BIRDING TRAILS AS SUSTAINABLE TOURISM DEVELOPMENT

Krisztian Vas
New Zealand Tourism Research Institute (NZTRI), Auckland University of Technology (AUT), Auckland, New Zealand
Corresponding author: krisztian.vas@aut.ac.nz

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Abstract: The growth and popularity of birding has provided many communities, regions and countries with new economic income. As a result, many places are keen to attract more birdwatchers and develop this niche segment of tourism. Birding trails seem to be a viable and sustainable tourism development option. Prior to this article, no previous literature has been written on assessing if birding trails are actually sustainable or if they can function as a form of sustainable tourism development. Through 10 in-depth semi-structured interviews with (five birding and five other types of tourism trail) trail managers, the research aimed to determine how sustainable are such trails within the definition of sustainable development. The perspectives and understanding of "sustainability" by trail mangers and operators was the focal point of the research. Results indicate that most trail managers and operators overlooked some aspect of sustainability; whether environmental, economic or socio-cultural. It seems that environmental aspects of sustainability were usually first mentioned and prioritized by trail managers, particularly birding trail operators. Most trail managers overlooked economic sustainability and many were unable to meet operating costs. The research determined that birding trails can indeed function as sustainable tourism development if all three pillars of sustainability are incorporated into the development process. A series of recommendations are provided in the discussion chapter that lists what elements should be taken into account when planning and managing a birding trail, to ensure sustainability.

Keywords: *birding trail; bird-watching; sustainable development; sustainability; tourism*

I. INTRODUCTION

Sustainable development is a notion that is not always easy to define, as the ideas of sustainability and development can sometimes be perceived as two conflicting concepts [32]. The idea of developing resources without compromising their existence for future generations often becomes very challenging for tourism developers and policy makers. As the world populations continues to grow and more places are impacted by globalization and development, there is a stronger need than ever to ensure new development is sound, ethical and sustainable [29]. This need is best summed up by the current U.N. Secretary General Ban Ki-Moon:

"We all aspire to reach better living conditions. Yet, this will not be possible by following the current growth model . . . We need a practical twenty-first century development model that connects the dots between the key issues of our time: poverty reduction; job generation; inequality; climate change; environmental stress; water, energy and food security" [67, p. 3].

Tourism can certainly aid in alleviating many of the above mentioned challenges faced by the global community, as many places have the potential to develop and become viable tourism destinations. Tourism is a realistic option for development because it can generate tangible and sustainable revenues for many destinations [63; 72]. Consequently, tourism is often considered one of the largest drivers of the global economy, which continues to grow [68]. Tourism is one of the biggest sectors of the global economy, as there were 980 million international arrivals in 2011 [58]. It is estimated that tourism will grow at a rate of 4-5% annually, until the year 2020

[58]. By 2020 international arrivals are estimated to surpass 1.5 billion people [58]. Tourism is also "directly responsible for 5% of the world's GDP, 6% of total exports and employing 1 out of every 12 people in the world" [58, para 3]. Clearly, tourism is a vital industry that drives the global economy and can generate valuable income for a region or country. Much like other economic development, tourism is also evolving and has become much more concerned with sound, ethical and sustainable development.

As a result of this added environmental consciousness, bird-watching or birding has become popular. Birding is the activity of viewing or watching birds in their native habitat either through the naked eye or by view-enhancing devices, such as binoculars and telescopes [2]. The activity is often challenging, as it involves searching for elusive, rare and endemic species, but the rewards of finding such creatures is equally satisfying [6]. Birding is considered a well-established educational and recreational activity and segment of ecotourism. Birding is a rapidly growing tourism sector, which is built on strong principles of sustainability. Therefore, birding is not only something people can do solely as a recreational activity; rather bird-watching can also be studied as both a tourism sector and implemented as business.

According to [69], in 2001 there were 46 million birders in the U.S. (1 in 5 Americans) with an overall economic output of $85 billion USD that contributed $13 billion in taxes and created nearly 900,000 jobs in the country. It is clear that the economic impact of birding can be significant; however, the challenge facing many tourism planners is how to best attract birder to a specific site or region? One method of developing regional tourism and drawing birders to a specific area is through the development of a birding trail. A birding trail is a conceptual map linking important birding sites and stakeholders within a given area, much like a wine route links wineries.

Tourism trails or routes are on the rise globally and have been adopted by numerous tourism sectors, including winery, culinary, adventure, bird-watching and heritage tourism, as they present added economic benefits and a viable option for managing tourism resources [34; 42]. Such trails promote cohesion by combining resources to achieve unified goals and objectives for the purposes of cost-effective and sustainable tourism development [9].

Birding trails, particularly in the U.S. have become popular and an essential part of sustainable tourism development for many states [2]. In fact, almost all states in the U.S. have birding trails [2]. There are several well-known birding trails that exemplify what a birding trail should look like and what its functions should be [44]. Some of these famous birding trails include the North Carolina Birding Trail, the Maine Birding Trail and the Great Florida Birding Trail [33]. All of these trails encompass a wide array of bird species, excellent sites and scenery. However, in looking at the development of birding trails, there was a lack of literature on the planning, design, implementation, and management of such trails in regards to sustainability. Very little research existed regarding what approaches or principles were used by tourism planners when developing a birding trail, particularly in relation to ensuring sustainability.

Therefore, the study addressed the following research questions:

(1) Who planned birding trails and what is their expertise? (2) How do trail operators understand the notion of sustainability? (3) Can birding trails function as sustainable tourism development? (4) If so, what principles or guidelines should be followed to ensure birding trails are sustainably planned, developed and managed?

II. LITERATURE REVIEW

The literature review will briefly discuss and critique the concepts of sustainability, sustainable utilization and sustainable development. These three concepts are important to understand as they should be the foundation of all sustainable tourism development, including bird-watching. The literature review will also illustrate the importance of bird-watching as a tourism sector as well as discuss the continued emergence of birding trails.

Sustainability. An important concept and a guiding principle for most environmentally conscious and responsible tourism development is the idea of sustainability. Since, birding tourism is heavily reliant on the natural environment; sustainability is a vital concept that must be incorporated into any type of birding tourism development. Sustainability refers to the practice of using or utilizing natural recourses without compromising their future existence [17; 46]. Sustainable practices involve the use of natural resources for human benefit, but by ensuring they are not overused or depleted, whereby they are no longer able to benefit humanity [56; 70]. Sustainability is a delicate process that involves the careful balance of environmental, economic and social dimensions in order to ensure continued benefits for all involved stakeholders [38; 49]. Thus, sustainability can be understood and implemented in different ways and applied differently in various scenarios.

Within a tourism context, especially ecotourism, sustainability is usually predominantly focused on the

environmental dimension of the definition. This means the promotion and implementation of more eco-friendly practices that would have a much lesser impact on the natural environment, local ecosystems and wildlife of a particular area that tourists might visit [23]. This type of sustainable tourism development is considered very different from mainstream tourism. However, as with all tourism development, the goals and objectives of sustainable tourism development also involve the generation of an economic income – only if, however, there is assurance that there will be minimal environmental damage and that the local habitat in question can be well-conserved [10; 26; 38). This means, that there is usually careful study and implementation of practices that ensure that a particular ecosystem where tourism development might take place maintains its biodiversity and ecological integrity [10; 38; 50). Thus, sustainability is an important concept, especially in a field that is heavily reliant on the presence of wildlife and the idea of intact nature. As a result, it is vital to employ experts who understand and can implement appropriate tourism activities in natural areas that can allow adequate access to natural sites, yet can ensure such natural resources are not heavily impacted or destroyed, thus conserving a destination for future tourists and generations [25]. Thus, birding tourism planners also have to be very aware and must incorporate sustainable practices into their planning procedures.

However, absolute sustainability is never possible [64], as potentially even a single tourist can have a negative impact on a habitat, especially in remote and sensitive environments [40]. A single tourist entering a pristine forest will likely have a greater impact on the natural environment than hundreds of tourists sitting on a popular beach [41]. In fact, the Ecological Footprint Assessment formula can be applied to calculate such impacts and to compare between different locales to determine which might be more impacted by human activities [71]. The Ecological Footprint of a region is calculated by estimating the per capita impact based on the consumption level people have of a particular item and comparing it to the land area in question [16]. Thus, the idea of sustainability is great in theory, yet it is not always achieved in practice. Bird-watching tourism planners usually highly prioritize the environmental dimension of sustainability, making it one of the most important and key concepts on which bird-watching tourism is based [25; 43]. As a result, bird-watching tourism planners should incorporate and try to implement their plans as environmentally sustainably as possible.

Sustainable tourism not only deals with environmental dimensions of sustainability, but must also incorporate economic and social dimensions. Sustainability can also be interpreted as something that benefits local communities and sustains cultural and heritage sites, but at the same time creates a way of sustenance and drives the local economy [57]. Thus, implementing a new ecotourism or birding product into a traditional community could pose challenges if it upsets the old economic or cultural order [60]. This does not have to only apply to developing nations or tribal communities, but can also be challenging for tourism planners in Western countries [14]. For example, if a new birding trail was to be developed in an area that has a strong agricultural heritage or farming culture, acceptance of a new ecotourism product might receive opposition from some individuals or the community.

It is also vital to identify and discuss economic and business sustainability. This type of sustainability mostly focuses on the economic dimension of the definition; consequently, making its importance sometimes harder to convey [25]. Nevertheless, sustainability in business can have numerous different meanings. People sometimes assume that when businesses talk about sustainability, they are solely referring to undertaking practices that do not harm the environment or are environmentally friendly or green ventures [31]. Although that might often be the case, the definition of sustainable business goes much further than just incorporating environmental concerns. Business sustainability can also be understood as sustaining the success, goals, objectives, growth and profitability of a business [28]. Thus, a business needs to ensure that it can attain its corporate goals and sustain its profitability. If initial goals to maintain profitability are not met, then other objectives will likely not be achieved either. For example, if a business cannot maintain its corporate obligations and generate a profit, it will not be able to invest in environmental protection, green technology or renewable resources [28; 31]. At the same time, maintaining financial stability and fiscal sustainability also does not mean that the overall business is sustainable [28]. This idea does not only apply to large corporate businesses where many shareholders need to be satisfied, but is often a vital precondition to ecotourism development. Every ecotourism enterprise must be profitable [25]. Although ecotourism can bring about many great benefits to both natural environments and local people, it needs to be fiscally viable and responsible.

Sustainable Utilization. Both the environmental dimensions of sustainability, reflected by a strong conservation ethic and economic and social

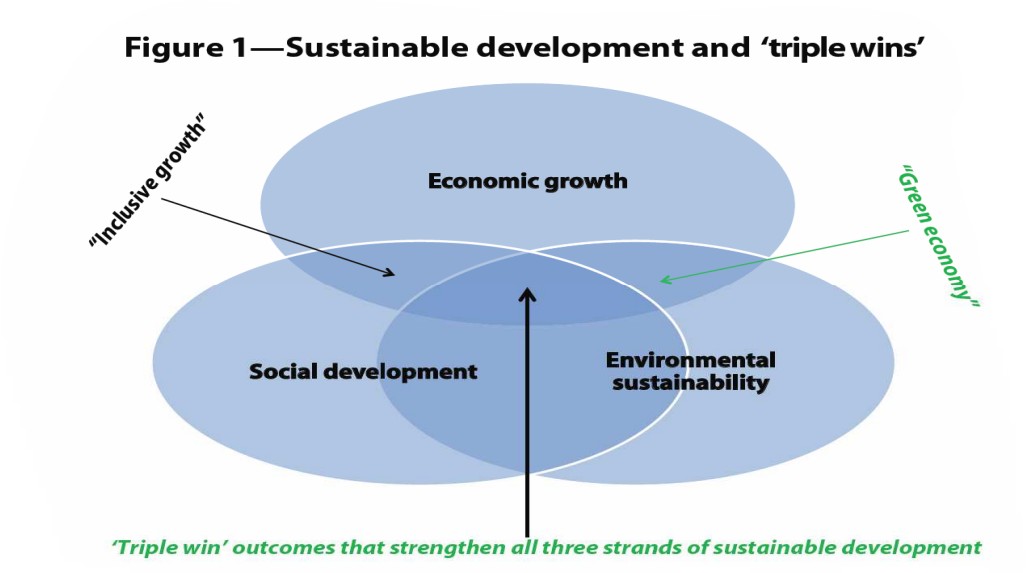
dimension of sustainability are related to the concept of sustainable utilization. Sustainable utilization is an idea which has been implemented in many different economic and development spheres, including tourism. It basically stipulates that resources can be used to generate income and economic growth, but should also be sustained enough to ensure they can be utilized in the future [23].

However, such a "utilization" approach to natural resources and tourism development compromises environmental ethics and magnifies the risk of an anthropocentric approach that would exploit natural resources [37]. An anthropocentric approach is one that is centred on the benefit of humanity over all other aspects [39; 55]. Meaning that if a natural resource exists, it should first be utilized for human benefits and enjoyment, rather than being preserved or conserved [39; 55]. Certainly, under this approach, the idea of sustaining and conserving such resources for future generations would exist; however, only after the primary objective of utilizing what resources exist for human benefit [37; 55]. There are numerous risks to this approach to tourism development, as the primary human benefit is usually money and the exploitation of natural resources. Nevertheless, advocates of sustainable utilization feel that if resources exist, they should be used to aid humanity, and as long as they are used carefully and sustainably, there should be no issue with ensuring they exist for future generations [35]. This approach seems to be wise, especially considering that humanity has throughout history utilized the resources that were available to them. Incorporating modern surveying, mapping and imaging technology to monitor and manage the use of natural resources can only be an added bonus to ensure only sustainable levels of natural resources are consumed over a given period [35]. The only drawback is that such monitoring costs money and not all who desire to implement new tourism programs can afford it [25], includes birding trail developers.

Sustainable Development. Sustainable development derives from the general notion of sustainability. In as much as there are varying interpretations of the concepts of sustainability, sustainable development is also understood and implemented diversely by different places, stakeholders, practitioners and even academics. The term "sustainable development" was first coined by the World Commission on Environment and Development [74], also known as the Bruntland Commission, which published The Bruntland Report, entitled Our Common Future. The Commission realized that the current way the world was developing in the late 1980s coupled with the added pressure of global population growth would make for limited resources in the future [74]. As a result, a series of recommendations were presented by the Bruntland Commission in order to ensure sound and sustainable development practices were followed that would ensure future generations would still have access to adequate resources. Although The Bruntland Report did not make any specific reference to tourism, various practitioners and academics saw its significance and began incorporating the findings of the Commission into new tourism development models and practices [24]. This paved the way for the establishment of new and more environmentally sound tourism sectors, such as ecotourism and bird-watching.

Tourism and other economic sectors were undoubtedly influenced by the findings of the Bruntland Commission; however, as more than 25 years have passed since the debut of Our Common Future, perspectives and interpretations of sustainable development have also shifted and evolved. A modern definition and understanding of sustainable development is presented by [67] as they describe that development "is not just about growth and sustainability is not just about protecting the environment, rather it is about people living in peace with each other and in equilibrium with the planet" [p. 3]. Sustainable development is also about inter-generational equity, as there must be an assurance that the current generation does not destroy or deplete resources, leaving future generations in shortage or deprived of needed resources essential for survival [67]. Therefore, people should only harvest resources to the point of not permanently depleting them [53]. [29] demonstrated that sustainable development can have hundreds of definitions and could potentially be implemented into practice thousands of ways. Since there are so many different and even contrasting definitions of the concept, a logical and simplified way of interpreting sustainable development might be to think about it as "common sense". [29].

Such common sense needs to incorporate three main elements that are essential if proper sustainable development is to occur, including environmental, economic and social dimensions. All three of these pillars must work in tandem and must balance each other out if effective sustainable development is to be achieved. The [66] refers to this type of growth as the triple wins, which are illustrated in Fig. 1. This research used the [67] definitions of sustainable development in determining the sustainability of birding trails.



[67]

Bird-watching. According to [8] birdwatchers or birders are thought to comprise the largest group of wildlife viewing tourists in the world. If this is true, then bird-watching is the dominant activity in ecotourism, especially as society continues to shift away from consumptive to non-consumptive forms of wildlife tourism [8]. Although this could be the case, the evidence presented by [8] is rather anecdotal and relies on secondary sources and some case study examples. Thus, a critical view must be adopted when looking at [8]'s findings. Nonetheless, this growth and popularity of birding seems to be the case in the U.S. as in the two decades following 1982, the number of birders has risen by 225% [61]. [69] re-affirms these figures as birding is identified as the dominant wildlife related activity (outscoring fishing, hunting and general wildlife viewing).

In 2001, an estimated 46 million Americans were believed to be involved in some form of bird-watching. Such a figure is very significant as it roughly identifies 1 in 5 Americans as being birders [69]. Similar evidence is apparent in the United Kingdom, as the Royal Society for the Protection of Birds has over 1 million members, including over 195,000 youth members [59]. With such strong membership numbers, the RSPB in 2010 alone had £94.7 million in charitable resources, which it utilized for conservation projects, including the purchase of land that was turned into bird sanctuaries [59]. In return for charitable donations, RSPB members enjoy access to over 200 nature reserves where they actively bird [59]. Clearly, the activity of bird-watching is very popular and is growing. As Western Society's perceptions and values of wildlife are continuing to change and shift towards non-consumption [52], birding should continue to gain popularity. Fishing and hunting are dropping in popularity in the United States [52] and most developed countries with every passing year. As a result, [8]'s declaration that birding is and will remain the most popular wildlife tourism activity and a significant part of ecotourism development is likely accurate.

Such vast numbers of birders undoubtedly have a strong economic impact on various national tourism economies. [69] surveyed 15,300 people where they found that American birders spent $32 billion in retail sales, which accounted for $85 billion in overall economic output, contributed $13 billion in federal and state income taxes and created 863, 406 jobs [68]. Moreover, "nationwide the net economic value of each non-resident birder was estimated to be $488" [69, p. 16]. This amount per birder is significant and can undoubtedly impact a region's economy.

Birding is not only a significant tourism sector in the U.S. on a national scale, but bird-watching tourism can also have a great impact on a state level. Alaska is one of the most peripheral of U.S. states with one of the coldest and harshest climates, thus the state is not often associated with being a birding destination. However, birding does have as significant economic contributions to the Alaskan tourism economy. According to [73] of the U.S. Fish and Wildlife Service, there were 157,290 birders who visited Alaska in 2001 and "the estimated economic value of

non-resident birders to the state economy was a staggering $76,757,520" (para 4). These figures were calculated based on the 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation that was conducted by the USFWS. [73] also pointed out that vacationing bird-watchers pay upwards of $3,500 per person for a birding adventure in Alaska. [73] best summed up the economic significance of birding tourism in Alaska, as "bird tourism brings in big bucks" (para 10). Clearly, birding tourism is an important part of the tourism industry in Alaska, as it contributes significant income to the state economy.

Although organized birding has its origins in Western countries, it is expanding and rapidly growing in new destinations, such as South Africa, Guyana, Turkey and Costa Rica [5; 11; 62]. Indeed, according to a South African government [22] study birding tourism's contribution to the national GDP was estimated between R1,025 and R1,975 billion (approx. $112 to $217 million USD). Another popular ecotourism destination where the economic value of birding has been roughly estimated on a national scale is Costa Rica. Birding is estimated to generate $410 million USD in Costa Rica annually [61]. According to [65] in 2011 29% of all tourists came to Costa Rica for bird-watching. These are significant revenues, especially for developing counties, which are looking for ways to diversify their economies and perhaps adopt new forms of sustainable tourism.

Clearly birding is a growing tourism activity and the economic benefits that bird-watching can bring to an area through such tourism development initiatives as birding festivals and birding trails can alter local, regional and national economies [15; 69]. Struggling communities or regions are sometimes able to become viable and sustainable tourism destinations by adopting bird-watching tourism [13].

Birding Trails. A birding route can demonstrate how various themes and components of bird-watching can come together and work in unison. A birding trail is a collection of chosen sites along a pre-described route, designed to maximize the amount and variety of birds a birder can see, thus reducing time and enhancing satisfaction [66]. Usually the sites along a bird-watching route are chosen by planners to contribute something unique to the trail, such as the presence of endemic or rare species. Birding trails typically provide a route map that functions as a guide for locating birding sites, built facilities and visitor centres [66]. However, it is vital to point out that "a birding trail is not and should not be thought of as a literal or physical hiking trail, such as the Bruce Trail in Ontario; rather it is more like the wine routes and culinary trails that have sprung up throughout Ontario" [12, pg. 4].

The first birding trail was developed in 1995 based on the ideas of Ted Eubanks; an Austin, Texas based birding enthusiast and tourism consultant [2; 66]. Eubanks' conceptual idea has evolved and became the first functioning birding route; the Great Texas Coastal Birding Trail. The trail has been very successful and is a good example of how a birding trail can enhance birding tourism and provide added economic benefits for a given region. To illustrate this success, [30] conducted an economic study of trail usage and discovered that the average visitor devoted 31 days a year on the trail. Average visitor trip was approximately 9 days and 8 nights, with a direct expenditure of approximately $700 USD on the trail and associated attractions. With a multiplier of 2.0, the annual total gross output (TGO) per birder on the trail was $5000 USD [30]. Seeing the success of the Great Texas Coastal Birding Trail has prompted many other regions and states in the U.S. to develop their own birding trails.

Nowadays, there are over 50 birding trails throughout the U.S. and almost every state has its own birding trail, with some having numerous routes [2]. This idea of a birding trial or route has also started spreading and developing in other parts of the world, such as Costa Rica, Colombia, Ecuador, Peru and South Africa [3; 7; 18]. Therefore, it is clear that as birding tourism continues to grow globally and as new birding trails emerge, it necessitates the need for any likely birding destination to develop its own birding trail in order to maintain competitiveness.

Although birding routes are able to impact a region's economy and are often identified as a form of sustainable tourism development that is built on the principles of biological conservation, there is limited information within the literature providing evidence of the sustainability of birding trails. Some birding routes, such as the North Carolina Birding Trail try to illustrate how they are helping local communities become more economically viable and how the trail will aid bird conservations. This is best illustrated by the mission statement of the North Carolina Birding Trail, as their overall goal is "to conserve and enhance North Carolina's bird habitat by promoting sustainable bird-watching activities, economic opportunities and conservation education" [54, homepage]. Although there is mention of sustainable bird-watching, there is no information or data provided as to what sustainability really means to the trail planners and managers and how might they oversee or measure it to ensure they are in fact sustainable. Without such data it is impossible to

determine the success or failure of a birding trail both in terms of its functionality as a viable business (financial sustainability), its effort to conserve birds (environmental sustainability) and as a mechanism for bettering the lives of the local community (socio-cultural sustainability).

III. METHODOLOGY

The methods involved interviewing officials of 10 existing tourism trails in order to determine how they were planned and how such routes are currently managed in regards to sustainability. Since, this research is predominantly focused on birding routes, five existing birding trails officials were interviewed, along with five other tourism trails in various tourism sectors. This was designed to compare and contract any differences that might exist between birding trail managers and other tourism operators in the way they understand the notion of sustainability. Existing tourism trails were sought out through the internet and contacted through email. The aims of the research were disclosed to them and they received a copy of the interview questions in advance of the interview. Those who agreed to be participants were interviewed over the telephone. On average, each interview lasted approximately 45 minutes. Interviewees were asked about their qualifications, background and involvement with the trail as a potential pre-determinant of understanding the concept of sustainability. The participants were also asked to comment on trial planning, implementation and management strategies. Once again this provided insight into how sustainably the trails were planned and how the managers are striving to maintain sustainability. Trail managers were also asked what monitoring instruments they have in place to track the success, failure, and ultimately sustainability of their trails. Lastly, trail managers were asked to comment on anything additional they thought was important regarding their trail, including potential challenges that they faced in daily operations.

A semi-structured and open-ended question approach was adopted because it allowed the researcher to ask and attain answers to the pre-determined questions of the research, but it also allowed the participants to add their additional insight [19]. Thus, once the initial questions were answered by the interviewee open dialogue occurred in order to delve deeper into the topic [19]. The interviewees were provided a choice to disclose their identities or remain anonymous. The participants were asked if they consent to have the interviews recorded. Permission was also attained from the participants to have the research results published, along with referencing being credited to them and the trail they represent. The research was designed to be as transparent as possible and to consider the position and potential concerns of the trail developers or managers being interviewed. As a gesture of appreciation, all of the interview participants will receive a copy of any published work.

Research Scope and Potential Limitations. Since, birding routes are most popular in the United States; it was easiest to access these trail officials to be interviewed. Having interviewed five of the approximately 50 birding trails that exist in the U.S. [2] provided a sample size of about 10%. As wine, culinary and adventure tourism trails do not have a centralized oversight body that tracks the number of trails, it is hard to determine the exact sample size percentage interviewed.

A challenge for the researcher was getting enough willing participants to agree to be interviewed and gaining permission to disclose or publish any information they might provide. Some trail operators did not disclose all or part of their operations and some were altogether unwilling to participate in the interviews, probably because they wanted to protect something they worked hard to achieve [25]. In fact, of the trail officials initially contacted by e-mail, there was a relatively low response rate and interest in participating in the interviews. To gain the 10 interviews, more than 50 e-mails were sent out to various trail representatives, which represents a response rate of approximately 20%. A potential limitation of the research is that it encompassed mostly an American view, as eight of the ten trails interviewed, including all five birding routes were from the U.S. It is possible that birding trail and tourism routes in other locations might have a different perspective and might follow different practices and management structures to implement and maintain sustainable operations.

IV. RESULTS AND FINDINGS

Trail Planning Strategies. The results indicate that most tourism routes, including birding trails were not developed by professional tourism planners. In many instances local community leaders, business entrepreneurs or enthusiasts (birders or wine condenseur) sparked the idea of developing such tourism routes. In fact, some trail development, such as the sites selection of the Great Florida Birding Trail and the Klamath Basin Birding Trail were initially based on public nominations [20; 45]. This meant that enthusiastic birders or local businessmen could select or nominate a site to be part of the trail; however, this did not mean that these sites were actually best suited for tourism. Although government bodies both on the federal level

(USFWS) and on the state level (Florida State Parks and Florida Fish and Wildlife Conservation Commission, or the Oregon Department of Fish and Wildlife) were involved in assessing these publicly nominated sites, also does not mean that they too understood which sites were particularly best suited for tourism purposes. Biologists and conservationists can sometimes have a different interpretation and perceptive of sustainability and conservation than tourism planners and tourists [1; 4]. Biologists and ecologist are sometimes predominantly concerned with preserving and conserving species and might not see it fit to allow any tourist into sensitive or protected areas [1]. On the other hand, local businesses and communities often want as many sites as possible to be added to the trial in order to maximize the exposure of their businesses and communities and to draw as much economic benefits as possible from the new tourism route. This was certainly evident with numerous trails that allowed for public input in the trail planning process [20; 45]. Therefore, the results of the interviews indicate that most tourism trails were not planned by professional planners; rather by special interest groups and various government agencies that all have different interests in the development, and consequently a different understanding of the notion of "sustainable development".

The research also illustrates that tourism trail managers often had a limited understanding of the notions of sustainability or sustainable development. When asked directly or indirectly regarding sustainability, most trail managers and planners often point out their trail's contributions to environmental conservation [27; 45; 47; 48]. Some trail managers highlighted their close ties with various NGOs [20] and some commented on giving charities to various NGOs or local organizations [48]. However, it must be noted that working closely with various NGOs or giving donations does not necessarily indicate that the trail is sustainable. Regardless, all tourism tail representatives understood that sustainability did involve some type of environmental factors.

A few managers also realized and commented on the socio-cultural aspects of sustainability. [47] of the Virginia Birding Trail tried to emphasize the local aspects of the trail and Virginia culture and heritage, which he felt needed to be incorporated into the trail in order to make it unique amongst birding routes. Similarly, [51] of the Alberta Cowboy Trail heavily emphasized Western Canadian heritage and native culture as the pinnacles of his self-described "adventure trail".

Financial or business sustainability was also mentioned by some trail managers, predominantly because they were struggling to meet their annual operating costs and some were in risk of closing down [20; 21; 45]. As a result, most trails relied heavily on continued government or private donations to keep afloat [20; 27]. This clearly indicates that they do not function as viable tourism businesses. Perhaps one of the reasons this occurs is because they were not planned and developed in co-operation with professional tourism planners.

Understanding and implementation of sustainable tourism practices is only one part of sustainability, as the process needs to be monitored to ensure sustainability is maintained. Unfortunately, very few of the trails interviewed have a standardized (annual, semi-annual or quarterly) form of monitoring in place and most do not evaluate their trail's performance in any regard [20; 21; 27; 45;47] Without knowing the current status of the trail, it is impossible to identify challenges and opportunities and this will undoubtedly hinder possible improvements. Such lack of monitoring is often the product of not having enough finances and as a result monitoring is not given priority [27]. If there were adequate finances available, it is likely that most trails would have some type of monitoring in place, including mechanisms for measuring sustainability.

The results indicate that sustainability is a rather vague concept in the eyes of tourism trail planners and managers, as they all understand it differently and prioritized different aspects of sustainability. However, if proper planning, development, management and monitoring were implemented, there seems to be no reason why birding trails could not function as a viable form of sustainable tourism development.

V. DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

The research verified that a birding trail can function as a practical form of sustainable tourism; however, birding routes must be planned carefully and meticulously with the input of key stakeholders, including tourism planners. If a birding trail is to be sustainable in the long run, then the planning process must incorporate all aspects of sustainability. To achieve and maintain sustainability, birding trail planners should consider the following 12 important elements when development and managing a birding route: (1) ecological significance (2) birding characteristics (3) site resilience (4) physical and legal access (5) economic significance (6) educational significance (7) socio-cultural significance (8) local significance and impact (9)

partnership and collaboration (10) safety of tourists (11) maintenance support (12) government and NGO support [adopted from 20; 45; 47].

Moreover, sites must be monitored to ensure environmental sustainability. Birding trails must function as businesses to meet operating costs and ensure economic sustainability. Birding trails must be planned within sustainable development principles from the beginning and managed to adhere to all three pillars of sustainability; environmental, socio-cultural and economic.

VI. CONCLUSION

Birding has evolved to become a serious tourism sector, especially in the United States where it is a significant contributor to the tourism industry. In 2001, birding was estimated to contribute $85 billion to the U.S. economy [69]. As birding tourism continues to evolve, new ideas and practices are adopted by tourism planners to attract more birders to a given area. One such outcome as a result of the growing popularity of bird-watching is birding trails. This research examined if birding trails can function as a form of sustainable tourism development. The researcher interviewed official of 10 exiting tourism trails and identified their shortcomings. A series of recommendations were put forth to enhance the planning and development of birding trails, which would ensure they are built and maintained in a sustainable manner. Birding will likely continue to grow globally and new birding trails will probably emerge. The results and recommendations of this study are significant because they can function as a guide for how best to plan and implement a new birding route to ensure it is as sustainable as possible.

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About the Author. Krisztian Vas is a Commonwealth Scholar from Canada who joined the New Zealand Tourism Research Institute (NZTRI) at the Auckland University of Technology (AUT) in March, 2013 as a PhD student. His doctoral research is focused on the Economic Value of Bird-watching in New Zealand. Basing his conceptual framework on the local-global nexus, sustainability, elements of environmental economics and local economic development (LED), Krisztian is engaging the Department of Conservation (DOC), the New

Zealand Ornithological Society and various government agencies, policy makers, businesses and bird-watching tour operators across the country in estimating the monetary value and expenditures created by birding in New Zealand. He is also focused on determining how such value is contributing to bird conservation. The research will illustrate how local, regional and national economic scales are interdependent and how they fit in the global market of bird-watching tourism. The research will also develop a tourism barometer for the continued measure of the economic impact of birding that is reliable, repeatable and can track change.

Address: New Zealand Tourism Research Institute - www.nztri.org
Auckland University of Technology, Private Bag 92006, Auckland, 1142, New Zealand
Tel: (+64) 09 921 9999 Mob: (+64) 022 389 2631
Email: krisztian.vas@aut.ac.nz