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Tourism: A Tool for Biodiversity Conservation in the Cape Horn Region

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ABSTRACT

This study proposes the applicability of tourism as a tool for biodiversity conservation in the Cape Horn region of Chile. This region is known for its unique cultural and biophysical features; therefore, the applicability of effective tourism practices can lead to the protection of species while also protecting areas that tourists want to see. Emphasis is placed on the involvement of the local Yaghan community due to their strong cultural and historical ties to the area and their ecological knowledge of the region. The goal of tourism practices in this region is to incorporate tourism to further the conservation of biodiversity in the region while generating economic benefits for the local people.

Keywords: *tourism, biodiversity, biocultural conservation, Cape Horn, Yaghan culture, Chile.*

INTRODUCTION

Ecosystems are essential components to the survival of humanity because they provide materials and services that help maintain the balance between humans and the world that surrounds them. Within these ecosystems, the importance of maintaining biodiversity is crucial. The ability to maintain biodiversity encompasses the protection of all groups of plants, animals, fungi, and microorganisms on Earth; their genetic variation; and the communities and ecosystems of which they belong to (Dirzo & Mendoza, 2008; Swingland, 2001). The question as to how to preserve the ecological integrity of biologically diverse areas is of current concern. According to Gössling (1999), increased human activities such as rapid population growth, workforce-pressures, lack of capital and foreign debts, which lead to over-exploitation of wild, living resources, expansion of agriculture, forestry, and aquaculture have led to a loss of biodiversity in many areas around the world. Successful conservation and protection of these highly diverse areas is often controversial and simply inconsistent. In this context, the ability to provide and offer protection to areas rich in biodiversity proves to be difficult a task. However, through the introduction of sustainable tourism practices, successful conservation of biodiversity is feasible.

Tourism as a tool for conservation

The role of tourism is an effective method of conservation that promotes biodiversity preservation through habitat protection while contributing to the socio-economic development of a highly diverse landscape (Al-Sayed & Al-langawi, 2003; Blangy & Mehta, 2006; Bookbinder, et al., 1998; Burger, 2000; Gössling, 1999; Ross & Wall, 1999; van der Duim & Caalders, 2002). Through tourism practices, the goal to maintain and protect biodiversity is possible. Tourism offers the opportunity to enhance protection and conservation practices in an area by contributing to the economic base of regions, while tourists influence the protection of land and biodiversity on a landscape scale (Burger, 2000). Tourism also facilitates outside awareness to an area's biodiversity while promoting education and conservation (Ross & Wall, 1999).

Tourism has the potential to contribute to the conservation of biodiversity and education of all humans living within an ecosystem. Al-Sayed & Al-langawi (2003) affirm successful tourism objectives combined with ecologically derived management techniques, such as ecosystems identification, wildlife resources identification, geological aspects of land use, and environmental feasibility of conservation and rehabilitation, prevent the continual deterioration of areas where biodiversity is most prominent. Tourism practices can additionally contribute to the socio-economic environment of communities by providing the financial means for conservation and by raising understanding about the issue (van der Duim & Caalders, 2002). In order to accomplish conservation through tourism, threatened areas must create economic incentives for local groups and their communities in order to encourage local guardianship of biological resources (Bookbinder, 1998). Tourism and biodiversity can coexist when conservation practices are present at a local level. Against the global context of biodiversity, most significant conservation impacts are found in local areas where the local community feels empowered based on their renewed awareness and pride in the universal value of their culture and their environment (di Castri & Balaji, 2002; Waller, 2001).

The Cape Horn region

The Cape Horn region is located in the most-southern tip of Chile and is composed of numerous fjords and islands with largely unfragmented ecosystems, low anthropogenic impact and a very low population. As of 2007, only about 2200 people live in the region, most of them located in the isolated settlement of Puerto Williams on Navarino Island (Pollack, Berghöfer, & Berghöfer, 2008). Due to geographic location of the region, the area's isolation from outside visitors constitutes a great potential as its vast extensions of unfragmented habitats have been recognized for their pristine condition and thus, are of interest for science, conservation, tourism, and for local residents (Jofre, 2006; Pollack, et al., 2008).

Magellanic Evergreen Rainforest Ecoregion located in the Cape Horn region includes a mosaic of diverse habitat types. This remote sub-Antarctic region offers a non-vascular floristic richness, with > 5% of the world's bryophytes on < 0.01 % of the Earth's land surface and a species richness patterns for vascular and non-vascular plants inverted across 25 degrees of latitude in Chile. In addition, while vascular plants are 20 times more abundant than non-vascular plants globally and in tropical South America, non-vascular plants are dominant in the sub-Antarctic Magellanic Ecoregion (Rozzi, Armesto, Goffinet, Buck, Massardo, Silander, Arroyo,

Russell, Anderson, Cavieres, & Callicott, 2008). The region's vascular and non-vascular floristic richness is unique and therefore, a need for careful preservation practices is important. In total, the Cape Horn region has at least 450 species of mosses, and 368 species liverworts. Compared to the number of species know worldwide, 818 of the 15,000 species of bryophytes grow in this southern region of the world. The flora and tree species of the region is minimal compared to the number of mosses and liverworts. The Cape Horn region has poor flora diversity and only six species of trees. Nevertheless, due to its high bryophyte diversity, the region has been proposed as a world "biodiversity hotspot."

The local community, biodiversity, and tourism

The local community of the Cape Horn region consists of families and naval personnel of the Chilean navy, the indigenous Yahgan community, and individuals from areas throughout Chile. The Yaghans have strong cultural and historical ties to the area and their ecological knowledge of the region is of importance when incorporating conservation practices for the area's biodiversity (Rozzi, Massardo, Anderson, Heidinger, & Silander, 2006). Incorporating the local community of the region increases a renewed awareness and pride in the value of their culture and environment, which leads to the desired interest of conservation and protection of an area's biodiversity (di Castri & Balaji, 2002; Waller, 2001). Nevertheless, the rationale of incorporating tourism to an area must be based on the principle that through tourism the conservation of biodiversity must generate economic benefits, particularly for the local people (Kiss, 2004). However, the feasibility and practicality needed to create economic benefits that can yield significant conservation and social benefits to an area are difficult to establish. Various authors have suggested methods and practices in which to achieve this goal, but in order to select best practices that yield maximum protection to an area's biodiversity, the tourism practice must first be analyzed dependent on the region, its economy, and its conservation goals.

Al-Sayed & Al-langawi (2003) suggest communities use the ecological environments of the region to attract tourists. This is accomplished by emphasizing the biological essence of the region as part of the tourism experience. This nature-inspired touristic atmosphere will benefit tourists, indigenous communities, and governments financially, while providing protection and conservation of the environments. Bookbinder, et al., (1998) affirms tourism practices must incorporate biodiversity conservation and local economic development thorough (1) the identification of economic incentives that provide immediate benefits to local people and (2) the identification of economic incentives that are appropriate in space and time to the scale of threats to biodiversity. It is important that once these practices are in place, profits need to be spent on local community development. Burger (2000) also suggests effective tourism practices can lead to the protection of species while also protecting areas that tourists want to see. As a result, these practices will create a mosaic of habitats for species, preserving the ecological habitats of biodiversity.

METHODOLOGY

The population sample consists of scientists, tourism officials, and local residents (N=200) who work(ed), create and manage tourism policy, and live in the Cape Horn region. First, we will identify key stakeholders (scientists/researchers, tourism officials, and local

residents) that have lived or have conducted business in and around the Cape Horn region during the last two years. Second, once the sample group is determined, mail surveys will be utilized to determine the sample group's attitudes and perceptions of the impacts of tourism on biodiversity conservation and suggested changes to sustainable tourism practices in the region. Follow-up postcards will be sent two and four weeks after the first mailing.

DATA ANALYSIS

Previous research in the Cape Horn region has generally focused on ecology, bird migration patterns, and the preservation of the Yaghan culture. This study represents a preliminary attempt to assess perceptions and attitudes of key stakeholders (scientists/researchers, tourism officials, and local residents) towards the impacts of tourism (primarily scientific to date) and how sustainable tourism practices can serve as a catalyst for continued biodiversity conservation in the Cape Horn region. Findings will be analyzed utilizing Frequencies, Percentages, Crosstabs, ANOVA, Factor, Correlation, and Regression analysis.

CONCLUSION

Because ecosystems are essential components to the survival of humanity and biodiversity plays such a large role within these systems, it is important that effective conservation practices be in place in order to continue with the preservation of these highly diverse areas. The role of tourism as an effective method of conservation is a feasible solution. Through tourism practices, the goal to maintain and protect biodiversity is possible. When implementing such practices in the Cape Horn region, special consideration should be present for the local community of the area. Tourism offers the opportunity to enhance the protection and conservation of a region's biodiversity. Due to the geographic location of the Cape Horn region and its pristine nature, if tourism practices are introduced, they must be introduced effectively. There are many suggestions as to how this implementation should be accomplished. Additional analysis of each recommendation should be the next step. When doing so, it is important to remember tourism practices must focus on the culture, society, and nature of the area, while promoting legitimacy, feasibility, and effectiveness of preservation.

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