

Research Article

Importance-performance analysis of residents' and tourists' preferences for water-based recreation in the Southeastern United States

Benjamin Prangle Mimbs^a, B. Bynum Boley^{b,*}, J.M. Bowker^c, Kyle M. Woosnam^{b,d}, Gary T. Green^b^a Georgia-Alabama Land Trust, 370 Hull Road, Athens, 30601, GA, United States^b Warnell School of Forestry and Natural Resources, University of Georgia, 180 East Green Street, Athens, GA, 30602-2152, United States^c Southern Research Station, USDA Forest Service, 320 Green Street, Athens, GA, 30602, United States^d School of Tourism & Hospitality Management, University of Johannesburg, Auckland Park, South Africa

ARTICLE INFO

Keywords:

Importance performance analysis

Recreational conflict

Residents vs. tourists

Segmentation

Water-based recreation management

Stream-access sites

ABSTRACT

Increasing demand for water-based recreation comes with the need for recreation site managers to consider how to best satisfy different stakeholder groups. However, much of the previous water-based recreation literature has treated resident users and tourist users as one homogeneous group despite differences in frequency of use, proximity to site, and economic importance of visitation to the local economy. Hence, this study segmented residents from tourists and conducted separate importance performance analyses (IPA) to see if these two distinct groups have different preferences for and perceptions of stream-access sites in southeast Appalachia. Data were collected using an intercept survey method across ten different Tennessee Valley Authority stream-access sites in north Georgia and western North Carolina. Independent samples *t*-tests reveal significant differences between residents and tourists on 10 of the 23 importance attributes and performance attributes. The IPAs reveal different quadrant placements for 9 of the 23 attributes. Specifically, tourists expressed greater dissatisfaction with information accessibility such as online information and river maps, and residents tended to place higher importance on the boating aspects of stream-access sites with higher levels of importance placed on attributes such as ramps, put in and take out sites, and room to maneuver trailers, illustrating the efficacy of segmenting residents and tourists within the context of IPA. Implications include management aims addressing both residents' and tourists' preferences for stream-access sites to simultaneously enhance regional tourism for its economic benefits while enriching the experiences of residents.

Management implications

Increasing demand for water-based recreation comes with the need for managers to satisfy different stakeholder groups. Hence, this study segmented residents from tourists and conducted separate importance performance analyses (IPA) to see if there were differences between the two groups. Results reveal tourists expressed greater dissatisfaction with information accessibility such as online information and river maps, and residents tended to place higher importance on the boating aspects of stream-access sites (e.g., ramps, put in and take out sites, and room to maneuver trailers) illustrating the efficacy of segmenting residents and tourists within the context of IPA.

1. Introduction

Around the world, fishing, boating, floating, and enjoying nature on and around rivers are popular activities for tourists as well as many residents living close to these water-based resources (Highfill & Franks, 2019; NC DENR, 2015; USDI, 2011). In the U.S. alone, the U.S. Forest Service estimates 72.7 million adult anglers participate in fishing annually, along with millions of others who enjoy floating (~39.8 million), swimming (~143.2 million), and viewing or photographing nature (~189.4 million), with participation numbers expected to continue rising over the next decade (White et al., 2016, p. 945). In addition to these recreational benefits, water-based recreation sites have the potential to provide communities with new forms of economic

* Corresponding author.

E-mail addresses: benmimbs@gmail.com (B.P. Mimbs), bboleym@uga.edu (B.B. Boley), tui9@charter.net (J.M. Bowker), woosnam@uga.edu (K.M. Woosnam), ggreen@warnell.uga.edu (G.T. Green).<https://doi.org/10.1016/j.jort.2020.100324>

Received 1 April 2020; Received in revised form 10 August 2020; Accepted 15 August 2020

Available online 13 September 2020

2213-0780/© 2020 Elsevier Ltd. All rights reserved.

influx, further diversifying their rural economies (Bergstrom, Cordell, Ashley, & Watson, 1990; English, Marcouiller, & Cordell, 2000; Pollock, Chase, Ginger, & Kolodinsky, 2012). This influx is especially important in light of the paradigm shift in public land management policy away from an extractive use-focus emphasizing the economic value of natural resource commodities (i.e., timber harvest, mineral extraction) to outdoor recreation and tourism being a key economic driver of many rural communities (Ingólfssdóttir & Gunnarsdóttir, 2020).

While these water-based recreation resources have the potential to provide communities with new forms of economic activity to further diversify and grow their rural economies, they also bring in different user groups with the potential to create conflict due to differing motivations or values (Confer, Thapa, & Mendelsohn, 2005; Neumann & Mason, 2019). One area of particular importance concerns two major stakeholders: local residents and visiting tourists. While extensive research has been conducted on both user groups and their perceptions of recreation and tourism issues individually (Hughes & Paveglio, 2019; Perdue, Long, & Allen, 1990), few studies have considered both groups concurrently to see if preferences for and perceptions of water-based recreation sites differ. Balancing the needs of residents and tourists can be complex and challenging, as management changes focused toward one group could have direct implications for how other groups might encounter and perceive their experience (Confer et al., 2005). Management agencies stand to benefit from better understanding how tourism affects residents and how it should be developed in order to gain local support for tourism development (Boley, McGehee, Perdue, & Long, 2014; Erul, Woosnam, & McIntosh, 2020). Tourists' opinions must also be considered as they contribute directly to a destination's economy, and these contributions are increasingly important as rural areas seek to incorporate tourism as an alternative form of economic development (English et al., 2000; Murray & Kline, 2015). Understanding how these two groups interact with and use shared-access sites can provide managers with the useful information to develop and manage sites to benefit both, potentially increasing the support for tourism and preserving these sites for recreation and leisure (Confer et al., 2005).

With these complexities in mind, the purpose of this study is to examine whether residents and tourists possess different expectations and experiences at Tennessee Valley Authority stream-access sites located in north Georgia and western North Carolina. An Importance-Performance Analysis (IPA) is employed to investigate the similarities and differences between what residents and tourists deem important at stream-access sites and how these sites perform across the same attributes. IPA has direct managerial implications for stream-access site management through its unique ability to measure visitors' perceived satisfaction levels with the amenities offered. IPA also allows individuals opportunities to voice perspectives on current and future development efforts through IPA's use of quadrants with the managerial prescriptions of 'Concentrate Here,' 'Keep up the Good Work,' 'Low Priority,' and 'Potential Overkill.' The Southern Appalachian Mountains provide a unique environment where growing numbers of tourists and permanent residents are converging within natural environments and rural areas; both north Georgia and western North Carolina are currently experiencing noticeable increases in number of tourists while also becoming more reliant on tourism to support their economies (Fannin County Chamber of CommerceVisitors Bureau, 2018; Tourism Economics, 2017). As businesses and recreation site managers seek to effectively manage increasing tourism in these regions, taking both residents' and tourists' views into account using IPA can help mitigate conflict within shared-use stream-access sites, provide valuable information regarding water-based recreationists, and allow managers the opportunity to better utilize resources to meet the needs of their stakeholders.

2. Literature review

Research abounds on resident attitudes toward tourism (Nunkoo, Smith, & Ramkissoon, 2013) and is even labeled by some as "one of the

most systematic and well-studied areas of tourism" (McGehee & Andereck, 2004), emphasizing the importance of resident involvement within the tourism development process. Individuals living within or around a tourism destination are often subject to either the positive or negative effects of tourism at some point, which could then, according to social exchange theory (Nunkoo & Ramkissoon, 2012), determine their opinions regarding tourism development. In this context, tourism's sustainability can be affected by the balance of costs and benefits perceived by residents and tourists, which then may influence perceptions about tourism. In fact, Knox (1982) states, "The tourist may have his vacation spoiled or enhanced by the resident. The resident may have his daily life enriched or degraded by the unending flow of tourists (p. 77)."

With this in mind, both residents and tourists are important stakeholders of stream-access sites; tourists for the economic opportunities they provide, and residents as they live close to these stream-access sites and are the ones who are affected on a long-term basis by development and changes that accompany tourism. However, just because they are both important stakeholders does not mean that both groups get along (Perlik, 2011; Tsaor, Yen, & Teng, 2018). Lankford and Howard (1994) found that resident attitudes toward tourism can be negatively impacted when they are forced to compete with tourists for recreation access, stressing the importance of measuring the perceptions of local populations in conjunction with tourists to minimize friction between these groups.

This 'friction' between residents and tourists is one source of what the literature refers to as 'recreational conflict.' There are several ways in which recreational conflict can arise (Manning & Valliere, 2001; Vaske, Needham, & Cline, 2007), but most of the recreational conflict literature centers on Jacob and Schreyer's (1980, p. 369) definition of conflict as "goal interference attributed to another's behavior." Within this definition, conflict can occur across activities, such as angler/boater conflict (Kainzinger, Burns, & Arnberger, 2015), or between two groups participating in the same activity that have varying levels of specialization such as bait anglers and fly anglers (Hutt & Bettoli, 2007). Jacob and Schreyer (1980) further explain four major factors which they believe can lead to recreation conflict: activity style, resource specificity, mode of experience, and lifestyle tolerance. *Activity style* encapsulates the various person meanings assigned to an activity. *Resource specificity* entails the significance attached to using a specific recreation resource for a given recreation experience. *Mode of experience* pertains to the varying expectations of how the natural environment will be perceived, and lastly, *lifestyle tolerance* denotes the tendency to accept or reject lifestyles different from one's own (Jacob & Schreyer, 1980).

Regarding residents and tourists, it is easy to see how these different factors could manifest themselves between the two groups. *Resource specificity* and *mode of experience* are salient, as residents may depend upon certain locations more heavily to accomplish their recreation goals, or may have stronger expectations of how such sites should be maintained or developed so as not to interfere with the sensory interaction they expect from a locale (Confer et al., 2005). Likewise, *lifestyle tolerance* could manifest itself in situations between urban tourists and rural locals leading to resentment toward those groups whose values differ from one's own (Perlik, 2011). It is also not difficult to envision scenarios where tourists' wealth and use of different types of outdoor gear could generate resentment among locals who may deem them out of touch or haughty (Coppock, 1977; Perlik, 2011).

Conflict among recreationists is not uncommon and has been observed in multiple scenarios, from snorkelers and scuba divers (Needham, Szuster, Mora, Lesar, & Anders, 2017), to skiers and snowboarders (Vaske, Dyar, & Timmons, 2004), mountain bikers and runners (Santos, Mendes, & Vasco, 2016), and mostly recently between cross-country skiers and fat-tire bikers (Neumann & Mason, 2019). Conflict is also not uncommon in water-based recreation where conflict has been observed between private and commercial boaters (Schuster & Hammitt, 2000), motorized and non-motorized boaters (Adelman,

Heberlein, & Bonnicksen, 1982), and also personal watercraft, commercial whale watching vessels, and shellfish aquaculture in a marine protected area in Canada (Georgia Department of Natural Resources, 2019). Failure to consider how these groups use, interact, and bond with recreation sites could compound already-present areas of potential conflict that exist among water-based recreation groups due to the variety of different motivations and goals among users (Kainzinger et al., 2015). Considering these opportunities for conflict, it is not difficult to see the potential for management complications in a setting where large numbers of residents and tourists converge to engage in water-based recreation (Confer et al., 2005; Tsaour et al., 2018). One tool to help managers mitigate potential conflict between residents and tourists is the employment of IPA.

2.1. Importance Performance Analysis

Importance Performance Analysis (IPA) is a simple, yet effective, instrument that is widely utilized within the recreation and tourism literature due in part to its practicality and direct management implications (Guadagnolo, 1985; Lai & Hitchcock, 2015). The first application by Martilla and James (1977) utilized the concept in attribute research within a car dealership, and it has since expanded to become one of the most ubiquitous research methods to understand stakeholders' perceptions. Lai and Hitchcock's (2015) compilation of 59 different IPA studies within the tourism literature consisted of topics as far-ranging as country clubs (Janes & Wisnom, 2003), reef tourism (Coghlan, 2012), amusement parks (Milman, Li, Wang, & Yu, 2012), and biosphere reserves (Vaske, Kiriakos, Cottrell, & Khuong, 2009). Within the outdoor recreation literature, IPA has been applied to many recreational activities such as skiing (Hudson & Shephard, 1998), hunting

(Schroeder, Cornicelli, Fulton, & Merchant, 2019), and trout fishing (TenHarmsel, Boley, Irwin, & Jennings, 2019), yet it has not been applied to water-based recreation to see if there are differences between resident and tourist users' preferences and perceptions of stream access sites.

IPA's ability to measure both importance and performance simultaneously provides managers and researchers the opportunity to gauge a form of relative satisfaction (i.e., how well an attribute meets the expectations of a target group). When analyzing the attributes of a destination, product, or stream-access site in this case, IPA can also be useful in identifying specific areas managers can focus limited resources. Using Likert scales, respondents are typically asked how important a certain attribute is in regard to a destination or experience, from "Not At All Important" to "Extremely Important." Subsequently, individuals are asked how well they believe that current attribute is performing or being managed. Responses for both importance and performance would then be averaged across all respondents and graphed within a four-quadrant grid, where importance scores are marked ascending from the lower values on the bottom to higher values at the top along the y-axis while performance scores are marked ascending similarly from left to right along the x-axis (Martilla & James, 1977, Fig. 1). In this matrix, each quadrant carries management implications based on how well an attribute performs in relation to the expectations held regarding it. These quadrants are typically labeled as Q1: "Keep Up the Good Work," Q2: "Concentrate Here," Q3: "Low Priority," and Q4: "Possible Overkill" depending on the corresponding level of importance and performance.

Since the first use of the IPA, it has undergone critique and refinement. Researchers have questioned aspects of the IPA concerning interpretation, the process for selecting attributes, adequate sample size, and grid design (Bacon, 2003; Lai & Hitchcock, 2015; Oh, 2001). In

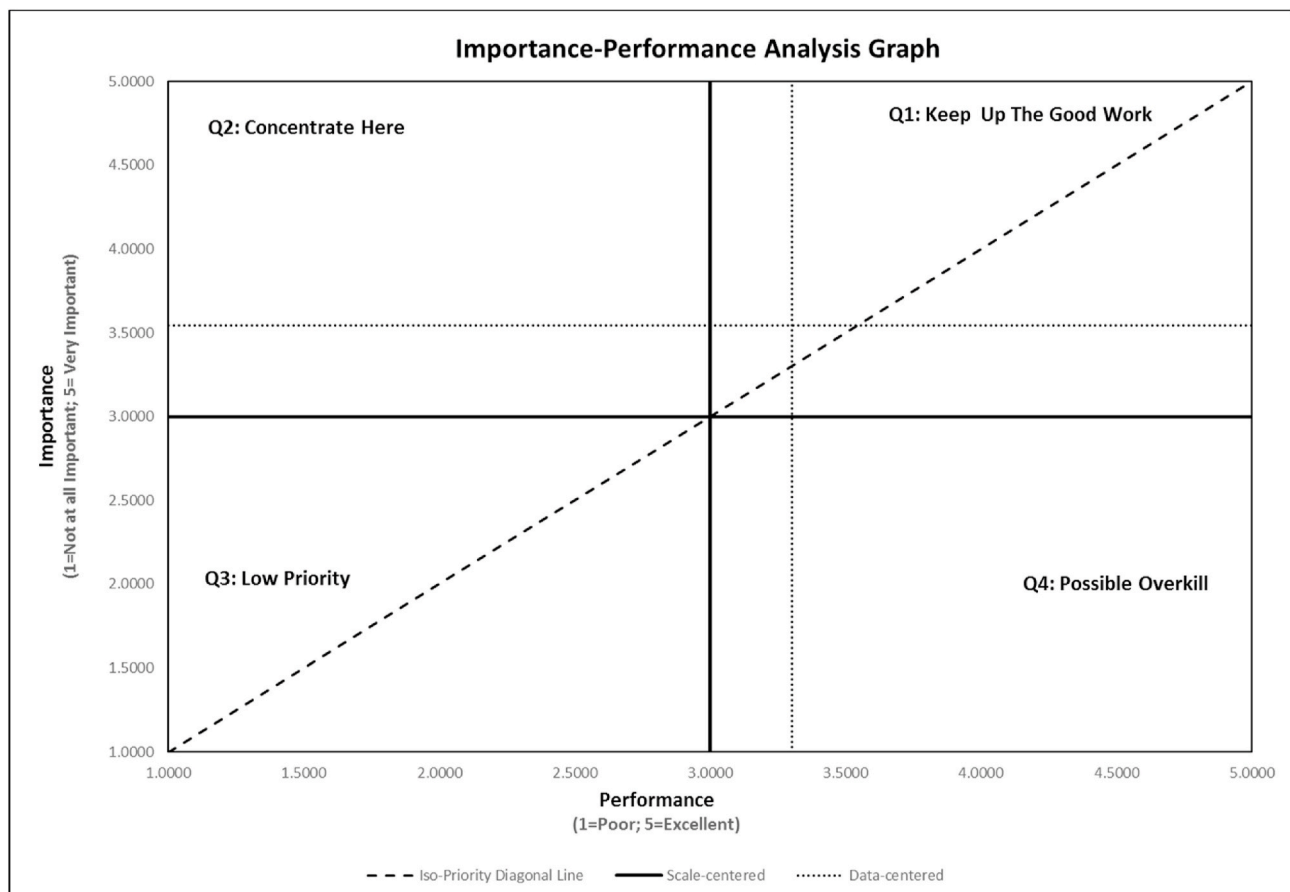


Fig. 1. IPA graph example.

order to account for these issues, adjustments to grid design and cross-hair placement have been proposed and implemented. Other issues with the original IPA framework have arisen in regard to heterogeneity and the need for segmentation. Vaske, Beaman, Stanley, and Grenier (1996) identified a number of hypothetical situations where IPA results have the potential to be misleading or inaccurate if groups with different vested interests were surveyed and their scores aggregated, as one group could impact the mean of an attribute in such a way that could have negative implications for another group. Bruyere, Rodriguez, and Vaske (2002) later supported the need for segmentation when they conducted an IPA among park visitors in Colorado, segmenting results between year-round residents, seasonal residents, and tourists and finding marked differences among the different groups' results. Similarly, Gill, Bowker, Bergstrom, and Zarnoch (2010) demonstrated that avidity bias related to trip frequency can influence IPA results when on-site samples are used.

Despite the popularity of IPA and the focus that has been placed on resident attitudes and perceptions within the broader recreation and tourism literature, IPA has been significantly underutilized in measuring residents' perceptions of recreation and tourism offerings. Of Lai and Hitchcock's (2015) 59 IPA studies listed, only one (Frauman & Banks, 2011) was conducted which measured residents' perspectives. Since then, Boley, McGehee, and Hammett (2017) have conducted an IPA on residents' perceptions of sustainable tourism initiatives and Birendra et al. (2018) likewise measured residents' perceptions regarding an ecotourism development project in Nepal. However, Bruyere et al. (2002) remains one of the only studies to measure both resident and tourist perspectives simultaneously and this was not in a water-based recreation setting.

Given the limited application of IPA to resident perceptions, the usefulness and direct management implications of IPA, and the demand for water-based recreation in the southern Appalachian Mountains, this study sought to apply an IPA of stream-access site attributes to residents and tourists, segmenting results among both groups. By measuring both resident and tourist perceptions and comparing their results simultaneously, managers will gain insight into potential differences between the groups, reducing the potential for development or management actions that could displace or neglect one group in favor of the other.

3. Methods

Data were collected at ten stream-access sites managed by the TVA in Georgia and North Carolina (see Fig. 2). Site development varied by location with sites such as Ela and Prentiss Bridge having little to no amenities other than water access from foot paths, with other sites such as Blue Ridge and East La Porte offering a vast array of amenities including picnic tables, pavilions, soccer fields, and volleyball courts. Unfortunately, due to low visitor numbers and limited responses from some individual sites, site-level IPAs were not appropriate.

Data for this study were collected on-site using an anonymous pen-and-paper questionnaire. Sampling days were selected using a quasi-random method with the intention of surveying at sites on different days of the week to reach temporal variety, with more survey days allotted to higher-use sites in order to collect an adequate sample for analysis. The survey instrument was pre-tested before the initial data collection phase to ensure respondents did not encounter complications when completing the survey and to test the feasibility of the intercept survey procedures. Surveys were distributed in-person on designated sampling days using an intercept survey method that prioritized surveying every visitor group given relatively low numbers of visitors to these sites, following similar data collection methods used in past outdoor recreation studies (Boley, Nickerson, & Bosak, 2011; Schuster & Hammett, 2000).

Data were collected from May through December 2018, for a total of 102 sampling days across three survey teams. Although this schedule allowed researchers to provide coverage over the most popular times of the year for water-based recreation, time and budgetary constraints did not allow for an entire year-long analysis. A total of 634 groups were intercepted across the 10 sites by trained interviewers. A total of 552 individuals agreed to participate in the survey, leading to a response rate of 87%. Following review for missing data and data quality issues, 52 surveys were removed. The most prevalent issue was missing ZIP Code of primary residence, from which we determined residents from tourists, resulting in a final sample size of 500.

3.1. Survey measures

The IPA used within this study was based on its original design by

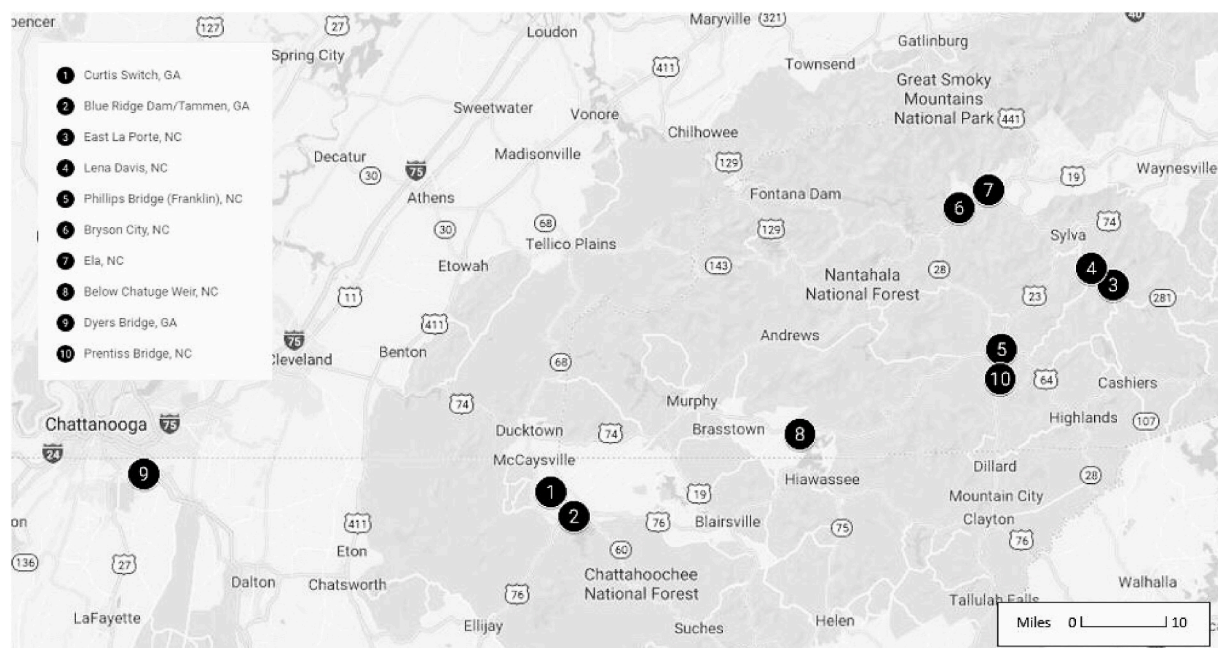


Fig. 2. Map of TVA stream-access sites sampled within the study.

Martilla and James (1997) and subsequent uses in recreation and tourism survey research (Boley et al., 2017). Variables included within the IPA were developed in conjunction with recreation managers from the TVA and researchers from a land-grant university in the Southeast region of the United States. Twenty-three distinct attributes of stream-access sites encompassing multiple forms of water-based recreation, were presented within the survey instrument. The importance of each attribute was measured using a five-point Likert scale where one = *Not at All Important* through five = *Extremely Important*, while performance was measured using a five-point Likert scale where one = *Poor* through five = *Excellent* with a 'not applicable' (n/a) response option for attributes not available at each stream access site. These n/a responses on the performance scale were recorded as poor performance. For example, if a bathroom was deemed extremely important by recreationists, yet a stream-access site did not have a bathroom, the n/a responses on the performance scale would be coded as "one = poor" causing the attribute to fall in the 'concentrate here' quadrant.

Despite its popularity, limitations continue to be noted within the IPA literature. Perhaps the most discussed limitation of IPA pertains to cross-hair placement, and in turn, interpretation of results within the matrix (Oh, 2001). Martilla and James (1977) first IPA utilized a "scale-centered" approach, where the x and y axes were set at the median value of the Likert scales (three for a five-point Likert Scale). While the scale-centered approach is clear and straightforward, researchers have also noted its shortcomings—namely, that participants often score both the importance and performance of the key attributes highly due to their inherent importance to the area being studied, a tendency which Oh (2001) refers to as 'ceiling effects.' To prevent the potential issues caused by these "ceiling effects" and to hone in on areas where managers should prioritize action, some researchers have instead proposed using a data-centered approach (Azzopardi & Nash, 2013; Boley et al., 2017). The data-centered approach accounts for these ceiling effects by averaging all attribute means and setting the crosshairs at the overall mean of importance and performance scores, respectively. As Boley et al. (2017, p. 69) state, this data-centered approach "effectively solves the problem of 'ceiling effects' by ensuring that salient attributes are graphed according to their relative importance and performance" and also offers "clearer managerial implications for where to allocate scarce resources." Data-centered cross-hairs offer more precise contextualization of how respondents perceive and answer the IPA questions while simultaneously providing greater dispersion across the four quadrants, leading to a richer interpretation of IPA results.

Additional issues involving IPA interpretation concerns how to interpret attributes which are located near crosshairs within the matrix, as a small positional difference between quadrants could mean vastly different implications (Bacon, 2003). This can be especially dangerous when the coordinates are not statistically different. Some researchers (Ziegler, Dearden, & Rollins, 2012) have therefore proposed utilizing a 45° upward-sloping line, which Bacon (2003) refers to as an iso-priority line, which denotes where importance equals performance ($I = P$). Utilizing the iso-priority line provides more clarity in interpreting results as attributes which are graphed above the line will denote lower performance than importance, and suggest potential dissatisfaction compared to those attributes which fall below the line indicating satisfaction. The iso-priority line also provides the ability to analyze results in relation to Oliver's (1980) expectancy-disconfirmation paradigm, whereby expectations regarding an attribute may form a lens through which its performance is gauged. In the case of IPA analysis, when performance exceeds importance ($P > I$), positive disconfirmation likely occurs, suggesting relative satisfaction. However, should perceived importance exceed desired performance ($I > P$), negative disconfirmation is likely the case and individuals may become dissatisfied. By incorporating the iso-priority line, gap analysis can be employed (analyzing differences between I and P) and actions can be taken to address the areas of greatest difference. This study utilized a combination of scale-centered and data-centered crosshairs as well as an

iso-priority line to further enhance interpretation.

3.2. Data analysis

Data were cleaned and missing values were removed prior to analysis. Fifty-two surveys were removed for incomplete responses and missing data, leaving 500 completed surveys. Using primary residence ZIP Codes, surveys were segmented among residents and tourists using a distance of 50 miles as the determinant based on similar methods used by the U.S. Travel Association (2019). Surveys were divided between 184 residents (36.8%) and 316 tourists (63.2%). For the IPA section, incomplete results were deleted using pair-wise deletion, where individual unanswered attributes were removed, instead of step-wise deletion where entire IPA sections would be deleted if certain attributes were not answered. Microsoft Excel and IBM's Statistical Package for Social Sciences (SPSS) program version 26 were used to analyze the data. Differences between residents and tourists were tested for using independent samples *t*-tests with a *p* value of 0.05 set as the level of significance (McCrum-Gardner, 2008).

4. Results

A descriptive summary of survey participants can be found in Table 1 with *t*-tests and chi-square tests provided to test for significant differences between the demographic composition of the resident and tourist samples, differences in primary recreational activities engaged in, and differences in frequency of visitation across season. Resident stream-access site users were majority male (70.9%). Around half of resident users were below the age of 40 (50.3%) with a median age of 41.8. There was little ethnic diversity among resident users, with 84.9% identifying as Caucasian. Around 29.5% of resident respondents possessed a bachelor's degree and the majority (59%) of resident users reported an annual household income of at least \$50,000 while 16.1% reported a household income under \$25,000.

Tourists were majority male, though not so much as residents (64.1%; $p = 0.157$). Unlike resident users, most tourists were over 40 years of age (60.7%) with a higher mean age of 44.6 years ($p = 0.046$). Minimal racial diversity was reported among tourists, with 94.9% identifying as Caucasian while the next-highest reported was "Other" or a combination of racial ethnicities at 1.6%. This was significantly different from the residents who were more ethnically diverse ($p = 0.009$). Tourists reported higher educational attainment on average, with 68% possessing a bachelor's degree or higher and 99.4% possessing at least a high school diploma or equivalent ($p = 0.001$). Likewise, tourists were generally wealthier with 81.9% reporting an annual household income of at least \$50,000 and only 4.4% reporting an income under \$25,000 ($p = 0.001$).

In regards to the primary recreational activities engaged in, there were no significant differences between residents and tourists ($p = 0.066$). Fishing was the primary recreational activity (~45%) followed by boating (~18%) and enjoying nature (~18%). However, of those who fished (~51%), residents were slightly more likely to fish from a boat (27.3% vs. 23.4%) while tourists were more likely to fish while wading (38.3% vs. 10.2%). Residents were significantly more likely to visit the stream access sites with visitations rates double to quadruple those of tourists depending on the season. Differences in yearly visitation were more drastic with residents visiting the stream access sites on average 11 times a year compared to tourists who visited 3 times a year ($p = 0.001$).

4.1. IPA results

4.1.1. Residents

Results of the resident IPA revealed that areas of greatest importance were: A) site cleanliness, K) adequate amount of parking, N) site safety, V) solitude, and W) trash cans on site (Table 3). Site attributes of least

Table 1
Socio-demographic characteristics and primary recreational activities.

Variable	All (%)	Residents (%)	Tourists (%)	Test Value	p
Gender ($n_{\text{residents}} = 179$, $n_{\text{tourists}} = 315$)				3.702 ^b	0.157
Female	32.8	29.1	34.9		
Male	66.6	70.9	64.1		
Other	0.6	0	1		
Age ($n_{\text{residents}} = 183$, $n_{\text{tourists}} = 316$; $M: R = 41.8$, $T = 44.6$)				-1.999 ^a	0.046*
18-29	23.3	27.3	20.8	6.279 ^b	0.179
30-39	20.0	23.0	18.4		
40-49	19.8	18.6	20.6		
50-59	19.0	15.3	21.2		
≥60	17.8	15.8	18.9		
Race/ethnicity ($n_{\text{residents}} = 179$, $n_{\text{tourists}} = 314$)				17.030 ^b	0.009**
African American/Black	1.2	1.1	1.3		
Asian	0.6	1.1	0.3		
American Indian	2.0	3.9	1.0		
Caucasian/White	91.3	84.9	94.9		
Hispanic	2.0	3.9	1.0		
Other/Combo	2.8	5.0	1.6		
Highest Level of Education ($n_{\text{residents}} = 183$, $n_{\text{tourists}} = 316$)				31.536 ^b	0.001**
Less than High school	1.4	2.7	0.6		
High School or GED	16.2	25.7	10.8		
Technical, Vocational, or Trade School	6.6	8.7	5.4		
Some College	15.2	15.3	15.2		
Bachelor's Degree	35.5	29.5	38.9		
Master's Degree	17.4	10.9	21.2		
Ph.D./Professional Degree	7.6	7.1	7.9		
Household Income ($n_{\text{residents}} = 168$, $n_{\text{tourists}} = 298$)				45.330 ^b	0.001**
Less than \$25,000	8.6	16.1	4.4		
\$25,000-\$49,999	17.8	25.0	13.8		
\$50,000-\$74,999	18.2	20.8	16.8		
\$75,000-\$99,999	17.6	15.5	18.8		
\$100,000-\$199,999	25.8	18.5	29.9		
\$200,000 +	12.0	4.2	16.4		
Primary Recreational Activity ($n_{\text{residents}} = 170$, $n_{\text{tourists}} = 309$)				13.261 ^b	0.066
Boating	18.8	18.2	19.1		
Fishing	45.5	45.9	45.3		
Swimming	1.5	2.9	0.6		
Enjoying Nature	18.6	18.2	18.8		
Tubing	6.9	4.7	8.1		
Picnicking	3.1	4.1	2.6		
Sports/recreation	2.9	1.2	3.9		
Other	2.7	4.7	1.6		
Type of fishing ($n_{\text{residents}} = 88$, $n_{\text{tourists}} = 154$)				23.213 ^b	0.001**
Bank fishing	35.1	47.7	27.9		
Wade fishing	28.1	10.2	38.3		
Fishing from boat/watercraft	24.8	27.3	23.4		
Combination	12.0	14.8	10.4		
Trips per season ($n_{\text{residents}} = 184$, $n_{\text{tourists}} = 316$)				3.352 ^b	.001
Winter	0.68	1.18	0.46	4.803 ^b	.001
Spring	1.81	3.38	.98	6.500 ^b	.001
Summer	2.39	4.48	1.18	4.604 ^b	.001
Fall	1.23	2.30	0.66	6.585 ^b	.001
Total	6.11	11.35	3.28		

*denotes significance at the 0.05 level.

**denotes significance at the 0.01 level.

^a Independent samples *t*-test results.

^b Pearson chi-square results.

Table 2
Quadrant placement of site attributes by user group.

Label	Site Attribute	Residents	Tourists
A	Site cleanliness	Q1: Keep Up The Good Work	Q1: Keep Up The Good Work
B	Bathrooms	Q2: Concentrate Here	Q2: Concentrate Here
C	Campgrounds	Q3: Low Priority	Q3: Low Priority
D	River maps	Q3: Low Priority*	Q2: Concentrate Here*
E	Road signage	Q3: Low Priority*	Q1: Keep Up The Good Work*
F	Ramps	Q1: Keep Up The Good Work*	Q4: Possible Overkill*
G	River steps	Q1: Keep Up The Good Work	Q1: Keep Up The Good Work
H	Wade access	Q4: Possible Overkill*	Q1: Keep Up The Good Work*
I	Handicap accessible piers	Q3: Low Priority	Q3: Low Priority
J	Overhead lights	Q3: Low Priority	Q3: Low Priority
K	Parking spots	Q1: Keep Up The Good Work	Q1: Keep Up The Good Work
L	Playgrounds	Q3: Low Priority	Q3: Low Priority
M	Agency contact info	Q3: Low Priority	Q3: Low Priority
N	Site safety	Q1: Keep Up The Good Work	Q1: Keep Up The Good Work
O	Take out site	Q1: Keep Up The Good Work*	Q4: Possible Overkill*
P	Put in site	Q1: Keep Up The Good Work*	Q3: Low Priority*
Q	Online info	Q3: Low Priority*	Q2: Concentrate Here*
R	Picnic tables	Q3: Low Priority	Q3: Low Priority
S	Kayak slides	Q4: Possible Overkill	Q4: Possible Overkill
T	Swimming opportunities	Q1: Keep Up The Good Work*	Q3: Low Priority*
U	Trailer maneuvering room	Q1: Keep Up The Good Work*	Q4: Possible Overkill*
V	Solitude	Q1: Keep Up The Good Work	Q1: Keep Up The Good Work
W	Trash cans	Q1: Keep Up The Good Work	Q1: Keep Up The Good Work

Asterisk (*) indicates attributes that fall in different quadrants between the both groups.

importance were: C) campgrounds on site, I) overhead lighting, and L) playgrounds. Overall, the majority of attributes measured within the resident IPA fell into Q1: *Keep Up The Good Work*, including: A) site cleanliness, F) boat ramps, G) steps into the river, K) parking availability, N) site safety, O) take-out sites, P) put-in sites, T) swimming opportunities, U) room to maneuver trailers, V) solitude, and W) trash cans on site. The least number of items fell into Q2: *Concentrate Here*, with bathrooms on site showing the greatest disparity between importance and performance. Quadrant 3: *Low Priority* had nine attributes located within the quadrant—second most in the matrix—including: C) camping availability, D) maps of the river, E) clear and visible road signage, I) handicap-accessible piers, J) overhead lighting, L) playgrounds, M) agency contact information on site, Q) information available online, and R) picnic tables. Finally, two attributes fell into Q4: *Possible Overkill*, including: H) wade access and S) kayak slides into river. The majority of site attributes, however, were positioned above the iso-priority diagonal line, meaning the importance of these attributes currently exceeds their performance. Of the 23 attributes, only five, i.e., F) boat ramps, G) steps into the river, H) wade access, K) parking availability, and U) room to maneuver trailers) were positioned below the iso-priority diagonal, meaning they were the only five attributes whose performance exceeded the importance residents expressed concerning them (Fig. 3).

4.1.2. IPA results: tourists

Results of the tourist IPA showed the areas of greatest importance were: A) site cleanliness, N) site safety, V) solitude, and W) trash cans (Table 3). Areas of least importance included: I) overhead lighting, C)

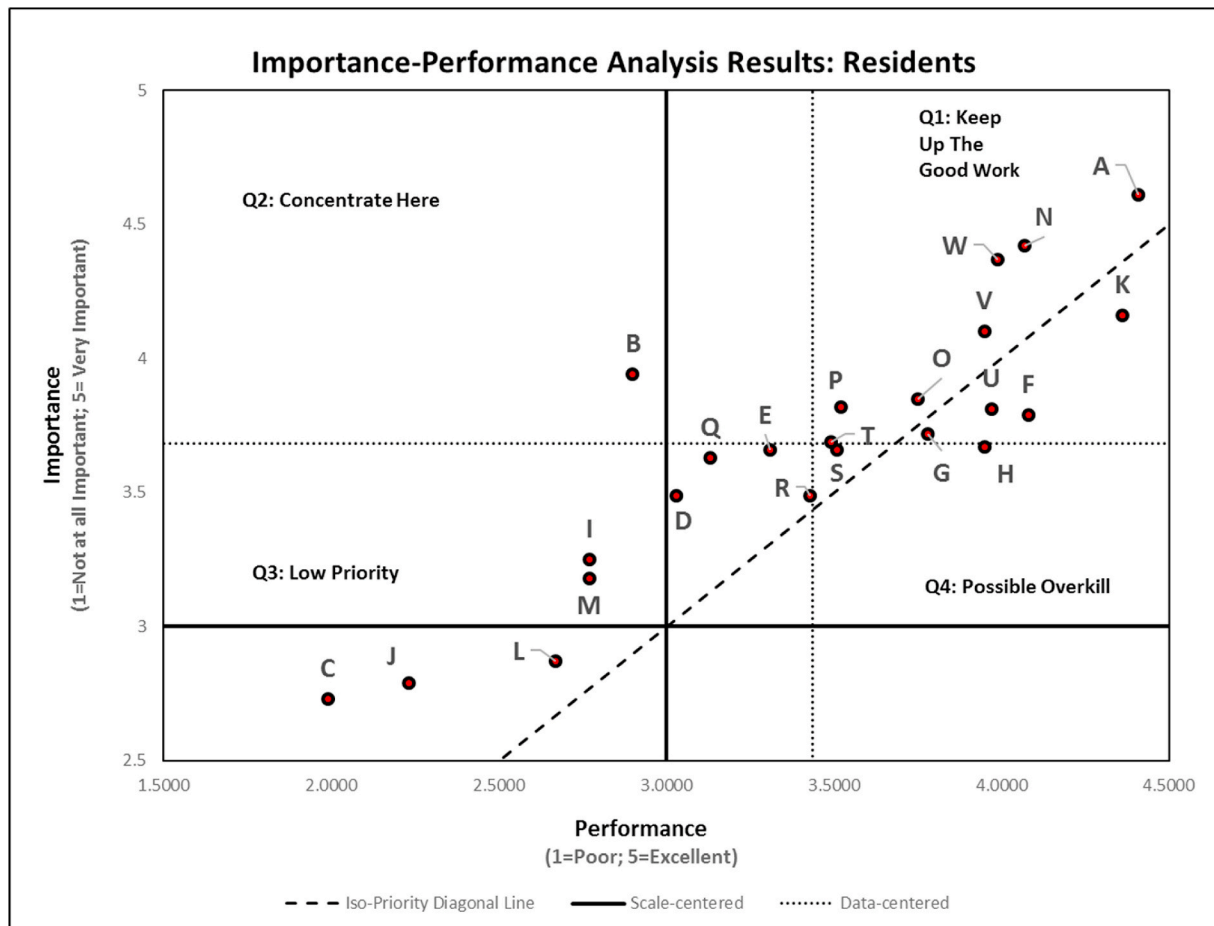
Table 3

IPA response means and independent samples T-Tests results.

Label	Site Attribute	Total (n = 387–466)		Residents (n = 144–166)		Tourists (n = 238–300)		Importance T-Tests		Performance T-Tests	
		I	P	I	P	I	P	t	p	t	p
A	Site cleanliness	4.53	4.41	4.61	4.41	4.49	4.42	1.683	0.093	−0.143	0.887
B	Bathrooms	3.84	2.81	3.94	2.90	3.78	2.75	1.237	0.217	0.911	0.363
C	Campgrounds	2.75	1.96	2.73	1.99	2.77	1.95	−0.254	0.799	0.246	0.806
D	River maps	3.48	2.90	3.49	3.03	3.47	2.83	0.108	0.914	1.211	0.227
E	Road signage	3.69	3.27	3.66	3.31	3.71	3.25	−0.384	0.701	0.353	0.724
F	Ramps	3.57	3.84	3.79	4.08	3.45	3.70	2.468	0.014*	2.732	0.007**
G	River steps	3.65	3.75	3.72	3.78	3.61	3.74	0.826	0.410	0.295	0.768
H	Wade access	3.62	3.71	3.67	3.95	3.60	3.57	0.556	0.578	2.736	0.007**
I	Handicap accessible piers	2.96	2.47	3.25	2.77	2.80	2.28	2.898	0.004**	2.919	0.004**
J	Overhead lights	2.65	2.09	2.79	2.23	2.56	2.00	1.519	0.130	1.527	0.128
K	Parking spots	4.04	4.16	4.16	4.36	3.97	4.04	1.803	0.072	3.121	0.002**
L	Playgrounds	2.65	2.46	2.87	2.67	2.52	2.33	2.354	0.019*	2.058	0.040*
M	Agency contact info	2.99	2.74	3.18	2.77	2.88	2.72	1.948	0.052	0.284	0.777
N	Site safety	4.27	3.98	4.42	4.07	4.19	3.94	2.277	0.023*	1.040	0.299
O	Take out site	3.59	3.49	3.85	3.75	3.45	3.33	2.863	0.004**	2.787	0.006**
P	Put in site	3.58	3.29	3.82	3.52	3.45	3.14	2.589	0.010**	2.397	0.017*
Q	Online info	3.67	3.15	3.63	3.13	3.70	3.17	−0.461	0.645	−0.231	0.818
R	Picnic tables	3.31	3.28	3.49	3.43	3.21	3.20	2.148	0.033*	1.422	0.156
S	Kayak slides	3.5	3.41	3.66	3.51	3.41	3.35	1.797	0.073	1.008	0.314
T	Swimming opportunities	3.35	3.21	3.69	3.49	3.15	3.04	3.873	0.000**	2.965	0.003**
U	Trailer maneuvering room	3.43	3.63	3.81	3.97	3.22	3.42	4.248	0.000**	3.981	0.000**
V	Solitude	4.04	3.74	4.10	3.95	4.00	3.61	0.883	0.378	2.708	0.007**
W	Trash cans	4.21	3.96	4.37	3.99	4.11	3.94	2.666	0.008**	0.396	0.692

* denotes significance at the 0.05 level.

** denotes significance at the 0.01 level.

**Fig. 3.** IPA chart of resident responses.

campgrounds, I) handicap accessible piers, and M) agency contact information on site. Like resident results, many attributes were positioned above the iso-priority diagonal line, with only four attributes below, i.e., F) boat ramps, G) steps into the river, K) parking availability, and U) room to maneuver trailers. Areas that require the most attention included: B) bathrooms, Q) information regarding sites accessible on-line, D) maps of the rivers, and P) put-in sites (Fig. 4). A total of eight attributes measured among tourists fell into Q1: *Keep Up The Good Work*, including: A) site cleanliness, E) clear and visible road signage, G) steps into the river, H) wade access, K) parking availability, N) site safety, V) solitude, and W) trash cans on site. Tourists identified more areas of potential improvement than residents, with: B) bathrooms on site, D) maps of the river, and Q) information available online all falling into Q2: *Concentrate Here*. More attributes were also positioned within Q3: *Low Priority* than within the resident IPA matrix, including: C) camping availability, I) handicap accessible piers, J) overhead lighting, L) playgrounds, M) agency contact information on site, P) put-in sites, R) picnic tables, and T) swimming opportunities. The remaining four attributes including: O) take out site, S) kayak slides, U), trailer maneuvering room, and F) boat ramps were positioned within Q4: *Possible Overkill*.

4.1.3. IPA results: comparing residents and tourists

For most attributes, resident and tourist responses fell into similar IPA quadrants. Of the 23 attributes measured in the IPA, 14 fell into the same quadrants among the two groups (Table 2). However, the nine attributes where residents and tourists diverge tell an interesting story of how residents and tourists approach stream-access sites. For example, it is clear that tourists are less familiar with these rural stream-access sites than residents because residents indicating ‘road signage,’ ‘river maps,’

and ‘online information’ are low priorities while tourists think they are areas to either concentrate on or keep up the good work. Another example of the differences between residents and tourists can be seen in how the two groups respond to the attributes of ‘ramps,’ ‘take out sites,’ ‘put in sites,’ and ‘trailer maneuverability.’ Residents place higher importance on the stream access sites attributes associated with boating than tourists. This can be seen in residents evaluating these boating attributes as areas to ‘keep up the good work’ while tourists think they are either ‘low priorities’ or areas of ‘potential overkill.’ This finding may be associated with residents being more likely to fish from a boat than tourists (Table 1). A full list of attribute placement within the two IPA matrix grids can be found in Table 2.

4.2. Independent samples T-Tests of IPA results

After resident and tourist IPA results were recorded, data was analyzed using Independent samples *t*-tests to discern statistical differences in mean scores for importance or performance attributes. Results showed that importance means between residents and tourists were significantly different for: F) boat ramps, I) handicap-accessible piers, L) playgrounds, N) site safety, O) take-out sites, P) put-in sites, R) picnic tables, T) swimming opportunities, U) trailer maneuvering room, and W) trash cans on site (see Table 3). Overall, residents tended to place higher importance and performance on the attributes measured in the questionnaire. The average scores for importance and performance across all attributes were 3.68 and 3.44 respectively for residents while tourists’ mean scores were 3.46 and 3.21. Differences in performance means between the two groups were significant for: F) boat ramps, H) wade access, I) handicap-accessible piers, K) parking availability, L)

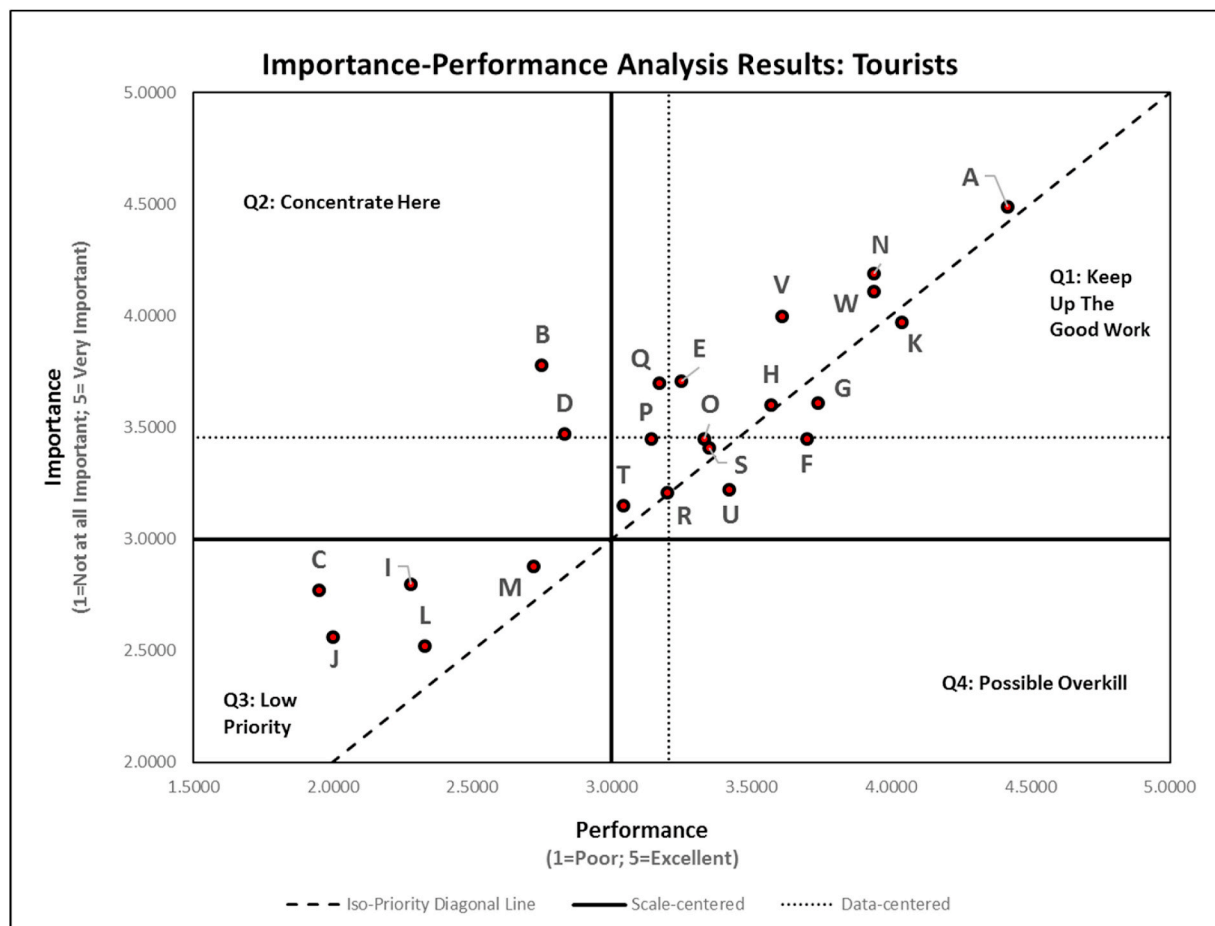


Fig. 4. IPA chart of tourists responses.

playgrounds, O) take-out sites, P) put-in sites, T) swimming opportunities, U) room to maneuver trailers, and V) solitude (see Table 3). The differences illuminated in the independent samples *t*-tests largely mimic the differences displayed through the IPA with residents placing greater importance on attributes associated with boating (e.g., ramps, put in and take out sites, and trailer maneuverability). However, the differences found in the IPA associated with tourists' interest in more information about the sites (e.g., river maps, road signs, and online info) were not significantly different from residents.

5. Discussion

Given the increasing demand for water-based outdoor recreation and the potential for conflict between residents and tourists at stream-access sites (Perlik, 2011; Tsaur et al., 2018; White et al., 2016, p. 945), this study sought to add to existing literature by segmenting residents and tourists, and using IPA to see if individuals within these two groups have different perceptions of attribute importance and performance at water-based recreation sites in north Georgia and western North Carolina. There have been many previous applications of IPA with the outdoor recreation and tourism literature (e.g., Coghlan, 2012; Gill et al., 2010; Lai & Hitchcock, 2015; Taplin, 2012), but many of these have failed to acknowledge the heterogeneity of user groups and the potential divergent expectations for recreational sites and perceptions of the experience offered at these sites. As managers seek to enhance users' recreational experiences in the outdoors, information about different user groups such as residents and tourists may provide valuable insight into policy and planning for these sites in order to reduce recreational conflict and enhance user satisfaction with the experience offered (Confer et al., 2005; Hughes & Paveglio, 2019). Should group differences exist, managers would be able to consider how changes could be made to address areas of concern without creating adverse effects for other groups. Conversely, identifying similarities between the two groups can provide management the opportunity to focus resources in a manner that achieves dual aims. Additionally, local convention and visitor bureaus could find this information important as they attempt to develop and enhance local tourism economies in a region known well for its outdoor recreation opportunities, including trout fishing, boating, and nature viewing (Margaryan & Fredman, 2017).

Overall, our findings support the notion that differences exist between resident and tourist perceptions of what are important attributes of stream access sites as well as how they evaluate the experiences offered at stream-access sites in Southern Appalachia. Of the 23 attributes measured in the IPA, nine fell into the different quadrants among the two groups. Furthermore, significant differences were found concerning the importance scores for ten attributes as well as the performance of ten attributes within the independent samples *t*-tests run between the residents and tourists. The most striking differences pertained to the importance and performance that residents place on the stream-access attributes associated with boating (e.g., ramps, put in and take outs, and trailer maneuverability). Results demonstrated that residents placed greater importance on these attributes associated with boating and thought that the sites were performing better in this area as well. For tourists, online information, clear road signage, and camping were the only three attributes that they placed higher importance scores on than residents. Based on the IPA results, tourists also believed management should focus on maps of the river, responding with similar importance as residents with noticeably lower performance scores. These results seem to show that tourists, less experienced in the region, have more difficulty finding these sites and information about them when planning their trips. Residents, meanwhile, could be expected to know more about these access sites and the rivers they are situated on from living nearby and having easier access to visit them more frequently. Visitation by residents was significantly higher for residents when compared to tourists (see Table 1).

The differences found between the two groups are due in large part to

the amount of information made accessible. Residents appear to be more satisfied with the available information regarding these stream access sites, as they have more extensive knowledge concerning them due to their proximity and familiarity with these nearby areas. While improving online information and signage for stream access sites was found to be important to tourists users visiting from afar, site managers should also consider the potential effects attracting more visitors can have on overcrowding or resident displacement. As seen in many previous studies, growth in tourism could potentially lead to crowding and eventual resident displacement from popular local recreation areas (Hughes & Paveglio, 2019; Manning & Valliere, 2001). While the results of this study provide a good framework for management moving forward, future development and policy changes should be followed by longitudinal research that would continually reassess both groups' perceptions to ensure continued and increased satisfaction.

The discrepancies found within our study coalesce with the previous work of Bruyere et al. (2002) and Vaske et al. (1996) to provide credence to the need for more segmentation studies within the outdoor recreation and tourism literature using IPA. Recreationists are unique and cannot be considered to have homogenous expectations and homogenous evaluations of recreational opportunities. While our study is not the first to segment recreationists within an IPA, it does demonstrate that apriori segmentation strategies based on nominal variables such as residency, gender, race, and activity type can be used by managers to provide insightful information about what users deem important site attributes and how these different groups of users are evaluating their performance at recreation sites. These types of apriori segmentation variables are already included in many datasets and can save researchers from conducting the many steps associated with benefits-based segmentation strategies (Hendericks & Schneider, 2004) such as factor analysis and cluster analysis (see Dolnicar, 2002 for a detailed review of market segmentation strategies in tourism). However, in order to conduct these types of apriori segmentation analyses, researchers will need to have large enough sample sizes to test for statistically significant differences between user groups.

While our study focused on water-based recreation within the southeastern portion of the United States, this type of IPA that segments user groups could be easily extended to other forms of recreation with potentially conflicting user groups. For example, an IPA between alpine skiers and snowboarders (Vaske et al., 2004) or cross-country skiers and fat-tire bikers (Neumann & Mason, 2019) could be useful to differentiate importance and performance across attributes between groups and identify ways to reduce conflict and potential resident displacement from site (Hughes & Paveglio, 2019; Manning & Valliere, 2001). It is important to note that this type of IPA does not directly measure conflict as done in many outdoor recreation studies, but it could be used as a both a precursor to conflict or flow out of recreational conflict to identify areas of similarity between user groups and areas of divergence so that managers can design recreational experiences that fit the needs of both groups and reduce user conflict as much as possible.

5.1. Limitations and future research

One limitation of this study concerns the area of focus within this study, which was exclusive to water-based recreation use in the north Georgia and western North Carolina mountains. Generalizations of these specific results are therefore limited, as residents and tourists of other states, regions, and cultures, along with different venues could exhibit different perceptions than those measured in this study. Additionally, all the survey sites measured in this study were TVA stream-access sites, and results could be different among other stream-access sites in different areas or settings. Future research should consider conducting similar studies across agencies such as the U.S. National Park Service, U. S. Forest Service, or private stream-access sites and compare results across agencies due to different management styles or development practices.

Another limitation regards the aggregation of surveys across the ten sites. This study relied on all survey site responses to conduct the IPA. While all sites were similar in use (e.g., boating and fishing), the composition of the sites varied considerably from least-developed to most-developed, with the majority of surveys coming from the two sites situated in north Georgia. The development among the sites is assumed to not interfere with the importance that respondents placed on attributes but could have contributed to cross-site “noise” in regards to performance scores. Given the total sample size of 500, and the objective of segmenting by residents and nonresidents, it was determined the best course of action to group all sites into one dataset due to sample size limitations across sites. Once again, longitudinal data could help prevent much of this uncertainty by providing an adequate sample size to observe the results on a site-by-site basis, reducing cross-site “noise” and providing an opportunity to compare site development and practices to determine the most effective strategies for increasing user satisfaction. Longitudinal data would also help managers to assess how well the changes made to these sites improve satisfaction levels while ensuring that any changes do not negatively affect another group or area of the stream-access site (Askew, Bowker, English, Zarnoch, & Green, 2017, p. 34). For example, while improving road signage and online information may be of benefit to tourists, it would be of importance to ensure that the sites do not become overcrowded and lead to lower satisfaction for users or resident displacement.

Lastly, considering the nature of the sampling method, avidity bias is also a potential limitation that should be considered. Avidity bias pertains to the increased odds of surveying those individuals who visit an area more frequently or stay within an area for extended periods of time. Avidity bias has been recognized in past studies as having the potential to skew results, requiring researchers to control for the increased likelihood of measuring those avid users in order to gather less-biased results (Taplin, 2012; Gill et al., 2010). While this study analyzed all responses in order to achieve an adequate sample size for analysis, future research may benefit for controlling for avidity bias. However, given that trip frequency is often highly correlated with travel distance, our segmentation likely accounted for some of the avidity bias issue in an ad hoc way.

6. Conclusion

In conclusion, this study adds to the body of work recognizing that there is no such thing as an average recreationist (TenHarmsel et al., 2019) and that segmentation is a beneficially tool for assessing similarities and differences between distinct user groups. As our results show, both residents and tourists were largely satisfied with these sites and enjoy the surrounding natural environment, but had some specific differences in areas of boating (e.g., ramps, trailer maneuverability) and site information (e.g., road signage, online information). While our study focused on recreationists at stream-access sites in Southern Appalachia, the apriori segmentation strategy and the Importance Performance Analysis implemented could be applied to other recreation sites characterized by conflict and tension between divergent user groups in order to understand if particular differences may lead to negative consequences within shared-use recreation sites. Outdoor recreation is characterized by diverse user groups whose activity preferences (Snowmobiling vs. Cross country skiing) or gear preferences (fly fishing vs. baiting fishing) create goal interference (Jacob & Schreyer, 1980). IPA is presented as a tool to help managers of these types of sites, often facing limited budgets for site improvements, make more informed decisions leading to improved experiences for a diverse set of users.

CRediT authorship contribution statement

Benjamin Prangle Mimbs: Project administration, Writing - original draft, Data curation, Formal analysis. **B. Bynum Boley:** Supervision, Project administration, Writing - original draft, Funding

acquisition. **J.M. Bowker:** Conceptualization, Supervision, Writing - review & editing. **Kyle M. Woosnam:** Conceptualization, Supervision, Writing - review & editing, Funding acquisition. **Gary T. Green:** Writing - review & editing, Funding acquisition.

Acknowledgements

Research funded by the Tennessee Valley Authority Project Number AWD00008604; Award ID FP0012519 and McIntire-Stennis project number is GEOZ0202-MS

References

- Adelman, B. J. E., Heberlein, T. A., & Bonnicksen, T. M. (1982). Social psychological explanations for the persistence of a conflict between paddling canoeists and motorcraft users in the Boundary Waters Canoe Area. *Leisure Sciences*, 5(1), 45–61.
- Askew, A. E., Bowker, J. M., English, D. B., Zarnoch, S. J., & Green, G. T. (2017). A temporal importance-performance analysis of recreation attributes on national forests: A technical document supporting the forest service update of the 2010 RPA assessment. *Gen. Tech. Rep. SRS-223*. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station.
- Azzopardi, E., & Nash, R. (2013). A critical evaluation of importance-performance analysis. *Tourism Management*, 35, 222–233.
- Bacon, D. R. (2003). A comparison of approaches to importance-performance analysis. *International Journal of Market Research*, 45(1), 1–15.
- Bergstrom, J. C., Cordell, H. K., Ashley, G. A., & Watson, A. E. (1990). Economic impacts of recreational spending on rural areas: A case study. *Economic Development Quarterly*, 4(1), 29–39.
- Boley, B. B., McGehee, N. G., & Hammett, A. T. (2017). Importance-performance analysis (IPA) of sustainable tourism initiatives: The resident perspective. *Tourism Management*, 58, 66–77.
- Boley, B. B., McGehee, N. G., Perdue, R. R., & Long, P. (2014). Empowerment and resident attitudes toward tourism: Strengthening the theoretical foundation through a Weberian lens. *Annals of Tourism Research*, 49, 33–50.
- Boley, B. B., Nickerson, N. P., & Bosak, K. (2011). Measuring geotourism: Developing and testing the geotraveler tendency scale (GTS). *Journal of Travel Research*, 50(5), 567–578.
- Bruyere, B. L., Rodriguez, D. A., & Vaske, J. J. (2002). Enhancing importance-performance analysis through segmentation. *Journal of Travel & Tourism Marketing*, 12(1), 81–95.
- Coghlan, A. (2012). Facilitating reef tourism management through an innovative importance-performance analysis method. *Tourism Management*, 33(4), 767–775.
- Confer, J. J., Thapa, B., & Mendelsohn, J. L. (2005). Exploring a typology of recreation conflict in outdoor environments. *World Leisure Journal*, 47(1), 12–23.
- Coppock, J. T. (Ed.). (1977). *Second homes: Curse or blessing?*. Pergamon.
- Dolnicar, S. (2002). A review of data-driven market segmentation in tourism. *Journal of Travel & Tourism Marketing*, 12(1), 1–22.
- English, D. K., Marcouiller, D. W., & Cordell, H. K. (2000). Tourism dependence in rural America: Estimates and effects. *Society & Natural Resources*, 13(3), 185–202.
- Erul, E., Woosnam, K. M., & McIntosh, W. A. (2020). Considering emotional solidarity and the theory of planned behavior in explaining behavioral intentions to support tourism development. *Journal of Sustainable Tourism*, 1–16.
- Fannin County Chamber of Commerce, & Visitors Bureau. (2018). 2018 fannin area profile. Fannin County Development Authority. Retrieved from <http://fannindevelopment.com/wp-content/uploads/2019/01/2018-Fannin-Area-Profile.pdf>.
- Frauman, E., & Banks, S. (2011). Gateway community resident perceptions of tourism development: Incorporating importance-performance analysis into a limits of acceptable change framework. *Tourism Management*, 32(1), 128–140.
- Georgia Department of Natural Resources. (2019). *Trout fishing in Georgia*. Wildlife Resources Division. Retrieved from <http://www.georgiawildlife.com/Fishing/Trout>.
- Gill, J. K., Bowker, J. M., Bergstrom, J. C., & Zarnoch, S. J. (2010). Accounting for trip frequency in importance-performance analysis. *Journal of Park and Recreation Administration*, 28(1), 16–35.
- Guadagnolo, F. (1985). The importance-performance analysis: An evaluation and marketing tool. *Journal of Park and Recreation Administration*, 3(2).
- Highfill, T., & Franks, C. (2019). Measuring the US outdoor recreation economy, 2012–2016. *Journal of Outdoor Recreation and Tourism*, 27, 100233.
- Hudson, S., & Shephard, G. W. (1998). Measuring service quality at tourist destinations: An application of importance-performance analysis to an alpine ski resort. *Journal of Travel & Tourism Marketing*, 7(3), 61–77.
- Hughes, C. A., & Paveglio, T. B. (2019). Managing the St. Anthony Sand Dunes: Rural resident support for off-road vehicle recreation development. *Journal of Outdoor Recreation and Tourism*, 25, 57–65.
- Hutt, C. P., & Bettoli, P. W. (2007). Preferences, specialization, and management attitudes of trout anglers fishing in Tennessee tailwaters. *North American Journal of Fisheries Management*, 27(4), 1257–1267.
- Ingólfssdóttir, A. H., & Gunnarsdóttir, G. Þ. (2020). Tourism as a tool for nature conservation? Conflicting interests between renewable energy projects and wilderness protection in Iceland. *Journal of Outdoor Recreation and Tourism*, 29, 100276.
- Jacob, G. R., & Schreyer, R. (1980). Conflict in outdoor recreation: A theoretical perspective. *Journal of Leisure Research*, 12(4), 368–380.

- Kainzinger, S., Burns, R. C., & Arnberger, A. (2015). Whitewater boater and angler conflict, crowding and satisfaction on the North Umpqua River, Oregon. *Human Dimensions of Wildlife*, 20(6), 542–552.
- Knox, J. M. (1982). Resident-visitor interaction: A review of the literature and general policy alternatives. In F. Rajotte (Ed.), *The impact of tourism development in the Pacific* (pp. 76–107). Peterborough, Ontario: Environmental resources study programme. Trent University.
- Lai, I. K. W., & Hitchcock, M. (2015). Importance–performance analysis in tourism: A framework for researchers. *Tourism Management*, 48, 242–267.
- Lankford, S. V., & Howard, D. R. (1994). Developing a tourism impact attitude scale. *Annals of Tourism Research*, 21(1), 121–139.
- Manning, R. E., & Valliere, W. A. (2001). Coping in outdoor recreation: Causes and consequences of crowding and conflict among community residents. *Journal of Leisure Research*, 33(4), 410–426.
- Margaryan, L., & Fredman, P. (2017). Bridging outdoor recreation and nature-based tourism in a commercial context: Insights from the Swedish service providers. *Journal of Outdoor Recreation and Tourism*, 17, 84–92.
- Martilla, J. A., & James, J. C. (1977). Importance-performance analysis. *Journal of Marketing*, 41(1), 77–79.
- McCrum-Gardner, E. (2008). Which is the correct statistical test to use? *British Journal of Oral and Maxillofacial Surgery*, 46(1), 38–41.
- McGehee, N. G., & Andereck, K. L. (2004). Factors predicting rural residents' support of tourism. *Journal of Travel Research*, 43(2), 131–140.
- Milman, A., Li, X., Wang, Y., & Yu, Q. (2012). Examining the guest experience in themed amusement parks: Preliminary evidence from China. *Journal of Vacation Marketing*, 18(4), 313–325.
- Murray, A., & Kline, C. (2015). Rural tourism and the craft beer experience: Factors influencing brand loyalty in rural North Carolina, USA. *Journal of Sustainable Tourism*, 23(8–9), 1198–1216.
- Needham, M. D., Szuster, B. W., Mora, C., Lesar, L., & Anders, E. (2017). Manta ray tourism: Interpersonal and social values conflicts, sanctions, and management. *Journal of Sustainable Tourism*, 25(10), 1367–1384.
- Neumann, P., & Mason, C. W. (2019). Managing land use conflict among recreational trail users: A sustainability study of cross-country skiers and fat bikers. *Journal of Outdoor Recreation and Tourism*, 28, 100220.
- Nunkoo, R., & Ramkissoon, H. (2012). Power, trust, social exchange and community support. *Annals of Tourism Research*, 39(2), 997–1023.
- Nunkoo, R., Smith, S. L., & Ramkissoon, H. (2013). Residents' attitudes to tourism: A longitudinal study of 140 articles from 1984 to 2010. *Journal of Sustainable Tourism*, 21(1), 5–25.
- Oh, H. (2001). Revisiting importance–performance analysis. *Tourism Management*, 22(6), 617–627.
- Perdue, R. R., Long, P. T., & Allen, L. (1990). Resident support for tourism development. *Annals of Tourism Research*, 17(4), 586–599.
- Perlik, M. (2011). Alpine gentrification: The mountain village as a metropolitan neighbourhood. New inhabitants between landscape adulation and positional good. *Journal of Alpine Research | Revue de géographie alpine*, 99(1), 1–16, 99–1.
- Pollock, N., Chase, L., Ginger, C., & Kolodinsky, J. (2012). The northern forest canoe trail: Economic impacts and implications for community development. *Community Development*, 43(2), 244–258.
- Santos, T., Mendes, R. N., & Vasco, A. (2016). Recreational activities in urban parks: Spatial interactions among users. *Journal of Outdoor Recreation and Tourism*, 15, 1–9.
- Schroeder, S. A., Cornicelli, L., Fulton, D. C., & Merchant, S. S. (2019). The influence of motivation versus experience on recreation satisfaction: How appreciative-versus achievement-oriented recreation experience preferences relate to hunter satisfaction. *Journal of Leisure Research*, 50(2), 107–131.
- Schuster, R., Hammit, W., & O'Loughlin, J. (2000). Effective coping strategies in stressful outdoor recreation situations: Conflict on the Ocoee River. In D. N. Cole, S. F. McCool, & W. T. Borrie (Eds.), *comps. 2000. Wilderness science in a time of change conference—volume 4: Wilderness visitors, experiences, and visitor management; 1999 May 23–27; Missoula, MT. Proceedings RMRS-P-15-VOL-4* (Vol. 15, pp. 167–174). Ogden, UT: US Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- Taplin, R. H. (2012). Competitive importance-performance analysis of an Australian wildlife park. *Tourism Management*, 33(1), 29–37.
- TenHarmsel, H. J., Boley, B. B., Irwin, B. J., & Jennings, C. A. (2019). An importance–satisfaction analysis of trout license holders in Georgia. *North American Journal of Fisheries Management*, 39(6), 1227–1241.
- Tourism Economics. (2017). *The economic impact of tourism in North Carolina: Tourism satellite account calendar year 2016*. Retrieved from <https://partners.visitnc.com/files/files/tsa/2016-NC-TSA.pdf>.
- Tsaur, S. H., Yen, C. H., & Teng, H. Y. (2018). Tourist–resident conflict: A scale development and empirical study. *Journal of Destination Marketing & Management*, 10, 152–163.
- U.S. Travel Association. (2019). U.S. Travel answer sheet. Retrieved from https://www.ustravel.org/system/files/media_root/document/Research Fact-Sheet_US-Travel-Answer-Sheet.pdf.
- Vaske, J. J., Beaman, J., Stanley, R., & Grenier, M. (1996). Importance-performance and segmentation: Where do we go from here? *Journal of Travel & Tourism Marketing*, 5(3), 225–240.
- Vaske, J., Dyar, R., & Timmons, N. (2004). Skill level and recreation conflict among skiers and snowboarders. *Leisure Sciences*, 26(2), 215–225.
- Vaske, J. J., Kiriakos, R., Cottrell, S. P., & Khuong, M. N. (2009). Importance-performance and segmentation: An application at a biosphere reserve in Vietnam. *Journal of Travel & Tourism Marketing*, 26(1), 30–41.
- Vaske, J. J., Needham, M. D., & Cline, R. C., Jr. (2007). Clarifying interpersonal and social values conflict among recreationists. *Journal of Leisure Research*, 39(1), 182–195.
- White, E., Bowker, J. M., Askew, A. E., Langner, L. L., Arnold, J. R., & English, D. B. (2016). *Federal outdoor recreation trends: Effects on economic opportunities*. Gen. Tech. Rep. PNW-GTR-945 (Vol. 46). Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Station.
- Ziegler, J., Dearden, P., & Rollins, R. (2012). But are tourists satisfied? Importance-performance analysis of the whale shark tourism industry on isla holbox, Mexico. *Tourism Management*, 33(3), 692–701.