

**Normative and Innovative Sustainable Resource Management
at Birding Festivals**

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Abstract

The sustainable ancillary resource management (SARM) practices of US-based birding festivals are investigated. A questionnaire completed by organisers of 108 of 135 identified festivals (80%) revealed several normative SARM practices such as signage re-use and container recycling, and a large number of innovative practices undertaken by one or more festivals. Cluster analysis yielded roughly equal groups of 'non-innovators', 'normative recyclers', 'innovative energy conservers', 'innovative recyclers' and 'comprehensive innovators'. SARM innovators also tended to be ecotourism innovators, while innovation was also related to attendee numbers but not festival longevity or identification of festival with 'ecotourism'. No clear diffusion effects are evident. Follow-up surveys suggested positive relationships with cost, attendee satisfaction/demand, and sense of responsibility, but not revenue generation. A dedicated organisation and sponsored certification protocols are suggested to facilitate dissemination of innovative SARM practices, which were less prevalent than expected given the nature of such events.

Key words: Birding festivals, sustainable tourism, resource management, ecotourism, event management, festivals, sustainability, birding

1. Introduction

Birding festivals are an increasingly popular form of nature-based tourism in which attendees interact in mainly outdoor settings with one or more target bird species, usually over a period of several days. Given apparent ecotourism characteristics such as this focus on selected natural attractions and the concomitant

provision of learning and other interactive opportunities, it may be anticipated that birding festivals also exhibit a high level of innovation with respect to sustainability-related practices. If so, they may serve as a role model for other segments of the tourism, event and hospitality industries in terms of assisting the broader sector to fulfil the imperative of environmental sustainability. This paper is the first to examine in detail the sustainable ancillary resource management (the acronym SARM is coined here) practices of birding festivals, that is, practices such as recycling and energy conservation that are not directly related to the wildlife resources that are the focus of such events. Specifically, its purpose is to identify and differentiate birding festivals according to their SARM activity as well as the degree to which these are innovative, and to investigate factors that account for these overall patterns and differences. Following a review of the pertinent literature on innovation, sustainability, and birding festivals, associated research questions, methodology and findings of the research are reported. The final section discusses the implications of these findings.

2. Literature review

2.1. Innovation

Innovation is commonly regarded as the practical application or refinement of ‘inventions’, which are technologies or processes introduced without specific applications in mind (Hjalagar, 1997). Conceived more broadly, innovation is simply a new way of doing something within a given context (Cantwell, 1989). In both its specific and generic application, there is an implication that existing tools or modes of action do not sufficiently address current social or other trends, or otherwise successfully carry out some designated function. Innovation therefore facilitates the

renewal and ongoing success of organisations that are significantly influenced by these trends (Tushman & O'Reilly, 2002). It is unsurprising, given this strategically critical role, that the theoretical and practical literature on innovation is immense and distributed across multiple disciplines such as management, economics and geography. Selected observations relevant to this study are offered here without sequential priority.

First, what is innovative in one sector may be well established or normative in another. Hence, the concept of innovation is relative to the context in which it is being investigated. The relationship with other contexts, however, must also be examined since the latter may generate new innovations, and experience with those innovations, that inform adoption by other sectors (Leoncini, Maggioni, & Montresor, 1996). Innovations, in addition, are unequal with respect to the amount of change they entail. A useful distinction can be made between low risk 'incremental' innovation that modestly improves performance and high risk 'radical' or even 'revolutionary' innovation that can potentially enhance performance in dramatic fashion (Dewar & Dutton, 1986). The adoption of innovation is a diffusion process expedited and impeded respectively by the absence and presence of physical, economic, cultural and other barriers or disincentives such as the perceived degree of risk involved in the adoption process. Profit generating entities generally pursue innovation if they believe it can help to increase market share and revenue (Hjalagar, 1997).

The diffusion of innovation is often contagious (that is, a function of spatial proximity or the 'neighbourhood effect') and/or hierarchical (that is, moving from larger higher order and more established nodes to lower order nodes) (Hedström, 1994). The diffusion of innovation, furthermore, has life cycle characteristics, with the S-curve commonly posited to depict sequential stages of early, middle and late

adoption (assuming that the adoption is successful), during which innovative activity eventually becomes normative. Potential adopters are consequently assigned to categories such as ‘pioneers’, ‘early adopters’, ‘followers’ and ‘laggards’, depending on where on the curve adoption occurs (Rogers, 2003). In many cases, adoption is widespread or aggressively pursued because of committed or charismatic individuals whose absence may cause the innovation to collapse (Enz & Siguaw, 2003). Such ‘change agents’, whether initiating or adopting new innovation, tend to exhibit an overall character profile of creativity, problem solving skills and an ability to discern trends and think in new ways. According to Moscardo (2008) ‘all innovation is ultimately based on challenging existing assumptions and looking at things from an alternative viewpoint’ (p. 5). Given such apparent proclivities to pursue innovation, it is often the case that evidence of innovation within one aspect of an organisation is matched by innovation in another aspect (Cantwell, 1989).

2.2. Sustainability

The concept of sustainability (or ‘sustainable development’) situates comfortably within an innovation context. A pioneering innovation in the early 1980s whose diffusion was substantially stimulated by the 1987 Brundtland Report (WCED, 1987) and subsequent ‘earth summits’ in 1991 (Rio) and 2001 (Johannesburg), the concept of sustainability is now institutionalised globally as a dominant organisational and management imperative. The normative status now enjoyed by related UN initiatives such as Agenda 21 and the Millennium Development Goals reflects widespread perceptions that conventional models of development have not adequately resolved pressing social, economic and environmental problems. Many regard the

ascension of sustainability as evidence of a societal ‘paradigm shift’, that is, a radical or even revolutionary innovation (Knill, 1991).

However, the case for a ‘paradigm nudge’, or sustainability as an opportunistic adjustment to the existing dominant paradigm in response to growing but still limited public concerns about the environment (Weaver, 2007), is more compelling. Within the illustrative tourism and hospitality industries, contemporary patterns of sustainable resource management implementation reveal selective and incremental innovations that do not fundamentally challenge long held assumptions focused on growth and profitability (Butler, 2008; Weaver, 2006). Linen re-usage signs (‘Save Mother Earth: Re-use your bath towel!’), arguably the most ubiquitous and participatory sustainable resource management practice in the hospitality sector, demonstrate the opportunistic qualities of low implementation cost and high return both in cost savings and positive publicity (Ayuso, 2007; Goldstein, Griskevicius, & Cialdini, 2007). This ‘superficial environmentalism’ is perhaps a reaction to the conditional demands of the ‘superficial environmentalists’ who dominate society, expressing concern over environmental problems and identifying as environmentalists, but unwilling to make difficult or inconvenient lifestyle changes that cumulatively could ameliorate these problems (Weaver & Lawton, 2010).

Similar dynamics pertain more or less to other now-normative low risk sustainable resource management practices such as container recycling, waste reduction, hazardous material disposal, water conservation, improved room air quality, and energy efficiency, all of which were already being widely adopted by the mid 1990s according to practitioner survey results and other investigations (Iwanowski & Rushmore, 1994; Revilla, Dodd, & Hoover, 2001; Zurburg, Ruff, & Ninemeier, 1995). Environmental and social codes of conduct are also widespread for

similar reasons (Ayuso, 2007), while carbon and ecological ‘footprinting’, or calculation of resource impact, is rapidly emerging as a popular enabling innovation (Hunter & Shaw, 2007). In contrast, there is continuing resistance to higher risk but more effective innovations such as certification schemes that entail a rigorous indicator set, third party verification of compliance, and enforcement of standards (Black & Crabtree, 2007; Buckley, 2002; Honey, 2008). This resistance is largely based on persisting concerns about cost and erosion of power to external bodies, uncertainties of outcome, and expectations of low return based on perceptions that the public does not recognise or prefer certified products over their non-certified counterparts (Revilla, Dodd, & Hoover, 2001). However, even here there is apparent momentum as evidenced by the experience of the LEED (Leadership in Energy and Environmental Design) certification program of the U.S. Green Building Council. As of mid-2007, there were four LEED-certified hotels, but another 60 registered to embark on the process. Facilitating factors have included lower costs as economies of scale in adoption are achieved, less risk as the innovations are trialled and refined by early adopters, emerging public recognition and demand, evidence of profitability from related retrofitting, and expectations of stricter government legislation to meet more rigid emissions targets (Butler, 2008).

Ultimately, and as recognised in the tenets of ‘corporate social responsibility’, expectations of reciprocity underlie most contemporary adoption of sustainable resource management innovation – whether incremental or radical – by tourism and hospitality businesses (Jones, Comfort, & Hillier, 2006). At the same time, more radical innovation in particular in those industries is closely associated with a few pioneering chains such as Scandic, Marriott and Fairmont, as well as individual businesses such as Australia’s Couran Cove Island Resort (Bohdanowicz, 2009).

Within these and other businesses, individual ‘champions’ often initiate and lead the effort whether motivated by expectations of reciprocity or otherwise. Examples from the USA reveal that innovative ‘best practices’ are fragile, vulnerable to termination when the champion leaves the firm, management changes, the economic situation deteriorates, or there is a failure to integrate the practice into the operations of the business (Enz & Sigauw, 2003).

2.3. Event and festival sustainability

Compared with the tourism and hospitality sectors overall, the literature on event and festival sustainability, as well as innovation, is relatively sparse and more recent, suggesting a later adoption pattern of sustainability-related innovation. This paucity is somewhat surprising given the magnitude of the sector, with approximately 10,000 festivals alone accounting for over 31 million visitors per year in the U.S. during the mid 1990s (Janiskee, 1996; TIA, 2004). A prevalent theme in sustainability-related innovation research considers the social and cultural impacts of festivals, especially in relation to affected local communities. One relevant issue focuses on the projection of authenticity and sense of place (HyoungGon & Jamal, 2007; Quinn, 2006; Xie, 2004), while another considers innovations that strengthen cultural or social identities (Hannam & Halewood, 2006; Hughes, 2006). In comparison, research into innovative SARM practices is limited and focused largely on impact evaluation. Among the few such investigations are Upham, Boucher and Hemment (2009), who conducted a pilot carbon emissions audit for an international arts festival, and Collins and Flynn (2008), who measured the ecological footprint of a major sporting event, the FA Cup Final.

2.4. *Birding festivals*

Birding festivals are a rapidly growing sector of the broader events and tourism sectors, with the number in North America alone increasing from just 10-15 in the early 1990s to 79 in 1997 (Scott, Baker, & Kim, 1999) and about 200 in 2006 (Mazurkewich, 2006). This escalation reflects a broader growth of interest in ‘non-consumptive’ and non-captive wildlife-focused tourism, or ‘ecotourism’ (Buckley, 2009; Higginbottom, 2004; Weaver, 2006). Indicative evidence is provided by the U.S. Fish and Wildlife Service (USFWS, 2006) which found that over 71 million Americans 16 years of age or older (31% of that segment) participated in wildlife watching during 2006, spending US\$45 billion. Of this amount, 32.2% travelled at least one mile away from home for said purpose, and approximately 90% of these listed ‘birds’ as a target wildlife type. Wildlife watching in the U.S., overall, experienced a 13% increase between 1996 and 2006 while participation in hunting and fishing declined respectively by 15% and 10%. More generally, the observation of birds is a major activity in the strictly protected areas such as national parks that dominate the global ecotourism sector (Buckley, 2009; Butler & Boyd, 2000).

Although there is no standard definition of a ‘birding festival’, the term is widely used in North America to describe an event, usually of one to four days duration, in which attendees observe, learn about and otherwise interact with target bird species in mainly outdoor non-captive settings. Birding festivals are distinct from other bird-related events in having spatially concentrated venues and in being open to the general public (ABA, 2006; Bird Watcher’s Digest, 2006). The focus on wildlife-based attractions, learning/observation opportunities, and sustainable interactions identified by *author withheld* (in press) warrants the description of birding festivals as ecotourism events (see below), given also that non-local markets usually account for

most attendees. As with the broader event/festival literature, research in the area of birding festivals and sustainability is limited and somewhat tangential. Most available investigations on birding festivals focus on their local or regional economic impact (Hodur, Leistriz, & Wolfe, 2005; Hvenegaard, Jenner, & Manaloor, 2005; Hvenegaard & Manaloor, 2004; Kim et al., 1998) and/or visitor motivations and other market characteristics (Burr & Scott, 2004; Hodur, Leistriz, & Wolfe, 2005; Scott & Thigpen, 2003; Singh, Slotkin & Vamosi, 2007; Stoll, Ditton, & Eubanks, 2006). The revelation of higher than average income and educational attainment among festival attendees is a consistent aspect of the visitor literature that is indirectly relevant to sustainability, since both characteristics are associated with ecotourists and other groups displaying high levels of pro-environmental concern, attitude and action (Lawton, 2001; Wight, 2001). However, the attendee research also reveals a pattern of diversification with respect to attendee level of involvement with birding, with most festivals having a 'mixed' market of serious and casual birders.

A more directly relevant aspect is the actual identification of environmental concerns, attitudes and actions among attendees. Singh, Slotkin and Vamosi (2007), for example, identified a strong willingness to participate in activities that enhance the environment among visitors at two festivals in the southeastern USA. On the statement 'I am a strong believer in the preservation of nature and wildlife', a mean response of 4.81 on a 5-point Likert scale was obtained. A high willingness to pay for the preservation of a birding festival setting was identified among visitors at a Nebraska event (Stoll, Ditton, & Eubanks, 2006). This willingness, surprisingly, was higher among casual birders, who place more value on the number than diversity of birds. Finally, attendees at a Texas festival were found to attach great importance to venues that offered characteristics such as clean air and scenic beauty that contrasted

with urban settings (Scott & Thigpen, 2003). Birdwatchers more generally have been associated with high willingness and proclivity to participate in wildlife conservation activities and other pro-environmental behaviour (McFarlane & Boxall, 1996).

All the birding festival research cited thus far is based on attendee surveys at one or several relevant events where the issue of environmental sustainability is at best tangential. *Author withheld* (in press) is therefore notable by its identification of attraction-based ecotourism practices and innovations at all US birding festivals using input provided by the organisers of those events. Cluster analysis was used to identify two small groups of innovators who indicated aspects of ‘deep’ or ‘comprehensive’ ecotourism involvement that attempts to enhance natural environmental settings (Weaver, 2005), i.e. ‘fundraisers’ (8% of sampled organisers) and ‘recruiters’ (15%). In contrast, 47% were ‘normatives’ who adhered to standard ecotourism characteristics of learning and non-disruptive interaction, while 30% were ‘minimalists’ who displayed only ‘shallow’ ecotourism characteristics, that is, maintaining the environmental status quo and affording superficial learning opportunities. A bell curve (i.e. 23% innovative, 47% normative and 30% minimalist) is evident in the overall pattern. A substantial minority of sampled organisers (38%) stated that their festival was explicitly regarded and promoted as an ecotourism event, although there were no statistically significant differences among the clusters in this respect. This is surprising, considering that ecotourism is usually distinguished from other forms of nature-based tourism by its learning outcomes and its focus on sustainable environmental practices and outcomes (Blamey, 2001).

3. Methodology

3.1. Research questions

This research addresses a gap in the events and festival literature and builds on the aforementioned ecotourism segmentation exercise of *author withheld* (in press) by focusing specifically on the segmentation of the sustainable ancillary resource management (SARM) practices at birding festivals, utilising the same database as the latter source. SARM encompasses ancillary practices such as recycling, energy conservation and waste minimisation that involve the food, energy and infrastructure resources that support attendees and organisers. It does not include activities such as native vegetation planting and passive observation of wildlife that pertain to the core nature-based resources which attract attendees to these events. Nevertheless, SARM can have substantial direct and indirect positive impacts on the latter and needs to be taken into account by festival organisers as a basic component of responsible and effective event management as well as attendee expectations and satisfaction, in concert with the more general sustainability mandate of ecotourism. A broader understanding of sustainability practices at birding festivals is gained by comparing the results of this study with *author withheld* (in press).

Twelve research questions are investigated, based on the literature review, which sequentially consider the characteristics, diffusion and facilitation of SARM innovation. The first three research questions recognise that birding festivals display diversity and a bell-shaped curve with respect to their attraction-based ecotourism practices (*author withheld*, in press), and posit a similar pattern in their concurrent SARM practices. This is based on the assumption of a general proclivity toward innovation, so that a tendency toward innovation in one area is mirrored in other areas. Accordingly:

Q1: Do birding festivals display diversity in their cumulative SARM practice?.

Q2: Do birding festivals reveal a bell-shaped curve in their SARM innovation?

Q3: Do festivals that display attraction-based ecotourism innovation also display SARM innovation.

The diffusion of innovation usually exhibits contagious and/or hierarchical characteristics, with potential adopters being influenced by nearby existing adopters as well as larger and more established adopters. Therefore:

Q4: Are larger birding festivals more likely to display SARM innovation?

Q5: Are longer established birding festivals more likely to display SARM innovation?

Q6: Are birding festivals that display SARM innovation spatially concentrated?

Because festivals that were explicitly promoted as ecotourism events were no more likely to display innovative attraction-based ecotourism characteristics than those that were not, it can be argued that the same lack of a relationship pertains to SARM practices. Hence:

Q7: Is there is a relationship between SARM innovation and identification of festivals as 'ecotourism' events?

As with most organisations, pragmatic considerations such as cost, perceived market demand and satisfaction, and access to relevant knowledge influence innovation adoption decisions. However, because birding festivals are usually non-profit events, it is likely that revenue generation will not facilitate adoption as it does with private profit-generating entities. In contrast, a sense of responsibility related to

the celebration of the natural environment and specific bird species that it supports is assumed to be an important facilitator. Accordingly:

Q8: Do cost considerations positively influence SARM innovation?.

Q9: Is perceived attendee demand positively related to SARM innovation?

Q10: Is perceived attendee satisfaction positively related to SARM innovation?

Q11: Is revenue generation negatively related to SARM innovation?

Q12: Is sense of responsibility positively related to SARM innovation?

3.2. Case study country

The selection of the USA as a case study country by *author withheld* (in press) was based on the large number and rapid growth of festivals located there, the availability of published up-to-date directories that identify most such events and provide contact details, and the focus in the literature on this one country. The primary sources for identifying US birding festivals were the American Birding Association's *Birding Festivals Directory* (ABA, 2006) and *Bird Watcher's Digest Festival Finder* (Bird Watchers Digest, 2006) Neither, however, is inclusive since both rely on festival organisers to supply information. These directories were therefore cross-checked against state-level birding directories from Texas, California, Louisiana, Minnesota and Florida. A thorough Internet search was also conducted to identify additional qualifying events. Notably, the definition of 'festival' is often loosely applied in these directories and by event organisers. Accordingly, 'festivals' that were closed to the general public (e.g. conferences and workshops), focused strictly on specialised interactions such as bird counts or research, confined to indoor settings with little or no interactions with target species in natural settings, and/or

otherwise lacking a clear ‘festive’ or celebratory focus, were disqualified. Ultimately, 135 valid festivals were identified.

3.3. Questionnaire design and distribution

An eight-page questionnaire was designed to solicit information from organisers about general festival characteristics (venue, year first held, number of attendees, sponsors, etc.), ecotourism-related and other objectives, and SARM practices. The latter section, as per P1, asked respondents to check a box to indicate whether they engaged in activities related to energy conservation, waste minimisation, and recycling. An additional ‘other’ category was added to capture any relevant resource management practices not covered in the first three categories. Those checking off a particular box were asked to describe the specific associated practice(s). All responses were cross-checked and reassigned to correct categories if necessary. In late 2006, the questionnaire was mailed to contact organisers along with a cover letter and post paid return envelope. The contact letter asked the recipient to forward the questionnaire to the individual who was most qualified to answer the questions if s/he was not that person.

3.4. Data analysis

To facilitate data analysis, six SARM variables were created in the SPSS analytical software; one for each of the three basic categories (e.g. ‘normative recycling’), and a parallel variable (e.g. ‘innovative recycling’) for each that indicated whether innovative practices were present under that category, based on an overall count and assessment of the open-ended practice descriptions. The literature justifies frequency as a differentiating criterion in that regardless of relative merit ‘normative’

practices are by definition well established and dominant within a given population, while 'innovative' practices are new and evident only among a pioneering minority (Cantwell, 1989). All six variables were nominally coded as '1' for 'yes' and '0' for 'no'. If no open-ended description followed the checkmark, then a '1' or 'yes' was assigned to the relevant normative variable while the default value of '0' or 'no' was assigned to the parallel 'innovation' variable. To assess P2, hierarchical cluster analysis was used to assign the festivals to relatively homogenous groups based on their patterns of response to these six variables, or to a smaller number of variables if some were proven non-applicable or non-viable. Ward's method was used to minimise the distance between cluster members and maximise the distance between cluster centres. 'Correct' solutions are subjectively derived after examining resultant dendograms, differences in variable values, number of festivals in each cluster, and overall interpretability for options ranging from the minimum two-cluster solution to an eight-cluster solution (Hair et al., 1995).

To assess P3, the SARM clusters identified in the above exercise were compared in a matrix against the above described ecotourism clusters of *author withheld* (in press) using the chi-squared test and visual analysis. P4 and P5 were examined through the use of comparison of means tests respectively using 2006 attendance figures and number of years the festival has existed. P6, which considers spatial diffusion dynamics, focuses on the construction of a map of the distribution of sampled festivals, with members of high innovation clusters highlighted. This is also informed by a questionnaire element which asks organisers to list any festivals they hope to emulate and describe associated reasons. This question immediately follows the SARM questions. P7 was considered by comparing the clusters against responses to a questionnaire statement on whether the festival is explicitly promoted as an

'ecotourism' event. Once the clusters were identified, it was planned to investigate P8-12 by sending a short follow-up email survey tailored to members of particular clusters to find out the reasons for their level of sustainable resource management practice, with accompanying Likert-scale statements derived from the innovation literature (using a 4-point Likert scale of agreement with a 0 = not sure option that was not factored into the calculation of means). Where appropriate, chi-squared and comparison of means tests were employed to identify differences between the clusters.

4. Results

By mid-January 2007, 88 completed surveys were returned, representing a 65% response rate. To exceed the 74% threshold required to best ensure that the sample represents the targeted festival population of 135 (Sarantakos, 1998), the non-responding organisers were personally contacted by telephone and asked to return a completed questionnaire if possible. In some cases a new survey had to be sent to these organisers. This follow-up yielded an additional 20 returned surveys for a final 80% response rate (n = 108). The follow-up e-survey yielded a response rate of 46% of sampled organisers. This relatively low percentage might be attributable to the one year time lag between the cluster analysis and the e-survey, and also to the tendency for email-based surveys to yield lower response rates than mail-out paper surveys (Cole, 2005). Based on all results, each of the research questions is evaluated below.

4.1. Do birding festivals display diversity in their cumulative SARM practices? (Q1)

Table 1 depicts the sustainable resource management practices elicited from the survey, differentiating between the three major categories, specific practices, and

related subcategories devised by the authors based on the latter. The most prevalent category was waste minimisation (90% ‘yes’), which was dominated by the re-use of signage and banners. No other specific practice was cited by more than four organisers, and therefore all of these were categorised as ‘innovative waste management’, while signage and banner re-usage was considered ‘normative waste management’. Discrete subcategories of waste management innovation were mainly related to food, and information dissemination.

Recycling was the next most popular category, with 75% reporting participation. The normative/innovative distinction is less skewed but still clear, with a relatively high incidence of collecting beverage containers (aluminium and glass) and/or supplying repositories for same. ‘Innovative recycling’ involved either the types of material being recycled, or the added facilitation of recycling through exhibits, education programs, staff involvement or signage. The production or utilisation of recycled material was reported by a small number of organisers.

Finally, 40% of respondents reported practices related to energy conservation. All of those described were considered innovative since no specific practice was reported by more than 14 organisers (car pooling and using buses or vans to access viewing sites each yielded this sum). Diversity of SARM practices is therefore evident within these five variables, with a small number of normative practices displayed by a majority or large minority of festivals, and a large number of innovative activities each displayed by one or a few festivals.

(Table 1)

4.2. Do birding festivals reveal a bell-shaped curve in their SARM innovation? (Q2).

Because cluster analysis is intended to differentiate a population as much as possible, it is advisable to omit variables with relatively homogenous response patterns (Hair et al., 1995). Accordingly, the ‘normative waste management’ variable was removed since signage re-use was almost ubiquitous. The four variables retained for analysis were ‘innovative waste management’, ‘normative recycling’, ‘innovative recycling’ and ‘innovative energy conservation’. The assessment of options related to these four variables ultimately produced a five-cluster solution characterised by strong differentiation of the population, strong consistency among members of individual clusters, high interpretability, and similarly sized clusters.

Table 2 facilitates description by reporting the percentage of ‘yes’ respondents by cluster for each of the four variables, with the clusters sequenced approximately from the least to the most innovative. Accordingly, cluster 1 members (n=22 or 20%) reported no involvement in activities other than signage re-use and are therefore described as ‘non-innovators’. Cluster 2 members (n=18 or 17%) are ‘normative recyclers’ who report no innovative recycling and register no participation in the other three categories used in the cluster analysis. Cluster 3 members (n=21 or 19%) are ‘innovative energy conservers’, many of whom also recycle, while cluster 4 members (n=23 or 21%) are all ‘innovative recyclers’ with minorities participating in innovative energy conservation and waste minimisation. Finally, cluster 5 members (n=24 or 22%) are ‘comprehensive innovators’ substantially involved in all activities, including 100% participation in innovative waste minimisation. A bell curve distribution (20% non-involvement, 58% intermediate levels of involvement, 22% comprehensive) is therefore evident.

(Table 2)

4.3. Do festivals that display attraction-based ecotourism innovation also display SARM innovation? (Q3)

With regard to the matrix created by comparing the above SARM clusters with the previously identified ecotourism clusters of author withheld (in press), significant differences in the cluster percentage distributions were identified ($\chi^2=21.865, p<.039$). To facilitate analysis, cells displaying substantial deviation from the overall sample distribution are highlighted. Notably, 54% and 44% of non-innovators and normative recyclers, respectively, are situated within the ‘minimalist’ ecotourism cluster, compared with 30% for the overall population. The 20 festivals in these two cells are therefore designated as ‘innovation poor’. Only 9% and 19% of innovative recyclers and innovative energy conservers, respectively, were similarly positioned. On the innovative side, 26% and 24% of innovative recyclers and innovative energy conservers respectively were positioned within the ‘recruiter’ ecotourism cluster (compared with 15% overall), while 17% of the comprehensive innovators were situated within the ‘fundraiser’ ecotourism cluster (compared with 8% overall). The festivals situated in these three cells were combined with three other cells indicating dual innovativeness (see Table 3) to produce 22 ‘innovation rich’ festivals, or about 20% of the total sample. However, because many of the festivals are anomalous in being innovative in one set of clusters but normative or minimalist in the other, this research can only partially be answered in the affirmative.

(Table 3)

4.4. Are larger birding festivals more likely to display SARM innovation? (Q4)

A significant relationship between innovation and number of attendees was identified, with an average of 1,730 and 1,066 reported for innovative recyclers and comprehensive innovators respectively. Non-innovators and normative recyclers recorded respective averages of 639 and 706, while innovative energy conservers had an average of 753 ($F=2.837, p<.028$). This strong affirmation of *Q4* was amplified when attendance was calculated for the innovation rich and innovation poor groupings, which respectively recorded average attendances of 1,617 and 577. Two of the three festivals reporting 5,000 or more attendees were members of the innovation rich group, while festivals reporting less than 100 attendees accounted for 15% of all sampled festivals but 25% of the innovation poor festivals.

4.5. Are longer established birding festivals more likely to display SARM innovation? (Q5)

No significant differences were identified between the clusters with regard to the number of years member festivals have been in existence, with minimal deviation evident around the overall mean of 7.3 years ($F=.128, p<.937$). *Q5* can therefore be answered in the negative.

4.6. Are birding festivals that display SARM innovation spatially concentrated? (Q6)

A map was constructed depicting the spatial distribution of all sampled festivals, highlighting the 24 comprehensive innovators as well as the overlapping 22 innovation rich events. While small spatial clusters and neighbour-pairs are evident, this may simply reflect the overall spatial clustering of all birding festivals in regions of seasonal bird concentration (e.g. coastal Texas, Florida and Minnesota). The argument for the absence of a genuine neighbourhood effect may be corroborated by

responses to the emulation question on the original survey. Sixty-six per cent of organisers left this question unfilled or simply responded ‘no’ or ‘none’. Another 13% stated that they deliberately did *not* seek to emulate other birding festivals (e.g. ‘We’re doing our own thing’, ‘We’re unique and intend to stay that way.’, ‘We aspire to be the festival that others emulate.’) and 4% stated that they should look at other festivals but do not, while 1% attended many such events but found none that they wanted to emulate. The remaining 16% (n = 17) listed at least one other festival, with one-half of these being from the same or a neighbouring state to the one where the emulated festival is located. However, none of the reasons for emulation were related to any aspect of SARM or other aspects of environmental or social sustainability. Most cited a desire to achieve similarly high attendance levels while individually cited factors included a similar appearance, longevity, effective community business sponsorship arrangements, broader appeal, and an efficient web-based registration system.

4.7. Is there is a relationship between SARM innovation and identification of festivals as ‘ecotourism’ events? (Q7)

There is no significant relationship between SARM cluster membership and the explicit identification of festivals as ‘ecotourism’ events ($\chi^2=3.213, p<.523$).

4.8. Are cost considerations positively related to SARM innovation? (Q8)

Of the 42 members of the four clusters displaying at least some SARM innovation who responded to the follow-up email survey, six (14%) were ‘not sure’ of their response to the statement ‘Such practices were not costly to implement and manage’. Thirty-four of the remaining 36 organisers (94%) agreed or strongly agreed

with the statement, which yielded a mean of 3.36 (out of a maximum score of 4.00). Explanatory text provided by 11 of those in agreement qualified their statement by emphasising the realisation of cost *savings*. A relationship between cost considerations and SARM innovation is therefore evident, although the low response rate may not be representative of the sampled festivals.

4.9. Is perceived attendee demand positively related to SARM innovation? (Q9)

Lack of knowledge about attendee demand for SARM practices was evident, with 40% of the 42 organisers 'not sure' about the statement 'The attendees at our festival demand such practices'. Sixteen of the remaining 25 organisers (64%) agreed or strongly agreed with the statement, for a mean of 2.60. Two of those disagreeing with the statement suggested that 'demand' was too strong a word, and that 'expect' was more appropriate. The low response rate, high 'not sure' percentage and less than overwhelming agreement rate all indicate only partial support for a positive relationship between attendee demand and SARM innovation.

4.10. Is perceived attendee satisfaction positively related to SARM innovation? (Q10)

There appears to be more knowledge about attendee satisfaction with the level of SARM practice, with 29% of the 42 organisers being 'not sure' about the statement 'Such practices positively affected attendee satisfaction'. Higher support is also evident, with 23 of the remaining 30 organisers (77%) agreeing or strongly agreeing with the statement, for a mean of 3.00. A positive relationship between attendee satisfaction and SARM innovation is therefore indicated.

4.11. *Is revenue generation negatively related to SARM innovation? (Q11)*

Most follow-up survey respondents had an opinion on the statement ‘Such practices produce revenue’, with only 24% stating that they were ‘not sure’. Thirty of the remaining 32 respondents (94%) disagreed or strongly disagreed with the statement (mean = 1.63), revealing strong affirmation for *Q11*.

4.12. *Is sense of responsibility positively related to SARM innovation? (Q12)*

Only 10% of the 42 members were ‘not sure’ about the statement ‘It is our responsibility to implement such practices’. All of the remaining respondents agreed or agreed strongly with the statement, with most strongly agreeing. The mean of 3.87 reflects this near unanimity, which reflects a strong positive relationship between sense of responsibility and SARM innovation. Many respondents italicised or added plus signs to their score, and/or added explanatory text emphasising their sense of environmental responsibility or commitment (e.g. ‘It’s the right thing to do!’).

5. Discussion

5.1. Conservative pattern of SARM activity

The sampled birding festivals display in their SARM practices an overall pattern of superficial or normative environmentalism that mirrors the shallow ecotourism credentials identified by *author withheld* (in press). Evident innovation, furthermore, is far more incremental than radical, and in both respects there is a resemblance to the conservative pattern of SARM practices in the broader hospitality and tourism industries (though these are less inclined than the latter to involve indoor facilities). This resemblance is unexpected for several reasons. First, while the guest profile of those industries can be assumed to mirror the general public, birding festival

attendees display educational and income characteristics more typical of the environmentalist side of the consumer spectrum. Such tendencies, moreover, are indicated among these attendees in the limited empirical research on this topic. A second factor is the relatively high level of identification with ecotourism, which is distinguished in part by the imperative of management that seeks to achieve environmentally and socially sustainable outcomes (Blamey, 2001). The possibility that some organisers regard SARM as secondary to or a distraction from the focus on wildlife and habitat cannot, however, be discounted. Birding festivals, thirdly, are usually organised by non-profit entities that are not compelled to justify their SARM practices by considerations of reciprocity. Indeed, the research indicates that sense of responsibility is a far more important consideration for carrying out innovative SARM practices than revenue generation, while cost considerations are an understandable 'neutral' consideration applicable in equal part to for-profit and non-profit entities.

5.2. *Underlying factors*

The allegation that tourism and hospitality businesses tend to engage in SARM practices as an opportunistic adaptation to the alleged superficial environmentalism of consumers – and hence is a matter of paradigm nudge rather than shift – therefore seems to extend accordingly - and surprisingly- to birding festivals. Some insight into the unexpectedly conservative pattern of SARM innovation is offered by the assessment of other research questions. One inhibiting factor, for example, may be the seeming absence of diffusion effects. There are no incidents, from the follow-up survey, of convincing neighbourhood effects among festivals or of organisers whose innovative SARM practices specifically were inspired by the experience of other festivals. More evident are psychological *barriers* to

diffusion, such as the exceptionalist tendencies expressed by the many organisers who described how their festival strives to be unique and different from other festivals.

The positive relationship between number of attendees and SARM innovation might in contrast be construed as evidence of hierarchical diffusion, except again for the lack of any clear emulation of these practices by organisers of smaller festivals, or any accompanying relationship with the number of years that the festival has been in existence. However, with regard to this latter finding, it should be noted that birding festivals themselves are innovative, the average time in existence being just over seven years. This may be an insufficient amount of time to allow for an examination of the influence of 'well-established' festivals.

Along with the paucity of inter-festival diffusion effects, effects of scale also partially account for the conservative pattern of SARM innovation. Smaller festivals, with more restricted visitor profiles and lower potential volumes of waste, may find it more difficult to justify the pursuit of innovation. Similarly, the small communities that tend to host the festivals may lack recycling and other SARM-related capacities (see below). Although expressions of financial viability were not solicited in the survey, it is also possible that organisations sponsoring smaller festivals are more financially precarious and hence more risk averse in their management decisions. The positive relationship between number of attendees and SARM innovation raises interesting questions pertinent to the broader relationship between large-scale or 'mass' tourism and sustainability. Although tourism discourses have traditionally associated the latter with negative impacts, the case has also been made that mass tourism may at least in theory actually facilitate sustainability through its economy of scale effects (Bohdanowicz, 2007; McKercher & Robbins, 1998; Weaver, 2005, 2007). This is evident in the hospitality sector where many of the SARM pioneers are

also among the largest corporations. From the perspective of the mostly small communities which host birding festivals, such events may often qualify as ‘mass tourism’ even though the greatest number of attendees reported by any organiser was just 8000, or well below the absolute thresholds normally associated with mega-events. Because potential economy of scale sustainability benefits might also therefore be accompanied by unintended costs such as congestion, open-ended attendance growth of such events beyond a few thousand therefore cannot be endorsed at this time as a planning or management strategy for increasing the incidence of SARM innovation.

Not examined as a research question, but evident from many open-ended questionnaire comments, is dependency on the SARM practices offered or supported by the facilities and municipalities where these events occur. These include in particular the existence of nearby municipal recycling facilities and accessible alternative energy sources, but also rented or loaned buildings that happen to have (or not have) strong ‘green’ credentials, and venues that provide mass transit vehicles to access birding sites. Birding and other festivals in this sense are similar to wildlife-based tourism more generally in having more limited control over their venues (public protected areas in the case of the more general sector), thereby emphasising the point made above that innovation in one sector (i.e. birding festivals) is largely contingent upon the level of innovation in other sectors (i.e. external venues where these festivals are held). More broadly, the critical role of external factors and environments in influencing the sustainability practices and initiatives of birding festivals (as well as other tourism events and phenomena) cannot be overemphasised.

Another distinctive feature of birding festivals is discontinuity, with participating organisations often fluid in their composition and periodic in their

planning structures. Dependency and discontinuity may both dissuade organisers from pursuing innovation, but the effects of such informality need to be carefully considered, given the warning from Getz and Andersson (2008) that well articulated external stakeholder arrangements and bureaucratic operational and management structures of highly formalised festivals tend to foster lock-in effects that inhibit the adoption of innovation.

5.3. Organisation and certification

Despite these apparent barriers, factors such as visitor profiles, identification with ecotourism, non-profit orientation, importance of responsibility, and indications of perceived visitor demand for and satisfaction with innovative SARM practices all suggest a high level of amenability between SARM innovation and birding festivals. Another important indicator of amenability is that about two-thirds of festivals display at least one innovative SARM practice and therefore may be have proclivities for further adoption. The formation of a specialised national association of birding festivals might be one way of facilitating the wider adoption of innovative SARM practices. Encompassing a critical mass of festivals and providing a higher level of structural and organisational stability, this would allow innovative SARM practice and experience (and especially those of the larger ‘innovation rich’ festivals) to be disseminated within an increasingly reticulated network of festivals. To this effect, the practices summarised in Table 1 provide a template or inventory as to the range of relevant management possibilities. An additional advantage for birding festivals and other non-profit events, and a contrast with for-profit organisations, is the presumed lack of competition among such events, wherein the sharing of information is not likely to be discouraged as a sacrifice of trade secrets that confer a financial advantage

over competing festivals. To achieve the goal of making currently innovative SARM practices more normative and widespread, a specialised and rigorous certification scheme operated by this proposed association is warranted, wherein a larger array of more innovative practices would be awarded with ‘advanced’ or ‘gold’ status, as per the pioneering and innovative EcoCertification program in Australia (Thwaites, 2007). To this effect, formal and informal collaboration of the proposed organisation with Ecotourism Australia, the main organisation responsible for the latter, is warranted.

6. Limitations

Before considering avenues of subsequent investigation, it is constructive to summarise the limitations of this study. It is possible, for example, that the contact who filled in a given survey was not necessarily the person who was most knowledgeable about the SARM practices of that festival. The brief descriptions of these practices, moreover, may disguise or exaggerate their actual level of innovation. Social desirability bias (i.e. the desire to project a favourable self-image), in addition, may account for some portion of the reported pro-sustainability behaviour (Fisher, 1993). In cases where only a check-mark was provided, an assumption was made that the associated practices were normative. The survey also failed to solicit the magnitude of the practices, which was inferred from the number of attendees. The diffusion analysis would have been facilitated by knowing the specific year in which particular practices were introduced, but we assumed that festival contacts were not likely to be able to accurately recollect such detailed information. A better indication of diffusion impulses would perhaps also have resulted from a different wording of the emulation survey question to avoid the negative implications of copying (a

possibility raised by the relatively large number of respondents who emphasised that they did *not* emulate other festivals). We also did not ask questions about financial performance due to the sensitive nature of the topic, although this would have provided further insight into facilitating and dissuasive factors of adoption. Finally, it is likely that the relatively low response rate to the follow-up email survey resulted from the one year interval between the latter and the first survey, and that this lag also created added problems of contact loss and higher uncertainty or error in recollection.

7. Conclusions

This paper is the first to examine in detail the normative and innovative SARM practices of birding festivals and to consider underlying factors and implications. It is also innovative in soliciting the expertise of festival organisers rather than attendees, and in targeting all festivals within a particular country rather than a case study or limited sample. It was successful in attaining the participation of 80% of the targeted organisers. The main finding is a conservative level of SARM involvement that seems to belie the nature of such events but corroborates the pattern of ecotourism-related characteristics of the same festivals identified by *author withheld* (in press). More crucially, the findings of both papers reveal that the superficial environmentalism that prevails in the contemporary tourism and hospitality industry is a powerful undercurrent not confined to the corporate entities with which it is usually associated. We conclude nevertheless that birding festivals, because of their ‘green’ attendee proclivities, identification with ecotourism, and non-profit orientation, are amenable to a higher level of SARM engagement more in keeping with the rhetoric of sustainability, and that a dedicated specialised association is an appropriate way to disseminate the innovative activities that are being practiced,

and that a focused certification protocol is a potentially effective mechanism for making innovative SARM practices normative within that sector. In so doing, birding festivals will be well positioned to serve as a sustainability role model for other sectors of the tourism and events industry, a potential that is not currently being realised.

The exceptionally high level of participation in this survey encourages us as to the possibilities of similarly high levels of interest in pursuing this potential. Follow-up in-depth interviews or focus groups with a representative sample of organisers from each cluster are a logical directive arising from this study. These qualitative interactions would shed light on multiple aspects of SARM innovation, including details about specific practices, the prioritisation given to ancillary resources relative to core wildlife resources, and especially its relationship with organisational structures and external stakeholders such as municipal recycling facilities (e.g. do organisers depend on nearby facilities, or are they willing to make arrangements with more distant providers?), perceptions of risk and incentives associated with various practices, and reactions to the suggestion of a specialised organisation and relevant certification protocols. It will also be necessary to visit a sample of innovation rich and poor festivals to witness SARM practice ‘in action’, and to conduct exit surveys of attendees to gauge their demand for and satisfaction with same. Of particular interest is the experience of implementing radical innovations such as the prohibition of motorised vehicles and allowing visitors to participate in the production of recycled goods.

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Table 1.

Specific cited SARM practices at sampled birding festivals

Major SARM category	SARM subcategory	Specific SARM practice
Waste minimisation	Identification material	Re-use of signage or banners (92) <i>Re-use of name tag holsters (3)</i>
	Food service	<i>No plates or implements provided (4)</i> <i>No Styrofoam plates or cups (2)</i> <i>Food served in reusable service wear (2)</i> <i>Use vendors offering minimal packaging (2)</i> <i>Water dispenser instead of bottles (1)</i>
	Information dissemination	<i>All communication by email (2)</i> <i>Match # of handouts with actual # of attendees (1)</i> <i>Couples share welcome bag (1)</i> <i>Send postcard instead of brochure (1)</i> <i>No attendee package; have brochure display at entrance where attendees choose printed material (1)</i>
	Packaging substitution	<i>Plastic grocery bags distributed for gift purchases and dog pick-up (1)</i>

		<i>Re-sealable plastic bottles for water (1)</i>
	Miscellaneous	<i>Pack in/pack out policy for grounds (1)</i> <i>Minimal supplies used in crafts area (1)</i> <i>Water conservation exhibit (1)</i>
Recycling	Item recycling	Cans and/or bottles collected (47) <i>Paper and/or cardboard collected (7)</i> <i>Water, food waste, clamshells, 'supplies' recycled (1 each)</i>
	Repositories supplied	Bins and/or recycling depot (36)
	Added facilitation	<i>Demonstration or exhibit (3)</i> <i>Children's education program (2)</i> <i>Staff actively encourage recycling (1)</i> <i>Signage encouraging recycling (1)</i>
	Use of recycled products	<i>All printing on recycled paper (2)</i>
	Visitors make recycled products	<i>Bird feeders from plastic bottles (1)</i> <i>Recycled paper from used paper (1)</i>

Energy	High occupancy vehicles	<i>Buses or vans (14)</i>
Conservation	to access viewing sites	<i>Carpooling (14)</i>
	Alternative energy	<i>Exhibits (wind, solar, multiple) (3)</i> <i>All energy supplied by 'energy van' (1)</i> <i>Energy from wind generator, solar panels, or heat pumps (1 each)</i>
	Energy restrictions	<i>Deliberate selection of venue with no electricity outlets (2)</i> <i>Heating and air conditioning on timer (1)</i> <i>HQ lights off when not in use (1)</i> <i>Tour buses do not idle at stops (1)</i>
	Alternative transport	<i>Use of demo hybrid vehicles (2)</i> <i>Encourage bicycles, canoes and kayaks (1)</i>
	Vehicle restrictions	<i>No driving allowed in grounds (1)</i> <i>No motor vehicles allowed (1)</i>
	Timing adjustments	<i>Use of venue only during daylight hours (2)</i>
	Use of 'green' facilities	<i>Selection of a 'green' building (1)</i>

Bolded and italicised text respectively indicates normative and innovative practice.

Number refers to actual number reporting out of 108 respondents.

Table 2

Comparison of birding festival clusters against clustering variables

SARM clusters	Clustering variables			
	(% of cluster members assigned 'yes')			
	Normative recycling	Innovative recycling	Innovative energy conservation	Innovative waste minimisation
Non-innovators (n=22)	0	0	0	0
Normative recyclers (n=18)	100	0	0	0
Innovative energy conservers (n=21)	57	0	100	0
Innovative recyclers (n=23)	100	100	44	22
Comprehensive innovators (n=24)	88	21	50	100

Table 3

Comparison of SARM and ecotourism birding festival clusters

SARM clusters	Ecotourism clusters				
	(% of SARM cluster members in each ecotourism cluster)				
	Normatives	Minimalists	Recruiters	Fundraisers	Total
Non-innovators	36	*54	5	5	100
Normative recyclers	50	*44	0	6	100
Innovative energy conservers	52	19	**24	**5	100
Innovative recyclers	56	9	**26	**9	100
Comprehensive innovators	42	24	**17	**17	100
All respondents	47	30	15	8	100

* 'innovation poor' festivals

** 'innovation rich' festivals