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A project for Scottish  
Natural Heritage (SNH)

## Applying the ecosystem approach to collaborative land use and management in the Pentland Hills Regional Park



## Consultative Forum Site Management Planning Report

June 2017



Collingwood Environmental  
Planning Limited

<b>Project title:</b>	<b>Applying the Ecosystem Approach to collaborative land use and management in the Pentland Hills Regional Park</b>
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**Site Management Planning Technical Annexes: (see separate volume)**

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**Annex 3: Detailed maps of hotspot areas**

**Annex 4: Hotspot management planning: spatial proposals**

## Part 1: Introduction and methodology

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### 1.1 Aims and objectives of the project

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In February 2016, Collingwood Environmental Planning Limited (CEP) was commissioned by Scottish Natural Heritage (SNH) to undertake a project that would support the Pentland Hills Regional Park (PHRP) Joint Committee (JC) and Consultative Forum (CF) to develop a collaborative approach to land use and management in the Park. The purpose, findings and recommendations from this project are written-up in a **Consultative Forum Report** (Phillips *et al.*, 2016) that will shortly be published on the PHRP website<sup>1</sup> via CEP's website<sup>2</sup>.

As a follow-on to this work, SNH commissioned CEP to undertake a small additional project between January and April 2017. The main purpose was to build on the successful 2016 work by validating and refining the findings and recommendations in the **Consultative Forum Report** and undertaking more detailed management planning for two of the key sites ("hotspot" areas) identified in the 2016 work (hence why this report is titled: **Consultative Forum Site Management Planning Report**).

An additional objective (not directly related to the 2016 work) considered the PHRP Upland Path Audit work (Cairngorms Outdoor Access Trust (COAT), 2016) undertaken in 2016 on behalf of the Edinburgh and Lothians Greenspace Trust (ELGT). The full list of objectives addressed in the follow-on work are outlined in Box 1 below.

#### Box 1: Overall project objectives

1. To enable a wider group of Consultative Forum (CF) members to validate the hotspots identified by them that are set out in the CF Report.
2. To enable the CF, and other relevant stakeholders, to discuss and agree spatially explicit land use management proposals for one or two of the identified hotspots.
3. To enable a path prioritisation exercise utilising the Upland Path Audit in liaison with the Edinburgh and Lothians Greenspace Trust (ELGT).
4. To utilise the work carried out by the EU OPERAS<sup>3</sup> project "The Social Value of the Pentland Hills" (Schmidt *et al.*, 2016).
5. To utilise relevant published resources held by the Park Management.
6. To design the further workshop so that it can be replicated again "in-house" by Park Management.

The findings set out in this **Hotspot Management Planning Report** reflect the views and opinions of 16 CF members (or their representatives) who participated in a workshop on 3<sup>rd</sup> March 2017. Further details of the workshop approach and how the participants were selected is provided below. To ensure the validity and comprehensiveness of the findings, however, it was important that the views of the wider CF are incorporated. This was the purpose of a consultation on a DRAFT version of the report that was undertaken in late April 2017.

### 1.2 Overview of the 2016 Pentland Hills Regional Park Consultative Forum Report

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The objectives of the follow-on work that is described in this report are closely linked to the 2016 work. A brief summary of the scope and content of the 2016 **Consultative Forum Report** is set out below to provide readers with an overview of the findings and recommendations therein that informed the follow-on work, as presented in this current report.

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<sup>1</sup> <http://www.pentlandhills.org/>

<sup>2</sup> This is due to constraints with the file size that can be supported on the PHRP website. The reports are currently available on the CEP website (<http://www.cep.co.uk/pentland-hills/>). A mini-page on the PHRP website will be set up in due course providing a summary of the project and links to where the full reports can be downloaded on CEP's website.

<sup>3</sup> <http://operas-project.eu/>

- **Mapping natural environment benefits provided by the Park:** participants at the 2016 CF workshop used large (A0) maps of the Park to identify and map the natural environment benefits (ecosystem services) provided by the Park. These benefits were “digitised” in mapping software and analysed to show where groups of benefits cluster together. Five distinct clusters or “hotspots” of benefits were identified. These hotspots may be priorities for management (e.g. to ensure that important benefits are maintained into the future).
- **Identifying changes in the Park:** participants identified several important historic and potential future changes affecting the Park, such as: changes in type of use(s) or intensity of use(s) in the Park; more people using the Park; public sector cuts; and the changing economic fortunes of farmers and other land managers. All these changes have the potential to affect the Park’s ability to provide benefits in the long-term.
- **Objectives and recommendations for land use management in the Park:** drawing on information about benefits (individual benefits and hotspots) and changes affecting the Park, 8 objectives and 11 recommendations for land use and management were developed. Their purpose is to ensure that the Park’s important benefits can be sustained in the long-term. However, they are general in nature and require further development (e.g. in terms of detail) to make them relevant for specific locations or sites across the Park.

## 1.3 How to use this report

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This report has been designed as a useful and interesting resource for CF Members (“Forum Members”) and to guide officers in revising the current Pentland Hills Regional Park Plan 2007-2017 (Scott Wilson, 2007), that needs to be prepared for another ten years. Written information has been kept to a minimum and is focussed on material that should be of practical use.

The material presented in this report draws on the findings of the 2016 work as per the **Consultative Forum Report** (Phillips *et al.*, 2016). Where relevant, linkages are made between the findings presented in this report of the follow-on work and the 2016 work. These linkages have been highlighted using **bold italicised text**.

An overview of the method used in this project (namely the workshop with Forum Members on 3<sup>rd</sup> March 2017) is provided below. Further information on the approach taken to each individual workshop session is provided in subsequent parts of the report.

A separate **Hotspot Management Technical Annex** has been produced alongside this **Hotspot Management Planning Report**. The annexes include additional detailed maps which are cross-referenced, where relevant, from this report. The remainder of this report is structured as follows:

- **Part 2:** provides an overview of the workshop findings in relation to the hotspot review and validation exercise (workshop session 2). It introduces the five hotspot areas identified in the 2016 work (location and range of benefits provided) and summarises participant feedback on these hotspot locations (e.g. do they cover the right areas; how should hotspots be used for management purposes etc).
- **Part 3:** summarises the workshop results in relation to the Upland Path Audit prioritisation (workshop session 3). An overview of the path audit results is presented followed by a summary of participant feedback on this (e.g. criteria for prioritising path upgrade / restoration works).
- **Part 4:** outlines the results of the management planning exercise undertaken for an upland and lowland hotspot (workshop session 4). This includes an update to the baseline and key issues (e.g. additional benefits, identifying key pressures affecting the site) and development of management recommendations (e.g. land use management objectives for the site). Spatially explicit aspects have been added to an updated map for each hotspot.

- **Part 5:** discusses the results of the management planning exercise (see Part 4), providing an overview of the key issues identified at each hotspot and considering the main similarities and differences between the upland and lowland hotspots.
- **Part 6:** sets out the overall conclusions from the follow-on work.

## 1.4 Methodology used in this project

### Participative workshop with members of the Consultative Forum

The methodology used in the project focussed on a workshop with the Consultative Forum on Friday 3<sup>rd</sup> March 2017. The workshop was designed to address the project objectives (Box 1) across a half day workshop. This is outlined in the workshop agenda in Table 1.1 below.

**Table 1.1: Workshop agenda**

Time	Activity
09:00	Arrival and registration
09:30	Session 1 – Welcome and introductions
09:50	Session 2 – Review, discuss and agree the hotspot areas identified in the 2016 work
10:30	Session 3 – Review and prioritise path upgrade and restoration works
11:15	Coffee
11:35	Session 4 – Developing outline management plans and proposals for two example hotspot areas
12:35	Session 5 – Final plenary on the management planning session and key issues for the Park
13:00	Close and next steps
13:30	Lunch

Workshop sessions 2 and 3 were general in nature (they related to issues covering the whole Park). Session 4, however, was focussed on specific sites, namely two of the hotspot areas identified through the 2016 work: (1) the **lowland** hotspot at Threipmuir Reservoir and Red Moss; and (2) the predominantly **upland** hotspot covering Glencorse, Bell’s Hill and Carnethy Hill. All five of the hotspot areas are introduced further in Part 2 of this report.

The workshop was attended by 16 Forum Members (or their representatives) as set out in Table 1.2 below. Participants were identified on the following basis:

- Land owners or managers (e.g. farmers) with holdings within, overlapping or adjacent to the two hotspot areas considered in the workshop; or
- Cross-cutting Forum Members with specific recreational (e.g. walking) or other sectoral interests (e.g. nature conservation) but not necessarily linked to a specific hotspot.

**Table 1.2: Overview of workshop participants**

**Note:** Participants have been included in all relevant categories (i.e. a landowner / manager in a hotspot may also have a Park-wide remit) hence why there are more than 16 participants listed.

Hotspot 1: Threipmuir Reservoir & Red Moss	Hotspot 2: Glencorse, Bell’s Hill & Carnethy Hill	Cross-cutting participants
<ul style="list-style-type: none"> <li>• Scottish Wildlife Trust (SWT)</li> <li>• City of Edinburgh Council (CEC) Flooding Team</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Defence (MoD)</li> <li>• Scotland’s Rural College (SRUC)</li> <li>• Eastside Farm</li> <li>• Scottish Water</li> </ul>	<ul style="list-style-type: none"> <li>• Carnethy Hill Running Club</li> <li>• City of Edinburgh Council (CEC) Access &amp; Recreation Team</li> <li>• City of Edinburgh Council (CEC) PHRP Management Team</li> <li>• Currie Community Council</li> <li>• Edinburgh and Lothians Greenspace Trust (ELGT)</li> <li>• Friends of the Pentlands</li> <li>• Malleny Anglers</li> </ul>

Hotspot 1: Threipmuir Reservoir & Red Moss	Hotspot 2: Glencorse, Bell's Hill & Carnethy Hill	Cross-cutting participants
		<ul style="list-style-type: none"> <li>• National Farmers Union Scotland (NFUS)</li> <li>• Ramblers Scotland (representative)</li> <li>• Scottish Cycling (representative)</li> <li>• Scottish Water</li> <li>• Scottish Wildlife Trust (SWT)</li> </ul>

Within the time available, it was not possible to secure the participation of every land owner and manager within the two hotspots considered. However, a reasonable sample was present, especially in terms of individuals and organisations with large(r) holdings. Further, several land owners who could not be present provided brief written comments in relation to management issues on / near their holding. These were read out (in anonymised format) to stimulate further discussion. Efforts to secure and maintain representation and interest from all relevant land owners and managers, however, is a key priority for future work, to ensure a high degree of consensus for any management proposals (see Part 6).

The workshop used two main techniques: (1) sessions 2, 3 and 5 presented results and information (e.g. from the 2016 **Consultative Forum Report**) combined with facilitated discussion in plenary; and (2) session 4 involved facilitated discussion in groups using A0 maps of the two hotspot areas considered combined with questions and prompts to identify spatially explicit management issues and proposals (these were marked-up on the maps using pens, post-it notes, sticky-dots etc).

Further details of the specific approach adopted in each session is provided in the relevant parts of this report below. Table 1.3 presents a list of the questions investigated in each workshop session. These are closely linked to the overall objectives for the project (see Box 1).

**Table 1.3: Questions investigated in each workshop session**

Session	Questions investigated
<b>Session 2: Review, discuss and agree hotspot areas</b>	<ul style="list-style-type: none"> <li>• Do the five hotspot areas cover the right areas where different benefits are concentrated? Should any hotspots be added or removed? Are they at the right scale (e.g. should there be more hotspots covering smaller areas)?</li> <li>• Are the range of benefits identified at the hotspots broadly accurate? Should there be more / less / different ones?</li> <li>• What purpose do you see the hotspots providing (e.g. informing land use management planning in the Park, obtaining funding to improve the provision of at-risk services, managing access to sensitive areas etc)?</li> <li>• Do you think that there are any possible risks or problems associated with using hotspots as a management device?</li> </ul>
<b>Session 3: Review and prioritise path upgrade &amp; restoration works</b>	<ul style="list-style-type: none"> <li>• What are your thoughts on the alignment of path audit priorities with hotspot areas? Does this make sense to you? Are there any surprises?</li> <li>• Do you know of other path restoration priorities that have not been identified in the survey?</li> <li>• Given limited funds, on what basis / criteria should path restoration works be prioritised (e.g. most frequently used / under greatest user pressure, worst condition, upland vs lowland etc)?</li> </ul>
<b>Session 4: Developing outline management plans and proposals for hotspot areas</b>	<p><b>Session 4(a): Updating the baseline and key issues at a hotspot</b></p> <ul style="list-style-type: none"> <li>• Are the range and location of benefits mapped across this hotspot broadly accurate? Should there be more / less / different ones?</li> <li>• Looking at the user survey locations, is the density of recreational use across the hotspot broadly what you would expect? Are there other sites / locations of recreational pressure that need to be accounted for?</li> <li>• From the list at Table 7 / Diagram 5 in the <b>Consultative Forum Report</b>, what pressures and impacts might affect this site? Are there any other important issues to consider (e.g. climate change)? How might the identified benefits be affected and where?</li> </ul> <p><b>Session 4(b): Management planning to address the key issues identified at a hotspot</b></p>

Session	Questions investigated
	<ul style="list-style-type: none"> <li>• Review the objectives for land use management in the Park identified in the <b>Consultative Forum Report</b> (Table 8). Which of these might be relevant for this hotspot? Are there any other objectives that should be considered?</li> <li>• Thinking about the pressures / impacts identified in the baseline setting, what could be done to address / mitigate these? What could be done to protect and enhance the benefits already provided by the site? What practical actions could be taken (e.g. additional survey work to understand the issues better, awareness-raising / signage, habitat creation, habitat management etc) and where?</li> <li>• Review the recommendations for land use management in the Park identified in the <b>Consultative Forum Report</b> (Table 8). Which of these might be relevant for this hotspot? Is it possible to identify specific sites / locations across the hotspot where these recommendations could / should be delivered?</li> </ul>
<p><b>Session 5: Final plenary on the management planning and key issues for the Park</b></p>	<ul style="list-style-type: none"> <li>• What are the main similarities / differences between the two groups (upland vs lowland)? Are there any surprises?</li> <li>• Thinking about what’s been discussed today, is there anything that you feel is really important to account for in managing the Park?</li> <li>• Might any of the management proposals suggested for the hotspots have knock-on impacts for other parts of the Park?</li> <li>• Are there any important criteria that should be used to inform management decisions? To what degree is there agreement on these criteria?</li> </ul>

### Consultation on the DRAFT Hotspot Management Planning Report

A short consultation on a draft version of this report was undertaken to gather feedback on the results from the workshop participants and other Forum Members who may not have been able to be present. The questions addressed in the workshop (detailed in Table 1.3 above) provided a focus for consultation responses; i.e. consultees could address their response to some or all of the questions in Table 1.3, drawing on the material presented in the draft report and their own knowledge of the issues in the Park. A summary of the consultation responses and how they have been accounted for in the finalised reports is provided in **Annex 2**.



## Part 2: Review and validation of hotspot areas

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This part of the report relates to **Workshop Session No.2: Review, discuss and agree hotspot areas identified in the 2016 work** (see Table 1.1). The session involved a presentation followed by facilitated discussion in plenary. The sub-sections below cover each of the main questions addressed in the plenary (see Table 1.3).

The presentation used in this session provided an outline of each of the five hotspots identified in the 2016 **Consultative Forum Report**. This included information on the hotspot's location and extent, the range of benefits provided (as mapped by Forum Members in the May 2016 workshop) and the existing assets in and adjacent to the hotspot area (e.g. natural, infrastructure, recreational).

Overview maps of the five hotspots are provided at Figures 2.1 and 2.2 below. More detailed maps of each individual hotspot are provided in **Annex 3**. Readers should note that the hotspot "boundaries" shown on these maps are arbitrary; they simply show areas of land with a high density of benefits (as mapped by participants at the May 2016 workshop) that may therefore be important for management purposes (Figure 2.2 shows how the results of the benefits density analysis were used to identify the hotspots). An explanation of the benefits provided at each hotspot (including key themes and trends) is provided in the **Technical Annex to the Consultative Forum Report**.

### 2.1 Do the hotspots cover the right areas?

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The full range of questions / sub-questions considered in this aspect of the plenary are outlined in Table 1.3 above. Several themes were evident in the conversation:

- **Hotspots cover large areas:** an initial comment and discussion between several participants related to the size of the hotspot areas: *"first impression, I feel like your hotspots are covering a lot of ground"*. As shown on Figure 2.1, the hotspots are all at least circa 2km<sup>2</sup> in area and some are much larger (e.g. hotspots 1 and 2). Although not discussed explicitly, such large areas could be challenging where the hotspots are to be used for management purposes; e.g. given available resources it may not be possible to implement a desired management regime(s) across the whole hotspot and / or it may be preferable to break the hotspot down into smaller areas for management purposes.
- **Recreational hotspots vs. multiple benefit hotspots:** there seemed to be a tacit understanding that the hotspot areas discussed in this session are hotspots of **recreational** activity. However, the hotspots shown on Figure 2.1 and discussed here are actually hotspots for **multiple benefits**; i.e. they are all important for recreation along with a range of other cultural, provisioning and regulating services (see **Annex 3**). Recreation is a big issue for the Pentlands and the Consultative Forum in terms of the various positive effects it provides (e.g. health, enjoyment, revenue) but also the pressure it places on the Park's natural assets, path infrastructure and farming community. Related to the recreation issue, there was some discussion about the growth of formal events in the Park (e.g. large scale sporting events) linked to concerns about poor infrastructure provision to support this: *"there is a demand [but] we can't cater for large events, the infrastructure is not set up for this"*. This also relates to discussions about additional hotspot areas at Park "entry points".
- **The need for additional hotspot areas:** there was quite a lot of discussion about the need to acknowledge and address additional hotspot areas located at Park entry-points: *"the main entry-points are the hotspots as far as I'm concerned"*. These are the areas where **recreational users** access the Park, often after travelling there by private car (e.g. Flotterstone Information Centre, Harlaw House Visitor Centre, Harperrig Reservoir<sup>4</sup>). It was

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<sup>4</sup> [http://www.edinburgh.gov.uk/pentlandhills/downloads/file/75/discover\\_the\\_pentland\\_hills\\_regional\\_park](http://www.edinburgh.gov.uk/pentlandhills/downloads/file/75/discover_the_pentland_hills_regional_park)

also noted that these entry-point recreational hotspots are where recreational impacts are concentrated (e.g. dog fouling, littering, erosion); impacts diminish further up the paths and into the Park proper. This is directly related to the conflation of recreational activity and multiple benefit hotspots outlined above. Accordingly, as well as the five **multiple benefit** hotspots shown on Figure 2.1, it may make sense to consider Park entry-point **recreational** hotspots as well. In reality, Park management does this already (these are referred to as “honeypot” sites) so the change required may actually be more about integrating the management of both kinds of hotspot (see below). It was also suggested that there may be some additional entry-point **recreational** hotspots to consider to the south of the Park near to Nine Mile Burn and the A702 corridor: “*are we missing anything around Nine Mile Burn, laybys etc that are heavily used?*”.

- **Hot-routes as well as hotspots, signage and interpretation:** there was some limited discussion of “hot-routes” (as well as hotspots) which are heavily used paths linking **recreational** and **multiple benefit** hotspots with other areas. The prioritisation of path upgrade and restoration works is discussed in Part 3 below. However, as part of hotspot management, there could be scope to provide improved signage / advice to encourage responsible use of paths and hotspot areas (this links to Recommendation No.9 in the **Consultative Forum Report on developing guidance on sustainable access and recreation**). For example, advising on the type of use(s) that might not be appropriate for a given path in wet weather conditions. Similarly, it was suggested that interpretation boards could be useful at **multiple benefit** hotspots to provide information to members of the public about why these areas of land are important and valued (i.e. for the range of benefits provided). Conversely, there were some concerns that “publicising” the hotspots could result in increased visitor pressure: “*are you going to make them even hotter by publishing them?!*”.

## 2.2 Are the range of benefits identified accurate?

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The full range of questions / sub-questions considered in this aspect of the plenary are outlined in Table 1.3 above. This part of the plenary did not prompt too much debate.

An inaccuracy with the underlying land cover map was identified in relation to Hotspot No.1: Threipmuir Reservoir and Red Moss (Figure 2.1). The large area of coniferous woodland shown on the northern and north-eastern slopes of Black Hill (see **Annex 3** Figure A3-1) does not exist: “[*the large bit of forestry*] is not there – it’s hard rocky ground, trees wouldn’t grow there”.

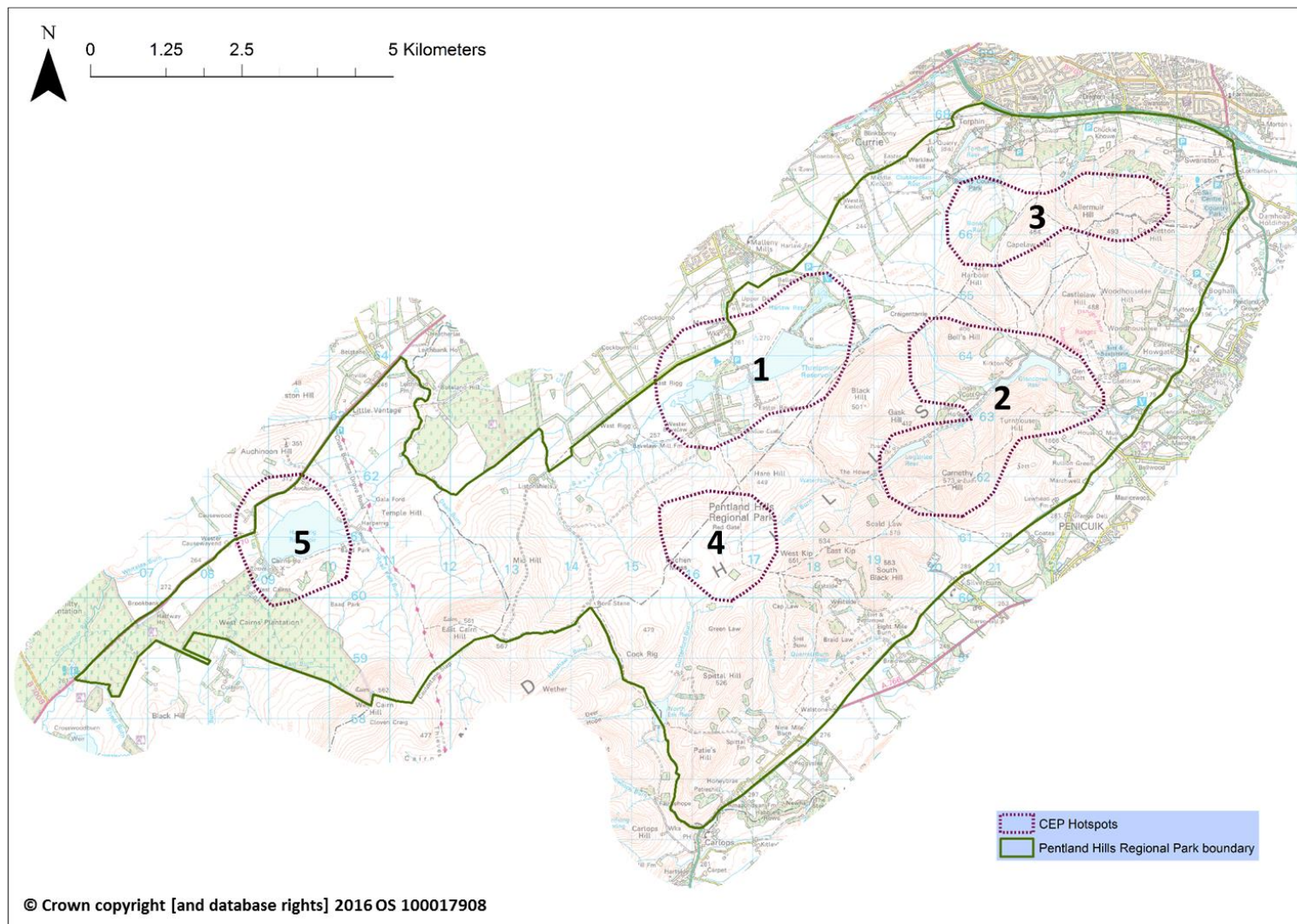
There was some discussion about the benefits provided at Hotspot No.4: Kitchen Moss (Figure 2.1). This hotspot has been identified as important for regulating services (water purification, carbon storage and flood storage – see **Annex 3** Figure A3-4) but is less important for cultural services. The “*relatively popular*” path running through the centre of the hotspot was highlighted as was its regular usage by hill runners. However, west of this path, it was agreed that recreational and other cultural uses are limited, as indicated by the benefits mapping in the **Consultative Forum Report**.

## 2.3 What purpose / function should the hotspots provide?

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The full range of questions / sub-questions considered in this aspect of the plenary are outlined in Table 1.3 above. Several suggestions were made as follows:

- **Water management:** it was identified that all five hotspot areas are important for water management as they coincide with drinking water catchments. Accordingly, they are “*high risk areas from a water perspective...but also high opportunity*”. Land use and management in the hotspots can negatively affect drinking water quality (e.g. any change that results in increased soil erosion and sedimentation of watercourses and reservoirs) but it can also be positive (e.g. by helping to manage erosion, better control of agri-chemical inputs).



**Figure 2.1: Hotspot areas identified in the 2016 Consultative Forum Report**

**Note:** Hotspot No.1 = Threipmuir Reservoir and Red Moss; Hotspot No.2 = Glencorse, Bell's Hill and Carnethy Hill; Hotspot No.3 = Capelaw and Caerketton Hill; Hotspot No.4 = Kitchen Moss; and Hotspot No.5 = Harperrig Reservoir.

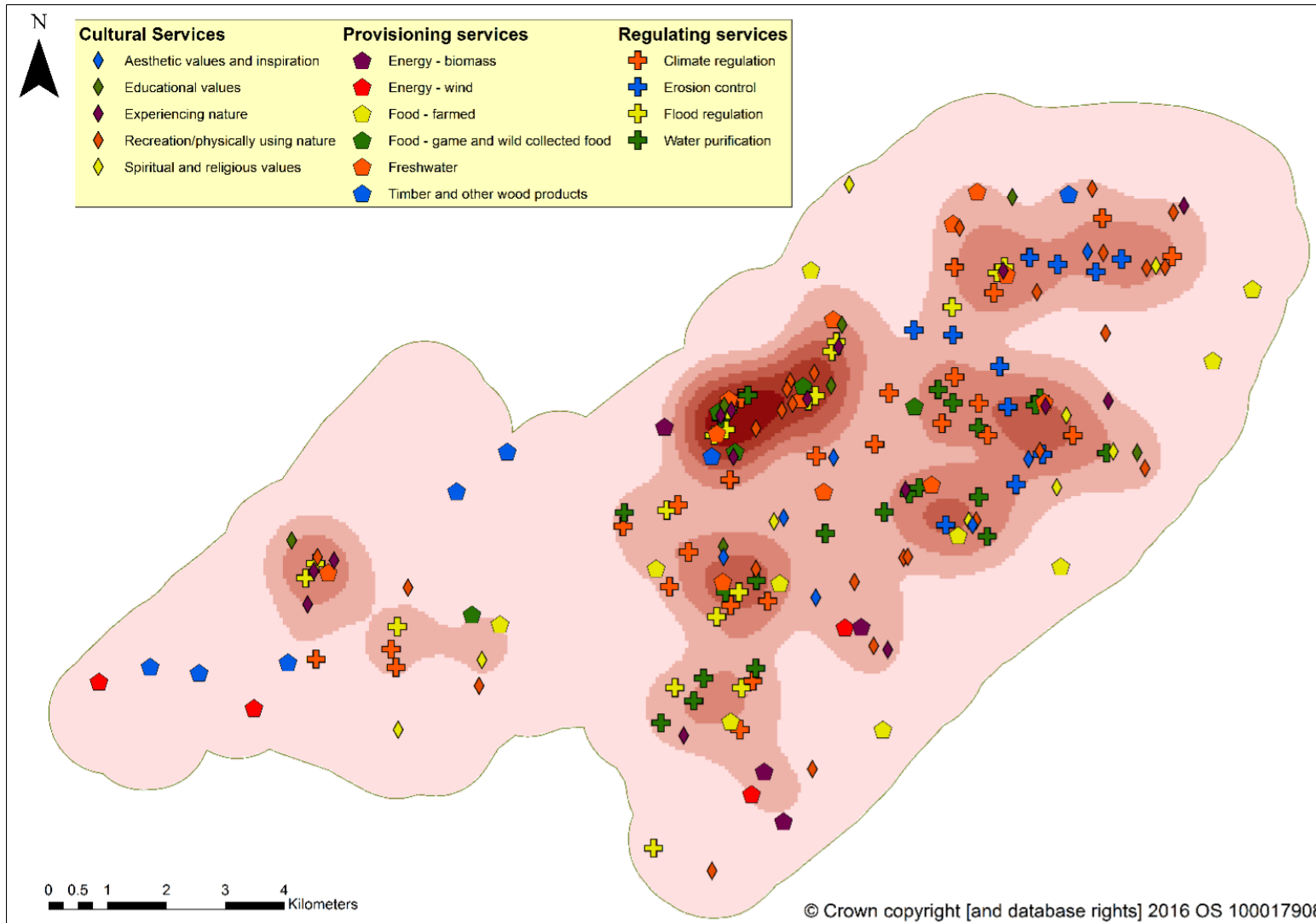


Figure 2.2: Density analysis of natural environment benefits mapped by CF participants in the May 2016 workshop

- **Understanding existing management:** the hotspots provide a useful focus for identifying and understanding existing management. This was considered useful for several reasons: (1) understanding what management happens already and whether it is appropriate – e.g. given constraints such as drinking water quality; (2) engaging with landowners on existing and possible future management; (3) evaluating the success of existing management; and (4) to help secure funding for projects and management going forward.
- **Merging hotspot areas:** it was suggested that some hotspot areas could be “merged together where there are strong linkages”. This would perhaps provide a more coherent approach by bringing the management of hotspot areas and their adjoining “hot-routes” (see above) under the same umbrella.

## 2.4 Are there any risks associated with the hotspots?

As well as the more positive aspects outlined above, there was also concern that the use of hotspots as a management tool could “come at the expense of managing for other areas as well”. Breaking the Park up into hotspot areas could imply that other areas are somehow less important (e.g. they are seen as “coldspots” and therefore valued less). A couple of possible strategies were discussed in relation to this:

1. Hotspots can be used as a management tool for one “planning cycle” – e.g. the five hotspots shown on Figure 2.1 could be a focus for the next Park Plan, following which a refresh of the benefits and hotspot analysis could identify new hotspots for the Park Plan after that; and
2. In relation to recreation and some other cultural services (e.g. experiencing nature), there may be scope to divert some activity away from existing **recreational** hotspots to coldspots. This could potentially alleviate pressure on the hotspot areas while increasing use (sustainably) in coldspot areas. This type of approach would require sensitive management linked to Recommendation No.9 in the **Consultative Forum Report** on **developing guidance on sustainable access and recreation**.

It was also suggested that as long as “[the hotspots] inform wider management, there is really no threat in having more detailed information about clusters of benefits”. At this stage, it is not entirely clear how the hotspots could “inform wider management” but this could, for example, include good-practice case studies or replicating proven management from the hotspots in other relevant contexts (e.g. parts of the Park with similar environmental issues and constraints).

Finally, the validity of Kitchen Moss as a hotspot was queried: “the one hotspot that worries me is Kitchen Moss – it seems artificial”. As discussed above (section 2.2), Kitchen Moss has been identified primarily as a hotspot for regulating services. Accordingly, it is not really a **multiple benefits** hotspot in the way that the other four are (see **Annex 3** Figure A3-4) and the management for this site may be relatively straightforward (e.g. maintaining appropriate stocking densities / grazing, minimising erosion, potentially re-wetting some areas where required). Therefore, it may be appropriate to remove this hotspot from further consideration.

## Part 3: Review and prioritisation of upland path works

This part of the report relates to **Workshop Session No.3: Review and prioritise path upgrade and restoration works** (see Table 1.1). The session involved a presentation followed by facilitated discussion in plenary. The sub-sections below cover each of the main questions addressed in the plenary (see Table 1.3).

The presentation used in this session began with an overview of the Pentland Hills Regional Park Upland Path Audit (COAT, 2016) provided by Dougie Baird from the Cairngorms Outdoor Access Trust (COAT). This explained: the purpose and objectives of the audit; how the audit was undertaken; the method used to prioritise path upgrade and restoration works; and the types of intervention that could be used to upgrade and restore upland paths in the Park. Following Dougie's comments, an overview of the path audit results was provided along with an analysis of path priorities against **recreational** hotspot areas. A summary of this analysis is provided at section 3.1.

### 3.1 Alignment of upland path audit priorities with hotspot areas

The Upland Path Audit surveyed 30 paths in the Park equating to circa 70km of path. The survey used a nationally applicable method that does not account for local context. Each path surveyed was split into several sections which were inspected visually. Each section was given a priority score which informed an overall score for the path as a whole. Priorities relate to the relative need for intervention to improve path condition, based on visual inspection at the time of the survey. The method does not account for the type or intensity of usage of a given path. Five priority scores are used in the method: a score of (1) is the highest priority (most need for intervention); and a score of (5) the lowest (no intervention required). No priority (1) or (2) paths were identified in the Park, reflecting the nationally applicable nature of the method (e.g. a priority (1) path might be a path in very poor condition through heavy use in one of Scotland's two National Parks).

A map showing the results of the survey is provided on Figure 3.1 overleaf. An overview of key data from the survey is provided at Table 3.1 below. The results show how the greatest percentage of paths surveyed are in the worst condition category applicable to the Park (highest priority *or* P3). Also, Figure 3.1 shows how the high priority (P3) paths tend to be in the more upland areas (e.g. paths along the ridgelines, paths bisecting the Park) whereas low priority paths (P5) tend to be located in the lower lying peripheral areas of the Park.

**Table 3.1: Overview of results from the Pentland Hills Regional Park Upland Path Audit**

Source: COAT (2016)

Priority score	Number of paths	Length of paths (km)	Percentage of paths surveyed (%)
<b>Priority 3 – worst condition surveyed</b>	<b>13</b>	<b>30</b>	<b>43.2</b>
<b>Priority 4 – medium condition surveyed</b>	<b>9</b>	<b>26</b>	<b>37.3</b>
<b>Priority 5 – best condition surveyed</b>	<b>8</b>	<b>14</b>	<b>20.1</b>

Figure 3.2 below shows the path audit results overlaid with **recreational** hotspots and user identified points of interest. The recreational hotspots shown on this Figure were derived by analysing the density of the user points, using the same method as the **multiple benefits** hotspots in the 2016 **Consultative Forum Report** (see section 1.2 and Part 2 above). The user identified points of interest were taken from the EU OPERAs project (see Box 1) which undertook a large-scale survey of Park users including a question that asked users to plot points on a map showing “*up to three places that they personally benefit from in the Park*” (Schmidt *et al.*, 2016). The hotspots and user identified points shown on Figure 3.2 can therefore be used as **proxies** of recreational pressure in the Park.

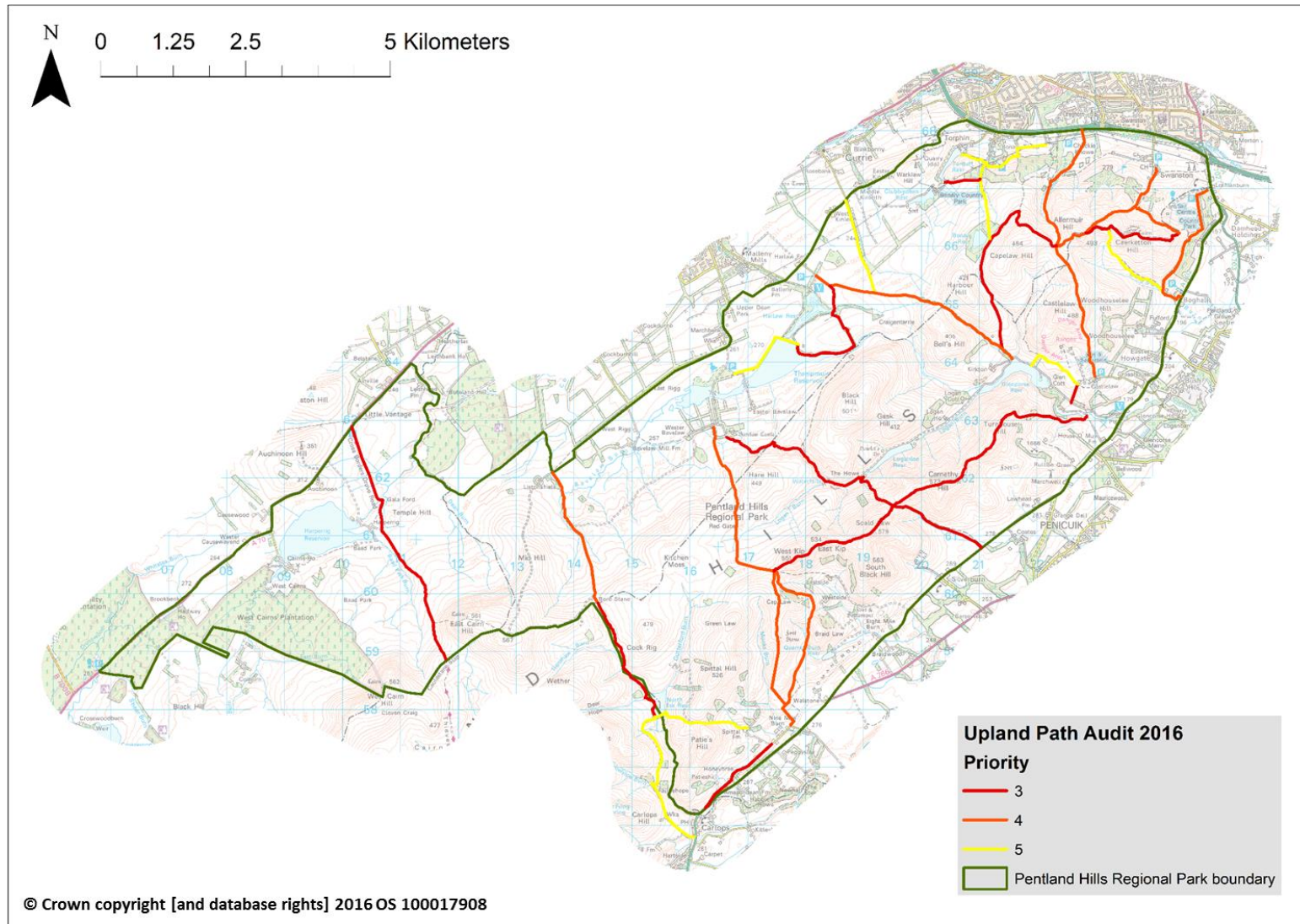
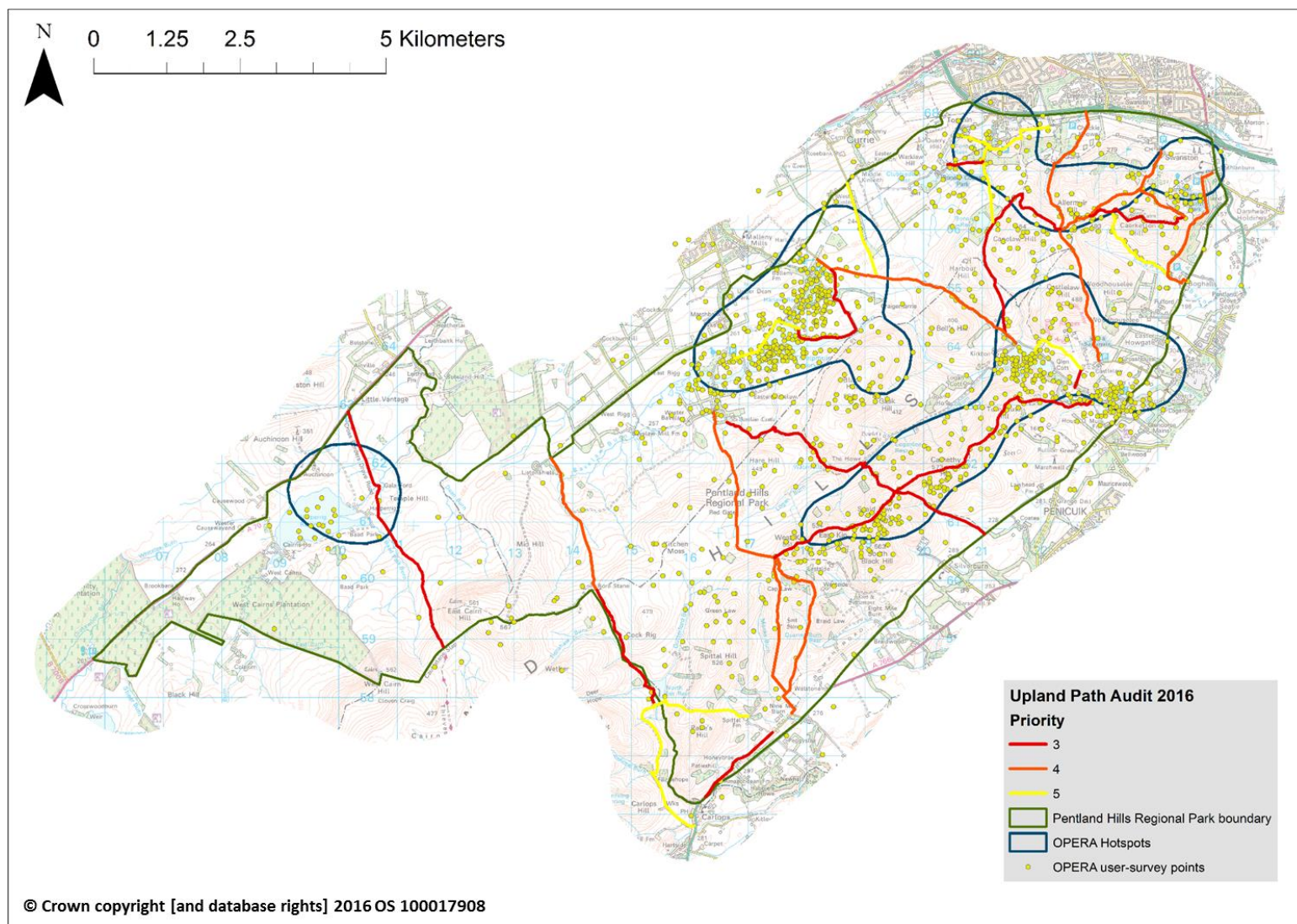


Figure 3.1: Overview of results from the Pentland Hills Regional Park Upland Path Audit 2016

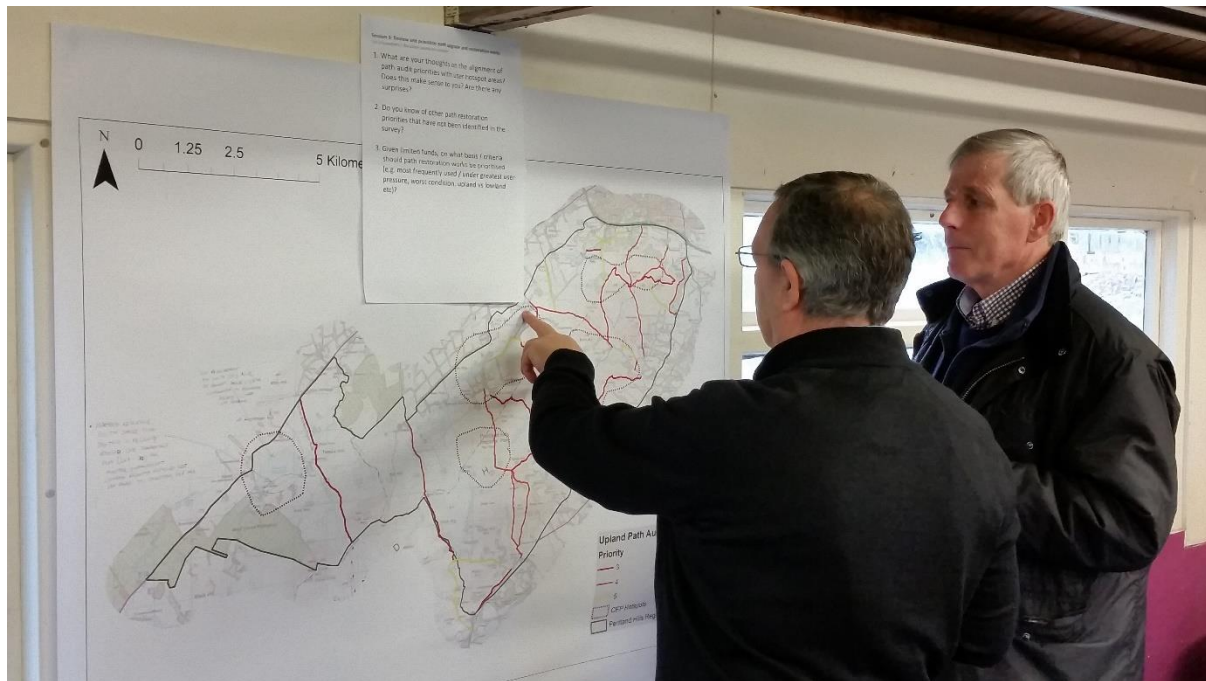


**Figure 3.2: Pentland Hills Regional Park Upland Path Audit results with user identified points of interest and recreational hotspots**

**Note:** The OPERAs user-survey points and hotspots (Schmidt *et al.*, 2016) shown on the map above are used as proxies of recreational pressure.



Figure 3.2 above shows how there is a clustering of user identified points of interest along several of the high priority (P3) paths in upland areas. For example, the route from Flotterstone over Carnethy Hill and Scald Law and the route bisecting the Park from the A702 in the east to Bavelaw Castle in the west via The Howe. Given the potential for high levels of recreational pressure, as indicated by the user identified points, it is reasonable that these paths have been assessed as high priority (P3).



**Figure 3.3: Workshop participants discussing path upgrade priorities**

However, Figure 3.1 also shows clustering of user identified points of interest around several of the low priority (P5) routes in the Park's lower lying peripheral areas. Good examples are the route from Glencorse Reservoir to Castlelaw Farm in the east and routes around Threipmuir Reservoir in the west. The potential for high levels of recreational pressure on these routes would suggest that the paths might be in poor condition, however, the path audit results show otherwise. Possible reasons for this include: (1) the paths are designed for more intense usage; and (2) the lowland nature of these paths means that they are more accessible for maintenance and upgrade works.

The analysis outlined above suggests that there is not a direct relationship between user intensity (recreational pressure) and poor condition of paths. Indeed, less than half (47.3%) of high priority (P3) paths are located within **recreational** hotspots (see Figure 3.2). This is perhaps related to the accessibility of paths located in the Park's lower lying peripheral areas which may be under high levels of recreational pressure but can be maintained more easily.

### 3.2 Additional path upgrade / restoration priorities

The full range of questions / sub-questions considered in this aspect of the plenary are outlined in Table 1.3 above. The conversation here focussed primarily on: (1) user specific issues; (2) identifying additional paths not covered in the COAT audit; and (3) increases in the scale and frequency of large scale events and associated impacts on paths.

- **User-specific path issues:** the potential benefits of a user-specific approach were highlighted early-on in this session: *“what would be useful is to explore usage of paths by user groups – design of restoration should depend on predicted users”*. This is arguably a sensible approach as path upgrade and restoration works can be designed with specific uses and users in mind. This could potentially reduce costs by ensuring that paths are fit-

for-purpose and not “over-designed” (i.e. where paths are designed to accommodate all possible uses). However, there is also a need to ensure a degree of flexibility to accommodate potential future uses. Also, this type of approach requires a clear and robust understanding of usage patterns across all paths in the Park. This information is not available at present though suggestions were made for some uses / paths. For example, paths in the Park that are more / less suitable for mountain bikers (e.g. Glencorse) and possible mitigation measures that can be used (e.g. designing drainage such that paths remain rideable). The use of this information supporting the prospective Heritage Lottery Fund (HLF) bid<sup>5</sup> for path works in the Park was also discussed: “*more information would be useful of course leading to better design and understanding of costs*”. Following on from this discussion, participants tended to agree that collecting more information on path network usage across the Park would be a useful exercise, for various reasons.

- **Additional paths not covered in the COAT audit:** the issue of there being other paths in the Park that are in bad condition / heavily used that were not covered in the audit was raised. An example given was the path skirting the western flank of Black Hill (close to Hotspot 1). The prospective HLF bid and the suggested information gathering exercise outlined above (path network usage) were highlighted as opportunities to help address this knowledge gap. Certainly, incorporating other high priority paths (in terms of their condition, usage or both) with the HLF bid was considered to be a reasonable suggestion (e.g. through further research as part of a “stage one” bid to HLF).
- **Large scale events and impacts on paths:** the path network impact of large scale events taking place in the Park was highlighted and the tension between public / volunteer investment in path infrastructure and private gain: “*some poorer tracks are popular with events...constant battle of public money going into tracks for [the benefit of] individual users and organised events*”. Running and horse riding events (with e.g. 500 participants) taking place in poor weather was mentioned as a specific issue that can “*undo the good work of volunteers*”. The Park’s events policy<sup>6</sup> and the possibility of events generating funds for path upkeep were discussed as mitigating factors but concerns remained. Thinking specifically about the questions addressed in this session (Table 1.3) and the implications for path audit prioritisation, large scale events can be considered as another user-specific path issue, as per the discussion above. The design of path upgrade and restoration works will (ideally) need to account for the routes and impacts associated with current / regular large scale events in the Park, as well as possible future events.

### 3.3 Criteria for prioritising path upgrade priorities

The full range of questions / sub-questions considered in this aspect of the plenary are outlined in Table 1.3 above. The main aim of this discussion was to identify (where possible) agreed criteria that could be used to prioritise path upgrade and restoration works.

There appeared to be a good degree of consensus that **upland paths** could be an overall priority, especially the “iconic paths” that the Park is renowned for such as the path up Scald Law from Flotterstone. This seems reasonable given the importance of these paths for recreational users and tourists and also their often poorer condition (see section 3.1 and Figure 3.1).

Other possible criteria and specific paths for prioritisation included:

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<sup>5</sup> Key agencies involved in the PHRP Management Group have had initial discussions with HLF regarding a prospective bid for path works and related activities (training, volunteering etc) in the Park. Steven Webley (Forestry and Natural Heritage Manager at City of Edinburgh Council) gave an overview of these early discussions and the potential opportunities during session 1 of the workshop (see Table 1.1).

<sup>6</sup> [http://www.pentlandhills.org/pentlandhills/downloads/download/67/pentland\\_hills\\_regional\\_park\\_events\\_policy\\_and\\_booking\\_form](http://www.pentlandhills.org/pentlandhills/downloads/download/67/pentland_hills_regional_park_events_policy_and_booking_form)

- Using Strava<sup>7</sup> data on a busy weekend to get an idea of which paths are being used intensively by mountain bikers (this also presumably applies to hill runners and potentially walkers too). This also links to the issue discussed at section 3.2 above on user-specific path usage information (i.e. Strava could be a useful information source);
- The path up Maiden's Cleugh (located in Hotspot 2) was identified as a specific problem;
- Focussing on areas of intensive recreational usage (e.g. **recreational** hotspots – see Figure 3.2), including lowland areas, was suggested as an initial approach, even if surveys show that high usage lowland paths are in good condition (see section 3.1);
- Using path upgrade and restoration works as a means of diverting recreational pressure away from hotspot areas was also discussed (e.g. restoring underutilised paths to increase their attractiveness to users). Public transport and car park provision was seen as an important aspect of this; and
- Ensuring that investment in path infrastructure (upgrade, restoration) is sustainable in terms of required ongoing maintenance levels.

It is important to note also that any path upgrade works will require landowner consent; it cannot be assumed that landowners would automatically want the upgrade, were it offered (i.e. if funding was available). This could be the case, for example, in sensitive areas that are managed for grouse and where additional footfall due to improved path infrastructure may not be desirable. This highlights the importance of landowner engagement as a part of any plans or proposals for path upgrade in the Pentlands.

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<sup>7</sup> Strava is a popular running and cycling tracking app / social network: <https://www.strava.com/>

## Part 4: Management planning for hotspot areas

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This part of the report relates to **Workshop Session No.4: Developing outline management plans and proposals for two example hotspot areas** (see Table 1.1). In this session, Forum Members were split up into two groups, one for each of the example hotspots considered: Hotspot No.1 Threipmuir Reservoir and Red Moss, a predominantly **lowland** hotspot; and Hotspot No.2 Glencorse, Bell's Hill and Carnethy Hill, a predominantly **upland** hotspot (see Figure 2.1 and **Annex 3**). Each group had a large (A0) map of the hotspot area and its immediate surrounds showing the following information:

1. Aerial photography;
2. Natural environment benefits mapped at the May 2016 workshop (Figure 2.2, **Annex 3**);
3. User identified points of interest from the EU OPERAs project (section 3.1, Figure 3.2); and
4. Information on key natural, recreational and cultural assets (e.g. carbon rich soils, paths, areas of pasture / grazing land).

The two groups were facilitated by a member of the PHRP Management Group. The groups went through a series of questions split into two parts: (1) updating the baseline and key issues at a hotspot; and (2) management planning to address the key issues identified. There was an opportunity to mark-up the large hotspot maps to identify additional features, outline management proposals etc.

For each hotspot, the sub-sections below cover each of the main questions addressed in the baseline setting and management planning aspects of this session (see Table 1.3). Where relevant, **Annex 4** sets out spatially explicit proposals that were made during the discussion.

### 4.1 Lowland site: Threipmuir Reservoir and Red Moss

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#### Updating the baseline and key issues

Figure 4.1 shows a photo of the marked-up A0 map of Hotspot No.1 used in the workshop. **Annex 4** Figure A4-1 translates the spatial aspects from the discussion below into an outline management plan for the hotspot.

#### *Are the range and location of benefits mapped across the hotspot broadly accurate?*

This question prompted some clarification points and limited discussion in relation to the underlying natural assets that provide the natural environment benefits in the hotspot:

- The area of woodland shown on the northern flank of Black Hill was queried again (see section 2.2). This doesn't exist and the land is unlikely to be suitable for tree planting (see **Point A** on Figure A4-1 in **Annex 4**).
- The exact function / benefit of the ecosystem service **climate regulation** was queried. This was clarified as land use and management that helps to store carbon and mitigate climate change (e.g. carbon rich peat soils). This is clarified further in the **Technical Annex to the Consultative Forum Report**.
- The need to recognise the importance of geodiversity and biodiversity in the hotspot was highlighted; e.g. in relation to the Site of Special Scientific Interest (SSSI) at *Balerno Common*<sup>8</sup> (see **Point B** on Figure A4-1 in **Annex 4**) and the wildlife corridor provided by *Green Cleugh* linking to *The Howe* (see **Point C** on Figure A4-1 in **Annex 4**).

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<sup>8</sup> [https://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa\\_code=120](https://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=120)

- Shooting of game linked to the ecosystem service **food – game and wild collected food** (see **Technical Annex to the Consultative Forum Report**) is seen to be a benefit across the whole of the hotspot and not just the higher ground.



Figure 4.1: Hotspot No.1 – photo of marked-up A0 map from the workshop

***Is the density of recreational use across the hotspot what you would expect?***

The user identified points of interest from the EU OPERAs project were used as a proxy for recreational use / pressure (see section 3.1). It was noted that the way in which this data was collected means that the accuracy of the points at this scale (i.e. hotspot specific rather than across the whole Park) is limited (hence why there are a lot of points located *in* Threipmuir Reservoir).

Given the popularity of this hotspot for various forms of recreation, it was felt that the user identified points of interest could be aggregated into a “blanket” layer covering the whole hotspot.

Participants agreed that the high density of usage at the reservoir and along the paths makes sense. However, two specific clarification points were also made:

- For the path running up *Green Cleugh* linking to *The Howe*, it was suggested that a higher density of usage can be expected than that shown by the OPERAs user points (see **Point D** on Figure A4-1 in **Annex 4**). However, this path was indicated as a “high demand” path in the OPERAs user survey (see Figure A4-1 **Annex 4**).
- The path running along the lower reaches of the western flank of *Black Hill* was identified as being relatively popular and in poor condition (see **Point E** on Figure A4-1 in **Annex 4**). This path was not covered in the Upland Path Audit (see Part 3 and Figure 3.1 above) and the OPERAs user identified points do not suggest particularly high levels of usage.

### ***What pressures and impacts might affect the site?***

Participants were asked to consider which (if any) of the ten key changes / pressures affecting the Park identified in the **Consultative Forum Report** might be relevant for the hotspot. Most of the issues identified relate to the impact of **large numbers of people** using the Park in this area combined with a drop in maintenance levels (perhaps linked to **public sector cuts** and reduction in e.g. ranger numbers) and **changes in the use / intensity of use**. Specific points are outlined below:

- **Large numbers of people:** a general increase in the number of people using the hotspot for recreation is causing various problems. Specific issues raised include an increase in commercial dog walking in the area and problems with car park capacity and subsequent overspill onto the access road (see **Point F** on Figure A4-1 in **Annex 4**).
- **Antisocial behaviour:** specific issues were highlighted in relation to antisocial behaviour including wild camping / use of camper vans for overnight camping, drinking, damage to trees, setting fires, littering and taking stones from dykes, all of which is ostensibly exacerbated by social media. It was highlighted that wild camping is not a problem *per se* but when accompanied by antisocial behaviour it can lead to problems: *“there are few people who know how to use the countryside”*. A response to the consultation also identified issues with rural crime including fish poaching, fly-tipping and livestock theft.
- **Changes in use / intensity of use:** use of new technology and smartphones is changing the intensity of use. The popularity of certain routes is being raised by social media (e.g. Facebook) and publicised on route mapping apps (e.g. Strava). No specific routes were mentioned however. An apparent increase in open water swimming on the reservoir could cause conflicts with anglers (see **Point G** on Figure A4-1 in **Annex 4**). There are also issues with use of drones in the area which may be disturbing livestock and wildlife more generally.

### **Management planning to address the key issues**

#### ***Which land use management objectives are relevant?***

The discussion of land use management objectives for Hotspot No.1 focussed on aspects relating to **more effective management of people** using the area, including the **promotion of safe recreational use**. This is closely related to the issues discussed in the baseline setting exercise outlined above.

Within this, there was a focus on education and promoting behaviour change, including via school visits to farms: *“farmers want to educate kids on farming and country life”*. This was seen as an important way of promoting longer term care of the countryside.

There was some discussion about the wording of any objective for people and recreation management. In particular, concern was expressed about **promoting usage** which may result in even more people using the hotspot and more of the impacts / issues outlined above. An objective to **promote sustainable management and usage** was seen as more appropriate (i.e. a framing that recognises the capacity / limits of the area in terms of increased user pressure).

#### ***How can the pressures / impacts identified in the baseline be mitigated?***

Several measures were proposed, principally in relation to the impact of **large numbers of people** using the hotspot and issues with **changes in use / intensity of use**:

- Having better data on usage (e.g. via more / better surveys and visitor counts).
- Promoting responsible use via various means, including:
  - Having more rangers on the ground (recognising that issues with **public sector cuts** will make this challenging);
  - Education and awareness-raising, particularly for new users (e.g. associated with new housing / new populations in the area). This could be via rangers or new

interpretation boards (though this “*can clutter up the local landscape*”). The use of good concise signage, especially in and around the car parks, was highlighted in a response to the consultation as an effective means of managing members of the public in the Park. This was seen to be particularly important in terms of dogs / responsible dog ownership, including in relation to on-farm biosecurity issues (e.g. dogs as vectors for tapeworm and *Neospora caninum*<sup>9</sup>) and disruption of wildlife (especially ground nesting birds)<sup>10</sup>. It was noted, however, that good signage should inform and educate as well as direct;

- Films for schools (e.g. YouTube). It was noted that the SNH access films / adverts used for TV are good; and
- Use of apps and other digital innovations. The importance of using social media (Twitter, Facebook and Instagram) more effectively was highlighted in a response to the consultation as a “*missed opportunity*”. This was seen as an important means of highlighting seasonal issues (e.g. lambing, ground nesting birds) and providing up-to-date advice. Indeed, this formed an important aspect of Recommendation No.9 in the 2016 Consultative Forum Report (Phillips *et al.*, 2016).
- Focussing educational and awareness-raising efforts on sites requiring most intervention (e.g. where antisocial behaviour / irresponsible use is likely to be more of an issue). It was suggested that this is likely to be around car parks as “*those travelling further into the Park are more likely to be responsible*”.

### **Recommendations for land use management in Hotspot No.1**

Participants were asked to think about which recommendations from the **Consultative Forum Report** might be relevant for this hotspot and how these general recommendations might be made more specific for the issues identified (see Figure A4-2 **Annex 4**). The proposed recommendations covered a range of the topics from the **Consultative Forum Report**:

- Formalise and upgrade the link path running along the western lower flanks of Black Hill (see **Point H** on Figure A4-1 in **Annex 4**).
- Development of a suitable off-road path linking Balerno to Threipmuir Reservoir (see **Point I** on Figure A4-1 in **Annex 4**).
- Biomass development (i.e. short rotation coppicing of suitable species) and the expansion of native broadleaved woodland was seen to be a useful objective / intervention for this hotspot, as long as projects were sited appropriately. No specific sites were identified.
- Enhancing disabled access was discussed where it could be reasonably provided (e.g. for disabled anglers at Harlaw Reservoir). However, it was noted that this might also increase car park usage. Methods, techniques and costs would need to be considered carefully (see **Point J** on Figure A4-1 in **Annex 4**).
- The importance of measures to protect wilder areas in the hotspot were discussed: “*usage by the public is my greatest fear for these areas*”. This includes sites such as the *Green Cleugh* and other areas that are important in terms of landscape and biodiversity (see **Point K** on Figure A4-1 in **Annex 4**).

For all proposed path works (see Figure A4-1 **Annex 4**), it was noted that path maintenance also needs to be considered (i.e. the sustainability of any new paths). It was highlighted that £10k/year is required to maintain paths across the Park.

<sup>9</sup> [http://www.checs.co.uk/wp-content/uploads/2014/01/MO2480\\_NeosporaReport\\_v6\\_3001.pdf](http://www.checs.co.uk/wp-content/uploads/2014/01/MO2480_NeosporaReport_v6_3001.pdf)

<sup>10</sup> Indeed, this respondent went further and suggested that appropriate byelaws should be introduced accompanied by enforceable penalties to help “*stamp out*” problems with irresponsible dog ownership in the Pentlands.

A key issue emerging from the analysis of baseline issues and the management proposals is the joint **importance and vulnerability of the Green Cleugh** (see Figure A4-1 in **Annex 4**). It has been identified as an important wildlife corridor, a sensitive area in terms of its (relatively) wild landscape characteristics yet it is also a heavily used path providing a strategic link across the Park. Accordingly, it could well be prioritised in terms of path upgrade and restoration works (see Part 3) to help protect habitats and wild species populations and manage erosion / landscape impacts.

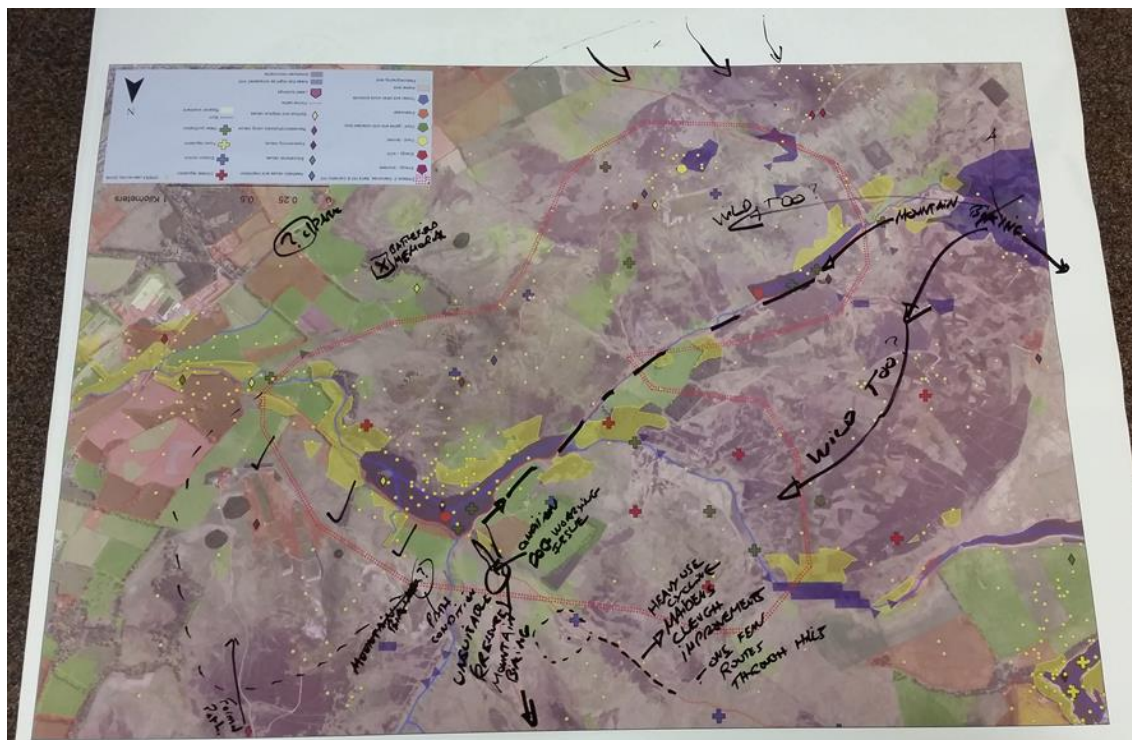
## 4.2 Upland site: Glencorse, Bell's Hill and Carnethy Hill

### Updating the baseline and key issues

Figure 4.2 shows a photo of the marked-up A0 map of Hotspot No.1 used in the workshop. **Annex 4** Figure A4-2 translates the spatial aspects from the discussion below into an outline management plan for the hotspot.

#### *Are the range and location of benefits mapped across the hotspot broadly accurate?*

This question prompted some limited discussion, principally in relation to the area of “wild land” located to the west of the hotspot (see **Annexes 3** and **4**): “I don’t know why it’s been picked out as wild – that could apply to all the surrounding high ground”. The wild land areas shown on the maps were taken from SNH’s “wildness composite” spatial data<sup>11</sup> which indicates **relative wildness** across Scotland based on four physical attributes: absence of modern artefacts; perceived naturalness; remoteness from roads and ferries; and rugged or challenging terrain (SNH, 2014). While there are no designated core wild land areas in the Pentlands<sup>12</sup>, the wildness composite data used in the workshop shows the “most wild” land in the Park, on the basis of SNH’s method and the four indicators used.



**Figure 4.2: Hotspot No.2 – photo of marked-up A0 map from the workshop**

SNH’s wild land mapping method is a technical exercise based on physical attributes and is not without its criticism (Macdonald, 2013). As such, while the area of wild(er) land to the west of

<sup>11</sup> <https://gateway.snh.gov.uk/natural-spaces/index.jsp>

<sup>12</sup> <http://www.snh.gov.uk/docs/A1323225.pdf>



Hotspot No.2 is correct in terms of SNH's method, there will most likely be locally relevant social and cultural factors that influence how landscapes are perceived, including in terms of their apparent wildness or otherwise (Wild About Scotland, 2013). Accordingly, the areas of higher ground associated with Black Hill and Carnethy Hill could feasibly be considered "wild" in a local context (indeed both areas contain some small pockets of locally relevant wild land from SNH's data). Where desirable for the CF and other Park stakeholders, there could be scope to informally extend the area of wild(er) land in Hotspot 2, as part of Park management, if this would be beneficial for relevant outcomes (this has been indicated on Figure A4-2 in **Annex 4** – see **Point A**).

### *Is the density of recreational use across the hotspot what you would expect?*

The user identified points of interest from the EU OPERAs project were used as a proxy for recreational use / pressure (see section 3.1). There was general agreement that these points represent most key areas of recreational use across Hotspot No.2, especially in relation to the many points plotted around Glencorse Reservoir which is seen as a "hugely busy area...easy walk, with nice scenery" (see **Point D** on Figure A4-2 in **Annex 4**). However, a few specific points were made:

- There is a footpath behind (to the northwest) the MOD firing range that is much busier than the OPERAs user points might suggest (see **Point B** on Figure A4-2 in **Annex 4**). Also, no specific benefits (e.g. recreation) were mapped here in the 2016 workshop. This path was noted as being in good condition.
- The carpark at Castlelaw is seen to be important though it is not indicated as such on the current map (i.e. there are very few OPERAs user points at this site). In terms of the OPERAs user identified points, however, infrastructure such as carparks may not be seen as "favourite or most beneficial" when compared to features like favourite paths or views, for example. See **Point C** on Figure A4-2 in **Annex 4**.

### *What pressures and impacts might affect the site?*

Participants were asked to consider which (if any) of the ten key changes / pressures affecting the Park identified in the **Consultative Forum Report** might be relevant for the hotspot. Similarly to Hotspot No.1 (see section 4.1) the main issues identified relate to the impact of **large numbers of people** using the Park in this area:

- Hotspot 2 is a very busy / popular area for recreation: "agreed, very busy, lots of access coming in from there – people parking in laybys" (see **Point D** on Figure A4-2 in **Annex 4**).
- The steep path coming down *Maiden's Cleugh* to Glencorse Reservoir is heavily used by walkers and mountain bikers yet it is often very wet and muddy resulting in further impacts and degradation of the path (see **Point E** on Figure A4-2 in **Annex 4**).
- It was noted that the Friends of the Pentlands do a lot of good work on path maintenance and restoration but this can be compromised / undone by large scale events in the Park (this is a wider issue not just relevant to Hotspot No.2 – see section 3.2 above).

There was also some discussion about opportunities for woodland creation in Hotspot No.2 though it was noted that Brexit raises uncertainty concerning the future of grant support for forestry in Scotland. This relates to the **economics of farming** and **CAP reform** pressures identified in the 2016 **Consultative Forum Report**.

The planning application for a proposed café / visitor centre off the A702, linked to the historic battlefield at *Rullion Green*, was also discussed (in relation to **development pressure**). This may prompt the development of a new path into the Park from that point as well as a new car park (see **Point F** on Figure A4-2 in **Annex 4**).

## Management planning to address the key issues

### *Which land use management objectives are relevant?*

The discussion about management objectives echoed the above; i.e. the most important issues concerned the better (more sustainable / effective) management of people using the Park in this area. One participant summed this up thus: *“it’s about promoting responsible access”*. Certainly, in terms of recreation and access, this could be a reasonable management objective for Hotspot No.2. Responsible access was discussed specifically in relation to poorly controlled dogs and their impact in terms of farming (sheep worrying) and wildlife (especially ground nesting birds).

Objectives relating to other aspects of management were not discussed explicitly (e.g. on environment focussed aspects such as **promoting a balance between semi-natural habitats and productive land uses**). However, the importance of dog control for wildlife protection and the potential for woodland expansion were discussed at various points in this session (see above), though they were not framed specifically as objectives for land use management in this hotspot.

### *How can the pressures / impacts identified in the baseline be mitigated?*

Some general and specific measures were proposed:

- **Specific measures:** the intense usage of *Maiden’s Cleugh* by mountain bikers and associated impacts during wet weather conditions could be addressed by upgrading the path or creating / promoting an alternative route (see **Point H** on Figure A4-2 in **Annex 4**). *Maiden’s Cleugh* is popular in this regard as it can be accessed easily from Edinburgh without use of the busy A702. An alternative off-road cycle route from Edinburgh that feeds into the Park in a more suitable location (i.e. away from the *Maiden’s Cleugh*) could divert usage from this path. This is relevant to the path audit prioritisation also (see sections 3.2 and 3.3).
- **General measures:** several measures were suggested that are of more general relevance to other parts of the Park. Brexit may create opportunities for land management in terms of the ability to have more influence over a future “British” (or Scottish) Agricultural Policy (instead of the CAP) and the type of measures it may support. There was also a feeling that funding (e.g. for path works) could be raised through car parking revenues (e.g. introducing a voluntary or compulsory charge at car parks across the Park) although it would to be made clear that any revenue funds raised would be reinvested in the Park (e.g. improvements to Park infrastructure).

### *Recommendations for land use management in Hotspot No.2*

Participants were asked to think about which recommendations from the **Consultative Forum Report** might be relevant for this hotspot and how these general recommendations might be made more specific for the issues identified (see Figure A4-2 **Annex 4**).

Again, most of the issues discussed focussed on how to address / respond to **increased numbers of people** using the Park / this hotspot and associated user pressure via promotion of sustainable access and recreation (all recommendations were quite general in nature / not linked to specific sites or locations in the hotspot):

- Having some measure (e.g. a byelaw) to forcibly require people to keep dogs on a lead during lambing: *“the one thing that would make a huge difference...would be to force people for two months a year to keep dogs on a lead”*. It was suggested that this type of measure would also result in wider benefits for wildlife.
- Better guidance, educational measures etc to raise awareness about the impacts of mountain biking, walking etc (links to proposals for interpretation boards etc relating to the hotspots – see section 2.1). This could also include closing certain routes during certain times of year or in certain weather conditions. It was felt that most people would listen to

this guidance: *“people generally respect that...most people will listen if there is a good alternative in place”*.

- The geographical variation in certain usage impacts, especially in relation to vandalism and responsible usage of the Park, were discussed: *“there are some areas which are going to be used with respect, others where there are more problems”*. In relation to the recommendations above, this raises the need for a more spatially targeted approach.

As well as the Park user / sustainable access and recreation recommendations above, there was some discussion of the potential for new woodland planting with a note that *“work has been done on this [identifying opportunities] but not many have been taken forward”*. Planting along burns / in cleughs was discussed as a specific opportunity for environmental and wildlife reasons.

There was also discussion about the lack of ranger presence on the ground (e.g. due to **public sector cuts** – see **Consultative Forum Report**). It was felt that having people on the ground for educational purposes, promoting responsible access etc was part of a good management plan. It was noted that much of this work (e.g. Friends of the Pentlands, volunteer rangers, the Consultative Forum) is done on the basis of goodwill at present but with nothing formal in place. One potential (partial) solution to this was a proposal to reintroduce the regular (e.g. annual) land owner meeting that used to occur with the Park Manager and Chair of the Joint Committee (e.g. to raise specific issues). This proposal seemed to be met with support and is arguably an important outcome of the workshop (i.e. it demonstrates the CF’s interest with Park management issues and strong willingness to engage).

## Part 5: Management planning – key discussion points

This part of the report relates to **Workshop Session No.5: Final plenary on the management planning session and key issues for the Park** (see Table 1.1). In this session, a nominated person from the upland and lowland management planning groups reported back on the most important issues raised during their baseline setting and management planning discussions (see Part 4 above). This was followed by a facilitated discussion in plenary that sought to identify the key similarities / differences between the upland and lowland hotspot and any final comments on critical management issues for the Park as a whole. The sub-sections below cover each of the main questions addressed (see Table 1.3).

### 5.1 Overview of key issues identified at each hotspot

A summary of the key issues identified in the management planning session (Part 4) is provided in Table 5.1 below.

**Table 5.1: Overview of key issues identified in the management planning session**

Hotspot No.1: Threipmuir Reservoir & Red Moss	Hotspot No.2: Glencorse, Bell's Hill and Carnethy Hill
<b>Part 1: Updating the baseline</b>	
<i>Additional natural environment benefits identified</i>	
<ul style="list-style-type: none"> <li>• <i>Green Cleugh</i> as a landscape feature should be included within the hotspot for its biodiversity and geological interest.</li> <li>• Shooting as a component of the benefit <b>food – game and wild collected food</b> should be shown as covering lower ground as well as the upland areas in the hotspot.</li> </ul>	<ul style="list-style-type: none"> <li>• Castlelaw should be included within the hotspot for its recreational interest (e.g. the car park is an important recreational / infrastructure asset).</li> <li>• Wild land areas to the west of the hotspot should be extended to encompass the upland areas associated with <i>Scald Law</i> and <i>Black Hill</i>.</li> <li>• There are several private water supplies (the ecosystem service <b>freshwater</b>) in the hotspot that are important for management purposes.</li> <li>• The historic battle ground of <i>Rullion Green</i> is an important cultural asset that is generating tourism opportunities (planning application for café and visitor centre).</li> </ul>
<i>Key management issues / pressures affecting the hotspot</i>	
<ul style="list-style-type: none"> <li>• Most recreational pressure occurs along the paths used by visitors to the hotspot (e.g. the path up <i>Green Cleugh</i>, the informal path on the western flank of <i>Black Hill</i>).</li> <li>• New technology (e.g. drones) is contributing to disturbance of livestock and wildlife.</li> <li>• An increasing number of people / visitors is resulting in increased conflicts (e.g. dogs worrying livestock).</li> <li>• Climate change (increased rain) – paths and drains are not coping with storm water. This is compounded by fewer staff (e.g. rangers) to maintain paths, drains etc.</li> <li>• Wild camping / partying – cutting trees, having fires, littering, damaging dykes.</li> <li>• <b>Most people-driven pressures / impacts occur close to car parks.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Responsible access and use of the Park, particularly in relation to dogs (e.g. worrying livestock etc).</li> <li>• The need for more education and awareness-raising on what is meant by <i>responsible access</i>.</li> <li>• Mountain biking – impacts on some unsuitable paths (e.g. <i>Maiden's Cleugh</i>), the need for path upgrades and / or alternative routes.</li> </ul>
<b>Part 2: Management planning to address key issues</b>	
<i>Management objectives for the hotspot</i>	

Hotspot No.1: Threipmuir Reservoir & Red Moss	Hotspot No.2: Glencorse, Bell's Hill and Carnethy Hill
<ul style="list-style-type: none"> <li>• In principle, all objectives identified in the <b>Consultative Forum Report</b> are important.</li> <li>• Educating members of the public (e.g. school visits to farms).</li> <li>• Promote the management of sustainable recreation opportunities, <b>not</b> promoting / encouraging more people to visit.</li> <li>• Promote safe recreation (e.g. cycling, swimming in reservoirs).</li> </ul>	<ul style="list-style-type: none"> <li>• Manage dog worrying / education of dog owners.</li> <li>• Management focus on northern part of the Park where there is most pressure from antisocial behaviour (e.g. fly-tipping, vandalism, dog fouling). <b>Note:</b> not relevant to Hotspot No.2.</li> <li>• Better engagement with community councils surrounding the Park.</li> </ul>
<p><i>Key management actions for the hotspot</i></p>	
<ul style="list-style-type: none"> <li>• More staff on the ground: use budgets to pay for staff resource.</li> <li>• Education: use technology to promote responsible access (e.g. smart phone apps, GPS, QR codes etc to provide responsible access information as you walk / cycle / ride around the Park).</li> <li>• Consider charging for car parks and using revenue to invest in the Park.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-convene annual land owners / land management meeting.</li> <li>• Reconsider Consultative Forum operation as perhaps too “strategic”. Consider alternative of thematic groups focussed on e.g. recreation, antisocial behaviour issues, nature conservation. <b>Note:</b> wider relevance than Hotspot No.2.</li> <li>• Focus on recreational route northeast of <i>Maiden's Cleugh</i> through to Bonaly for upgrading for mountain bike suitability. This should reduce pressure on the <i>Maiden's Cleugh</i> path.</li> <li>• Consider charging for car parks and using revenue to invest in the Park.</li> </ul>

## 5.2 Management planning for upland vs. lowland hotspots

The final plenary considered the differences and similarities for management planning in upland and lowland hotspots, based on the two example hotspots considered (see Part 4 and Table 5.1). In general, it was felt that the management issues are similar in both contexts but at **different scales**. For example, recreational usage was identified as the most important management issue / pressure at both hotspots, however, in the predominantly upland hotspot at Glen Corse / Bell's and Carnethy Hill, this pressure is more diffuse due to the nature of the terrain and less concentrated path network. Additional key similarities include:

- General agreement on the points and issues raised;
- Both groups discussed the usefulness of extending the hotspot area to encompass additional key features; e.g. *Green Cleugh* in Hotspot No.1 and *Castlelaw* in Hotspot No.2;
- There was a focus on “softer” management proposals (e.g. education and awareness-raising);
- Formalising / upgrading well-used desire line paths<sup>13</sup> was discussed in both groups (e.g. the path skirting *Black Hill* in Hotspot No.1 and the path behind the MoD firing range in Hotspot No.2); and
- Concern about inappropriate behaviours and poor understanding of “how to behave” in the countryside among visitors (e.g. dog worrying issues) impacting farming businesses.

<sup>13</sup> Paths created as a consequence of erosion caused by human footfall – the path usually represents the shortest or most easily navigated route between an origin and destination. Desire line paths can occur where formal routes are circuitous, have gaps or are non-existent.

## Part 6: Conclusions

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The overall aim of this project was to build on the successful 2016 collaborative land use planning work undertaken with the CF by validating and refining the findings and recommendations in the **Consultative Forum Report** (Phillips *et al.*, 2016) and undertaking more detailed management planning for two of the key sites (“hotspot” areas) identified.

An additional objective sought to discuss and prioritise recommendations in the PHRP Upland Path Audit work, which was undertaken in 2016 also (COAT, 2016).

Many CF members contributed to an engaging debate at a workshop held on Friday 3<sup>rd</sup> March 2017 at the Bonaly Scout Camp. A range of perspectives and ideas were generated across the six objectives for the project (Box 1), as reported in Parts 2-5 of this report above.

### 6.1 Summary of key findings

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The key findings of this project can be summarised as follows:

- **Validation of the hotspot areas:** the 2016 work identified five clusters or “hotspots” of natural environment benefits in the Park. The follow-on work sought to refine and validate these areas. Participants tended to agree that the hotspots cover (broadly) the right areas though there is a need for clarity in the use of language concerning “hotspots” vs. “honeypots”. The latter is the term used by Park Management to describe the main entry points to the Park (e.g. Flotterstone Information Centre) and there is a case for considering these sites alongside the natural environment benefit hotspots discussed in this report. Several key functions / purposes of the hotspots were discussed including: as a useful focus for understanding existing management (e.g. evaluating effectiveness, helping to secure funding); and as priority areas for water sensitive land management. Possible risks associated with using hotspots as a management device were discussed (e.g. promoting increased use, diverting resources away from other parts of the park) though it was felt that these were manageable and that the benefits outweigh the risks.
- **Path upgrade prioritisation:** participants at the workshop were engaged in discussions about the results of the PHRP Upland Path Audit. The presentation from Dougie Baird was particularly useful in terms of explaining the audit approach and what the results mean (e.g. in terms of cost implications and different methods / options for path upgrade works). It was agreed that path upgrade in the Park is a big / important issue that could warrant a full day workshop in its own right. One important point raised during consultation on the draft report was the apparent assumption that landowners would automatically want the path upgrade works, if they were offered. This is not necessarily the case (e.g. in areas of sensitive land use) highlighting the importance of more detailed one-to-one engagement with landowners. Several specific criteria / interventions were proposed to help prioritise the upgrade works. There was also general consensus that upland paths are an overall priority, especially the “iconic paths” that the Park is renowned for (e.g. Scald Law from Flotterstone).
- **Management planning for hotspot areas:** a workshop based method for hotspot management planning was developed and adopted in the project for two example hotspots: a lowland hotspot (Threipmuir Reservoir and Red Moss); and an upland hotspot (Glencorse, Bell’s Hill and Carnethy Hill). This was a two-stage process involving: (1) updating the baseline and key issues; and (2) management planning to address key issues. There was general consensus that this was a useful approach and participants saw the benefit of repeating the method for other hotspots or other areas of the Park, if / when there was an imperative to do so. Various baseline issues and management recommendations were

identified and developed for each site. These were translated into outline management plans for each site including spatially explicit proposals. Some key areas of similarity were identified between the issues raised for each site, such as: recreation as the most important management issue; proposals to formalise well-used desire line paths<sup>14</sup>; and concern about inappropriate behaviours / poor understanding of “*how to behave*” in the countryside (especially in relation to dogs worrying livestock and disrupting wildlife).

- **Representativeness of the workshop and continued engagement with the CF:** a key objective of the follow-on work was to “*work with a wider group of CF members*” (Box 1). Whilst the workshop undoubtedly attracted some new participants (especially in terms of recreational interests), representation from certain groups was more limited (e.g. land owners / managers, community councils). This is, of course, entirely understandable given the constraints on CF members’ time. Given the reasonable amount / level of engagement so far (in the 2016 and 2017 work combined) and broad endorsement for the hotspot approach, the priority now for Park Management should be to ensure that the mechanism of the CF is used to keep stakeholders involved and give them a way of having their say on land use management issues in the Park.

## 6.2 Next steps

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To help ensure that interest and momentum around collaborative land use and management in the Pentlands is maintained, the following key next steps are proposed:

- **Implementing hotspot management plans:** the outline management plans and spatially explicit proposals developed for the two example hotspots (Threipmuir and Red Moss; and Glencorse, Bell’s Hill and Carnethy Hill) should be developed further as required, costed, funded and implemented. This will most likely require some further engagement with specific stakeholders (e.g. land owners, certain recreational interests) to firm-up proposals, however, tangible action will be required to ensure that momentum and interest is maintained. The wider CF should be kept informed of progress and actions taken.
- **Consider benefit of reconvening the landowners’ meeting:** interest was expressed at the workshop in reconvening the regular (e.g. annual) landowner meeting that used to occur with the Park Manager and Chair of the Joint Committee. This was seen as a useful forum for raising land owner specific issues and an important mechanism for delivering practical on the ground action that is largely undertaken on the basis of landowner goodwill.
- **Progress Heritage Lottery Fund (HLF) bid for path upgrade works:** key agencies involved in the PHRP Management Group have had initial discussions with HLF regarding a prospective bid for path works and related activities (e.g. training, volunteering) in the Park. The intention would be to secure funding to progress the programme of path upgrade works identified in the 2016 PHRP Upland Path Audit. There was an appetite among participating CF members at the workshop for this initiative though with several caveats, such as: the need for path upgrades to be fit-for-purpose and not “over-designed”; the need to engage with individual landowners; and the danger of the assumption that landowners would automatically want the upgrades, if they were offered. Notwithstanding these points, there is a need to progress the HLF bid to maintain momentum, interest and support from the CF (i.e. to demonstrate that action is being taken and that CF participation in workshops and consultations is valued and influential). The CF should be engaged in this process as appropriate (e.g. to help with further prioritisation, design of specific upgrades).

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<sup>14</sup> Ibid.