



**Loch Lomond & The Trossachs National Park
Camping Management Byelaws 2017
Three Year Report to Scottish Ministers**

Table of Contents

1. <u>Executive Summary</u>	4
1.1 Why the camping management byelaws were introduced	4
1.2 How the effects of the byelaws and camping management measures were reviewed	4
1.3 Key findings – environmental damage	5
1.4 Key findings – irresponsible behaviour	5
1.5 Other findings	6
1.6 Key recommendations	7
2. <u>Introduction</u>	8
2.1 Purpose	8
2.2 The scope of this report	8
2.3 Why the byelaws were introduced	9
2.4 What the byelaws cover	9
2.5 Motorhomes and campervans	9
2.6 Public consultation and approval process	10
2.7 The camping development strategy (2016) and camping development Framework (2019)	11
3. <u>The implementation of the byelaws</u>	12
3.1 The camping permit scheme	12
3.2 Low cost campsites	13
3.3 Authorisations	14
3.4 Communications and stakeholder engagement	14
3.5 Engagement, education and enforcement	15
3.6 Resourcing the implementation of the byelaws	16
3.7 Monitoring the effects of the byelaws	17
3.8 Targeted intervention and campaigns	24
4. <u>Findings</u>	24
4.1 Understanding the findings	24
4.2 Considerations and limitations	24
4.3 Environmental effects of the byelaws	25
4.3.1 Environmental change	25
4.3.2 Water quality	27
4.3.3 Litter	27
4.3.4 Camping facilities provision	28
4.3.5 Damage to popular visitor sites	30
4.3.6 Visitor camping numbers	31
4.3.7 Displacement of camping	31
4.4 Key socio-economic effects of the byelaws primary data	32
4.4.1 Visitor profile changes	33
4.4.2 Impact on local business	34
4.4.3 Changes in the levels of social behaviour	35
4.4.4 Recreational activity change	36
4.4.5 Impact on local communities	37
4.4.6 Levels of acceptance	38
4.4.7 Who isn't coming to the Park and why?	40
4.4.8 Experiences of those living and visiting	40
5. <u>Discussion and recommendations</u>	41
5.1 Environmental effects of the implementation of the byelaws	41
5.2 Environmental damage	41
5.3 Camping provision supply and demand	42
5.4 Recommendations	43
5.5 Socio-economic effects of the implementation of the byelaws	44
5.6 Tourism economy and levels of local support	44
5.7 Feedback and compliance from campers	45
5.8 Enforcement levels	45
5.9 Demographic and recreation impacts	46
5.10 Recommendations	46

6. Additional effects and observations	47
6.1 Information and communications	47
6.2 Education and engagement	48
6.3 Camping infrastructure	48
6.4 Enforcement	49
6.5 Monitoring	49
6.6 Sustainable resourcing	49
7. The future of the sustainable management of camping in Loch Lomond and The Trossachs National Park	50
7.1 Information and communications	50
7.2 Education and engagement	50
7.3 Infrastructure, camping provisions and visitor facilities	51
7.4 Reviewing enforcement and the byelaws	51
7.5 Sustainable resourcing	51
7.6 Monitoring and review	52
8. Glossary of terms	53
8.1 Glossary of terms used throughout this report	53
8.2 Glossary of Ranger Data Terminology	56
8.3 Ranger data graph explanations	56

1. Executive Summary

1.1 Why the Camping Management Byelaws were introduced:

- Following approval by Scottish Ministers, Camping Management Byelaws came into effect in 2017 covering the most heavily-visited lochshore areas of Loch Lomond & The Trossachs National Park from March to September each year.
- The camping pressures experienced in these areas (both from the sheer number of people and the irresponsible behaviour of some campers) had built up over many years, leading to negative impacts on the local environment and visitor experience.
- Intrinsically linked to the byelaws was the introduction of and investment in supporting measures and infrastructure including engagement, education and information, a seasonal camping permit scheme within Camping Management Zones as well as the development of new, low-cost campsites within these zones.
- The purpose of this report is to fulfil the first of two Ministerial conditions of byelaw approval that:

'Ministers should be provided with a formal report of a review of the operation of the byelaws no later than three years after implementation. The report should consider how effective the new camping management measures have been in reducing the instances of environmental damage and irresponsible behaviour as a direct result of implementation.'

- The second Ministerial condition was:

'The National Park will provide Scottish Ministers with an annual update on the implementation of the byelaws.'

This condition has been fulfilled by the provision of annual updates to Scottish Ministers in 2017-2019, which have already been submitted.

1.2 How the effects of the Byelaws and Camping Management Measures were reviewed:

- In order to answer the Minister's questions, the National Park Authority has taken a pragmatic, multi-dimensional approach using a broad range of quantitative and qualitative data to build a picture of how camping and the perceptions of camping are changing in the National Park. This report looks at the results of byelaw implementation to date, along with the effects of the other supporting camping management measures.

1.3 Key Findings - Environmental Damage:

- In most areas where camping was historically popular but is now prohibited from March to September, findings to date indicate there have been improvements in terms of vegetation and bare ground recovery. In many areas where managed camping is permitted there are slower signs of recovery, or in a few places declines in vegetation and bare ground condition.
- The overall numbers of irresponsible fire sites has been in general decline for a number of years including prior to the byelaws. Numbers of fire sites have remained relatively low in the Camping Management Zones, with slightly higher numbers in permit areas.
- Findings on litter present a complex picture with mixed results. While litter is overall being encountered less frequently in the Camping Management Zones when litter is being found in areas where camping is permitted, it is generally in higher volumes than the pre-byelaw era. However, this observation cannot be specifically linked to camping and should be considered in light of the national picture for Scotland which shows the worst litter levels in a [decade](#)¹. Litter specifically related to camping, such as abandoned tents and camping chairs, was the fourth most common type of litter being encountered.

1.4 Key Findings - Irresponsible Behaviour²:

- Prior to the introduction of the byelaws there was some concern that there could be widespread disregard or deliberate contravention of them once in place. This concern has been unfounded with the vast majority of campers complying with the byelaws. Of the total number of people that camped in a permit area or one of the new low-cost campsites over the three seasons, 2,492 (3.5%) of those who camped had their details taken in relation to an alleged contravention of the byelaws. Of this total 38 reports were made to the Procurator Fiscal by the National Park Authority and Police Scotland, covering 86 individuals equating to 0.1% of all those camping.
- Of those reported by the National Park Authority, seven people who camped have received a criminal record. None of these were solely for contravening the byelaws by setting up a tent or shelter, but for other offences.
- During the time of the implementation of the byelaws the incidences of specific camping-related antisocial behaviour³ have remained low. From all available data, there is no significant change in the level of antisocial behaviour across the Camping Management Zones to date.

¹ Local environmental quality in decline: The impact of declining local environmental quality on Scotland's communities. Keep Scotland Beautiful, October 2017.

² Defined as behaviour not showing, or not done with due care for the consequences of one's actions or attitudes; reckless.

³ Defined as behaviour which impacts *negatively* on the experience/enjoyment of others.

- When asked how safe they felt camping in the National Park, 90% of respondents to a camping survey commissioned in 2017/18 said they felt 'quite safe' or 'very safe'. This increased to 97% when visitors from outside the UK were asked.
- Whilst improvements in both environmental quality and camping behaviour have been seen over the three seasons so far, it is too early for data to show long term trends.

1.5 Other Findings:

- **Number and profile of campers:** Over the three seasons that the byelaws have been in operation so far, more than 70,000 people (57,000+ adults and 13,000+ children) have camped in a permit area or one of two new low-cost campsites. The number of adults camping increased by 62% from 2017 to 2019 and the number of children camping rose by 90% from 2017 to 2019.
- **Camping volume and density:** the byelaws are managing both the number and density of people camping at peak times. The overall number of tents recorded in Camping Management Zones has declined since the introduction of the byelaws. Despite the increases in people being seen in areas where camping is permitted from 2017 to 2019, the overall density of people camping is still lower than prior to the introduction of the byelaws.
- **Camping supply and demand:** The provision for informal camping created through the permit scheme and low-cost campsites appears to have been sufficient to meet demand. Over the 642 nights that the byelaws have been in place (March – September each year in 2017-2019), so far capacity was reached on three nights.
- **Camping satisfaction levels:** feedback surveys sent after every stay have been completed by almost 5000 people camping. Satisfaction scores have risen each year, with 93% of respondents saying they would be 'quite likely' or 'very likely' to recommend staying in a permit area in 2019.
- **Human waste:** Campers feedback and Ranger patrol data indicate that inappropriate toileting behaviour continues to pose an ongoing problem in some areas within the Camping Management Zones, particularly around busy parts of Loch Earn. Learning from an innovative behaviour change pilot in 2019 offers potential for further development and testing in other areas, to work towards tackling this issue.
- **Displacement:** There is currently very little direct or anecdotal evidence of displacement of informal camping being caused by the byelaws, although camping associated problems do continue to take place in some historic sites outside the Camping Management Zones within and around the boundary of the National Park.
- **Recreational impacts:** Although there is no evidence of direct correlation with the byelaws, increases in levels of recreational activities such as walking, fishing, canoeing and cycling have been recorded at

popular lochshore locations since 2017, including in Camping Management Zones.

- **Visitor economy:** Findings to date indicate that the visitor economy remains strong across the National Park. While not directly attributable to the camping byelaws, it appears that there has been no negative impact on the tourism economy of the National Park.
- **Public perceptions:** In terms of wider public perceptions, the majority of National Park residents including businesses remain in favour of the byelaws.
- **Adaptive management:** All three seasons have provided real opportunities for the National Park Authority, its partners and stakeholders to 'learn through doing', particularly in the first season when the concept of camping byelaws and permit areas was new to many. This has been a major new programme of work, with some steep learning curves yet staff, visitors, communities and partners adapted, making the 2018 and 2019 seasons more straightforward than the first season in 2017.

1.6 Key recommendations:

- There should be continued investment in engagement and education with all visitors around responsible fire-lighting, waste disposal and toileting behaviours targeted at areas where managed camping is permitted, alongside an appropriate monitoring programme;
- Ranger presence is still required within the wider Camping Management Zones to help prevent and manage any negative environmental impacts of camping and day visitor activity;
- Management interventions to 'rest' heavily-used permit areas experiencing unsustainable 'wear and tear' should be trialled and monitored;
- Where appropriate the development of additional low-cost, informal and formal camping provision should be encouraged by both private and public sectors, as laid out in the Camping Development Framework 2019.
- Resources should continue to be targeted to prioritise the specific locations where irresponsible behaviours (including antisocial behaviour levels) are highest, alongside an appropriate level of Ranger and Police presence and monitoring with the ability to ascertain which are directly related to camping;
- Continued support should be given to encouraging positive camping experiences for under-represented social groups as set out in the Camping Development Framework 2019.
- Review the Camping Management Monitoring Framework based on the learnings gathered over the first three years and work with partners locally and nationally to share insights and address issues on a broader scale.

2. Introduction

2.1 Purpose

This report provides Scottish Ministers with a review of three years of operation of the Loch Lomond & The Trossachs National Park Camping Management Byelaws 2017, as set out in the conditions of approval: *'Ministers should be provided with a formal report of a review of the operation of the byelaws no later than three years after implementation. The report should consider how effective the new camping management measures have been in reducing the instances of environmental damage and irresponsible behaviour as a direct result of implementation.'*

This follows on from the annual updates submitted to Ministers in [2017](#), [2018](#) and [2019](#).

The report considers how effective the byelaws and associated camping management measures have been in reducing instances of environmental damage and irresponsible behaviour in the National Park. It also provides relevant additional information and observations gathered over the three-year period since the introduction of the byelaws.

2.2 The scope of this report

This report aims to give a clear and objective review of the operation and effectiveness of the byelaws and associated camping management measures as requested by Scottish Ministers. In order to do this, the National Park Authority has taken a pragmatic, multi-dimensional approach using a broad range of quantitative and qualitative data to build a picture of how camping and the perceptions of camping are changing in the National Park. This report looks at the results of byelaw implementation to date, along with the effects of the other supporting camping management measures and learnings gathered over the first three years of implementation.

This is followed by an indication of the future approach to sustainable camping management by the National Park Authority.

The report does not cover a detailed cost - benefit analysis of the byelaws, the detail of associated operational policies and procedures, a review of the byelaw citations or reviewing the current Camping Development Framework.

Detailed breakdowns of each of the 2017 – 2019 camping seasons have already been supplied to Scottish Ministers, in the form of [annual update reports](#) and therefore this report aims not to replicate information already submitted.

2.3 Why the byelaws were introduced

Loch Lomond & The Trossachs National Park is visited and enjoyed by more than four million people every year. This brings with it considerable pressure on some of the most easily accessible lochshore areas, some of which have had a long history of informal camping, with people looking for something akin to a wild camping experience but who also want to stay in easy-to-get-to locations, close to their vehicles.

This camping pressure from this volume of people camping, combined with damage from irresponsible behaviour, led to significant negative impacts on the environment, visitor experience and to life for people who live in these areas. The National Park Authority, along with partners including Police Scotland, over many years had applied a number of different approaches to tackling these issues before recommending implementing Camping Management Byelaws.

Further background information about these impacts and the reasons for recommending camping byelaws and investment in camping infrastructure can be found [online](#).

In an effort to tackle problems associated with wild camping and irresponsible fire-lighting, the East Loch Lomond Byelaws were first introduced in 2011 as part of a wider package of visitor management measures. This resulted in a significant reduction in irresponsible behaviour, littering and damage to the environment. This, along with new investment to the area, saw the quality of the visitor experience in the area greatly improve.

This experience on East Loch Lomond led to the consideration of further byelaws to address similar problems in other areas of the National Park.

2.4 What the byelaws cover

The byelaws are only applicable between March and September in certain lochshore areas of the National Park (referred to as 'Camping Management Zones'). They regulate when and where people can use tents or shelters and also cover the use of fires and collection of wood.

They do not cover the whole National Park, nor private, more formal camping and caravanning sites, neither do they cover wild camping outside the Camping Management Zones. The byelaws do not apply October to February.

2.5 Motorhomes and campervans

At the time of proposing the byelaws there was also a need to better manage some of the larger, off-road lochshore parking areas and areas of old road found in the National Park. Some of these sites, particularly along the A82 trunk road on West Loch Lomond and A85 by Loch Earn were experiencing

longer-term, seasonal encampments of larger vehicles and caravans (not as part of recognised Traveller communities) that had led to negative impacts on the local environment, visitor experience and nearby communities.

The initial introduction of motorhome and campervan permit areas on these stretches of roads in March 2017, was changed in June of that year following discussions with Police Scotland who proposed that that these issues would instead be managed under the Road Traffic Act 1988. Motorhome permit areas are still available under the National Park's permit scheme (outlined in more detail in section 3.1) in certain areas of the National Park. These have been well used and received.

2.6 Public consultation and approval process

A formal 12-week consultation was carried out in late 2014, where the views of stakeholders were gathered and considered on the potential to bring in new byelaws. Following approval by the National Park Authority Board, officers then submitted proposals to Scottish Ministers in May 2015 for new Camping Management Byelaws under Paragraph 8 of Section 2 of the National Parks (Scotland) Act 2000.

The proposals submitted included:

- The implementation of camping byelaws across four Camping Management Zones within the most heavily visited camping areas within the National Park; [see Appendix 1(a)]
- To support the byelaws, the creation of a camping permit scheme allowing informal camping in defined areas of the Camping Management Zones; [see Appendix 1(b)]
- The creation of campsites with low cost bookable pitches and basic facilities to provide affordable informal camping not currently catered for by existing provision; [see Appendix 2]
- Delivering 300 camping spaces in the first year of the byelaws operating, with more to be added in subsequent years;
- The inclusion of irresponsible fire-lighting activities within the Camping Management Byelaws;
- The simultaneous revocation of the East Loch Lomond Byelaws 2011 to coincide with the introduction of the new byelaws.

Following a period of ministerial consideration the proposed Camping Management Byelaws were approved by Scottish Ministers on 26th January 2016. Formal modifications requested of the National Park Authority were that:

'The proposed period of operation of the byelaws would be reduced by one month; running from 1st March to 30th September rather than to the end of October as previously envisaged. This included the area where the East Loch Lomond Byelaws had operated for eight months of the year.'

The implementation of the byelaws was moved to 1st March 2017'

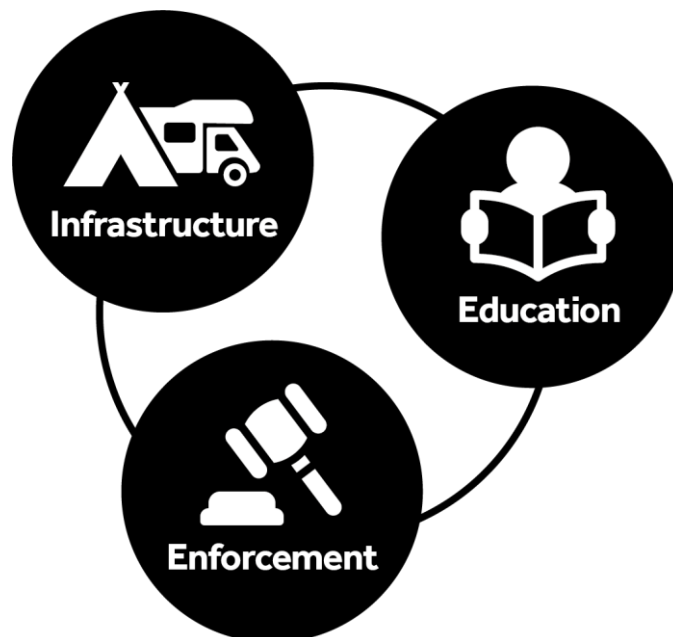
Two administrative conditions were also applied:

- *'Ministers should be provided with a formal report of a review of the operation of the byelaws no later than three years after implementation. The report should consider how effective the new camping management measures have been in reducing the instances of environmental damage and irresponsible behaviour as a direct result of implementation.'*
- *'The National Park will 'provide Scottish Ministers with an annual update on the implementation of the byelaws.'*

The finalised byelaws can be viewed [here](#).

2.7 The Camping Development Strategy (2016) & Camping Development Framework (2019)

The Camping Management Byelaws are only one element of a broader context of developing and sustainably managing camping within the National Park.



The approach has been laid out in two strategic delivery documents approved by the National Park Authority Board: the original [Camping Development Strategy](#) (2016) which was superseded by the [Camping Development Framework](#) (2019). These plans provide a vision for improving the experience of camping in the National Park, particularly for informal, lochshore-based camping.

The vision set out in the Camping Development Framework (2019) is that: *‘Loch Lomond & The Trossachs National Park is an area that offers a wide variety of sustainable, high quality camping experiences for people from a wide range of backgrounds.’*

Both documents outline the approach to achieving this through positive engagement and education, along with sustainable investment, infrastructure improvements and camping provision focused on key areas.

In the lead up to the implementation of the byelaws in March 2017, significant investment in low-cost, camping infrastructure and associated visitor management was delivered by the National Park Authority, with help from key partners such as Forest Enterprise Scotland (now Forestry and Land Scotland). This is described further in section 3.2 below

This complements the existing private provision at the formal camping and caravanning sites around the National Park. *[See Appendix 2].*

The Camping Development Strategy and Framework both recognise that successfully achieving their vision requires input and support from private and public landowners, businesses and local communities along with the National Park Authority.

3. The Implementation of the Byelaws

Prior to the byelaws coming into effect on 1st March 2017, a significant amount of preparation and investment was made across several delivery areas. This involved multiple teams within the National Park Authority, as well as input from partners, including the creation of new systems and processes, investment in capital construction projects, and the provision of clear information and communications.

3.1 The camping permit scheme

In order to implement the byelaws a new permit scheme was developed to allow visitors to camp at designated areas within the Camping Management Zones between March and September each year.

Permit areas are generally at or near lochshore locations that offer a form of ‘wild camping’ experience with no, or few, formal facilities. They are usually easily accessible by vehicle and have a history of informal camping. Permits give campers temporary exemption from the byelaws, and require them to adhere to terms and conditions mostly associated with responsible camping behaviour, in line with the [Scottish Outdoor Access Code](#) (SOAC).

The selection of potential permit area locations took into consideration a number of factors including existing popularity, safety and ease of access from public roads, nearby recreation routes and parking areas, ability to

sustainably support camping numbers, land ownership, impacts on communities, site constraints and anticipated site popularity.

As of 2019, a total of 327 camping spaces were available within the Camping Management Zones, including 235 places in 35 permit areas, including 10 areas where motorhomes can book permits to stay overnight plus 92 spaces in low-cost campsites. *[See Appendix 5(b)].*

Visitors are encouraged to book online in advance, or over the telephone via a dedicated booking line. If required National Park Rangers also help visitors wishing to camp with permit bookings as part of their patrolling and visitor engagement duties.

To ensure the permit scheme was affordable to all the cost of buying a permit was deliberately kept low, with a charge of £3 per tent, per night. A maximum of three nights per permit area was set to ensure regular turnover and availability in line with [Scottish Outdoor Access Code](#) guidance on wild camping.

[See Appendix 1(b) for a map of camping provision in the National Park].

3.2 Low-cost campsites

In order to better manage camping pressure in popular areas with little or no private sector camping provision, two informal campsites with low cost bookable pitches were designed and constructed by the National Park Authority. These complemented the existing National Park Authority campsites at Loch Lubnaig and Inchcailloch, the Forest Enterprise Scotland-run campsite at Salloch Bay on East Loch Lomond and the new camping spaces also introduced in 2017 at Rowardennan Youth Hostel. Both new National Park Authority campsites were sited on the National Forest Estate, with agreement and support from what was at the time Forest Enterprise Scotland.

Loch Chon Campsite was constructed in 2016-17 and opened on 1st March 2017, offering 26 pitches for tents (including two accessible pitches for disabled users), designated parking spaces, toilets and potable water. Loch Achray Campsite opened on 1st March 2019 offering 17 pitches for tents (including two accessible pitches), designated parking spaces, access to toilets and potable water. On-site Campsite Wardens are employed for both sites, which are open from March to September each year, in line with operational period of the byelaws.

Costs were set at £7 per adult per night, with under-16 year olds camping free of charge, and as with permit areas a maximum of three nights can be booked up to eight weeks in advance.

[See Appendix 1(b) for a map of camping provision in the National Park].

3.3 Authorisations

From staff experience and stakeholder feedback, it was understood that organised youth groups such as schools, Scouts, Guides and Duke of Edinburgh Award groups were regular campers at some sites within the Camping Management Zones. This is positive historic activity that delivers many educational and recreational benefits, provided it is well managed and low impact. Organised groups or charities are welcome to apply for authorisation from the byelaws so they can continue to camp in in Camping Management Zones outside of permit areas or within the permit areas for short periods, free of charge.

3.4 Communications and stakeholder engagement

In order to raise awareness of the new byelaws amongst key audiences including campers, landowners, local communities, and businesses, a series of communication platforms were developed and delivered. These included:

- A range of on the ground signage to inform visitors and locals where byelaws apply, including the boundaries of Camping Management Zones and locations of the new campsites and permit areas. Once at these locations, orientation and information signage give visitors further details. 'Hotspot' signs were also installed at key, historical camping locations in the Camping Management Zones to clarify where camping is no longer allowed during the months that the byelaws apply.
- A dedicated camping section of the National Park website, providing a wide range of information, practical guidance and explanation of the byelaws including where and how to book a permit, campsite listings, 'Frequently Asked Questions', foreign language information guides and videos on camping in the National Park. This was supported by social media and offline promotion.
- A camping booking system to allow people to search for and book permits or National Park campsites online. Detailed information is also sent out with each booking confirmation and feedback is gathered via customer surveys after each visit.
- Printed materials including a 'Camping in the Park' leaflet, printed maps of the Camping Management Zones, and foreign language guides to camping.
- A Stakeholder Forum, representing a wide range of local and national interests, to provide opportunities to discuss and feedback on progress with the implementation of the byelaws and Camping Development Framework.
- A dedicated website presenting background, consultation and byelaw implementation information.

[See Appendix 3 for examples of communications materials]

A continual improvement approach was adopted across all communications platforms, with feedback from campers and stakeholders used to improve clarity and effectiveness of communications and information. These improvements are then communicated via a new [‘You said we did’](#) section of the website.

It should also be noted that without the engagement and support of key partners and landowners the camping management measures could not have been successfully implemented. While overall partner and landowner support has been very positive, in certain areas where there has been less support this has led to more challenges in implementing management measures.

3.5 Engagement, education and enforcement

As outlined in the Camping Development Strategy and Camping Development Framework, the byelaws are just one element of the wider visitor management programme that aims to protect the environment and enhance visitor/community experience of the National Park. Fundamental to success is the ability to proactively and positively engage with visitors, some of whom may not be behaving in a responsible or sustainable manner.

The approach of the National Park Authority has always been proactive engagement and education first, with enforcement of byelaws where they exist, only used as a last resort when necessary.

This requires a range of effective management methods including information and communications for visitors on personal responsibility and the effects of irresponsible or inconsiderate behaviour on both the environment and on other people. This also includes, when required, outlining the consequences of contravening byelaws and the legislation in place.

This is provided both online at the point of people researching or booking their camping trip, in our printed materials and face-to-face through proactive engagement with our Ranger Service on the ground.

All byelaw enforcement by the National Park Authority is guided by the [Visitor Management Education and Enforcement Policy](#) that is used to provide a consistent, transparent and accountable service to the general public. When enforcement is required, an escalated approach is used with the primary aim being voluntary resolution through person(s) in question choosing to comply with the byelaws. Only if all means of remedy are exhausted will a report to the Procurator Fiscal be made by authorised National Park Authority staff or Police Scotland officers.

National Park Rangers and other authorised staff can also, where necessary, enforce the Environmental Protection Act for littering and flytipping. These

powers were introduced prior to the Camping Management Byelaws, in 2016, and are used where required alongside the byelaws.

Rangers and Police do also use appropriate discretion with enforcement when there are safety and welfare concerns for campers, For example walkers, cyclists or kayakers caught in very poor weather and unable to reach a permit area safely so forced to camp overnight without a permit. Improvements and adaptations.

Continuous efforts have been made to improve operational processes and procedures since the introduction of the byelaws, by adopting a 'learning by doing' approach. Along with ongoing findings from the Camping Management Monitoring Framework (described in section 2.7 below), feedback from those using the permit areas and low-cost campsites, gathered via camping booking feedback surveys, is logged and reviewed. These, along with feedback from delivery partners and stakeholders, feed into continuous improvements.

Examples include:

- Updated and additional signage at hotspot areas, such as Camping Management Zone boundaries and along the West Highland Way;
- Improvements to water supply, pitch and path surfaces at new campsites;
- More regular inspections of and litter picking at permit areas;
- 24-hour opening of public toilets at Firkin Point during the camping season.
- Updates to information and imagery on our website and booking system, new content such as a motorhome webpage and the introduction of a 'You Said, We Did' page to share ongoing improvements.

3.6 Resourcing the implementation of the byelaws

As outlined in the sections above, the implementation of the byelaws and the associated camping management measures involved considerable resources in both financial and staffing terms, particularly in the first year of implementation. Prior to the introduction of the byelaws in 2017, Ranger patrols covered a wider area of the National Park albeit primarily focused on those most heavily used areas which in many cases became Camping Management Zones. Post-2017, land-based patrols focused on the Camping Management Zones only.

From 2015 (when development work first began) to 2019, project establishment costs totalled £1,642,000 and included the construction of the Loch Chon and Loch Achray campsites, byelaw development, system and signage development and installation, and communications elements.

Annual operational (running) costs over 2017 - 2019 totalled £314,000 and included dedicated permanent/fixed term staff, grounds maintenance, property repairs, overheads and seasonal staff costs for the Ranger Service and staffing campsites. This equates to approximately £150,000 per annum more than pre-byelaws operational costs. However, the pre-byelaws operational costs were, despite best efforts, failing to deal with the negative impacts associated with high camping pressures and irresponsible behaviours.

It is also important to note that without the byelaws and associated measures it is likely that these costs would have continued to have increase as a result of the levels of environmental damage and irresponsible behaviour found at many busy lochshore locations, caused by some campers and day visitors. These costs which are a drain on resources and can negatively impact on local business income would have fallen to the National Park Authority, Police Scotland and other landowners and businesses to meet. In this respect the implementation and running costs are an investment in preventative measures, which better protect the local environment and transform the visitor experience.

3.7 Monitoring the effects of the byelaws

In order to effectively manage the implementation of the byelaws and to produce both Annual Updates and this report for Scottish Ministers, an extensive monitoring framework was established to collect and analyse multiple data sources.

The Camping Management Monitoring Framework was structured first and foremost to meet the specific requirements related to the objectives identified within the 2014 [Strategic Environmental Assessment](#) (SEA) Environmental Report (ER) for the byelaws and associated camping management measures. This was undertaken to identify, describe and evaluate the likely effects of the then proposed Camping Management Byelaws on the environment. The SEA identified suggested indicators and the specific monitoring required to effectively determine what, if any changes to the local environment had occurred across as a result of this proposed implementation.

The Camping Management Monitoring Framework incorporated:

- seven indicators focussing on the effectiveness of the byelaws and associated camping management measures in reducing environmental damage and
- eight indicators associated with the socio-economic effects of reducing irresponsible behaviour related to camping.

The monitoring carried out under this framework was proportionate to the resources available to the National Park Authority, with the priority being placed on resourcing implementation of the operation of the byelaws and associated measures to address pressures first and foremost.

In 2019, West Dunbartonshire Council carried out an Independent Assurance Review on the Camping Management Monitoring Framework which stated: 'An audit was conducted on the Environmental Monitoring Framework being used to report on Your Park Project and we are pleased to report that the systems examined are generally working effectively.'

These 15 indicator questions along with the data sources used to help answer these questions are summarised below.

Camping Management Byelaws indicator questions			
Question	Data sets	Methodology	
1	Has there been any change in the environment at popular loch-shore locations?	<p>Fixed point photography</p> <p>Vegetation surveys</p> <p>Landscape Quality Assessment</p> <p>WeBs counts</p>	<p>A series of photographs taken over five years at 19 lochshore locations to highlight any evidence of environmental change.</p> <p>Six sites, encompassing permit and non-permit areas, surveyed twice a year along a linear transect measuring bare earth and vegetation cover.</p> <p>Combining landscape fixed photography, vegetation fixed point photography, vegetation monitoring and camping satisfaction survey results to understand changes in landscape character and quality</p> <p>Wetland Bird Survey is a national monitoring scheme, undertaken at 14 locations in the National Park by the Ranger Service and volunteers.</p>
2	<p>Is there a decrease / increase in water pollution</p> <p>Is there a change in water quality along popular loch shore locations?</p>	Water quality sampling	<p>Samples were obtained and analysed primarily for bacteria associated with human and animal faeces at 23 sites on three occasions between 2015 and 2018.</p> <p>The samples were analysed for Total Coliforms, <i>Escherichia Coli</i> (<i>E. coli</i>) and <i>Enterococci</i>, to mirror the parameters</p>

			monitored by SEPA for bathing water by a UKAS accredited laboratory.
3	Has there been a change in the amount and type of litter left at popular locations?	<p>Ranger patrol data 2011-2019 (litter amount) 2018 – 2019 (litter type)</p> <p>Number of complaints & feedback received / Camping satisfaction survey</p> <p>Local Environmental Audit and Management System (LEAMS)</p>	<p>Rangers collected data from sites across the NP since 2011, monitoring the amount of litter seen. From 2017 the type of litter was also recorded. Analysis was completed using mean averages and locations to determine change.</p> <p>All individuals booked onto a permit site are sent an electronic survey, post-stay. This is a voluntary survey with a free text box to allow campers to provide comments on their stay. These comments were analysed and any including negative litter comments were totalled</p> <p>Bespoke litter audit carried out by Keep Scotland Beautiful in 2015 and based upon the national Local Environmental Audit and Management System. A second bespoke audit was carried out in 2019 by the NPA in line with the updated Code of Practice on Litter and Refuse (2018)</p>
4	What type and number of facilities are available for camping across the NP?	<p>Data gathered from commercial sites</p> <p>Camping booking system data</p> <p>Number of West Highland Way walkers</p>	<p>A research exercise undertaken to determine the number of touring and tent camping places available at commercial campsites identifying any changes between 2015 and 2019</p> <p>Data collected as a result of bookings for permit areas was analysed for trends to determine usage against capacity and occupancy rates between 2017 and 2019</p> <p>A people counter was used to provide an indication of those walking the WHW north of Rowardennan identifying any annual trends in the pre and post byelaw period</p>

		Byelaw Exemptions and Authorisations	A record of all applications for exemption/authorisation from the byelaws since 2017 by organised groups and events, analysed for usage of the process.
5	How are the key visitor sites being used?	Ranger patrol data 2011 – 2019 (fires and vehicles) 2017 – 2019 (damage)	Rangers collected data from sites across the NP since 2011, monitoring the number of fire sites seen. Since 2017 the presence of damage was also recorded. Analysis was completed using mean averages and locations to determine change.
6	Have the number of visitors camping at each location changed?	Ranger patrol data 2011 - 2019 Camping booking system data	Rangers have collected data from sites across the NP since 2011, monitoring the number of tents and people seen at locations across the National Park. Analysis was completed using mean averages and locations to determine change. The number of camping permits purchased for wild camping areas was recorded from 2017 to 2019 giving an accurate representation of the number of tents present and occupancy rates at each individual Permit Area
7	Is there any evidence of displacement of issues to other areas?	Ranger patrol data Correspondence received from communities and partners	Field interviews undertaken in locations outside of camping management zones, to establish the reasons why people choose certain areas to camp. Any details relating to camping occurring outside of camping management zones and its location, was recorded from 2017 to 2019
8	Has the visitor profile changed? Where are people coming from?	National Park Visitor surveys 2015 and interim 2019	Survey of visitors to the NP carried out in 2015 and 2019 to determine the demographic and compared with each other for any differences in the pre and post byelaw periods.

		<p>Camping Experience Survey 2017 -18</p> <p>Camping booking system data</p>	<p>Carried out in a similar way to the visitor survey to capture the demographic of campers targeting those who had stayed in permit areas or NPA campsites. Analysis was by comparison to the visitor survey</p> <p>Supplementary data was provided via the camping booking system which recorded the home location of where campers were coming from. This data was analysed by comparing it to each year of the byelaws, 2017 to 2019.</p>
9	Has there been an impact on local business?	<p>Scottish Tourism Economic Assessment Model data</p> <p>National Park Authority Business survey 2019</p>	<p>A process modelling the economic impact of the NP through the use of localised data sources. Covering the period 2014 to 2018, the STEAM report investigates economic impact, visitor numbers, visitor days, employment supported.</p> <p>Survey of businesses within the National Park carried out in 2019, gathering anecdotal feedback exploring the impact of the byelaws felt by residents. The results were analysed by extracting the objective and anecdotal evidence to provide a snapshot.</p>
10	Has there been a change in the level of antisocial behaviour at popular loch-shore locations?	<p>Crime and Incident Data report 2019</p> <p>Byelaw data related to antisocial behaviour</p>	<p>Data from Police Scotland internal systems related to antisocial behaviour taking place in the four Camping Management Zones was extracted. Rangers on patrol in Camping Management Zones reported on any incidents/issues and where contraventions allegedly took place, taking the details of individuals who were involved. Incidents and subsequent reports related to antisocial behaviour were extracted.</p> <p>All individuals booked onto a permit site are sent an electronic survey, post-stay. This is a voluntary survey with a free</p>

		<p>Camping booking feedback surveys</p> <p>National Park Authority Complaints data</p>	<p>text box to allow campers to provide comments on their stay. These comments were analysed and any including antisocial behaviour were extracted.</p> <p>Complaints related to camping received by the NPA via email and telephone between 2017 and 2019 were recorded and categorised, those related to antisocial behaviour were extracted.</p>
11	Has there been any change in the type of activities at popular loch-shore locations?	<p>Ranger patrol data 2017-2019</p> <p>National Park Authority Business survey</p>	<p>Rangers have collected data from sites across the NP since 2017, monitoring the type of activities being undertaken at locations across the National Park. Analysis was completed using mean averages to compare against previous years.</p> <p>As outlined above under Q9.</p>
12	What is the impact on local communities?	<p>National Park Authority Business survey</p> <p>National Park Authority Resident survey</p> <p>Formal complaints & Community and Stakeholder feedback</p>	<p>As outlined above under Q9.</p> <p>Survey of residents within the National Park carried out in 2019, gathering qualitative feedback exploring the impact of the byelaws felt by residents. The results were analysed by extracting the quantitative and qualitative evidence to provide a snapshot of resident views.</p> <p>Complaints and feedback from local communities received by the NPA via email and telephone between 2017 and 2019 were recorded and categorised, and analysed by comparing against each year.</p>

13	How have people responded to new management regimes and what has been the level of acceptance?	Byelaw contravention data	Rangers on patrol in Camping Management Zones reported on any incidents/issues and where contraventions allegedly took place, taking the details of individuals who were involved. Combined with Police Scotland data, analysis was completed on the number of people charged, had their details taken and the location of the alleged offences to determine if the management regime has been accepted.
14	Who isn't coming to the NP and why?	National Park Visitor Surveys 2015 and interim 2019 Census Data Scottish Index of Multiple Deprivation (SIMD)	Using the demographic data of the visitor and comparing this to national census data it is possible to see how the demographic of National Park visitors compares to the demographic of Scotland, however, this does not account for camping visitors. <i>While this Indicator question was included and analysed under the monitoring framework, limitations were found in the amount and usefulness of the data available. Question 8 on Visitor Profile has been used to provide an overall picture of who is camping in the National Park.</i>
15	What are the positive experiences had by those living and visiting?	Camping booking feedback survey National Park Authority Resident Survey National Park Visitor Survey	All individuals booked onto a camping permit area are sent an electronic survey, post-stay. This is a voluntary survey with the opportunity to advise how they rated their experience and provide further comments. As outlined under Q12 – positive experiences extracted to provide snapshot of views As outlined under Q8 – positive experiences extracted and compared on previous years. As outlined under Q8 positive experiences extracted to provide snapshot

		Camping Experience Survey 2017-18	
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3.8 Targeted interventions and campaigns

Although not a specific monitoring target of the environmental framework, one of the main pieces of feedback received from campers in 2017 and 2018 was around the presence of human waste being left irresponsibly at permit areas. In 2019 the National Park Authority ran [a pilot project](#) targeted at encouraging visitors to go to the toilet responsibly. Three locations which identified as being affected by this issue were selected, with three different trial methods undertaken and monitored to test and learn how to reduce irresponsible toileting behaviour and make recommendations. The introduction of the permit scheme, and the feedback gathered from campers through this, combined with our own monitoring patrol data, allows us to develop and deliver this kind of targeted approach to address specific issues.

4. Findings

4.1 Understanding the findings

The aim of collecting and analysing multiple data sources was to investigate and measure any effects of the byelaws and to provide evidence for any camping management interventions needed to address associated pressures. Multiple data and information sources were used, from both internal and external sources to ensure a range of factors were considered, including baseline data collected prior to byelaws beginning in 2017. The methodology for collecting data was, where available, based on nationally agreed standards and subject to peer review by a range of in-house and partner specialists.

4.2. Considerations and limitations

By definition the three-year monitoring period 2017-20 is a limited period in which to show clear long-term trends and this needs to be considered when drawing conclusions. In monitoring the effects of the byelaws, limitations were found within some monitoring indicators and datasets, with not all showing clear correlation of cause and effect associated with the byelaws. However, the monitoring framework deliberately included a wide range of indicators to collect data and associated information relevant to building a fuller picture of the effects of byelaw implementation. These are discussed further in the sections below.

Some data sets based on external surveys (such as camper or displacement surveys), are by their nature more of a sample snapshot in time, rather than a long-term trend with available baseline data.

Some of the data also comes from relatively small sample sizes due to either resource limitations in the case of samples such as vegetation surveying, or the evolution of additional data sources in the case of the displacement sampling and landscape impact assessments. For these reasons care was exercised in drawing any definitive conclusions from small samples and one-off surveys.

In some cases where change has been identified these changes are in small amounts and could be within the margin of sampling error. As above, care has been taken to present the limitations with the data presented where required.

Due to limitations around variables and correlating cause and effect, the water quality and Wetland Bird Survey (WeBS) data was found during analysis to be of limited use.

It is also important to recognise that at the majority of camping sites surveyed there is no exclusive use for campers and as such some of the findings may be due to activity related to day visitors. In some areas, where camping is now managed, the number of day visitors may have increased as there may no longer be a sense of exclusivity due to the presence of campers.

Finally it is important to note that camping is a highly weather-dependant activity and therefore different weather patterns in different years will also have had an effect on monitoring of the byelaws. In particular the summer of 2018 saw an unusually extended period of dry, warm weather that presented a good test of the camping management measures and would appear to have had an influence on some of the findings outlined below.

4.3 Environmental effects of the byelaws

This section sets out the findings under the seven indicator questions which primarily looked at the effectiveness of the byelaws and associated camping management measures in reducing environmental damage.

4.3.1 Environmental change

Question 1	Has there been any change in the environment at popular lochshore locations?
Question explanation	The purpose of this question was to establish whether there had been any change in the natural environment of lochshore locations, utilising four methods to provide analysis of the impact of the byelaws on vegetation, landscape and waterbirds, in line with the key objectives of the SEA report.

What we found	<ul style="list-style-type: none"> • Vegetation fixed point photography indicates greater overall improvement to sample sites in non-permit areas and that in permit areas, camping may have had an impact on the levels of regeneration. • On East Loch Lomond where byelaws have been in place for a longer period of time, signs of recovery are less obvious, but this may be due to the initial visible vegetation recovery having already taken place. • One of the sample sites at Loch Venachar where camping was reintroduced after a period of recovery showed signs of decline. Vegetation monitoring data from the early part of the season (May-June) showed an increase in bare earth at camping permit areas, but a decrease at non-permit areas and Loch Chon campsite. However, the later season results (September - October) showed a reduction in bare earth at all sample sites except one permit area where it remained unchanged. • Two sites assessed for landscape monitoring in 2019 showed an improvement in Local Landscape Character, while at this stage there is no perceptible change in the wider Special Landscape Qualities scenic qualities. It is anticipated that it will take a number of years before any such changes positive or negative become apparent. • On the basis of the simple analysis Wetland Bird Survey undertaken, although there has been a fluctuations and a reduction in wetland bird species from 2016-18 there are no obvious trends of links to camping activity.
What this means	<p>Signs of positive change in terms of vegetation and recovery of bare ground have been identified in the areas where camping was historically popular but are now not designated permit areas. As may be expected, permit areas show slower signs of recovery, remained stable or in some cases declined.</p> <p>Wider environmental impacts seem to be initially positive with the understanding that it is too soon to see longer term change in the environment.</p> <p>WeBS data has not been found to be particularly useful in measuring the environmental impact of camping activity.</p>
Additional Considerations	<ul style="list-style-type: none"> • Natural variations in weather affect vegetation growth and health, and also bird presence. • Other visitor activities and numbers also affect the impact on the local environment and separating this from impacts from camping is not clear. • The WeBS survey sites are distributed across the National Park and have a number of variables.
Data sources	<ul style="list-style-type: none"> • Fixed point photography 2015 - 2019 • Vegetation surveys 2015 - 2019 • Landscape Quality Assessment - 2019 • WeBs counts 2016 - 2019

4.3.2. Water Quality

Question 2	Is there a decrease or increase in water pollution? Is there a change in water quality along popular loch shore locations?
Question explanation	This question aimed to establish potential impacts of camping management measures on water quality. The main water bodies of Loch Lomond, Loch Earn, Loch Long, Loch Lubhair, Lochan Larig Chiele, Loch Voil, Loch Lubnaig, Loch Venachar, Loch Chon and Lake of Menteith were sampled adjacent to historically popular camping areas some of which are now permit areas and in some where camping is no longer permitted.
What we found	<ul style="list-style-type: none"> • Samples taken to measure the levels of waterborne faecal indicator bacteria indicate the presence of some faecal (both human and animal) contamination in the majority of the samples taken. • In general, the levels are low and the physical sample results indicate that the water sampled was, as with many other waterbodies of an acceptable quality at the times of sampling.
What this means	Overall this indicator question did not provide a particularly informative data set for measuring impact of the byelaws and as such will not be carried forward into future monitoring related to camping.
Additional Considerations	These results will have been influenced by many factors and, as surface water runoff is the main mechanism for pollutants and bacteria to enter water bodies, the amount of rain in the days immediately prior to the sampling will have had a particularly strong influence on the results.
Data sources	<ul style="list-style-type: none"> • SEPA water quality data • National Park Authority water samples analysed by an independent laboratory.

4.3.3. Litter

Question 3	Has there been a change in the amount and type of litter left at popular locations?
Question explanation	This question looked at changes in amount and type of litter in popular lochshore locations within the Camping Management Zones before and during the first three years of the byelaws.
What we found	<ul style="list-style-type: none"> • The initial 2017 byelaw season saw an all-time litter low across the National Park recorded by Rangers. <i>[See Appendix 4(a)]</i> • At 93% of sites patrolled between 2017 and 2019, Rangers encountered no litter at all. <i>[See Appendix 4(a)]</i> • Specifically camping-related litter, including abandoned tents, camping chairs and sleeping bags, was only the fourth most commonly found type by Rangers. <i>[See Appendix 4(b)]</i> • However, over 2018 and 2019 levels of litter increased. <i>[See Appendix 4(c)]</i> This is consistent with the decade-high litter levels seen in Scotland since 2017 according to Keep Scotland Beautiful.

	<ul style="list-style-type: none"> • At permit areas, Rangers are encountering litter less frequently but when they do, it tends to be in higher volumes than before 2017. <i>[See Appendix 4(d)]</i> • Comparing the detailed litter monitoring surveys carried out in 2015 and 2019 also shows an increase in the total amount of litter items on average at the most littered sites. • The 2019 survey found that the vast majority (73%) of litter was classified as small (i.e. items smaller than a credit card in size). • These findings relate to all types of litter, not just camping-related litter. • Feedback from campers that mentions litter at permit sites has remained consistent during the byelaw years, averaging at 9.3% of feedback surveys containing negative litter-related comments.
What this means	<p>Litter presents a complex picture with a decrease in litter levels across lochshore locations following the initial implementation of the byelaws in 2017 but levels increasing in 2018 and 2019.</p> <p>However, this cannot be specifically attributed to camping, with the majority of items found being classed as uncategorised, smaller items such as cigarette butts, bottle caps / lids, and fragments of larger items. These findings should also be considered within the broader context of Scotland experiencing its highest litter levels in a decade during this time.</p> <p>Except for the initial drop in 2017, the byelaws don't appear to have made any significant impact on litter. However, the monitoring data has provided us with a more detailed understanding of this as a wider issue not solely in relation to camping.</p>
Additional Considerations	<ul style="list-style-type: none"> • The majority of litter found cannot be solely attributed to camping. Camping related litter is the only littering type that would be directly linked to irresponsible camping activity. • Uncategorised litter and all other litter types (e.g. food related) incorporate all sources of litter (e.g. day visitors, tourists etc.). • National litter level at decade high.
Data sources	<ul style="list-style-type: none"> • Ranger Patrol Data 2011-19 (litter amount) • Ranger Patrol Data 2017-2019 (litter type) • Bespoke Local Environmental Audit and Management System (LEAMS) survey 2015 (Keep Scotland Beautiful) • National Park Authority Bespoke Litter Monitoring System (LMS) survey 2019 • Camping booking feedback surveys

4.3.4 Camping Facilities Provision

Question 4	What type and number of facilities are available for camping across the National Park?
Question explanation	The provision of camping facilities was one of the management measures intrinsically linked to the implementation of the byelaws as

	<p>set out in the Camping Development Strategy (2016). This question looks at the range and number of camping (tent and motorhome) areas and pitches available across the National Park, including private, formal campsites, low-cost campsites and permit areas.</p>
What we found	<ul style="list-style-type: none"> • Across the National Park there is a variety of camping accommodation available both in terms of type of experience on offer and price point including, wild camping in line with SOAC; informal camping in permit areas; campsites; and motorhome and campervan pitches. <i>[See Appendix 1(b) and Appendix 5(a)]</i> • As of 2019, the National Park Authority offers 327 spaces for low cost and informal camping within the Camping Management Zones, with 235 of these provided via the permit scheme and 92 at low cost campsites. <i>[See Appendix 5(b)]</i> • The camping permit areas and low-cost campsites sites have only reached full capacity on three nights in the 642 nights since the introduction of the byelaws, indicating that there is sufficient capacity to meet demand for this type of camping experience in these areas. These periods coincided with peak demand during prolonged periods of dry, warm weather. • There was also an increase in occupancy rates (number of nights booked divided by the number available) for tents in permit areas from 24% in 2017 to 39% in 2019. • The number of pitches for tents and motorhomes within private campsites increased between 2015 and 2019. <i>[See Appendix 5(a)]</i> • There are, however, certain areas within the Camping Management Zones where there is limited provision for tents within campsites, with more focus on motorhomes and campervans usually alongside other accommodation such as camping pods, cabins and static caravans. <i>[See Appendix 1(b) and Appendix 5(a)]</i> • There has also, been a general decline going back over a longer period in the number of private campsites catering for tents across the National Park. • Areas that offer few formal or informal camping opportunities for tents include Cowal, West Loch Lomond and the Loch Earn area. <i>[See Appendix 1(b) and Appendix 5(a)]</i> The Camping Development Framework sets out how the National Park Authority and partners can work together to address these gaps in camping provision.
What this means	<p>Overall there is a good range of camping provision across the National Park catering for different camping experiences and the opportunities for informal camping provided by the permit scheme and low-cost campsites introduced alongside the byelaws have more than met demand.</p> <p>Some gaps in provision for tent-based camping within campsites remain in certain geographical areas.</p>
Additional Considerations	<ul style="list-style-type: none"> • The National Park Authority only has the occupancy rates for the permit areas and campsites that it manages.
Data sources	<ul style="list-style-type: none"> • Camping booking system data

	<ul style="list-style-type: none"> • Verbal clarification with campsite operators, • Byelaw exemptions and authorisations
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4.3.5. Damage to popular visitor sites

Question 5	How are the key visitor sites being used?
Question explanation	This question seeks to determine whether the byelaws and associated camping management measures have had a positive effect on popular visitor sites within the Camping Management Zones by looking primarily at wilful damage from human activity, such as vandalism to signage or infrastructure, fire or scorch marks on the ground and irresponsible fire lighting. The number of vehicles present was also considered.
What we found	<ul style="list-style-type: none"> • On 98% of occasions in 2018 and 2019 Rangers did not see any sign of wilful damage. This includes vandalism to signage or infrastructure, damage to the ground including fire or scorch marks and damage to trees. • At both permit and non-permit areas observations of damage have fallen during the three years of operation, from 4.5% in 2017 to 1.5% in 2019. • The overall number of fire sites being found by Rangers has reduced steadily by 50% between 2011 and 2019. <i>[See Appendix 6]</i> • There was a 71% decrease in the number of fire sites in the first year of the byelaws in 2017, with subsequent increases in 2018 – 19. • Overall the number of fire sites in permit areas is over four times higher than in non-permit areas, with total levels across the Camping Management Zones being relatively low. • The average number of vehicles present at permit areas has also decreased since the implementation of the byelaws, however the number of vehicles in non-permit areas has increased.
What this means	<p>There has been an overall reduction in the amount of wilful damage at informal camping sites including both permit and non-permit areas across the Camping Management Zones, over the three years since the introduction of the byelaws.</p> <p>The number of irresponsible fires has decreased across the Camping Management Zones since the pre-byelaw period.</p>
Additional Considerations	<ul style="list-style-type: none"> • It is difficult to directly correlate whether damage to popular visitor sites is as a result of camping activities or other day visitor activities. • The extended period of dry, warm weather during the 2018 season may have had an influence. • Increased vehicles at non-permit areas may be associated with day visitors.
Data sources	<ul style="list-style-type: none"> • Ranger Patrol Data 2011 - 2019 (fires and vehicles) • Ranger Patrol Data 2017-2019 (damage)

4.3.6 Visitor camping numbers

Question 6	Has the number of visitors camping at each location changed?
Question explanation	This question was used to assess whether or not the introduction of the byelaws has had an impact on the number of people camping in popular lochshore locations in the National Park.
What we found	<ul style="list-style-type: none"> • Since the introduction of the byelaws the overall number of tents being recorded across the Camping Management Zones has decreased from pre-byelaw levels. This is both in permit areas and non-permit areas. • At the same time, camping in permit areas increased each year from 2017-2019, with a significant rise between 2017 and 2018 of 55%. <i>[See Appendix 7]</i> • In total over the three years 60,440 people have camped in permit areas and there have only been three of the 642 nights of operation between 2017 and 2019, when the permit areas were fully booked. • Although the number of tents has decreased significantly since the byelaws began, the number of people seen at both permit areas and non-permit areas increased between 2017 -2019 across all Camping Management Zones. • A larger increase in the number of people was noted at non-permit areas. • Despite the increase in people being seen at permit and non-permit areas the overall density of people across Camping Management Zones is still lower than prior to the introduction of the byelaws.
What this means	<p>The overall reduction in the number of tents across the Camping Management Zones suggest that byelaws have achieved one of their key aims of managing the high volumes of people camping at popular lochshore areas.</p> <p>The permit scheme is providing sufficient opportunities for people to enjoy informal camping within the Camping Management Zones. The increase in the number of people at non-permit sites may suggest that these areas are being used more by day visitors.</p>
Additional Considerations	<ul style="list-style-type: none"> • Seasonal and annual weather patterns will affect both camping and day visitor numbers. • It is important to note that with available people count data there is no way to differentiate between day visitors and campers.
Data sources	<ul style="list-style-type: none"> • Ranger Patrol Data 2011 - 2019 • Camping booking data

4.3.7 Displacement of camping

Question 7	Is there any evidence of displacement of issues to other areas?
Question explanation	To look at whether or not the implementation of the byelaws resulted in shifting informal campers and some of the associated negative

	impacts, to other areas outside the Camping Management Zones or National Park boundary.
What we found	<ul style="list-style-type: none"> • Of the nine surveys carried out at 15 sample sites, there was evidence of informal camping. However these places have been historically popular locations, with the number of tents varying over time. • Of the seven groups of people spoken to as part of these surveys only two indicated that they had chosen their camping locations out of reluctance to pay for camping via the permit scheme. Other reasons given for choosing to camp in those locations were historical use, easy access and suitable environment for children. • Partners and community members can raise concerns with the National Park Authority at any time, however, this type of anecdotal reporting of displacement issues has been relatively low, with 16 comments received between 2017 and 2019 highlighting negative issues. • From 193 resident and 56 business respondents to community and business surveys in 2019, there were 35 displacement-related comments or concerns from residents and 10 by businesses. • Volunteer Rangers did find evidence of littering and irresponsible fire lighting in the majority of the surveyed areas where informal camping was found outside the Camping Management Zones. However, there is limited data to indicate if these behaviours at these sites were associated with camping or displacement as a direct result of the introduction of the byelaws and therefore no correlation could be made.
What this means	<p>There is very little evidence to suggest that any irresponsible behaviour associated with camping is being displaced as a direct result of the camping byelaws.</p> <p>Informal camping does take place in other areas of the National Park and Scotland in areas where this has historically taken place. This also suggests that the locations chosen as Camping Management Zones remain the most appropriate areas.</p>
Additional Considerations	<ul style="list-style-type: none"> • The data set is not large enough or been collected for long enough, to be able to identify increasing or decreasing trends at the selected areas.
Data sources	<ul style="list-style-type: none"> • Volunteer Ranger Patrol data 2019 • Correspondence received from communities and partners 2017 - 2019

4.4 Key socio-economic effects of the byelaws primary data

This section sets out the findings under the eight indicators associated with the socio-economic effects of the byelaws and associated management measures, particularly in reducing the instances of irresponsible behaviour related to camping, as specifically requested by Ministers. It also outlines

findings gathered on the wider potential socio-economic effects of the byelaws taking into account qualitative elements such as the quality of camping experience, local views, and recreational and demographic impacts.

4.4.1 Visitor profile changes

Question 8	Has the visitor profile changed? Where are people coming from?
Question explanation	The purpose of this indicator is to provide an insight into the demographics of visitors to the National Park establishing whether there has been any change in the profile of people visiting, or where they are visiting from, as a result of the implementation of the byelaws or the associated camping management measures.
What we found	<ul style="list-style-type: none"> • Analysis of the National Park Visitor Surveys carried out in 2015 and 2019 (which seek to understand the experience of all visitors, not specifically campers) shows that the general demographic profile of those coming to visit the National Park does not appear to have changed since the introduction of the byelaws. Age, gender and socio-economic grouping remained relatively stable despite the introduction of the byelaws during this timeframe. • The majority of visitors, more than 50%, come from Scotland and this level is seen both before and during the implementation of the byelaws. • In both 2015 and 2019 females made up the majority of overall visitors across the time period. • While there is a reasonable spread in the age range of visitors, the majority remain aged over 45. <i>[See Appendix 8]</i> • According to camping permit booking data, 60% of those who come to camp are from Scotland. The data shows little change in the location of their residence between 2017 and 2019. <i>[See Appendix 9]</i> • Using postcode data, an analysis was conducted of permit area bookings from within Scotland, with the results mapped against the Scottish Index of Multiple Deprivation (SIMD). This shows approximately 60% of bookings coming from 50% of the most deprived areas in Scotland. There has been relatively little change in this over the first three years of the byelaws being in place. <i>[See Appendix 10]</i> • According to the sample Camping Experience Survey 2017-18, there is a greater representation of male visitors camping in the National Park (64% male and 35% female). • When comparing campers to general visitor population, there is also a greater proportion of those in the age groups between 24 and 55. • Over the three seasons that the byelaws have been in operation the number of adults camping in permit areas and low-cost campsites increased by 62% from 2017 to 2019, the number of children camping rose by 90% from 2017 to 2019. <i>[See Appendix 11]</i>

	<ul style="list-style-type: none"> • This coincided with 90% of respondents to the Camping Experience Survey 2017-18 reporting that they felt very safe or quite safe while camping in the National Park.
What this means	<p>The introduction of the camping byelaws has not had any significant impact on the profile of people visiting, and camping in, the National Park. When looking at camping specifically, there appears to be a broader representation of younger age groups than with general visitors.</p> <p>A key priority for the National Park Authority was to provide accessible and affordable opportunities for people from a wide range of backgrounds. It is, therefore, encouraging to see that 60% of bookings coming from the 50% of the most deprived areas in Scotland.</p>
Additional Considerations	<ul style="list-style-type: none"> • Each of the surveys provide only a snapshot in time and use different collection methods but response rates were high enough to provide valuable insight.
Data sources	<ul style="list-style-type: none"> • 2015 National Park Visitor Survey and 2019 Interim report • Camping Experience Survey 2017-18 • Camping booking feedback surveys completed by people using the permit scheme or National Park campsites 2017-19

4.4.2 Impact on local business

Question 9	Has there been an impact on local business?
Question explanation	This question explores whether the economic landscape within the National Park has changed and what the perception of the Camping Management Byelaws is amongst local business.
What we found	<ul style="list-style-type: none"> • Reports from Scottish Tourism Economic Assessment Monitor (STEAM) collated between 2014 and 2018, indicate increases in tourism growth across economic impact, visitor numbers, visitor days and supported full time employment. This includes: <ul style="list-style-type: none"> - The economic impact of the tourism industry within the National Park increased year on year since 2014, except in 2016 where it fell by 1.1%. It grew again in 2017 by 10.6%. - There was 2.5% increase in tourism-related visitor numbers year on year from 2014 to 2018, while tourism-related visitor days to the National Park also increased year on year. - The number of full-time equivalent tourism jobs in the National Park has increased year on year. • Of the 56 businesses who responded to the 2019 Business Survey, 79% indicated that they are in favour of the byelaws while 8% were not in favour and 13% were unsure. When asked to summarise their thoughts on the byelaws, 75% of the comments were categorised as positive, 17% were negative and 8% were neutral. • Businesses were also asked whether they had noticed any changes to their local area since the introduction of the byelaws. 70% of businesses indicated they had noticed changes, with 20% noticing no

	<p>changes and 11% unsure whether they had seen change. Businesses were asked to follow this by highlighting and commenting on any positive or negative changes they had observed in their area since the camping byelaws came into place. Of the comments listed, 84% were categorised as reflecting positive change and 16% negative.</p> <ul style="list-style-type: none"> • An equal amount of businesses surveyed (43%), indicated the byelaws have had an impact on their business, as those that had seen no impact on their business. Of the supplementary comments provided by businesses on this question, 67% highlight positive impacts. • While there is no direct evidence, there is anecdotal evidence of a small number of fishing related businesses feeling negatively impacted by the byelaws. Of 262 comments in answer to open-ended questions within the survey, a total of 10 related to negative impacts on fishing businesses.
What this means	<p>During the period of the byelaws being implemented there has been positive growth in the tourism economy of the National Park. While this cannot be attributed to the introduction of the byelaws, it does show that they have had no negative impact on the overall tourism economy of the National Park.</p> <p>Businesses in the National Park are largely in favour of the byelaws and have noted positive changes since they're implementation.</p>
Additional Considerations	<ul style="list-style-type: none"> • The surveys cover a small sample size of businesses • It is not explicit whether survey responses relate specifically to camping activity or general visitor impacts.
Data sources	<ul style="list-style-type: none"> • Scottish Tourism Economic Assessment Monitor (STEAM) reports 2014 – 2018 • National Park Business Survey 2019

4.4.3 Changes in the levels of antisocial behaviour

Question 10	Has there been a change in the levels of antisocial behaviour at popular lochshore locations?
Question explanation	This question investigates any change in the levels of recorded crime and perceived antisocial behaviour within the Camping Management Zones and whether or not these are directly connected with camping.
What we found	From the available data sources, there is no significant change in the level of antisocial behaviour to date.
Key findings	<ul style="list-style-type: none"> • Police Scotland combined recorded police incident data shows that between 2014 and 2019 the levels of antisocial behaviour have remained relatively consistent except for a rise in 2018. This data cannot be related directly to camping but provides a wider context to levels of antisocial behaviour throughout the Camping Management Zones.

	<ul style="list-style-type: none"> • Of the 2492 people who had their details taken between 2017 and 2019 for alleged contraventions of the byelaws, 8% related to camping specific antisocial behaviours such as damage by fire, damage by collecting wood and abandoned campsites. Of these 16 were reported to the Procurator Fiscal by the National Park Authority and 10 by Police Scotland. • Camping Booking Feedback Surveys gathered between 2017 and 2019 for the permit areas show just over 3% of respondents mentioned antisocial behaviour, such as loud music, excessive noise, alcohol or drug use, aggressive behaviour and irresponsible driving, in their comments. • The largest zone, Trossachs North, was most likely to receive these comments, and saw an increase from 1.9% to 2.7%. Trossachs West and East Loch Lomond have received very few antisocial behaviour comments (never higher than 0.2%). • 6.7% of all complaints received between 2017 and 2019 were related to antisocial behaviour. • In the 2017/18 Camping Survey, 90% of respondents said they felt very safe or quite safe while camping in the National Park. This increased to 97% when visitors from outside the UK were asked.
What this means	During the three years of implementation of the byelaws the incidences of camping related antisocial behaviour have remained low. Some elements of camping related antisocial behaviour still exist, however, with Trossachs North, the largest Camping Management Zone, experiencing this more than other areas.
Additional Considerations	<ul style="list-style-type: none"> • At the time of publishing this report, Police Scotland data was only available for the period April-October 2019, rather than the full financial year 2019/20. • The extended period of dry, warm weather in 2018 may have had an impact on levels of antisocial behaviour. • The numbers of people camping rose significantly in the 2018 and 2019 from 17,024 in 2017, to 24,957 in 2018, to 28,430 in 2019. • It is possible that without the implementation of camping management measures that antisocial behaviour levels could have increased at popular lochshore locations.
Data sources	<ul style="list-style-type: none"> • Police Scotland Crime and Incident Data report 2019 • Byelaw data related to antisocial behaviour • Camping booking feedback surveys • National Park Authority complaints data

4.4.4 Recreational Activity Change

Question 11	Has there been any change in the type of recreational activities at popular lochshore locations?
Question explanation	The purpose of this indicator is to investigate whether there has been a change in the levels and types of other recreational activity (such as

	walking, fishing, canoeing, cycling and swimming), at popular lochshore locations within the Camping Management Zones since the introduction of the byelaws such as a reduction in activities as a result of a sense of exclusivity for campers only.
What we found	<ul style="list-style-type: none"> • Over the course of the first three years of the byelaws, Rangers observed an increase in numbers of people walking, fishing, canoeing and cycling at both permit and non-permit areas. • Responses to the 2019 Business Survey also indicated that activities such as walking and cycling have increased since the introduction of the byelaws. • According to the National Park Visitor Surveys 2015 and 2019, overall visitors across the National Park, including campers, are taking part in the same types of recreational activities in 2019 as they were in 2015. • When looking at the Camping Experience Survey carried out in 2017 and 2018, campers seem far more likely to undertake more active forms of recreation than general visitors. For example, 63% of respondents spent time low level walking, compared with 21% of general visitors undertaking low and high level walking in 2015 and 14% in 2019. • The Visitor Surveys show smaller changes between other traditional activities like cycling, while fishing activity remained consistent. • Some responses to the Business Survey give some suggestion that the number of people fishing in some areas has been affected negatively by the byelaws. Further correspondence with landowners highlights Loch Earn as an area of concern. However, this is inconsistent with the Visitor Survey showing no change or the Rangers observing an increase in people fishing.
What this means	Generally the byelaws appear to have had a positive impact on recreational activity at popular lochshore locations and have not significantly changed the types of activities being enjoyed by visitors to the National Park in general.
Additional Considerations	<ul style="list-style-type: none"> • There is no evidence to suggest that the increase in some recreational activities is as a direct result of the introduction of the byelaws. Alternatively, this could be interpreted as the byelaws having had no negative impact on recreational activity either.
Data sources	<ul style="list-style-type: none"> • National Park Visitor Surveys 2015 and 2019 • Camping Experience Survey 2017/18 • National Park Business Survey 2019 • Ranger Patrol Data 2017-2019

4.4.5 Impact on local communities

Question 12	What is the impact on local communities?
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	The purpose of this question is to understand how the byelaws have affected those living and working within the National Park and whether there has been any change in their local areas.
What we found	<ul style="list-style-type: none"> • The majority of residents (65%) and businesses (79%) surveyed in 2019 said they were in favour of the byelaws. • There has also been a significant decrease over the three years of operation in the number of complaints associated with informal camping received from residents, from 33 complaints in 2017, the first year of the byelaws, to 4 in 2019. • The majority of residents surveyed have seen changes in their area as a result of the byelaws (41%), however a similar percentage (38%) reported seeing no change. • Both residents and businesses surveyed indicated more positive changes than negative. Businesses were far more likely to have noticed positive changes (84%) than residents (58%). 42% of residents surveyed did note negative changes such as an increase in litter or more people camping in unpatrolled areas. • In both surveys, residents and businesses were most likely to have seen changes relating to visitor behaviour and the natural environment with the majority of these changes being positive ones, such as less antisocial behaviour, damage to trees and abandoned camping kit. Negative changes highlighted included more visitor litter and irresponsible parking.
What this means	Overall the impact of the byelaws on communities, including both residents and businesses, appears to be mainly positive. While some negative impacts are still highlighted these are smaller in number and have reduced over the three years of the byelaws being in operation. These mainly relate to ongoing issues that the byelaws have not yet resolved not that the byelaws have directly caused.
Additional Considerations	<ul style="list-style-type: none"> • It is noted that in the pre-byelaw consultation in 2014 that 73% of communities were in favour of the byelaws. This is not, however, directly comparable with the response to the 2019 Resident and Business Survey as different methods were used collection and analysis.
Data sources	<ul style="list-style-type: none"> • National Park Residents' Survey 2019 • National Park Business Survey 2019 • Your Park Consultation 2014 • National Park Authority complaints

4.4.6 Levels of acceptance

Question 13	How have people responded to the byelaws and what has been the level of acceptance?
Question explanation	This question looks at how people coming to camp in popular lochshore locations have responded to the new byelaws, including levels of compliance and contravention.

What we found

- Since the introduction of the byelaws and associated camping management measures in 2017, 60,440 people have camped in the new permit areas and 9971 at Loch Chon and Loch Achray campsites.
- The number of people using the permit scheme increased by 60% from 2017 to 2019. *[See Appendix 11]*
- Feedback from those camping in the permit areas is overwhelmingly positive with the percentage of those saying they would be 'quite likely' or 'very likely' to recommend camping in a permit area to others increasing from 86% in 2017 to 92% in 2019.
- Of the 60,000+ people who have used the permit scheme, 2492 (just over 4%) had their details recorded for alleged contraventions, where people fail to either understand or comply with the requirements of the byelaws. The vast majority of these individuals subsequently complied when the Rangers explained the byelaws and how to comply, thus negating the need to take any enforcement action.
- Between 2017 and 2019 a total of 86 people, associated with 38 cases, were reported to the Procurator Fiscal by both the National Park Authority and Police Scotland for offences relating either to the byelaws or the Environment Protection Act. *[See Appendix 12]*
- Of the 21 cases reported by the National Park Authority, 11 related specifically to contraventions of the byelaws, six related to the Environment Protection Act, and four were a combination of both.
- Police Scotland took forward 17 cases, 15 of which related to the byelaws and two that related to both the byelaws and the Environment Protection Act.
- From the cases reported by the National Park Authority, 7 people so far have a criminal record as a result of breaching the byelaws, one as a result of breaching the Environment Protection Act and one person as a result of a combination of both.
- None of those charged by the National Park Authority so far have received a criminal record purely for contravening the byelaws by setting up a tent or shelter.
- There has been an overall decrease in recorded byelaw contraventions between 2017 and 2019, with a peak in 2018.
- However in the non-permit areas specifically, the percentage of alleged byelaw contraventions continued to decrease year on year.
- In terms of further feedback, there has been an 88% reduction in complaints received by the National Park Authority associated with the byelaws and associated camping management measures from 2017 to 2019.
- Through the Camping Booking Feedback Surveys, 93% of campers said they had received enough information about the byelaws during or prior to their visit.
- While the number of people using the permit areas has increased each year, on average people have continually indicated they have met a National Park Ranger (46% of the time) while camping.

What this means	There has been a high level of acceptance of the byelaws and the associated permit scheme, with a very small number of people being charged with contraventions when compared with the number of people choosing to camp in the permit areas. People enjoy camping in the permit areas and campsites provided and awareness of the byelaws appears to be improving each year.
Additional Considerations	<ul style="list-style-type: none"> • Seasonal and annual weather patterns will affect both camping and day visitor numbers.
Data sources	<ul style="list-style-type: none"> • Camping booking feedback surveys • Enforcement data

4.4.7 Who isn't coming to the National Park and why?

Question 14	Who isn't coming to the National Park and why?
Question explanation	<p>The aim of this question was to determine whether or not there is a fair representation of people from different backgrounds among visitors to the National Park following concerns that the introduction of a Permit Scheme might create a barrier for some people.</p> <p>This created a visitor profile for Scottish residents that are visiting the National Park and compare this to the wider demographic profile of Scotland as a whole using census data.</p>
What we found	<i>While this Indicator question was included and analysed under the monitoring framework, limitations were found in the amount and usefulness of the data available. Question 8 on Visitor Profile has been used to provide an overall picture of who is camping in the National Park.</i>
Additional Considerations	See those outlined under Question 8
Data sources	See those outlined under Question 8

4.4.8 Experiences of those living and visiting

Question 15	What are the positive experiences had by those living and visiting?
Question explanation	The purpose of this question is to determine whether, since the introduction of the byelaws and associated management measures, those visiting, living or working near popular lochshore locations enjoy a positive and safe experience.
What we found	<ul style="list-style-type: none"> • According to the National Park Visitor Surveys 2015 and 2019, visitors rate their experience very highly with 91% giving a rating of 8 out of 10 in 2015 and 93% in 2019. • Looking specifically at campers, 73% of respondents to the 2017/18 Camping Experience Survey rated their experience at least 8 out of

	<p>10. Key reasons given were scenery and natural beauty, remoteness, peace and quiet, low cost, the booking process and availability.</p> <ul style="list-style-type: none"> • 90% of respondents also said they felt very safe or quite safe while camping in the National Park. This increase to 97% when visitors from outside the UK were asked. • Feedback from those who have used the permit scheme is overwhelmingly positive with the percentage of those saying they would be 'quite likely' or 'very likely' to recommend camping to others increasing from 86% in 2017 to 92% in 2019. • As outlined in more detail in Questions 9 and 12, residents and businesses surveyed in 2019 generally indicated positive changes as a result of the byelaws, whilst also noting some negative impacts.
What this means	<ul style="list-style-type: none"> • The vast majority of visitors to popular lochshore locations have a really positive experience and feel safe, with the majority of campers saying they would recommend the permit areas to others. Communities in general also noted positive impacts.
Additional Considerations	<ul style="list-style-type: none"> • The Camping Experience Survey and Visitor Surveys provide only a snapshot in time and use different collection methods but response rates were high enough to provide valuable insight. • The number of responses to the Camping Booking Feedback Surveys increased from 1,238 in 2017 to 2,061 in 2019. • Background evidence presented in the Your Park evidence base report. •
Data sources	<ul style="list-style-type: none"> • Camping booking feedback surveys • Residents survey 2019 • National Park Visitor surveys 2015 and 2019 • Camping Experience Survey 2017-18

5. Discussion and Recommendations

5.1 Environmental effects of the implementation of the byelaws

For the purposes of this report, Ministers asked the National Park Authority to *'consider how effective the new camping management measures have been in reducing the instances of environmental damage and irresponsible behaviour as a direct result of implementation.'*

While it has to be recognised that longer term changes in the natural environment can take a significant amount of time to appear, looking at the environmental findings together with changes in demand for camping and levels of camping provision shows that there appear to have been a number of correlated effects since the introduction of the byelaws in 2017. These are discussed below, along with relevant recommendations moving forward.

5.2 Environmental damage:

In areas where camping was historically popular but is now prohibited during the Spring and Summer months (non-permit areas), findings from fixed point photography, vegetation surveys and landscape assessments indicate there have been improvements in terms of vegetation and bare ground recovery. As may be expected, the permit areas show slower signs of recovery or in some places declines in vegetation and bare ground condition, resulting from continued pressures from camping related activity and day visitor use.

There has also been an overall reduction in wilful damage recorded in the Camping Management Zones over the course of the three years since the introduction of the byelaws. On 98% of occasions in 2018 and 2019 Rangers did not see any sign of damage at all. The total number of fire sites found has reduced between 2011 and 2019 in both permit and non-permit areas, with a subsequent reduction in associated damage. It is noted that the number of fires did begin to rise more in permit areas than non-permit areas in 2018 and 2019, but overall levels remain low through the three years of byelaw implementation, when public messaging about responsible fire-lighting was emphasised.

While litter presents a complex picture with both positive and negative results, it is encouraging that overall litter is being encountered less frequently in the Camping Management Zones. The majority of litter being encountered related to small items, with relatively low volumes of camping-related items. However, while not all litter can be specifically linked to camping, it is noted that where litter is being found it is in generally in higher volumes than in the pre-byelaw era. This is disappointing but fits with the national context of Scotland having its worst litter levels in a decade. A new National Park Litter Prevention Strategy has been developed to address this difficult issue right across the National Park.

Inappropriate toileting behaviour continues to pose an ongoing problem in areas associated with historic informal camping, including permit areas. Early results from the 2018 Human Waste Trial run by the National Park Authority give an indication that this behaviour can be influenced using innovative behaviour change interventions, byelaw messaging and basic facilities, but further work and investment is required particularly in busy areas such as Loch Earn, to reduce the scale of this problem.

5.3 Camping provision supply and demand:

One of the primary aims of the byelaws was to protect the natural environment by managing the sheer volume of people camping in lochshore locations to more sustainable levels. Results indicate that this is en route to be being achieved with the overall number of tents recorded in both permit areas and non-permit areas declining since the introduction of the byelaws, but a steadily growing number are enjoying informal camping via the permit scheme. The overall density of people in popular lochshore locations, both permit areas and non-permit areas, has reduced.

At the same time, the provision for camping in these locations created through the permit scheme and low cost campsites appears to have been sufficient to meet demand, with capacity only limited on a small number of brief occasions at peak weekends and holidays.

The broader picture of camping provision across the National Park does however show some gaps in tent provision in formal campsites, particularly along West Loch Lomond and the Cowal area. The National Park Authority aims to work with public and private partners to address these gaps through the [Camping Development Framework](#).

During 2017-19 the overall number of people visiting areas where camping is now prohibited, such as sites in West and East Loch Lomond, has risen year on year. This suggests that more day visitors are enjoying these areas which in the past they may not have due to a sense of exclusivity for those camping at these sites.

The National Park Authority recognised that potential displacement of negative camping issues to other areas was a concern from some stakeholders before the byelaws came into effect. However there is currently very little direct or anecdotal evidence of displacement being caused by the byelaws, although camping associated problems do occur in some historic camping sites outside the Camping Management Zones and around the National Park.

Taken overall the data shows that the byelaws have had some positive impacts on the natural environment of popular lochshore sites across the wider Camping Management Zones. However negative impacts continue to be felt in areas where camping is permitted but managed in the spring and summer months. There is no evidence to suggest that the implementation of the byelaws and associated measures have directly caused negative impacts.

The National Park Authority will continue to monitor and manage levels of environmental damage associated with camping activity moving forward. The natural environment of the National Park is widely appreciated, valuable, but sensitive and we remain committed to protecting and enhancing it for future generations. The approach to this will remain focused on the model of engagement, infrastructure and enforcement.

5.4 Recommendations

Taking into account the findings in relation to reducing environmental damage associated with camping activity, the following recommendations are made:

- Continue to monitor heavily used permit areas experiencing unsustainable impacts.
- Continue to monitor damage in terms of fire sites.

- Further engagement and education activity around responsible fire-lighting, waste disposal and toileting behaviours targeted at the permit areas.
- Ranger presence is still required within the wider Camping Management Zones to help prevent and manage any negative environmental impacts of camping and day visitor activity.
- Management interventions to rest heavily used permit areas experiencing unsustainable 'wear and tear' should be trialled and monitored.
- Where appropriate the development of additional low cost, informal and formal camping provision should be encouraged by both private and public sectors, as laid out in the Camping Development Framework.
- Review Camping Management Monitoring Framework based on the learning gathered over the first three years and work with partners nationally to share insights and address issues on a broader scale.

5.5 Socio-economic effects of the implementation of the byelaws

Ministers specifically requested that the review consider '*how effective the new camping management measures have been in reducing the instances of environmental damage and irresponsible behaviour as a direct result of implementation.*'

Irresponsible behaviour can be interpreted to include a range of actions, and for the purposes of monitoring byelaw effectiveness in this report, included elements of both the environmental and socio-economic indicators, such as littering, damage to sites, anti-social behaviour and levels of byelaw acceptance. The potential socio-economic effects of the byelaws are wider than this, taking into account qualitative elements such as the quality of camping experience, local views, and recreational and demographic impacts.

5.6 Tourism economy and levels of local support:

According to the data collected on STEAM, there has been positive growth in the tourism economy of the National Park across a range of indicators, with each of these measures having increased year on year. While this cannot be directly attributed to the introduction of the byelaws, it does show that they have had no negative impact on the overall tourism economy of the National Park.

Taking into consideration the feedback from businesses who generally felt that positive changes had occurred since the introduction of the byelaws this suggests that there has been a general perception of positive impact, with the exception of a small number of comments raised around the perceived negative impact on fishing activity in the Loch Earn area. In terms of wider public perceptions, the majority of National Park residents including businesses remain in favour of the byelaws.

5.7 Feedback and compliance from campers:

The response from those coming to camp in the Camping Management Zones and making use of the new permit scheme and low cost campsites has been very positive. A total of 70,411 people camped in the permit areas and low cost campsites between 2017 and 2019. Feedback from campers gathered through the Camping Booking Feedback Surveys is overwhelmingly positive with the percentage of respondents saying they would be very likely or quite likely to recommend a permit area to others rising each year to 93% in 2019.

Supporting this positive response is the very high level of acceptance of the byelaws from those coming to camp in the Camping Management Zones. Prior to the introduction of the byelaws there was some concern that there might be widespread disregard or deliberate contravention of them. This concern has been unfounded and of the 70,411 people camping in the permit areas and new low cost campsites over the three years, only 2492 had their details taken in relation to an alleged contravention of the byelaws. Of these, 38 cases reported to the Procurator Fiscal representing 86 people, with six of these related only to the Environment Protection Act and not the Camping Management Byelaws. This shows that when given the opportunity to comply with requests from Rangers the vast majority of campers have chosen to do so.

In areas where camping is prohibited contraventions of the byelaws have decreased year on year which suggests an increased understanding and acceptance of them.

5.8 Enforcement levels:

In terms of antisocial behaviour, while data from Police Scotland shows the overall level of antisocial behaviour within the Camping Management Zones increased marginally in the first two years of the byelaws being in operation, the 2019 data indicates this decreasing in year three. This data is not, however, specifically linked to camping and covers all types of antisocial behaviour. It therefore provides limited insight into any changes in antisocial behaviour as a result of the byelaws being introduced.

Of the 21 byelaw related incidents reported to the Procurator Fiscal by the National Park Authority, the majority of these (16) included an offence which could be considered antisocial. These incidents have been spread relatively evenly across the three years with no significant changes noted between 2017- 2019.

Taking this information alongside the low level of feedback from campers and communities about antisocial behaviour, it would appear that although low levels of antisocial behaviour relating to camping still exist and need to be addressed, the byelaws are having some positive influences here. What is not

captured is the preventative spend associated with police time and enforcement. While previously some irresponsible behaviour associated with camping would have escalated and involved police officer intervention, the byelaws have allowed National Park Rangers to engage with campers and resolve many situations without resorting to legal enforcement.

5.9 Demographic and recreation impacts:

The overall visitor profile of those coming to the National Park does not appear to have changed since the introduction of the byelaws. When looking at camping specifically, there appears to be a broader representation of younger age groups than with general visitors, and an increasing number of families coming to camp. With both general visitors and campers, the vast majority come from within Scotland with this percentage being higher when looking specifically at campers.

A key priority for the National Park Authority when introducing the permit scheme and new campsites at Loch Chon and Loch Achray was to provide accessible and affordable opportunities for people from a wide range of backgrounds. It is therefore considered positive that 60% of bookings coming from the 50% of the most deprived areas in Scotland. Whilst it is difficult to assess whether the byelaws are excluding specific audiences from camping it would appear that many different people from a broad social background have continued to camp.

Both general visitors and campers largely report having a positive experience when visiting the National Park. Increases in recreational activities such as walking, fishing, canoeing and cycling were recorded at popular lochshore locations, including both permit and non-permit areas. This is supported by feedback from businesses suggesting that more people are walking and cycle in the Camping Management Zones. While, as outlined above, a small amount of feedback was received that the byelaws have had a negative impact on fishing activity at Loch Earn, there is little direct evidence to confirm this at present.

5.10 Recommendations

Taking into account the findings in relation to socio-economic impacts associated with camping activity, the following recommendations are made:

- Monitoring of antisocial behaviour incidents should be continued by the National Park Authority in partnership with Police Scotland with further focus on ascertaining incidents which are directly related to camping.
- Target resources to prioritise the specific locations where antisocial behaviour levels are highest alongside an appropriate level of Ranger and Police presence supported by a proportionate monitoring programme.
- Further investigation into identifying any groups who are under-represented when it comes to camping in the National Park and

opportunities to encourage positive camping experiences for all to be delivered through the Camping Development Framework.

- Review Camping Management Monitoring Framework based on the learning gathered over the first three years and work with partners nationally to share insights and address issues on a broader scale.

6. **Additional Effects and Observations**

Although the byelaws and associated camping management measures introduced in 2017 were primarily aimed at mitigating the negative impacts of damage to the natural environment and irresponsible behaviour at busy lochshore areas, it is important to recognise that there have been additional benefits and lessons learnt that can help to inform wider future visitor management planning. This project has led to the development and implementation of transferrable systems and techniques that can be used to help with the improvement of visitor management and experience beyond camping. This section sets out the additional effects and observations that have resulted from the learnings since proposing, introducing and evaluating the impact so far, of the camping byelaws and investment in camping infrastructure.

6.1 **Information & communications:**

To support the byelaws a huge amount of visitor information was created and presented across a range of channels, with the National Park website being the key tool in delivering messages.

The camping section of the website is one of the most popular areas of content. This content has been developed further over the three years as feedback was gathered and acted upon in an iterative manner. For example, in response to feedback from users, additional imagery and information has been added, as well as new pages aimed at specific visitor groups such as those visiting in motorhomes and campervans. Similar approach to improvements based on feedback has been taken with printed materials such as the Camping in the Park leaflet and foreign language guides.

As well as the visitor-focused content, a further section of the website was created to publish camping feedback and publications including the Annual Updates to Scottish Ministers and the Camping Development Framework. This provides openness and transparency and is particularly aimed at partners, stakeholders and those for those more interested in the management of the byelaws. Specific behavioural issues were highlighted by the byelaws which led to innovative solutions being developed and trialled. For example, the [#needtopoo campaign](#) aimed to reduce irresponsible toileting, which started positive conversations at a national level, was low cost and easily replicable.

The ability to gather feedback directly from campers using the permit scheme, combined with our own monitoring patrol data, provides valuable insight which allows us to develop and deliver this kind of targeted approach to address specific issues. The permit booking system also provides a communications

channel to target messaging to those coming to camp in specific areas and therefore ensure greater success in delivering this type of campaign.

6.2 Education and engagement:

The introduction of the permit areas and National Park campsites has helped to increase the number of families camping at popular lochshore locations, a contrast from the evidence gathered in 2008, which was dominated by adult males. This is complemented by more organised youth groups using the opportunity to apply for an authorisation to camp within the Camping Management Zones, which provides a good platform to engage with new groups in the future. There are also a broader range of people coming to camp in the National Park in permit areas and low cost campsites. This could suggest that the permit scheme and low cost campsites provide people with the confidence to try a wilder camping experience, perhaps for the first time before potentially moving on to traditional wild camping. This has the potential to increase health benefits and promote new skills and environmental awareness.

Engagement with communities and stakeholders has developed during this first three years with an established Stakeholder Forum alongside regular stakeholder email updates. This Forum has evolved over time, following feedback from its members, and gives an opportunity for partners, interest groups and communities to have direct access to National Park Officers to discuss visitor management-related issues.

6.3 Camping infrastructure:

The driver for the creation of two new National Park Authority campsites was to provide additional low cost camping opportunities for tent camping. Although price points have remained low, the campsites also offer a rare visitor experience in the National Park that elevate them beyond merely a budget option. While the 'off-grid' nature of these campsites has presented challenges, particularly around the supply of water, their locations and design in keeping with the landscape have been positively received by campers. These positive experiences and challenges both provide valuable learnings which can be shared with others looking to develop similar types of provision.

The extended period of dry, warm weather in the summer of 2018 also presented a good test of the camping facilities and management measures during their second season and overall these proved to cope well with the high levels of use over this period.

The project has also pushed forward the requirements for additional visitor infrastructure, including a new motorhome service point and 24-hour accessible toilets on West Loch Lomond, as well as new camping provision in the private sector.

6.4 Enforcement:

The introduction of enforcement powers meant the need for training and upskilling National Park Authority staff in various areas from handling conflict and compromise, dynamic risk assessments to report writing. Many of these new skills are transferrable to other areas of work within the organisation and for seasonal Ranger staff will help with future employability.

Throughout the first three years of the byelaws, procedural improvements have been made to improve the efficiency of formally processing and reporting byelaw cases whilst adhering to a strict quality standard. This has increased the officer time dedicated to this task significantly since 2017.

6.5 Monitoring:

During the first three years of the byelaws the systems used to monitor environmental and socio-economic impact have continued to develop making use of GIS/digital data collection systems wherever possible.

While it is recognised that in some areas limitations were found in the Camping Management Monitoring Framework, the experience and learning gathered over the course of the first three years of operation will be used to adapt these methods.

These systems have, however, made data collection and data analysis more efficient and are transferable to assess visitor impacts in other locations and for issues other than simply to monitor camping. Where appropriate, these systems may be able to be shared with partners.

6.6 Sustainable resourcing:

Resourcing the operation of the byelaws and associated camping management measures has continued to be a significant investment for the National Park Authority. Efficiencies were made to both the Seasonal Ranger compliment and Campsite Wardens over three years of operation based on gathered intelligence and experience. Additionally the camping bookings telephone line was supported by dedicated staff within the National Park Authority.

It is important to remember that prior to the implementation of the byelaws the Ranger Service was large and well established and already spent a large proportion of their duties patrolling popular lochshore locations including providing responsible behaviour guidance to visitors. However these different approaches had not been able to achieve the positive outcome the National Park Authority felt was needed to protect the environment and experience for visitors and communities' longer term.

Where appropriate volunteers were used to support the project and undertook monitoring work and provided additional information to campers, both

activities continue to remain popular with a high level of uptake from volunteers. This work has increased a broad range of visitor management related skills and upskilled a workforce that is required to help to manage an ever increasing number of people coming to enjoy the National Park.

7. The future of the sustainable management of camping in Loch Lomond & The Trossachs National Park

Looking ahead, the sustainable management of camping will remain an important element of visitor management with the National Park, with the byelaws and associated camping management measures being guided by the Camping Development Framework and the National Park Authority Education and Enforcement Policy.

The enforcement of the byelaws will remain an important management tool, but only as one element of a much wider suite of visitor management measures. Much of the work and learning undertaken during the lead up to and implementation of the first three years of the byelaws, can be applied to manage other visitor pressures. This section of the report outlines key areas of focus for the National Park Authority and partners to ensure that the National Park is an area that offers a wide variety of sustainable, high quality camping experiences for people from a wide range of backgrounds.

7.1 Information and communications:

Easily accessible information will continue to be developed to help visitors plan and enjoy the National Park responsibly. This will include the promotion of sustainable transport options and location of essential visitor services. Innovative, monitored campaigns will continue to be directed toward specific issues and geographical areas to change behaviour where needed, with littering, irresponsible fire lighting and toileting key areas of focus for the near future.

Information will be made available to communities and partners in the form of case studies, survey results, toolkits and guidance where appropriate.

7.2 Education and engagement:

Engagement with specific user groups will help us to better understand potential barriers to camping and support the creation of appropriate solutions.

Stakeholder and community engagement will continue to remain a priority. The existing Your Park Stakeholder Forum will continue but expand to cover wider visitor management pressures and not just focus on camping. This will be supported by regular community and stakeholder updates to reflect the breadth of topics covered by the Forum.

Environmental and socio-economic visitor pressures associated with camping are not unique to this National Park. To help share best practice, reduce costs and better conserve resources to protect sensitive environments, the potential for a new Scottish Visitor Management Forum will be explored with national partners and stakeholders.

7.3 Infrastructure, camping provision and visitor facilities:

We will work with partners in the public and private sectors to ensure a range of tent based camping opportunities at a variety of price points is available throughout the National Park, with focus on those geographical areas with the greatest need and areas where formalised camping provision would help reduce environmental impacts.

Where appropriate, campers will be considered when visitor services and infrastructure are being installed or upgraded to ensure that they cater to multiple audiences. This may include facilities such as accessible 24hr toilets, safe advertised overnight parking opportunities or changing facilities.

Whilst not to be conflated with informal tent based camping (including true wild camping), the increasing number of motorhomes and campervans visiting Scotland does require a strategic response to ensure that this is more sustainable moving forward. We will explore opportunities to pilot approaches and work with others to manage motorhome pressures moving forward.

7.4 Reviewing enforcement and the byelaws:

The National Park Authority Visitor Management Engagement and Enforcement Policy will be reviewed in 2020 based on the operational experience and data gathered from 2017 - 2019, with prevention retained as the primary approach to enforcement.

Procedural development of the operational management of the byelaws will be continued in line with the Engagement and Enforcement Policy where there is an evidence based need to do so.

The byelaws will be reviewed and amended within 10 years of their implementation in line with the Local Government (Scotland) Act 1973.

7.5 Sustainable resourcing:

The Ranger Service will remain the primary resource for engaging with campers and, when necessary, enforcing the byelaws and will continue to be trained and supported to carry this out effectively. Efficiency savings can be made by reducing costs based on data driven deployment models.

The management of campsites by the National Park Authority will continue to be undertaken to provide a high quality of visitor experience. Additional

income may be generated from increasing occupancy rates at the campsites and the sales of goods. Alternative management models will be explored to ensure this is delivered whilst providing best value.

Where appropriate the use of volunteers will be used to support sustainable camping management, engaging with visitors and monitoring environmental impacts. Communities may be able to help reduce vehicle movements by providing intelligence and undertaking monitoring if appropriate.

7.6 Monitoring and review:

In 2020 the current monitoring framework will be reviewed and refined to allow a continued clear and accurate understanding of the impacts of camping and the mitigation methods that are being employed to protect the environment and the experience of people who visit, live and work within the National Park. Systems will continue to be developed to allow timely decision making based on an up to date evidence base. We will continue to welcome and take on board feedback to inform ongoing improvements and adaptations. The Camping Development Framework will be reviewed in line with the National Park Partnership Plan 2024 – 2029.

8. Glossary of terms

8.1 Glossary of terms used throughout this report

Authorisations – A permission granted by the National Park Authority to allow the temporary erection of a tent, wigwam or bivouac within a camping management zone
Byelaws (also referred to as Loch Lomond & The Trossachs National Park Camping Management Byelaws 2017 or Camping Management Byelaws) – Seasonal regulations introduced in order to protect some of the National Park’s most popular loch shores from environmental damage caused by the high volume of visitors and long-standing issues with antisocial behaviour from some campers.

Camping Management Zones (CMZ) – Areas of the National Park seasonally affected by the Byelaws from 1 March to 30 September and covering; West Loch Lomond (WLL); East Loch Lomond (ELL); Trossachs West (TW); Trossachs North (TN)

Camping Booking System – Third party system and online platform provided by Campstead for the purpose of taking and managing bookings at National Park Permit Areas & Campsites

Camping byelaw exemption/authorisation – Agreement of the National Park Authority by way of application process, allowing camping to occur within Camping Management Zones, but outwith permit areas;

- Byelaw citation; *The Authority may authorise any person, group or organisation to undertake or provide facilities for undertaking any activity within a Management Zone which would otherwise be prohibited by byelaw 6 or byelaw 7 provided that such person, group or organisation has made a prior application in writing to the Authority and has been authorised to undertake such activity within that Management Zone by the Authority.*

Camping Development Strategy - This Camping Development Strategy concentrates on providing for camping opportunities, at a more sustainable level, within the designated Camping Management Zones. This includes identifying where physical infrastructure improvements are needed to make camping in the Park a better, and truly sustainable experience.

Camping Development Framework (CDF) – A framework outlining a vision of a wide variety of sustainable, high quality camping experiences for people from a wide range of backgrounds across the whole of Loch Lomond & The Trossachs National Park

Camping Management Monitoring Framework – Structure related to the objectives identified within the 2014 SEA Report to enable monitoring of the byelaws and associated camping management measures. The framework is divided into two parts under environmental and socio-economic measures.

Camping booking feedback survey – Each person who books a permit, receives an invitation to fill out an online survey with 7 questions and a free type box. Scores are used to report on performance while any comments left are categorised

Camping Experience Survey 2017/18 – Survey of campers visiting the National Park by third party research company Progressive. All work has been carried out in accordance with ISO 20252 guidelines and the MRS Code of Conduct

Campsite Wardens – Seasonal members of staff working at one of two National Park Authority campsites

Crime and Incident Data report 2019 – Police Scotland report containing data related to anti-social behaviour occurring within the camping management zones

East Loch Lomond Byelaws – East Loch Lomond Byelaws 2011; measures introduced to help improve the visitor experience in East Loch Lomond to reduce the impacts of years of visitor pressure and anti-social behaviour.

Exemption – The NPA can exempt an area from the byelaws within camping management zones from time to time following an application to the authority

Fixed point photography – A series of photographs taken at multiples location over a period of time to show change in the environment.

Formal facilities – The availability of water, toilets, electric hook-ups etc. Generally those found at commercial or private campsites

Informal Camping – Camping undertaken historically at accessible loch shore locations (not in campsites or CMZs), often where camping can occur adjacent to vehicles. Close to a wild camping experience but sometimes associated with high volumes of people and detrimental impacts to the environment.

Irresponsible fire lighting – A fire is considered irresponsible if when lit it is not small, under control or supervised or is causing damage to the environment. Traces of an open fire should be removed before leaving.

Landscape Quality Assessment – A measure for analysing lochshore environment and the potential implications of the camping management byelaws on the wider landscape and whether

Local Landscape Character - Professional Landscape judgement using *Guidelines for Landscape and Visual Impact Assessment (GLVIA)* on a perceptible change in local landscape characters or features i.e.; loch shore fringes, condition, perception.

Local Environmental Audit and Management System survey 2015 – A bespoke litter survey carried out within the National Park at popular visitor locations by Keep Scotland Beautiful based upon the national monitoring system (LEAMS)

Low cost campsites / low-cost camping – Affordable campsites providing basic facilities of water, toilets and defined pitches such as those found at Loch Chon, Loch Achray, Salloch and Loch Lubnaig

Special Landscape Qualities (SLQs) – Based on the following report; Scottish Natural Heritage and Loch Lomond and The Trossachs National Park Authority (2010). The special landscape qualities of the Loch Lomond and The Trossachs National Park. Scottish Natural Heritage Commissioned Report, No.376 (iBids and Project no 648).

- A world-renowned landscape famed for its rural beauty; Wild and rugged highlands contrasting with pastoral lowlands; Water in its many forms; The rich variety of woodlands; Settlements nestled within a vast natural backdrop; Famous through-routes; Tranquillity; The easily accessible landscape splendour

National Park Authority Litter Monitoring System (LMS) survey 2019 – A bespoke litter survey carried out at visitor sites within the National Park by the NPA based upon the Code of Practice on Litter and Refuse (2018)

National Park Permit Scheme (also referred to as camping permit scheme) – Allowing a limited number of tents in a designated area within Camping Management Zones through the purchase of a permit

National Park Permit Area / Permit Areas – defined camping areas within camping management zones to which a number of permits are allocated, available for purchase by visitors. These areas have no formal facilities. The area provides a ‘wild camping’ experience with no formal facilities, bookable for a small administrative fee.

National Park Authority Resident & Business Survey 2019 – Survey exploring the impact of the byelaws on residents and businesses within the National Park, carried out by third part research company STR (Smith Travel Research). All research performed in accordance with relevant industry standards/guidelines (ISO 20252 and the Market Research Society's Code of Conduct) as well as the Data Protection Act 1998.

National Park Visitor Survey 2015 & 2019 – Survey of visitors carried out by third party research company Progressive. All work has been carried out in accordance with ISO 20252 guidelines and the Market Research Society (MRS) Code of Conduct

Non-Permit Areas – Areas within Camping Management Zones where access rights apply and camping is prohibited. Such areas can still include popular visitor attractions and day visitor sites.

Private campsites (also referred to as private provision or formal camping and caravanning sites) – Commercial campsites operating in the National Park which are run independently from the NPA providing formal facilities such as water, showers and electricity hook-ups etc.

Provision of camping facilities – The number, type and location of camping places located within the National Park

Ranger Service/National Park Ranger Service – Full time and seasonal team, supplemented by Volunteer Rangers (see below) providing a support service to visitors residents and businesses within the National Park

Ranger Patrol Data - Data collected from over 300 sites across the National Park, which from 2011 to 2016 was done via a paper based survey and from 2017 to 2019 has been completed electronically via a GIS system based application on a tablet. Data collected on a daily basis with observations of the following being recorded;

- Number of people; number of tents; number of vehicles; number of motorhomes; amount of litter; number of positive interactions; number of fires; damage to sites; recreational activities; presence of alcohol

SEPA – Scottish Environment Protection Agency

STEAM Report - Scottish Tourism Economic Activity Monitor Report created yearly by Global Tourism Solutions (GTS). Is a process for modelling the economic impact of geographical areas and used throughout the United Kingdom and overseas. Through the use of localised data sources, specific geographical boundaries can be analysed and for this purpose reporting and analysis covers the National Park as a whole.

UKAS - United Kingdom Accreditation Service

Volunteers / Volunteer Rangers – A team of people offering their time to assist with practical conservation and visitor engagement activities or visitor management tasks

Visitor Management Education & Enforcement Policy - Policy setting out the principles and approach the National Park Authority (the Park Authority) will follow in order to successfully manage visitor behaviour by means of available legislative powers throughout the Loch Lomond and The Trossachs National Park

WeBs Survey - National monitoring scheme for non-breeding waterbirds in the UK

Your Park – Proposals designed to improve the camping experience in the National Park while encouraging people to come and visit.

Your Park Consultation 2014 – 12-week consultation carried out to gather the views of stakeholders on the consideration to bring in new byelaws

8.2 Glossary of Ranger Data Terminology

Data label	Description of data set observed by Rangers upon visiting a site
People	The number of people counted
Tent	The number of tents counted
Vehicles	The number of vehicles counted (includes all of cars, motorhomes, campervans, etc.)
Fires	The number of fires counted
Litter	The estimated number of bags that would be filled by the litter present
Litter type	The types of litter observed, data only collected when litter is present
Recreation	The types of activity observed
Site damage	Damage is reported as minimal or significant; <ul style="list-style-type: none"> Minimal – This could be small scale ground damage e.g. scorch mark from fire/BBQ or minimal tree damage Significant - This could be multiples of the above, large scale tree damage, large scale ground damage e.g. large area of scorch mark, extended fire circle damage, damage to infrastructure e.g. picnic benches, fences, signage, PRE

8.3 Ranger data graph explanations

Average	The arithmetic mean is used as a measure for the average. There are better measures of centrality for skewed data (which is true for these counts), two which were considered were <i>median</i> and <i>geometric mean</i> however, both are invalid as there are many zero values within each variable.
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Graph title	Explanation
Mean number of people per site	This is the number of people that you would expect to find on an average day at one of the sites which the rangers visit within the specified area.
Mean number of tents per site	This is the number of tents that you would expect to find on an average day at one of the sites which the rangers visit within the specified area.
Mean number of tents per person per site	

Mean number of vehicles per site	This is the number of vehicles that you would expect to see on an average day at one of the sites which the rangers visit within the specified area.
Mean number of vehicles per person per site	
Mean number of fires per site	This is the number of fires that you would expect to see on an average day at one of the sites which the rangers visit within the specified area.
Mean number of fires per person per site	
Mean number of bags of litter per site	This is the number of bags of litter that you would expect to see on an average day at one of the sites which the rangers visit within the specified area. Note that the number of bags is an estimation of how many bags would be filled by the litter that is present on site visit.
Mean number of bags of litter per person per site	
Percentage of ranger visits where an activity was observed	This is the percentage of ranger visits where a particular recreational activity was observed. In using percentages rather than numbers, it standardises for the differing number of ranger visits that are conducted each year.
Percentage of ranger visits where a litter type was observed	This is the percentage of ranger visits where a particular type of litter was observed. In using percentages rather than numbers, it standardises for the differing number of ranger visits that are conducted each year.
Percentage of ranger visits where site damage was observed	This is the percentage of ranger visits where damage to the site was observed. In using percentages rather than numbers, it standardises for the differing number of ranger visits that are conducted each year. There is a second graph which breaks this down by the four CMZs
Percentage of ranger visits where site damage was observed by CMZ	

Several of the graphs are a ' per person ' measure. For example, there is a graph for ' number of tents per site ' and ' number of tents per person per site '.	
'per site' only	Use these graphs to look at an individual area to see how this measure has changed over time. To compare one area to another, it is more accurate to use the ' per person ' graphs.
'per person per site'	Use these graphs to compare the different zones. You can compare the four CMZs with each other OR the permit/non-permit areas with each other. It is more accurate to use these graphs when comparing the different locations because it accounts for the varying number of people found within each location, i.e.