Chapter 12
Local Stakeholders' Perception as a Contribution to the Identification of Negative Impacts on Protected Areas: A Case Study of Torres del Paine National Park

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Abstract Tourism in protected areas has experienced an important growth in the last decade generating positive impacts but has also increased pressures on biodiversity conservation. Managing impacts generated by tourism is a permanent challenge for protected areas' managers and involved stakeholders. Therefore, it is important to implement participatory approaches that recognize local knowledge as an input to define negative impacts caused by tourism. This chapter studies the local stakeholders' perception about tourism impacts generated over mountain hiking circuits of Torres del Paine National Park, Chilean Patagonia. The problems identified are related to environmental and ecological issues, public use infrastructure, and management aspects which coincided with scientific, technical, and governmental views. In conclusion, the participatory approach is highlighted as a tool that provides relevant information and views from stakeholders involved in the management and decision-making process of a protected area.

Keywords Tourism · Participation · Perception · Torres del Paine National Park Impacts

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A. Ortega-Rubio (ed.), *Socio-ecological Studies in Natural Protected Areas*,
https://doi.org/10.1007/978-3-030-47264-1_12

12.1 Introduction

Protected areas (PAs) represent today the most important strategy to achieve effective and real conservation of biological diversity and cultural heritage (UNEP-WCMC and IUCN 2016; Worboys 2015). Ecosystem goods and services provided by PAs include recreation and tourism (Stolton et al. 2015; Pabon-Zamora et al. 2008). In a context of worldwide tourism growing, several PAs have experienced a strong increase in visitation, which according to trends will continue to increase (Hvenegaard et al. 2018).

Within this growth scenario, undeniable benefits are offered by PAs' tourism options, which include biodiversity conservation and socioeconomic development of these territories (Eagles et al. 2002, Secretariat of the Convention on Biological Diversity 2004; Buckley 2010; Spenceley et al. 2018). However, to achieve positive outputs of tourism, the activity needs to be properly managed (Leung et al. 2018a) and not affecting the main objectives of biodiversity and cultural heritage conservation of each protected area (Stolton et al. 2015). This is a complex situation for managers since there is usually a tension between two approaches: on one hand, where the natural conditions of protected areas should be maintained for future generations, and on the other, where it is aimed to enhance the development of a tourism destination (Spenceley et al. 2015). To reduce this conflict, managers and stakeholders should promote a sustainable tourism within and around PAs (Leung et al. 2018a). Sustainable tourism is defined as "the tourism that takes fully into account current and future economic, social and environmental impacts, addressing the needs of visitors, the environment and host communities" (UNWTO and UNEP 2005).

Balancing the conservation objectives with the socioeconomic needs will allow to achieve an effective and sustainable tourism development in PAs and to promote greater participation by local communities (Andrade and Rhodes 2012). In this context, it is essential to develop participatory planning processes that recognize the perception that local stakeholders have about costs and benefits of tourism development in PAs (Alkan et al. 2009; Salerno et al. 2010; Nunkoo and Ramkissoon 2011; Sharpley 2014; Robinson et al. 2019). That is why the perception of local stakeholders may be a key to propose measures and solutions to improve current models, particularly in PAs where there is a rapid growth in visitation, generating changes and negative impacts on ecosystems (Xu et al. 2006; Pelegrina-López et al. 2018). Based on its psychological definition, perception is understood as the cognitive process of consciousness that consists of the recognition, interpretation, and significance of judgments obtained from the physical and social environment, in which other psychic processes influence such as learning, memory, and symbolization (Melgarejo 1994). Following this, the concept of social perception arises, which is designated as the one in which social and cultural factors influence, including the physical and social environment (Melgarejo 1994). In relation to PAs, the local population perception depends on the perceived costs and benefits of the PA, the local resources' dependence, and their knowledge about the PA management (Xu et al. 2006).

12.1.1 Tourism's Impacts on Protected Areas

Some tourism direct benefits on behalf of local development are job generation, local businesses creation, education, and investment opportunities, among others. Likewise, sustainable tourism generates significant opportunities to achieve effective conservation of protected areas, such as additional revenue to implement conservation strategies and increasing the people connection with and caring for nature through recreation, education, and environmental interpretation (Eagles et al. 2002; Secretariat of the Convention on Biological Diversity 2004, 2015; Spenceley et al. 2018).

The increase visitation rates in many PAs worldwide are having repercussions on its management and are turning into important challenges for biodiversity conservation, planning, quality recreational opportunities, and especially defining strategies which minimize and mitigate the negative impacts produced by tourism and visitation (Eagles et al. 2002; Leung et al. 2018a).

The environmental effects of inadequate tourism management are widespread and internationally recognized and include different impact's scales. Some of the environmental problems are alteration of habitats and ecosystems due to infrastructure, increase of fire, soil erosion and compaction, creation of unplanned trails, multiple treads, trampling on vegetation, fauna disturbance, and water contamination, among others (Marion and Leung 2001; Secretariat of the Convention on Biological Diversity 2004; Cole 2004; Marion et al. 2006; Manning 2007). Reduction on the quality of the experience generated by the amount of visitors has also been documented. In this sense, agglomerations and social conflicts, as well as aesthetic deterioration, are generated (National Park Service 1997; Leung and Marion 2000; Manning and Lime 2000). In terms of tourism's sociocultural impacts, they are diverse and can affect the access to resources (such as water, energy, and food), traditional livelihoods, crime spread, inequitable benefits, and increase in living costs for local inhabitants, among others (Eagles et al. 2002; Nunkoo and Ramkissoon 2011; Spenceley et al. 2015; Spenceley et al. 2018).

Therefore, it is essential to focus efforts on planning tourism activities and allocating financial and human resources properly, in order to avoid, mitigate, or minimize problems generated to the PAs' natural and cultural resources (Secretariat of the Convention on Biological Diversity 2015). In order to overcome the challenge of tourism development, there are several tools and methodologies available which focus on sustainability's criteria and visitors experiences' quality in PAs (Cole et al. 1997; Leung and Marion 2000; Cole 2004; Laven and Krymkowski 2005; Manning et al. 2011; Salerno et al. 2013; Interagency Visitor Use Management Council 2016; Vela-Ruiz 2017; Halpenny et al. 2018). These methodologies allow the development of planning processes, which are mainly based on relationship between three variables: the environmental resources that might be maintained and conserved, the quality of the recreational experience that might be delivered, and the extent and type of management measures that can be implemented (Manning 2007). Nonetheless, the main difficulty lies in the ways to determine how much change

should be allowed within each of the three variables of tourism management on PAs and how to add value and incorporate the perception of local stakeholders in these processes.

12.1.2 Participatory Tourism's Planning Processes in Protected Areas

Achieving an effective conservation and sustainable tourism's development in PAs requires planning processes that incorporate the stakeholders participation and how they are linked and/or affected by the tourism (Pirot et al. 2000; Hung et al. 2011; Andrade and Rhodes 2012; Interagency Visitor Use Management Council 2016; Leung et al. 2018b). The participation of different stakeholders allows active, efficient, and transparent processes, reducing the possibilities of conflicts, increasing trust, and generating opportunities for different interested institutions and organizations (Pomeroy 1995; Pirot et al. 2000; Involve 2005). Likewise, stakeholders' participation is fundamental for governance's development processes that support effective protected areas' conservation (Borrini-Feyerabend et al. 2013).

Usually, local inhabitants and stakeholders are linked closely to PA, using ecosystem services, and in many cases benefiting themselves from tourism as an economic activity (Xu et al. 2006; Hung et al. 2011). This has an impact on the stakeholders' knowledge and visions of the protected area, being essential for managers to know and understand the synergies and conflicts that exist between the different users so it can be managed in the best possible way (Stolton et al. 2015; Salerno et al. 2010). In relation to tourism's sustainability, it is essential to recognize local's perception on the positive and negative impacts generated by the activity (Nunkoo and Ramkisoon 2005; Robinson et al. 2019), since they have potential implications in the decision-making process (Turner et al. 2014), in the tourism development's funding (Ramseook-Munhurrun and Naidoo 2011), and in local tourism policies (Brida et al. 2014). Recognition and knowledge of local stakeholders' visions in the planning processes allow to give greater sustainability to the tourist activity, making possible an integrated management approach, taking in consideration the objectives of managers and the interests of those who are benefitted from the area (Nunkoo and Ramkisoon 2011; Salerno et al. 2010; Salerno et al. 2013; Robinson et al. 2019).

Recognizing local stakeholders' perception on the current and future development of tourism allows the better management processes' development and a more collaborative and sustainable PAs' planning over the time (Pirot et al. 2000; Villasante 2006; Xu et al. 2006; Salerno et al. 2010; Halpenny et al. 2018). Involving stakeholders in planning processes from the beginning enables better and long-lasting decisions (Reed 2008). This requires continuous and planned processes that

ensure active participation and contribute to conflict reduction, taking advantage of local stakeholders' contributions to conservation, and which ensure livelihoods through local natural resource management strategies (Borrini-Feyerabend et al. 2013).

The objective of this chapter is to expose the perception of local stakeholders on negative impacts of tourism in Torres del Paine National Park, which were raised through a participatory methodological approach. These results are considered part of a process that sought to provide relevant input for the decision-making process of the tourism planning of one of Chile's most emblematic PAs.

12.2 Area of Study: Mountain Circuits in TPNP

Torres del Paine National Park (TPNP) has an area of 181,414 ha, and it is located in the southern part of Chile, in the Region of Magallanes and Chilean Antarctica, on the eastern slope of the Andes Mountains, between latitudes 50°45′ and 51°20' S and longitudes 72°31′ and 73°22' W. The TPNP is part of Chilean National System of Protected Wildlife Areas (SNASPE for its Spanish acronym) and is managed by the National Forestry Corporation (CONAF) under the Ministry of Agriculture. Cerro Paine Reserve (CPR) is a private protected area (IUCN category VI) of approximately 4, 400 ha located within the national park. Despite not sharing administrations, both protected areas are closely linked through the protection of the Paine Mountain Range and its ecosystems, as well as allowing visitation and trekking on the mountain circuits W and Macizo Paine (Vela-Ruiz and Repetto-Giavelli 2017).

The TPNP is the country's most important protected area in tourism's development terms, having 304, 947 visitors in 2019, contributing significantly to the region's socioeconomic development. This park has maintained a sustained growth of visitors, with an annual average increase of 12% between 2013 and 2019. The growing tourism activity on TPNP and CPR has caused people saturation in trails and tourist infrastructure, forest fires, solid and liquid pollution, and fauna's disturbances, among other impacts, threatening the PA conservation and the visitors' quality experience (Farrell and Marion 2001; Vidal 2012; Repetto-Giavelli and Cabello-Cabalín 2015; Vela-Ruiz and Repetto-Giavelli 2017).

The area of study (Fig. 12.1) involves circuits known as "Macizo Paine" and "W" which are part of both the TPNP and CPR. These circuits contain the best known and most used trekking trails in the park, reaching a total of 119 km, which are divided into 13 sections. In order for visitors to be able to travel these trails, there are 12 overnight areas with shelters and camping facilities, operated by CONAF, by concessionaires, and by private companies (in the private sector, CPR).

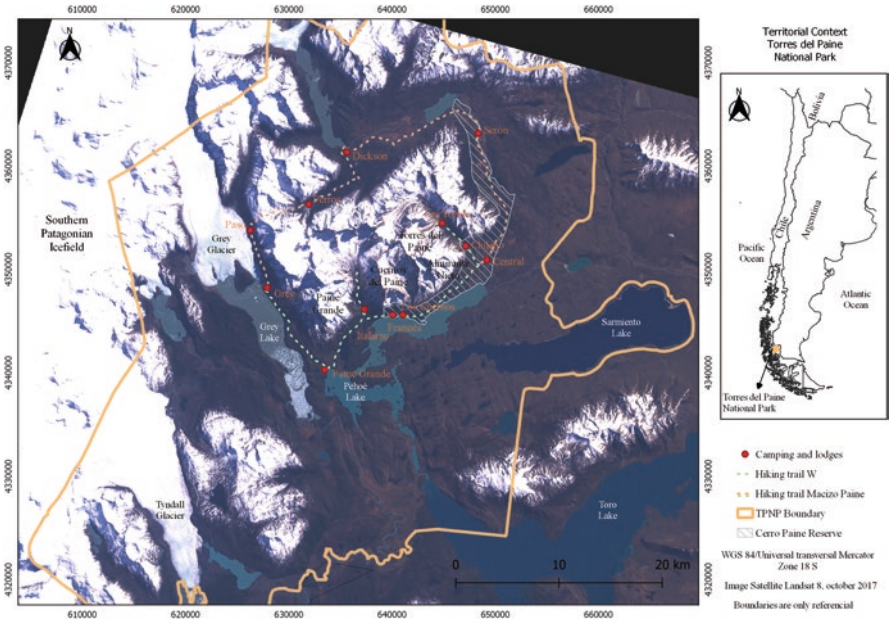

Fig. 12.1 Area of study: W (green) and Macizo Paine (orange) mountain's circuits of Torres del Paine National Park and Cerro Paine Reserve. Red dots indicate accommodation places, which can be campsites, shelters, or both

12.3 Methodology to Identify Perception of Negative Impacts Generated by the Tourism Activity in Torres del Paine National Park

In order to define a tourism planning process in the TPNP, a methodology was developed to identify the stakeholders' perception, which lasted 2.5 years and established a Tourism Management System for mountain circuits in TPNP and CPR. It was needed and defined due to a high demand of visitation, diverse stakeholders with rights and interests, and a poorly planned tourism activity.

The proposed methodology was a dynamic and adaptive process, which allowed including the locals' perceptions and definition of problems or critical points (CP) on those trekking circuits with a greater tourist demand. During the years 2014–2015, the participatory work allowed to identify impacts.

The methodology developed consisted of four chronological stages, which allowed the gathering of information of the TPNP stakeholders. They are shown in Fig. 12.2 and explained below.

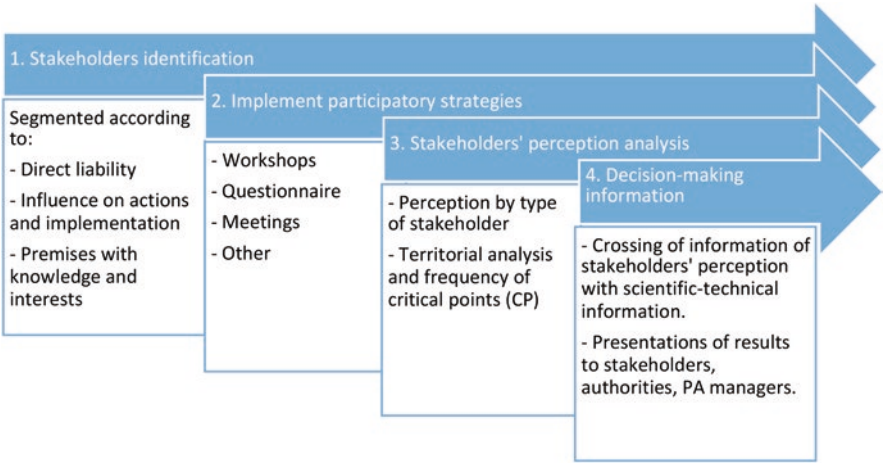

Fig. 12.2 The four chronological stages implemented during the participatory work in the TPNP

12.3.1 Stakeholders' Identification

As a first stage, the identification of stakeholders was considered. Stakeholders are defined as all those who have a direct link with the area of study. They can be individuals, local and indigenous communities, public and private institutions, as well as formal and informal organizations, which are important for the planning, design, implementation, or evaluation of a specific project, which can be positively or negatively affected according to each one's interests (Freeman 1984; Borrini-Feyerabend et al. 2013). Likewise, they are people settled inside the area of study who have different roles, interests, and knowledge and are essential on the economic development and social and cultural growth (Pirot et al. 2000; Salerno et al. 2010; INGEP 2012; ICF – IHT – USAID ProParque 2016). Stakeholders' interaction in tourism planning processes of a protected area provides support for the manager's decisions, since the process should involve and consider the diverse stakeholder's opinion as well as interested formal and informal institutions (Graham et al. 2003; Whittingham 2010; Borrini-Feyerabend et al. 2013). The stakeholders' identification as the first methodological step in a participatory process is essential. From the beginning, it allows to identify who should and could be part of the process (Reed 2008). Stakeholders are associated to different levels and types, those with specific knowledge, and those with expectations according to their own interests (Choy 2005; Gawler 2005; Tapella 2007; USAID-Ecuador 2010; Ministerio de Obras Públicas 2018; INGEP 2012). For this case study, the identification of stakeholders was categorized under three levels according to their role within the protected area:

1. *Stakeholder with direct responsibility.* These stakeholders represent the protected area's and CPR managers.
2. *Stakeholder with influence on actions and implementation.* They are considered public services, political actors, groups, and tourism organizations that have different interests related to the area under study. They have attributions that allow them to influence the actions implementation on protected areas.
3. *Local stakeholder with knowledge and interests*. They are those natural persons, institutions, or communities in general that are directly linked to the area of study. They have knowledge of the reality where the study is located, and they are the ones who are directly influenced by the management decisions.

It should be noted that during the participatory process, it was not necessary to apply indigenous consultation because ancestral indigenous communities do not live in the area of study.

12.3.2 Participatory Strategies' Implementation

During the study and considering the local reality, different methods were applied. Participatory strategies aimed at a common objective, which was exposed to participants and which later allowed a comparative and unifying analysis to complement and strengthen the data collected (Reed 2008). The participatory strategies were:

12.3.2.1 Participatory Workshops

As a group technique, a workshop is a practice or a set of steps tested, systematized, and oriented aimed at achieving a particular objective (Zarzar Charur 2000). The workshops are tools that allow the collection and/or validation of information with representative groups of the community on certain topics through working together in which all participate (Ministerio de Obras Públicas 2007). The workshops in this research were designed in a way that they allowed stakeholders to contribute with their visions and experiences on tourism impacts (positive and/or negative) on the TPNP.

Because of the diversity and number of stakeholders, the workshops were divided by type, in order to allow a better participation and obtain more information. The workshops were dynamically structured in working groups, guided by the question: *Which are the critical points (CPs) that you identify in the mountain circuits of the TPNP?* Maps of the area of study were used to graph the perception of the stakeholders in a territorial way, organizing the perceived impacts by section or sector of the W circuits and Macizo Paine of the protected area. The group results were introduced and discussed during the same workshop.

12.3.2.2 Stakeholder Perception Questionnaire

This tool was used to collect the stakeholders' perception of those who could not participate in workshops or other initiatives, especially park rangers and tourism workers of TPNP and CPR. The objective of the questionnaire was to know the stakeholders' perception and to determine different aspects that would contribute to the tourist planning of the protected area. The information requested in the questionnaire covered the same objectives as the workshop activities so they can be compared and unified under the analysis.

The stakeholders' perception questionnaire was designed by the work team considering the following specific topics: (1) characterization of the tourist operation in the TPNP mountain circuits, (2) identification of CPs in the TPNP mountain circuits, (3) vision of the TPNP in the next 25 years, and (4) observations, comments, annotations, and suggestions.

These questionnaire were applied between December 2014 and March 2015 through the following strategies: (i) printed distribution to hotels and tour operators of Punta Arenas and Puerto Natales cities; (ii) direct submission in the protected area to park rangers, guides, porters, and workers of tourism companies; and (iii) sent by e-mail to different hotels.

12.3.2.3 Meetings and Presentations

Meetings were complementary strategies. This tool is useful to inform population about aspects related to the decision-making process and/or to generate an instance of exchange and raise opinions, which generated commitments among different stakeholders involved (Ministerio de Obras Públicas 2018). Meetings are based on an open conversation oriented to a reflective guided discussion. The importance of this method is that it involves stakeholders with influence in actions and implementation who may not always be able to attend participatory activities.

In our case, the meetings were held with public and political entities, as well as local organizations, and were guided by the semi-structured interview. The interview is a data collection technique used to collect qualitative data through a face-to-face communication between two or more individuals, establishing an asymmetry between the roles (interviewee-interviewer) (Aguirre Baztán 1995).

12.3.3 Stakeholders' Perception Analysis

12.3.3.1 Perception Analysis by Type of Stakeholder

A word clouds tool was used to analyze the perception by stakeholder type. It enables to represent in a visual way the most important words that appear. Therefore, the most significant topics are visualized through an image according to the number

of times the words were repeated, which are shown with different densities and typographic number. The larger the word size appears, the more times it was mentioned.

The analysis of the information from the participatory workshops was carried out using the QSR Nvivo software, which made it possible to compare the perceptions of the CP by group of local stakeholder. It was worked on the gathered information from the workshops focused on identifying the CPs (workshops with park rangers, guides and porters, concessionaires and tour operators, and workers from the tourism services company associated with CPR). The visualized words respond, on one hand, to the vision and the link that the stakeholders have with the protected area and, on the other hand, to the priority and interest aspects. In this way, the word cloud graphs show the priority aspects from the stakeholders' perception.

12.3.3.2 Identification of Critical Points (CPs)

The perception's analysis of the tourism's impacts on the TPNP mountain circuits through participatory strategies was carried out according to the following steps:

1. *Identification of the main issues of the stakeholders' perception*. Researchers identify before, during, and after the data collection the topics that are abstract constructs (Fernández Núñez 2006). In this case, the topics are linked to the stakeholders' perception of the CPs.
2. *Topics' classification into categories of analysis.* The core content of the information collected was analyzed to determine what was significant, then patterns were identified in those qualitative data and were transformed into meaningful categories and themes (Patton 2002). This work was done considering that classifying and coding qualitative data produces a framework to organize and describe what was collected during the fieldwork (Fernández Núñez 2006). Thus, from the information systematization, the following five categories were determined: (1) Dimension, (2) Variable, (3) Critical point, (4) Section, and (5) Observation. The organization of the categories is shown in Table 12.1.

The main topics' identification allowed similar concepts to be grouped as they were mentioned during the participatory strategies. For example, the words *treads*, *multiple treads*, *different paths on a trail,* and *bypass* were categorized as a single

Table 12.1 Systematization table of the information collected during the participatory process

Dimension	Variable	Critical point	Section	Observation	Participatory strategy		
					Workshop	Questionnaire	Meeting

theme called "multiple treads." Then the identified issues were classified in a central category of analysis called Critical Point (CP). The construction of these categories was based on the problems identified in TPNP's mountain circuits. Following the example, the topic identified as multiple treads was categorized as CP since it gives an account of a bad maintenance, bad state, or another problem that is worried by the stakeholders. The number of times indicated gives an account of the prioritization.

From the category CP, other categories were incorporated: each CP was organized in a common Variable understanding like the concept or criterion that unifies different CPs. For example, the multiple treads CP corresponds to the variable classified as *trail.* It is followed by the category Section which indicates the section of trail or accommodation zone where the CP was identified. Finally, the different variables were organized according to the Dimension category considering the variables defined by Manning (2007) for the management of impacts generated by tourism in protected areas: *1. Environmental-Ecological*, *2. Environmental-Infrastructure,* and *3. Management Capability.* These dimensions made it easier to cross-check, compare, and validate the information gathered by professionals and scientists who also identified environmental impacts during the project. Likewise, it made possible to orient problems to generate management solutions always understanding that a CP could be linked or have consequences in more than one dimension.

3. *Territorial analysis and frequency of CPs*: Once previous steps were completed, the CPs were plotted on maps, considering the presence of one CP per stretch of trail or public use zone of the protected area. This facilitated the visualization of the CPs in a territorial way, helping to understand the magnitude of the problem, limit them geographically, and focus the generation of management measures.

   Cartography was developed for each of the CPs identified in the participatory process using the programs Quantum Gis 3.1 and Landsat 8 (October 2017), which was elaborated to recognize the sections and the areas where visitors stay overnight in the mountain circuits that have the greatest number of CPs, according to the stakeholders' perception.

12.3.4 Decision-Making Information

The last methodological stage included analyzing the obtained and systematized results through the word clouds and CPs maps. They were socialized and compared with the scientific-technical results generated in the tourism planning process of the TPNP and the CPR. These results included impacts on trails, flora, fauna, landscape, enabling infrastructure, and visitor management. These results were presented and used by managers and the TPNP, CPR, and the CEQUA Foundation Regional Center technical teams as an important input for the tourism planning process. Results were socialized in instances of political discussion, meetings, and workshops with local actors on the TPNP's tourism planning.

12.4 Results

12.4.1 Stakeholders' Identification

Twenty-seven stakeholders in Torres del Paine National Park were identified at different levels.

1. *Stakeholder with direct responsibility*: CONAF as administrator of the Torres del Paine National Park and the board of directors of the Cerro Paine Reserve (CPR) in the private area.
2. *Stakeholder with influence in actions and implementation:* Stakeholders were represented by the public entities which included the principal of the Region of Magallanes and Chilean Antarctica; the mayor of Puerto Natales and the mayor/ess of Torres del Paine; the governor of the Province of Última Esperanza; Regional Ministerial Secretaries of Agriculture, National Assets, Economy, Health, and Environment; Public Roads Department, National Tourism Service (SERNATUR), ProChile, Economic Development Agency (CORFO); as well as tourism and trade organizations of the Provinces of Magallanes, Tierra del Fuego, and Última Esperanza.
3. *Local stakeholder with knowledge and interests*: At this level was found the TPNP park rangers, guides, porters, the Torres del Paine tourism association, tourism concessionaires within the TPNP, workers from the concessionaires, as well as inhabitants of the neighboring cities of Puerto Natales and Cerro Castillo.

12.4.2 Implementation of Participatory Strategies

Six participatory workshops were held between November 2014 and April 2015, in the closest localities to the protected area (Puerto Natales and Villa Cerro Castillo). A total of 123 people participated. The workshops were aimed at (i) public and private actors, (ii) TPNP guides and porters, (iii) the community of Villa Cerro Castillo, (iv) park rangers and workers of TPNP, (v) TPNP concessionaires and tour operators of Torres del Paine commune, and (vi) workers from the tourism company associated with CPR.

The opinions of 116 people were compiled in the questionnaire of stakeholders' perception. A total of 34 questionnaires were answered by park rangers, 38 by TPNP guides, 11 by TPNP porters, 16 by workers from the tourist services company associated with the CPR, 13 by workers from the concessionaire of lodging services in the TPNP mountain circuits, 1 by workers from the kayak concession, and 1 by TPNP volunteers.

The opinion of the local stakeholders was considered through five meetings and presentations, carried out in the cities of Punta Arenas, Puerto Natales, and Villa Cerro Castillo. Meetings were held with the Governorate of Última Esperanza, the

Municipality of Torres del Paine, various Regional Ministerial Secretariats, SERNATUR, ProChile, Chambers of Tourism and Associations of Tour Guides of Puerto Natales and Punta Arenas, and Chamber of Tourism of Última Esperanza.

12.4.3 Stakeholder' Perception Analysis

12.4.3.1 Perception by Type of Stakeholder

Four word clouds were developed, summarizing the stakeholders' perception. The ten aspects most mentioned in the TPNP guides' and porters' workshop were trails, camping, staff, lack (mentioning different deficiencies), bathroom, CONAF, Paine, information, infrastructure, and Torres (camping) (Fig. 12.3). The word cloud from the TPNP park rangers' workshop shows that the most frequently mentioned topics were trail (highlighting significantly more than the next word), camping, Torres (camping), multiple treads, people, horses, bathrooms, and enabling infrastructure such as lookouts, passageways, and boardwalk (Fig. 12.4). Regarding the workshop

Fig. 12.3 Cloud of words generated from the workshop developed with tour guides and porters

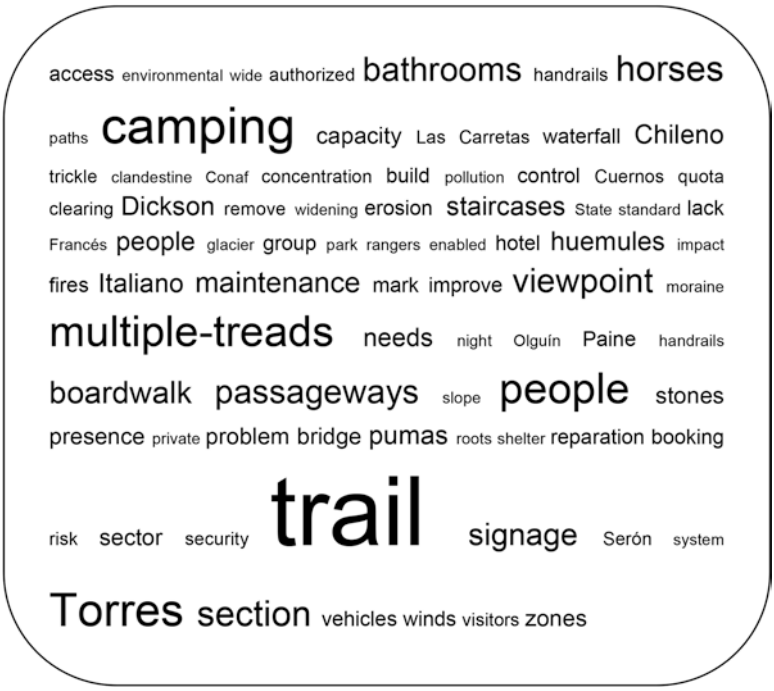

Fig. 12.4 Cloud of words generated from the workshop developed with TPNP's rangers

with TPNP concessionaires and tour operators of Torres del Paine commune, the following words stand out in order of importance: staff, infrastructure, information, CONAF, bathrooms, camping, lack (mentioning different deficiencies), people, circuits, and hotel (Fig. 12.5). Finally, the ten aspects most mentioned in the workers' workshop from the tourism services company associated with CPR were camping, lack, people, trash, bathrooms, cooking shelter, capacity, staff, people, and group (of people) (Fig. 12.6).

12.4.3.2 Critical Points' Perception (CPs)

The breakdown of the perception of local stakeholders' analysis gave a total of 46 CPs classified in three dimensions and distributed territorially in the 13 sections of the TPNP mountain circuits, which are presented in Table 12.2 and described below. In total for the Environmental–Ecological dimension, the stakeholders perceive 11 CPs, in the Environmental–Infrastructure 19 CPs, and in Management Capacity of TPNP 16 CPs.

In order of frequency, the ten most frequently mentioned CPs (independently of the category) were (i) state of bathrooms (toilets), showers, and washrooms, (ii) signage, (iii) existence of erosive processes, (iv) inadequate design of trails, (v) state

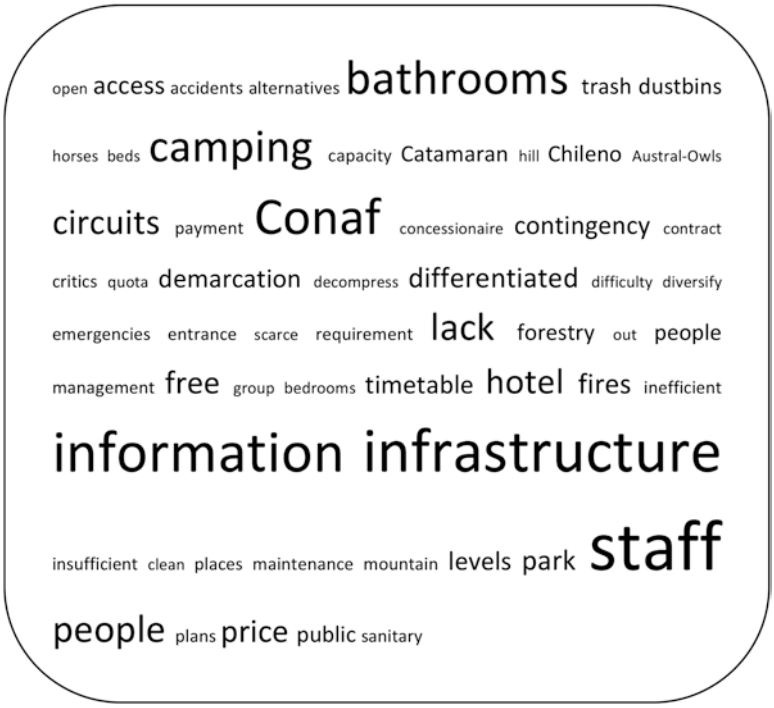

Fig. 12.5 Cloud of words generated from the workshop developed with concessionaires and tour operators

of passageways and boardwalks, (vi) concentration of people, (vii) inadequate waste management, (viii) state of bridges, (ix) state of steps and stairways, and (x) multiple treads presence.

The results were broken down by the dimension as follows.

Environmental–Ecological Dimension

Three variables were identified in this dimension: the *trail* variable that counts four CPs, the *vegetation* variable that considers three CPs, and the *fauna* variable four CPs. In general, from the stakeholders´ perception, the trails' poor condition and the presence of erosive processes and multiple treads are relevant, generating a direct impact on elements related to natural resources such as flora, fauna, and scenic beauty. The high concentration of exotic flora and fauna species is also perceived as CP, as it is the presence of domestic livestock, in the case of horses in CPR, which move on the same trails as visitors.

Environmental–Infrastructure Dimension

The infrastructure aspects emphasized mainly on two areas: (i) paths and their enabling infrastructure (*improvement of the path* considers five CPs, the second variable *signage* includes two CPs as well as the *viewpoint* variable) and (ii) camping (*sanitary facilities* has two CPs and *equipment* has eight CPs). In relation to

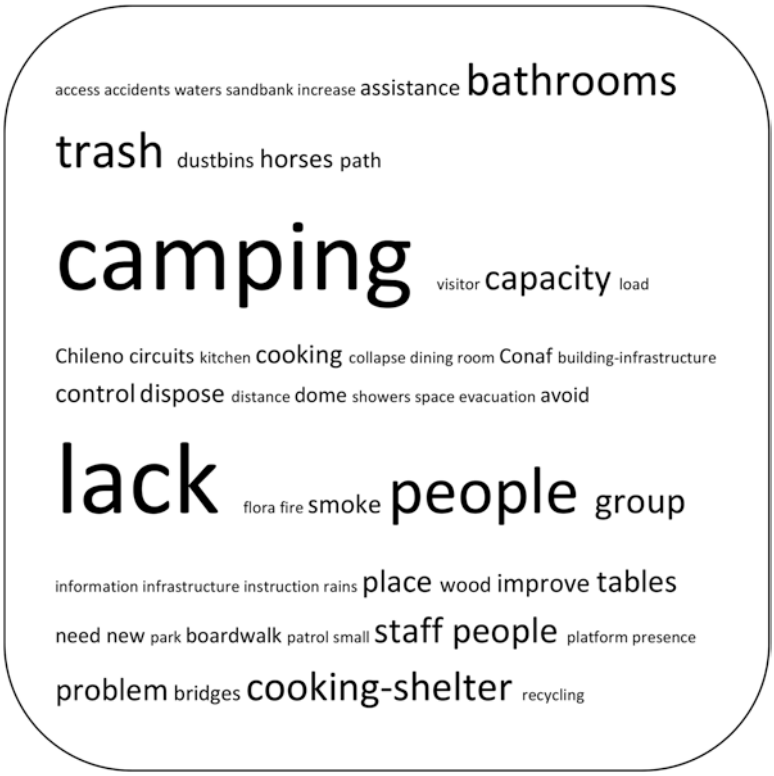

Fig. 12.6 Cloud of words generated from the tourism company associated with the Cerro Paine Reserve

trails, the lack of maintenance and the poor state of the stairs, bridges, boardwalks, markings, signage, etc. is of concern, which is why it is proposed to improve and incorporate new infrastructure. Concerns is also felt in the poor state of the enabling infrastructure, increasing visitor risk of accidents, which could lead to a negative image of TPNP. Finally, it is highlighted the lack of trails design and maintenance, with no standards, layout, directionalities, attractions, and/or viewpoints. The signage is considered as CP because of the poor quality of information provided, the lack of uniformity in terms of design and materiality, as well as the lack of geographic and historical information for visitors.

In relation to campsites and shelters, it was emphasized that toilets, showers, cooking shelters, tables, and platforms have become insufficient for the number of people who are arriving. The price–quality ratio of the services is not according to the visitor expectations, forcing managers to think how to manage the

visitors' demand. At the same time, the stakeholders consider that the existing infrastructure should be limited by a defined capacity, improving design material in order to reduce environmental and visual impact. The stakeholders agree that the TPNP priority should be to maintain its biodiversity, scenic beauty, and natural landscape.

Table 12.2 Critical points raised in the TPNP on ecological, infrastructure, and management aspects

Dimension	Variable	Critical points (CPs)
Environmental ecology	Trails	- Multiple treads - Erosion - Inadequate trail design - Waterlogged areas
	Vegetation	- Damage to flora - Exposed roots - Burned forest
	Fauna	- Huemul (*Hippocamelus bisulcus*) presence - Pumas (*Puma concolor*) presence - Domestic livestock - Wildlife impacts
Infrastructure-environmental	Trail improvement	Deterioration or bad state of: - Handrails, railings - Passageways, boardwalks - Steps, stairways - Bridges - Rivers, lakes, creeks
	Signage	Inadequate: - Brands, beacons, arrows - Signage
	Viewpoints	- Bad state of formal viewpoints - Wide presence of viewpoints
	Sanitary installations	Bad state of: - Showers, toilets, laundries - Saturation of sanitary pits
	Equipment	State, nonexistence, and noncompliance with regulations, among others: - Platforms - Cooking shelters - Tables, benches - Reception - Machine room, cellar - Lighting - Campsite areas - Dock

(continued)

Table 12.2 (continued)

Dimension	Variable	Critical points (CPs)
Management capacity	Visitor planning	- Concentration of people - Illegal campsites - Improper conduct - Off-circuit path - Inadequate TPNP access control - Quality and price of services offered
	TPNP planning	- Inadequate waste management - Insufficient administrative control - Overdemand camping, shelters - Need for medical assistance for visitors - Lack of contingency plans - Inefficient vessel - Motor vehicles
	Human resources planning	- Inadequate conduct of workers - Lack of training - Lack of personnel within the TPNP

Handling Capacity Dimension

In terms of management, the stakeholders described (i) TPNP lack of management (*TPNP planning considers* seven CPs and the *human resources planning* variable three CPs) and (ii) increased visitation (*visitor planning* with six CPs). It was highlighted institutional planning needs for both TPNP and CPR. In this area, funding support is perceived as an important problem, since the entrance fees do not return in a full way to the protected area, but it goes to a national system of income distribution for all the SNASPE. The stakeholders' perception is that this does not allow the park to fund important aspects such as human resources and the parks planning needed.

In general, insufficient administrative control was observed in the tourism activity. In the mountain trekking circuits, the high tourist demand in summer generated an overdemand for accommodation services, generating management and health problems. It was emphasized that there should be greater institutional presence and control on the mountain trails by increasing the frequency of patrolling. It was also expressed that staff should training continuously in different topics such as fire control, environmental education, and first aids. It was proposed to make a greater orientation for visitors in different aspects concerning the trekking circuit, environmental education, and rules to follow within the park.

12.4.3.3 Cartography Generation with Critical Points

The 31 CPs with territorial representation were mapped. As an example, the participatory maps of the three most mentioned CPs in the TPNP and CPR mountain circuits are shown. Red circles and red stripes indicate the sector in which the perceived CP is observed. The image A in Fig. 12.7 shows the most frequently mentioned CP

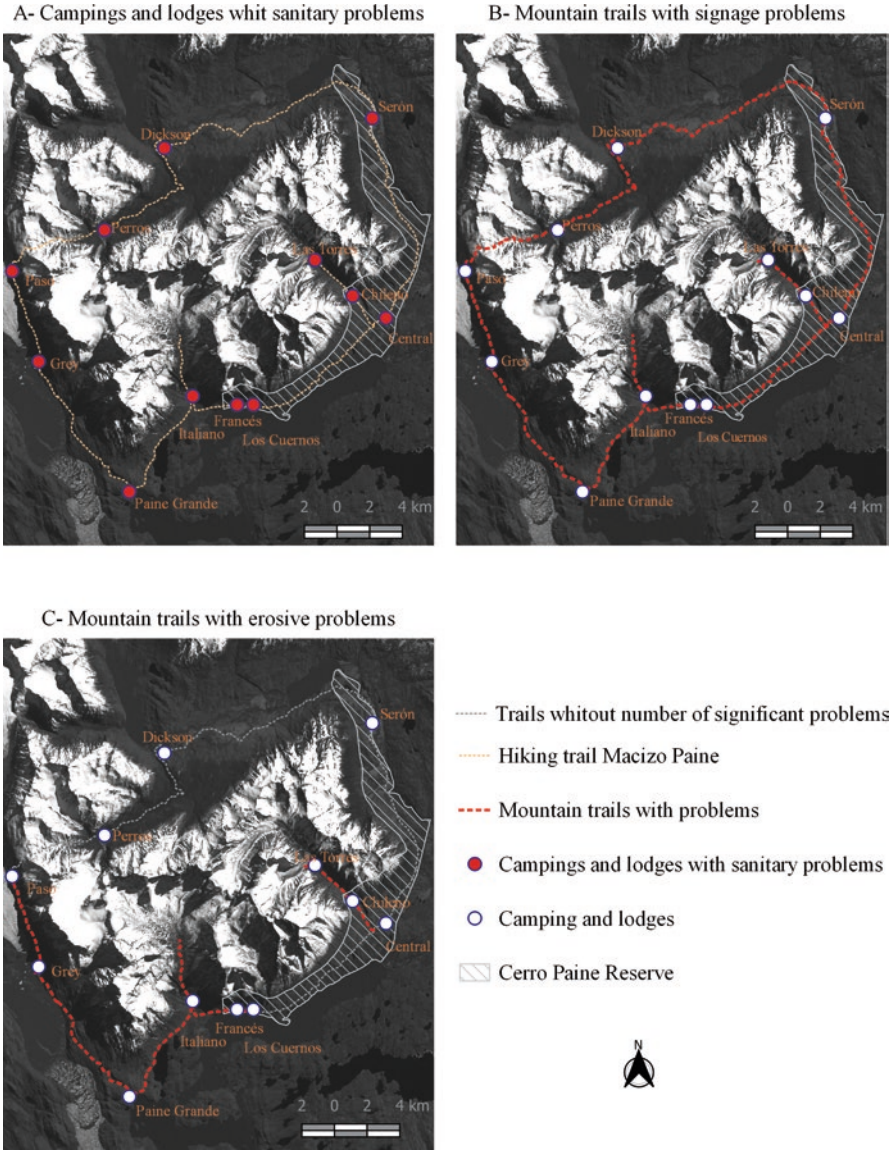

Fig. 12.7 Participatory maps of the three most mentioned CPs in the TPNP and CPR mountain circuits. Image A shows the most frequently mentioned CP: poor state of toilets, showers, and washrooms. The red color indicates sanitary problems in all camping areas. Image B shows the second most frequent problem: signage in the mountain trail circuits. The red-colored trails indicate that the problem is widespread in all circuits W and Macizo Paine. Image C shows the third most mentioned CP: the presence of erosive processes in the trails, which are indicated in red color

and corresponds to the poor state of toilets, showers, and washrooms; this condition was perceived by local actors in all camping and shelter sectors. The image B in Fig. 12.7 shows the second most frequently mentioned problem identified by the stakeholders. It is the state, presence, type, materiality, and information provided by the signage throughout the W mountain circuit and the Macizo Paine circuit. The third CP most mentioned by the stakeholders was the presence of erosive processes in the most travelled trails of the W mountain circuit (image C in Fig. 12.7).

Finally, Fig. 12.8 identifies the sections of trails of the W and Macizo Paine circuits with the greatest number of CPs. The results identified that the trails with the highest number of CPs are (1) Paine Grande–Grey with 14 CPs (in purple), (2) Cuernos–Central with 9 CPs (in red), and (3) Central–Chileno–Las Torres with 10 CPs (in orange). In relation to camping sites, Fig. 12.8 shows that those with more CPs are (1) Perros camping and Francés camping, each with 9 CPs (in purple), (2) Italiano camping with 8 CPs (in red), and (3) Paso camping and Paine Grande camping, each with 7 CPs (in orange).

12.4.3.4 Information for Decision-Making

The word clouds and maps produced were introduced and discussed with local stakeholders in meetings and workshops during the TPNP's tourism planning process. These allowed the perception of stakeholders to be valued as an effective input

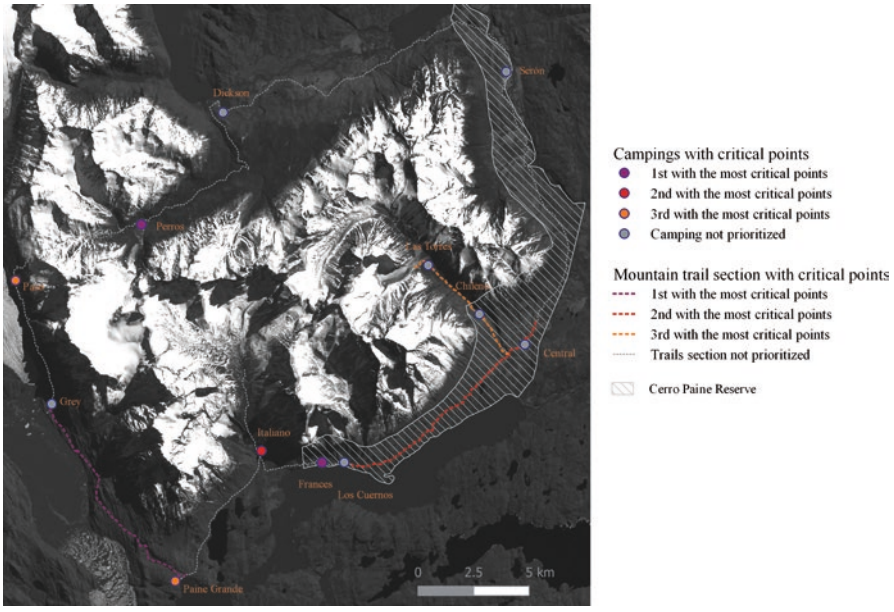

Fig. 12.8 Mountain circuit sections and camping sites of TPNP and CPR with the highest number of CPs

for the decision-makers. The results were considered for tourism management decision-making in TPNP and CPR together with the gathering of information considered by the specialists of the different dimensions addressed. Collected information was used to prioritize management actions in the most frequent CPs and in the sections and overnight areas with the greatest presence of CPs.

12.5 Discussion

The results of the stakeholders' perception analysis gave a critical view of tourism in the Macizo Paine and W mountain trekking circuits of the TPNP and the CPR. Despite the fact that the stakeholders indicate that among the benefits perceived by tourism in TPNP, the Region of Magallanes and Chilean Antarctica stand out as a world-renowned tourist destination, receiving more and more tourists who leave economic benefits that have repercussions for the commune, province, and region. In addition, it allows encouraging new tourist options taking advantage of the high demand of visitors who want to stay longer periods in the territory. This perception agrees with what has been presented by different authors who have emphasized the close link between increase in tourism in the TPNP and the socioeconomic development of Puerto Natales city and the Province of Última Esperanza (Villarroel 1996; Ferrer 2003; Araya 2007; Vela-Ruiz 2009; Vela-Ruiz and Delgado 2010). This positive perception of the benefits generated by tourism has led local stakeholders to agree with this productive activity, a reality that is in line with what was researched by Nunkoo and Ramkissoon (2011).

Participatory work developed showed an uncontrolled demand of visitors and inadequate management, which need measures to reduce environmental impacts that are affecting the conservation of the biodiversity of the TPNP and the quality of the visitors' experience. In order to improve and maintain the tourism activity in this known park, a collaborative and responsible plan is needed, according to the needs and objectives of the national park.

The most frequent CPs relate to issues of infrastructure, inadequate trails and camping design and maintenance, management capacity, and planning. In general, the stakeholders' perception agree on needs to improve the negative effects of the sustained and significant growth of visitation, which support the implementation of tourism management measures in this protected area.

In relation to the workshops, there are common aspects that suggest the reality faced by the TPNP managers and that concern those who work there. In contrast, it can be seen that in all the workshops, "camping" and "bathrooms" were mentioned as one of the outstanding words, being the sanitary services of the mountain circuits the most mentioned CP. In addition, the words related to infrastructure (in camping sites and trails), garbage and people, are considered. It should be noted that for the park rangers, guides, and porters, the most mentioned aspects were very similar. The aspects that stakeholders mention are related to the reality that they live daily, concerning the trails design and maintenance, the visitors' management, and the

trails and camping infrastructure quality. The vision of the concessionaires and tour operators is different, since the keywords were linked to their conditions as service providers, and they focus on words such as prices, camping, infrastructure, CONAF, and staff; similar to what happens to the tourism services, workers associated with CPR, in which the aspects fall on the concern for their working environment.

The most mentioned CPs were those related to the enabling infrastructure such as bathrooms, showers, laundry rooms, and signage of mountain circuits. Likewise, ecological problems such as the erosive processes presented in the trails and lack of waste management were frequently mentioned. What it is expected of the TPNP is to maintain its quality of "wild beauty," since people who visit are looking for a natural and wild experience.

The perception of local stakeholders shows that although the TPNP is considered a successful case of tourism development at the national level, the fact that it has grown without major restrictions, regulations, and management resources has generated a negative impacts for the conservation of the protected area and for sustainability as a tourist destination.

The stakeholders have similar visions: if the sustained increase in visitation is not managed, there will be negative repercussions for the conservation of the protected area such as erosion and destruction of trails. They also agree that more private options such as hotels, shelters, and camping sites will harm the TPNP's flora and fauna. Therefore, the national park and CRP should be based on shared and collaborative responsibilities, which should consider economic, environmental, and social aspects. Efforts should aim at a collaboration between tourism and conservation based on a strategic plan.

It is perceived that the budget allocated to the TPNP is not sufficient to cover all the problems found, and stakeholders emphasize that the total income generated or a percentage of the entrance to the park should remain in this protected area. This perceived situation in the TPNP coincides with the vision of the managers of other SNASPE units in Chile (Repetto-Giavelli et al. 2018).

In relation to the methodology developed, it allowed the perception of stakeholders to be gathered at different levels, and it also made it possible to demonstrate that the perception is coherent and not very distant from what scientific studies describe about the impacts generated by the tourism use in the TPNP and CPR (Vela-Ruiz and Repetto 2017; Torres et al. 2018, 2019). This means that the perception of the stakeholders linked to the TPNP is in line with reality and favors knowledge of the dynamics and impacts in the mountain circuits of this protected area. This is supported by Reed (2008), who points out that local and scientific knowledge can be integrated to understand in a better way natural systems and processes, allowing to evaluate solutions to better face environmental problems.

In general, the stakeholders are critical to define and guide tourism especially when the activity has been developed without planning and is generating environmental impacts, not just affecting the national park biodiversity but also having important issues on the socioeconomic system of the whole area. All the CPs mentioned above should aim to improve the environmental quality of the trekking circuits and to improve the quality of the visitors' experience.

Local stakeholders question how tourism has developed in the TPNP because problems are evident in different ways: environmental, infrastructure, and management capacity especially during the peak of the tourism season (December to February). This has led to shortcomings in management aspects and in the quality of the visitor experience (Ferrer 2003 and AMBAR 2004).This local stakeholders' negative view in relation to the impacts of tourism in a protected area corresponds with other international research, such as the one presented by Alkan et al. (2009) and Robinson et al. (2019). This demonstrates the need to improve the sustainability of the tourism operation in the TPNP and on other national parks in Chile (Repetto-Giavelli et al. 2018).

In the decision making process, for the first time the managers of TPNP considered the perception and knowledge of the stakeholders. According to Borrini-Feyerabend et al. (2013), the governance of a protected area is shaped by history, culture, and interaction between local, subnational, national, and international stakeholders and institutions. It is important that the technical teams of the TPNP and the CPR can maintain the instances of effective participation due to the great economic and cultural interest and dependence that the population of the Province of Última Esperanza has on this territory (Ferrer 2003; Araya 2007; Vela-Ruiz 2009; Vela-Ruiz and Delgado 2010). Considering also that local-scale transformations if are not accompanied by changes at a higher scale can be suffocated by economic, political, or cultural structures that from above prevent them from consolidating (Villasante 2006).

Stakeholders' perception gathered is relevant data from the experience and interest of actors working for and in the TPNP. It is important to include and achieve proposals with participatory approaches that have been slowly developed and implemented in Chile. This research has demonstrated that considering the local stakeholders' perception in the planning processes of protected areas allows obtaining important information to prioritize management actions and to improve the management on protected areas (Pelegrina-López et al. 2018), hence the importance of institutionalizing the participation (Reed 2008) and effectively linking the perception of stakeholders in the decision-making processes.

12.6 Lessons Learned

The used methodology allowed us to include different local stakeholders for its flexibility to gather information including the perception of those who work in the mountain circuit and who were not necessarily linked to each other. This methodology enables us to collect the opinion of a large number of local stakeholders which enriches the process. However, it requires time, willingness, and budget. In this sense, the possibility of carrying out a complete participatory process in part is defined for the period, the work team, and the project budget. If funds had not been available to address the different participatory strategies, the gathered information could have had greater difficulties. Participatory processes are challenging to face

but can be combined. So the invitation is to innovate and create a specific strategy to be able to collect information according to the reality of each PA. It should be kept in mind that regardless of the participatory strategy(s), what it is important is to aim for a common objective during the process and then use and complement the information in the analysis process.

Although participatory processes are long and complex, this proposal sought to link different local stakeholders throughout the process through the instruments described above. These instances facilitated spaces for discussion, joint work, and transparency where the perception of the local community was considered in terms of knowledge and voice in decision-making in the mountain circuits of the TPNP. It is considered that the methodology used can be replicated in other protected areas, so it is recommended to implement it from the beginning of the planning process.

It is important to manage the expectations of the local stakeholders since in cases where it is an external agent who carries out the participatory processes once this stage is over, it is the function and duty of the managers to consider and/or continue with the processes and implementation which are often lost in the planning process itself.

Finally, it should be noted that the participation degree and the stakeholders' empowerment toward the protected area also have an influence since if they are not willing to participate or work collaboratively, the process becomes more complex and can become completed. In our case study, local stakeholders were actively involved and willing to give their vision of the impacts that tourism is generating in the protected area and to seek together possible solutions. Furthermore, participation makes it possible to validate issues or visualize others that have not been previously considered.

Acknowledgments This research was carried out through the project Innova Corfo of Bienes Públicos para la Competitividad Nacional Cód. 14BPC4-28654 "Sistema de Manejo Turístico en Áreas Protegidas de Chile: caso piloto Parque Nacional Torres del Paine." The financing support and collaboration of CONAF Magallanes y Antártica Chilena and the Cerro Paine Reserve are gratefully acknowledged. Special thanks to the different public and private actors that were part of the different participative instances that sustain this work. Finally, we would like to thank Sanober Mirza for her contribution to the article.

References

Aguirre Baztán A (1995) Etnografía. Metodología cualitativa en la investigación sociocultural. Boixareu Universitaria-Marcombo Editores. Barcelona

Alkan H, Korkmaz M, Tolunay A et al (2009) Assessment of primary factors causing positive or negative local perceptions on protected areas. J Environ Eng Landsc Manag 17(1):20–27

AMBAR S.A (2004) Desarrollo e implementación de un sistema de gestión del uso público en los Parques Torres del Paine y Bernardo O'Higgins XII Región de Magallanes y Antártica Chilena. Estudio contratado por EUROCHILE y financiado por CORFO

Andrade GSM, Rhodes JR (2012) Protected areas and local communities: an inevitable partnership toward successful conservation strategies? Ecol Soc 17(4):14. https://doi.org/10.5751/ES-05216-170414

Araya P (2007) El impacto del turismo en la conservación de una reserva de la biósfera y en el desarrollo de su zona de influencia. El caso de la reserva Torres del Paine. En Halffeter G, Guevara S, Melic A (eds) Hacia una cultura de conservación de la diversidad biológica. Capítulo, vol 13, pp 115–124

Borrini-Feyerabend G, Dudley N, Jaeger T et al (2013) Governance of protected areas: from understanding to action. Best practice protected area guidelines series N° 20. IUCN, Gland, p xvi+124

Brida JG, Disegna M, Osti L (2014) Residents' perceptions of tourism impacts and attitudes toward tourism policies in a small mountain community. Toursimos 9:37–71

Buckley RC (2010) Conservation tourism. CABI Publications, Wallingford, p 214

Choy M (2005) Como incidir en políticas públicas. Fundación Centro de Información y Recursos para el Desarrollo (CIRD). Asunción, Paraguay

Cole DN (2004) Monitoring and management of recreation in protected areas: the contributions and limitations of science. Working Pap Finnish Forest Res Inst 2:10–17

Cole D, Watson A, Hall T et al. (1997) High use destinations in wilderness: social y biophysical impacts, visitor responses y management options. Research paper. INT – RP – 496. Forest Service. Intermountain Research Station

Eagles PFJ, McCool SF, Haynes CDA (2002) Sustainable tourism in protected areas: guidelines for planning and management. IUCN, Gland/Cambridge, p xv+183

Farrell T, Marion JL (2001) Trail impact and trail impact management related to visitation at Torres del Paine National Park, Chile. Leisure/Loisir 1–2:31–59

Fernández Núñez L (2006) ¿Cómo analizar datos cualitativos?. Butlletí LaRecerca Universidad de Barcelona, Institut de Ciències de l'Educació, Secció de Recerca, p 13. https://www.ub.edu/idp/web/sites/default/files/fitxes/ficha7-cast.pdf. Accessed on 9 Ene 2020

Ferrer D (2003) Conservación de la naturaleza y el territorio en Chile. El Parque Nacional Torres del Paine y su área de influencia socioeconómica. Tesis Doctoral, Universidad Autónoma de Madrid, España

Freeman RE (1984) Strategic management: a stakeholder perspective. Pitman, Boston, p 13

Gawler M (2005) Project design in the context of project cycle management: sourcebook. World Wildlife Fund Introductory course. Artemis Services for Nature Conservation and Human Development, Prevessin-Moens

Graham J, Amos B, Plumptre T (2003) Governance principles for protected areas in the 21st century, a discussion paper. Institute on Governance in collaboration with Parks Canada and Canadian International Development Agency, Ottawa

Halpenny E, Salenieks T, Manning R et al (2018) Adaptive management for sustainable tourism. In: Leung Y, Spenceley A, Hvenegaard G et al (eds) Tourism and visitor management in protected areas: guidelines for sustainability, Best practice protected area guidelines series N°27. IUCN, Gland, pp 41–62

Hung K, Sirakaya-Turk E, Ingram L (2011) Testing the efficacy of an integrative model for community participation. J Travel Res 50(3):276–288

Hvenegaard G, Buckley R, Spenceley A et al (2018) The future of protected area tourism. In: Leung Y, Spenceley A, Hvenegaard G et al (eds) Tourism and visitor management in protected areas: guidelines for sustainability, Best Practice protected area guidelines series N° 27. IUCN, Gland, pp 89–95

ICF – IHT – USAID ProParque (2016) Guía metodológica para la elaboración de Planes de Uso Público en Áreas Naturales Protegidas del SINAPH. Instituto Nacional de Conservación y Desarrollo Forestal, Áreas Protegidas y Vida Silvestre, Instituto Hondureño de Turismo y Proyecto USAID ProParque. Tegucigalpa, MDC

INGEP (2012) Mapeo de actores para la política pública migratoria. Guatemala

Interagency Visitor Use Management Council (2016) Visitor use management framework, a guide to providing sustainable outdoor recreation. Edition One. U.S. Department of the Interior, p 130

Involve (2005) People & participation: how to put citizens at the heart of decision-making. Beacon Press, London, p 116

Laven DN, Krymkowski DH (2005) The relationship between visitor-based standards of quality y existing conditions in Parks and Outdoor recreation. Leis Sci 27(2):157–173. https://doi.org/10.1080/01490400590912060
Leung Y, Marion T (2000) Recreation impacts and management in wilderness: a state of knowledge review. USDA Forest Service Proceedings RMRS-P-15, vol 5, pp 23–45
Leung Y, Spenceley A, McCool S et al (2018a) Tourism and visitation in protected areas: the sustainability challenge. In Leung Y-F, Spenceley A, Hvenegaard G, Buckley R (eds) Tourism and visitor management in protected areas: guidelines for sustainability. Best practice protected area guidelines series No. 27. IUCN, Gland, pp 1–8
Leung Y, Halpenny E, Salenieks T et al (2018b) Adaptive management for sustainable tourism. In: Leung Y, Spenceley A, Hvenegaard G et al (eds) Tourism and visitor management in protected areas: guidelines for sustainability, Best practice protected area guidelines series N° 27. IUCN, Gland, pp 41–62
Manning R (2007) Parks and carrying capacity – commons without tragedy. Island Press, p 328
Manning R, Lime D (2000) Defining and managing the quality of wilderness recreating experiences. In: Cole DN, McCool SF, Borrie WT et al (eds) Wilderness science in a time of change conference. Vol 4: Wilderness visitors, experiences, and visitor management; 1999 May 23–27; Missoula, MT. Proceedings RMRS-P-15, Vol 4. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Ogden, pp 13–52
Manning R, Valliere W, Anderson L et al (2011) Defining, measuring, monitoring, and managing the sustainability of parks for outdoor recreation. J Park Recreat Adm 29(3):24–37
Marion J, Leung Y (2001) Trail resource impacts and an examination of alternative techniques. J Park Recreat Adm 19(3):17–37
Marion J, Leung Y, Nepal SK (2006) Monitoring trail conditions: new methodological considerations. Visitor impact monitoring. George Wright Forum 23(2):36–49
Melgarejo L (1994) Sobre el concepto de percepción. Alteridades 4(8):47–53
Ministerio de Obras Públicas (2007) Manual Participación Ciudadana para iniciativas del Ministerio de Obras Públicas. Chile
Ministerio de Obras Públicas (2018) Guía para la Gestión de Participación Ciudadana. Dirección General de Obras Públicas. Santiago – Chile, p 136
National Park Service (1997) The Visitor Experience and Resource Protection (VERP) framework: a handbook for planners and managers. U.S. Department of the Interior, p 108
Nunkoo R, Ramkinssoon H (2011) Developing a community support model for tourism. Ann Tour Res 38(3):964–988
Pabon-Zamora L, Bezaury J, Leon F et al (2008) Valorando la Naturaleza: Beneficios de las áreas protegidas. Serie Guía Rápida. In: Arlington JE (ed) The Nature Conservancy, p 34
Patton MQ (2002) Qualitative research and evaluation methods, 3rd edn. Sage Publications, Thousand Oaks
Pelegrina-López A, Ocaña-Peinado FM, Henares-Civantos I et al (2018) Analyzing social perception as a key factor in the management of protected areas: the case of the Sierra Nevada Protected Area (S Spain). J Environ Plan Manag 61(1):124–142. https://doi.org/10.1080/09640568.2017.1291413
Pirot JY, Meynell PJ, Elder D (2000) Ecosystem management: lessons from around the world. A guide for development and conservation practitioners. IUCN, Gland/Cambridge, p 132
Pomeroy R (1995) Community-based and co-management institutions for sustainable coastal fisheries management in Southeast Asia. Ocean Coast Manag 27(3):143–162
Ramseook-Munhurrun P, Naidoo P (2011) Residents' attitudes toward perceived tourism benefits. Int J Manag Mark Res 4(3):45–56
Reed M (2008) Stakeholder participation for environmental management: a literature review. Biol Conserv 141:2417–2431
Repetto-Giavelli F, Cabello-Cabalín JL (2015) Ecological restoration potential in areas of public use in Torres del Paine National Park. Anales Instituto Patagonia (Chile) 43(1):115–121

Repetto-Giavelli F, Vela-Ruiz G, Díaz Beros M, Fernández Génova, M., López, R. y González, B. 2018. Diagnóstico sobre la planificación e implementación del uso público en el Sistema Nacional de Áreas Silvestres Protegidas del Estado de Chile. Biodiversidata 7: 116–124.

Robinson D, Newman SP, Stead SM (2019) Community perceptions link environmental decline to reduced support for tourism development in small island states: a case study in the Turks and Caicos Islands. Mar Policy 108:103671

Salerno F, Cuccillato E, Caroli P et al (2010) Experience with a hard and soft participatory modeling framework for social-ecological system management in Mt. Everest (Nepal) and K2 (Pakistan) protected areas. Mt Res Dev 30(2):80–93

Salerno F, Viviano G, Manfredi E et al (2013) Multiple carrying capacities from a management-oriented perspective to operationalize sustainable tourism in protected areas. J Environ Manag 128:116–125

Secretariat of the Convention on Biological Diversity (2004) Guidelines on biodiversity and tourism development: international guidelines for activities related to sustainable tourism development in vulnerable terrestrial, marine and coastal ecosystems and habitats of major importance for biological diversity and protected areas, including fragile riparian and mountain ecosystems. (CBD Guidelines) Montreal, p 29

Secretariat of the Convention on Biological Diversity (2015) Tourism supporting biodiversity – a manual on applying the CBD guidelines on biodiversity and tourism development. Montreal, p 56

Sharpley R (2014) Host perceptions of tourism: a review of the research. Tour Manag 42:37–49

Spenceley A, Kohl J, McArthur S et al (2015) Visitor management. In: Worboys GL, Lockwood M, Kothari A et al (eds) Protected area governance and management. ANU Press, Canberra, pp 715–750

Spenceley A, Hvenegaard G, Bushell R et al (2018) The impacts of protected area tourism. In: Leung Y, Spenceley A, Hvenegaard G et al (eds) Tourism and visitor management in protected areas: guidelines for sustainability, Best practice protected area guidelines series N° 27. IUCN, Gland, pp 9–26

Stolton S, Dudley N, Avcıoğlu Çokçalışkan B et al (2015) Values and benefits of protected areas. In: Worboys GL, Lockwood M, Kothari A et al (eds) Protected area governance and management. ANU Press, Canberra, pp 145–168

Tapella E (2007) El mapeo de actores claves, documento de trabajo del proyecto "Efectos de la biodiversidad funcional sobre procesos ecosistémicos, servicios ecosistémicos y sustentabilidad en las Américas: un abordaje interdisciplinario". Universidad Nacional de Córdoba, Inter-American Institute for Global Change Research (IAI)

Torres J, Repetto-Giavelli F, Quezada F et al (2018) Evaluación de senderos de montaña y medidas de manejo para mitigar impactos en el Parque Nacional Torres del Paine, Chile. Áreas Naturales Protegidas Scripta 4(2):7–28

Torres J, Vela-Ruiz G, Olave C et al (2019) Análisis de la dinámica de visitantes en los senderos de montaña del Parque Nacional Torres del Paine. Biodiversidata 8:87–94

Turner RA, Fitzsimmons C, Forster J et al (2014) Measuring good governance for complex ecosystems: perceptions of coral-reef dependent communities in the Caribbean. Glob Environ Chang 27:22–30

UNEP-WCMC and IUCN (2016) Protected planet report 2016. Cambridge/Gland, p 84

UNWTO and UNEP (2005) Making tourism more sustainable: a guide for policy-makers. Madrid/Paris, UNWTO and UNEP, p 209

USAID-Ecuador (2010) Mapeo de actores para el ordenamiento y certificación de playas en la zona costera de la cuenca del río Ayampe, Ecuador. USAID Costas y Bosques Sostenibles. Agencia de los Estados Unidos para el Desarrollo Internacional (USAID)

Vela-Ruiz G (2009) Contribución desde el enfoque de capitales a la comprensión de la inclusión de las comunidades en los procesos generados por áreas protegidas, Región de Magallanes. In Tesis País 2009 Piensa un País sin Pobreza. Fundación para la Superación de la Pobreza. Chile, pp 138–159

Vela-Ruiz G (2017) Desafíos para manejar el turismo en el Parque Nacional Torres del Paine. In: Vela-Ruiz Figueroa G, Repetto-Giavelli F (eds) Guía de conocimiento y buenas prácticas para el turismo en el Parque Nacional Torres del Paine. Ediciones CEQUA, Punta Arenas, pp 113–135

Vela-Ruiz G, Delgado M (2010) Contribución del enfoque de desarrollo territorial rural a la comprensión de los procesos generados en torno a áreas protegidas en la Patagonia Chilena. Revista Chilena de Estudios Regionales 2(1):83–94

Vela-Ruiz Figueroa G, Repetto-Giavelli F (eds) (2017) Guía de conocimiento y buenas prácticas para el turismo en el Parque Nacional Torres del Paine. Ediciones CEQUA, Punta Arenas, p 140

Vidal O (2012) Torres del Paine, ecoturismo e incendios forestales: perspectivas de investigación y manejo para la biodiversidad erosionada. Revista Bosque Nativo 50:33–39

Villarroel P (1996) Efecto del Turismo en el Desarrollo Local. Ambiente y Desarrollo 12(4):58–64

Villasante TR (2006) Procesos de planificación participativa para la sustentabilidad. Cuadernos CIMAS-Observatorio Internacional de Ciudadanía y Medio Ambiente Sostenible, España

Whittingham M (2010) ¿Qué es la gobernanza y para qué sirve?. Revista Análisis Internacional (RAI), 2:219–235

Worboys GL (2015) Concept, purpose and challenges. In: Worboys GL, Lockwood M, Kothari A et al (eds) Protected area governance and management. ANU Press, Canberra, pp 9–42

Xu J, Chen L, Lu Y et al (2006) Local people's perceptions as decision support for protected area management in Wolong Biosphere Reserve, China. J Environ Manag 78:362–372

Zarzar Charur C (2000) La didáctica grupal. Col. Santa María de la Rivera. Ed. Progreso, p 256