meanings of CSR, but generally CSR programs take place through the engagement with stakeholders and society. Organizations can be viewed as entering into a social contract to measure success via an integrated triple bottom line. Motivation for such business practices stems from growing consumer demand, watchdog organizations, and public policy. The extent to which CSR is embraced by company policy may fall on a continuum. In one component of CSR, firms are engaging internal stakeholders (employees) by offering incentive programs targeted at providing growth opportunities and professional development. Qualitative (interviews, focus-groups) and quantitative (surveys) research are suggested as a next step to develop a new form of travel; transformative corporate incentive travel.

Keywords: corporate social responsibility, triple-bottom line, sustainable tourism, moral supply chain
A study on the method for activating the tourism of the fishing villages: Focus on the fishing villages in Busan and Geoje

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Among the fishing villages in Korea, there is 2 major fishing villages located in Busan and Dadae village which was selected as a Korea excellent fishing village in 2015. I have visited 5 fishing villages in Geoje, near by Busan and examined closely including an experience program and leisure facilities. It turns out that the standardized tour program is an overriding problem. Dadae village has most outstanding accessibility among the other villages such as Yi soo do, Do jang po, Kye de, Ssang geun in Geoje and capturing the attention of tourist through various water activities and a cruise ship, even though many programs shown similarities with other villages. Therefore, each village needs to set up unique contents for it's ongoing growth. In this research, I present a number of ways of developing distinct and exclusive contents for each village.

Keywords: tourism, fishing villages, Busan, activating
The effects of changing climate and weather on Mount Desert Island’s nature-based tourism industry

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Tourism is one of the largest industries in Maine, USA, with coastal tourism being the prominent attraction during the summer. Mount Desert Island has a well-established nature-based tourism industry and relies on tourism for a flourishing economy. The island is home to Acadia National Park, which is among the top ten most visited U.S. national parks, and boasts plentiful water recreation opportunities along the rocky coastline. Climate Change has already altered weather in Maine and is predicted to continue changing weather patterns. In addition to an increasing average temperature, documented changes in Maine include an increase in precipitation by 13% from 1895 to 2014, with more frequent and intense storms. This study investigates the impact of past weather by using boosted regression trees and regression models to explain the effects of weather on tourism-related spending on Mount Desert Island from 2004-2014. Visitor surveys are also being administered to understand the impacts of weather on visitors and how future weather conditions could impact their travel. Data is currently being collected on visitors’ experiences and will be analyzed in early October once the summer data collection is concluded. By analyzing the impact of past weather and visitors’ attitudes towards various weather conditions, we can better understand how predicted climate change conditions would impact coastal tourism in Maine. Understanding how weather impacts visitors and their spending on Mount Desert Island is critical to aid in decision-making and facilitate discussions regarding potential adaptation needed.

Keywords: economic impact, outdoor recreation, travel behavior, tourism expenditure, visitor surveys
Workshop Abstracts

Tourism quality control tools: An overview and roadmap for selection

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The proposed workshop overviews the myriad of sustainable tourism quality control tools available to progress sustainability in the tourism industry. Sustainable tourism quality control tools (QCTs) assist the practical application of sustainable tourism tenets, serving as a guiding framework to assist businesses to progress towards, and promote sustainability. QCTs embody a collective approach by which tourism businesses can maintain the integrity of destination resources responsible for attracting tourist visitation. The two-hour workshop will overview the myriad of QCTs available to the industry, with a distinct focus on tools available to, and appropriate for the Hawaii travel and tourism industry. The workshop will explore the key functions of QCTs, the advantages and limitations of various QCT types, and the essential ingredients for QCT efficacy and credibility. The workshop will provide participants with knowledge and resources to guide the selection of QCTs suitable for their organization. The Workshop Objectives are as follows: (1) explore the sustainable tourism concept and how its practical application can be progressed by using sustainable tourism quality control tools; (2) overview the myriad of sustainable tourism quality control tools available to industry, (3) identify the key functions of the various types of sustainable tourism quality control tools; (4) identify the advantages and disadvantages of each sustainable tourism quality control tool; (5) summarize the essential ingredients of credible and effective quality control tools; (6) provide businesses with guidance towards selecting credible, effective quality control tools; (7) assist tour operators to determine which sustainable tourism quality control tool(s) are ideally suited for their business given their distinct operational capacities, and; (8) provide Hawaii tour operators with resources to facilitate sustainability progress via sustainable tourism quality control tools. The workshop will be divided into two modules, each one hour in duration. Module I will explore key concepts and the nature of QCTs to provide the foundation for understanding how QCTs can assist the practical application of sustainable tourism (meeting Workshop objectives 1-4). Drawing upon materials discussed in Module I, Module II will provide participants with practical insight to guide selection of credible, effective QCTs that are appropriate for their organization. This will be achieved by an interactive, collaborative approach; participants will identify [existing or intended] sustainability goals, available resources, and operational characteristics to inform selection processes. Potential challenges to using QCTs and strategies to mitigate them will be discussed to further guide QCT selection and use. Module II will meet Workshop Objectives 5-8. The workshop will ultimately provide participants with a roadmap for the identification and selection of QCTs that are credible, constructed with key considerations for their efficacy, and align with their organization’s operational capacities and sustainability goals. Resources to assist participants in using the identified QCTs will be provided. No pre-requisites exist for workshop participation. This workshop is ideally suited for Hawaii tour operators. This workshop is also appropriate for academics and Hawaii travel and tourism industry representatives and academics seeking to enhance their understanding of QCTs, and gain an updated depiction of the myriad of QCTs gaining momentum in industry and academia.

Keywords: sustainable tourism, quality control tools, certification, corporate social responsibility