Journal of Tourism Management Research
2014 Vol. 1, No. 2, pp. 43-59
ISSN(e): 2313-4178
ISSN(p): 2408-9117
DOI: 10.18488/journal.31/2014.1.2/31.2.43.59

UNDERSTANDING STAKEHOLDER'S PERCEPTIONS ON PRACTICE OF NATURE-BASED SPORTS IN A PORTUGUESE NATURAL PARK

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ABSTRACT

Nature recreation and tourism in protected areas (PA) can play an important role in the development of local communities and in regional or national economies. This effect depends on sound management and, facing limited resources, collaboration between different interested parties. This study was developed in a Portuguese Natural Park and focuses on the Nature Based Sport activities developed within the scope of recreation and tourism. Perceptions and opinions of five stakeholders were taken into account, as baseline information on the components of the PA management. A qualitative approach based on semi structured interviews has been used. Results allowed improving the understanding on some existing problems in the studied PA as well as to define important actions and changes to be taken into account in short to medium term.

Keywords: Recreation, Tourism, Protected areas management, Stakeholders.

Contribution/ Originality

This study contributes to the literature in that it addresses issues associated with management of nature-based sports, under the viewpoint of institutions, a less common aspect in the investigative panorama which usually focuses on visitors perceptions. This seems to be an important approach if we are trying to begin a new recreation management approach (e.g. collaborative).

1. INTRODUCTION

Nature recreation and tourism have been growing, becoming increasingly relevant in the economic, social and environmental spectrum and, when aligned with sustainable development principles, contributes to local communities and national economic development (Baldin *et al.*, 2003;

Aas *et al*., 2005; Li, 2006). As (Eagles, 2002) points out, tourism in Protected Areas (PA) is recognized as having an important role in economic development. Unfortunately, few governments have made investments in qualified human resources, infrastructures, and research to support and manage adequately this development opportunity, and the result can be the degradation of recreation and tourism opportunities, poor management and reduction in tourism and recreation demand.

In Portugal, research related with management of recreation and tourism in PA is still limited, and consequently, forest managers awareness and practice are far from desirable with regard to recreation in Portuguese forests and protected areas (Pattichis *et al*., 2010).

A research study on management of nature-based sport activities (NBS) in protected areas has been carried out, in the scope of recreation and tourism in, the Portuguese Natural Park of Serras de Aire e Candeeiros (NPSAC). In the study, several actors of recreation and tourism in this PA were interviewed in order to obtain information about activity characteristics, opinions and perceptions about park management needs, actual development and existing problems. Data triangulation techniques have been used, and the main correspondences on results between the groups surveyed are highlighted by Rosa *et al*. (2013). The present paper reports part of this study, specifically focusing on NBS activities and in understanding perceptions and opinions of five types of stakeholders: park management (PM), three recreation and tourism companies and one local development association. For this purpose, the following objectives were taken into account: (1) Identification of environmental and social problems; (2) Effectiveness of the actual recreation and tourism management in NPSAC, as well as the adequacy of new methods and (3) Willingness to collaborate in a participatory management process. Due to the lack of information on management of recreation and tourism in Portugal, a qualitative approach based on semi structured interviews was used.

1.1. Management of Recreation and Tourism in Protected Areas

1.1.1. Management Structures

Directly or indirectly, government departments have responsibilities on the management of most PA. However, factors such as scarcity of funds, insufficient personnel with competences in the various areas of intervention and the pressure from government and other stakeholders to have a more efficient and "business like" management, requires the adoption of novel approaches (Font *et al*., 2004). According to some authors, in general, the main management structures in PA are: (i) governmental agencies or departments (Eagles, 2002; Baldin *et al*., 2003; Font *et al*., 2004) (ii) parastatals (Eagles, 2002; Font *et al*., 2004) (iii) NGO's (Font *et al*., 2004) (iv) community organizations (Eagles, 2002; Font *et al*., 2004) (v) private organizations (Eagles, 2002; Font *et al*., 2004) and, (vi) a combination of these (Font *et al*., 2004).

Discussions on the different management structures are not conclusive on which approach may be more or less effective. Parastatals have been assumed as one of the main approaches. The specificity of each country, state and, consequently, of each PA, should determine the best and most effective management structure to be used. Other aspects such as land use rights and the culture of local

communities should also be considered (Aas *et al.*, 2005). Research and practical applications led to a growing advocacy of what might be termed "participatory management" or simply "participation".

1.1.2. Participatory Management

According to Jamal and Getz (1995) stakeholder collaboration can be understood as "a process of joint decision-making among autonomous key stakeholders of an inter-organizational community to resolve planning problems of the domain or management issues related to the planning and development of the domain". In tourism, a stakeholder can be anyone who is impacted, positively or negatively, by tourism activities. Participation can reduce potential conflict between the tourists and host community by involving the latter in shaping the way in which tourism develops (Swarbrooke, 1999).

Recent studies (Reid *et al.*, 2004; Aas *et al.*, 2005; Miller *et al.*, 2010) have leaned on public participation, where visitors and other stakeholders are involved in the planning and management of tourism in protected areas.

In PA management, several collaborative models, as well has their functionality have been studied and developed in the recent years. Aspects that have been explored include: improvement of communication channels between stakeholders, local people and central government (Aas *et al.*, 2005) economic and social benefits for the local (or adjacent) communities (Aas *et al.*, 2005) as well as for local businesses (Hampton, 2005) gauging the success of collaborative processes (Reid *et al.*, 2004; Aas *et al.*, 2005) environmental planning and management (Selin and Chavez, 1995) public opinion about management alternatives (Smyth *et al.*, 2009) public participation in community programs, barriers and benefits of participation (Khadka and Nepal, 2010) and public understanding of sustainable tourism as well as their expectations about the role of government and tourism industry in the provision of sustainable tourism opportunities (Miller *et al.*, 2010).

Experiences reported are positive, and difficulties encountered are specific and focused on each country, government or protected area, and hence difficult to generalize a process of participatory management. In countries where tourism faces the challenges of planning and management, collaboration can be difficult to achieve (Aas et al., 2005). In this respect, Miller *et al.* (2010) argue that it is important to understand the public perception on the different issues related to sustainable tourism, before making any decisions to act on behaviors or other factors. Relational issues may be a relevant factor that discourages collaboration between stakeholders (Selin and Chavez, 1995) since significant differences in power between the various parts can exist (Selin and Chavez, 1995). However, in countries whose governments have economic and financial difficulties, participative management, can be an enabling process for ensuring the development of tourism and recreation in PA.

1.1.3. Management Components

Management of recreation and tourism in PA incorporates a varied and complex number of different components. Although these components are often addressed separately, proper management

of recreation and tourism in PA should be approached in an integrated way. The most studied components of recreation and tourism management related to visitation in PA found in the literature are:

(i) Conflicts in recreation: interaction between different users and crowding are some of the most studied aspects in outdoor recreation (Marcouiller *et al.*, 2008; Vaske and Shelby, 2008). Models attempting to explain the conflicts have been developed over the past 30 years. The conceptual framework proposed by Jacob and Schreyer (1980), has been the base to the majority of studies related with outdoor recreation conflicts. Later, studies by Manning (1999a, 1999b, 1999c, 1999d, 1999e, cit in Marcouiller *et al.* (2008)) resulted in a model known as "goal interference model". In this model, the four variables proposed by Jacob and Schreyer (1980) *(resource specificity; activity style, mode of experience and lifestyle tolerance)* are maintained, yet they are only seen as preconditions for the occurrence of conflict and the author suggests that other catalysts factors are needed for the conflict to occur, namely interpersonal contact and social values.

Some of the work done on this subject has focused on sport activities and especially in comparing different activities carried out in similar natural environments. Examples include: the comparison between hikers and mountain bikers (Carothers *et al.*, 2001; Cessford, 2002; Tumes, 2007; Mann and Absher, 2008) conflicts between skiers and snowboarders (Vaske *et al.*, 2000; Vaske *et al.*, 2004) and hiking and sport hunting (Reis and Higham, 2009). However, a good part of these studies address the issue in a positivist perspective, through the use of questionnaires and almost exclusively from the point of view of visitors or sport practitioners. Using a different perspective, Tumes (2007) conducted a qualitative study through interviews with the aim to understand the conflict between bushwalkers and mountain bike riders. The author defends this approach, assuming that it is necessary to better understand the phenomenon of conflict and the interviews can serve as a tool for a better understanding. Reis and Higham (2009) in order to explore the conflicts between sport hunting and hiking, use a complementary methodology based on a quantitative approach, important for the identification of common elements of motivation and environmental values, as well as a qualitative approach, identifying "key elements" of potential conflict. From these studies, it can be concluded that conflicts between different users are complex and specially dynamic and not only due to competition for scarce resources. Studies involving other stakeholders and their perceptions about the several problems related to recreation conflict seem to be scarce. However, park management, companies, sport clubs and other interested parties in the promotion of recreation and tourism in PA, have different points of view on recreation conflicts and can be relevant as a complementary source of data.

(ii) Environmental management and perception: although many studies focusing this subject come from the recreation ecology field (Marion, 1998; Leung and Marion, 2000; Marion and Olive, 2006) others, have often considered the perception of visitors as a factor for comparing reality (monitoring data from recreation ecology) and the reality perceived by users. According to Hillerya *et al.* (2001) this approach shows some correspondence between the two. However,Deng *et al.* (2003) have worked on the impacts of visitation on vegetation and soil, comparing it to the visitors perception of those impacts

in Zhangjiajie National Forest Park, China. The authors argue that visitors perception about the influence of impacts on the satisfaction of the visit, are not always in line with the current deteriorating conditions. In a study that focused on the perception of residents of a tourist area about the environmental impacts derived from this same activity, Amuquandoha (2010) found the existence of negative and positive perceptions, with a bias towards the positive side. Several methods have been used to study the perception of the impact. One of the most common has been the use of structured interviews (especially for larger groups, e.g. residents, tourists) and semi-structured (especially for smaller groups, e.g. PA management, tourism companies in the industry) (Puczkó and Rátz, 2000). Another common approach is based on the use of visual methods. Manning and Freimund (2004), in a literature review, associated with the use of visual methods for measuring quality standards in parks, refer their application at an environmental level, arguing that the perspective of landscape in the pictures can influence the environmental conditions reported by respondents. An example of the mixture of both methods (interviews and visual) was used by Dorwart *et al.* (2010).

(iii) Alternative management practices: according to (IUCN, 2002) there are four strategic approaches in use for the application of management methods and focus on the reduction of problems arising from the visitation: i) management of supply and of its potential for tourism and leisure opportunities for visitors; ii) demand management of tourism and visitation in general; iii) management of resources capacity; and iv) management of the effects derived from use.

In this sense Hendee *et al.* (1990) in accordance with the perspective of (Manning, 2007) clarify that management techniques can be "direct" or "indirect."

The "direct" management techniques are associated with regulatory actions and access limitation. Some "direct" measures include: zoning of incompatible uses or promotion of increasing rigid regulatory measures. The "indirect" techniques, according to the same authors, are associated with transmission of values, raising awareness and encouraging positive attitudes of visitors of the PA. In general, these measures are easier to accept, either by visitors, sport practitioners or entities in charge of managing the protected area and include, for example, the provision of information to visitors aimed at awareness rising. The factors "education" and "awareness" prove to be some of the most important, more accepted and appropriate, and should be the basis of application of methods aimed at social and ecological management of visitation (IUCN, 2002; Manning, 2007). The involvement of the PA visitors in defining management alternatives was conducted by Smyth *et al.* (2009). These authors sought the identification of public's views about new alternatives to the management of Lake Champlain (USA) through the use of choices experiment. Results allowed obtaining some background information that was considered important for the management of space.

One more time, and despite the relevance found in all studies referenced, studies focusing on the perception of companies, or local associations, associated with the development of recreation and tourism in PA on these components were not found. As local promoters, these organizations are knowledgeable of the area and its dynamics. They can work as potential agents to report current problems or necessities as well as opinion makers about desirable conditions.

1.2. The Portuguese Case

In Portugal, nature conservation policy only come into action in the 70's, with the publication of the Law N. 9 / 70 of June 19, that was crucial for the creation of PA in Portugal. The first Portuguese PA, the Peneda Gerês National Park, was established in 1971. In the following period, the majority Portuguese PA were created, having today a strong relevance in the territory. In the mid-90s, and following the Convention on Biological Diversity in 1992, the increase valuation of the concept of "biodiversity" results in the implementation of Natura 2000 network (Pinto, 2008).

The national body responsible for managing protected areas in mainland Portugal is the Institute for Nature Conservation and Forests (ICNF)[1]. The National Network of Protected Areas, according to the Decree-Law 19/93 of 23 January, includes areas of the following types: i) National importance, including National Parks (IUCN category II), Nature Reserves (IUCN categories Ia and IV), Natural Parks (IUCN categories IV and V) and Natural Monuments (IUCN category III); ii) Regional or local importance, including Protected Landscapes (IUCN Category V); and iii) Private Areas, including sites of biological interest (IUCN Category IV).

The National Network of Protected Areas in Portugal occupies about 7.6%, 5.8% and 62% of the area of the mainland, Azores archipelago and Madeira archipelago, respectively. Additionally, there are classified sea areas in mainland Portugal, Azores and Madeira (Pinto, 2008). In mainland Portugal, there are in total thirty four protected areas, namely: one National Park, thirteen Natural Parks, nine Nature Reserves, six Protected Landscapes and five natural monuments.

References to nature recreation and tourism in 20 legal documents related with the development of PA in Portugal between 1970 and 2009 were reviewed. The first reference appears in the middle 1990's, emphasizing the importance of these for local and regional development (MCR nº 102/96)[2]. The regulation of these activities in the Portuguese PA, is made by the Regulatory Decree N.18/99, 27th August, and Decree-Law N. 47/99, 16th February, which govern, respectively, the environmental recreational and tourism activities as well as nature tourism accommodation infrastructures[3].

Following the provisions of this regulation, the concept of Nature-Based Sport Map (NBSM) has been defined. These are important land use planning documents that regulate the NBS activities in the Portuguese PA. They are supposed to be comprised of a legal regulation and a map, with the location of different NBS opportunities as well as carrying capacities and other restrictions associated with nature conservation. Currently, and despite its legal enforcement, since 1999, only two PA have published NBSM, namely, the Natural Park of Serras de Aire e Candeeiros, in 2004 and the Natural Park of Sintra Cascais, in 2008.These documents are not only important for the management but also to promoting NBS activities in the scope of recreation and tourism.

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[1] In Portuguese "Instituto de Conservação da Natureza e Florestas (ICNF,I.P.)

[2] Ministers Council Resolution (MCR)

[3] Decree-Law N. 47/99 of 16 February was later changed by Decree-Law N. 108/2009 of May 15 and Decree-Law N. 39/2008 of 7 March.

The commercial service providers of recreation and tourism activities were only regulated by the Decree-Law N. 108/2009, May 15th. This Decree imposes for the first time, some regulations to this sector as well as the access to Portuguese PA, thus promoting an increase in commercial activities in these areas and, consequently, of NBS. According to this decree-law, service providers that want to promote services within the PA must complete a registration and obtain a license prior to be allowed to work in PA. To obtain this registration a fee has to be paid.

2. METHODS

2.1. Study Characterization

The selected study area was the Natural Park of Serra de Aire and Candeeiros (NPSAC), one of the 13 natural parks in Portugal. The NPSAC was established in 1979 by the Decree-Law N. 118/79, aiming to protect the natural and built heritage. With an area of 38.900 ha, distributed by seven counties and two districts (District of Santarém including the municipalities of Alcanena, Rio Maior, Santarém, Torres Novas and Ourém and District of Leiria, including the municipalities of Alcobaça and Porto de Mós) (ICN, 2004).

Visitation numbers on this PA over the past 10 years are amongst the highest in the country, with about 510,875 visitors, including only formal groups. In 2009, the NPSAC visitation recorded the highest value of all national protected areas. There were 206 guided tours, attended by 13,304 people, which means a monthly average of approximately 1108 visitors only in organized activities (ICNB, 2010). The NPSAC has potential for recreational activities such as bird watching, general or thematic interpretive walks (flora, fauna, geology, built heritage, etc.) or NBS, such as walking, mountain biking, climbing and caving, promoted both by local associations or private service providers. Existing infrastructures and management strategies are tailored to contribute to nature conservation and culture heritage preservation (Rosa *et al.*, 2011).

This protected area was selected as case study, among other reasons, because it was the first to publish the Nature Based Sport Map (NBSM). Given the exploratory character of the methodology adopted, only one municipality was considered in the study, mainly, Rio Maior, acting as a pilot study. This municipality has been very active in promoting sports as its nicknamed of "City of Sports" reveals and it is where the Park Management (PM) headquarters is located.

2.2. Sample

The sample consists of five participants, specifically the PM and other four entities based in NPSAC. These four are made up of three companies and a local development association. The selection followed a rigorous process, determined by selection criteria, namely: 1) Entities registered in NPSAC; 2) Entities located in the municipality of Rio Maior; 3) Entities that promote NBS (by consultation of websites, confirmed by a telephone contact). Despite the small size of the sample, it includes 100% of the private service providers registered in the study area.

2.3. Data Collection and Analysis

The method used for data collection was semi-structured interviews. The interview guide was developed and validated specifically for the study. The validation process included: (i) interview guide development based on the previous literature review; (ii) meeting with experts; (iii) pilot test (meeting), with three people (representative of the social field of study to be inquired) and iv) pilot interview application. The final interview, consisted of nine questions, divided in four dimensions. The interviews were conducted at the headquarters of the participants, recorded and transcribed with their consent. For data analysis, content analysis techniques were used. Categorization was carried out in two phases, *a priori* and *a posteriori*. In the coding process "context units" were used, allowing better understanding of the exact meaning of the participant's information. It is also important to note that the interview to the park management official included additional questions.

3. RESULTS AND DISCUSSION

Presentation and discussion of results is organized according to the three objectives outlined previously, namely: (1) Identification of environmental and social problems; (2) Effectiveness of the actual recreation and tourism management in NPSAC, as well as the adequacy of new methods and (3) Willingness to collaborate in a participatory management process.The participants in the study are identified has "PM" (Park Management) and "R1, R2, R3 and R4" (Respondents codes, corresponding to the other four organizations).

Objective 1: Identification of problems concerning environmental, social and incompatibilities related with the NBS practices. The problems identified by the participants in the study can be divided into three areas: environmental, social and conflicts of NBS with other types of uses. The perspective of the PM was wider, identifying that problems are mainly affecting local population and its resources, and frequently denounced by them. "Lack of civility" and "ignorance" of NBS practitioners not recognizing that they are in a PA are pointed out as the main basic reasons for the existing problems. Environmentally, the collection of fossils (an important geologic occurrence in the PA) and of flora species are of concern, specially associated with hiking and mountain biking practices. The remaining participants did not identify serious environmental problems, at least, in areas where they develop their services. Nevertheless, there is a clear perception that these problems can happen in the future: *"Right now I know of no place where this has happened. However, it is always a situation that can happen, especially with the increase in sports and tourism ..."*(R1). Three of the respondents associate the absence of environmental problems due to the low demand for activities in NPSAC, stating that the practice levels are very low. They assume the "low levels" with some displeasure, mainly because of their needs for higher commercial activities. One of the most interesting responses, was the reference to one of the places with higher demand on the NPSAC, the "Olhos d'Água do Alviela". This is an area with large potential for NBS (climbing, canoeing, hiking) and, unlike most places in the PA, complementary services and infrastructures are provided such as camping, restaurants and an interpretation center. Two of the respondents together with PM, report it as a "*site requiring special attention."*

Regarding social problems, the perception still was lower among participants in the study. However, a correspondence between the PM and two respondents (R1 and R2) was found on the issue of major sport events and their effect on local populations, which are often the most disturbed. It seems essential to act on increasing the awareness of promoters of sport events to these problems as well as to improve the way events are organized and implemented, ensuring the adequate involvement of the local population.

The last aspect studied, is related with incompatibilities of NBS and other types of land use. The NPSAC is a humanized, socially and economically active area, with some industrial activities with economic relevance such as stone extraction and pig farming. In the data analysis, three matches were found. The first is related to hunting: *"... hunting is an activity which is clearly incompatible with the NBS and it is still a leisure activity"* (PM), *"Then there's another factor that has to do with hunting ... even in the ordered regime it may conflict with nature-based sport activities "*(R1). R3 also considered hunting as a potential problem. In the statements of respondents, no negative references to the hunters or to other personal values associated with environmental issues or motivations. This observation is aligned with the findings of (Reis and Higham, 2009). The main problem seems to be mainly related with the ordered regime of hunting, which probably conflicts in certain places with recreation activities.

The second match is related to the stone extraction industry (matching all respondents including PM), due to the visual impact and dust. All respondents assume that this industry affects tourism and visitation in general. However, two respondents did not consider it as "incompatible" but as "limiting". One respondent (R4), representing a local development association, naturally assumes that the stone industry is essential to the local economic development and should not cease, but agrees that measures are required to minimize impacts. The third and last, was related with the pig farms especially with the associated odors (PM, R3, R2).

Perception of environmental and social problems is limited, mainly related with major events and their effects on local populations and agricultural activities. Regarding the incompatibilities with other types of use, it can be noted that situations reported are usually related with detrimental effects of economic activities in NBS than vice versa. The awareness of industrials regarding the need of a sustainable co-existence with recreational activities and tourism, as well as the revision of the hunting ordered regime, are aspects that need to be taken into account. Identification of social and environmental problems on a small scale is almost nonexistent, excepting a reference made by the PM. These results are clearly different from other studies, that use visitors as study group both regarding environmental perception (Deng *et al*., 2003; Amuquandoha, 2010) and social conflicts (Carothers *et al*., 2001; Cessford, 2002; Vaske *et al*., 2004; Tumes, 2007). Further studies on this topic, especially in Portugal, should address both perspectives, as they allow incorporation of participants point of view as well as of recreation and tourism stakeholders.

Objective 2: The effectiveness of the actual recreation and tourism management developed in NPSAC as well as the adequacy of new methods. First, the PM was questioned about management practices and its effectiveness in the PA. Existing management includes the control of organized groups (service

providers or clubs registered in NPSAC) but excludes general visitation and weekend recreation. These management practices result in incomplete visitation dada, including the types and quantities of activities and number of participants. Four instruments or actions currently used in the management of recreation and tourism in this PA were identified and include: GIS (Geographic Information Systems); NBSM (Nature-based Sport Map); the land use master plan and occasional studies performed by staff. The PM recognizes the limitations and consequences on partial management, reflected on available instruments or main regulations. The absence of an effective monitoring process is an important gap partly compensated by studies carried out by non-permanent collaborators but less frequently than desirable. The scarcity of government funds seems to be the major barrier for overcoming several management shortcomings.

The remaining participants were asked about the adequacy and importance of management methods used for environmental protection and reduction of conflicts between visitors. There was a unanimous positive response of the four respondents. An example is the statement of R1: *"I think it is crucial the planning of these activities. This way, they will not be trivialized"* (R1). When questioned about the current management methods effectiveness, the data obtained revealed that the best known method and the only named by the participants was the NBSM, emphasizing the importance of the NBS practice in this PA. Even if all respondents considered this measure important, the reasons to support it differ. R2, assumes that it is important for the occasional NBS practitioner, who can have information about existing sports opportunities, available sites of practice and the restrictions in use in each one (e.g. carrying capacity). R1 refers that it is important to reduce costs for service providers of recreation services, since no fees are due when companies carry out activities identified in NBSM. The business perspective and interest is highlighted here. Despite the positive acceptance, strong criticisms were also made. Three respondents (R1, R2 and R4), argue that NBSM needs to be continually improving and being open to new adaptations and changes, something that has not happened yet. Related with its effectiveness, R2 assumes: *"They* [the PM] *would like it to be effective* [the NBSM] *... but I think it is not so effective as that. Is not only the development of a NBSM...there's much more. You can develop a NBSM, but after reaching the sport spots, you notice the lack of local conditions, lack of safety, no garbage bins ...."*. R4, criticism was stronger, assuming that the NBSM is too prohibitive, oftn not revealing the justification for the prohibitions. In an angry tone he said: *"... if we follow that logic ... one of these days, shepards will need to ask permission to PA to hang out with their flocks. There is not, in my view, a development strategy for the protected area."* R3 is the only one who assumes that if the NBSM has not been adapted yet it's because it was not yet needed. Lack of monitoring and consistent improvement of local conditions and management actions is also a recurrent issue. Anyhow, these comments are aligned with PM statements about existing management practices.

These results are consistent with Pattichis *et al.* (2010) findings, based on a study of the management of recreation and nature based tourism in the European Mediterranean region (including Portugal). In their study, the evaluation of infrastructure quality was at an "unsatisfactory" level.

Regarding the questions about potential management methods, only the opinion of the four respondents was considered (excluding the PM). Following the interview guide, a table with various management techniques was presented. A quantitative approach (Likert scale) complemented with comments from each of the respondents for each item was used. The techniques were chosen to allow adaptation to the specific aspects of NPSAC. Each technique was classified for its specific character (direct or indirect technique) and main objective (nature conservation, strict control of the practice, reduction of conflicts or a combination of these), but these were not provided to the respondents. In the table provided to the respondents a Lickert scale with 5 levels was used, where "1: not appropriate" and "5: Completely adequate." Data were analyzed considering the number of responses for each class of the scale, as well as the comments of the respondents. The results are presented in table 1.

Table-1. Participants opinions on the adequacy of new management methods (quantitative results)

Management Technique	1	2	3	4	5	Mean
1. Awareness and education of participants				R3	R1; R2; R4	4,75
2. Limiting the size of the groups in the spots where they engage in activities			R1;R4	R2	R3	3,75
3. Creation of spaces specifically to the practice of certain activities				R2;R4	R1;R3	4,5
4. Promote the dispersion of practitioners using information about other sport and recreation oportunities				R3	R1;R2;R4	4,75
5. Temporal prohibitions of practice in worn spots				R3	R1;R2;R4	4,75
6. Use limiting in times of the year with greater impacts				R2;R4	R1;R3	4,5
7. Limiting the duration of daily practice		R1;R2	R4	R3		2,75
8. Active supervision by the ICNB			R1;R2	R3;R4		3,5
9. Limiting the number of daily users in PA	R1;R2	R4	R3			1,75
10. Payment of fees	R1; R2; R4		R3			1,5
11. Construction and upgrading of infrastructure to support practice					R1;R2;R3;R4	5
12. Prohibition of practice time (due to fauna and flora)				R4	R1;R2;R3	4,75

Direct measures (2, 5, 6, 7, 8, 9, 10, 12) are considered "appropriate (M = 3.40)" but indirect measures (1, 3, 4, 11) are better classified (M = 4.75), which is consistent with the approach advocated by Manning (2007) and IUCN (2002). Regarding the suitability of direct measures strictly related to nature conservation (5, 6, 12) they were considered to be "well appropriate (M = 4.66)", confirming the expected awareness of respondents on issues related to nature conservation. In terms of the adequacy of the measures targeting the reduction of conflicts and conservation of nature with a direct character (2,7,9) they were considered "inadequate" (M = 2.75), corresponding with the provisions of the IUCN (2002) and Manning (2007). Finally, regarding the appropriateness of direct measures associated with strict control of NBS practice, a lower average acceptance is observed (M = 2.5). It is important to emphasize that this last set of measures included the most contested method of all: payment of fees for carrying out activities in the NPSAC. Regarding the fees, three of the participants were very clear about their displeasure. An example of one of the opinions is as follows: *"Just because an activity takes*

place in a protected area ... having to pay a fee? ... This is negative for the people / residents and is negative for the territory. It takes the people to get away from protected areas." (R1).

Respondents were also asked about other appropriate measures or actions that could be used for management of NBS in the studied area. The suggestions were organized in four distinct groups as follows:

1. Activity related: measures or actions essential for the promotion of correct practice at sites, mainly suggestions on maintenance actions and opening of new sites for practice.
2. Promotion of good practices: functional actions for different groups including the participants, service providers, as well as industrials (e.g. stone extraction and pig farming).
3. Environmental taxes for conservation of nature: the payment of an environmental fee, proportional to the number of participants by companies carrying out recreation or tourism activities in NPSAC (e.g. 0,50€/pax).
4. Formal involvement in management structures of local population and other stakeholders, to enable adequate participation in decision making.

Objective 3: Collaborative management process. In general all participants were very much in favor of a collaborative management process and the importance attributed to the development of a participatory management structure was high. The following sentences reflect their views:

"I do not just think it is important, as it was possible! It is important to promote it as soon as possible" (R1)

"…I think it is a way to promote the PA ... together with businesses, clubs and associations interested in working together… It is a way of valuing the protected area" (R2)

"This is the ideal! We can all work on the basis of a common project." (R3)

"Otherwise things do not evolve. There must be partnerships between the various parties and interests." (R4)

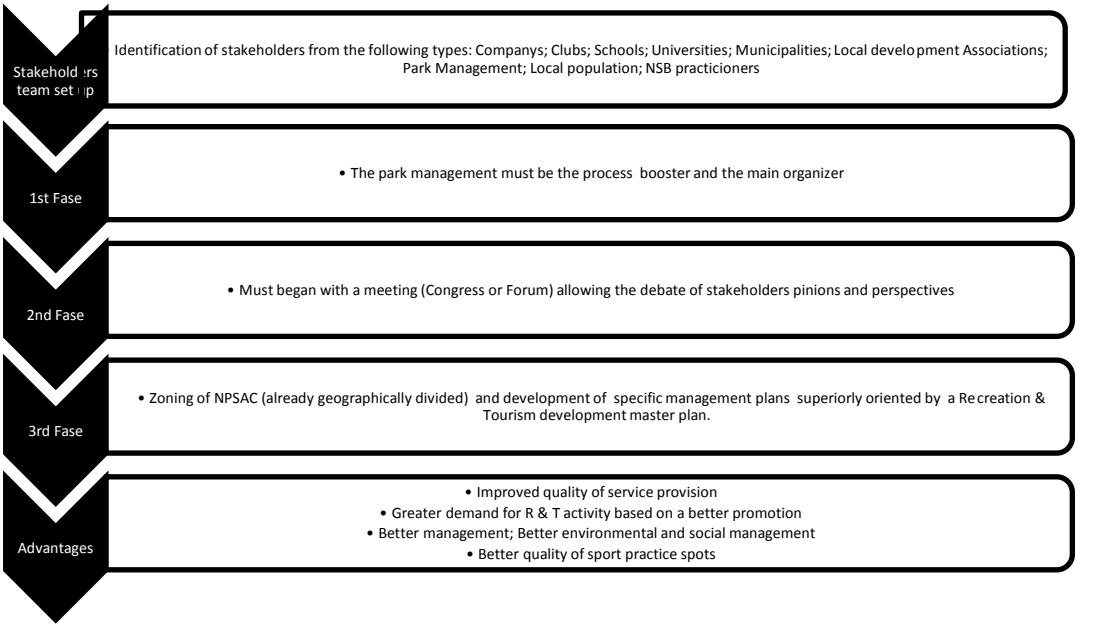
During the interviews, moments of strong displeasure when discussing certain issues were recorded but also a very clear opinion on how a participatory management process should be organized. In figure 1, a summary of the main phases for which the respondents strongly agree are presented.

Regarding the advantages of a participatory process, two aspects were highly valued, namely the local development and the promotion of the NBS as a recreation and tourism product in NPSAC. For the first, two perspectives by R1 and R2 are presented:

"The NBS has to be seen as an economic activity, or a complementing economic activity potentially beneficial to the local population, providing some diversification of economic activities in the NPSAC. If people gain economically, they will be willing to support these activities and thus they will be the first aware to what is happening and act as active agents for monitoring" (R1)

"The NPSAC has never involved local communities in decisions that are important in terms of management. We must find ways to let people know that this is important for them and that their opinion is important. This will promote development." (R2).

Figure-1. Main phases of the development of a participatory process (Participants opinions)



The prospects found are very interesting as participants were willing to collaborate in a positive way. NBS can be the base of an economic activity, not necessarily the main source of income, but more as a complement. Respondents are displeased by the absence of action from the PM in setting up a more participatory process. Regarding the promotion of NBS as commercial product, the respondents were very clear, assuming that a participatory management can improve the conditions and quality of the different NBS sites and that is important for national and international promotion (R1). They also reported that promotion could be based on a joint effort between the PM and the different stakeholders involved, reducing costs and working in a collaborative and organized way (R2).

4. CONCLUSIONS

4.1. Implications for Management

The study carried out allowed improving knowledge on current situation and expectations. Important conclusions related with recreation and tourism management in NPSAC include the identification of problems and issues relate with current management. The problems identified are mainly related with major sport events and their direct effects on the populations as well as problems with other economic activities, such as stone extraction and pig farming. Sport hunting was also identified as raising some problems by several participants. According to respondents, the solution to these problems lies mainly in raising awareness of the industrials, making them aware of the need for sustainable coexistence with other recreational activities which may be equally important to the area and to local development.

In this context, the perception of respondents corresponds to a "macro view" of the problems, different from the results (characterized by the specification) that are often obtained in small groups of participants (PA visitors). This may be a complementary approach, especially when trying to implement new models of management of recreation and tourism in PA, giving a more general view of certain issues often not identified by visitors and especially by PA that tends to not putting forward well-defined management procedures.

Regarding management issues, NBSM appears to be the most familiar of all the methods in use. In this case, its creation should be valued taking into account some criticism, especially in aspects related with absence of monitoring and lack of infrastructure improving. Concerning the opinions about potential management methods to use in the future, the highest acceptance of indirect measures and environmentally related direct measures are the main results. Other suggestions had been made and should be considered, especially the ones related with NBS spots improvement. Considering the last objective of this paper, the participatory management, a large acceptance and availability to participate on its development is clearly noticed. There is a common desire on this process and a clear notion of how it should be conducted. However, respondents all assume that the PM should be driving the process and take responsibility for its development.

4.2. Reflection on the Methodology Used

The existence of studies that attempt to understand the perspective of organizations that promote recreation and tourism in the existence of PA problems and even in the definition of new management methods appear to be scarce. In countries where this management is poorly developed and where there is a "commercial and associativity culture" in recreation and nature tourism, it may be interesting to think that this approach can be used in addition to others more focused on specific groups of sport practitioners or general visitation. Another interesting aspect is the ability to know, more profoundly and individually the profile of these stakeholders. This is considered essential to change and to begin a process of participatory management. The strong ecological drive, displeasure with some issues arising in the PA, acceptance and availability for participating in the management process, as well as concerns regarding local development, are positive postures of the stakeholders, despite most of them having commercial interests (therefore the main objective is to make profit), are sensitive and strongly interested in the development of this process. This is essential to enable a participatory management process.

Although the study was developed in just one of the seven counties in NPSAC, the results are considered relevant, since they enabled a better understanding of the problems; the methodological approach used allowed validating the process and the instrument (semi structured interview). In the future, a replication in other municipalities may provide a more comprehensive and full understanding of the problems and perceptions of other stakeholders and may include more companies, more clubs, but also municipalities, schools and other entities interested in this area. This approach, complemented with studies focused on the local population, tourists and

general visitation, can give a rich base of information for several management levels, providing the foundation for the future development of a participatory management model appropriate and adapted to the reality of NPSAC and other Portuguese PA.

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