forests

MDPI

Article

The Impact of COVID-19 on the Management of European Protected Areas and Policy Implications

James McGinlay [1], Vassilis Gkoumas [1], Jens Holtvoeth [1], Ruymán Federico Armas Fuertes [2], Elena Bazhenova [3], Alessandro Benzoni [4], Kerstin Botsch [5], Carmen Cabrera Martel [6], Cati Carrillo Sánchez [7], Isabel Cervera [8], Guillermo Chaminade [9], Juliana Doerstel [10], Concepción J. Fagundo García [11], Angela Jones [12], Michael Lammertz [10], Kaja Lotman [13], Majda Odar [14], Teresa Pastor [15], Carol Ritchie [15], Stefano Santi [4], Mojca Smolej [14], Francisco Soriano Rico [7], Holly Waterman [16], Tomasz Zwijacz-Kozica [17], Andreas Kontoleon [1], Panayiotis G. Dimitrakopoulos [18,*] and Nikoleta Jones [1,*]

1 Department of Land Economy, University of Cambridge Conservation Research Institute & Cambridge Centre for Environment, Energy and Natural Resource Governance, University of Cambridge, Cambridge CB2 3QZ, UK; jm2365@cam.ac.uk (J.M.); vg345@cam.ac.uk (V.G.); j.holtvoeth@bristol.ac.uk (J.H.); ak219@cam.ac.uk (A.K.)
2 Grupo Tragsa, Avenida Quinto Centenario, Edifico San José, Local 4, 38800 San Sebastián de La Gomera, La Gomera, Canary Islands, Spain; rarmas1@tragsa.es
3 Kullaberg Nature Reserve, County Administrative Board of Skåne, Italienska vägen 323, 26377 Mölle, Sweden; elena.bazhenova@lansstyrelsen.se
4 Prealpi Giulie Nature Park, Resia, Piazza del Tiglio 3, 33010 Resia, Italy; alessandro.benzoni@parcoprealpigiulie.it (A.B.); stefano.santi@parcoprealpigiulie.it (S.S.)
5 Department of National Park Planning, Regional Development and Tourism, National Park Black Forest, Schwarzwaldhochstraße 2, 77889 Seebach, Germany; Kerstin.botsch@nlp.bwl.de
6 Centro Administrativo del Parque Nacional y Parque Natural de Sierra Nevada, Carretera Antigua de Sierra Nevada km 7, 18191 Pinos Genil, Granada, Spain; mariac.cabrera.martel@juntadeandalucia.es
7 Subdirección General de Patrimonio Natural y Cambio Climático, Dirección General del Medio Natural, Consejería de Agua, Agricultura, Ganadería, Pesca y Medio Ambiente, Región de Murcia, Plaza Juan XXIII, s/n. Desp. C1.10, 30008 Murcia, Spain; cetssierraespuna@carm.es (C.C.S.); francisco.soriano2@carm.es (F.S.R.)
8 Las Batuecas-Sierra de Francia Natural Park, Casa del Parque Natural Las Batuecas-Sierra de Francia, Ctra/Las Batuecas, n° 22, 37624 La Alberca, Salamanca, Spain; isabel.cervera@patrimonionatural.org
9 Söderåsen National Park, County Administrative Board of Skåne, Skäralid 747, 26453 Ljungbyhed, Sweden; Guillermo.chaminade@lansstyrelsen.se
10 Wald und Holz NRW, Nationalparkforstamt Eifel, Fachgebiet Kommunikation und Naturerleben, Urftseestraße 34, 53937 Schleiden-Gemünd, Germany; doerstel@nationalpark-eifel.de (J.D.); lammertz@nationalpark-eifel.de (M.L.)
11 Garajonay National Park, Centro de Visitantes Juego de Bolas, La Palmita C.P., 38330 Agulo, La Gomera, Canary Islands, Spain; cfaggar@gobiernodecanarias.org
12 Snowdonia National Park Authority, Penrhyndeudraeth, Gwynedd LL48 6LF, UK; angela.jones@eryri.llyw.cymru
13 Environmental Board of Estonia, 15172 Tallinn, Estonia; kaja.lotman@keskkonnaamet.ee
14 Triglav National Park, Ljubljanska cesta 27, 4260 Bled, Slovenia; majda.odar@tnp.gov.si (M.O.); mojca.smolej@tnp.gov.si (M.S.)
15 EUROPARC Federation, Waffnergasse 6, 93047 Regensburg, Germany; teresa.pastor@europarc.org (T.P.); carol.ritchie@europarc.org (C.R.)
16 Peak District National Park Authority, Aldern House, Bakewell DE45 1AE, UK; holly.waterman@peakdistrict.gov.uk
17 Tatra National Par, Kuźnice 1, 34-500 Zakopane, Poland; tzwijacz@tpn.pl
18 Department of Environment, University of the Aegean, 81100 Mytilene, Greece
* Correspondence: pdimi@env.aegean.gr (P.G.D.); nj322@cam.ac.uk (N.J.); Tel.: +30-22510-36236 (P.G.D.); +44-(0)-1223-331025 (N.J.)

Received: 29 September 2020; Accepted: 13 November 2020; Published: 18 November 2020

Abstract: The COVID-19 pandemic led to many European countries imposing lockdown measures and limiting people's movement during spring 2020. During the summer 2020, these strict lockdown measures were gradually lifted while in autumn 2020, local restrictions started to be re-introduced as a second wave emerged. After initial restrictions on visitors accessing many Nature Protected Areas (PAs) in Europe, management authorities have had to introduce measures so that all users can safely visit these protected landscapes. In this paper, we examine the challenges that emerged due to COVID-19 for PAs and their deeper causes. By considering the impact on and response of 14 popular European National and Nature Parks, we propose tentative longer-term solutions going beyond the current short-term measures that have been implemented. The most important challenges identified in our study were overcrowding, a new profile of visitors, problematic behavior, and conflicts between different user groups. A number of new measures have been introduced to tackle these challenges including information campaigns, traffic management, and establishing one-way systems on trail paths. However, measures to safeguard public health are often in conflict with other PA management measures aiming to minimize disturbance of wildlife and ecosystems. We highlight three areas in which management of PAs can learn from the experience of this pandemic: managing visitor numbers in order to avoid overcrowding through careful spatial planning, introducing educational campaigns, particularly targeting a new profile of visitors, and promoting sustainable tourism models, which do not rely on large visitor numbers.

Keywords: biodiversity conservation; conflict; national parks; management; pandemic; public health; wellbeing

1. Introduction

Nature Protected Areas (PAs) are important because of their high biodiversity value and the socio-economic benefits they provide for people [1]. In addition to their crucial role in biodiversity conservation, most PAs in Europe are recognized as multifunctional landscapes providing multiple benefits and ecosystem services. These may range from provisioning services, for example in working farmed landscapes, to regulating services, from water and air quality regulation to carbon storage, but also a very wide range of cultural ecosystem service benefits [2] ranging from psychological restoration [3–5] and improved physiological health [6–8] to better social relations [9–12], and spiritual development [13,14]. Whilst, to a certain extent, many of these benefits may be available to people from a local urban and peri-urban green space, countries designate a suite of high-quality nature protected areas that are of exceptional quality for biodiversity conservation, and provision of the above provides a wide range of benefits to people, and high profile sites such as National Parks are typically extremely popular with visitors. These protected landscapes, therefore, have a crucial role in improving physical and mental health [15], assisting in the improvement of people's wellbeing [16,17], and protecting local social and cultural values [18].

Europe is the region with the largest number of PAs internationally [19]. European PAs are of various sizes with overlapping designations such as the Ramsar Convention, the NATURA 2000 network, the Emerald network, and nationally designated parks [20]. PAs are a significant source of income for local communities living inside or near their boundaries. This is in part due to the high number of visitors they attract [21]. In Europe, Schägner et al. [22] estimated that 449 national parks attract over 2 billion visitors with a total value of €14.5 billion annually. These estimates represent only a fraction of the actual value of tourism in European Protected Areas considering that Europe has over 100,000 Protected Areas [23].

The COVID-19 pandemic led many European countries to impose lockdown measures to limit people's movement [24]. These measures were aimed at reducing the spread of the virus but also decreased significantly the number of people visiting outdoor spaces [25], including PAs, particularly those located in more remote areas, as is often the case for many larger PAs. In European countries, where strict lockdown restrictions were imposed, a reduction in visitor numbers was initially observed (e.g., [26,27]). Likewise, the number of visitors increased rapidly as soon as these restrictions were eased [27–29].

These changes in visitor numbers are expected to have posed significant management issues for PAs in Europe. As we write this paper (October 2020), lockdown measures that had been lifted during the past summer are gradually being re-introduced in several European countries. Central and regional government authorities are looking into ways of containing the virus' transmission, focusing significantly on measures that are enforced locally. During the lockdown, most people only had access to green spaces near where they lived and access to more remote sites was limited to those living nearby. In the case of popular and high-profile PAs, such as national and regional parks, coming out of strict lockdown in late spring and summer 2020 resulted in a steep increase in visitor numbers. Therefore, the management authorities in these areas needed to introduce new measures to enable all users to visit them safely. However, a key issue for popular nature Protected Areas is that the requirements of nature conservation and public health safety may, at times, be difficult to balance.

In normal times, PA staff manage to channel visitors in a way that minimizes disturbance of more sensitive species, such as ground-nesting birds in the nesting season, or fragile ecosystems, such as high altitude montane habitats. This normally means encouraging visitors to spend most of their time in less sensitive locations, often leading to the creation of busier 'honeypot sites', where crowds may occur. However, social distancing regulations that have been implemented in response to COVID-19 involve avoiding crowded locations, so visitors spread out more evenly across the PA, thus increasing the likelihood of human disturbance of species and habitats. In addition to the challenges presented solely by the increase in visitor numbers, visitor behavior can also conflict with landscape and nature conservation.

In this paper, we present an early analysis of how COVID-19 has impacted European PAs so far. We focus on two key issues: (a) the challenges that COVID-19 presented to the management of PAs in Europe, especially on the ability of PAs to perform their functions of conserving nature and providing nature-based benefits to visitors, and (b) review indicative measures that have been implemented across different parks in the region to tackle these challenges. In the discussion section we analyze the problems and their deeper causes, consider what lessons can be learned from the COVID-19 pandemic, and propose tentative longer-term solutions going beyond the current short-term measures.

2. Materials and Methods

In order to capture the key challenges faced by PAs due to COVID-19 and the measures applied to address them, we followed a two-stage approach: we initially surveyed the existing limited academic and grey literature and websites of park authorities to identify measures that had been introduced by park authorities across Europe during the first months of the pandemic. We then organized two workshops with key informants from the management bodies of a selected sample of European nature PAs.

Our study sample was selected based on three broad criteria: (a) high profile sites were targeted which are popular with visitors (including sites which have been awarded the EUROPARC Federation Charter of Sustainable Tourism) as they were more likely to prove very popular after the lockdown was eased and so particularly challenging to manage regarding the trade-off between visitor management and nature conservation; (b) geographical spread across a diverse range of European countries from West to East, North to South; (c) varying national regulations on COVID-19.

For the selection of the final participant PAs (Table 1), we decided to narrow down our research to eight countries which reflected a range of government responses to the pandemic from strict lockdown to softer measures (criterion c). The eight countries were the UK, Spain, Italy, Estonia, Germany, Poland, Slovenia, and Sweden. During the first months of the pandemic, the UK, Spain, and Italy were three of the most badly affected countries in Europe by the virus and strict lockdown restrictions were imposed restricting significantly people's movement [30–32]. Germany also had a large number of cases but the death rate was lower compared to other countries and restrictions were less severe compared to the UK, Spain, and Italy [33,34]. Estonia, Poland, and Slovenia had a lower fatality rate [35] and restrictions on movement were also imposed [36–39] but were eased earlier compared to other countries. Finally, Sweden was the only country in our study which did not impose strict lockdown restrictions compared to the rest of the European countries. Although no strict measures were imposed in Sweden, it is considered that a large majority of people followed social distancing recommendations while the most vulnerable self-isolated voluntarily [40].

After determining the sample of eight countries, a call was announced inviting park authorities to participate in workshops focusing on the impacts of COVID-19. Two workshops were organized (co-hosted with the EUROPARC Federation) three months apart (1 July and 6 October 2020) with invited representatives of the management of 14 selected sites in order to explore with them the challenges that parks face due to the pandemic. All sites were included in the study, as they are all popular visitor destinations, they spread across multiple European countries, and they face new challenges due to COVID-19. The 14 sites also represent two different types of designations according to the IUCN categories (II and V). (IUCN Categories are described in detail on the IUCN website: https://www.iucn.org/theme/protected-areas/about/protected-area-categories). Details of the participating parks are given in Table 1 below. Fourteen attendees participated in the first workshop representing 13 parks and 16 attendees in the second workshop also representing 13 parks.

The first workshop took place during the first COVID-19 peak when a potential 6-month pandemic was considered likely. At the time of the second workshop, the second peak had begun and it appeared that a 12-month crisis or longer was probable.

Table 1. Nature Protected Areas (PAs) participating in the workshops.

Name	Country & Region	IUCN Protection Level
Matsalu National Park	Estonia	II
Eifel National Park	Germany (Nord-Rhein Westphalen)	II
Black Forest (Schwarzwald) National Park	Germany (Baden-Württemberg)	II
Prealpi Giulie Natural Park	Italy (Friuli Venezia Giulia)	V
Tatra National Park *	Poland (Carpathians)	II
Triglav National Park	Slovenia (Upper Carniola)	II & V
Sierra Espuña Regional Park	Spain (Murcia)	V
Sierra Nevada National Park	Spain (Andalusia)	II
Las Batuecas-Sierra de Francia Natural Park **	Spain (Castilla y León)	V
Garajonay National Park	Spain (Canary Islands)	II
Kullaberg Nature Reserve	Sweden (Skåne Province)	V
Söderåsen National Park	Sweden (Skåne Province)	II
Peak District National Park	UK (England)	V
Snowdonia National Park *	UK (Wales)	V

* attended first workshop only, ** attended second workshop only.

The first workshop focused on the main positive and negative impacts of the PAs on their local communities prior to the COVID-19 pandemic, and on the main challenges that COVID-19 had presented to them, with a particular focus on changes in visitor numbers and the impact on local people. Participants were then asked about the measures they had implemented to cope with the impact of COVID-19 on the PA and local people, and about their plans to reduce or manage the negative impacts in the future. The second workshop then focused more on the tensions and conflicts between stakeholder groups created by the PA and the COVID-19 pandemic. Participants were asked whether

COVID-19 had caused new or increased existing tensions and conflicts in their PA (e.g., between local people, between visitors, or between visitors and local people). Finally, it covered any research done by the PA management in the past that could explain why tensions or conflicts had emerged (for example, a social impact assessment).

Both workshops were recorded and facilitated by experienced colleagues who took notes during the workshop. Online polls were also conducted during the workshops to obtain quantitative data using the Zoom video-conferencing platform, and further qualitative comments were collected regarding the above discussion topics using Mentimeter.

The notes and the recordings were then analyzed by researchers experienced in qualitative data analysis to identify key emergent themes focusing on two main broad topic areas: (a) the challenges in the management of the PAs due to the pandemic and (b) actions to overcome these challenges. The findings of both qualitative and quantitative data analysis are presented below in Section 3.

3. Results

3.1. Challenges Due to COVID-19 in European Nature Parks

A range of challenges caused by COVID-19 was identified by participants (Table 2). In all 14 parks, an increase in visitors was observed especially during the summer compared to the same period the previous year. An increase in weekday visitors was also noted in certain parks. The increase in visitors led to overcrowding incidents and park authorities had to introduce very quickly new social distancing measures and recommendations that would ensure that all users were able to safely enjoy the area. In countries with strict lockdown restrictions (UK, Italy, Spain), the initial low visitation numbers (due to strict travel regulations) were followed by a significant increase in visitors during the summer. In the case of Swedish sites, an increase in visitors was noticed at the beginning of the pandemic (as no restrictions on movement were imposed), which continued throughout the summer months. Similarly, at the German sites, where the movement of people within specific regions was not significantly restricted, a gradual increase in visitors was observed from the beginning of the health emergency in the country. It should be noted that some participant parks experienced an almost 100% increase in visitors on certain days relative to expectations for that time of year. A possible explanation for this increase suggested by the participants was that people felt safer in outdoor and more remote locations, such as the ones protected by National Parks and nature reserves across Europe, compared to indoor and urban spaces. Furthermore, in some countries, the weather was relatively mild in spring 2020 (UK, Germany, and Sweden), which may also have resulted in a significant increase in visitors where people's movement was allowed.

A second important challenge was that the increase in visitors was often combined with incidents of problematic behavior, which is defined here as behavior that conflicts with either the conservation aims of the PA or the widely accepted social norms of behavior within the local communities around the PA. Although irresponsible behavior does occur in PAs, our analysis revealed that such issues became more frequent during the first months of the pandemic.

During the second workshop, park authorities were asked to specify which behaviors had become more frequent at their sites during the pandemic period (Figure 1). Parking and road congestion was the most frequently mentioned issues, which was partly due to the greatly increased number of tourists visiting the parks and a tendency to drive rather than commute by public transport or join organized groups with coaches to reach the parks. Illegal parking became a common problem in several PAs, with rangers having to routinely monitor for illegal behavior. A second important problem mentioned by respondents was linked to waste management issues, such as littering. Workshop participants noted that the observed increase in problematic behavior may be linked to a different profile of people visiting the areas due to COVID-19, who were unaware of the main regulations that are in place and of widely accepted norms of behavior in conservation areas. This was noted across most sites irrespective of the geographical region. Finally, the mountainous parks in the sample expressed concern over

increased visits from inexperienced hikers in the winter and the anticipated increased demand for first-aid provisions and search and rescue missions. This is expected both due to a decrease in or ban on guided tours due to social distancing regulations and due to more visitors attempting mountain hiking as an alternative to traveling abroad or elsewhere domestically.

Table 2. Challenges in managing European PAs due to COVID-19.

Challenge	Key Issue
Overcrowding	A significant increase in (mainly domestic) visitors was reported especially as soon as people were allowed to travel further from their home
Problematic behavior by PA users	An increase in problematic behavior when using the PA was observed. This referred to a range of issues including waste management and disturbance e.g., littering and dog/human waste, noise nuisance, illegal/unauthorized activities e.g., camping
Parking and traffic issues	Incidents of irresponsible parking were reported including parking in non-designated areas and parking in a way that disturbed people and nature. Traffic was increased as people accessed parks with their own car avoiding public transport and organized groups
Social distancing	Changes were needed in how certain activities were being run, such as guided tours and visitor centers, to ensure social distancing
Conflicts	Conflicts between local people, and between visitors and locals emerged because of overcrowding and the fear of virus transmission, and over behavioral issues
Cancellation of educational and cultural activities	Several activities which are organized regularly in the parks, such as guided tours and festivals, had to be canceled or limited to a very low number of participants

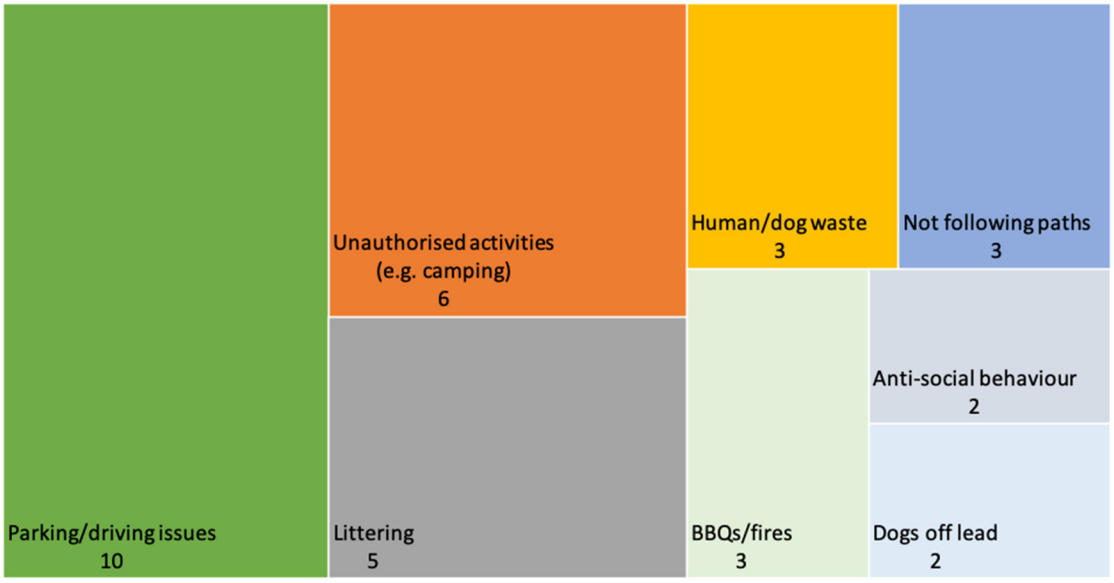

Figure 1. Frequency of problematic behavior during the first seven months of the pandemic mentioned by park authorities in the workshops.

Overcrowding incidents and irresponsible behavior also led to conflicts between local residents, and between locals and visitors at several sites. Conflicts between residents tended to arise in cases where behavior, which otherwise would be considered unremarkable or unproblematic, was perceived to contravene emergency restrictions and social distancing recommendations, or where attempts to modify behavior to conform to the new situation led to new conflicts and tension that did not normally arise. Examples of this included local people going for a walk or cycling in their local area and either being criticized for this or not being recognized as local.

Conflicts between visitors and locals arose over either local norms of behavior between locals and visitors, such as inconsiderate parking or littering or in some areas, because visitors were considered 'transmitters' of the virus and locals would prefer the government to have restricted access to the park until they felt safe. Incidents of vandalism and placement of signs on the road stating that visitors were not welcome were also reported.

Another important issue that was mentioned by several parks was the cancellation of or changes to educational and cultural activities, such as school visits, guided tours, and festivals. Although demand for such activities was high during the summer, due to new social distancing rules, several park authorities decided to limit the number of people participating in these activities or cancel them entirely to limit virus transmission. Apart from the wider social and economic impact of having reduced environmental education and cultural activities at the different sites, a related issue was people choosing to go on their own in the park instead of with a guided tour. This also led to a higher number of cars trying to access the PAs (instead of groups using coaches or public transportation).

Collectively, the coincidence of large increases in visitor numbers, attempts to social distance and avoid crowds, lack of availability of organized tours, as well as new types of visitors less aware of the susceptibility to disturbance of many natural systems, all contributed to increasing the risk and extent of disturbance in remoter more sensitive areas of PAs, as well as more general threats to the tranquility, quality, and integrity of the protected landscapes.

3.2. COVID-19 Measures in Order to Overcome the New Challenges

Different measures were introduced in the parks in order to address the new challenges (Table 3). To address overcrowding, several PAs proceeded with measures limiting access for visitors with different levels of restrictions depending on the virus transmission rates. These measures were often guided by the restrictions imposed at a higher level of administration, either by a regional or central government. In Sweden for example, no restrictions were imposed as the national guidelines did not limit people's movement. On the contrary, at the UK sites, these measures tended to be stricter compared to Sweden (e.g., complete closure of facilities and parking areas) but as lockdown measures were eased, a larger number of visitors were able to access these protected landscapes.

As visitor numbers increased, a key task for all park authorities was to introduce new measures in order to ensure social distancing. A variety of tools were introduced including a one-way system on popular and narrow paths; restricting the number of participants on guided tours; restricting the number of people allowed within facilities (e.g., restaurants, visitor centers, restrooms), and counting the number of visitors entering the area. New measures to maintain good hygiene and limit the spread of the virus were also introduced in PAs. These included enhanced cleaning and waste disposal measures, such as placing hand sanitizers in key locations, cleaning toilet facilities and frequently touched surfaces regularly, and banning cash payments (allowing only contactless payments). Protection of staff was also a key priority with the provision of PPE equipment and installing plexiglass barriers in customer-facing facilities such as restaurants and visitors' centers. A mobile application was also used at one site, which assisted in people having an overview of how many users were on a trail at the same time and reminded them of the current recommendations due to COVID-19.

Table 3. Measures to tackle new challenges due to COVID-19.

Challenge	Measures
Overcrowding	Closure of major facilities, closure of parking areas, cease advertising/promoting the PA to visitors, temporary closure of specific honeypot sites, online updates on car park capacity and overcrowding incidents, replace guided tours and school visits with online educational programs
Irresponsible users	Information campaigns including signs on local notice boards, key entrance points, information on websites, and social media (e.g., Twitter and Facebook). Use of social media to promote appropriate pro-environmental behavior in the PA. Increased number of rangers or increased presence of local police. Fix damaged or vanadalized signage as soon as possible.
Parking and traffic issues	Information campaigns letting people know when a car park is full and also about responsible parking. Increased number of rangers. Introduce new regulations. Towing vehicles away
Conflicts	Information campaigns including signs, information on websites and social media (e.g., Twitter and Facebook). Increased number of rangers.
Social distancing	Banning social gatherings, restricted number of people on guided tours, restrictions on the number of people within facilities (e.g., restaurants, visitor centers, restrooms), establishing one-way system on popular paths, rigorous and enhanced cleaning regimes and waste collection e.g., at visitor centers, placing hand sanitizers in key locations, regular cleaning of toilet facilities, and banning of cash payment (allowing only contactless payments). Protection of staff was also a key priority with the provision of PPE equipment and installing plexiglass in key facilities such as restaurants and visitor centers.
Cancellation of educational and cultural activities	Online learning, a limit on the number of people who are able to attend guided tours

Regarding the increase in problematic behavior at some sites, which was partly attributed to the different profiles of new users, most park authorities recognized that it was necessary to inform and educate people on permissible activity within the PA and on responsible behavior. Several information campaigns were initiated by the park authorities. These included leaflets informing people of key regulations at key entrance points and also clear signage promoting the dispersal of visitors from the main car parks. Information about regulations was also widely promoted via the websites of the PA authorities and also via social media such as Facebook and Twitter.

The number of rangers patrolling the PAs was also increased in several parks whilst one PA noted that rangers preferred to patrol in pairs as they anticipated more hostile responses from visitors, who were asked to comply with social distancing regulations. Another PA liaised with the local police to enhance their presence in the PA area. Similar measures were introduced to tackle illegal parking, insufficient car parking capacity, and traffic incidents. Several park authorities also informed people of parking and traffic issues via social media. In one park, the parking fee was increased in order to discourage visitors while in other parks, the possibility of introducing a parking fee charge is currently being considered in order to reduce obstructive and illegal parking and manage traffic.

Another key challenge that emerged from our analysis refers to conflicts between in- and out-of-area users in certain PAs. This was mainly because several lockdown restrictions had a geographical component to them with people only allowed to travel up to a certain distance (such as a 5 mile (8 km) limit in Wales, UK) or allowed to travel only within specific regions (Germany and Spain). Although no measures were recorded to tackle this specific challenge, the combined measures mentioned above aimed to reduce conflicts as management authorities tried to reduce issues of overcrowding and problematic behavior, which tended to cause local communities to complain. Regarding the broader social conflicts among residents of the different PAs or the economic impacts of discouraging visitors, no measures were noted at the local level, as such, issues would normally be beyond the remit of park authorities, falling rather to state entities such as the police or government.

As far as the reduction of educational activities is concerned, this is regarded as one of the most important challenges for park authorities. One park mentioned that they have reverted to online learning instead of face-to-face educational activities, while in most parks, some activities have resumed but with a reduced number of participants.

Finally, at this stage of the pandemic, it should be noted that PA management authorities were largely focused on coping with the short-term impacts of the pandemic, with few comments made on its long-term implications and its impacts on the management of the PAs, which are still largely unclear.

4. Discussion

Although strict restrictions for COVID-19 were eased during summer 2020 across Europe it is clear that the pandemic is not over at the time of writing this paper. On the contrary, in September 2020, Europe entered a second wave of the pandemic and indeed such pandemics might become more frequent in the future [41]. Thus, similar to other parts of the world, it is important to reflect on what has happened in these first months of the pandemic and propose ways that will facilitate the long-term management of such PAs in times of public health crises and associated restrictions and uncertainty [42]. There are two broad categories of management challenges: visitor number management and visitor behavior management.

COVID-19 so far has had significant impacts on the management of PAs across the world. In the United States, an increase in visitors was observed in outdoor spaces creating a number of challenges similar to the ones identified in this paper for Europe [42]. Conversely, in other parts of the world, different concerns have been raised with African PAs seeing a significant reduction of tourism in wildlife reserves [43] leading to reduced financial resources for park authorities and raising concerns about illegal practices.

The increase in visitor numbers to European PAs during the pandemic comes as awareness of PAs has been increasing over time [44] and people are increasingly visiting areas of natural beauty in order to improve their wellbeing [16,17,45]. PAs benefit physical and mental health [45–47] by providing people with the opportunity to come closer to nature [48–51]. In addition, a significant increase in users of outdoor spaces [52] has also been documented during the pandemic that appears to be motivated by people trying to find relatively remote places where they felt safe from the virus.

Indeed, Nature Parks are promoted as a national and regional asset, and so it is not therefore irrational or unreasonable for people to choose to visit such locations when advised to avoid crowded and indoor spaces by the Government. Additionally, travel restrictions have reduced alternative options for people to travel to, such as urban areas or destinations abroad. However, the potential conflict between the rights of visitors to access a national asset versus the right of local residents to be safe in their local area during a pandemic adds an additional dimension to existing tensions between visitors and local residents over access to and competition for local resources.

As noted, this increase in visitors has led to the emergence of new conflicts or exacerbation of existing tensions due to overcrowding incidents and problematic behavior by visitors in several European PAs. Park authorities across Europe had to react quickly to these challenges and introduced several measures. These tools aimed to manage the number of visitors in PAs whilst also accommodating new social distancing measures. Our review revealed that the severity and extent of these measures varied across locations but overall a significant effort has been invested by management authorities to face the challenges brought by the pandemic.

Regarding conflicts, the designation of PAs in Europe has often resulted in conflicts of interest between diverse users and local residents [53,54], especially as competition for space has intensified [55] due to increased tourism [56,57]. Thus, democratizing access to PAs and minimizing disturbance to natural systems was a major challenge for European PAs before the pandemic. Overcrowding in PAs [58–60] often resulted in increased noise levels and disturbance of tranquility [61] causing disruptions in the life of local communities and distortion of human ties [55,62] as well as disturbing wildlife and ecosystems. As a result, the pandemic intensified tensions between locals and visitors in

many cases. People living inside or in close proximity to PAs felt under threat from growing crowds of tourists both because of the potential transmission of the virus [44] but also because of overcrowding incidents interrupting how people enjoy nature.

In the past, this has meant focusing people's attention on honeypot sites with high visitor capacity and low sensitivity to disturbance and creating buffer zones around PAs. COVID-19 and the need for social distancing make this solution problematic under the current circumstances. Indeed, well-established measures to minimize disturbance to wildlife by clustering visitors in parks, and social distancing measures to keep people apart, appear to be in conflict and need to be balanced against each other to establish a satisfactory equilibrium between nature protection and public health protection. The pandemic has in effect reduced safe limits in terms of visitor densities at popular sites thereby increasing pressure in less busy locations, but with other risks such as increased disturbance of wildlife and ecosystems, degradation of the quality of natural spaces for other visitors and local residents, and possibly also greater public safety risks, as people visit less closely managed locations where accident risks are greater.

This brings us to our first policy recommendation for the long-term management of European PAs. Future solutions will require careful spatial planning which also takes into consideration issues of social equity in accessing PAs [45]. Incidents of overcrowding can be controlled by the careful distribution of visitors within a PA (both temporal and spatial). This solution would minimize the need to reduce the number of visitors (thus having also a minimum impact on the local economy). We should note, however, that this approach may be difficult to apply in certain areas where a significant part of the land is privately owned and so access rights are limited. Furthermore, some areas of habitat, ecosystems, and wildlife are more sensitive to human disturbance than others (such as areas of ground-nesting birds). Issues of public safety, protecting disturbance-sensitive environments, and land access rights, therefore need to be balanced.

Many management authorities are heavily constrained and have limited space to distribute visitors within the territory. As well as local management strategies, this problem can be alleviated in the future by increasing provision through the designation of additional PAs which are established on land which is publicly accessible. Such a solution would be in accordance with the new EU Biodiversity Strategy, where it has been announced that 30% of land and 30% of waterways will be protected by 2030 [19].

Another important issue we highlight in our study is that the increased number of visitors was also accompanied in certain cases by an increase in contentious or problematic behavior by PA users. Our study revealed that this is probably at least in part linked to a new profile of visitors coming to these areas during the pandemic. A possible explanation is that people coming from more urban areas having a limited sense of nature connectedness and may not necessarily have developed norms of environmental behavior and are unaware of the recommendations for responsible use of the park. Consequently, a new approach may be needed, targeting new groups visiting parks around Europe, while also managing conflicts between different users. Cultural sensitization and education of new visitors are necessary, possibly supported by enforcement of regulations. Although changing behavior is an extremely challenging task, it could be an opportunity to identify which tools are the most efficient in terms of altering people's behavior, when they come to visit a PA. Indeed, the arrival of a new profile of visitors could provide a window of opportunity for PA management to reach new audiences. Whilst some new visitors may only value PAs temporarily for the access to outdoor space they provide during the pandemic and then return to their former practices, a proportion of them may well be open to new experiences in natural spaces and be open to developing a greater sense of connection to nature.

As documented in our study, park authorities have invested significant time in introducing measures to manage overcrowding and visitor behavior during the COVID-19 pandemic. However, a lot of these authorities have limited powers to enforce certain measures, such as fines for illegal parking. Also, in many cases, government guidelines on COVID-19 may overrule regulations introduced by management authorities of PAs. Therefore, a second recommendation is that closer collaboration is needed between park authorities and more centralized institutions in order to propose measures, which ensure that PAs continue to benefit the wellbeing of local communities and visitors.

Tackling overcrowding and resolving conflicts in PAs necessitates also finding a balance between local economic development and the wellbeing of locals. Recreational activities within PAs are a major source of income for locals [63]. Sustainable tourism has been at the core of management plans for many PAs in Europe [64] allowing local communities to maintain an income [65,66], which often compensates for economic losses due to the PA designation. However, several PAs currently function at a maximum visitor capacity during peak periods. Reducing visitor demand to manage COVID-19 outbreaks would also imply a reduction in income for local communities, especially for those working in the hospitality and recreation sectors and, therefore, may necessitate the development of lower-impact and higher quality tourism experiences for visitors, combined with a more holistic rural development policy to reduce reliance solely on tourism.

Our third policy recommendation is, therefore, that local economies in PAs cannot rely on models with a maximum visitor capacity in order to be sustainable and must avoid scenarios of 'over-tourism'. The number of visitors needs to be managed to a level where economic benefits continue to flow but the well-being of locals is safeguarded while visitors' experience remains satisfactory. There are various tools to conduct carrying capacity studies and model alternative scenarios of visitor numbers. Furthermore, overcrowding can be an issue both for locals and visitors and thus studies should be exploring the views of these different users when determining capacity levels [58–60]. A wide application of such assessments in PAs, taking also into consideration social distancing measures, would allow management authorities to specify the optimum number of visitors in a PA but also the distribution of these visitors within the PA [67].

The challenges presented by the pandemic will persist possibly for several years as there are multiple impacts of this pandemic that will be experienced in the future, and indeed future pandemics remain a possibility. Consequently, it is important that park authorities carefully consider these challenges in order to manage PAs in a sustainable and resilient way. As noted, at this stage in the pandemic, PA management authorities were largely focused on coping with the short-term impacts of the pandemic, with few comments made about the longer-term implications of the pandemic and its impacts on the management of the PAs, which still are largely unclear. These long-term impacts will depend on a wide range of factors such as the medium to long-term impact on the economy and the future actions of governance actors.

5. Conclusions

This study has explored the impacts and challenges that the COVID-19 pandemic presented to a range of European nature PAs and their local communities, and the measures they implemented to mitigate those impacts and associated conflicts. We have also considered the lessons that might be learned from the pandemic experience to inform longer-term PA management, particularly where the pandemic exacerbated existing tensions, such as between local people and visitors.

The pandemic crisis has made the job of PA management more complex and shifted the balance of priorities in trying to achieve a balance between on the one hand nature and landscape conservation, and on the other maintaining accessibility for the visiting public. Indeed the large influxes of visitors during the periods when lockdown regulations were more relaxed demonstrates the importance of such landscapes to people and their well-being, all the more so during this period of the health crisis. Focusing people's attention on outdoor recreation and its many benefits makes logical sense whilst social distancing measures are needed but presents challenges to PA managers in managing disturbance. In consequence, PA management bodies and local communities will need support during such crises where their income becomes more variable and unpredictable, social relations become strained, and nature conservation more difficult to manage.

Overcrowding incidents and an increase in problematic behavior and use of the PAs by visitors were the most significant challenges and also led to an increase in conflicts between locals and visitors. As a response to these challenges, park authorities were quick to respond and find ways to tackle them. Through the use of social media, education campaigns, and a number of other tools, they have tried to

keep the PAs open while keeping visitors and locals safe, assisting also in the recovery of the local economy. However, as European communities are now experiencing a second wave of the pandemic, it is important that longer-term solutions are introduced by management authorities. In consequence, careful management of the spatial distribution of visitors in PAs might be necessary for the future along with educational campaigns targeting groups with a new profile of visitors which has emerged during the pandemic. Thus, although COVID-19 has introduced many challenges for PAs in Europe, it can also be seen as an opportunity to promote new and more sustainable ways to manage protected landscapes.

The pandemic has proved longer-lasting than anticipated, and enhanced global mobility may mean that such a health crisis may become more frequent in the future and so lessons from this pandemic may be worth learning for the longer term, even if the situation normalizes somewhat as the pandemic subsides. Indeed some of the conflicts such as between locals and visitors were pre-existing and exacerbated by the crisis, and the impacts of greater visitor numbers and new types of visitors may constitute a warning at a time when the popularity of nature Protected Areas is increasing and governments actively seek to encourage people to visit them. The advent of new types of visitors to the PAs studied, whilst presenting problems, also presents an opportunity to engage new audiences and foster a sense of connectedness to nature among a broader spectrum of the public.

Author Contributions: Conceptualization, V.G., J.M., N.J., J.H., A.K. and P.G.D.; Methodology, J.M., P.G.D., N.J., V.G., and J.H.; Formal analysis, V.G., J.M., N.J.; Investigation, V.G., J.M., N.J., A.K., J.H., P.G.D., R.F.A.F., E.B., A.B., S.S., K.B., C.C.M., C.C.S., F.S.R., G.C., I.C., J.D., M.L., C.J.F.G., A.J., K.L., M.S., T.P., M.O., C.R., H.W., T.Z.-K.; Writing—original draft preparation, V.G., J.M., and N.J.; Writing—review and editing, V.G., J.M., N.J., A.K., J.H., P.G.D., R.F.A.F., E.B., A.B., S.S., K.B., C.C.M., C.C.S., F.S.R., G.C., I.C., J.D., M.L., C.J.F.G., A.J., K.L., M.S., T.P., M.O., C.R., H.W., T.Z.-K.; Visualization N.J.; Supervision N.J., and P.G.D.; Project administration, N.J.; Funding acquisition, N.J. All authors have read and agreed to the published version of the manuscript.

Funding: The project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research programme (Project FIDELIO, grant agreement no. 802605).

Conflicts of Interest: The authors declare no conflict of interest

References

1. Millennium Ecosystem Assessment (MEA). *Ecosystems and Human Well-Being: Synthesis*; Island Press: Washington, DC, USA, 2005; p. 160.
2. McGinlay, J.; Parsons, D.J.; Morris, J.; Graves, A.; Hubatova, M.; Bradbury, R.B.; Bullock, J.M. Leisure activities and social factors influence the generation of cultural ecosystem service benefits. *Ecosyst. Serv.* **2018**, *31*, 468–480. [CrossRef]
3. Kaplan, S. The restorative benefits of nature: Toward an integrative framework. *J. Environ. Psychol.* **1995**, *15*, 169–182. [CrossRef]
4. Hartig, T.; Evans, G.W.; Jamner, L.D.; Davis, D.S.; Gärling, T. Tracking restoration in natural and urban field settings. *J. Environ. Psychol.* **2003**, *23*, 109–123. [CrossRef]
5. White, M.P.; Pahl, S.; Ashbullby, K.J.; Herbert, S.; Depledge, M.H. Feelings of restoration from recent nature visits. *J. Environ. Psychol.* **2013**, *35*, 40–51. [CrossRef]
6. English, J.; Wilson, K.; Keller-Olaman, S. Health, healing and recovery: Therapeutic landscapes and the everyday lives of breast cancer survivors. *Soc. Sci. Med.* **2008**, *67*, 68–78. [CrossRef]
7. Jordan, M. Back to nature. *Therapy Today* **2009**, *20*, 26–28. Available online: http://about.brighton.ac.uk/staff/profiles/jordan/therapy-today.pdf (accessed on 24 September 2020).
8. Hanski, I.; Von Hertzen, L.; Fyhrquist, N.; Koskinen, K.; Torppa, K.; Laatikainen, T.; Karisola, P.; Auvinen, P.; Paulin, L.; Mäkelä, M.J.; et al. Environmental biodiversity, human microbiota, and allergy are interrelated. *Proc. Natl. Acad. Sci. USA* **2012**, *109*, 8334–8339. [CrossRef]
9. Kuo, F.E.; Sullivan, W.C. Aggression and Violence in the Inner City. *Environ. Behav.* **2001**, *33*, 543–571. [CrossRef]
10. O'Brien, L.; Murray, R. *A marvellous Opportunity for Children to Learn: A Participatory Evaluation of Forest School in England and Wales*; Forest Research: Surrey, UK, 2006; p. 52.
11. Morris, J.; Urry, J. *Growing Places: A study of Social Change in The National Forest*; Forest Research: Surrey, UK, 2006; p. 48.

12. Weinstein, N.; Balmford, A.; DeHaan, C.R.; Gladwell, V.; Bradbury, R.B.; Amano, T. Seeing Community for the Trees: The Links among Contact with Natural Environments, Community Cohesion, and Crime. *Bioscience* **2015**, *65*, 1141–1153. [CrossRef]
13. Bhagwat, S.A. Ecosystem Services and Sacred Natural Sites: Reconciling Material and Non-material Values in Nature Conservation. *Environ. Values* **2009**, *18*, 417–427. [CrossRef]
14. Lewicka, M. Place attachment: How far have we come in the last 40 years? *J. Environ. Psychol.* **2011**, *31*, 207–230. [CrossRef]
15. Buckley, R.; Brough, P.; Hague, L.; Chauvenet, A.; Fleming, C.M.; Roche, E.; Sofija, E.; Harris, N. Economic value of protected areas via visitor mental health. *Nat. Commun.* **2019**, *10*, 5005–5010. [CrossRef] [PubMed]
16. Naidoo, R.; Gerkey, D.; Hole, D.; Pfaff, A.; Ellis, A.M.; Golden, C.D.; Herrera, D.; Johnson, K.; Mulligan, M.; Ricketts, T.H.; et al. Evaluating the impacts of protected areas on human well-being across the developing world. *Sci. Adv.* **2019**, *5*, eaav3006. [CrossRef] [PubMed]
17. Jones, N.; Malesios, C.; Kantartzis, A.; Dimitrakopoulos, P. The role of location and social impacts of Protected Areas on subjective wellbeing. *Environ. Res. Lett.* **2020**, *15*, 114030. [CrossRef]
18. Stolton, S.; Hockings, M.; Dudley, N.; MacKinnon, K.; Whitten, T. *Reporting Progress in Protected Areas: A Site-Level Management Effectiveness Tracking Tool*, 2nd ed.; World Bank/WWF Alliance by WWF International: Gland, Switzerland, 2007; p. 15.
19. European Commission. *EU Biodiversity Strategy for 2030. Bringing Nature Back into Our Lives*; Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Brussels, Belgium, 2020; p. 25. Available online: https://ec.europa.eu/info/sites/info/files/communication-annex-eu-biodiversity-strategy-2030_en.pdf (accessed on 21 September 2020).
20. EEA (European Environment Agency). *Protected Areas in European Overview*; Report no. 5; EEA: Copenhagen, Denmark, 2012; p. 136. Available online: https://www.eea.europa.eu/publications/protected-areas-in-europe-2012 (accessed on 21 September 2020).
21. Balmford, A.; Green, J.M.H.; Anderson, M.; Beresford, J.; Huang, C.; Naidoo, R.; Walpole, M.; Manica, A. Walk on the Wild Side: Estimating the Global Magnitude of Visits to Protected Areas. *PLoS Biol.* **2015**, *13*, e1002074. [CrossRef] [PubMed]
22. Schägner, J.P.; Brander, L.; Maes, J.; Paracchini, M.L.; Hartje, V. Mapping recreational visits and values of European National Parks by combining statistical modelling and unit value transfer. *J. Nat. Conserv.* **2016**, *31*, 71–84. [CrossRef]
23. EEA (European Environment Agency). Nationally Designated Protected Areas, Indicator Assessment. 2017. Available online: https://www.eea.europa.eu/data-and-maps/indicators/nationally-designated-protected-areas-10/assessment (accessed on 28 September 2020).
24. European Commission Joint Research Centre. ECML Covid Measures Database. 2020. Available online: https://covid-statistics.jrc.ec.europa.eu/Measure/DashboardMeasures?view=1 (accessed on 28 September 2020).
25. Our World in Data. Google Mobility Trends. How Has the Pandemic Changed the Movement of People Around the World? 2 June 2020. Available online: https://ourworldindata.org/covid-mobility-trends (accessed on 28 September 2020).
26. Manenti, R.; Mori, E.; Di Canio, V.; Mercurio, S.; Picone, M.; Caffi, M.; Brambilla, M.; Ficetola, G.F.; Rubolini, D. The good, the bad and the ugly of COVID-19 lockdown effects on wildlife conservation: Insights from the first European locked down country. *Biol. Conserv.* **2020**, *249*, 108728. [CrossRef]
27. Jones, N.; McGinlay, J.; Holtvoeth, J.; Gkoumas, V.; Malesios, C.; Kontoleon, A. *Snowdonia National Park: Exploring Views of Local Communities Regarding the Social Impacts of the National Park, Changes Due to COVID-19 on Everyday Life and Potential Management Options during the Pandemic*; University of Cambridge/Project FIDELIO: Cambridge, UK, 2020; p. 13. Available online: https://www.fidelio.landecon.cam.ac.uk/publications (accessed on 19 October 2020).
28. Derks, J.; Giessen, L.; Winkel, G. COVID-19-induced visitor boom reveals the importance of forests as critical infrastructure. *For. Policy Econ.* **2020**, *118*, 102253. [CrossRef]
29. Jones, N.; McGinlay, J. *The Impact of COVID-19 Restrictions on Local Communities of Peak District National Park and Management Options during the Pandemic*; University of Cambridge/Project FIDELIO: Cambridge, UK, 2020; p. 20. Available online: https://www.fidelio.landecon.cam.ac.uk/publications (accessed on 19 October 2020).

30. Remuzzi, A.; Remuzzi, G. COVID-19 and Italy: What next? *Lancet* **2020**, *395*, 1225–1228. [CrossRef]
31. Pepe, E.; Bajardi, P.; Gauvin, L.; Privitera, F.; Lake, B.; Cattuto, C.; Tizzoni, M. COVID-19 outbreak response, a dataset to assess mobility changes in Italy following national lockdown. *Sci. Data* **2020**, *7*, 230. [CrossRef]
32. Hunter, D.J. Covid-19 and the Stiff Upper Lip—The Pandemic Response in the United Kingdom. *N. Engl. J. Med.* **2020**, *382*, e31. [CrossRef]
33. Armbruster, S.; Klotzbücher, V. *Lost in Lockdown? COVID-19, Social Distancing and Mental Health in Germany*. Diskussionsbeiträge, No. 2020-04; Albert-Ludwigs-Universität Freiburg, Wilfried-Guth-Stiftungsprofessur für Ordnungs- und Wettbewerbspolitik: Freiburg im Breisgau, Germany, 2020. Available online: https://www.econstor.eu/bitstream/10419/218885/1/1698957106.pdf (accessed on 28 September 2020).
34. Mutz, M.; Gerke, M. Sport and exercise in times of self-quarantine: How Germans changed their behaviour at the beginning of the Covid-19 pandemic. *Int. Rev. Sociol. Sport* **2020**. [CrossRef]
35. World Health Organization (WHO). WHO Coronavirus Disease (COVID-19) Dashboard. WHO, 2020. Available online: https://covid19.who.int/?gclid=EAIaIQobChMIntvg3cWL7AIVj-ntCh1QGQ7_EAAYASAAEgJoPfD_BwE (accessed on 28 September 2020).
36. Bojanowska, A.; Kaczmarek, L.D.; Kościelniak, M.; Urbańska, B. Values and well-being change amidst the COVID-19 pandemic in Poland. *PsyArXiv* **2020**. [CrossRef]
37. Sutrop, M.; Simm, K. Developing guidelines for the distribution of scarce medical resources during the COVID-19 pandemic. The Estonian case. *Trames. J. Humanit. Soc. Sci.* **2020**, *24*, 251–268. [CrossRef]
38. Estonian Government. Special Notice: As of Tomorrow, Movement Restrictions between the Islands and the Mainland Estonian Will Be Lifted. *News*, 7 May 2020. Available online: https://www.kriis.ee/en/news/special-notice-tomorrow-movement-restrictions-between-islands-and-mainland-estonia-will-be (accessed on 28 September 2020).
39. Republic of Slovenia. Coronavirus Disease COVID-19. Available online: https://www.gov.si/en/topics/coronavirus-disease-covid-19/ (accessed on 28 September 2020).
40. Kamerlin, S.C.L.; Kasson, P.M. Managing Coronavirus Disease 2019 Spread with Voluntary Public Health Measures: Sweden as a Case Study for Pandemic Control. *Clin. Infect. Dis.* **2020**, 864. [CrossRef] [PubMed]
41. Griffin, D.; Denholm, J. This Isn't the First Global Pandemic and It Won't be the Last. Here's What We've Learned from 4 Others Throughout History. *The Conversation*, 16 April 2020. Available online: https://theconversation.com/this-isnt-the-first-global-pandemic-and-it-wont-be-the-last-heres-what-weve-learned-from-4-others-throughout-history-136231 (accessed on 7 September 2020).
42. Jacobs, L.A.; Blacketer, M.P.; Peterson, B.A.; Levithan, E.; Russell, Z.A.; Brunson, M. Responding to COVID-19 and future times of uncertaintly: Challenges and opportunities associated with visitor use, management and research in parks and protected areas. *Parks Steward. Forum* **2020**, *36*, 483–488. [CrossRef]
43. Newsome, D. The collapse of tourism and its impact on wildlife tourism destinations. *J. Tour. Future* **2020**. [CrossRef]
44. Nürnberg, M.; Edrmann, K.-H. Naturbewusstsein 2019: Bevölkerungsumfrage zu Natur und biologischer Vielfalt. Bundersministrerium für Umwelt, Naturschutz und nukleare Sicherheit. 2019. Available online: https://www.bmu.de/fileadmin/Daten_BMU/Pools/Broschueren/naturbewusstseinsstudie_2019_bf.pdf (accessed on 3 November 2020).
45. Jones, N.; Graziano, M.; Dimitrakopoulos, P.G. Social impacts of European Protected Areas and policy recommendations. *Environ. Sci. Policy* **2020**, *112*, 134–140. [CrossRef]
46. Romagosa, F. Physical health in green spaces: Visitors' perceptions and activities in protected areas around Barcelona. *J. Outdoor Recreat. Tour.* **2018**, *23*, 26–32. [CrossRef]
47. Burdon, D.; Potts, T.; McKinley, E.; Lew, S.; Shilland, R.; Gormley, K.; Thomson, S.; Forster, R. Expanding the role of participatory mapping to assess ecosystem service provision in local coastal environments. *Ecosyst. Serv.* **2019**, *39*, 101009. [CrossRef]
48. Lopes, R.; Videira, N. A Collaborative Approach for Scoping Ecosystem Services with Stakeholders: The Case of Arrábida Natural Park. *Environ. Manag.* **2016**, *58*, 323–342. [CrossRef] [PubMed]
49. Lopes, R.; Videira, N. How to articulate the multiple value dimensions of ecosystem services? Insights from implementing the PArticulatES framework in a coastal social-ecological system in Portugal. *Ecosyst. Serv.* **2019**, *38*, 100955. [CrossRef]

50. Kenter, J.O.; Bryce, R.; Davies, A.; Jobstvogt, N.; Watson, V.; Ranger, S.; Solandt, J.-L.; Duncan, C.; Christie, M.; Crump, H.; et al. *The Value of Potential Marine Protected Areas in the UK to Divers and Sea Anglers*; UNEP-WCMC: Cambridge, UK, 2013; p. 125.
51. Bennett, N.J.; Di Franco, A.; Calò, A.; Nethery, E.; Niccolini, F.; Milazzo, M.; Guidetti, P. Local support for conservation is associated with perceptions of good governance, social impacts, and ecological effectiveness. *Conserv. Lett.* **2019**, *12*, 12640. [CrossRef]
52. Venter, Z.S.; Barton, D.N.; Gundersen, V.; Figari, H.; Nowell, M. Urban nature in a time of crisis: Recreational use of green space increases during the COVID-19 outbreak in Oslo, Norway. *Environ. Res. Lett.* **2020**, *15*, 104075. [CrossRef]
53. Jentoft, S.; Pascual-Fernandez, J.J.; Modino, R.D.L.C.; Ramallal, M.E.G.; Chuenpagdee, R. What Stakeholders Think About Marine Protected Areas: Case Studies from Spain. *Hum. Ecol.* **2012**, *40*, 185–197. [CrossRef]
54. Gallo, M.; Špela, P.M.; Laktić, T.; De Meo, I.; Paletto, A. Collaboration and conflicts between stakeholders in drafting the Natura 2000 Management Programme (2015–2020) in Slovenia. *J. Nat. Conserv.* **2018**, *42*, 36–44. [CrossRef]
55. Hogg, K.; Gray, T.; Noguera-Méndez, P.; Semitiel-García, M.; Young, S. Interpretations of MPA winners and losers: A case study of the Cabo De Palos- Islas Hormigas Fisheries Reserve. *Marit. Stud.* **2019**, *18*, 159–171. [CrossRef]
56. Hattam, C.; Mangi, S.C.; Gall, S.C.; Rodwell, L.D. Social impacts of a temperate fisheries closure: Understanding stakeholders' views. *Mar. Policy* **2014**, *45*, 269–278. [CrossRef]
57. Povilanskas, R.; Armaitienė, A.; Dyack, B.; Jurkus, E. Islands of prescription and islands of negotiation. *J. Destin. Mark. Manag.* **2016**, *5*, 260–274. [CrossRef]
58. 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, Switzerland, 2018; p. 120.
59. Davis, D.; Tisdell, C. Recreational scuba-diving and carrying capacity in marine protected areas. *Ocean Coast. Manag.* **1995**, *26*, 19–40. [CrossRef]
60. Santana-Jiménez, Y.; Hernandez, J.M. Estimating the effect of overcrowding on tourist attraction: The case of Canary Islands. *Tour. Manag.* **2011**, *32*, 415–425. [CrossRef]
61. Scholtz, M.; Saayman, M. Diving into the consequences of stakeholders unheard. *Eur. J. Tour. Res.* **2018**, *20*, 105–124.
62. Trivourea, M. People and the Mediterranean Monk Seal (Monachus monachus): A Study of the Socioeconomic Impacts of the National Marine Park of Alonissos, Northern Sporades, Greece. *Aquat. Mamm.* **2011**, *37*, 305–318. [CrossRef]
63. Pham, T.T.T. Tourism in marine protected areas: Can it be considered as an alternative livelihood for local communities? *Mar. Policy* **2020**, *115*, 103891. [CrossRef]
64. EUROPARC Federation. *European Charter for Sustainable Tourism in Protected Areas*; EUROPARC Federation: Regensburg, Germany, 2020. Available online: https://www.europarc.org/library/europarc-events-and-programmes/european-charter-for-sustainable-tourism/ (accessed on 7 September 2020).
65. Dang, X.; Gao, S.; Tao, R.; Liu, G.; Xia, Z.; Fan, L.; Bi, W. Do environmental conservation programs contribute to sustainable livelihoods? Evidence from China's grain-for-green program in northern Shaanxi province. *Sci. Total. Environ.* **2020**, *719*, 137436. [CrossRef] [PubMed]
66. Katikiro, R.E. Improving alternative livelihood interventions in marine protected areas: A case study in Tanzania. *Mar. Policy* **2016**, *70*, 22–29. [CrossRef]
67. Kostopoulou, S.; Kyritsis, I. A Tourism Carrying Capacity Indicator for Protected Areas. *Anatolia* **2006**, *17*, 5–24. [CrossRef]