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Nature Conserving Tourists: The need for a broader perspective

Abstract
The importance of environmental responsibility in tourism is widely accepted. Two main paradigms have emerged: ecotourism – a demand-driven concept limited to nature-based tourism - and sustainable tourism – a supply-sided view characterized by industry regulations. Unfortunately, ecotourism is limited in size, and supply-sided measures implicitly contradict the short-term aim of profit-maximization of the tourism industry. Alternative ways of integrating nature conservation and tourism are needed. This paper reviews tourism-specific pro-environmental approaches and research into pro-environmental behavior in general. A case for a broader demand-driven paradigm is made: the identification of nature-conserving tourists - a target market extending beyond the special interest area of ecotourism and weakening the short-term trade-off of sustainability versus profitability in tourism.

Keywords
Sustainable tourism, Green tourism, Responsible tourism, Market-Orientation.

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NATURE-CONSERVING TOURISTS:
The need for a broader perspective

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NATURE-CONSERVING TOURISTS:
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Abstract

The importance of environmental responsibility in tourism is widely accepted. Two main paradigms have emerged: ecotourism – a demand-driven concept limited to nature-based tourism - and sustainable tourism – a supply-sided view characterized by industry regulations. Unfortunately, ecotourism is limited in size, and supply-sided measures implicitly contradict the short-term aim of profit-maximization of the tourism industry. Alternative ways of integrating nature conservation and tourism are needed. This paper reviews tourism-specific pro-environmental approaches and research into pro-environmental behavior in general. A case for a broader demand-driven paradigm is made: the identification of nature-conserving tourists - a target market extending beyond the special interest area of ecotourism and weakening the short-term trade-off of sustainability versus profitability in tourism.

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INTRODUCTION

The more tourists a destination can attract, the more money can be earned. At the same time, more tourists mean a burden on the destination's natural resources: more freshwater use, more waste and wastewater treatment, more emissions from traffic. This causes a serious trade-off situation for a destination and the local tourism industry. How much burden on natural resources should be "sold to tourists"? While there appears to be wide support for ecologically sustainable tourism and taking a long-term rather than a short term perspective on tourism and tourism development among tourism industry bodies (Ritchie and Crouch 2003), the inherent trade-off between short term profit maximization and environmental protection remains unsolved in reality.

Two approaches appear to have emerged throughout the last decade: ecologically sustainable management of destinations and ecotourism. The ecological component of the sustainable management approach is defined by a supply-side perspective where the industry's goodwill to comply with sustainable management practices is relied upon or regulations are put in place to force industry to comply with nature-conserving practices. This approach does in theory involve capacity restriction measures as well, however, such measures are typically taken only in environmentally sensitive areas. The sustainable management approach creates little incentive for the tourism industry except the knowledge of acting altruistically, which, in such a competitive industry, proves to not be a very strong incentive. The only example of market orientation in the context of sustainable management is represented by certification programs that rely on the existence of a sub segment of tourists who have high environmental standards and make informed decisions, thus choosing providers who comply with certification standards. While the sustainable management approach is important and necessary, its weakness lies in the fact that the trade-off between profit maximization and minimization of burden on natural resources remains. There is no systemic incentive to assure nature-protective behavior on the side of service providers.

The second approach – ecotourism - represents almost precisely the opposite viewpoint. It is market driven by very nature. A self-selection of tourists takes place. Those interested in nature, learning from nature, experiencing and conserving it are naturally attracted to destinations and tour operators who promise all these components in their vacation - even if they have been frequently found to not actually comply with nature conservation standards. This self-selection principle is a very powerful market mechanism, as it offers high profits to a sub-segment of industry called ecotourism while at the same time minimizing the ecological footprint caused. While ecotourism represents a valuable part of the tourism portfolio, it seems that the powerful concept of self-selection of tourists who are inherently interested in conserving nature could be used on a broader basis. At present it is essentially limited to tourism in natural, mostly remote and pristine areas (Weaver 2005). Consequently we use the terms ecotourism and nature-based tourism synonymously throughout this paper.

The aim of this paper is to provide evidence that the concept of self-selection (demand-sided action taken by the tourists) or market segmentation (demand-sided action taken by management) could be extended beyond nature-based tourism. This assumes the existence of individuals – referred to as nature-conserving tourists – who want to protect the natural resources and act in a nature-conserving way during their vacation independently of the actual travel context. Nature-conserving tourists may be found to

be defined by particular patterns of values, attitudes, past and present behavior or socio-demographics but not by their choice of destination or main reason for undertaking a vacation. This clearly represents a complex research task of identifying and profiling these individuals. If successful, the concept of self-selection can be extended to all areas of tourism, thus providing demand-driven support for supply-sided sustainable tourism measures.

The paper is structured as follows: first, the research problem is illustrated by providing both evidence of the environmental burden of tourism on natural resources and the long-term effects thereof and empirical demonstrations of the strength of the tradeoff between nature-conserving measures and profit maximization. Second, prior work in the area of ecotourism is reviewed demonstrating the general focus on demand-driven measures, followed by an exploration of recommendations resulting from the sustainable tourism research of the past decades which are shown to be almost exclusively supply-sided in nature. Throughout this manuscript we refer to supply-sided measures as interventions taken at the destination to improve the ecological sustainability of tourism. Examples include capacity restrictions, education of tourists or invitations to tourists to reuse their towels in hotels. Supply-sided measures take the tourists as a given and work with the tourists at the destination only. Demand-driven measures, on the other hand, do not take the tourists as a given. Instead it is attempted to select tourists which are suitable. Typically – if the aim is profit maximization and most efficient use of marketing resources - this is done by matching tourist preferences with the offer and image of a destination. If, however, the aim is to reduce the size of the ecological footprint, suitable tourists would be those who come with a predisposition to conserve natural resources.

Finally, findings from the broader field of the social sciences are reviewed, illustrating the wide field of prior work upon which can be built attempts to operationalize the nature-conserving tourists. Insights from these areas and consequences for tourism are discussed and a research direction for a broader demand-driven approach to nature conservation in tourism is proposed.

NATURE-CONSERVING TOURISTS

Negative ecological consequences of tourism are already visible. Vail and Hultkrantz (2000), for instance, describe tourism-generated resource-depletion problems arising in Maine (USA) and Dalarna (Sweden), and point out that there is already proof for both long-term and short-term negative effects of a lack of ecological sustainability in tourism. One such short-term effect is the decrease in tourism due to irreversible transformation of the natural resources. Lange (1998: 310) claims that the "inability to pay the full cost of resource inputs like water represents an inefficient use of society's resources" and that "No sector of the economy pays the full private costs of water and there is little information about the real social cost of water." Although this study is not conducted in the context of tourism, it illustrates the wide variety of effects, which might not even be considered. More generally "The IUCN (1992) lists tourism as the second major threat to protected areas." (Gössling 1999: 314).

Clearly this threat has its roots in the tourism industry's aim to maximize profits. Numerous studies have empirically determined how strong the trade-off between nature protection and making money really is. Carlsen, Getz and Ali-Knight (2001) investigate

environmentally sustainable attitudes among rural tourism organizations in Western Australia and find that there is no common strategy of environmental measures taken. This finding is concerning given that owners of small rural tourism businesses would be expected to be strongly, intrinsically motivated to take care of their local environment (their home). In addition, the authors find that "high turnover and failure rates among small businesses are likely to reduce commitment and effectiveness" (Carlsen, Getz and Ali-Knight 2001: 295). Getz (1994) conducts a longitudinal study of residents' attitudes towards nature protection. He finds himself confronted with some rather paradoxical responses: residents explicitly agree, at both times of surveying, that environmental protection is more important than tourism development. However, this attitude is not mirrored by their answers to the question about their opinion on the construction of more skiing facilities and easier access to nature reserves, a form of development which was not introduced as an ecologically sustainable measure by the researchers. Again, the strength of the trade-off between revenue-maximization and nature protection becomes apparent. In a study of sustainable principles in small tourism organizations in Sussex, Berry and Ladkin (1997) reveal that industry perceives implementation of regulations on sustainable tourism as too expensive. Also, the "willingness to be involved in developments" is only given "provided they will not absorb a great deal of time because this would not be affordable" (Berry and Ladkin 1997: 438). Knowles et al. (1999) find further support in their London hotel study. They conclude that (p. 263) there is a "[...] widespread awareness of environmental issues among hoteliers, but it is not always translated into action", that "The hotel sector clearly exhibits a gap between environmental 'good' intention and action", and that "[...] it seems likely that most continue to take a pragmatic approach, only taking actions that are most likely to advance the company's objectives."

Ecotourism

Ecotourism in the broadest sense has attracted much attention both in tourism research and in industry, and has been studied under many different labels such as green-, responsible-, or ecotourism. Although a number of authors have attempted to propose definitions or definitory frameworks for these concepts, the scientific community has so far not reached an agreement on what precisely these terms encompass.

Proposed definitions vary from very general to highly specific. The most general definition was probably introduced by Kretchman and Eagles (1990) who state that ecotourism is equal to nature-oriented travel and an ecotourist is therefore a nature-oriented traveler. The operationalization used by the authors for their empirical study reflects this viewpoint: individuals who had participated in nature-oriented trips through the Federation of Ontario Naturalists, "a conservation and education organization" (Kretchman and Eagles 1990: 500). Implicitly, it could be assumed that travelers using such an association as the organizing body for a trip might also have sustainable ideals about visiting these natural environments. This was, however, not part of the reasoning for the operationalization. This definition is used in a further study by Eagles (1992: 3) in a slightly narrower way where ecotourism is "characterized as being composed of those who select a certain travel experience and destination, that of nature-oriented experiences in pristine natural environments".

The suggestion that pristine environments are an inherent component of ecotourism is reflected in many other definitions and operationalisations, either explicitly or implicitly. For instance, Ceballos-Lascurain (1996) states that "ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features-both past and present) that promotes conservation, has low visitor negative impact and provides for beneficially active socio-economic involvement of local populations." Ballantine and Eagles (1994), who suggest one of the most precise operational definition of ecotourists, use three criteria to identify them: (1) they must have stated that learning about nature is very or somewhat important to them in a questionnaire, (2) they must have stated that *wilderness / undisturbed nature* is very or somewhat important to them and (3) they must have spent at least one third of their vacation on Safaris in Kenya (the latter criterion was for one specific study and can be modified in dependence of the research specifics). Also, Kerstetter, Hou and Lin (2004), who define ecotourists as individuals engaging in responsible travel that conserves natural resource areas in Taiwan, operationalise them as visitors to *sensitive* coastal wetland areas.

The emphasis on conservation also forms an integral part of the Ecotourism Society's (1992) definition. The Society takes the position that "responsible travel to natural areas which conserve the environment and sustains the well being of local people" form the definition of ecotourism. It should be noted at this point, however, that we do not propose that conserving nature is the driving force or motivation for tourism. Rather, it is the way in which tourists behave in the tourism context.

Another component that is frequently used as a building block for defining ecotourism is the educational aspect, where learning about nature becomes central to the ecotourism experience. This view is taken by Khan (2003: 111) who uses the term ecotourism to denote "purposeful time spent in natural environments to interact, learn, and experience other cultures, and to economically help local communities that work toward preservation of the ecosystem". Blamey and Braithwaite (1997: 30) define ecotourists as "members of society who have an interest in spending some of their holidays in the next 12 months increasing their understanding and appreciation of nature". Eagles and Cascagnette (1995: 22) see an ecotourist as an "adult who travels with the intent of observing, experiencing and learning about nature"

Whelan (1991) emphasizes the level of development of the tourist destination in contrast to the country of origin as an essential criterion, seeing ecotourists as people from developed countries who visit less developed destinations in order to enjoy natural experiences. Hawkins and Khan (1998) contrast ecotourism with traditional mass tourism and view activities that are undertaken in harmony with nature as an essential component.

The above definitions are rather general, vague and amorphous. Other researchers, however, have attempted to produce more specific definitions consisting of several criteria. For example, Wight (1993) lists eight key criteria for ecotourism: (1) should not degrade the resource, (2) should be a first-hand, participatory and enlightening experience, (3) should have an educational side to it, (4) include recognition for the value of the local resources, (5) involve acceptance of the resource, (6) be characterized by mutual understanding and collaboration of many players, (7) promote moral and

ethical responsibilities, and (8) lead to long-term benefits. Similarly, Sirakaya, Sasidharan and Sonmez (1999), after extensively reviewing 25 definitions, suggest that ecotourism be defined by the following five criteria: (1) minimal negative impact on the host community, (2) evolving commitment to environmental protection, (3) generation of financial means to protect resources, (4) active involvement of local residents, and (5) social benefits to the host community. Interestingly, in 1996, Wight published a study in which ecotourists were operationalized as US residents who had taken a vacation out of state in the last 3 years and were interested in *nature / culture / adventure* vacation in the *countryside / wilderness*, a measurement rule that does not reflect the comprehensive list of principles postulated earlier.

Wight (1993) and Sirakaya et al. (1999) suggest more criteria than many other authors who have attempted to define and / or operationalize sustainable tourism or ecotourism. But in doing so they make their definition much more general by not explicitly including the criterion of nature-orientation and thus extending the concept more generally to other tourism contexts beyond nature-oriented tourism alone. This relaxation in the definition of ecotourism provides a more useful starting point for the exploration of nature-conserving tourists. Blamey (1997) adopts the opposite argument. After having reviewed a large number of prior definitions and suggesting a systematization of possible definitions, he recommends a coarse definition of ecotourism in order to enable comparisons of findings across a number of studies conducted by different researchers in different contexts. His minimalist definition, as he refers to it, focuses on the nature-based and experiential / educational component only. On the other hand he clarifies that for particular market research aims each study is likely to require its own operationalization to meet the managerial requirements of decision support.

In a recent study, Tao, Eagles and Smith (2004) demonstrate empirically how the differences among definitions impact empirical findings. They use the following conceptual definition for their work (Tao, Eagles and Smith 2004: 2) "Ecotourism is tourism occurring in a natural setting, providing environmental education, respecting natural conservation, and with a goal of integrated, sustainable environmental management." They then compare two operationalizations. One is based on the self-classification of respondents as viewing themselves as ecotourists or not, the other one is based on the operationalization by Ballantines and Eagles (1994). Significant differences in the derived profiles were revealed due to the fact that only one fifth of respondents who classified themselves as ecotourists were not classified as such by the researcher's criteria and another fifth of respondents who were classified as ecotourists based on the Ballantines and Eagles definition did not see themselves as being ecotourist. Only in one fifth of cases did the classifications match.

An overview of the components contained in these definitions is provided in Table 1 where an X indicates each component present in the respective study listed in the first column. The index e indicates that a certain component is used to explicitly define the tourists under investigation whereas the index *i* indicates that components are implicitly assumed given the empirical operationalization used.

---------- Insert Table 1 here ----------

From a perspective of nature-conserving tourists the insight gained from the investigation of ecotourism research is very interesting: it appears that nature conservation is the second most frequently stated component when sustainable tourism or ecotourism are investigated. Yet, no knowledge can be extracted about who nature-conserving tourists might be, independent of the context in which they are encountered, how they are characterized and how they could be targeted by tourism authorities or industry. Such knowledge emerging from the ecotourism literature is essentially limited to the context of nature-related travel. And even in this context, the lack of agreement on one operationalization of sustainable or eco-tourists makes generalization difficult. Or as Blamey (1997: 117) puts it: "Much of the confusion regarding ecotourism results from writers not taking the same overall perspective."

The aim of this review is not to conclude which is the most common or accepted definition of ecotourism. It is the findings about ecotourists relevant to the extension of the nature-conservation concept beyond the nature-oriented tourism context that is of interest. The empirical profiles of ecotourists resulting from the above-mentioned studies which included nature conservation in their definition or operationalization, represent a good source for the generation of hypothesis about nature-conserving tourists beyond the nature-oriented tourism context. The following variables are thus of interest for such future work: Kerstetter et al. (2004) find that the main motivations of ecotourists are to visit wetlands and that segments of ecotourists can be identified that differ in motivations and behavioral intentions. Khan (2003) finds that ecotourists' expectations regarding environmentally friendly facilities are very high. The findings by Kretchman and Eagles (1990) are included under the assumption that respondents reached through the Federation of Ontario Naturalists do care about nature conservation: ecotourists are found to be more interested in natural attractions, more interested in learning about nature; be physically more active; interested in meeting people with similar interests and learning new outdoor skills; they want to see as much as possible; and they put less priority on safety, luxury and comfort.

These variables represent a starting point for a context-independent investigation of nature-conserving tourists in the future.

Sustainable Tourism

The term *sustainable tourism* is typically used to encompass literature on the negative effects of tourism on the host destination and ways in which they can be avoided. However, while the term *ecotourism* has proven to be too narrow in its emphasis on nature-based tourism, the term *sustainable tourism* appears to be too broad to be useful for the investigation of context – independent nature-conserving tourists - for two reasons. First, as defined by Sofield and Li (1998), the term "tourism as sustainable development" is more appropriate for the question at hand, indicating that the environment is not degraded or altered by tourism rather than focusing on the sustainability of tourism itself. Second, and also clarified by Sofield and Li, ecological sustainability is only one component of sustainability in the context of tourism. And it is this latter component that is of interest here.

With regard to such *tourism as ecologically sustainable development*, academic research can roughly be classified into three groups; studies that aim at (1) quantifying the negative impacts of tourism on the environment (typical examples include Driml

1997; Gössling 1999; Vail and Hultkrantz 2000; Becken, Frampton and Simmons 2001; Becken 2002; Chan and Lam 2002), (2) investigating reasons for (non-) environment-protective attitudes or behavior within the tourism industry of host countries (typical examples include Barron and Prideaux 1998; Wunder 2000; Carlsen, Getz and Ali-Knight 2001; Weiler and Ham 2002), and (3) studying environmental policy and management as tools to protect the natural environment in host countries (typical examples include Hunt and Auster 1990; Davis and Gartside 2001; De Burgos-Jiménez, Cano-Guillén and Céspedes-Lorente 2002; Page and Thorn 2002; Font and Harris 2004; Jennings 2004). Some studies in the latter area actually centre on tourists and could thus be seen as investigating demand. Yet, the underlying assumption is frequently one of educating tourists towards behaving in a more environmentally friendly manner at the destination. For instance, Lee and Moscardo (2005) study how the experience with ecotourism accommodation affects environmental attitudes and behavioral intensions. This research question assumes that tourists can be educated; it does not assume that tourists or segments of tourists have certain predispositions to act or not to act in an environmentally friendly manner and that the market of those who do could be tapped into. Please note that all of these studies are making valuable contributions to sustainable tourism, but the point made here is that the perspective they take is supply-sided, not demand-driven.

The major recommendations for preservation of the natural environment emerging from these studies are found to be: (1) introduction of capacity limits, (2) increased awareness building in hospitality education, and (3) effective management of companies and destinations (Davis et al. 1997; Valentine et al. 2004). Or, as Piga (2003: 903) summarizes "[…] territorial planning, provision of infrastructure, fiscal incentives and disincentives, ecological labeling […], assessment and management of carrying capacity […], and information and education of tourists […] can all be used effectively and play a central role in a public strategy for sustainable tourism."

All these measures, as well as other, less typical ones not reviewed (for instance, auctioning of rights to visit the Great Barrier Reef as proposed by Davis and Gartside 2001) are product oriented. They implicitly assume that the only way to protect the host destination from tourism-induced negative impacts is to change or regulate the product (and regulation of the product also includes such measures as carrying capacity management, which could be mistakenly classified as demand-sided).

Only very rarely do researchers mention market-oriented concepts at all. For instance, Becken, Frampton and Simmons (2001), who study energy consumption related to tourism and recommend product-oriented measures to decrease energy consumption, mention the use of Green labels as a supporting argument, a clearly market-oriented concept. However, this is mentioned as a side-comment and not pursued further as a potential measure for strengthening nature-conserving tourism. Dolnicar (2004) profiles a priori market segments based on an attitude item questioning whether or not maintaining unspoiled nature at their vacation destination matters to them personally. Results indicate that the sustainable tourists derived by this procedure show a distinctly different profile from the remaining visitors, thus making them an attractive target for specifically tailored marketing activities.

Another example is provided by Ataljevic and Doorne (2000). They claim the existence of a new tourism segment that is truly green. They support this claim through their study of New Zealand entrepreneurs who have entered the tourism industry after having

themselves been green tourists. However, the marketing potential of such segments is not elaborated, as it was not their research aim. Fairweather, Maslin and Simmons (2005) identify a Biocentric segment among visitors to New Zealand. This group of visitors – defined by high scores on a test battery measuring pro-environmental attitudes – differ in socio-demographics, show higher levels of interest in ecolabels, state more frequently that they would use ecolabels to choose accommodation and that they would be willing to pay a price premium for accommodation that is certified as environmentally friendly. Fairweather et al. point out that the demand side is of central importance to the success of environmentally friendly behavior by businesses: if tourists want ecolabels, businesses will have a motivation to become certified and the increase in demand will compensate for the certification cost.

Lee and Moscardo's (2005) results indicate that being an environmentally aware consumer may be more influential on environmentally friendly behavior than being exposed to environmentally friendly practices by tourism businesses at the destination, indicating that demand-driven approaches are likely to be more promising management strategies than supply-side measures, such as educating tourists or converting them to become more environmentally responsible by exposing them to the pro-environmental practices of the destination. Interestingly, Middleton (1998) – in his book titled "Sustainable Tourism – A Marketing Perspective" - outlines a number of market trends that are potentially interesting for increased nature-protection by tourists (more need for relaxation, interest in nature based tourism etc.), but does not suggest an actual search for matching segments as proposed here.

First Steps towards Demand-Orientation

Support for the potential of market oriented approaches for developing and maintaining nature-protective tourism is provided by Gössling (1999: 315): "[...] ecotourism and related forms [...] are expected to outpace the growth of conventional tourism by far, with growth rates up to 15% per year [...]". After discouraging results from the London study mentioned above, Knowles *et al.* (1999) conclude that it is worthwhile to investigate ways of providing the tourism industry with market incentives (profit opportunities compatible with ecologically sustainable aims) for nature protection by choosing a demand driven approach: They claim that (Knowles et al. 1999: 257) "Even though the ideas of conservation and protection of nature and its resources are encouraged, actual practice cannot overlook the fact that the foundation of the industry is consumerism", and that (Knowles *et al.* 1999: 263) "[...] industry's response has been [...] effective in responding to [...] environmental concerns [...] to create competitive advantage. There is no indication that these programs are conducted for philanthropic motives."

Bramwell and Lane (2002) find that many international bodies, governments and businesses, the tourism industry itself and tourists accept the concept of sustainable tourism and believe it to be as relevant as ever, if not more. However, they recognize some of the major problems, including "greenwash" (Bramwell and Lane 2002:2, selling non-sustainable products under a green label), the gap between attitudes and actual behavior and the "pressure of balance sheets". Crouch and Ritchie (1999: 149) reveal components of successful future destination management and claim that the sustainable "[...] component of destination management [...] is a new, but increasingly

significant one. Resource stewardship is a concept that stresses the importance, indeed the obligation, which destination managers have, to adopt a "caring" mentality with respect to the resources that make up the destination."

The main strategic tool for market- or demand-orientation in marketing is market segmentation. It is consequently of interest to investigate whether anyone has taken a market segmentation approach in the past to identify nature-conserving tourists which could be targeted by a destination to improve sustainability of tourism. A number of studies can be identified which have attempted to segment ecotourism markets: Pearce and Wilson (1995) segmented wildlife viewing tourists by activities and benefits. McCool and Reilly (1993) found four sub-groups of visitors of natural parks in Montana by means of benefit segmentation. The benefit segmentation study conducted by Palacio and McCool (1997) in Belize resulted in four ecotourism segments: the natural escapist, the ecotourist, the comfortable naturalist and the passive players. Dolnicar (2004) profiled tourists with a pro-environmental attitude and found significant differences between pro-environmental tourists and those less concerned about maintaining an unspoiled nature at the destination. Blamey and Braithwaite (1997) grouped 3500 Australian citizens according to their social values. With the main emphasis on psychographics, little information important to identify a market segment with values attractive to the destination (for instance, socio-demographics and behavioral variables) can be deducted from this study. The authors acknowledge this by stating that “little is known about the profile of individuals who are [...] driving this apparently lucrative market” and “Individual operators will clearly need to complement the results of broad-based segmentation studies [...] with studies that are more specific to the particular experiences they offer”, thus acknowledging the importance of understanding the market segment that is willing to protect the host country’s natural resources.

Yet, most of these studies do not segment the market with the aim of identifying nature-conserving tourists. Most of them assume that the ecotourists under study are nature-conserving and group them into sub-segments, although it is arguable whether the operationalisations used to define ecotourists (the sample) actually capture nature-conserving tourists at all. For instance, Palacio and McCool (1997) include all visitors to Belize into their study, Blamey and Braithwaite (1997) include tourist who want to undertake a trip to increase understanding and appreciation of nature. Such respondents may well be nature-conserving, but this is not necessarily the case. In fact, Palacio and McCool (1997) explicitly state in their literature review that prior segmentation studies in the field of ecotourism rarely focused on increased sustainability as the aim of the market segmentation. Exceptions are provided by Eagles (1995) who conceptually differentiated between ecotourism, wilderness travel, adventure tourism and car camping as well as the studies by Ataljevic and Doorne (2000), Dolnicar (2004) and Fairweather, Maslin and Simmons (2005) discussed earlier.

Based on the literature review conducted – which was extensive but is unlikely to be all-inclusive - it can consequently be concluded that – while market segmentation studies have been conducted in the past using ecotourists as samples – only few studies have used this strategic marketing tool to identify a segment of nature-conserving tourists which could be targeted in a demand-driven way to improve the sustainability of a destination with no additional supply sided measures required. Past research in the area of ecologically sustainable tourism is dominated by product orientation, an approach endangered by the strong trade-off between revenues and nature-protection.

Nature-conserving Behavior

Extending the review of prior work beyond the borders of tourism research leads to further important insights that represent an excellent basis for the quest for nature-conserving tourists. Researchers in the area of environmental psychology offer some highly relevant empirical findings. Kals, Schumacher and Montada (1999) investigate the emotional component of environmental behavior empirically demonstrating that emotional affinity towards nature, present and past experiences with nature, emotional indignation about insufficient nature protection and cognitive interest in nature are predictive of nature-protective willingness and behavior decisions. They take the position (Kals et al. 1999: 179) that "Nature-protective behavior, like reduced energy consumption, is not purely based on rational decisions but is flanked and motivated by emotions such as feelings of self-blame because one has contributed to wasting energy and its detrimental effects." The authors also present a broad list of behavioral items which they used to measure protective willingness and behavior, including items such as installing nature-protective devices in one's own household, signing public petitions, active campaigning, membership in nature conservation groups, choice of traffic system, and financial support of nature protection. While tourism research in the area of ecotourism and sustainable tourism has emphasized tourism-related ecological behavior – or behavioral intentions – only, such measures appear to represent a valuable addition to studies in the tourism context as they allow more detailed profiling of the respondents and enable external validation of their expressed protective behavioral intentions.

Becker et al. (1981) investigate people's attitudes and how strongly they predict gas consumption. While the findings are fairly specific - demonstrating that a lack of willingness to put up with the discomfort of a chilly home was the strongest predictor of high consumption, followed by optimism about the energy crisis and the belief that a cold house has negative health impacts on family members - one important insight can be gained that is likely to be of high relevance to tourism: the strong trade-off between the sacrifice of comfort and environmentally sound behavior. One could hypothesize that the likelihood of sacrificing comfort for the benefit of future generations in a holiday setting is even lower than would be the case in everyday life.

Carrus, Bonaiuto and Bonnes (2005) find that environmental concerns are predictive of attitudes of Italian residents towards protected park areas, which predict support for parks. Two important findings result from this study: first, the authors demonstrate the mediation effect of attitudes towards parks, given that environmental concern itself has repeatedly been found not to be directly predictive of behavior. Second, regional identity was found to work in favor of park support. While this is an encouraging finding in the context of national nature conservation, it represents a potential threat to resource protection in the tourism context, since, where the positive effect of identification with one's own heritage is missing, tourists may be less inclined to exhibit environmentally protective behavior.

Another area of nature-conserving behavior that has been heavily studied since the 1970s is the acceptance and willingness to adopt recycled water; an entire stream of sociological literature in water recycling aims at profiling early adopters. This literature is of interest, as socio-demographic profiles resulting from such investigations could form hypotheses about the profile of nature-conserving tourists.

Hanke and Athanasiou (1970) study attitudes of potential users of recycled water finding that income, education and occupation are good descriptors of respondents who express positive attitudes to reusing water. Johnson (1979) conducted a similar study using newspaper articles on water recycling as the introduction to his questionnaire. Findings support the results from Hanke and Athanasiou that positive attitudes towards recycled water use are associated with high levels of education. Carley (1973) finds age and social status to be characteristics of respondents with higher acceptance levels for recycled water. Age is also found to be influential by Sims and Baumann (1974).

Kasperson et al. (1974) investigate community adoption of water reuse systems and find education levels, gender, age and confidence in technology to be useful discriminating variables. A market research study by Gallup (1973) reflects these findings that occupation and income are descriptors for early adopters in addition to the descriptors mentioned by Kasperson et al. Olson, Henning, Marshack and Rigby (1979) support the associations with education levels and gender and add the aversion to the unclean as a relevant personality trait.

All the above studies were conducted in the US. Slightly different results are derived by Hurliman and McKay (2003) in an Australian context, where family structure and income were found to be associated with the acceptance of recycled water. Alhumoud, Behbehani and Abdullah (2003) found education to be the most relevant criterion for recycled water adoption in Kuwait. Again, these findings from a related area of research provide valuable insights which might form the basis for hypotheses concerning the relationships between tourism behavior, and various demographic factors such as age, income and gender.

Another area of related research that is reviewed as a result of the behavioral indicators suggested by Kals et al. (1999) is participation in organizations that contribute to the conservation of natural resources, more precisely: volunteering for environmental organizations. Associations between environmental volunteering and personal characteristics in the areas of socio-demographics and psychographics were extensively studied in the past.

Among the socio-demographic variables the single most consistently identified indicator across numerous studies was the level of education (Edwards and White 1980; Yavas and Riecken 1985; Florin, Jones and Wandersman 1986; Curtis, Grabb and Baer 1992; McPherson and Rotolo 1996; Reed and Selbee 2000; Dolnicar and Randle 2004) with higher levels of education being associated with higher levels of engagement in volunteering for the purpose of nature conservation or restoration. Two behavioral criteria have been repeatedly found useful in predicting environmental volunteering behavior: engagement of the parents in environmental volunteering (Harris 1990; Wymer 1998) and involvement in volunteering activities as a child (Rohs 1986; Reed and Selbee 2000). Other characteristics, such as age, gender, family status, and cultural background have been studied, but findings vary.

The studies investigating possible attitudinal differences between volunteers and non-volunteers represent an excellent source of possible explanatory variables that should be included for consideration in identifying nature-conserving tourists; for example, values, worldview, sense of patriotism, sense of civic duty . While many of these studies indicate significant differences between these groups, virtually no replication studies are available to assess the generalizability of these findings.

With regard to motivational research, most studies are too specific to allow any reasonable generalization beyond the context of environmental volunteering. One finding, however, might be of relevance to nature-protective behavior as a tourist: the fact that specific values and the expression of these values drive volunteering (Bussell and Forbes 2002; Omoto and Snyder 1995; Wymer 1998).

The cross-disciplinary review of empirical studies relevant to the investigation of the existence and identity of nature-conserving tourists provides a few central insights:

(1) Socio-demographic characteristics that can by hypothesized to be associated with nature-conserving tourists include education, age, income and gender. Further research in this area would be valuable, in particular if actual nature-conserving behavior – as opposed to attitudes or behavioral intentions – could be related systematically to socio-demographics.

(2) A number of behavioral variables should be investigated that are not directly related to tourism to validate responses given to questions on nature-conserving behavioral intentions while at the destination. Such variables could include installation of nature-conserving devices in the household, membership in nature conservation groups, choice of personal transportation, and financial support of nature protection. The underlying hypothesis is that not only does a segment of nature-conserving tourist exist; it is likely that these nature-conserving tourists also behave in an environmentally friendly manner in other settings. Further research investigating whether the segment of nature-conserving tourists is indeed associated with general pro-environmental behavior would be very insightful as it would deepen our understanding of environmentally friendly behavior and make it easier to target nature-conserving tourists in their home country.

(3) Constructs found to be predictive of environmentally-friendly behavior in prior studies should be included, as for instance items representing emotional affinity towards nature, present and past experiences with nature, emotional indignation about insufficient nature protection and cognitive interest in nature as well as values which have been found to be highly associated with volunteering behavior. Future work could use existing item batteries for the above constructs and investigate whether individuals' score regarding these constructs is predictive of nature conservation at the destination.

(4) Two factors can be hypothesized to counteract tourist's nature-conserving behavior at the destination: the lack of identification with the resource in a foreign country and the possibly higher level of reluctance to sacrifice comfort during a vacation. Both these constructs could easily be measured in an empirical study to assess the significance of differences in conserving behavior in different settings in dependence of regional identity and expectations of comfort in these settings.

In sum, a significant amount of research has been undertaken in the area of environmentally friendly behavior outside of the tourism context. These insights indicate that a number of personal characteristics are associated with environmentally friendly behavior in the home context. Consequently it can be assumed that these same personal characteristics would influence environmentally friendly behavior in the

tourism setting and making a demand-driven approach an interesting complement to the currently supply-sided focus of sustainable tourism measures as destinations.

CONCLUSIONS AND IMPLICATIONS

Tourism-specific pro-environmental approaches and research into pro-environmental behavior in general were reviewed to demonstrate the necessity for a broadened demand-driven paradigm by selecting tourists with general pro-environmental behavior that can be targeted in tourism settings other than only nature-based tourism. There is strong empirical evidence for the fact that natural resources are presently being exploited to an extent in tourism that will have negative long and short term effects, both on the natural heritage of a destination as well as their future tourism income. A number of empirical studies have also demonstrated clearly that the tourism industry perceives a trade-off between maximizing their profits and conserving the environment. Although the majority of businesses in the tourism industry express environmentally friendly views, actual behavior does not match these sentiments. The undermining effect of this trade-off on the success of sustainable management measures are further worsened by the small-business nature of the tourism industry which is confronted with strong financial pressures, as opposed to large multinational chains within the tourism industry.

The vast amount of work in tourism research that centers on nature conservation can broadly be classified into ecotourism and sustainable tourism. The borders between the two concepts are not clearly defined. Sustainable tourism appears to be strongly supply-oriented. This supply-orientation is characterized by the trade-off between nature conservation and short-term profit maximization. Ecotourism, on the other hand makes effective use of market mechanisms by offering nature-based holidays to consumers who are intrinsically motivated to learn about nature, experience it actively and conserve it. This represents an efficient approach to both profit maximization and nature conservation goals. The limitation, however, lies in its restriction to nature-based forms of travel only. If it were possible to identify a market segment characterized by similarly strong intrinsic motivations towards environmentally responsible behavior but interested in a broader array of tourism products, the market-mechanism of self-selection (tourists feeling attracted to a destination that actively targets nature-conserving segments) could be utilized to support measures of sustainable tourism management to the benefit of all involved stakeholders on a larger scale, a concept that has been pointed to by a few authors in the tourism research but not operationalized and evaluated to date.

It should be noted at this point that it is not the author's intention to recommend substitution of supply-sided measures with demand-sided measures. Rather, demand-sided approaches to environmentally sustainable tourism could be useful complements to support efforts made at the destination on the supply side given that the concept of market segmentation and targeting has proved to be very successful in marketing in general, both for other products and services as well as for targeting tourists with specific interests or holiday motivations. It should also be noted that it is unreasonable to expect that targeting nature-conserving tourists will ensure that exclusively such tourists will actually visit the destination. But any increase in tourists who treat the natural resources of a destination with care and respect is an achievement.

Work in the area of environmental psychology, sociology and environmental economics provide strong evidence that this is an achievable aim. Numerous studies have investigated determinants of pro-environmental behavior in various contexts and many of the findings can be used as a basis for the extension of these concepts to the area of tourism. Most of the studies seem to investigate constructs that form part of the theory of planned behavior, thus suggesting that it represents the optimal theoretical framework for the investigation of nature-conserving tourists.

It is consequently suggested that a consolidation of the demand-driven paradigm of ecotourism with the supply-driven perspective of sustainable tourism management offers a fruitful approach to research on this general topic. It is proposed that natural market forces be used to protect a nation's environment rather than focusing on the product (for instance, by limiting the number of tourists allowed to visit a region) and trying to impose rules on unwilling consumers (maximizing the pleasure of their experience) and unwilling industry (maximizing their revenues). While any contribution to supplementing the currently supply-side dominated approach to sustainable tourism would be valuable for future work, it would be most attractive to conduct a comparative empirical study in which the effectiveness of the two alternative approaches (supply-sided versus an integrated approach of both demand- and supply-sided measures) could be tested.

It is suggested that identifying tourists who are intrinsically motivated to protect the host country's natural resources independent of the nature of their tourist experience is a new and useful concept in support of nature-protection in the tourism industry setting. It is not claimed that the product-oriented paradigm is obsolete; such a market-driven approach would support product-oriented activities by attracting more appropriate customers for these efforts. Thus, if nature-conserving tourists can be identified, profiled and successfully influenced through marketing communications, ecological sustainability comes as side effect of such tourists visiting a destination. In this case, the pressure on additional regulatory or educational effort from the host country is weakened and the trade-off situation between profit maximization and nature conservation relaxed.

In order to provide tourism authorities and the tourism industry, which are both intrinsically profit-maximizing, with sufficient proof that nature-conserving tourism can be implemented on a larger scale without weakening their market position, possibly even strengthening it through a successful concentrated segmentation strategy, the following steps in future research are required: the extraction of determinants of pro-environmental behavior to be included as variables into the framework or the theory of planned behavior resulting from both cross-disciplinary literature reviews as conducted in this study and exploratory qualitative fieldwork with tourists, the operationalization of behavioral intentions and actual behavior to be predicted under consideration of significant social desirability effects likely to occur and, finally, a large-scale empirical study with samples of tourists representative for various forms of tourism to empirically identify determinants of environmentally friendly behavior in the tourism context as well as characteristics of individuals demonstrating such behavior. This direction of research – while highly complex – can contribute a significant piece in a large puzzle of solving the most fundamental problem in tourism: how to preserve the quality of life of future generations while assuring our present quality of life.

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Table 1. Overview of definitions and operationalizations of sustainable tourists

	nature	remote, pristine area	sensitive area	education	responsible, conserving, low neg. impact	developing counties	local population	not mass tourism
Eagles (1992)	Xe	Xe						
Wight, 1996	Xi	Xi						
Eagles and Cascagnette (1995)	Xe			Xe				
Blamey (1997)	Xe			Xe				
Kretchman & Eagles (1990)	Xe			Xi	Xi			
Whelan (1991)	Xe					Xe		
Ballantine and Eagles (1994)	Xe	Xe		Xe		Xi		
Tao, Eagles and Smith (2004)	Xe	Xi		Xe	Xe			
Blamey and Braithwaite (1997)	Xe			Xe				
Kerstetter, Hou & Lin (2004)	Xi		Xi		Xe			
Hawkins and Khan (1998)	Xe							Xe
Khan (2003)	Xe			Xe	Xe		Xe	
Caballos-Lascurain (1996)	Xe	Xe			Xe		Xe	
Ecotourism Society (1992)	Xe				Xe		Xe	
Ryel and Grasse (1991)				Xe	Xe			
Wight (1993)				Xe	Xe		Xe	
Sirakaya, Sasidharan & Sonmez (1999)					Xe		Xe	