



NEVIS RANGERS



END OF SEASON REPORT 2021



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through the Better Places Green Recovery Fund.

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Introduction

With an estimated one million people visiting Ben Nevis and Glen Nevis throughout the year, the seasonal Rangers serve to oversee the responsible access and make positive interactions for all visitors during the summer season. Due to high visitor numbers the Rangers regularly monitored notable hotspot areas such as the Ben Path and Steall Falls engaging with campers and walkers, emphasising the Leave No Trace principles, and ensuring the responsible access. Following on from the success of the projects and events hosted by the 2020 Ranger team, this year the Rangers have been involved with 27 events and 35 work parties and have partnered with many organisation including Friends of Nevis, Forestry and Land Scotland, Ewan Cameron’s Glen Nevis Estate and Jahama Highland Estates.

Our 2021 Nevis Ranger Team were:

Douglas Sinclair – Lead Ranger

Danny Barden - Lead Ranger

Beatrix Teasdale – Ranger

Dúa Wilson – Ranger

Calum Ross – Ranger

The Nevis Rangers worked closely with the teams from Nevis Landscape Partnership and John Muir Trust. In addition, the team were given advice and support from:



Glen Nevis



Visitor Management

VMOG

The Rangers attended weekly Visitor Management Operations Group meetings hosted by Highland Council. This group was formed to provide a co-ordinated approach to managing visitor impacts and issues and was attended by various departments within The Highland Council such as Transport, Traffic Enforcement, Visitor Services as well the police and representatives from other organisations involved in visitor management. It provided an opportunity to see how other Rangers had been managing the influx of ‘staycationers’ into the area and it gave a platform on which to raise issues faced in the Glen such as parking, access to toilets at the Ben Nevis Visitor Centre, the lack of camper van waste disposal facilities and general visitor numbers and behaviour regarding the SOAC.

Visitor Engagement

Throughout the season having Rangers on the ground proved highly effective. Rangers engaged with over 2000 visitors across the Glen and Ben, giving friendly welcome advice, reminding them of the ‘Leave No Trace’ principles and providing local information. As the season unfolded a notable difference in demographics emerged at Steall Falls. June to August saw family visits and large groups camping, particularly at Steall Meadows and Upper Falls, whereas September and October saw more couples of all ages become a markable trend.

The Rangers had a proactive approach towards minimising tourist pressure in the Glen. To do this, sites were regularly monitored, and visitors were educated on the SOAC. Additionally, visitors were informed to stay on footpaths, most notably at Conservation Corner on the Ben Nevis Mountain Path, and to take all rubbish away with them. The Ranger team divided time between hotspot areas: Lower Glen, Upper Glen and the Ben Nevis Mountain Path. Social media presence has been active throughout the season informing visitors on path closures, upcoming events and the daily activities of the Ranger team. It proved efficient in connecting with local organisations and businesses, including landowners and those who regularly use the land the Rangers operate on. Having a social media presence is an important tool to reach large audiences and engagement through Instagram and Facebook reaching on average 3,700 people per month.



Figure 1. Fire site left behind by visitors (Rangers, 2021)



Figure 2. Abandoned tent in Steall Gorge (Rangers, 2021)

Having a fully self-sufficient Ranger team, with qualifications such as Outdoor First Aid and Mountain Leadership has proven invaluable, and Rangers assisted an injured member of the public in Steall Gorge (leading to a thank you letter and donation) and took part in a search for a missing walker.

The Rangers patrolled the Lower Glen 96 times, mainly dealing with campers and litter picking. Thankfully the Seasonal Rangers in 2020 deterred campers from using the historic Curling Ponds by creating mounds of earth, a low cost, low environmental impact way of dissuading campers and is still proving most effective.

The Upper Glen was popular with car-based campers and campervanners. The Rangers spent a total of 172 days there, encouraging responsible camping and engaging with campers in the evening before they set up and again in the morning before they headed off.

Whilst the Upper Glen was a popular camping location the majority camped responsibly, but some still fell into the 'dirty camping' category leaving litter and toilet waste, abandoning tents (Figure 8 and 9) and fires left smouldering. Car camping was especially popular between Lower Falls and Steall carpark with campers pitching their tents meters from the car allowing easy access, often bringing larger items some of which were left behind. This type of camping is far removed from the definition of 'wild camping' according to SOAC.

Site visits revealed that camps typically popped up in areas which had fire pits left by previous occupants. Although counterintuitive the Rangers noticed that using the same fire pits reduced the overall impact on the surrounding grass and soil. During peak season Rangers were inclined to leave some fire pits in the more popular areas. However, when campers were seen bringing in their own wood, they were advised to have the fire on the shingle beach and were encouraged to consider using a stove instead. The Rangers also advised that they should not be cutting down live trees, also emphasising the importance of dead wood for habitat. From June to October a total of 92 fire pits were dismantled and covered over by the Rangers. Figure 10 shows the extensive damage fires have in such a small area and Figure 11 illustrates how the fires were repaired with fresh vegetation collected from the riverbank.



Figure 3. An example of multiple fire pits and disposable BBQs in one area at Steall Meadows (Rangers, 2021)



Figure 11. A fire pit half filled in with vegetation taken from the surrounding area (Rangers, 2021)

The Rangers encountered some horrific toileting sites throughout the Glen. Notable hotspots were usually behind large boulders just meters from main paths, with areas covered in toilet paper and wipes. Areas around Paddy's Bridge were particularly bad and sections along the river just below the Steall Gorge path. Toileting on the Ben has been equally bad, particularly around John's Wall where there is a strong toileting smell. Due to the environmental and health concerns surrounding the

concentration of human waste, relevant bodies including SEPA have been notified by Jahama Highland Estates. Parts of the summit were also littered with piles of toilet tissue and wipes.

The Rangers also faced issues with parking and traffic management particularly on the single-track road from Lower Falls to Steall car park. On sunny weekends the road was busy and dangerous with cars parked in passing places and along the roadside. The small car park at Steall does not have the capacity to cope with the volume of vehicle traffic in the Glen at peak times, resulting in an overspill onto passing places and verges. Further to this the Ben Nevis Visitor Centre had regular overspills on to the roadside blocking in residents making them feel ‘trapped’. These issues were raised at the weekly Visitor Management Operations Group meetings, resulting in the council using cones along the pavement and verge to deter people from parking in such a dangerous manner. Throughout the whole Glen a total of 363 vehicles were recorded to be parked on roadsides and verges.

The Rangers spent a total of 81 days on the Ben Nevis Mountain Path (part of the core path network), and whilst clearing cross drains, litter picking or building revetments, visitor engagement was a key priority. It provided a great opportunity to share information about the Glen and Ben and why the Ranger team is important in maintaining core paths like the Mountain Path. The team were regularly thanked by the visiting public, and it was clear having a presence on such a popular route made them think about the path and landscape rather than just about walking up the UK’s highest mountain, raising awareness of the importance of paths and the work involved in path maintenance was supported by donations left in the Friends of Nevis cairns.

To help reduce impacts on honey spot areas and spread visitors throughout the Glen, the Rangers advertised the Lower Falls Circular Walk (Appendix 1), part of the ongoing Glen Nevis Heritage Trail which has an overarching concept of linking the Glen in a loop from the Curling Ponds. Developing on from the published Lower Falls loop in 2020, improved leaflets on the walk were left at Lower Falls carpark for members of the public to use and (hopefully!) return (Figure 12). It was encouraging to see people picking up the leaflets at the car park as well as witnessing other people using them further out in the Glen.

Distance: Approx. 3.2km
Time: Allow 2 hours
Route starts and finishes at Lower Falls Car Park. Cross over the first road bridge then through the single gate and follow the path up the side of the River Nevis. Follow the well surfaced path up to Paddy’s Bridge looking out for the features on the map.

- 1. START: Lower Falls**
The magnificent waterfalls have been formed where the river has eroded along two separate dykes.
- 2. Regeneration**
Follow the path along the riverbank passing enclosures of regeneration on your right. There are 15 planting enclosures in Glen Nevis, and NLP has planted over 12,000 native trees as part of its future forest program.
- 3. Bench**
The Bench commemorates a local conservation volunteer who gave hundreds of hours to help keep Glen Nevis wild and beautiful. Here the path goes up and over a ridge.
- 4. Holly Tree**
Passing a veteran Holly Tree, native to the Glen and a remnant of the old forest.
- 5. Paddy’s Bridge**
Dropping down to Paddy’s Bridge, named after the engineer who built it, crossing over the River Nevis to join the tarred road. Turn left back down the Glen for 100 meters.
- 6. Steps**
The steps lead off the road from a layby on the right up into the crag areas.

Please return map

HAVE YOU GOT APPROPRIATE SHOES?
Sections of this trail can be quite boggy.

From here the path is more indistinct and those unsure of walking on rough ground can return by the road.

- 7. Scimitar**
Follow the path over a rise and keep a look out for Scimitar Rock (Sword with a curved blade) an impressive split boulder roughly 100 meters off the path and well worth a detour up the hill.
- 8. River Crossing**
After crossing the distinct burn on the map, continue round the hillside to pick up a more obvious path.
- 9. Split Boulder**
Walking though the remarkable split rock that likely happened due to a process called freeze thaw, and the base of Pinnacle Ridge area of the Polldubh climbs.
- 10. Heather Hat Boulder**
Continue contouring past more tree enclosures (right) to Heather Hat, popular for bouldering along with the crags that rise up behind. Follow the path to the next large boulder (Cameron Boulder) and drop back down to the road.
- 11. FINISH: Road Intersect**
In front of you on the other side of the road are the ruins of a house. Follow the road back to the starting point of the Lower Falls car park.

For further information on the landscape of Ben Nevis and Glen Nevis visit www.nevispartnership.co.uk
Or follow the QR code.
Tel: 01397 701088
info@nevispartnership.co.uk

Lower Falls Circular Walk

Figure 4. Lower Falls Circular Walk (Rangers, 2021)

Visitor Surveys

As part of the role with the John Muir Trust the Rangers carried out visitor surveys to collect information on the demographic visiting the area, in particular Upper Falls car park, Steall Meadows and Steall Gorge. The aim was to establish visitor profiles, their needs and interests and their level of satisfaction regarding facilities and care for the environment. The most notable findings from the JMT surveys were the 87% of people the Rangers spoke to had travelled to the Glen via car (Figure 13), demonstrating a need for car parks and associated facilities. However, as demand will continue to outstrip supply, it may be a better solution to provide better information about biking and walking routes or using the Glen Nevis Bus service.

Another notable finding from the survey was that 39% of people visited Glen Nevis to walk (Figure 14), this demand highlights the importance in maintaining the path network to ensure the safety and accessibility for visitors. Further results are included in the appendices.

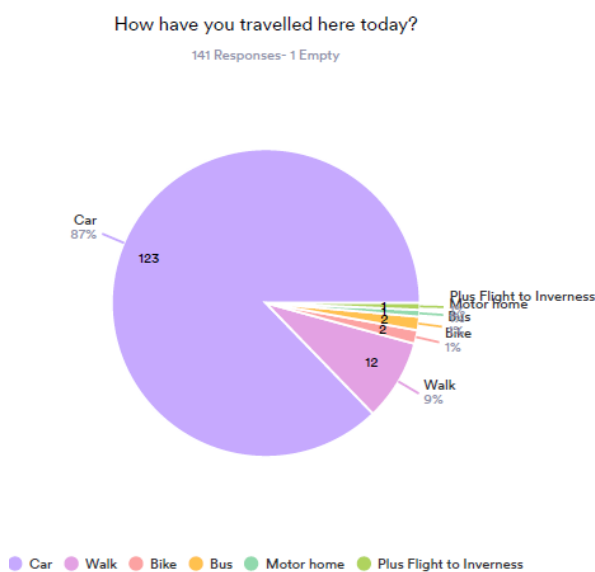


Figure 6. Results from JMT survey indicating that the majority of people travelled by car (John Muir Trust, 2021)

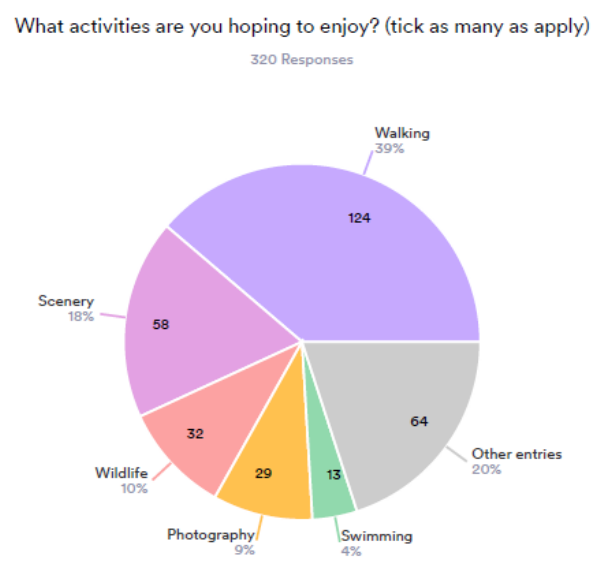


Figure 5. Results from JMT survey showing that most people came to the Glen for walking (John Muir Trust, 2021)

John Muir Trust, who also carried out these surveys at some of their other properties, are now working with volunteers from the University of Cumbria - Institute of Science, Natural Resources and Outdoor Studies. The volunteers will be analysing the survey results of 4 John Muir Trust sites looking at correlations between and within the results and providing a report on emerging narratives and interesting findings. They will also provide recommendations and advice for future surveys on how to produce consistent data sets.

In addition to the JMT surveys the Rangers also collected data on visitor numbers, Table 1 shows the location in which the Rangers spent their time in the Glen and the type of work they were doing e.g., volunteer work parties, conservation or events and the total amount of people engaged with. A total of 349 patrols across the Lower and Upper Glen and Ben Nevis were undertaken. Table 2 displays the information obtained on daily patrols, most notably the 223 toileting sites the Rangers came across,

these were mainly found between Paddy's Bridge and Steall Meadows. These figures are for interest only and cannot be used to compare against any past or future surveys.

Table 1. Ranger working location and type of work undertaken in Glen Nevis June – October 2021 (Rangers, 2021)

	Lower Glen	Upper Glen	Ben Nevis	Parties	Conservation	Events	People engaged with
Total	96	172	81	35	89	27	2053

Table 2. Visitor observations in Glen Nevis June – October 2021 (Rangers, 2021)

No. of Cars in carpark										
	Lower Falls	Upper Falls	Achintee (Ben Nevis Inn)	Cars in verge/passing places	Motorhomes	Tents	Fire marks	Litter bags	Toileting on site	Wet Wipes
Total	650	1930	372	363	124	133	92	169	223	140

Litter Picks

Litter picks were a regular activity for the Ranger team, particularly in peak times throughout the summer. A total of 169 bags of rubbish have been cleared from the Glen.

The Roaring Mill is an extremely popular spot in warm weather, particularly for local families and young people during the holidays. Unfortunately, it accumulates large amounts of litter (Figure 15) causing an unpleasant environment for those wishing to enjoy the swimming spot. It became a regular stop for Rangers and a great opportunity to engage with the young residents.

The Ranger team assisted in JMT volunteer litter picks and the Real 3 Peaks Challenge and carried over 200kg of rubbish off Ben Nevis. One of these events saw an accumulation of litter in the summit shelter and it was evident some visitors are treating the shelter as a bin. Memorials have also been collected from the summit and, where possible, they have been returned to the families involved.

The Red Burn is a known terrain trap for debris which has been swept off the path. This season has seen the removal of over 15 old helicopter bags from work carried out in the 90's, many items of clothing and litter accumulated there over the years. Another trap for litter is under the wooden bridge, a total of six full rubbish bags were extracted in a single day (Figure 16). An interesting find was a collapsed hut full of unused Helicopter bags from a period of work, probably in the nineties. This will have to be removed at a future date.



Figure 7. Roaring Mill litter pick (Rangers, 2021)



Figure 8. Assortment collected from below the wooden bridge on the mountain path (Rangers, 2021)

Infrastructure

The routine maintenance of the path network, fencing repairs and monitoring for future work is a vital part of the Ranger role. The basics can be done during the season and provides an excellent opportunity for explaining to visitors of the Glen what the Rangers are doing and why. However, the more technical repairs, for example rebuilding and improving are best done out of season.

Footpaths

One of the most important roles throughout the season has been footpath maintenance, particularly on routes that experience high footfall (Figure 19 and 20). Paths used heavily are susceptible to water bar and cross drains filling up with washed in sediment and rocks pushed down by the tread of users. Braiding is also caused by walkers deviating from the path and has been noticed in areas of the Glen.

The Rangers have performed path maintenance on the Allt a' Mhuilinn, Steall Falls path, the Mountain Track, the Riverside All Ability Path, Polldubh paths and the footpath from Lower Falls to Paddy's Bridge. The clearance of the cross drains and water bars in these location should be performed regularly, ideally once a fortnight due the high levels of use, allowing the water to flow off the path and limiting the effects of erosion. This not only increases the paths longevity but also helps to protect the initial investment in the build. The feedback and gratitude from passers-by were very rewarding. Some repairs were also completed in the quieter period with revetment work high up on the JMT section of the Ben Nevis Mountain Path to protect the path edge (Figure 17 and 18).



Figure 10. Mountain Path erosion (Before) (Rangers, 2021)



Figure 9. Finished revetment (After) (Rangers, 2021)



Figure 19. Mountain path to stop collapsing stone (Rangers, 2021)



Figure 20. After completion (Rangers, 2021)

Steall Gorge experienced a weeklong closure for major path repairs from an outside contractor after serious damage resulting from stray livestock. Prior to the closure the Ranger team performed regular safety checks ensuring it was safe for visitors and noting any deterioration. During the closure the Rangers assisted in redirecting members of the public to alternative walks and sites within the Glen.



Figure 12. Steall path closed in action (Rangers, 2021)



Figure 11. Contractors working on path repairs (Rangers, 2021)

The All-abilities Riverside Path is an extremely popular walk whilst also providing access to the mountain track. It has been prone to erosion when the river Nevis is in spate with areas having previously been washed away. The Ranger team constructed a dyke (Figure 23) to reduce the speed of the water on the path and reduce the scouring effect. Six metres of ground guard have been completed as part of a project funded by Friends of Nevis to add a to a total of 120 metres to maintain the all-ability status of the path. Without this work the path would inevitably be washed away (Figure 24).

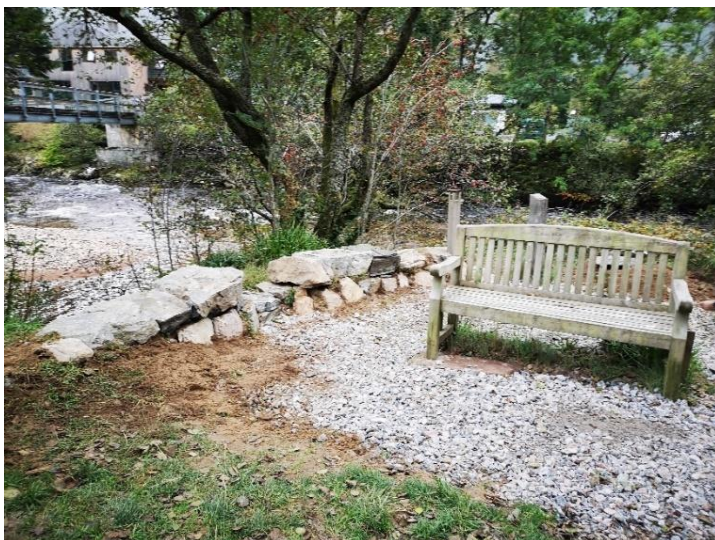


Figure 13. Dyke at Visitor Centre car park (Rangers, 2021)



Figure 14. All Abilities Path repairs (Rangers, 2021)

Fencing, stiles, and bridges

Aside from path maintenance and litter picks the team also regularly monitored structures such as fenced enclosures, bridges and stiles, reporting any damage noted to respective landowners and where appropriate, assisting them to carry out repairs.

Some of the tasks carried out included the reinstatement of the finger post sign Figure 26 and 27 that had snapped off at the base.



Figure 15. Finger post sign snapped at the base (Rangers, 2021)



Figure 16. Finger post back in place (Rangers, 2021)

Paddy's Bridge required structural work that the Rangers reported to the landowners, prior to this the bridge was closely monitored by the Rangers and any signs of deterioration were noted. Additionally, the Youth Hostel bridge required the replacement of new boards. Again, this was closely monitored by the Rangers, reinforcing the importance of having boots on the ground to monitor structural issues.

The stile at Lower Falls was damaged and structurally unsafe for visitors. As it is a popular access route onto the Mamores the stile was quickly fixed by the Rangers. The stile at Allt a' Mhuilinn required additional structural support which again was swiftly fixed by the Rangers.

The Rangers undertook some temporary repairs on the boardwalk to Outlandia which is in a general poor state with the chicken wire damaged by bikes. Outlandia is a hidden gem in the Glen owned by London Fieldworks and will need some more major work in the near future.

Vegetation

Having Rangers with competency and tickets in chainsaw, strimming and brush cutting proved an asset to the team. For example, a windblown tree obstructing the Steall Gorge path caused a significant hazard to the public but was quickly cleared by the Rangers. Additionally, the curling ponds have been maintained by strimming, thus opening up areas for the continued recreational use. Footpaths around the Glen have been kept accessible by staying on top of encroaching shrub and brambles throughout the season, across all path networks. In some locations it was necessary to bring the strimmer back out to keep paths clear from bracken. This was essential in conjunction with the Lower Falls Circular walk as the strimming widened the path providing a pleasant, accessible walk for visitors.



Figure 28 shows a dead Alder that posed a hazard to walkers on the popular All Abilities path, this was identified by the Rangers and the overhanging branch removed. The site was checked for any bat presence and advice from the Bat Conservation Trust adhered to, in that any felling should be undertaken in September or October and the branch left to allow any bats to make their way out (Jackson, 2015).

Figure 17. Hazardous Alder crossing the All Abilities path made safe by the Rangers (Rangers, 2021)

Pollidubh area is a historically renowned climbing spot and in October the annual shrub clear lead by Scott Kirkhope (Kirkhope Mountaineering) and volunteers took place. This event is necessary in keeping the crags accessible for the inevitable high number of climbers.

Community engagement

Events

Through the challenges of the COVID-19 pandemic the Ranger team managed to hold multiple events aimed at community engagement and assisted in supporting organisations such as John Muir Trust, Friends of Nevis, Wilderness Foundation and Dartington College.

On 21 June 2021 the John Muir Trust celebrated 21 years of caring for Nevis, and to mark the occasion, a volunteer day involving a summit clear and path maintenance was undertaken. The team were joined by staff from Mountain Equipment, volunteers and Rangers who split into two teams; a summit litter pick and a cross drain clearance team. As ever the engagement was an enormous success, with members of the public curious as to why a group of people were walking up Ben Nevis with mattocks and buckets.

In August the Ranger team joined the Royal Botanic Garden Edinburgh, on an event supported by Jahama Highland Estates and John Muir Trust, on the 250th anniversary of James Robertson's ascent of Ben Nevis (Figure 1). The mountain provides a unique habitat for rare arctic-alpine flora which the North Face Survey (2014-2016) highlighted the importance of during the Nevis Landscape Partnership programme (Mayne and Semple, 2014).

The anniversary was a unique opportunity to extend the work carried out at that time and allowed vascular plants including Arctic Mouse-ear and Brook Saxifrage (Figure 2 and 3) to be recorded before they are inevitably buried in snow. On the day, one group focused on lichens in the corries of the North Face and the other journeyed their way across the Càrn Mòr Dearg Arête stopping every so often to study the vascular plants and mosses. It was a chance for the Ranger team to pass on their knowledge of Ben Nevis and the work that is required to maintain the mountain and glen and also a unique experience for the Rangers to gain additional knowledge on the local flora from the RBE experts.



Figure 18. RBE summit of Ben Nevis plateau (Steve Jones, 2021)

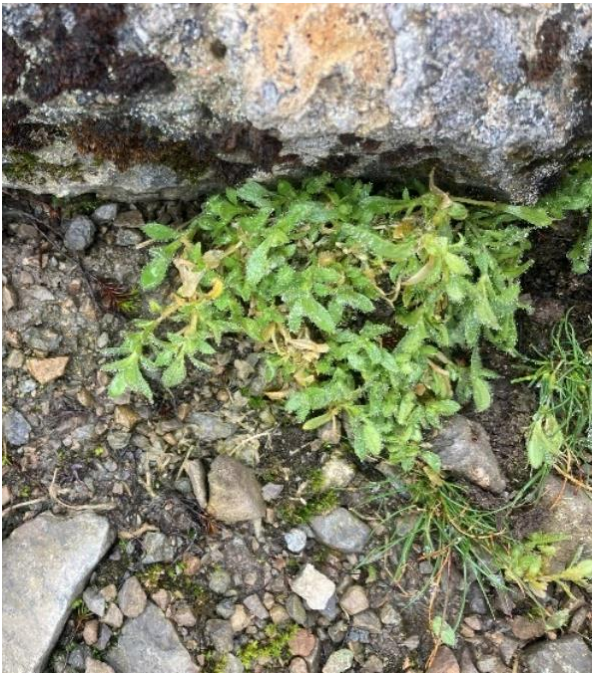


Figure 19. Arctic Mouse-ear (*Cerastium alpinum*) (Rangers, 2021)

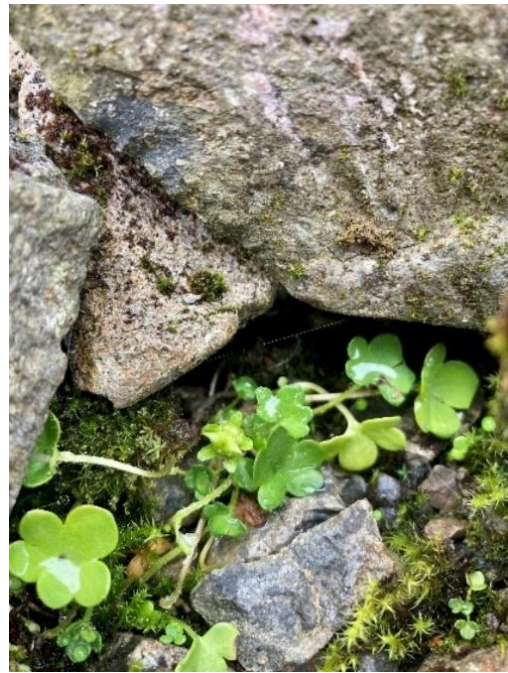


Figure 20. Brook Saxifrage (*Saxifraga rivularis*) (Rangers, 2021)

From previous engagement with Clare Holohan at West Highland Herbal, the Rangers hosted a day in Glen Nevis open to members of the public (Figure 4). The day explored all the wonderful edible plants in the Glen (Figure 5), discussing the medicinal properties and folk law. Not only has this year seen Rowan trees festooned in berries but has also been fruitful for fungi and mushrooms.



Figure 21. Rangers and members of the public (Clare Holohan, 2021)



Figure 22. Find from the foray (Rangers, 2021)

Following on from the wildflower walk and workshop the Rangers also hosted a Fungi Walk with mycologist Liz Holden (Figure 6). The event was open to the public and proved popular with residents of Lochaber, hopefully inspiring those to foray with caution and to explore and learn more about the delicious delights found in the Glen.



Figure 23. Liz Holden explaining fungi identification (Rangers, 2021)

Further engagement with the local community involved holding a Mindfulness Walk, or Forest Bathing a pilot event with Lochaber Women’s Aid who provide support, advice and information for women, young people, and children in the local area. Mindfulness is a recognised approach in helping with mental wellbeing and combining this with nature is becoming widely understood. The term ‘Forest Bathing’ derived from Japan in the 1980’s with the aim for people to reconnect and protect the country’s forest, in light of the tech-boom, and to serve as an eco-antidote. Although only a pilot event, the same principles applied to the Forest Bathing in the Glen. Initially aimed at residents to encourage them to discover their local area, with regularity it may well become a valuable event to hold seasonally.

In partnership with the West Highland College - UHI who will plant 500 trees across all their sites to celebrate their 10th anniversary, the Rangers built an enclosure in Kinlochleven for the tree planting in November. Saplings from the NLP nursery part of the Future Forests Projects 2019 will be planted at the site (Figure 25).



Figure 24. Fencing at Kinlochleven planting site (Rangers, 2021)

Education

2021 is John Muir Trust's first year running the Junior Ranger programme offering young people from Lochaber High School an opportunity to gain first-hand experience in practical conservation. In partnership with NLP and the Woodland Trust the students gain experience in the outdoor and conservation sector. The seasonal Rangers assisted in delivering 'Leave No Trace' and a navigation workshop (Figure 7) and engaging with the Junior Rangers giving them insight into the work carried out in the Glen.



Figure 25. Showing the junior Rangers how to interpret contour lines at Paddy's Bridge (Rangers, 2021)

The Rangers were informed and prepared to deliver a peatland awareness day with local Lochaber schools as part of the STEM learning and topic on the carbon cycle. Unfortunately, due to COVID-19 the event was cancelled, however it shows another example of delivering an educational community day.

In October the Ranger team ran a Footpath Awareness CPD day aimed at outdoor professionals explaining the reasons for and the importance of mountain footpaths and explaining the building and maintenance costs. It is a common misconception that footpaths are there to make walking up mountains easier rather than the more pressing environmental protection purpose of mountain paths. These events provide the opportunity to put forward the context of mountain paths and work involved in securing funding, designing the path, putting out to contract, and building the path followed by the long-term maintenance requirements.

Further engagement took place with the Woodland Trust at Arkaig where Rangers were involved in their open day and consultation of the plans for the wood and community.

Inverlochry Primary School reached out to the Rangers as a topic of focus for the students was "Our Landscape". Due to the Ranger funding finishing in October, and there being no funding for a permanent ranger to continue over the winter, we were not able to pursue this opportunity. This would have provided another opportunity to engage with local young people and bring ideas about how to make their school ground more nature friendly and how to care for their natural environment.

Conservation

A total of 89 days have been spent carrying out conservation tasks by the Rangers in 2021 including undertaking monitoring on several species in the Glen, some as part of national survey programmes and others following on from previous years of monitoring. The data is passed on to national scientific organisations, who use the information for national policy and approaches to environment issues. It is also passed onto the relevant landowners to inform their own environmental work. This also helps to maintain a network of conservationists, providing learning opportunities for staff and allows Rangers to speak knowledgably to the public about flora and fauna in the Nevis Landscape.

Species Monitoring

It has been a successful year for the golden eagle with a nest site located in the Glen, a good sign that there is food on the hill particularly from deer carcasses left out by JMT during the stalking season.

As part of the UK Butterfly Monitoring Scheme (UKBMS) beginning in 1976, the UKBMS is now one of the most significant resources in observing changes in insect populations. NLP have been observing butterfly populations since 2016 and have completed 84 surveys across two sights, Polldubh and South River Nevis. This vital data collected over the course of five years can be closely monitored for any changes in butterfly populations and give indication into species trends (Figure 30 and 31).



Figure 26. Small Pearl-bordered Fritillary (*Boloria selene*) (Rangers, 2021)



Figure 27. Mountain Ringlet (*Erebia ephron*) (Nathan Berrie, 2021)

Moth trapping took place frequently over the summer with 33 records passed on to Tom Prescott from the Butterfly Conservation Scotland. Some of the species included Dark Marbled Carpet, Burnish Brass and Light Emerald etc. Figures 32 and 33 show some observed species.



Figure 28. Swallow tail (*Ourapteryx sambucaria*) (Rangers, 2021)



Figure 29. Poplar-hawk moth (*Laothoe populi*) (Rory Stewart, 2021)

The Rangers also undertook bat surveys along a transect in Steall Gorge and found presence of the Common pipistrelle (*Pipistrellus pipistrellus*). These findings were reported back to JMT.

Deer numbers must be controlled and managed to encourage native woodland regeneration. Prior to the stalking season the Rangers assisted with a deer count in Coire Guisachan in preparation of the stag and hind stalking season.

New tree saplings including Oak and Scots pine were identified across the Glen, particularly around the Polldubh crags, with areas of Aspen found below Southwest Buttress, Scotland's only native poplar.

In early 2018 as part of the Future Forests projects, 40 Scots pines in individual enclosures were planted around Polldubh. Of those planted 34 have survived and were cleared of bracken. The unsuccessful sites were replanted and are recommended to be checked in the spring and replanted again, if need be, with yearly checks (Figure 34 and 35).



Figure 30. Scots pine planting (Rangers, 2021)



Figure 31. Scots pine caged (Rangers 2021)

Invasive Species

Invasive species are a threat to native flora and fauna and their presence is closely monitored by the Rangers. In August, the Rangers assisted with a Friends of Nevis volunteer day removing Skunk Cabbage (*Lysichiton americanus*) from Achriabach. The American Skunk Cabbage was removed by digging out the main rhizomes from underground, as new plants can establish from rhizome fragments. The plants were piled onto a groundsheet to prevent individual plants regenerating.

Other invasive plants in the Glen include Rhododendron that can carry the pathogen *Phytophthora* causing severe damage to and mortality of trees. Shallon and Sitka Spruce are also present.

American Mink (*Neovison vison*) monitoring began in 2016 across parts of the Glen and has continued from season to season. Three rafts were put in place across the Glen (Appendix 2) these sites were chosen on the recommendation of local landowners and previous monitoring sites and were areas that provided suitable habitat for mink. Once the rafts were in place, twice weekly checks were carried out to identify prints or any disturbance to the rafts. The rafts were initially installed without lure to avoid the capture of other species but to catch the curiosity of the mink, after two weeks a mink lure was added to the raft. Fortunately, no mink presence was discovered but the prints of field vole (*Microtus agrestis*) or possibly wood mouse (*Apodemus sylvaticus*) were indicated by Dan Puplett at Nature Awareness.

Figure 36 displays a curious Pine Marten (*Martes martes*) captured on our camera trap near Mink raft site 3.



Figure 32. Pine Martin captured at Site 3 mink raft

Bird Ringing

Six ranger days were spent continuing the owl box project, part of the Pinewood Restoration project and match funded by Forestry & Land Scotland. 21 boxes were monitored for presence across Glen Nevis and Leanachan forest. It has been a good year for Barn Owls in Glen Nevis this year with at least two sets of chicks successfully fledging in nesting boxes built, installed and monitored by NLP. In this case the breeding success was in boxes located on Jahama Highland Estates land with other monitored boxes on Forestry and Land Scotland estate and Glen Nevis Estate showing signs of continued active use as roosts by Barn Owls and Tawny Owls. A total of 9 fledgings have been identified across Glen Loy to Leanachan and Glen Nevis, with five chicks rung by Lewis Pate (Figure 37), a member of the Scottish Raptor Study Group and holds a Schedule 1 Licence, and who works closely with the partnership.

The Rangers also assisted with a Friends of Nevis hosted bird ringing with Kirstie Ross and John Owen, with a total of 87 birds handled including Great tits, Tree creepers, Coal tits, Robbins, Blue tits (Figure 38), Dunnock and LOTS of Chaffinches. The ringing was an excellent opportunity for the public to see first-hand conservation in action and a chance for the Rangers to pick up new skills



Figure 33. Lewis Pate ringing a Barn Owl (Rangers, 2021)



Figure 34. Taking measurements on a Blue tit (Rangers, 2021)

CPD Training

As the Rangers spend most of their time working on the mountains and in remote locations it is important for them to be confident and competent in navigation and working on steep ground. Therefore, the Rangers had a scrambling day with Atlas Mountaineering journeying up the Ben via Tower Ridge, a spectacular day with many new skills learnt including group management on steep ground and short roping techniques. Following on from this, the Rangers then spent a day with Abacus Mountain Guides working predominantly on navigation, reinforcing confidence in navigational techniques (Figure 29). In addition, Rangers who did not possess a current first Aid certificate were put through the BASP Outdoor Emergency First Aid (2 days) course.



Figure 35. Dúa with Ben Nevis looming in the background (Rangers, 2021)

Recommendations for future work

1. People counters are important in securing future funding as they provide evidence of visitor numbers. The rangers check all the existing counters to ensure they were working and found some that were not recording information. These were overhauled and fitted with new batteries, however they are old and would benefit from being replaced to ensure consistent data is recorded. This should be high priority together with developing a system for collecting and analysing data.
2. Social media is a great tool in reaching people, advertising events and projects, with live streams of day-to-day activities. Regular updates are advised however lack of staff resources, without the ranger team will make this difficult.

3. The Lower Falls Circular walk appeared successful with walkers and helped dilute the honeypot effect of particular areas. As the walk is part of the overarching concept to connect the Glen in a circular walk, it would be useful to the area to see this evolve, with waymarked points providing an alternative low-level route and encourage people to walk and cycle in the Glen rather than bring cars. Recommend further engagement by NLP with landowners: JMT, Jahama Highland Estates, Glen Nevis Estate and Forestry and Land Scotland to secure funding to link up the sections required to complete the circuit. Properly promoted this could reach a large audience and help alleviate pressures elsewhere in the Glen by spreading visitors out.
4. This year the Rangers filled out an excel sheet with projects and job requests on Jahama Highland Estate, to help streamline communications between NLP and JHE. This provided structure in communicating the work the Rangers were to carry out, but in some cases restricted some work whilst a decision was made, with a few items which could have been tackled not done due to running out of time on the Ranger funding. The system did work but greater forward planning would be needed by NLP to ensure the ranger resource is fully utilised for the benefit of the area and landowners. It is important for Rangers to be practically involved in maintenance as this gives a very positive impression to visitors and allows for better engagement and a greater desire to donate/fund the service.
5. To help manage the parking at Upper Falls carpark the recommendation of a turning area and lined parking bays has been put forward in the VMOG meetings. This would be greatly beneficial in tackling the overspill, providing more efficient and designated parking areas, as opposed to a 'free for all' type system particularly in peak times. Not only will this improve the traffic management but also make it a safer area for walkers especially along the road. To prevent verge parking that has been a persistent problem, the suggestion of topping roadsides, similar to the strategy at curling ponds to deter campers, rather than cutting verges.
6. Toileting will continue to be a persistent problem, particularly during the summer period. Rangers should advise campers on how to 'poo in the wild' and hand out poo tubes if funding allows, making it an open discussion and hopefully deterring people from leaving wipes and toilet paper laden behind every boulder. The upgrading of Lower Falls which will include composting toilets may help a little in that area. The toileting issue in hotspot areas is something that needs to be dealt with, nationally with better public information on how to pack out your waste, in some locations with the installation of composting toilets, in others there may be the possibility of moving large boulders which provide cover close to paths. Finally, the Comfort Zone could be extended, to encourage business owners to open their toilet facilities to the public.
7. The conservation projects carried out in 2021 should be continued, including butterfly, moth, mink monitoring and owl box checks. The Polldubh cage protected trees should be checked in spring before the bracken grows up and any unsuccessful trees replaced or the site moved, it would be beneficial to GPS the individual trees and update the site records.
8. Path maintenance is a high priority year-round activity and it is assumed that between the various organisations the necessary time and money will be spent bringing the paths up to the standard expected and keeping them there. An all year-round Ranger presence in the Nevis area would go a long way to achieving this goal.

9. The cache of old helicopter bags and hut (Figure 39) at (NN 137 718) location should be removed, although this could be a helicopter operation due to the sheer quantity of bags and size of the hut and could be tied in with any future work.



Figure 36. Helicopter bags and hut located just off the Ben Nevis Mountain Path from work carried out in the 90's

Finally, the Rangers presence in the area over the peak season of June to September has allowed for an enormous amount of recorded and anecdotal information to be collected, presented, and discussed both locally, regionally, and nationally. This is an invaluable resource to have for planning and for future Ranger services in the area to build on. There is still an enormous amount of routine work that needs to be done all year round to keep the area attractive for visitors, whilst managing the environmental impacts from high visitor numbers, and most importantly keeping the Nevis landscape wild.



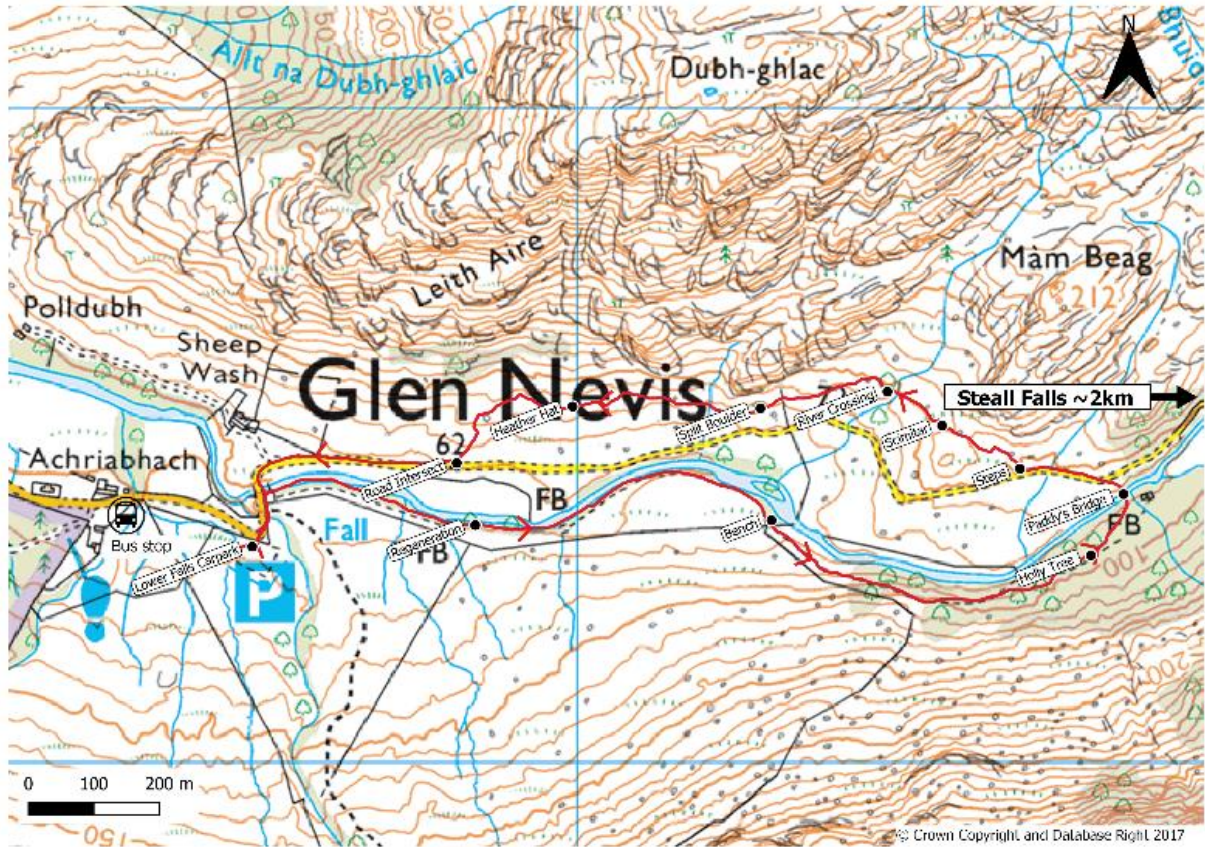
References

Mayne, C and Semple, T. (2014) *NORTH FACE SURVEY*. Nevis Landscape Partnership 4th edition. URL: https://www.nevislandscape.co.uk/Uploads/2015/07/02/1kdPrKsO_lp.a4---north-face-survey.pdf

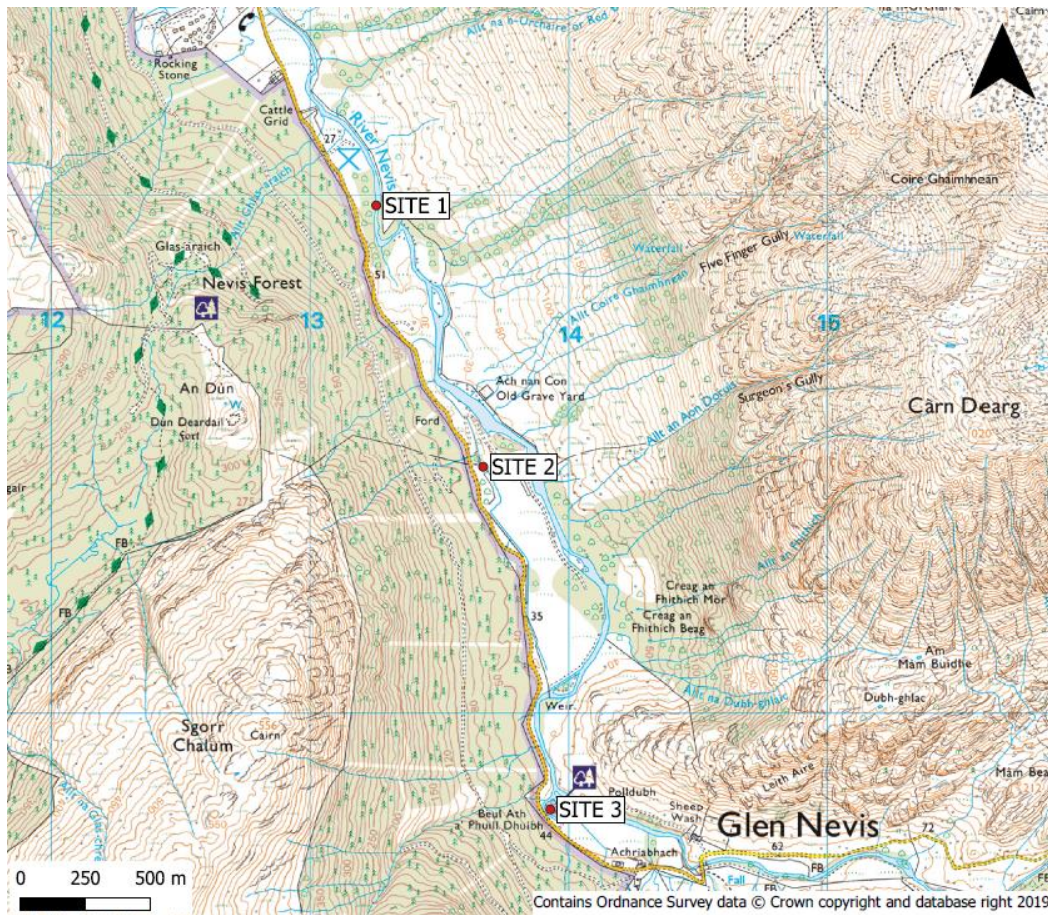
Jackson, D. (2015) *Bats & Trees*. Bat Conservation Trust URL: <https://cdn.bats.org.uk/uploads/pdf/Bats-Trees.pdf?v=1541085197>

Appendices

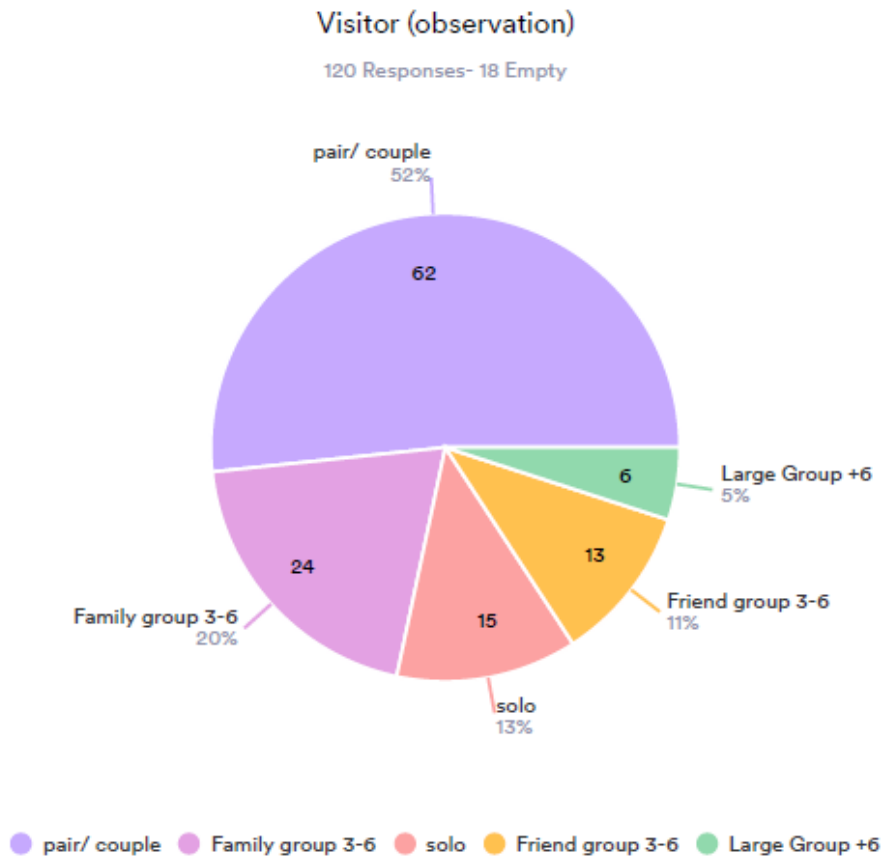
Appendix 1. Lower Falls Circular Walk



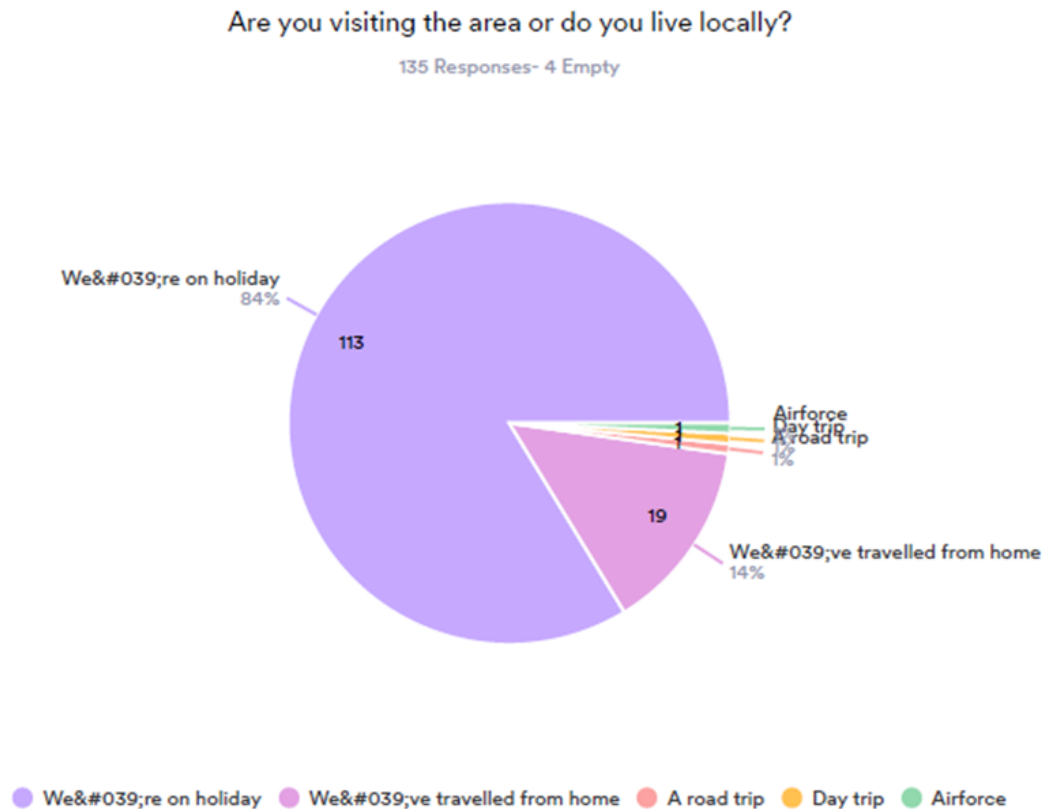
Appendix 2. Mink monitoring sites located in the Glen



Appendix 3-6 Responses from the John Muir Trust Survey - Nevis.



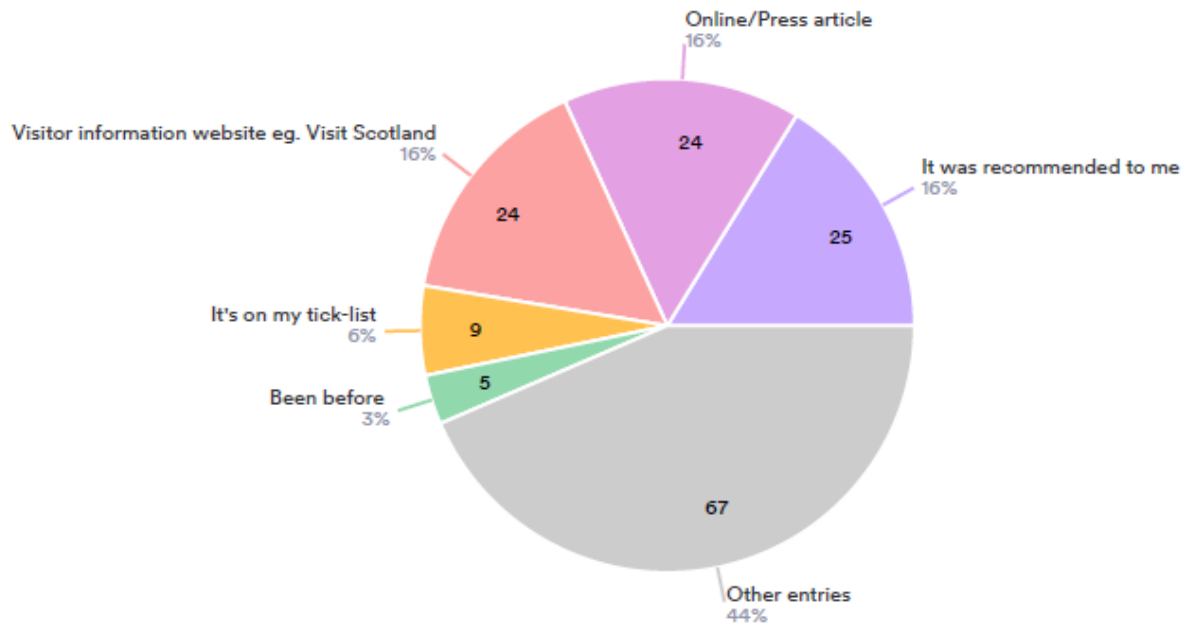
Appendix 4.



Appendix 5.

What made you decide to come to this location?

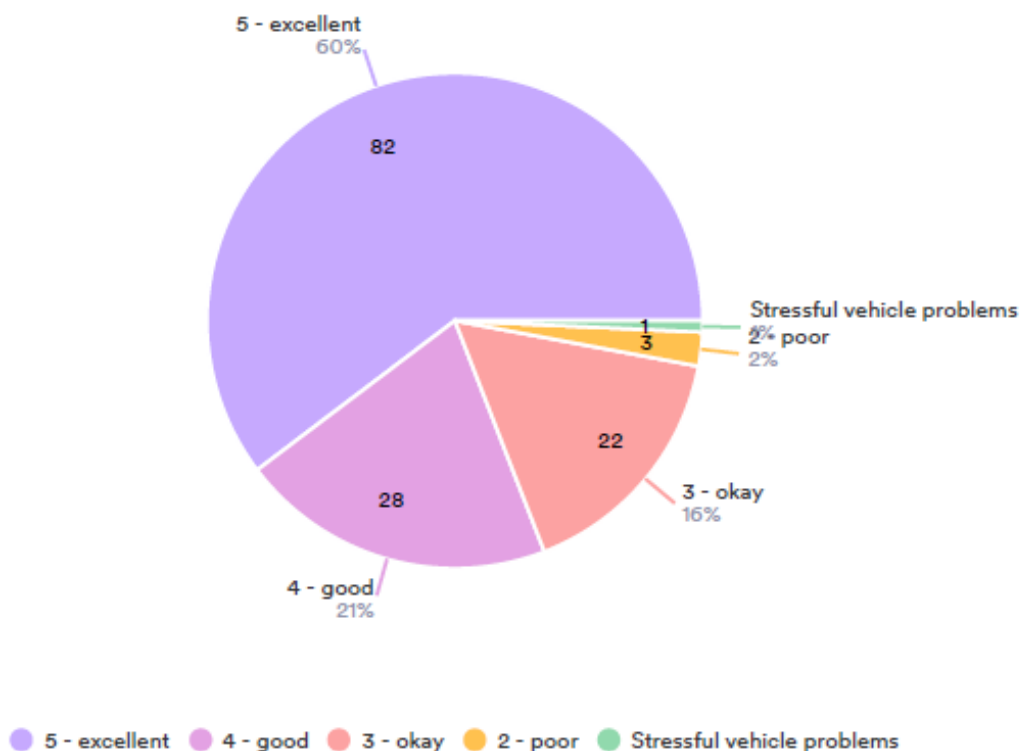
154 Responses- 1 Empty



Appendix 6.

How was your experience today? Rate from 1 (very poor) to 5 (excellent)

136 Responses- 2 Empty



Fabulous Fungi Foray

Welcome to fungus enthusiasts of all levels



Where? Glen Nevis

When? SUN, 19 SEP 2021 @ 10:30-13:00

Join mycologist Liz Holden for a morning's fungal foray. Liz is one of Scotland's top fungi experts and her guided fungi walks are always guaranteed to shed light on the fascinating lives of fungi and the essential roles they play in many ecosystems.

Please note there is a £15 charge per person for this event.



To book on to the Fabulous Fungi Foray visit:
www.nevislandscape.co.uk/local/events/





Polldubh Crags Scrub Clear

10 October 2021
9:30am

Help to keep Polldubh's climbs
accessible.

The day involves cutting back
undergrowth below the crags.

To sign up visit

www.nevislandscape.co.uk/local/events

or give us a call on 01397 701088





FOOTPATH AWARENESS DAY

Oct 16, 2021 | 9.00 AM
Do you use hill paths regularly? Are you a Mountain Leader leading and educating groups on the hill? If so this pathwork awareness workshop is for you.

The day involves a walking circuit taking in various different types of constructed path around the Nevis area. It will consider why paths are made and the associated costs and give an idea of the work involved in keeping paths open and functioning. Members of the Mountain Training Organisation will be able to count this as part of their CPD.

To book visit www.nevislandscape.co.uk/local/events/ or give us a call on 01397 701088





BEN NEVIS TOP TO TOE



Our old girl has had a hard summer, help us get her ready for the coming winter. We are splitting the path into sections from the very bottom to the very top, clearing drains and ditches as we go along, there will be opportunities to work lower or higher on the hill.



OCT 17, 2021 | 9.00 AM
BEN NEVIS VISITOR CENTRE

To sign visit www.nevislandscape.co.uk/local/events/ or call the office on 01397 701088

Please note this event is weather dependant so keep an eye on our website and social media

