The impact of COVID-19 restrictions on local communities of Peak District National Park and management options during the pandemic

Report prepared by

Nikoleta Jones & James McGinlay

University of Cambridge Conservation Research Institute &
Department of Land Economy, University of Cambridge

September 2020

CONTENTS

EXECUTIVE SUMMARY

The COVID-19 pandemic has caused many countries across the world to impose restrictions on the movement and everyday activities of the public. In the UK, following government and local council guidance in March 2020, National Park authorities had to discourage out of area users from accessing them for several weeks in order to protect local communities and help to uphold lockdown restrictions on travel. This led to a dramatic reduction in the number of visitors during the strict lockdown period (March-May 2020), followed by a rapid increase in visitors when these strict lockdown restrictions were lifted. Concerns have been raised regarding incidents of irresponsible behaviour by users of National Parks – primarily after lockdown, but to a lesser extent during lockdown.

As we look to the future and preparing for the second wave of COVID-19, it is important to assess the impact of the initial COVID-19 restrictions on local communities living in or near protected areas. It is also crucial to capture people's views about the management of protected landscapes during and beyond the pandemic. In this context, a questionnaire was distributed during August 2020 in local communities living inside or near the Peak District National Park (UK). In this report, we provide the first results from the responses of the 407 people who participated in the online survey.

Key findings are:

- Living in the area of the Peak District National Park had a positive impact for the majority of respondents on how they coped during lockdown. Also, a strong sense of attachment to the area was clear from the results with several people involved in volunteering activities to support the National Park.
- The most negative impacts of the national COVID-19 restrictions were people being unable to socialise as before and many shops being closed.
- The most positive impacts were less traffic on the roads and fewer visitors in the Peak District.
- The lower number of visitors due to the strict lockdown restrictions during the first wave of COVID-19 had positive impacts for locals especially with regards to the improvement of social relations with other locals and the feeling of connectedness to nature. However, those whose household income relies on tourism experienced a negative impact on their economic situation.
- Over 70% of respondents had noticed irresponsible behaviour from other users of the Peak District National Park during lockdown (spring-summer 2020) with the most commonly noted being littering and fly tipping.
- Suggested measures in our survey in order to manage overcrowding and irresponsible behaviour in the Peak District National Park indicated strong support for relatively soft measures. The most preferred management tool was to put up information signs encouraging responsible behaviour among users and introduce traffic management measures.
- Regarding the work of the Peak District National Park Authority, over 60% of participants considered that it is doing a good job in caring for and protecting the Peak District National Park. The level of trust, however, for other institutions, such as the UK government, is significantly lower at the moment.

1. INTRODUCTION

National parks in the UK are important because of their high biodiversity and landscape value and also because of the socio-economic benefits they provide for people. Protected landscapes have a crucial role in improving physical and mental health, assisting in the improvement of people's wellbeing and protecting local social and cultural values. The COVID-19 pandemic caused many countries across the world to impose restrictions on the movement and everyday activities of the public, particularly during spring 2020.

Due to the seriousness of the situation in the UK, National Park authorities had to discourage out of area users from accessing these protected landscapes during Spring 2020. The key priority of National Park authorities was to protect the health and safety of local communities and members of staff as well as helping to uphold lockdown restrictions. As restrictions were gradually eased in Summer 2020 visitors were welcomed back to the Peak District National Park with certain new recommendations and guidelines. At the time of writing this report (September 2020) new restrictions have been re-introduced across the UK as the country is entering a second wave of COVID-19.

Although very limited evidence exists, the restrictions introduced in March 2020 (first wave of the pandemic) are expected to have changed the way local communities interact with the natural environment and their everyday activities. In this context, a questionnaire was distributed during August 2020 to local communities living inside or near the Peak District National Park. The aim of the questionnaires was to explore how COVID-19 restrictions imposed during the first wave of the pandemic have impacted people who live inside or near the Peak District National Park and also capture their views about the management of the National Park during and after the pandemic.

In this brief report we present the first results from the survey. The report will also be made available via the following website: https://www.fidelio.landecon.cam.ac.uk. For further information please contact us at: fidelio@hermes.cam.ac.uk

2. BRIEF DESCRIPTION OF METHODS

The research team sent 3,100 postcards to a randomly selected sample of households in the Peak District area inviting them to participate in the survey. This was estimated to be approximately 10% of the total population. The sampling frame included all villages within the boundaries of the National Park and also the wider areas of Buxton and Glossop which are surrounded by the National Park. The survey was also advertised online via social media and informal networks with the help of the Peak District National Park Authority. In total, 438 responses were received. The total area of the Peak District National Park and the distribution of participants in the survey is presented in Figure 1b (divided in postcode areas using ArcGIS software). 407 responses were included in the final analysis after excluding entries with missing values and out of area respondents. Sample characteristics are presented in Table 1. The questionnaire focused on four main issues:

- People's views on the National Park and the environment in general
- The impact of COVID-19 on everyday life
- Different options for managing aspects of the National Park during the COVID-19 pandemic
- Trust in institutions involved in the management of the National Park

Table 1. Sample characteristics

| Age category	%	Household Income (annual)	%
18-24	0.7	No income	1.0
25-34	3.7	up to £25,000	14.3
35-44	7.1	£25001- up to £50,000	31.2
45-54	17.7	£51,000-£70,000	11.3
55-64	26.8	over £70,000	11.5
65-74	24.1	Prefer not to say/no response	31.8
75-84	6.1	**Relationship with the Peak District area**	**%**
85+	0.2	Permanent resident	90.5
Prefer not to say/no response	13.5	Owner of second home	1.6
Gender	**%**	**Years living in the area/owning 2nd home**	**%**
Male	39.8	Less than a year	2.0
Female	47.7	1-5	10.1
Prefer not to say/no response	12.6	6-10	10.1
Education	**%**	11-20	18.2
Secondary education	10.8	21-30	13.5
Vocational/industry focused qualifications	18.9	31-40	13.8
Higher Education	59.2	Over 40 years	32.2
Prefer not to say/no response	11.1	Prefer not to say/no response	0.2
		Household whose member(s) work in the tourism sector	**8.3 %**
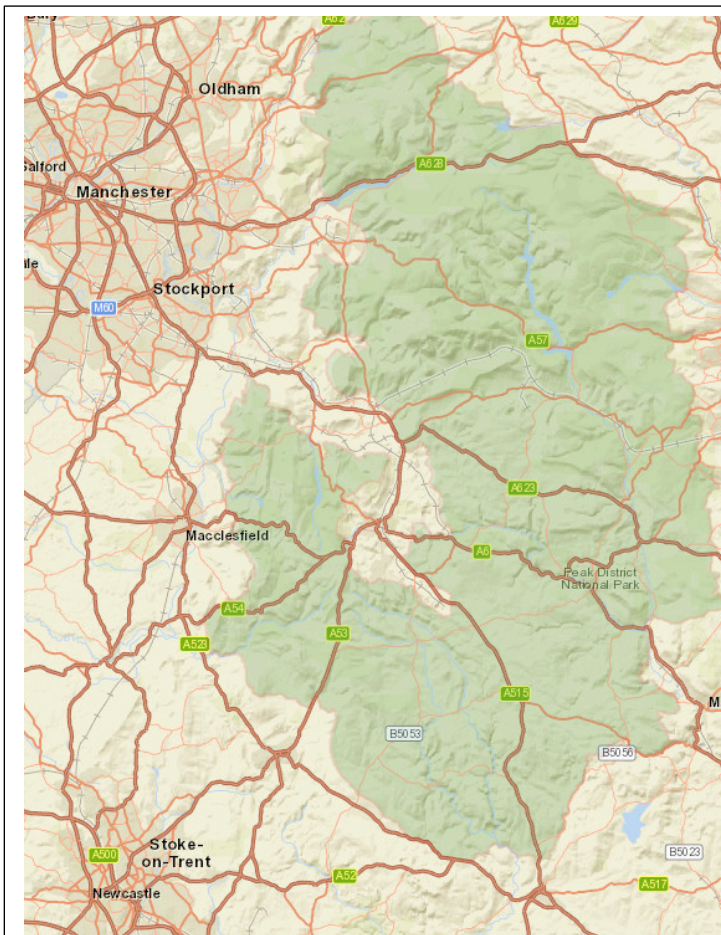
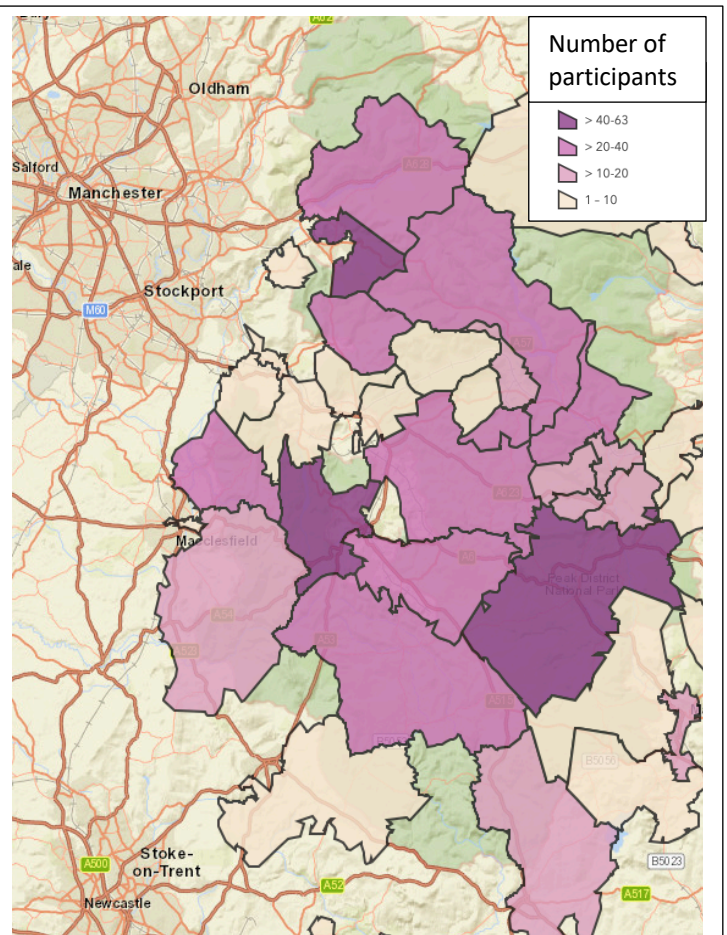**Figure 1a. The Peak District National Park** | **Figure 1b. Number of respondents per postcode area**

Figure 1. The Peak District National Park (Figure 1a) and the number of respondents in the survey per postcode area (Figure 1b). Basemap: World Street Map (Sources: Esri, DeLorme, HERE, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, Tomtom) and Natural England Open Data Map of National Parks (both maps available on ArcGIS).

3. RESULTS

3.1. Importance of the Peak District National Park for respondents

A series of questions in the questionnaire aimed to capture how important the Peak District National Park is for locals. **In total, 88.7% of respondents strongly agreed with the existence of the National Park and a further 8.8% agreed.** Only 2.2% stated that they strongly disagree that the National Park should be cared for and protected. The National Park is therefore of high importance for respondents with over 90% of them stating that they agree or strongly agree that the Peak District means a lot to them.

3.2. Social impacts of Peak District National Park in the past five years

Overall, living inside or near Peak District National Park has had a very positive impact for local communities in the past 5 years. The most positive impacts reported were related to a 'sense of feeling connected to nature', 'quality of life' and 'mental health'. Impact on personal income is significantly lower compared to other impact categories but it is still considered overall positive by respondents (Figure 2).
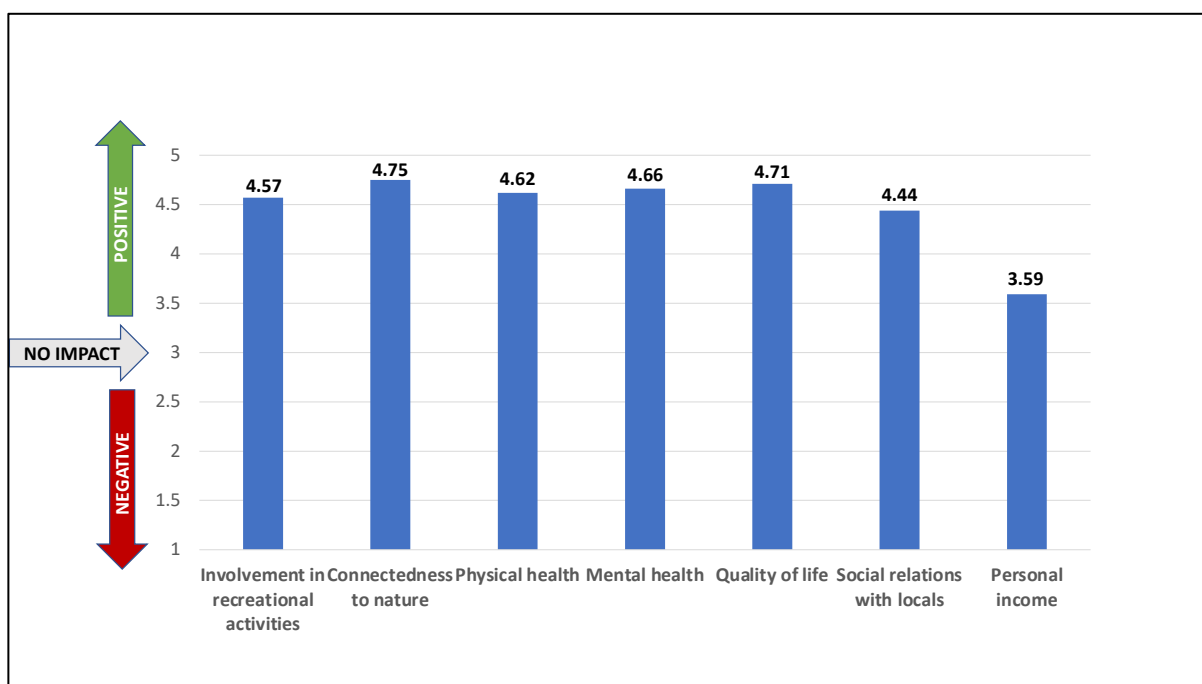

**Figure 2. Perceived social impacts of Peak District National Park
in the past five years
(Mean values, Scale 1-5: 1 representing negative impact, 5 positive impact, 3 no impact)**

3.3.   Impact of COVID-19 restrictions

On 23rd March 2020, new regulations came into force in England limiting people's movement and everyday activities due to COVID-19. Participants were asked about the impact of the wider COVID-19 restrictions on their everyday lives. **The most positive impacts were less traffic on the roads (86.4%), fewer visitors in places of natural beauty (70.4%) and footpaths being less busy than usual (63.6%) (Table 2). The most negative impacts were people being unable to socialise as before (76.3%) and many shops being closed (40.9%) (Table 2).**

Table 2. Impact of COVID-19 restrictions on local communities in the Peak District (the three most positive and negative impacts are highlighted)

	Positive impact (%)	Negative impact (%)	No impact (%)	I have not experienced this (%)
Not being able to socialise as before	4.8	76.3	15.4	2.7
Many shops being closed	7.3	40.9	47	4.0
Travelling less	41.9	28.5	22.7	5.1
Changed to my mental health	21.6	28.3	27.2	21.6
Access to the countryside being restricted to local people (at the height of lockdown)	37.2	23.3	26.7	11.3
Schools being closed	6.4	21.1	30.4	37.6
Changed on how local people interact with each other	47.5	17.6	23.2	9.3
Changes to my physical health	32.6	16	24.6	24.3
Spending more time on my own	23.8	15.2	28.3	31.6
Public transport being restricted	7.5	11	33.7	42.2
Working from home	20.5	8.8	21.6	42.7
Spending more time with household members	45.5	8.8	31.6	11.2
Having more free time	43	5.4	19.9	29.6
Cycling routes less busy than usual	41.6	1.9	14.2	34.6
Footpaths less busy than usual	63.6	3.7	15	17.1
Fewer visitors in places of natural beauty	70.4	1.9	13.2	13.4
Less traffic on the roads	86.4	1.1	8.3	4.0

During the strict lockdown period (spring 2020), the Peak District National Park Authority had to discourage visitors in line with government advice. Respondents were asked how this has influenced them with regards to a number of issues. **Overall the decision to discourage visitors did not have a negative impact for the majority of locals. The most positive impact was the improvement of social relations with other local people. A positive impact was also noted regarding the feeling of connectedness to nature and physical health** (Figure 3).

When looking at the overall sample, **personal income was not significantly impacted by lockdown restrictions** (mean score 3.15 is close to the average of the 5-point Likert scale). However, when comparing the impact between the group of people whose household

income relies on tourism and those whose income does not, then differences are observed. In particular, amongst the 28 people whose household is involved in tourism, the impact on income from lockdown restrictions and the reduced number of visitors has been negative (2.32 in the 5-point Likert scale). Amongst people who are not involved in tourism the impact on personal income is between the neutral and positive scale (3.21 in the 5-point scale).
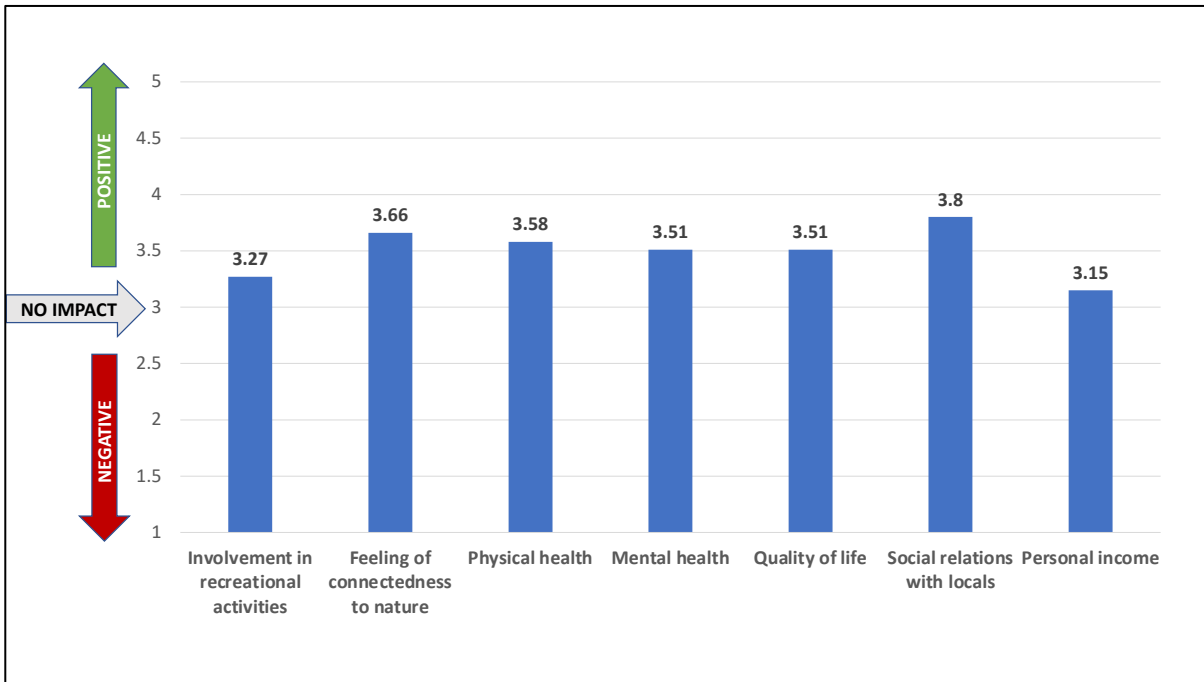

**Figure 3. Impact of reduced visitors' numbers in the Peak District area
(5 Point scale, 1: Most negative impact, 5: Most positive impact)**

Living in the area of the Peak District National Park had also a positive impact for 74.2% of the respondents on how they coped during lockdown. Only 16.5% stated that it had 'no impact' and 7.1% that it had a 'negative impact'.

3.4. Change in everyday activities during lockdown

Respondents were also asked how the frequency of certain everyday activities has changed during lockdown. Gardening was the activity which was increased the most, with 61.5% of respondents stating that they gardened more often than before. 42.5% stated that they increased the frequency of walking and 34.3% that they increased wildlife watching activities during lockdown (Table 3). In terms of activities being reduced during lockdown, 21.4% of respondents mentioned that they went less frequently to social clubs and 30.6% stated that they stopped doing this completely. 19.1% also mentioned that they reduced how often they went out for a walk.

Table 3. Changes in the frequency of activities during lockdown (%)

	More often (%)	As before (%)	Less often (%)	Started doing this (%)	Stopped doing this (%)	Didn't do this before or during (%)
Gardening	61.5	23.5	1.6	1.1	0.8	11.6
Walking	42	31.1	19.1	0.8	5.1	1.9
Wildlife watching	34.3	23.5	8.1	2.2	2.4	29.5
Photography	17.1	20.3	5.4	1.4	1.6	54.2
Cycling	15.5	11.2	7.8	0.3	1.6	63.6
Jogging	9.9	6.2	3.5	2.7	1.3	76.3
Fell/trail running	6.7	3.5	1.9	0.3	0.3	87.4
Mountain biking	5.1	5.9	4.9	0.5	1.6	81.9
Horse riding	2.4	4	2.2	0.3	1.9	89.2
local clubs and societies	1.1	1.6	21.4	0.8	30.6	44.5
Water activities or sports	1.1	1.6	4.6	0.3	6.0	86.4
Climbing	0.8	1.4	2.7	1.6	0.0	93.5
Offroading using 4x4 or motorcycles	0.3	0.0	0.8	0.0	1.1	97.8
Angling	0.3	0.8	0.5	0.0	0.8	97.5
Caving	0.0	0.3	0.3	0.0	0.8	98.6
Air sports	0.0	0.3	0.3	0.0	0.5	98.8
Abseiling	0.0	0.3	0.0	0.0	0.5	99.2

3.5. Users' behaviour when in the National Park

The majority of respondents believe they personally act responsibly when they are taking part in activities (such as walking and cycling) within the boundaries of the Peak District National Park. However, keeping dogs on a lead so that wildlife is not disturbed is a behaviour that people do less frequently than the other responsible behaviours included in the questionnaire (Figure 4). Also, 17.6% of respondent said that they stick to public rights of way 'most of the time' but not 'always'. Similarly, 82.1% of respondents claimed that they 'always' drive and park with care and 16.5% that they do this 'most of the time'.
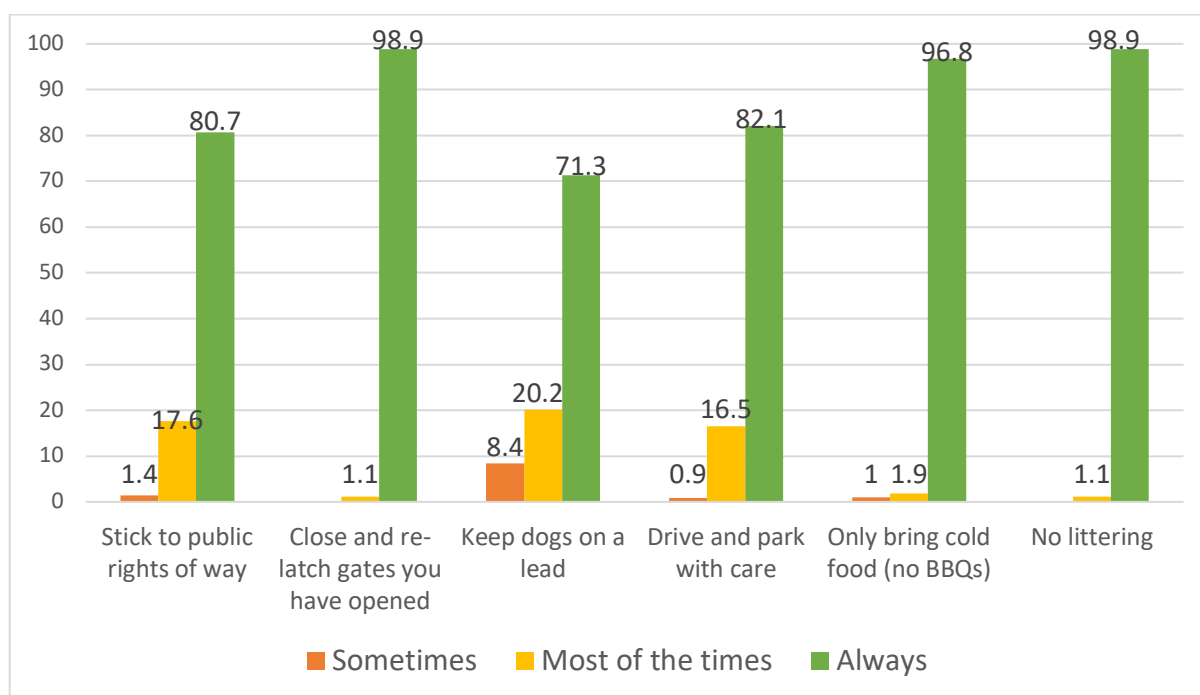

Figure 4. Frequency of responsible behaviour when in the Peak District (%)

Respondents were also asked if they think that other people (both locals and visitors) use the National Park responsibly. 60.5% thought that most people use the National Park responsibly, 33.1% stated that some people use it responsibly and 6.4% that only a minority uses the National Park in a responsible way.

3.5.1. Voluntary participation in activities that support the National Park

30.5% of participants stated that they have volunteered in an activity that helped to protect the Peak District National Park in the past 5 years. A number of activities were mentioned which are presented in Table 4 and divided into 8 categories. The most frequently mentioned activity was litter picking followed by trail/path maintenance.

Table 4. Volunteering activities in the Peak District National Park

Type of volunteering	Frequency	Type of volunteering	Frequency
Infrastructure maintenance		**Community function/management/education**	
Trail/path/access maintenance	15	Drive community bus	1
Habitat restoration/management	9	Mountain rescue	2
Invasive species intervention	5	Police service volunteer	3
Infrastructure maintenance	2	Fire fighting	2
Farming and land management	1	Paramedic minor incidents	1
Car park management	2	Parish Councillor	1
Cultural heritage maintenance	2	School governor	1
Gardening/landscaping	3	Local sports association	1
Waste management		Land access forums	3
Litter picking/fly tipping clearance	71	Public education	11
River/pond cleaning/maintenance	4	**Campaigning**	
Leisure		Against off road vehicles	1
Lead guided walks	4	**Organisations involved**	
Financial		National Trust	2
Fund raising	3	Local church	1
Monitoring and vigilance		National Park volunteer/Board member	4
Public Right Of Way monitoring	1	Mental Health Charity	1
Volunteer ranger	8	RSPB	1
Flora/fauna surveys/monitoring	5	Derbyshire Wildlife Trust	2
Pollution monitoring	1	Archaeological society	1
Wildlife crime monitoring	1	Youth Hostels Association	1
		Canoeing club	1

3.5.2. Irresponsible behaviour during lockdown

Significant concerns were expressed by respondents regarding the behaviour of other users during the first months of the pandemic. **In particular, 75.9% of respondents had noticed irresponsible behaviour from other users of the Peak District National Park during lockdown.** 30.6% stated that they challenged the person behaving in an irresponsible way. Regarding specific behaviours, the most common was littering and fly tipping which were mentioned by 133 respondents (Table 5). Issues with social distancing and irresponsible driving/parking were also very frequently mentioned by participants, as were BBQs (which are not permitted in the National Park), group meetings when this was not allowed and failure to dispose of human or dog waste appropriately (Table 5). Regarding specific locations where these behaviours were observed some examples mentioned by respondents are provided below:

- Very dangerous parking and parties of motor cyclists stopping in the centre of Hathersage
- Barbecues at Derwent Valley

- Blatant disregard for social distancing, mass influx of visitors and hazards on roads in Baslow, Chatsworth, Ilam, Matlock Bath and Castleton
- Riding of quad bikes in Derwent Gardens
- Macclesfield Forest being 'destroyed' by mountain bikers and wild camping
- People queuing up to jump from Calver Bridge into the dam and too many people in groups turning up to walk together, cyclists and walkers coming out before they ought to have done
- Issues with certain visitors in Blue Lagoon including speeding, urinating and littering

Table 5. Types of irresponsible behaviour mentioned by respondents

Behaviour noted	Frequency
Littering/fly-tipping/cleanliness	133
Not social distancing	64
Irresponsible driving/parking	63
BBQs	43
Groups meeting up against lockdown regulations, parties, raves	35
People/groups from outside area visiting when not allowed, travelling against regulations	28
Human/dog waste, public spaces used as toilets	22
Lighting/causing fires	20
Camping (illegal/wild)	17
Trespass, not sticking to paths	15
Bikes/motorbikes on paths, where not allowed, aggressive cycling	10
Noisy behaviour e.g. motorbikes, cars revving	9
Alcohol/drug use/substance abuse	9
Dogs off leads/not under control	8
Abusive, aggressive/threatening behaviour	8
Vandalism, criminal/negligent damage	6
Gates left open	6
Not following guidelines	5
Anti-social behaviour (general)	4
(illegal) Fishing	3
(illegal) Wild swimming	3
Activities disturbing wildlife	2
Visiting second homes against regulations	2
Not wearing masks	1
Vigilante-ism, self-appointed policing/aggression	1
Loud music	1
Crime/theft	1

It is also useful to note that **5.6% of respondents stated that they were personally challenged by other people for their behaviour.** Examples of behaviour challenged were cycling (6 respondents), walking on a local path (4 respondents), visiting a neighbouring village (2), walking too close to other people (1), walking in a golf course (1) and being outdoors in general (1).

3.6. Potential policy tools to manage overcrowding and irresponsible behaviour

Preferences for a number of potential policy tools to manage overcrowding were also explored in the questionnaire. **The most preferred tools were putting up information signs encouraging responsible behaviour followed by the introduction of traffic management measures** (Figures 5a-5e). A number of suggestions were made by local people in order to deal with overcrowding incidents and irresponsible behaviour. These were collected in an open-ended format and in Table 6 we present these answers grouped in 6 main categories: traffic and vehicle management; educational campaigns; access and control management; the possibility of introducing a market based tool (e.g. out of area users fee); stricter control of behaviour; and provision of some additional facilities such as assisting with littering.
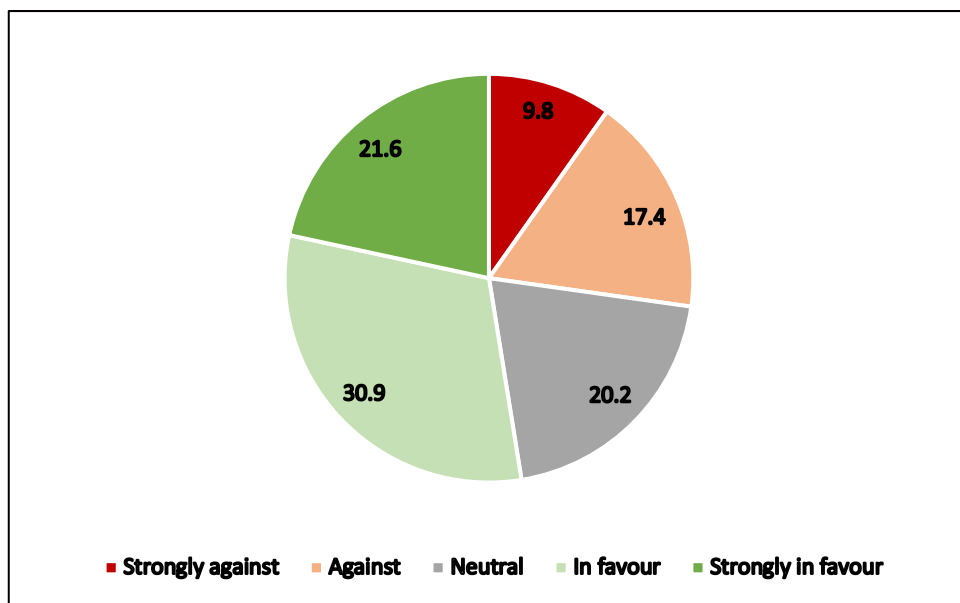

Figure 5a. Preferences for introducing an online booking system where possible for parking at busy car parks (parking only with pre-paid ticket) (%)
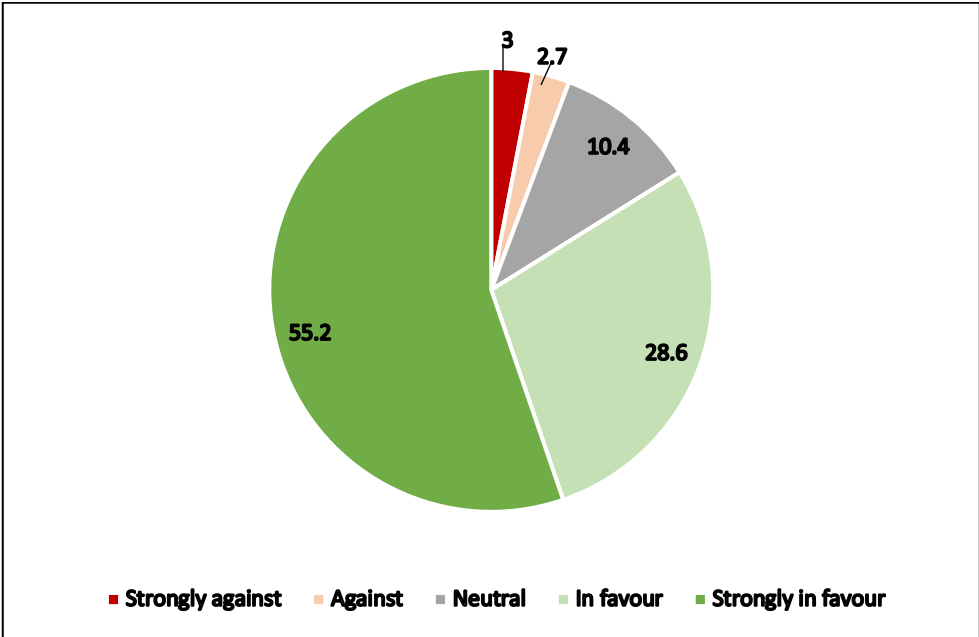
Figure 5b Preferences for putting up signs to encourage responsible behaviour such as keeping a distance from people and nature and taking litter home (%)
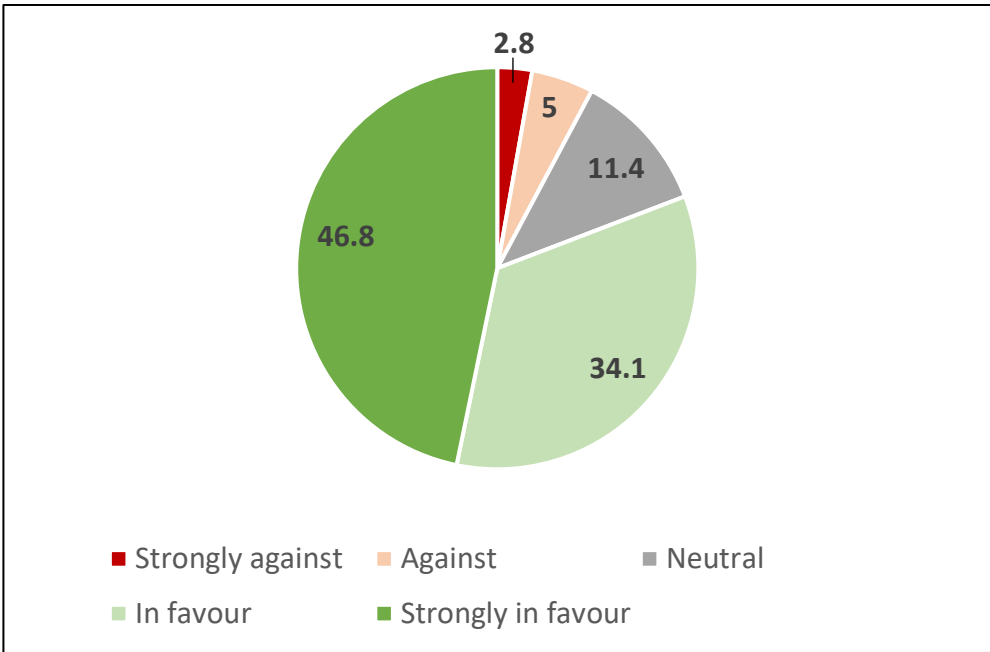

Figure 5c. Preferences for introducing new traffic management measures where appropriate such as clearer markings, explanations of clearways, marshalling and temporary double yellow lines (%)
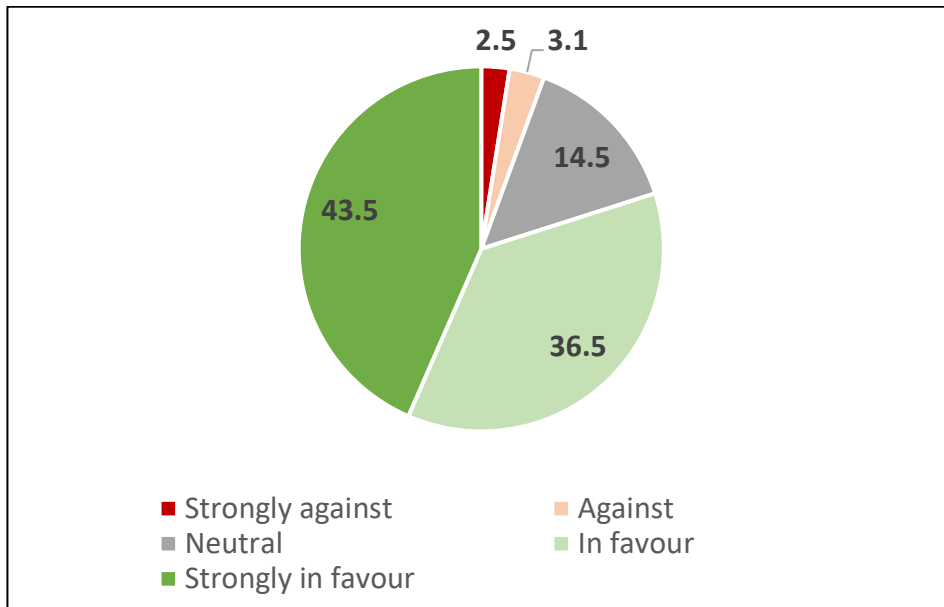
Figure 5d. Preferences for working with the local community to support local initiatives such as community litter picking and extra car parking (%)
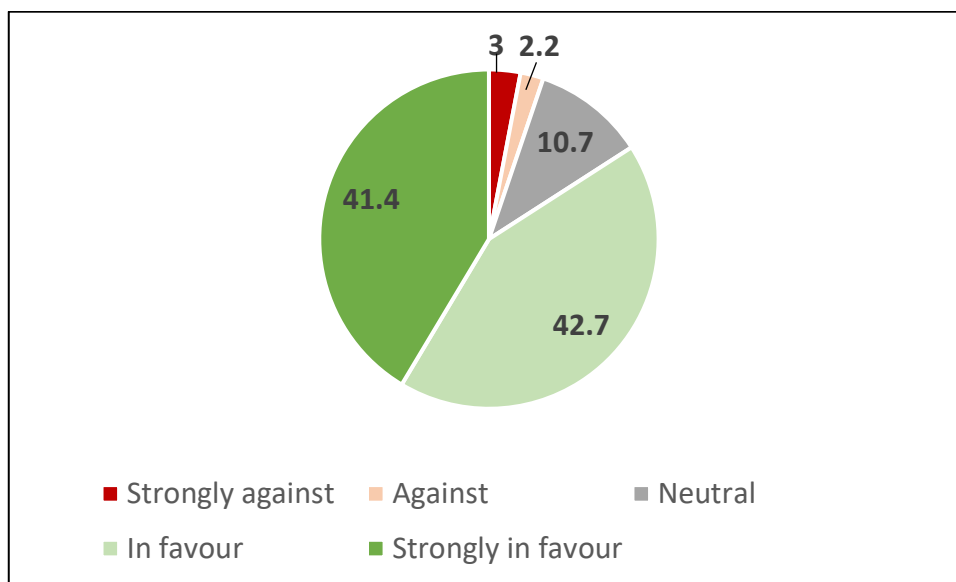

Figure 5e. Preferences for using technology to alert people of overcrowding in specific locations (%)

Table 6. Potential policy tools for managing overcrowding and promoting responsible behaviour suggested by local respondents in the Peak District National Park (open-ended response answers grouped)

Measure	Frequency
Traffic/vehicle management	
Park and ride schemes	7
Road congestion charge/road toll	4
Control motor cycle noise	4
Favour electric vehicles	1
Ban camper vans in certain locations	1
Road closures on certain days/car access restrictions	2
Traffic calming	1
Speed cameras	1
Fewer HGVs	1
Cycle trails	1
Parking related	
Rigorous/visible parking enforcement/penalties	14
More car parking spaces	4
Free/cheaper/exclusive parking for residents	2
Cheaper parking	1
More/higher parking charges	3
More parking restrictions	1
Stop parking in laybys and on grass verges	2
Temporary car parks in farmers' fields	1
Control campervans/Campervan and camping zones	2
'Smart' parking technology for pre-booked spaces	1
Information/education/engagement measures	
Public education/Media campaign on responsible behaviour in National Parks and Countryside Code	10
Involve children/Education in schools about behaviour in the countryside	4
Work with local communities on local issues	1
Better signage on rules (e.g. no fires, littering) or on options (walks etc.)	9
Anti-litter campaign	4
Sponsored litter collection (kit) among visitors	2
Prioritise the elderly	1
Access control/management	
Go/No-go zone map	1
Restrict access at certain times of year e.g. at very popular sites	3
Discourage visitors	1
Promote less frequented areas to spread crowds	2
Restrict access to sensitive habitats/nature zones	1
Don't promote places with limited/no facilities	1
Financial measures (other than parking/traffic)	
Non-resident entry fee/National Park usage charge	5
Environmental tax for visitors	2

Behaviour control/enforcement	
Fines for anti-social behaviour e.g. littering, dog fouling	10
Enforce restrictions on illegal camping/car camping	3
Controls on dogs	1
Policing of 'problem areas'/community volunteer policing	3
Control BBQs	1
Facilities provision	
More litter bins	1
More National Park rangers	1
Dog waste bins	1

3.7. Level of trust in institutions

Finally, respondents were asked how much they trust a number of institutions involved directly or indirectly in the management of the National Park. This was measured on a 5-point Likert scale with 1 representing low level of trust and 5 the highest. For comparison reasons, we present in Figure 6 the average scores for each institutions and group. The highest level of trust was reported for charities (such as the National Trust and RSPB) and the Peak District National Park Authority. The UK government, large land owners, utility companies and local councils were not trusted as much by respondents (scores under 3 reveal a lower level of trust). **Regarding the work of the Peak District National Park Authority, 28.6% and 44.8% respectively stated that they 'strongly agree' and 'agree' that the Authority is doing a good job in caring for and protecting the National Park.** 12.7% had a neutral view while 13.9% stated that they 'disagree' or 'strongly disagree'.
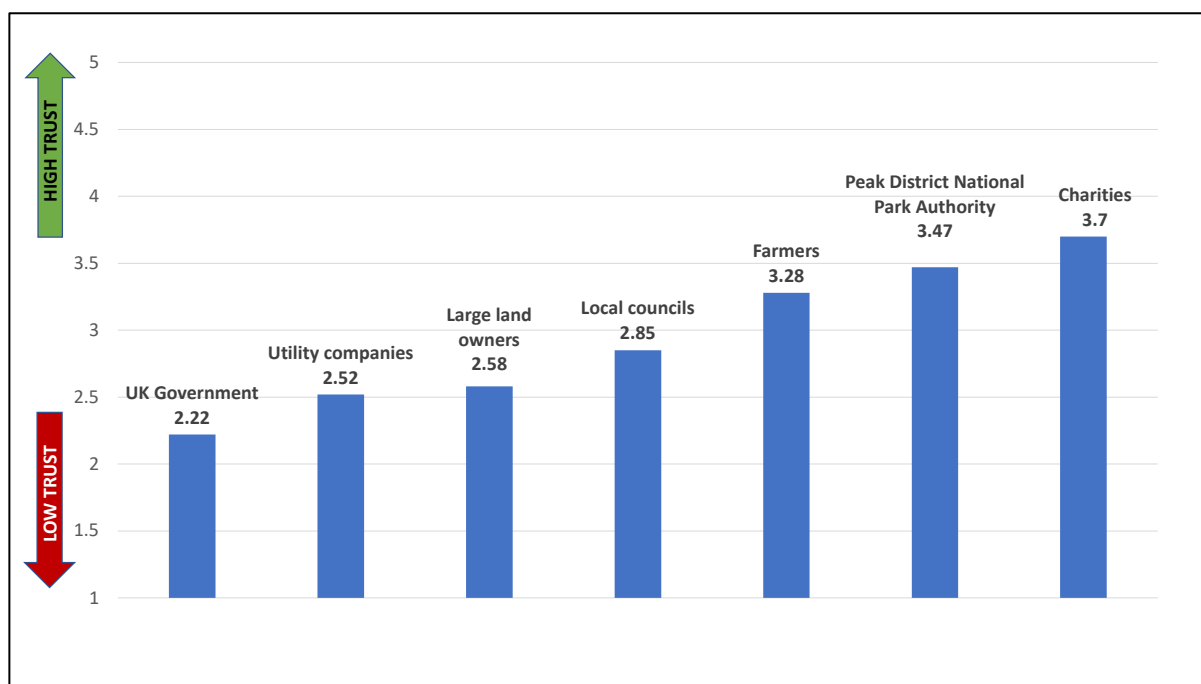

Figure 6. Level of trust in institutions and groups (mean scores, measured in a 5-point Likert scale, 1 representing low level of trust, 5 representing highest level of trust)

4. CONCLUSIONS

This study aimed to provide a detailed exploration of:
a) People's views on the Peak District National Park and the environment in general
b) The impact of COVID-19 on everyday life
c) Public opinion on different options for managing aspects of the National Park during the COVID-19 pandemic
d) Trust in institutions involved in the management of the National Park.

Key findings are:

➤ Respondents considered that living in or near the Peak District National Park enhanced their quality of life across a broad range of benefits: social, mental and physical health, active recreation, and (to a small degree) economic. This is in accordance with global evidence highlighting that living close to protected areas has a positive impact on people's wellbeing [1,2].

➤ COVID-19 and the associated restrictions during the first wave had a range of practical and social impacts on local people.

➤ The most negative impacts of COVID-19 restrictions related to loss of social life, freedom to travel and loss of facilities

➤ The most positive impacts related to reduced crowding on roads, footpaths and popular places. These findings are similar to recent results focusing on Snowdonia National Park where local communities felt that they benefited significantly from the lower number of users in walking paths, cycling routes and in general areas of natural beauty [3].

➤ According to respondents, lockdown restrictions during the first wave of COVID-19 had some benefits on mental and physical health and active recreation. The economic impact of the restrictions was evaluated as neutral at the time the survey was conducted (August 2020). The majority of respondents felt that living in or near the National Park helped them cope with lockdown. However, the economic impact on households who worked in the tourism industry was negative.

➤ During lockdown, people reported having increased the time they spent on outdoor and physical/sporting activity, with the exception of water sports and climbing. Time spent on social activities correspondingly reduced during lockdown.

➤ It is clear from both qualitative and quantitative data that there are significant concerns about overcrowding and socially irresponsible (if not anti-social) behaviour during the pandemic. There has been some anecdotal evidence that an increase in littering and other socially irresponsible behaviours has been observed in other protected areas across Europe which is attributed to some extent to new people visiting the areas who are not familiar with environmental regulations and recommendations.

➤ Our survey indicated strong support for relatively soft measures for behaviour management: public information campaigns and community initiatives to promote 'good behaviour in the National Park', as well as use of technology to warn people of overcrowding hotspots. These measures were also reflected in the wide range of

proposals for measures from respondents, which also included varyingly 'harder' measures such as access control, behaviour control and enforcement, but also provision of more facilities and the use of financial instruments.

➢ Suggested measures in our survey indicated strong support for enhanced traffic and parking management measures. Respondents proposed a wide range of measures relating to this issue, the most frequently proposed being Park and Ride schemes and rigorous enforcement of traffic and parking restrictions.

➢ Respondents claimed a very high level of adherence to responsible/pro-National Park behaviour, but reported having observed a broad range and large number of incidents of irresponsible or anti-social behaviour during lockdown. The most frequent related to littering and fly-tipping, poor driving and parking, and a range of behaviours not in line with guidance of social distancing.

➢ The most common volunteering activity in the National Park is litter picking, followed by access infrastructure and path maintenance and outreach activities.

➢ Given the challenges that the near future presents, it is encouraging to note that respondents had a moderately positive level of trust in the National Park Authority, charities, and the local farmers. However, trust was neutral to slightly negative for local and national government, as well as large landowners and utility companies.

ACKNOWLEDGMENTS

REFERENCES

[1] Naidoo R Gerkey D Hole D Pfaff A Ellis AM Golden CD … and Fisher B 2019 Evaluating the impacts of protected areas on human wellbeing across the developing world *Sci. Adv.* **5** eaav3006 (doi: 101126/sciadvaav3006) ;

[2] Jones N., Malesios C., Kantartzis A., Dimitrakopoulos P.G. (2020) The role of location and social impacts of protected areas on subjective wellbeing. Environmental Research Letters, https://doi.org/10.1088/1748-9326/abb96e;

[3] Jones N., McGinlay J., Holtvoeth J., Gkoumas V., Malesios C., Kontoleon A. (2020) 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, June 2020, Report available at: https://www.fidelio.landecon.cam.ac.uk/files/media/snowdonia_final_report-29th_june_2020.pdf