

Public Values of the Antarctic Wilderness: A Comparison of University Students in Spain and the United States

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Abstract—This paper summarizes preliminary results of a research study that investigated university students' perceptions of Antarctic wilderness and reports on discussions of these results at a workshop held at the 10th World Wilderness Congress. The purpose of the research study was to determine whether nationality and cultural differences were associated with beliefs about Antarctica, relationships between humans and the Antarctic environment, and support for resource development and tourism activities—a small but important step in deciding how to best meet the requirements of the Protocol on Environmental Protection to the Antarctic Treaty. Results were presented at the World Wilderness Congress as part of the CoalitionWILD Workshop Series, which was targeted towards engaging young people under the age of 30 in conservation projects. Discussions in the CoalitionWILD Workshop highlighted the issues of: (i) use of technology in wilderness; (ii) the public's lack of information about issues and threats to wilderness; and (iii) differences in what constitutes “wilderness” in the minds of people from different age groups, with different experiences, and different cultural backgrounds.

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Introduction

Antarctica, the area south of 60 degrees latitude south, comprises over 14 million square kilometres (over 5 million square miles) of the most remote wilderness on Earth. With annual precipitation of less than 20 centimetres (approximately eight inches), Antarctica is a windswept desert composed of ice, rock, and rugged coast lines. Surrounded by the Southern Ocean, it is also a region abundant in fish and wildlife. Less than 1% of the continent contains infrastructure development to support human visitation. Despite its remote location and inhospitable nature, annual visits for research and tourism purposes are estimated to be in the tens of thousands (Tin et al., 2014).

Antarctica is a common pool resource managed under the Antarctic Treaty System (ATS). The original Antarctic Treaty, signed in 1959, in its preamble recognizes “that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord” (p. 2). Over the next fifty years, the ATS expanded to include other legal instruments. In 1991, Treaty Parties signed the Protocol on Environmental Protection to the Antarctic Treaty (the Protocol). In its preamble, it stated: “that the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole” (p. 1). The Protocol designated Antarctica as a “natural reserve, devoted to peace and science” and stipulated that:

“The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.” (Article 3(1), p. 2)

As recently as 2012, the Treaty Parties “reaffirm[ed] their will to protect the Antarctic environment, in the interest of mankind as a whole” (Secretariat, p. 243). This raises the question of how “mankind” actually wants Antarctica to be managed.

What Does Mankind Want? The Birth of AntWILD

“Mankind” includes people of different genders, cultures, ages and propensities. While it is impossible to know what mankind as a whole wants, we initiated a research study to determine how different cultures and populations value the Antarctic wilderness. The work of the Consortium for Research on the Wilderness Values of Antarctica (AntWILD) began in 2007 when we initiated surveys and interviews with small groups of people in the Netherlands, in California, USA and onboard an Antarctic tourist ship (Neufeld et al., 2014). Since then, we have expanded and standardized our research methodology to focus on university students. University students have been chosen for two main reasons. First, research in the area of emerging adulthood suggests that a majority of university students belong to a unique demographic group, distinct from adolescents and young adults, that is characterized by identity exploration (Arnett, 2001). Arnett notes that one’s college years lead to new experiences that can transform previously held world views. Second, young people represent the present and future of “mankind”. Their opinions and choices will have implications for society for decades to come.

In 2012, we surveyed approximately 400 undergraduate students enrolled in environmental science and tourism courses in Spain and the United States. We sought to determine whether beliefs about the importance of Antarctica, relationships between humans and the Antarctic environment, and support for resource development and tourism activities differed across the Atlantic. Our intent was not to generalize to all university students in Spain and the United States, but to determine whether nationality and cultural differences were associated with variations in the ways respondents valued Antarctic wilderness. Thus, we used a purposive sampling approach designed to identify comparable groups of undergraduate students enrolled in similar courses at two large public universities.

All Things Wild: AntWILD, WILD10 and CoalitionWILD

The 10th World Wilderness Congress (WILD10) that took place in Salamanca, Spain, 4-10 October, 2013, had a strong intergenerational component. CoalitionWILD—a movement that seeks to engage young people under the age of 30 in innovative conservation projects that aim to make the world a wilder place—had its first gathering during WILD10 (CoalitionWILD, 2013). As part of its program during WILD10, CoalitionWILD organized a series of 90-minute workshops, one of which was entitled “A New Face for the Future of Wilderness.” Three conservation case studies were used as basis for discussion about how technology and the values of young people from different cultures will influence the future sustainability of wilderness. AntWILD’s project on Spanish and U.S. university students was invited to be one of the case studies of this session.

In this paper, we present preliminary results from the AntWILD study and discussions that arose during the CoalitionWILD session. By bringing together students’ survey

responses, researchers’ interpretations, and Congress delegates’ discussions, we hope to create a multi-dimensional tapestry that illustrates the different ways “mankind”—young and old, European and American—values the Antarctic wilderness.

Results and Discussion

AntWILD Survey Results

A total of 400 students (approximately 200 in Spain and 200 in the U.S.) were invited to complete a 15 question survey. The survey inquired about environmental knowledge; values of Antarctic wilderness; relationships between humans and the Antarctic environment; attitudes towards resource management and tourism development activities; and general perceptions about the nature of wilderness. Both categorical and open-ended formats were used (see Tin et al., 2011 for further information on the survey). After accounting for incomplete responses, the adjusted total was 368 (189 in Spain and 179 in the U.S.)—a response rate of 92%.

Responses from Spain and the United States exhibited several similarities. A large proportion of both samples considered the importance of Antarctica to lie in it being one of the world’s last great wildernesses (57% Spain; 62% U.S.) and an important science laboratory for the benefit of mankind (46% Spain; 41% U.S.) (Figure 1). Many respondents also agreed that nature is a force greater than mankind (51% Spain; 49% U.S.) and that it is important to protect the best values of Antarctica (59% Spain; 63% U.S.) (Figure 2). However, students in Spain were significantly more likely to value Antarctica as an integral component of the Earth’s climate system (65% Spain; 51% U.S.) and to state that Antarctica has existence value—that humans have a moral obligation to protect Antarctica irrespective of direct benefits to mankind (68% Spain; 34% U.S.). Students in the United States were significantly more likely to value Antarctica as a reservoir of mineral resources (24% Spain; 41% U.S.) and to state that human needs and protection of the Antarctic environment were of equal importance (12% Spain; 27% U.S.).

These findings were reinforced by significantly higher levels of support for ten resource management and tourism development activities among students in the United States. While the results reflect a more anthropocentric value-orientation towards Antarctic wilderness among students in the United States, there was no difference in level of support for designating Antarctica as a wilderness reserve where development of infrastructure is limited (Figure 3).

CoalitionWILD Discussions

At the CoalitionWILD session at WILD10, two other research projects were also presented. Elena Nikolaeva’s presentation focused on sustainable tourism in Russia’s Kamchatka Peninsula. John Shultis presented his findings on visitors’ attitudes about the use of technology in New Zealand’s wilderness areas. The session was moderated by Crista Valentino, one of the directors of CoalitionWILD.

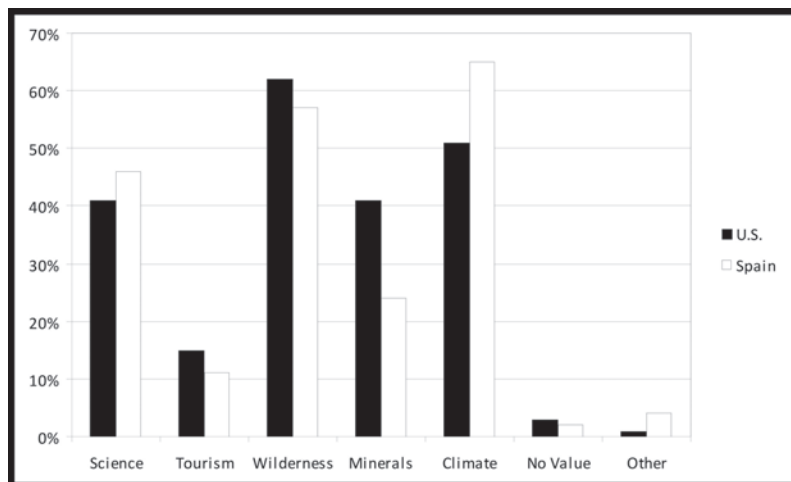


Figure 1—What is the value of Antarctica?

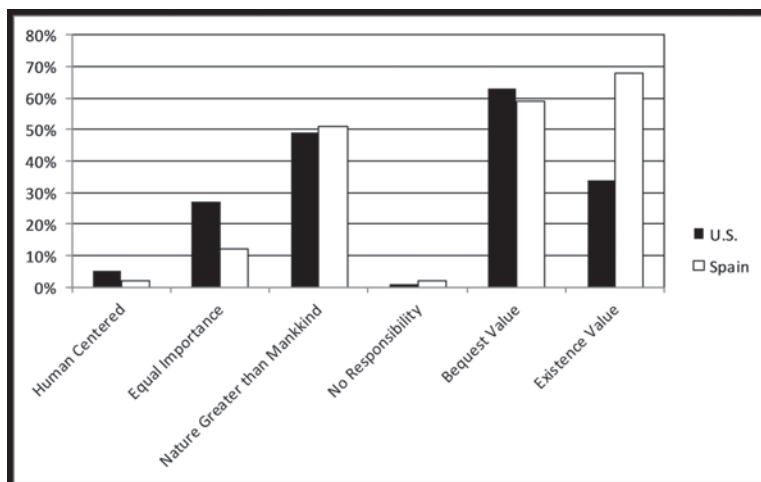


Figure 2—What is the relationship between humans and Antarctica?

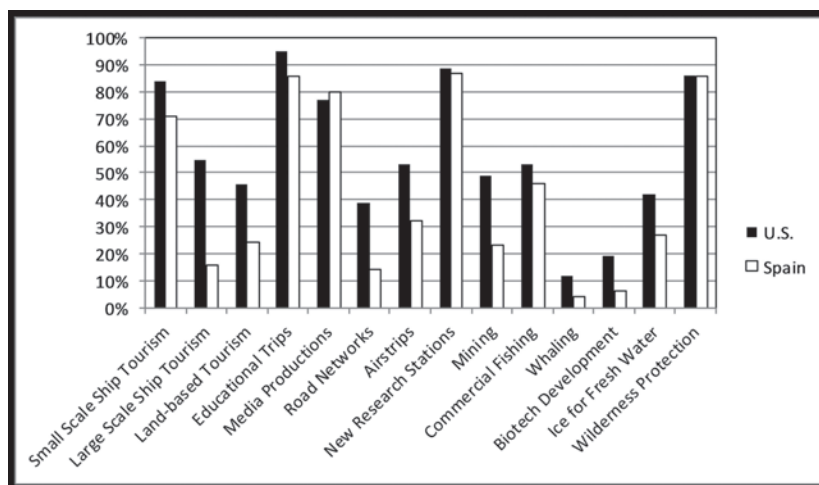


Figure 3—Support for resource management and tourism development activities

Each team had 15 minutes to introduce their studies and present their findings. Implications were addressed in a 40-minute discussion period that focused on the following questions: (1) What are the implications of these studies for the future face of wilderness? (2) How would you address the issues identified in these studies if you were a wilderness manager? During the 90-minute session there were, on average, 20 people in the audience. Together with the presenters, moderator and participants, approximately 20% of the people in the room were below the age of 30. Discussions were conducted in one single group.

Workshop participants were surprised by differences in the values of Antarctic wilderness among students in Spain and the United States. Despite the stated importance of protecting wilderness values and managing Antarctica as an important component of the earth's climate system, workshop participants recognized that students in the United States were more supportive of resource management and tourism development activities, than students in Spain. This was particularly true for extractive resource management, such as the construction of road networks, air strips, and mining development. Students in the United States were also more supportive of tourism development, including ship-based and land-based tourism. Workshop participants agreed that these findings could be explained in terms of differing beliefs about the relationship between humans and the Antarctic environment. Students in the United States were more likely to state that human needs and protection of the Antarctic environment are of equal importance, while students in Spain were more likely to state that humans have a moral obligation to protect Antarctica irrespective of direct benefits to humans.

Students in both Spain and the United States felt that Antarctica should be managed as a wilderness reserve. One workshop participant speculated that since wilderness is rare in Spain, the Antarctic wilderness could be treasured as an exotic and romantic idea by the Spanish people. However, another participant argued that, in reality, the Spanish public is generally reluctant to pay to protect nature, and seemed surprised by the level of support for wilderness protection.

We believe that the apparent contradiction between developing Antarctica and protecting the continent as a wilderness reserve among U.S. students may suggest what Hendee and Dawson (2009) refer to as a sociological, rather than legal definition of wilderness. Although the Wilderness Act of 1964 defines wilderness as "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" (U.S. Public Law 88-577), the law applies solely to lands within the National Wilderness Preservation System. Many residents of the United States are also unfamiliar with this definition of wilderness (Schuster, Cordell, and Phillips, 2005). In reality, the terms "wild" and "wilderness" are often used in a relative rather than absolute sense. A place is wilderness because it is wilder, less domesticated, and less developed than one's usual environment. If one's usual environment is highly urban, with high population density, and constant access to technology and information, a place that is less urban, with more green space may be experienced as wilderness. Outdoor recreation managers have long acknowledged that wilderness represents one end on a continuum of naturalness, and that quality experiences can be realized in a range

of outdoor settings (Moore and Driver, 2005). For those accustomed to recreating in areas characterized by roads and other forms of development, it may seem reasonable that an area as remote as Antarctica could be developed for resource extraction and tourism, while simultaneously protecting its wilderness character.

Shultis' presentation on attitudes about the use of technology in New Zealand's wilderness areas prompted workshop participants to suggest that the very definition of wilderness may be changing as technological advances have made places like New Zealand and Antarctica more accessible and safer to visit. Workshop participants from different age groups discussed the question of "who defines what wilderness is". Echoing the results of Shultis' research, younger workshop participants noted that they did not see technology to be incompatible with wilderness. Older participants explained how they have cherished their experiences in technology-free wilderness and expressed their desire to make such experiences available to future generations.

One participant reflected that all Antarctic visitors rely on technology to survive under harsh climatic conditions. While Antarctic tour companies often sell their tours as wilderness experiences, the facilities onboard cruise ships – restaurants, gyms, internet access and other forms of entertainment – result in experiences that are not typically those associated with wilderness. In addition, as a result of the growing concentration of cruise ships at the most highly visited destinations on the Antarctic Peninsula, a "Wilderness Etiquette" has been developed by the International Association of Antarctica Tour Operators (IAATO, 2008) in order to manage the positioning of cruise ships and timing of visits to create the illusion of solitude. One participant suggested that indicators and standards of quality (Manning and Halo, 2010) could be used to manage biophysical and social conditions as tourism opportunities continue to expand. This would help prevent a floating base line, in which first-time visitors perceive current conditions as normal and acceptable, despite increasing rates of visitation and associated impacts.

A theme that emerged from Nikolaeva's Kamchatka study was the general public's lack of information about the issues and threats facing wilderness. While the amount of publicly available information on Kamchatka is sparse, technological advances have greatly increased access to information about remote places, such as Antarctica. Nonetheless, many people are simply unaware of the range and scope of issues that affect Kamchatka, Antarctica, and other remote wilderness areas (Schuster, Cordell, and Phillips, 2005). We think that more research is necessary to determine the accuracy of people's beliefs about resource management and tourism development activities in Antarctica and elsewhere. This will allow managers to educate diverse stakeholders and engage in dialog about the importance of wilderness protection, ultimately leading to higher levels of environmental concern.

Conclusion

Conflicting definitions of wilderness, the use of technology, and the availability of information were themes that emerged from our discussions of managing Antarctica now and in the future. The discussions highlighted in this paper illustrate some of the trends and complexities underlying the management of Antarctic wilderness in the interest of

“mankind.” “Mankind” consists of people of different ages, cultures, and genders who perceive benefits differently at various stages of their lives. Although university students do not represent the majority of a country’s population, their opinions are of interest. This is particularly true given that research suggests young adulthood is not a universal life stage, but rather, one that is generally restricted to highly industrialized or post-industrialized societies (Arnett, 2011, 2000). In general, the numbers of university graduates are increasing across many countries. These young people will be active in society for the next 40 years and may hold decision-making positions in the future. While they may not be directly involved in environmental management decisions of the Antarctic, their everyday decisions and actions, such as fossil fuel consumption, voting in government elections, and choice of holiday destinations, will have ramifications for the polar regions in this globally interconnected world.

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