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## **Conflicts and acceptability of visitation management measures for a Marine Protected Area: the case of Porquerolles, Port-Cros National Park.**

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# **Conflicts and acceptability of visitation management measures for a Marine Protected Area: the case of Porquerolles, Port-Cros National Park.**

## **Highlights**

- The conflicts reveal the conditions influencing the MPA's social acceptability
- The analysis of conflicts reveals three conditions for the acceptability of tourism management measures
- The acceptance thresholds relating to visitation differ between visitors and local stakeholders
- Social acceptability with regard to managing tourism flows depends on a capital of trust between stakeholders
- Strengthening the Park's penal policy is one of the conditions for accepting tourism management measures

## **1. Introduction**

Coastal areas are subject to strong anthropogenic pressures that are linked, in particular, to demographic growth, an increase in artificial surfaces and the rise in tourist and recreational activities, thus contributing to environmental problems (pollution, erosion of biodiversity) (Miller and Auyong, 1991; Neumann *et al.*, 2015). These in turn disrupt the ecosystems, human activities and social practices consequently transforming the relationship between humans and their living space(s). The creation of Marine Protected Areas (MPAs) in coastal areas, both for marine areas and/or on a portion of land, has become one of the instruments used in public policies to limit these pressures, thus looking to meet long-term nature protection objectives. For those derived from the integrative paradigm (Depraz, 2008), biodiversity conservation is compatible with the economic activities found within the territory. Consequently, they have become experimental areas for sustainable development and the symbol of Integrated Coastal Zone Management (ICZM). Nevertheless, the search for a balance between local development, living well together and the fight against biodiversity erosion sometimes leads to conflicts related to the acceptance of MPAs or the measures put in place (Thomassin *et al.*, 2010; Laslaz *et al.*, 2014; Pieraccini and Cardwell, 2016). This balancing act is particularly visible in the MPAs located on tourist coastlines mainly centred on a seaside and seasonal model.

The labelling of protected areas (marine parks, marine nature reserves, national parks, etc.), and therefore exceptional sites, generates interest in and increased visitor numbers to these areas, which have become real tourist destinations (Bell *et al.*, 2010; Sunkar and Santosa, 2018). The components of biodiversity and landscapes that MPAs aim to conserve (diversity of living species, beaches, mangroves, reefs, etc.) have become tourism products, like coral (Cupul-Magana, and Rodríguez-Troncoso, 2017) or the hawksbill sea turtle in the Roatán Marine Park in Honduras (Hayes *et al.*, 2017). However, this influx of visitors puts great pressure on biodiversity and MPA resources (McCool, 1994; Zakai and Chadwick-Furman, 2002; MedPAN, 2006). For more than twenty years, researchers have been conducting and

continuing studies on carrying capacity (Abernethy, 2001; Le Berre *et al.*, 2013; Lemahieu, 2015) to shed light on the thresholds beyond which visitation (in number - quantitative aspect - or tourist behaviour - qualitative aspect) is such that the degradation of the site becomes alarming, if not irreversible, or « *leads to unacceptable impacts on park resources and the quality of the visitor experience* » (Manning, 2014). Thus, many tools have been developed to measure high visitation and define the carrying capacities (physical, real, effective (Ozden, 2008; Cupul-Magana and Rodríguez-Troncoso, 2017) based on a normative value or to identify the acceptable social and environmental conditions relating to management measures (Diedrich *et al.*, 2011).

In 2016, Port-Cros National Park (PCNP) embarked on a collaborative study to determine part of its territory's (the island of Porquerolles) carrying capacity in order to define the visitor thresholds that would help in its decision making. This initiative was based on the implementation of the Park's charter, which addressed the concerns regarding a decrease in environmental and social quality linked to the increase in summer tourist flows. The question of thresholds was becoming even more important as recreational and tourist activities continued increasing: the number of visitors to the park's islands, estimated at 1.3 million per year (Le Berre *et al.*, 2013), rose progressively. This increase was a concern explicitly shared by the members of the Board of Directors and the Economic, Social and Cultural Council (ESCC) who wished to define thresholds relating to visitation, which would help them in their decision making. Although the management team seemed to have adequate tools to deal with visitor flows (regulations, establishing organised moorings, incentives, etc.), the question of whether these measures would be accepted was a complex matter for it involved new decisions and rules that would be more or less binding, thus creating a source of concern and uncertainty for the inhabitants, users and socio-professional stakeholders of a dynamic and economically powerful tourism sector. Even when based on a collaborative approach, these measures were not always accepted and recognised as legitimate (Laslaz *et al.*, 2014; MedPAN, 2016): they were challenged, disrespected, and ultimately doomed to failure. Determining an "acceptable change" was therefore central to managing the problems of tourist MPAs since the visitation threshold would be established after determining the fine balance between visitor satisfaction, socio-economics and those involved in the conservation of the territory's natural and cultural heritage (Duvat, 2008). Thus, dialogue and conflict management were fundamental in these approaches as they contributed to the social conditions that would make it possible to establish an acceptable visitor threshold (Cole and McCool, 1997). So, how could conflict analysis contribute elements of understanding to the construction of social acceptability of visitation management measures?

We were particularly interested in the conflict processes that occurred on Porquerolles and what their dynamics revealed in terms of the conditions of acceptability concerning visitation measures. Indeed, research showed that there was a synergy between the conflicts and management methods and the coherence and acceptance of the actions carried out (Shipman and Stojanovic, 2007; Bruckmeier and Høj Larsen, 2008). Moreover, their analysis provided a better understanding of the reasons for the acceptability and legitimacy of projects and decisions (Laslaz *et al.*, 2014; Cadoret and Daumalin, 2017). As part of the Port-Cros National Park's "carrying capacity" approach, we conducted a conflict diagnosis in order to characterise the conflicts, their interactions and what these processes generated and contributed to the understanding of territorial realities. In the second section we will define the territorial context, and the theoretical and methodological aspects of this geographical study, based on a combination of survey methods using interviews, questionnaires, *in-situ* observations and the analysis of legal documents. In section 3, we will focus on the

characteristics of conflicts, underlining that past conflicts have repercussions on today's opposition dynamics, and provide an overview of the level of acceptance relating to visitation. Finally, section 4 will discuss three important conditions necessary for the acceptability of visitation regulation measures in Porquerolles that were revealed by the conflict analysis.

## **2. Materials and methods**

### **2.1. Managing tourism development and recreational uses: a challenge**

Many MPAs have become tourist destinations subjected to excessively high visitation during short periods of time. The expansion of leisure and recreational activities in nature has led to this sharp increase in sensitive areas of high ecological value (Shafer and Inglis, 2000; Le Corre *et al.*, 2012; Gonson *et al.*, 2017). Subsequently, this high volume of traffic to these highly coveted sites prevents the regeneration of vegetation or slows it down, thereby disturbing and impacting not only on ecosystems but also on the local communities and visitor satisfaction (Manning, 2014). Interventions are therefore sometimes required to restrict the passage on the paths or on part of a territory but are themselves sources of agitation and dissatisfaction for the users and residents, and so create user conflicts (Brigand *et al.*, 2003).

Work on the limits of acceptable change have provided an analytical framework for moving beyond visitation management based on quantitative elements and variables that were primarily ecological and which characterised the initial definitions of the carrying capacity (Cole and McCool, 1997; Diedrich *et al.*, 2011). These studies have made it possible to avoid focusing on the number of visitors, a *magic* and unrealistic number, limiting the development of tourism. (McCool and Lime, 2001). The integration of socio-political and economic dimensions, the representations of visitors such as local populations and territorial singularities has resulted in opening up a field of study on what the appropriate social conditions should be in order to establish evolving standards of visitor flows so that protected areas may be managed efficiently. This occurred as early as the 1980s in the United States (Stankey *et al.*, 1985, cited by Diedrich *et al.*, 2011; Manning, 2014). It is not a question of undermining tourism in MPAs for it contributes to raising awareness of biodiversity conservation and cultural recognition. Moreover, it provides financial leverage that can benefit MPA management and can provide opportunities for vulnerable local communities by diversifying their livelihoods (Thuy Thi and Thanh Pham, 2020). Rather it is a question of considering the territorial specificities of tourist protected areas and their management modalities (Manning *et al.*, 2017), as negative impacts cannot be avoided, but should be managed according to objectives as well as taking into account the biophysical and social conditions (McCool and Lime, 2001). And so, in territorial areas, codes of good practice that respect activities, in the same way that they do for habitats and wildlife, restricted areas, sometimes beach sectorisation, marked trails and certified tourist operators have been put into place. In marine environments, organisational schemes for moorings, cetacean approach charters and educational underwater trails have been developed with MPA stakeholders in order to help and guide the visitors (Diedrich *et al.*, 2011; MedPAN, 2016). Visitation control is sometimes instituted. This is the case in Mallorca, in the Cabrera Archipelago National Park, through a competitive bidding process for passenger boat operators based on the distribution of six batches of 50,000 visitors per year. In Maro-Cerro Gordo, in the South of Spain, limiting the number of motor vehicles to a popular beach by introducing shuttles and information stands has reduced the pressure on the environment (MedPAN, 2016).

For several years the carrying capacity and limits of acceptable change reference frameworks have been used in tourist MPAs as a tool for adaptive management and the involvement of stakeholders in the territory (Diedrich *et al.*, 2011; MedPAN, 2016). However, the associated protocols have taken a long time to set up and have given rise to conflicts and so visitor flow regulation is not always monitored. The problem is less about identifying management measures to be implemented or defining the thresholds than getting the territory stakeholders (managers, users, administrators, scientists) to accept these thresholds and measures, even though they are part of the participatory process. Indeed, the application of new measures raises concerns that can rekindle tensions and conflicts: fears of restriction such as mooring one's boat, farming, pursuing a remunerative activity, etc., and administrative constraints, financial concerns (how much will protection cost, how much will it reduce profits?), and disapproval or refusal of traders to submit to new constraints, etc. Hence the interest in studying the conditions necessary for the acceptability of the visitation management measures in order to gain acceptance, by conducting a conflict analysis.

## **2.2. Acceptability of management measures through conflict analysis**

Depending on the disciplinary approaches, themes, languages, and contexts of use, the notions of social acceptability and social acceptance tend to differ (Batellier, 2015; Laslaz, 2020). Hence, we adopted a geographical approach based on Depraz (2005; 2016) and Laslaz's (2020) research, underlining that social acceptability and social acceptance are both processes in constant construction, with the former characterising what is potentially acceptable, and the latter what is accepted. One of the challenges for MPA managers and administrators is the social acceptance of both the MPA and the measures it puts into place. Social acceptance refers to the idea of an individual or a group of players who agree with a project or the measures relating to a public policy (Thomassin *et al.*, 2010). Nevertheless, there are nuances: a group of stakeholders may accept a project or measure through by either external pressure default or on the contrary, through choice, having been convinced to the point of defending it (Depraz, 2005). Social acceptability is a condition for achieving social acceptance (Laslaz, 2020) and influence: social acceptance can be strengthened or weakened, and diminishes over time because "*what was acceptable in the eyes of a given social group is not necessarily acceptable to their descendants and subsequent generations*" (Depraz and Laslaz, 2014), and also because tensions between local stakeholders in past conflicts can be reactivated when reflecting upon the management measures, or calling into question other MPA's actions. A study carried out in the Calanques National Park (France) revealed that the acceptance of the Park's protection measures was influenced in particular by the territory's history of conflict, the feeling of losing practices considered essential to identity, mistrust and a feeling of injustice linked to a differentiated drive to protect the environment (Cadoret and Daumalin, 2017). These elements, which systematically lead to amplifying or radicalising opposition, were highlighted by a study carried out on the conflicts within this MPA. Antagonisms revealed the balance of power that traverses societies (Rucht *et al.* 1999, cited by Trudelle, 2003), giving rise to observations and actions whose analysis sheds light on the issues at stake and the territorial representations from the prisms of the various actors' activities.

Our intent was not to focus on social acceptability, although it made it possible to analyse situations where conflict was absent, but rather on an element of the territorial framework that constitutes part of the conditions necessary for the acceptability of management measures. It relates to conflictuality, and what it reveals, highlights and what its processes generate. A review of the literature (Stepanova and Bruckmeier, 2013) revealed that this approach was

particularly fruitful for integrated coastal zone management but that it had been insufficiently explored. Conflicts emerge between two or more stakeholders over resources (natural, intangible, landscape, etc.). They are non-linear processes composed of active phases where disagreements are expressed, and phases of calm. They are inherent in all management actions and will never be totally reducible (Foster and Haward, 2003) thus perhaps hindering the sustainability and implementation of visitor management measures. Nevertheless, they also constitute a lever for action: conflicts arise from social innovations, which renew action and governance formats (Jones, 1998; Torre *et al.*, 2014, Beuret *et al.*, 2019). Conflict diagnosis aims in particular at identifying past and recent conflicts, their interactions and what makes them dynamic in order to provide reference points for decision-making.

### **2.3. A conflict diagnosis as part of a framework linked to carrying capacity**

Porquerolles is part of an archipelago composed of four islands and is administratively attached to the town of Hyères in the South of France. This island is characterised by its Mediterranean landscape heritage, which is a mixture of built-up areas, vineyards, forests, creeks and fine sandy beaches, bordered by turquoise waters. Porquerolles is described as "*a small paradise*" (interview extract, 2017). The development of the 7-kilometre-long island and its amenities are partly due to a wealthy industrialist who bought the island in 1912, which was at that time inhabited by a community of about 50 individuals. Wishing to sell part of the island but wanting to preserve its naturalness, the descendants preferred that the French State buy it at a price much lower than that offered by tourist investors. Thus, in 1971, the State acquired nearly 80% of the island and gave it to the Port-Cros National Park to manage. It was however, only after amending the 2006 Law relating to national parks and marine nature parks that the surface area of the Port-Cros National Park, created in 1963, was extended to the mainland and Porquerolles. This law modified national parks' governance, opening their institutions to local representatives: elected officials, professionals, NGOs, etc. were from then on integrated onto the Board of Directors<sup>1</sup> and the Economic, Social and Cultural Council<sup>2</sup>. The top-down management governed by a centralised French government has thus transformed into a more territorial and participative style of management. The Board of Directors has the power to make decisions that the ESCC does not, although the latter plays a crucial role in monitoring the actions originating from the charter to which its members contribute. The law also established a core area as well as an optimal adjacent zone, for the Park's core spaces are areas of high environmental value and it is mandatory for activities to be compatible with preserving the natural and human environment and where the regulatory framework for practices is stricter than in the peripheral areas.

In 2012, much of Porquerolles acquired the status of the National Park's "heart", with inhabited areas and agricultural plots adhering to ecological sustainability in adjacent areas (Fig. 1). The main beaches, paths, bays and coves were included in the core zone. This territorial reconfiguration was supported by a charter, which resulted from the dialogues and meetings between the stakeholders in the area, whose aim it was to enhance and preserve the "*character of the park*": defined by the Environmental Code, this concept related to the invisible and sensitive, cultural, historical and heritage aspects of a place of environmental

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<sup>1</sup> The Port-Cros National Park's Board of Administration is composed of 43 members: government officials, local elected officials, skilled individuals (in the field of sports, environmental NGOs, agriculture, crafts, and particularly sciences). It validates the establishment's policies, and controls and approves the budget.

<sup>2</sup> The ESCC is composed of 64 members (NGOs, residents, traders, fishermen, etc.) which assists the National Park's Management Board in monitoring and implementing the territory's charter.

interest that needed to be preserved from any alteration (Gerardin, 2013). It was also this "character" that made this area particularly attractive due to its location in the heart of a region where seaside tourism was and still is a key sector for the regional economy. During peak periods, particularly in summer, nearly 15,000 visitors arrived on the island (Vlès, 2018) whose surface area was 12.5 square kilometres, and on which some 350 inhabitants, strongly attached to the area, lived (Deldrève and Michel, 2019). Thus, this flow of visitors and the effects that a high level of visitation had on the biodiversity, the inhabitants' daily lives and the tourists' satisfaction became problematic due to the effect they had on the "character" of the Park's core areas.

Fig.1 : The perimeters of the Port-Cros National Park (Cadoret, 2020)

This continuous and growing movement accelerated the application of concrete measures needed to regulate visitation, especially as they were requested by those from the area. Thus, in 2016, Port-Cros National Park introduced a "carrying capacity and conservation of the core areas' character" plan of action that brought together several research laboratories in both ecology and the social sciences as well as the stakeholders in the area.

The objective was to co-construct visitor-management indicators as a decision-making tool by analysing the impacts of attendance and the associated policy choices (Deldrève and Michel, 2019), while anticipating what conflicts could occur and thus preparing better to avert any obstructions. As part of this approach, our geographical analysis of the apparent oppositions concerning the Porquerolles area suggested that a conflict diagnosis would reveal elements contributing to the conditions necessary for the acceptability of visitation management measures which would have to be taken into account during decision-making.

## 2.4. Methodology

Our study falls within the scope of a social geography with a special focus on territorial dynamics, the interactions between stakeholders relating to the space they work in/on, manage, live in or from which they draw inspiration. It reflects upon the processes and their effects, while taking into account the scales, and cultural and historical contexts (Moine, 2006). The conflicts were studied from a geographical aspect in order to better understand the territorial processes of production and reconfiguration (Lecourt, 2003; Guyot, 2006) and establish a particularly rich introduction so as to analyse the stakeholders' positions (Plante *et al.*, 2006; Subra, 2008). This analysis called for an awareness of their multi-scale and temporal dimensions that could be better understood through multidisciplinary approaches (Stepanova and Bruckmeier, 2013). In order to characterise the conflict processes, the stages (emergence, manifestation, management) and the factors that drove them (forms of expression; stakeholders, strategies and argumentation; stakes; territorial impacts; concerned spaces), we used an analytical approach proven in several interdisciplinary research projects where economists, sociologists, geographers, and historians in particular had worked on conflict analysis. The methods used in the different disciplines were amalgamated, thus creating an interdisciplinary framework of analysis (Torre *et al.*, 2014; Cadoret and Daumalin, 2017) on which we based our study.

The first phase of data collection took place in 2016 and 2017 with: (a) In-situ observations (photographic survey, accompanying agents on surveillance tours, observation of tourist flow distribution); (b) An exploratory survey through interviews (July 2016 and April 2017)

mainly with National Park managers and inhabitants and traders on Porquerolles; (c) An in-depth survey with longer interviews from June to September 2017; (d) A questionnaire survey during a peak in visitor numbers (14th and 15th August 2017) with 97 visitors; (e) A quantitative analysis and characterisation of cases brought before the appeal courts. On the basis of the intermediate results and hypotheses, a second phase took place in 2018 and 2019, with: (f) The collection of environmental police data; (g) Additional interviews specifically targeting environmental code violations noted by officers; (h) The recovery and analysis of data concerning visitation to the beach and in maritime space. Three reports shared with the local stakeholders involved in the "carrying capacity" project made it possible to refine certain analyses, compare points of view and initiate a more global reflection on the links between visitation management and conflict situations.

A total of 37 people were interviewed, including 18 interviews with public figures (Park national' officials, elected officials) and members of the Park's governance (the Economic, Social and Cultural Council, the Board of Directors, and the Scientific Council), and 16 interviews with private stakeholders (tourist operators, farmers, boatmen, restaurant owners, associations and users). Nearly half of them lived on Porquerolles. The *Lamyline* legal database identified 37 cases up until 2016 relating to the Porquerolles territory brought before the Courts of Appeal and the Council of State, with the first dating from 1978. Analysing them provided insight into the legal processes that several interlocutors referred to in their interviews. An in-depth study of the Park's police data enabled a qualitative and quantitative overview to be drawn up of the 9,800 offences recorded between 2010 and 2018. Due to the absence of location reports for several offences, we were only able to partially spatialise these data. Although we had all the data concerning the offences committed over the previous eight years that enabled us to assess the variations between before and after the island's classification as a core area of the Park (2012), their locations were not systematic, and thus caused a cartographic bias.

However, cross-referencing these data limited the inherent bias of each. Without claiming to be exhaustive, the aim of this approach was to identify the main conflicting dynamics on the Porquerolles territory in order to highlight what they revealed in terms of the conditions necessary for the acceptability of visitor management measures. It was therefore not specifically tourism-related conflicts that we are interested in, but rather anything that concerned the territory, whatever the theme. Indeed, our previous studies showed that conflicts that did not have the same objectives sometimes had consequences on other disputes (Beuret and Cadoret, 2014) and that it was thus necessary to analyse a conflict system rather than isolating conflicts according to their motive.

## **3. Results**

### **3.1. Characterisation of conflicts**

Conflicts on Porquerolles concern various fields: the environment, with disputes related to the implementation of the National Park's environmental conservation policy and the non-respect of the environmental code; town planning and development, with conflict situations related to the granting or refusal of building permits; the sharing of space between users; the economy, with competition between tourist operators; territorial management, with rivalry between public and private stakeholders on tourist strategies. Although most of the conflicts identified are recent, after the 2000s, tensions arising from past conflicts involving the French State fuelled the conflicts from the beginning of the 21st century. Furthermore, it appeared that

although the increase in the number of visitors was not the reason for conflicts, it was noticeable that the areas that were the source of conflict were also those that received the most visitors.

### **3.1.1. Old rifts resulting from conflict negotiations**

Two legal proceedings involving the State came to light through our interviews and analysis of the Court of Appeal rulings. They had contributed to weakening the high level of trust, embodied in the territory by the "National Park" public establishment, between some inhabitants and the State. Indeed, back in 1971 when the vast majority of the island was bought, contracts had been drawn up authorising building rights to the island's owners' heirs (extension of a hotel and agricultural land, *etc.*). Building permits were granted in 1972, but the various applications that followed were rejected (non-conformity with the new town planning documents; did not blend into the landscape, *etc.*). After 40 years of proceedings that harmed the relationship between the owners' descendants and the State, the European Court of Human Rights found that the French government had never stated in the deeds of sale that building rights would be dependent upon compliance with town planning rules: the State was thus found to be at fault and was condemned. Furthermore, in 1985, a dispute regarding the payment of rent for agricultural plots leased from the State worsened relations between farmers and the Park: the proceedings brought before the courts also weakened the trust between the parties.

### **3.1.2. Conflicts related to the implementation of environmental policies: acceptance of the Park's core areas**

In the 2000s, discussions began on the European Marine Natura 2000, a new type of network to protect areas that were a source of fear and concern and resulted in conflicts (Pinton *et al.*, 2007). The setting up of negotiation arenas and a specific working group between 2005 and 2006 (Barcelo *et al.*, 2010) made it possible to regulate disputes, mainly related to fishing practices and recreational activities at sea. The 2006 law relating to the National Parks necessitated that the PCNP become involved in a new governance and in defining the new boundaries. Before Porquerolles became institutionally, to a large extent, the "Park's heart", protests against this project broke out in the village centre between 2011 and 2012. Demonstrations, media coverage, damage to Park agents' equipment, insults, *etc.* caused a "deleterious climate" (interview extract, 2017) between the islanders and Park agents. The drawing up of the charter for the peripheral areas of Park's core (2014-2016) also brought about protest. However, the setting up of participatory workshops and the Economic, Social and Cultural Council's mediation calmed the debates for Porquerolles. Awareness of the Park's missions and the tolerance given to certain practices that were prohibited but considered to have little impact had undoubtedly also facilitated the acceptance of this territorial reconfiguration, despite the conflicts of use that animated relations between the inhabitants, the National Park and the Hyéroise community. Nevertheless, installing the sign "Parc national de Port-Cros" (in 2016) at the entrance to the village had rekindled discord over the National Park's name since its expansion. "*It's detrimental to the island's identity*", it is the symbol of "*State control*", said one inhabitant, whose wish was to associate "Porquerolles" with Port-Cros<sup>3</sup>.

### **3.1.3. Conflicts related to the implementation of environmental policies: infringements**

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<sup>3</sup> Name of the neighbouring island, where the Park was created in 1963, well before it was enlarged to include Porquerolles.



Any infringement is a contentious expression. Although not in the heart of the National Park, Porquerolles still benefits from conservation programmes that translate into regulatory measures and restrictions. For example, as of 2008, the creation of a "resource zone" in the south of the island prohibited anchoring, recreational sea fishing, and docking and diving. The regulations relating to the core areas were tightened after 2012 with new regulations appearing thereafter. However, these regulations were not always respected and between 2010 and 2018, the Park's agents reported 9,800 violations: 55% on land and 45% on water. There were four main ways of dealing with infringements: oral and written warnings, fixed fines and official reports, with, for example, seizing equipment when caught illegally fishing in prohibited zones. Oral warnings accounted for almost all (97%) of the offences registered, while official reports accounted for less than 1%. The four main violations on land concerned dogs without a leash, entering mountain ranges that were closed due to fire risks, cycling in forbidden zones and smoking on the beaches. Maritime infringements concerned anchoring, fishing in prohibited zones (almost always by recreational fishermen according to the agents (interviews 2019)) and using motorised equipment in zones that were not authorised for this use.

These offences were committed all over the island, but particularly around the northern coastline where the number of tourists and leisure activities were concentrated (Fig.2).

Fig. 2: Violations registered by Port-Cros National Park officers in Porquerolles (2016-2018) (Cadoret, 2020)

The main beaches concerned were Argent, Notre Dame and Le Langoustier. Further monitoring showed that a higher number of violations occurred during the busiest periods. Moreover, the core areas and resource zone, where regulations were stricter, and the diving sites where speed risks and inattention required increased vigilance for reasons of personal safety, were the areas most affected.

#### **3.1.4. Difficult cohabitation and related conflicts**

While no conflicting elements directly related to the number of visitors came to light during the interviews, these numbers to the island nevertheless caused cohabitation difficulties in certain places leading to conflicts of use during the long weekends in spring and the summer period.

The above-mentioned violations at the main diving sites were compounded through conflicts of use due to speed, lack of knowledge of nautical manoeuvres, and boaters' lack of attention when crossing these areas, subsequently causing insecurity for divers. Furthermore, it was sometimes difficult for the island and mainland's diving clubs to share space and invective damaged good relations between the groups of users. One tourist operator denounced an "*industrial*" style of diving in July and August, which he noted was far removed from the practices he called "*professional*" that brought people and natural elements together (interview extract, June 2017).

The space on the paths leading to the beaches was shared by pedestrians, cyclists and the few cars that were on the island. During peak periods, dust, speed and the users' lack of attention also caused discontent, which was expressed verbally and affected visitor satisfaction. Invective between cyclists and pedestrians was common. Furthermore, cases of incivility were the subject of verbal complaints from visitors and residents alike, in addition to the violations noted by officers, which related to dogs without a leash in the Park's core areas, cigarettes - especially on beaches and backshore areas, and the crossing of barriers in place to prevent access to the forest during fire-risk periods. According to the islanders, these last two high-

risk violations seemed to be insufficiently sanctioned and moreover, primarily concerned disrespectful visitors. No statistical data enabled us to verify these remarks made during our interviews or to categorise the offenders, but they were strong contributors to creating tensions. Added to the latter were the sometimes tense relations between "islanders" and secondary residents who did not always have the same desires with regard to Hyères Town Hall, nor the same territorial visions.

### **3.1.5. Conflicts of use reinforced by tourism marketing strategies**

Visitor numbers increased due to the tourist offices' marketing strategies, which sometimes ran counter to that of the National Park's. Occasional disagreements were noted between the Park and those involved in promoting tourism, particularly in the commune of Hyères. Their objectives differed. The Tourist Office was there to promote the territory as a tourist destination, which it did by underlining the attractiveness of the Golden Islands, of which Porquerolles was included, while the Park's strategy was to welcome visitors, but was careful to preserve the territory by raising the visitors' awareness of conservation. While these strategies could be complementary, as they had been when developing tourist circuits in 2017, obstacles still existed. Images of an island surrounded by turquoise waters with few people on it appeared in brochures and on tourism promoters' social networks, thus contributing to increasing Porquerolles' attractiveness. These marketing strategies, which led to a rise in the number of visitors to the island, created tension between the Park and tourism promoters, especially as the Park's only way to block the strategies was through the authorisation of image rights. The effects of these promotional methods caused great concern amongst the agents due to the resulting increase in visitor numbers that had a considerable impact on the environment (interview, 2017). This was the case for Notre Dame, declared to be the "most beautiful beach in Europe" in 2015 by *European Best Destinations*©, a travel organisation that organised competitions for Internet users on their favourite tourist destinations. The island's beauty also contributed to developing lucrative bicycle rental activities, which had been strongly developed and enhanced since the 1980s and had for several years included renting electrically-assisted bicycles, and whose practices had raised new questions (Michel, 2018). With the number exceeding the limit stipulated in the Park's Charter (a maximum of 1500 cycles rented each day (National Park of Port-Cros, 2016), conflicts between users increased thus resulting in hostilities between themselves and the Park, for which an agreement currently under negotiation is attempting to mitigate.

The spatialisation of these conflicts (Fig. 3) revealed that the areas in which the conflicts occurred were also those that were the most visited.

Fig. 3: The main conflicts on the Île de Porquerolles, Port-Cros National Park (Cadoret, 2020)

In fact, the data on maritime space usage revealed a higher concentration of visitors in the northern part of the island, and according to in-situ observations and interviews, the trails and beaches in the north were very busy during the spring weekends and summer, making it difficult to walk around the village. Disputes also occurred in the south of the island but concerned more the non-respect of regulations regarding highly protected and surveyed areas (footpaths in the massifs and resource zones).

Although these conflicts reflected a specific context on the island, they were in fact generated by actors outside the territory: the media, tour operators, passenger boat operators, etc... The region also contributed to the increase in visitor traffic to the island due to its tourism development strategy targeting international tourism and cruise tourism. It encouraged the

creation of tourist enterprises and contributed to promoting nautical and pleasure boating (Region Sud, 2017), which resulted in an increase in the number of visitors to diving sites and the number of pleasure boats in the bays of Porquerolles. Consequently, the conflicts observed on Porquerolles arose from economic, political and prerogative challenges and thus needed to be placed in a broader territorial context as the disputes that took place on the island sometimes resulted from mainland pressures, the local authorities' strategic objectives and the responses provided by local stakeholders to national and European requirements in the socio-economic and environmental fields. Thus, regulating certain concerns (for example maritime cohabitation conflicts) necessarily involved broadening the sphere of stakeholders to higher scalar levels and integrating those involved in territorial development strategies (Regional Tourism Committee, nautical and yachting federations, *etc.*). As was the case for the Calanques National Park (Cadoret and Daumalin, 2017), elements outside the Park's territory and over which it had no jurisdiction, contributed to the dynamics of the conflicting processes taking place within, ... and over which the Park had little control in their regulation.

### **3.2. Conflicts and visitation: shared findings, key elements necessary for the acceptance of visitation management measures**

#### **3.2.1. A consensus between the territorial stakeholders on the need to control visitor flows.**

The conflicts resulting from difficult cohabitation and the tourist attractiveness of the island added to the pressures on the island's character and the Park's core. Managing tourism development, the attractiveness of the island, and the visitor influx (reinforced by tourist operators from outside the territory) were concerns that mobilised the territorial stakeholders and were important points of convergence: one of the conditions necessary for the acceptability of tourist flow management measures was the shared observation that the high influx of visitors could cause and reinforce existing conflicts of use. Nevertheless, although this observation was shared by the stakeholders in the area, we remarked that strong divergences existed between the latter and the visitors and tourism developers exterior to the island as to what was acceptable or not in terms of attendance.

##### **3.2.1.1. The impact of visitor flows and the conflicts they engendered: a loss of "character"**

According to our surveys, what characterised the island for its inhabitants could be broken down into four areas, of which the first three evoked the elements that occasioned their attachment to the place as described by Scannell and Gifford (2010). Thus, the comfort and quality of life (affective and emotional), the natural environment and landscapes (physical), sociability (social and, finally, tourism, with both its wealth and excesses, were the factors that characterised the island. Although tourism was a constituent part of the island's identity (Deldreve and Michel, 2019), in excess it was a threat to the first elements of its character. Our interview surveys revealed that the high influx of visitors and the development of tourism affected the symbolism of the areas: "*something is lost*", "*the most brutal impact is the loss of the area's particular character*" (extract from interviews, 2017).

Analysis of the visitor questionnaire showed that although, for some people, the high visitor influx was not cited as the most displeasing thing, nor experienced as a nuisance (only 23% of respondents said they were bothered by the number of people on the island), they did cause some dissatisfaction that altered not only the positive appreciation of the island, but also its character: the island was becoming less unique, less remarkable "*it has less charm*", "*it's not*

*restful*". The island was losing its exceptional character, the visitors were losing the feeling of being privileged and in a unique place: "you have the impression that on an island you are privileged, but there are so many people everywhere! "It's really like a bicycle motorway", "you feel like you're at the supermarket" (extracts from questionnaires, 2017). The visitor flows put pressure on the living and visiting environment as well as on the surroundings, thus harming the character of the island and the Park's core (Fig. 4).

Fig. 4. Tourist attendance in Porquerolles<sup>4</sup> (Cadoret, 2017)

Cohabitation disputes, conflicts linked to tourist attractiveness and the non-compliance with regulations constituted additional pressures. Indeed, the altercations between users, on water, on the beaches and on the footpaths, although they may seem anecdotal for the moment, were nevertheless badly experienced by the users and revealed a conflictual sharing of space, which may have intensified had the numbers to these sites been increased without behavioural changes. The invectives tarnished the "*tranquillity*", perceived by many to reflect a protected natural place's character, while infringements suggested environmental damage and thus pressure on the ecosystems. Considered as pressure, conflicts linked to visitation accentuated the damage to the island's character and the Park's core.

### **3.2.1.2. Four components characterising the acceptance of high visitation that emerged from the survey**

In Barcelona, Mallorca, and Croatia, problems relating to the sites and what they symbolise as well as the living environment led to rejecting tourism and anti-tourist antagonism (graffiti, petitions, demonstrations (Seraphin *et al.*, 2018; *Courier International*, 2018). In Porquerolles, high visitation created a feeling of "too much" ("*too many bicycles*", "*too many boats*", "*too many people*" (extracts from surveys, 2017)). This was shared by many and may have led to a feeling of rejection, which in turn risked challenging tourism itself due to situations deemed unacceptable. The acceptable thresholds that were exceeded may have constituted a breeding ground for the strengthening or emergence of conflicts. They therefore needed to be carefully monitored.

Based on the interviews and questionnaires, we identified 4 themes contributing to characterising these carrying capacity thresholds<sup>5</sup>: the decrease in the quality of service ("*after 3 services, the restaurants no longer have anything to offer*" "*it is not even economically viable*"), congestion ("*you can no longer traverse the village*"), pollution ("*the environment can no longer absorb it*", "*the colour of the water is no longer the same*"), and loss of the symbols associated with the areas ("*a loss of a point of reference for the islanders. It is distressing*"). The above factors thus corresponded to the processes whose combination exceeded the acceptable threshold.

### **3.2.2. Variable acceptance thresholds between local and external stakeholders**

We noted that for the same influx, the thresholds at which visitation was no longer acceptable varied according to whether the people interviewed were either visitors or tourism promoters exterior to the territory or territorial stakeholders. By drawing on work associated with understanding the dynamics of opposition to development projects, and the protection of

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<sup>4</sup> Photographs were taken in the heart of Port-Cros National Park with the permission of Port-Cros National Park

<sup>5</sup> Irrespective of the data (decrease in fish resources, water quality degradation index, etc.), these thresholds related to the representations and experiences of those who operated on the island, and/or had an overall vision due to their position (association representatives, elected officials, managers, etc.).

natural resources (Batel et al. 2013; Depraz, 2005; Depraz, 2016; Thomassin *et al.*, 2010), we were able to distinguish four levels of acceptance for high tourist activity: resignation, consent, adherence, support. The absence of acceptance with regard to rejection carries with it a risk of denigrating visitors coming to the territory, as in Barcelona, where explicit graffiti spelt out that tourists were not welcome (Courier International, 2018). Resignation translates into forced acceptance, which is conducive to the emergence of tensions but without necessarily obvious opposition. Consent refers to a satisfactory situation, a rather favourable agreement, but somewhat passive and without perhaps true conviction. Adherence demonstrates active and voluntary interest on the part of a group of stakeholders in tourism and the visitation that results from it. As for support, this refers to the involvement of a group of stakeholders in maintaining high visitation, even going as far as to defend them. Subsequently, our studies helped to identify what the stakeholders in the area (those who lived there, worked there, managed it, developed it, and used it on a daily basis) would accept as a social acceptance indicator relating to high visitation and this fell between rejection and consent. Indeed, high tourist activity was described by some as "*hell in paradise*", with the protected areas becoming a "*national Center-Parcs©*" in summer. The more one tended towards rejection, the greater the risk was of conflicts or the reinforcement of conflicts. It is interesting to note that the degree of acceptance relating to high visitation differed between visitors and territorial stakeholders (Fig.5).

Fig. 5: Visitation levels accepted during peak periods in Porquerolles (Cadoret, 2020)

Indeed, visitors were more accepting of increased visitation as they considered it "*normal*" for the period and the site, and the interviewees affirmed that they considered themselves part of "*the crowd*", subsequently accepting the situation more easily. They found it justifiable that others like themselves were present. It was noted that tourist flows that exceeded the threshold of simple resignation was accepted as the majority of them were not "*bothered*" by high visitation. This acceptance fell into passive consent for some, while others said, "*it's as we expected*", "*it's normal*", "*we're used to it, it's the season*", "*it's August 15...*" and we noted a higher tolerance threshold for people who told us "*we're not going to complain, we're on holiday*". Visitors had developed crowd avoidance strategies: "*we went further*", "*we came early*" (extracts from questionnaires, 2017). Nevertheless, none of them supported nor defended this situation.

#### **4. Discussion: three conditions necessary for the acceptability of visitation control measures, revealed by the conflicts**

##### **4.1. Recognising the different degrees of acceptance relating to high visitation**

The introduction of carrying capacity measures in the MPAs required a broad consensus. Indeed, "*in the field, the active carrying capacity of interactions with the locals, tourist operators and visitors, who need to be convinced of the relevance of measures that may seem restrictive. Let us recall that the support of visiting or sedentary populations in the introduction of regulatory measures designed to channel the flow of tourists and alleviate the pressures on the natural resource is the number one condition for their acceptance*". (MedPAN, 2016). On Porquerolles, conflicts of use linked to visitation to the island was regulated by implementing a management system that required both financial and human resources as well as support from local elected officials, whose decisions influenced land-use planning. This would help reduce the damage to the site's character and would avoid the

appearance of further opposition towards the tourist sector and visitors. Subsequently, the consensus observed between the stakeholders in the area, the shared observations concerning the effects that visitation would have on the character of the sites, and the convergence that existed on the criteria for assessing acceptability were major elements in agreeing to the visitor management measures. However, this presupposed that everyone was convinced of the need to act, simultaneously. So, how could everyone act together on the basis of a shared will if the level of intense tourist activity became unacceptable for some while it was still largely tolerable for others?

The existence of an intense tourist activity acceptance gradient, highlighted by our surveys, makes it complex if not impossible to define clearly and precisely (and definitively) a threshold beyond which visitation is no longer socially acceptable. However, this has implications at the political level, and decision-making on tourist flow management measures regarding visitors to the island should be based on this variability of low and high thresholds. If the extra-territorial socio-economic world's weight outweighed the environmental arguments (including the inhabitants' well-being), then the high threshold would be taken into account, with an increased risk of disputes and rejection of tourism by the receiving territory, thus putting additional pressure on the character of the core areas.

#### **4.2. Consolidating trust and strengthening proximities on the territory**

During our interviews, we noted tensions and unspoken concerns regarding the National Park's implementation of visitor management measures. Analysing older conflicts helped to identify the elements that had been causing the conflicts and crystallising certain tensions. These elements were common to conflict situations, thus contributing to their strength, and leading to possible sources of future tension: mistrust of the authorities, lack of communication, misinterpretation of action mechanisms, lack of coordination between actors not working within the network, different visions of tourism development and a history of conflict between the influential stakeholders on the island. Two major legal occurrences involving the State in particular had contributed to certain inhabitants' mistrust of both the State and the Park. Accordingly, so as to be deemed legitimate, the institutions implementing an environmental policy had to be considered reliable by the population (Petts, 1998; Stamieszkin *et al.*, 2009; Jones-Walters and Çil, 2011).

Nevertheless, the National Park was still recognised for preserving the island's character: it "*limits the damage*", "*fortunately it is there*", but the lack of connection with the local community created tensions. "*The National Park has saved the island from real estate pressure, but there is no contact with the population*" (extracts from interviews, 2017). Those involved in the island's activities who were interviewed criticised the "*disdain*" of some of the Park's employees towards them, and we saw that there was a feeling of prejudice towards the work they carried out, including tourism, which nevertheless benefitted the whole island: landscape management (vines in particular) that contributed to landscape diversity that characterised the island (interviews 2016 and 2017). This lack of communication led to misunderstandings about the Park's intentions and interventions and thus contributed to creating a distance from the institution. These tensions fuelled the virulent conflicts that affected the territory during the process of reflecting upon and defining Port-Cros National Park's core areas and membership. A deplorable environment, deemed "*unbearable*", reigned during this process, with damage to equipment, "*malicious acts*" (interview extract, 2017), such as slashed tyres and damage to boats in the Park, "*physical and psychological pressure*", according to one agent, who emphasised the "*negativity that characterised the Park*", and the

daily efforts "to re-establish the truth" in relation to the circulation of false information (extracts from interviews with Park agents, 2017). Here, the "National Park" referred to the public establishment, the symbol of the State and its policy, and it was mainly this institution that was the subject of strong protests. However, it was the field agents who bore the invectives: there were "physical attacks, sabotage, eggs thrown at cars", "it is not against the people, but against the institution" (extract from an interview with Park agents, July 2017).

Meetings that came about through daily practices, (taking one's children to the island's school, shopping, etc.) and consultation workshops made it possible to renew dialogue and defuse highly conflictual situations. The consultation carried out for Natura 2000 in the marine environment (2005-2006) (Barcelo *et al.*, 2010) was in fact cited as a key element in bringing the territorial stakeholders closer together, but in spite of this, trust between the local stakeholders weakened. Fukuyama (1995) defined trust as "the expectations that are formed within a community determined by regular, honest and cooperative behaviour, based on commonly shared values, by other members of that community". Should it be broken, then it would take time to rebuild (Fukuyama, 1995; Pretty and Ward, 2001). Devising the charter, co-written with socio-professional actors between 2012 and 2014, helped to restore a peaceful environment within the area, although this participatory dynamic also exposed the tensions that were present, sometimes in exacerbated forms, but nevertheless, it still played a beneficial role. The meetings generated a closeness "we got to know each other" (a shopkeeper, interview extract from July 2017) and made it possible to exchange by re-establishing a connection between the different sectors to which the stakeholders belonged (planning, ecology, etc.). Their language was different and was subsequently sometimes a source of misunderstanding. Trust between territorial stakeholders had been put to the test: it has recently been rebuilt, but the processes of exchange and discussion still remain indiscernible to several players in the territory.

The "old-fashioned National Park", to use the expression of one agent, had undoubtedly insufficiently forged links with the island's users, and had subsequently constituted an entity that had little connection with the island, and was therefore far removed from daily concerns. These factors were undoubtedly detrimental when considering extending the Park's core areas. Studies showed that co-management based on public involvement favoured the implementation of environmental policies (Jones-Walters and Çil, 2011; Pretty and Ward, 2001), which was consistent with our observations. One of the essential conditions was institutional trust, a component of social capital that was shown to play a role in the effectiveness of MPAs (Sunkar and Santosa, 2018). Old conflicts must still today be taken into account as tensions are visible in the daily lives of those who live in the area as well as in what was not said during the interviews. One of the conditions for accepting visitor management measures revealed by the conflict analysis was that trust needed to be consolidated and proximities strengthened.

#### **4.3. Envisage a firmer penal policy to reduce the sense of prejudice associated with a differentiated effort to protect the environment**

High visitation tends to detract from the "character" of the sites, which the National Park's regulations were intended to preserve. However, during our interviews we noted a sense of unfairness emerge when discussing the application of the regulations. Our surveys revealed that some islanders felt that they bore the brunt of the environmental constraints; much more so than the visitors, who had been observed smoking on the beaches, accessing areas that were prohibited during fire risks, and throwing their anchors down in bays and creeks thus

damaging the seabed. Consequently, not only did they condemn these tourists for their disregard of the rules, but they also criticised the Park for unfair treatment and the difference in effort required from each side to protect the environment: islanders would be constrained by the regulations and penalised to a greater extent than visitors, whose failure to comply with the regulations would impact (by type and numbers) the environment more severely. Repeated observations of non-punished infringements were seen as a failure to enforce the rules, leading to possible disempowerment of the field officers' role, "guardians" of the island's character and biodiversity conservation. "*Why comply with the rules [recently implemented for the Park's core areas] when visitors don't?*" (agent's interview, 2017, citing an offender). The sense of injustice relating to environmental infringements, accompanied by misunderstandings about the application of regulations, influenced the level of acceptance of both conservation measures and new measures relating to carrying capacity: indeed, why adopt new standards relating to visitation management if the application of existing regulations relating to the preservation of natural environments was in part questioned, in part perceived as unfair, or just questioned? These situations were factors in maintaining tensions with the Park officials, even though they continuously monitored the visitors and raised awareness each season, and signalled any breaches of the Environmental Code, regardless of the offenders.

The Park on the other hand, classified violations of regulations according to their nature and the seriousness of environmental damage. In fact, very few sanctions were imposed on offenders (2% were fines and official reports). The National Park's policy was to "*raise awareness through information regarding the penalty*", as was stated in the activity reports (2010-2016)<sup>6</sup>. The policy was linked to the geographical area, as the years preceding and following this transition affecting the Park's core (2012) constituted a favourable phase for the adoption of new rules. "*It takes 3 years for a regulation to be "assimilated" and "assimilated by the mass of the population"*" (interview with agent, 2017). When an offence was committed during the transitional period, awareness took precedence over repression, and tolerance was greater, especially for the islanders (interview, 2019). Mottiaux (2008) spoke about the adoption of a "situational awareness" principle, whereby the field officers demonstrated "*flexibility in transposing and implementing the environmental policing role assigned to them*". And so, five years after the transition in the Park's core areas, oral warnings constituted almost all the methods of dealing with offences. While several explanatory factors helped to explain the reasons for this, this situation tended to support the idea that the Park was not implementing the measures necessary to ensure compliance with the regulations, as information and awareness-raising were no longer sufficient with regard to the law.

Reducing the sense of unfairness discerned during the research seemed to require a stronger enforcement policy. This was an expectation that emerged from the interviews conducted in 2017, also mentioned in the article co-authored by the main actors of the sea of Porquerolles's governance (Barcelo *et al.*, 2018): "*users are very often more demanding of controls and sanctions than the PCNP, because those who respect the rules cannot bear to see others breach them*". This implied carrying out preventive actions (on-site signage as was used for the resource zone where the results were very positive), continuing information undertakings by reinforcing them with a broader upstream information campaign (in the municipalities in adjacent zone) and at the landing stages, at tourist offices and tourist service providers), carrying out operations targeting a specific area or type of offence (anchoring, cycling, etc.),

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<sup>6</sup> Port-Cros National Park Activity Reports (2010, p.15; 2011, p.17; 2012 p.22; 2015, p.16; 2016, p.14). The 2017 and 2018 reports no longer mention this adage.



and anticipating from an administrative point of view the processing of offences (coordinating with the public prosecutor as regards dealing with reports, etc). Reinforcing the National Park's penal policy was a strategy, but only if the conditions for implementing it were optimal, thereby making it possible on one hand to alleviate the inhabitants and users' feelings of prejudice, while on the other, by communicating the types of offences and their nature to the inhabitants and users, to neutralise the feeling that the Park failed in its application of the law. This was a lever for creating greater confidence in the institution, which was a condition necessary for the acceptability of visitation management measures.

## **5. Conclusion**

Analysing the quantitative and qualitative data helped to identify conflict situations and recognise their causes. Understanding their dynamics was essential to perceiving not only how they interacted but also to realising that old tensions had fuelled recent conflicts and could hinder dialogue processes and limit the acceptability of measures originating from the MPA. We already mentioned that it was not the conflicts related to acceptability that were the subject of study here, but rather the observed conflictuality that revealed what conditions would be acceptable for implementing visitation management measures, along with others that could be brought to the fore by further complementary studies carried out from a "carrying capacity" approach. We noted initially, that Porquerolles was both a medium and the subject matter of conflicts of different natures involving a multiplicity of actors intervening at various scalar levels. Among the conflicts identified, several were associated with leisure and tourism activities, which took place in the most popular places and during peak periods. We also noted that while there were tensions and conflicts that still persist today, a climate of calm has gradually been established between the territorial stakeholders.

Trust between those who live on the island, those who live off the land, and those who manage or govern it, remained weak but has since been strengthened. The collective working atmosphere was conducive for in-depth discussions regarding the island of Porquerolles' carrying capacity, as all those we met during the interviews saw it as extremely beneficial. Nevertheless, additional conditions necessary for the acceptability of management measures should still be considered. Our study revealed three of them: sharing the view that conflicts of use were additional pressures that harmed the character of the Park's core areas and that their management should be based on negotiated and adaptive thresholds of carrying capacity; consolidating trust by maintaining a close relationship with the islanders; strengthening the Park's penal policy. These conditions are necessary in order to make the measures to manage high visitation acceptable, but they do not guarantee nor are they sufficient for their acceptance.

Analysing the disputes raised questions about how the National Park applies the regulations, deemed by some to be deficient, and going as far as to influence the acceptance of new measures relating to visitation. By providing the necessary conditions to act on violations, the Park could, in the short term, help control the negative effects of high visitor numbers, although this would necessitate establishing a policing policy that would undoubtedly be more repressive, but more importantly would be better adapted to the island's high visitation and its maritime environment.

Regulating visitation to the National Park would make it possible to control certain conflicts and controversies, in particular by strengthening its human and financial resources. This would enable the number of field agents to be increased and computer tools to be procured,

enabling repeat offences, both on water and on land to be identified (in particular conflicts of cohabitation), and would help tourism adapt better to the character of the Park's core areas. Nevertheless, it should not only be the National Park's responsibility to activate the levers that regulate visitation, because this would presuppose a certain level of consensus that is indeed difficult to achieve. Our study has brought to light the different levels of visitation acceptance, with visitors and tourism promoters being more tolerant than the Park's residents and agents. The thresholds of visitation that the stakeholders will determine will never satisfy everyone, and so the decision-makers will have to accept this by keeping in mind the carrying capacity approach and the consensus that resulted from consultations. Although discussions regarding the carrying capacity did not give rise to conflicts, certain specific actions resulting from the discussions could be contested. It would thus be advisable not to deny these challenges, to consider the arguments and alternatives proposed by the opponents of certain measures, "*listen to the people here*" (extracts from interviews, 2017) and devote the time needed to regulate these potential challenges by strengthening the proximities. (Beuret *et al.*, 2019).

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## References

- Abernethy, V.D., 2001. Carrying capacity: The tradition and policy implications of limits. *Ethics in Science and Environmental Politics (ESEP)*. 9-18. <https://doaj.org/article/75c8b9195dcb40f1abe53ed80874e307>
- Barcelo A., Bernard, Ph., Buzaud, C., Creusefond, M., Despinoy, P., Gabriel, J. , Hily, G., Mazzella, C., Millier, L., Cresp, G., Ridolfi, J. Coupez, L., Crosetti, G., Renoux, S., Prodomides, M., 2018. Mode de gouvernance pour la gestion concertée du cœur marin de l'île de Porquerolles, au sein du Parc national de Port-Cros (Provence, France) : retour des acteurs sur 10 années de pratique. *Sci. Report, Port-Cros natl Park*. 32: 83-111.
- Barcelo, A., Canale, J., Cresp, G., Creusefond, M., Crosetti, G., Despinoy, P., Hily, G., Mazella, C., Millier, L., Ridolfi, J., Sellier, G., 2010. Concertation et mode de gouvernance lors de la mise en place de l'aire marine protégée de Porquerolles (Hyères, France), dans le cadre de Natura 2000 en mer. *Sci. Report, Port-Cros natl Park*. Fr. 24: 21-38.
- Batel, S., Devine-Wright, P., Tangeland, T., 2013. Beyond the social acceptance of renewable energy innovation: A discussion about acceptance and support. *Energy Policy*. 58: 1-5
- Batellier, P., 2015, *Acceptabilité sociale. Cartographie d'une notion et de ses usages*, Québec, UQAM: Les publications du Centr'ERE, Cahier de recherche. 150 p.
- Bell, C.M., Needham, M.D. and Szuster, B.W., 2011. Congruence Among Encounters, Norms, Crowding, and Management in a Marine Protected Area. *Environmental Management* 48. 499–513.
- Beuret, J.-E., Cadoret, A., Pothin, K., Barnay, A.-S., Le Bihan, O., Sevin Alouet, M.-A., 2019. Understanding and valuing conflicts in marine protected areas: The best way to develop innovations? *Aquatic Conserv: Mar Freshw Ecosyst*. 29(S2). 212–222.

Beuret, J-E. and Cadoret, A., 2014. De l'analyse des conflits à l'étude des systèmes conflictuels: l'exemple des conflits environnementaux et territoriaux dans les trois plus grands ports maritimes français (Marseille-Fos, Le Havre et Dunkerque). *Géographie, Économie, Société*. 16 (2). 207-231.

Brigand, L., Retière, D., Richez, G., 2003. *Étude de la fréquentation touristique des îles de Port-Cros et Porquerolles*. Rapport de recherche, Parc national de Port-Cros. Université de Bretagne Occidentale. Université de Provence. 100p.

Bruckmeier, K. and Høj Larsen, C., 2008. Swedish coastal fisheries—from conflict mitigation to participatory management. *Mar Policy*. 32. 201–211.

Cadoret, A. and Daumalin, X., 2017. Environmental conflictuality in the Marseille-Cassis Calanques: background, challenges and resolution. *Articulo - Journal of Urban Research* [Online]. 16 | 2017. DOI : <https://doi.org/10.4000/articulo.3244>

Cole, D.N. and McCool, S.F., 1997. Limits of acceptable change and natural resources planning: when is LAC useful, when is it not? In: McCool, Stephen F.; Cole, David N., comps. *Proceedings - limits of acceptable change and related planning processes: progress and future directions: from a workshop held at the University of Montana's Lubrecht Experimental Forest*. Gen. Tech. Rep. INT-GTR-371. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 69-71.

*Courier International*. 2018. Tourisme: ça déborde! Hebdo n°1453. 6-12 sept. 2018

Cupul-Magana, A.-L. and Rodríguez-Troncoso, A.-P., 2017. Tourist carrying capacity at Islas Marietas National Park: An essential tool to protect the coral community. *Applied Geography*. Vol.88. 15-23.

Deldrève, V. and Michel, C., 2019. La démarche de capacité de charge sur Porquerolles (Provence, Parc national de Port-Cros, France): de la prospective au plan d'actions. *Sci. Rep. Port-Cros natl. Park*. 33: 63-100.

Depraz, S., 2016. Pourquoi et comment travailler l'acceptation sociale dans les territoires ? In Depraz, S., Cornec, U., Grabski-Kieron, U. (Eds.), *Acceptation sociale et développement des territoires*. Lyon : ENS Ed. DOI : 10.4000/books.enseditions.5649

Depraz, S. and Laslaz, L., 2014. Une méthode en dix points pour comprendre l'acceptation sociale des espaces protégés. In *Les espaces protégés entre conflits et acceptation*. Belin. 49-66.

Depraz, S., 2005. « Le concept d'« Akzeptanz » et son utilité en géographie sociale. Exemple de l'acceptation locale des parcs nationaux allemands ». *L'Espace géographique*. 2005/1 (34). 1-16.

Depraz, S., 2008. *Géographie des espaces naturels protégés*. Paris Armand Colin. 320p.

Diedrich, A., Balaguer Huguet, P., Tintore Subirana, J., 2011. Methodology for applying the Limits of Acceptable Change process to the management of recreational boating in the Balearic Islands, Spain (Western Mediterranean). *Ocean & coastal management*. 54(4): 341-351.

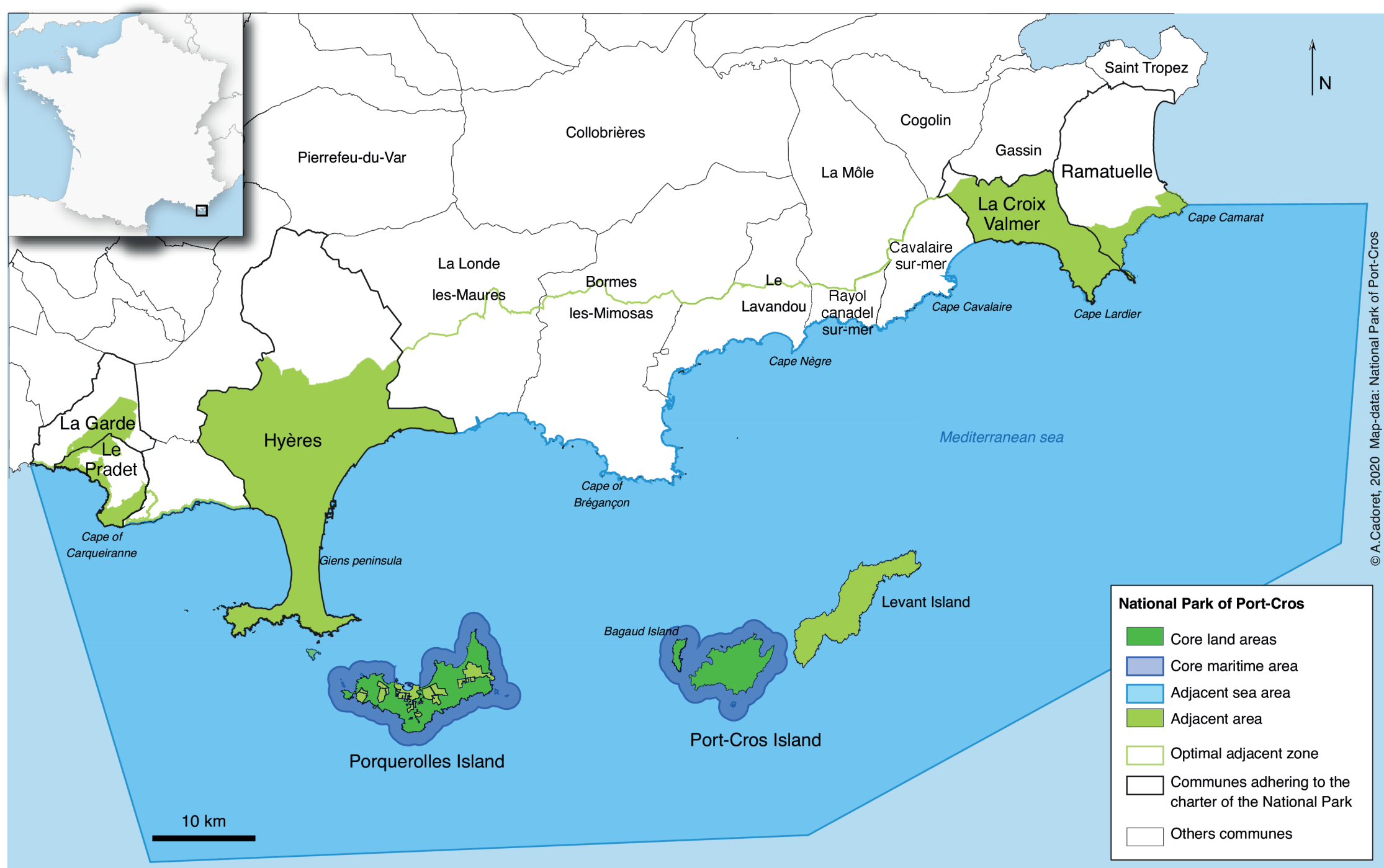
Duvat, V., 2008. L'intérêt d'une approche en termes de capacité de charge pour la gestion des littoraux: l'exemple de l'île de la Réunion (Océan indien). Proceedings of the international pluridisciplinary conference "The littoral: challenge, dialogue, action" - Lille, France, 16-18 January 2008.

Foster, E.-G. and Haward, M., 2003. Integrated management councils: a conceptual model ocean policy conflict management in Australia. *Ocean & coastal management*. 46: 547–563.

- Fukuyama, F., 1995. *Trust: The Social Virtues and the Creation of Prosperity*. New York. The Free Press. 457p.
- Gerardin, N., 2013. Le caractère du Parc national de Port-Cros. *Sci. Rep. Port-Cros nat. Park*. 27: 475-483.
- Gonson, C., Pelletier, D., Alban, F., 2017. Influence of settings management and protection status on recreational uses and pressures in marine protected areas. *Journal of Environmental Management*. 200:170-185.
- Guyot, S., 2006. *L'Environnement contesté : la territorialisation des conflits environnementaux sur le littoral du Kwazulu-Natal (Afrique du Sud: Kosi Bay, St Lucia, Richards Bay et Port Shepstone)*. Nanterre: Université de Paris X, thèse de doctorat en géographie. 738 p.
- Hayes, C.T., Baumbach, D.S., Juma, D., Dunbar, S.G., 2017. Impacts of recreational diving on hawksbill sea turtle (*Eretmochelys imbricata*) behaviour in a marine protected area. *Journal of Sustainable Tourism*. 25:1. 79-95
- Jones-Walters, L. and Çil, A., 2011. Biodiversity and stakeholder participation. *J. Nat. Conserv.* 19: 327–329.
- Jones, S., 1998. Conflicts about natural resources. *Footsteps* 36: 1-3.
- Laslaz, L., 2020. La charte ou les apories de la concertation. *VertigO - la revue électronique en sciences de l'environnement* [Online]. 20 :1. <https://doi.org/10.4000/vertigo.27624>
- Laslaz, L., Gauchon, C., Duval, M., Héritier, S., 2014. *Les espaces protégés entre conflits et acceptation*. Paris: Belin. 431p.
- Le Berre, S., Brigand, L., Le Corre, N., Peuziat, I., 2013. L'apport du Parc national de Port-Cros à la réflexion sur les usages récréatifs et leurs suivis dans les aires protégées: les observations bountiles Ports Cros et Porquerolles. *sci report Port-Cros natl Park*. 27: 325-353.
- Le Corre, N., Le Berre, S., Brigand, L., Peuziat, I., 2012. Comment étudier et suivre la fréquentation dans les espaces littoraux, marins et insulaires ? De l'état de l'art à une vision prospective de la recherche. *EchoGéo* [Online]. 19 | 2012. <http://journals.openedition.org/echogeo/12749> ; DOI : <https://doi.org/10.4000/echogeo.12749>
- Lecourt, A., 2003. *Les Conflits d'aménagement : analyse théorique et pratique à partir du cas breton*. Rennes: Université de Rennes 2. Thèse de doctorat de géographie. 362 p.
- Lemahieu, A., 2015. *Fréquentation et usages littoraux dans la réserve Naturelle Marine de La Réunion : élaboration d'un suivi pour l'analyse des dynamiques spatio-temporelles et apports de l'outil à la gestion et la recherche interdisciplinaire*. Thèse de Géographie. Paris. 356p.
- Manning, R.-E., Anderson, L.-E., Pettengill, P., 2017, *Managing Outdoor Recreation, 2nd Edition: Case Studies in the National Parks*, CABI, 252p.
- Manning R.-E., 2014, Research to guide management of outdoor recreation and tourism in parks and protected areas, *Koedoe*. 56(2). Art. #1159. 1-7. <http://dx.doi.org/10.4102/koedoe.v56i2.1159>
- Mc Cool, S.-F. and Lime, D.-W., 2001, Tourism Carrying Capacity: Tempting Fantasy or Useful Reality? *Journal of Sustainable Tourism*. Vol. 9. 5: 372-388.

- McCool, S., 1994. Planning For Sustainable Nature Dependent Tourism Development. *Tourism recreation research*. Vol 19(2): 51-55.
- MedPAN, 2006. *Aires Marines Protégées de Méditerranée et gestion durable du tourisme*, acte de l'atelier MEDPAN n°3. 22-25 march 2006. MEPDAN. 101p.
- MedPAN, 2016. Actes de l'atelier régional d'échange d'expérience 2015: Vers un tourisme durable dans les AMP de Méditerranée. 24/26 november 2015. MedPAN Collection. 68 p.
- Michel, C., 2018. *Notion de capacité de charge*. Rapport final pour le Parc national de Port-Cros. 86p.
- Miller, M.-L. and Auyong, J., 1991. Coastal zone tourism - a potent force affecting environment and society. *Marine Policy*. 15. 2: 75-99.
- Moine, A., 2006. Le territoire comme un système complexe: un concept opératoire pour l'aménagement et la géographie. *L'Espace géographique*. 2006/2. 35: 115-132.
- Mottiaux, M., 2008. Endémismes.... *Techniques & Culture*. 50: 60-83. DOI : <https://doi.org/10.4000/tc.3966>
- Neumann, B, Vafeidis, A.-T., Zimmermann, J., Nicholls, R.-J., 2015. Future Coastal Population Growth and Exposure to Sea-Level Rise and Coastal Flooding - A Global Assessment. *PLOS ONE* 10(6) : e0131375. <https://doi.org/10.1371/journal.pone.0131375>
- Ozden, G.B., 2008. A complete study on the determination of yacht carrying capacity in Gocek Bay (Fethiye-Göcek Special Environment Protection Area), in Conference on Marine Problems and Specific Solutions, COMPASS 2008, Maldives, June 15-17-2008, 151-159.
- Parc national de Port-Cros. 2016. *Charte du Parc national de Port-Cros*. 372p.
- Petts, J., 1998. Trust and waste management information expectation versus observation. *Journal of Risk Research*. Vol.1. 4: 307-320.
- Pieraccini, M. and Cardwell, E., 2016. Divergent perceptions of new marine protected areas: Comparing legal consciousness in Scilly and Barra, UK. *Ocean & Coastal Management*. Vol. 119: 21-29.
- Pinton, F., Alphanéry, P., Billaud, J.-P., Deverre, C., Fortier, A., Geniaux, G., 2007. *La construction du réseau Natura 2000 en France: Une politique européenne de conservation de la biodiversité à l'épreuve du terrain*. Coll. L'environnement en question. Ed: La Documentation Française. 250 p.
- Plante, S., Boisjoly, J., Guillemot, J., 2006. Gestion intégrée des îles habitées de l'estuaire du Saint-Laurent (Québec) et développement territorial : l'expérience de la mise en œuvre d'un comité de gestion intégrée à l'Isle-aux-Coudres. *VertigO - la revue électronique en sciences de l'environnement* [Online]. Vol.7. 3. DOI : <https://doi.org/10.4000/vertigo.209>
- Pretty, J. and Ward, H., 2001. Social Capital and the Environment, *World Development*. Vol. 29. (2): 209-227.
- Région Sud, 2017. *Schéma Régional de développement touristique de Provence Alpes Côtes d'Azur 2017-2022*. Région Sud. 130p.
- Scannell, L. and Gifford, R., 2010. Defining place attachment: A tripartite organizing framework. *Journal of Environmental Psychology*. Vol.30. Issue 1:1-10.

- Seraphin, H., Sheeran, P., Pilato, M., 2018. Over-tourism and the fall of Venice as a destination, *Journal of Destination Marketing & Management*. 9: 374-376
- Shafer, S. and Inglis, G., 2000. Influence of social, biophysical, and managerial conditions on tourism experiences in the Great Barrier Reef World Heritage Area. *Environmental Management* 26(1):73–87.
- Shipman, B. and Stojanovic, T., 2007. Facts, fictions, and failures of integrated coastal zone management in Europe. *Coastal Management*. 35:375-398.
- Stamieszkin, K., Wielgus, J., Gerber, L R., 2009. Management of a marine protected area for sustainability and conflict resolution: Lessons from Loreto Bay National Park (Baja California Sur, Mexico). *Ocean & Coastal Management*. 52: 449-458.
- Stepanova, O., and Bruckmeier, K., 2013. The relevance of environmental conflict research for coastal management. A review of concepts, approaches and methods with a focus on Europe. *Ocean & Coastal Management*. 75: 20-32.
- Subra, P., 2008. L'aménagement, une question géopolitique!. *Hérodote*. n°130: 222-250.
- Sunkar, A., and Santosa Y., 2018. Biodiversity conservation at Betung Kerihun National Park: the positive role of customary law in mitigating a local community trust deficit. *IOP Conf. Ser.: Earth Environ. Sci.* 196. 012024.10p.
- Thomassin, A., White, C.S., Stead, S.S., David, G., 2010. Social acceptability of a marine protected area: The case of Reunion Island. *Ocean & Coastal Management*. 53: 169-179.
- Thuy Thi and Thanh Pham, 2020. Tourism in marine protected areas: Can it be considered as an alternative livelihood for local communities? *Marine Policy*. Vol. 115-122. DOI: 10.1016/j.marpol.2020.103891
- Torre, A., Melot, R., Magsi, H., Bossuet, L., Cadoret, A., Caron, A., Darly, S., Jeanneaux, Ph., Kirat, T., Pham, H.-., Kolokouris, O., 2014. Identifying and measuring land-use and proximity conflicts: Methods and identification. *SpringerPlus*. 3. 85. <https://doi.org/10.1186/2193-1801-3-85>
- Trudelle, C., 2003. Au-delà des mouvements sociaux: une typologie relationnelle des conflits urbains. *Cah Géogr Qué.* 47(131): 223–242.
- Vlès, V., 2018. Construction partagée d'un système numérisé de gestion des capacités de charge touristique du Parc national de Port-Cros, *Rapport final au Parc national de Port-Cros*, 102p.
- Zakai, D. and Chadwick-Furman, N.-E., 2002. Impacts of intensive recreational diving on reef corals at Eilat, northern Red Sea. *Biological Conservation*. 105: 179-187.



**National Park of Port-Cros**

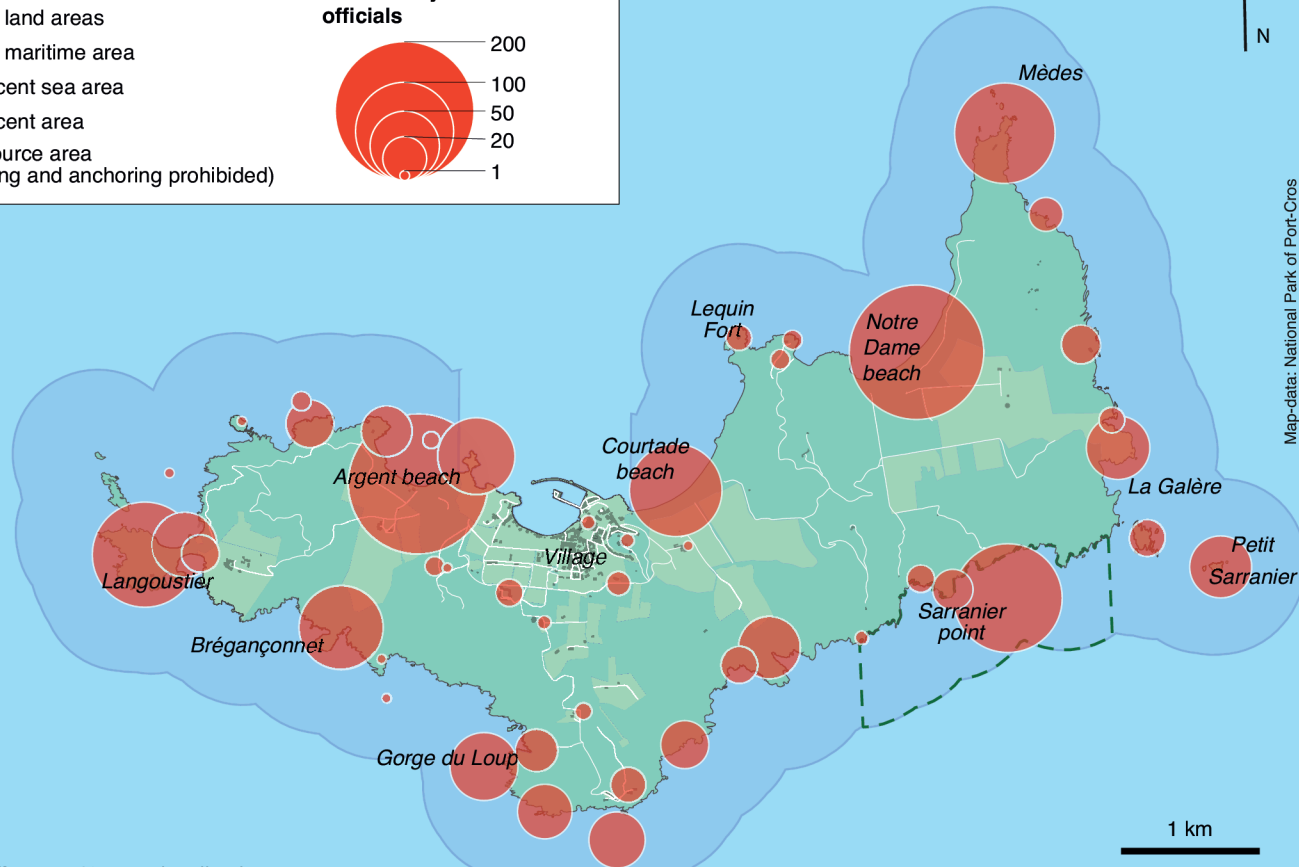
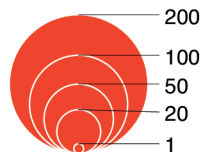
- Core land areas
- Core maritime area
- Adjacent sea area
- Adjacent area
- Optimal adjacent zone
- Communes adhering to the charter of the National Park
- Others communes

10 km

## Porquerolles National Park perimeters

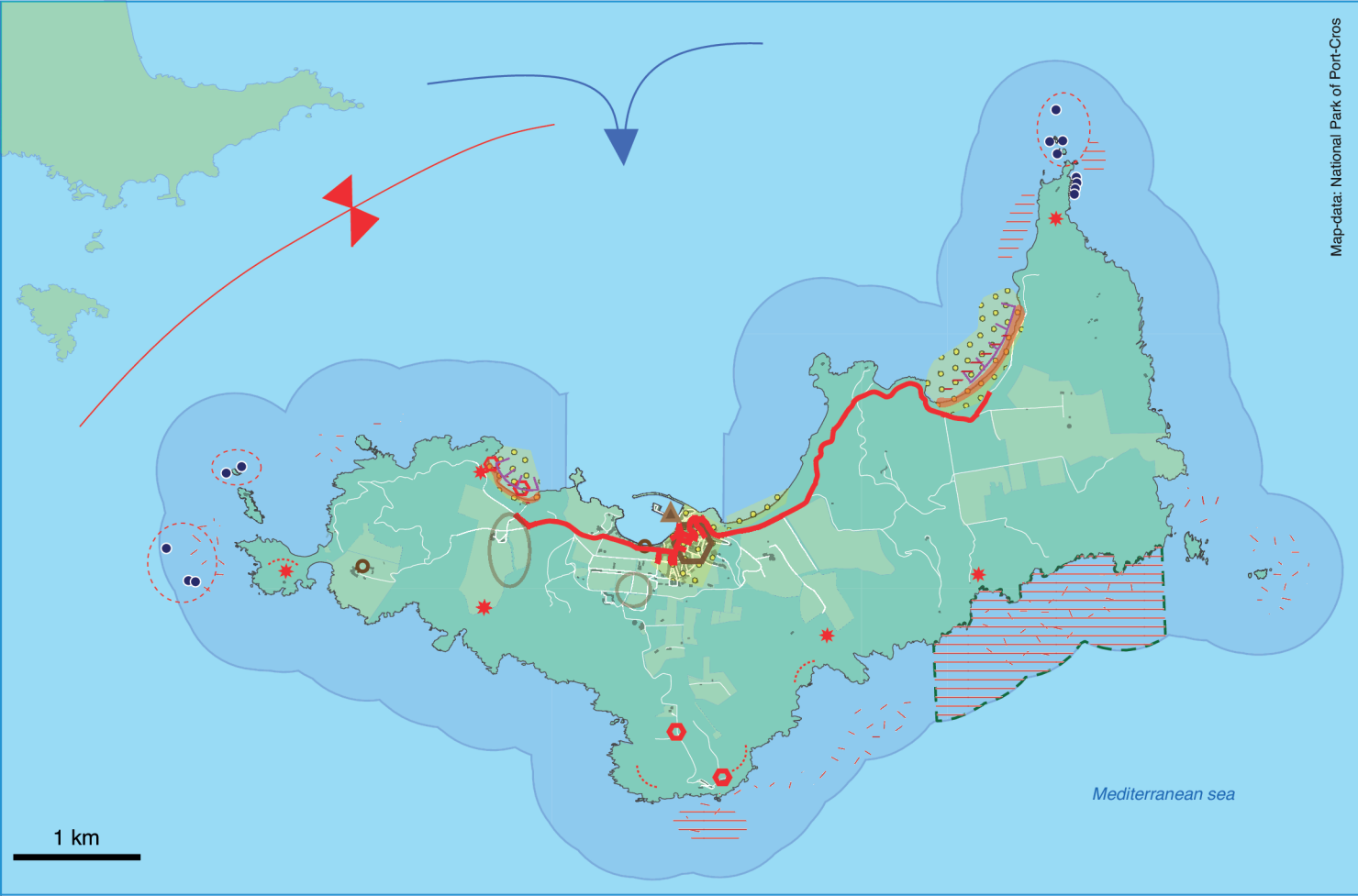
- Core land areas
- Core maritime area
- Adjacent sea area
- Adjacent area
- Resource area (fishing and anchoring prohibited)

## Number of infractions detected by National Park officials



Notes : Of all offences, 40% are localized.  
A total of 4,516 offences were recorded between 2016 and 2018.





## 1. A protected island...

### 1.1. ...by a National Park...

- Core land areas
- Core maritime area
- Adjacent sea area
- Adjacent area
- Resource area (fishing and anchoring prohibited)

### 1.2.... that was built with opposition

- Conflicts over the lease of agricultural land
- Building Permits Issued (1975-2010)
- Site subject to opposition to the boundaries of the core area of the National Park (2011-2012)
- Opposition site relating to the installation of the "Park-National Park of Port-Cros" sign (2016)

### 1.3....that relies on regulations that are not always respected

- Main sites where off-leash dog infractions are recorded
- Cycles off the authorized trails
- Main areas of cigarette-related offences
- Failure to respect mooring areas
- Poaching
- \* Non-compliance with the ban on entering the massif in case of fire risk

## 2. An inhabited island, much visited during long weekends in spring and summer

### 2.1. an inhabited and coveted island

- Buildings
- Main road
- dive mooring
- Highly frequented areas

### 2.2. Different tourism strategies

- Opposite communication strategies
- Daily flows of passengers / visitors

### 2.3. A conflicting division of space

- Difficult cohabitations between diving and yachting
- Difficult cohabitations between pedestrians and cyclists
- Difficult cohabitation between swimmers and yachting



Cycles near Notre Dame beach (August 17, 2017)



Courtade bay (september 5, 2017)



Departure for the continent from Porquerolles, (August 14, 2017)



Argent beach, 11:00 am (August 14, 2017)

REJECTION

RESIGNATION

CONSENT

ADHERENCE

SUPPORT

For visitors and tourism promoters  
coming from outside the territory

For local stakeholders



Increased risk  
of conflicts

