IUCN National Committee United Kingdom

Peatland Programme

TLC + associates

Pilot Project: Highland Youth Peatland Education

Proposed Training Opportunities in Peatland Management

30 May 2019

Summary

This pilot proposal commissioned by the IUCN Peatland Project UK aims to outline discrete elements of a peatland education programme that can be delivered at Ullapool High School during 2020.

A vocational collaborative action research pilot will work with partners within associated school groups, local colleges, industry and employers to deliver vocational education in the context of peatland to develop learning outcomes to formalise a peatland learning module.

Using peatland as a lens to enhance vocational educational opportunities will present a means to add to existing vocational awards. This will support social, environmental and educational policy which achieves outcomes in learning for sustainability.

The primary outputs from the project will be a ten week outdoor learning elective in practical peatland monitoring and management based at two local peatland sites which will set up long term monitoring stations. In addition, there will be two learner visits to Forsinard Reserve in the Flow Country of Caithness where learners will engage with the Flows to the Future project.

The pilot will be steered by an expert training panel and findings from the project will be used to develop and refine learning outcomes for a future vocational peatland module as part of an application for SQA accreditation.

Learning outcomes will be developed within, or alongside existing awards which will be implemented as a roll-out project to other schools beyond the life of the initial phase with the view to attracting core funding for SQA accredited qualifications which could be delivered through school/college partnerships.

Acknowledgements

We are grateful for the IUCN Peatlands Partnership UK project for their assistance in supporting this pilot project proposal. In particular to Richard Lindsay (UEL), Sarah Proctor (Scottish Wildlife Trust - IUCN UK PP) and John Low (John Muir Trust) for their help and advice. We would like to thank the schools, colleges, stakeholders, conservation bodies and employers who were interviewed and provided us with valuable information to inform the proposal.

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1 Introduction

This pilot project proposal has been commissioned by the International Union for the conservation of Nature UK Peatland Programme (IUCN UK PP) to detail a methodology to provide peatland learning opportunities to school and further education (FE) school/college partnership students within local communities.

A scoping study to inform this proposal was undertaken in April 2019 (Beattie and Hartley, 2019) which informs the basis of the project design. To this end a collaborative action research methodology is proposed together with a mechanism for delivery in Ullapool High School during the second semester of 2020. Theoretical pilot units and teaching elements that could be delivered, together with possible funding opportunities are outlined and discussed in terms of implementation.

This intervention is identified as a means to respond to a significant skills gap in terms for the greening of vocational training. This gap is evident within literature and reported findings from industry and conservation bodies which indicates that the greening of skills can support the green economy is growing exponentially within the UK and abroad.

2 Pilot Project Summary

2.1. Pilot Summary

The Highland Youth Peatland Education Pilot aims to deliver a range of vocational and technical opportunities that link school activity with community and employer partnerships. The project will focus on peatland, heritage, environmental protection and the greening of vocational technical skills.

The Pilot will run for a discrete period of 3 months commencing in January 2020 and will involve a critical strategic partnership between Ullapool High School (UHS), the Scottish Crofting Federation (SCF) and the International Union for Conservation of Nature Peatlands Project UK (IUCN PP UK). The project will be based in Ullapool Ross-Shire with areas of activity in Ross-Shire and Sutherland and will promote peatland restoration in the UK; delivering multiple benefits for peatlands through community partnerships, science, and effective practice.

The aim of this pilot project will be to deliver a small scale intervention pilot to better understand how school, community and employer partnerships can be developed to formalise peatland learning activities and modules. This will be delivered through a variety of educational and vocational opportunities working with particular focus on developing rural skills opportunities and employer partnerships in a peatland context.

2.2 Rationale for Training Need

Peatland offers a unique context for vocational, environmental and cultural education. This aligns with environmental and educational policy. At a civic level there is growing awareness of climate change and a desire to do something about it which has been clearly articulated by young people through the climate strike action. Peatland conservation and restoration at a local level can help to mitigate carbon emissions globally.

At a community level Schools in the Highland region have opportunities to integrate localised peatland learning partnerships between schools, academic institutions, third sector/Government conservation organisations and employers. Partnership working can be innovative and enhance delivery and quality of resources as well as providing CPD for teachers in a variety of academic and

vocational disciplines. Additional environmental legacy benefits from this approach can be derived through the long-term monitoring of sites using citizen science techniques.

There is a disconnection between vocational education policy and sustainable development goals which presents an opportunity to educators. This is an emerging area of research and presents an opportunity to pilot a collaborative action research project to develop a peatland learning module to "green" vocational skills. There is a perceived lack of young people who have the right employability skills for practical peatland restoration which presents an opportunity for a pilot to progress suitable learning outcomes and enhance career pathways.

Although peatland is a "learnscape" for experiential hands-on learning there can be challenges presented by access issues. The use of digital artefacts to support blended learning supports the "leave more trace" approach to environmental education. Further to this sustainability and social justice can be achieved through the use of open educational resources which can be repurposed for a variety of needs. Education in rural areas faces challenges as falling school rolls increases budgetary pressure which can lead to a restricted school offering. Partnership working coupled with enhanced digital delivery is a possible solution but pedagogy needs to be suitably robust to ensure digital resources align suitably with practical activity. This can be achieved through appropriate CPD for trainers and effective programme design.

A broad rationale for training need has been identified by the IUCN UK PP as:

- Maintaining young people in rural areas and providing opportunity through training
- Up-skilling through vocational training
- Filling existing skills gaps where they exist to support the growing green economy
- Supporting peatland partnerships for practical restoration projects and long term monitoring of peatland sites
- Developing a strong understanding of functional peatland ecology
- Aligned to environmental, outdoor and vocational education policy drivers

The pilot will focus on interdisciplinary learning for vocational pathways and how they can be ameliorated through new ways of working to further embed peatland learning through the launch of peatland units and educational artefacts.

3. Outcomes, Activity, Monitoring and Evaluation

3.1 Proposed Outputs

The pilot will be delivered in school time but will be external to core school activity. The main foci of the project will be vocational learning themes with interdisciplinary learning opportunities in environmental and cultural heritage.

Activity will be delivered through:

- Skills for Work National 4 and NPA Rural Skills (ages 15 – 18)
- One ten week outdoor learning elective session (ages 13+)
- Whole school activity including associated primary groups (age 11+)

The foundation of the pilot is to establish better links with industry and stakeholders which can influence employability and a number of career pathways are identified with relevance to the pilot.

Vocational Skills	**Professional Services**	**Cultural**
Digger work: Heavy machinery contracting for bog re-profiling and ditch/gully blocking work: excavators, mulchers, forestry harvesters, using diggers to gather transplant materials to encourage revegetation of bare peat.	Ecological monitoring: biodiversity, flora and fauna. Silvicultural surveys to determine species and yield class of trees on peatland.	Cultural heritage: closely linked to provisioning aspect of peatland (Grazing and peat cutting). New focus explores restoration as a means to enhancing social value through volunteering opportunities.
Forestry: Removal of scrub and woodland, Small scale tree felling, creating mulch mats and blocking drains by felling discrete blocks of timber on peatland.	Peatland condition monitoring: using drone technology, GIS, peatland mapping and depth surveys.	Gaelic: language, poetry and song associated with peatland that embeds Gaelic language into practical peatland applications.

Path building: building and maintaining paths and boardwalks to support public access to peatland.	Academic and scientific study relating to peatland.	Visitor services: using graphic communication to create infographics and signage and ranger walks.

Specific outputs during the pilot will be:

- Project management, evaluation and dissemination to enable wider uptake of peatland learning beyond the pilot.
- 1 project officer contracted to deliver an outdoor learning elective.
- 2 employer/vocational partnerships developed.
- 2 sites monitored as part of school project (Isle Martin and Leckmelm).
- 1 two day residential field trip to Forsinard for 16 learners.
- 1 wider school visit to Forsinard for 30 learners.
- 2 training panel meetings one at start of project, and one at end of project.
- 1 digital peatland open education toolkit formalised and used within pilot.
- John Muir Award delivered at conserver level to 10 learners.
- 1 peatland draft module developed for vocational education context.

Added value joint resource initiative:

- 1 mobile field lab trailer and equipment.

Possible sites local to Ullapool for peatland monitoring have been identified as:

- *Isle Martin, by Ullapool*: community owned island with strong links to Ullapool High School
- *Leckmelm Estate, by Ullapool*: currently used as a venue for rural skills
- *Dundonnell Estate, Wester Ross*: sometime used as a venue for rural skills
- *Braemore Estate, by Ullapool*: opportunities for peatland learning
- *Strathvaich Estate, by Garve*: opportunities for peatland learning on current restoration site
- *Achnasheen, South West Ross*: current peatland restoration project that could provide site visits and employer links
- *Quinag Estate, Assynt*: John Muir Trust land that could offer opportunity for school partnerships and level 6 apprenticeships

In the pilot Isle Martin and Leckmelm will be used as teaching sites as these location are already used by Ullapool High School for outdoor learning and rural skills sessions. Both sites have areas of deep peat which have the potential for peatland restoration activity and monitoring.

An inter-disciplinary site visit is proposed as a specific whole school activity during the suspended timetable week in May, together with a two day trip to support fieldwork at Forsinard Flow which will be delivered in early March by RSPB. The planning for field visits will be supported by Hilary Wilson, Learning Development Officer for RSPB Flows to the Future Project.

3.2 Proposed Project Activity

This targeted pilot will explore the viability of peatland learning as an outdoor learning elective within Ullapool High School to determine content and uptake with a view to delivering an FE school link module within timetabled activity as part of the proposed National Progression Award (NPA) in Environmental Conservation – Peatland at SCQF Level 5. Three units might include: Principles of Biodiversity Conservation FV30 12 (core); Practical Conservation: Habitat Management in Scotland FV5H 11, or, Practical Habitat Management FV4F 12; Habitat Assessment FV42 12.

Activity	Dec 19	Jan 19	Feb 19	Mar 19	April 19	May 19
Project development	Appoint project development officer	Project planning				Project evaluation
Project delivery	Appoint 0.1FTE trainer	Weekly outdoor learning elective	Weekly outdoor learning elective	Weekly outdoor learning elective		
Venue	Training panel	Peat site visit	Peat site visit	Forsinard 2 days		Forsinard day trip Training Panel
Equipment	Trailer and field lab equipment					

3.3 Project Costs

PROJECT MANAGEMENT COSTS	**£**
Project planning, monitoring and Evaluation (i)	1,440
Curate existing materials to support peatland learning (ii)	500
Evaluation and dissemination via wider community and public engagement event (iii)	960
Lead Partner Office overheads, financial monitoring, reporting and disbursements (iv)	972.22
TOTAL PROJECT MANAGEMENT COSTS	**£3,872.22**
PILOT PROJECT COSTS	**£**
Education Officer, External Speakers And Facilitation	
Staff 0.1 FTE Peatland Education Officer (v)	1,143.46
Travel and subsistence (vi)	225
PVG Registration (staff)	75
Venue Costs	
Day visit to Forsinard Flow (vii)	600
Field trip to Forsinard Flows (viii)	1,062
Hire of MacPhail Centre to host training panel 2 events (ix)	476
TOTAL PILOT PROJECT COSTS	**£3,581.46**

SHARED RESOURCE INITIATIVE: COURSE MATERIALS AND EQUIPMENT	£
Ifor Williams BV64E Box Trailer with lock, jockey wheel, wheel chocks, decals (x)	2,800
Storage boxes and fixed internal shelves for field work trailer equipment (xi)	300
1 Peat probe, 6 x1m extension pieces and carry bag x 1 (xii)	700
Hand held GPS with satellite map and google earth app x 1 (xiii)	450
Weather proof clip boards x 20 (xiv)	460
Opticron hand lens x 10 (xv)	150
Wildlife Photo camera trap x 1 (xvi)	130
EZ Scope x 4 (xvi)	348
TOTAL SHARED RESOURCE INITIATIVE COSTS	**£5,338.00**
GRAND TOTAL FOR PILOT PROJECT MANAGEMENT, DELIVERY AND SHARED RESOURCES	**£12,791.68**

Costing data contained within Appendix 1

3.4 Project Outcomes

Peatland is an important landscape for education

Additionality: Peatland learning will be embedded through interdisciplinary learning in a variety of academic disciplines (STEM, Cultural and Vocational learning).

Attainment: Learning strategies are developed and learning outcomes are formalised through the monitoring of a pilot rooted in collaborative action research.

Career Pathways: Learning for sustainability is embedded in practical vocational activity to prepare learners for careers and establish partnership working with employers and the wider community.

Vocational Education: Peatland learning presents a model for the greening of vocational education and training to fill a skills shortage gap.

Legacy: A framework to embed peatland learning in the curriculum which will bring together communities of practice, develop CPD for teachers and support long term monitoring of peatland sites. Changing public attitudes towards peatland provides long term cultural change which leads to more valuable interaction with environmental sustainability.

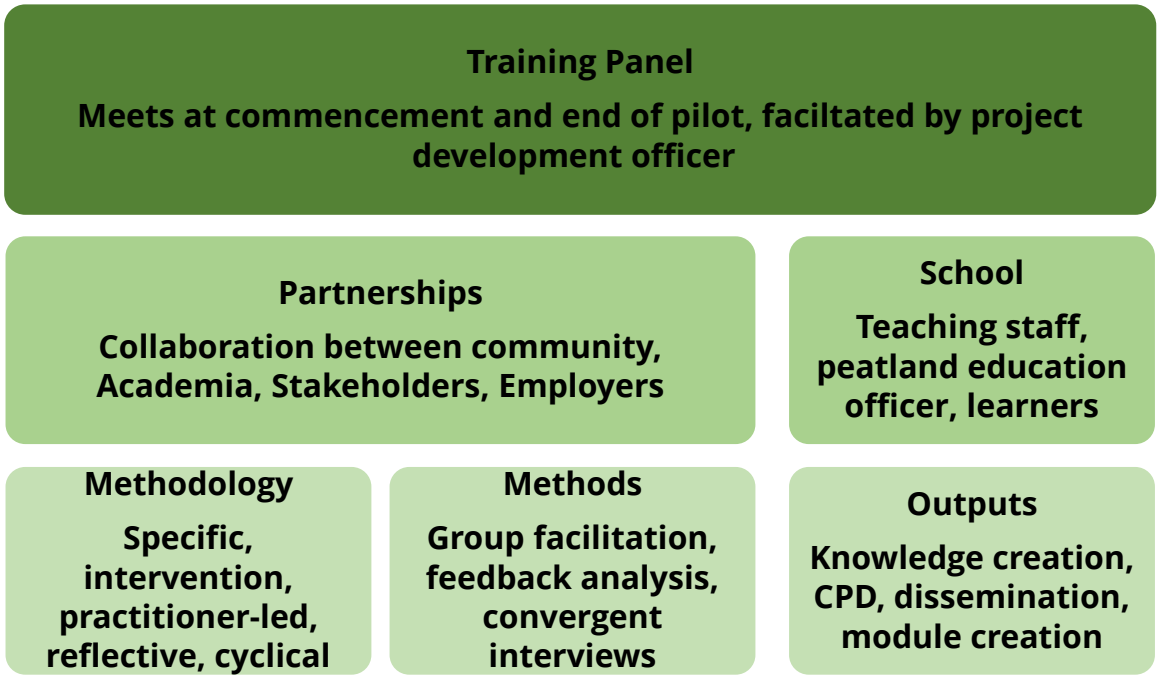
Social Justice: Open education resources are curated and managed through a central platform supports learning for sustainability and equity.

Environmental: Pilot project supports school learners to engage with positive environmental action for climate change.

3.5 Monitoring and Evaluation

A small scale, high impact pilot that centres on Ullapool has the potential to develop a longer term project that involves multiple partnership working and is adopted in other schools nearby. This view is supported by teaching staff, curricular staff and potential employers. A potential mechanism to develop this could be through a collaborative action research (CAR) project (Education Scotland, 2015). Within the scope of a pilot it is most appropriate to test a methodology to deliver pilot units that can form part of an application to create a course through SQA.

An action research framework presents a responsive methodology that can be applied in a localised, real-life context (Lattimer, 2012) to bring together dialectic research sources. To this end an expert training panel is recommended to provide expertise and varied perspectives which will shape the project.



Drew et al. (2016) suggest a collaborative approach can deliver enhanced practice and deeper educational attainment for learners. This can be measured in a pilot phase through outcomes as proposed by Education Scotland (2015):

Phase 1: Preparing the ground

• Analysis of context (Where are we now?)

• Agreeing research questions (What are our agreed key aims and concerns?)

• Agreeing purposes (Can we measure progress and impact? What would success look like?)

Phase 2: Exploring the evidence

• Using the available expertise (how do we exploit internal and external knowledge?)

• Collecting data (what further evidence do we need?)

• Making sense of the evidence (what new insights do we have?)

Phase 3: Testing change

• Deciding on actions to be taken (What changes do we need to make?)

• Implementing a strategy (How do we lever and embed change?)

• Monitoring outcomes. (How do we know we have made a difference?)

In order that outcomes can be tested and monitored it is proposed that the pilot is run over the course of one semester (January 2020- May 2020) with a view to formalising peatland learning in the subsequent academic year which could be delivered as an SQA vocational module. This will enable the project to be tested with S3 learners in an outdoor learning elective. This will also aim to build capacity to offer the next stage of peatland learning in the senior phase as these pupils progress to S4.

Ethical approval frameworks will be developed and approved at the outset of the pilot which will adhere to guidance set down by the British Educational Research Association (BERA, 2018) and any other relevant school or partnership policies regarding research and protection of vulnerable groups. Consent will be sought from all those engaged with the project which will include parental consent where required.

3.6 Next Steps

Once pilot units are tested and evaluated formal learning outcomes will be drafted and reviewed by the training panel which will have invited members from:

Ullapool High School	IUCN UK Peatland Programme
UHI West Highland College	The Scottish Crofting Federation
SQA External Verification	The John Muir Trust
SNH Peatland ACTION	Highland Council Ranger Service
Isle Martin Trust	The Wester Ross Biosphere

Training panel members have been drawn from those who engaged with the initial peatland education scoping and will donate professional time on a *pro bono* basis.

A development opportunity will be outlined and applied for with SQA that will detail a summary of the opportunity, research and evidence of demand, specification and progression pathways. It is hoped that a new vocational module could then be available to learners in the senior phase nationally at the commencement of the 2020/21 academic year.

4. Possible Funding Mechanisms

4.1 Review of existing funding bodies

Name of Fund	Funding Stream	Amount	Deadline for application	Notes
EDF Corriemoillie Education Fund	Activities that link individuals with employers	£2,500 Can cover T and S to travel to sites and employers	26/8/19	Can be applied for on a bi-annual basis. Covers T&S, materials and equipment.
Learning Through Landscapes (LTL)	Local School Nature Grants	Up to £500	30/8/19	Must be applied for by school, can only apply directly for equipment in this case wildlife camera and microscopes
MacRobert Trust	Small Grants	Up to £10,000 in this case it will be matched against shortfall of equipment £4,860 Additional £3,000 could be requested for T and S visits to sites and Forsinard	Can be applied for at any time	This can be applied for direct by the school as SCF currently ineligible to apply due to current funding.
Gannochy Trust	Small Grant or Main Grant (Rest of Scotland)	Small Grant up to £10,000 Main Grant up to £30,000	Any time	To develop and inspire young people. Relates to costs associated with the direct delivery of a specific project or activity which could include: salaries or sessional staff; activity costs, volunteer expenses, transport, training costs and a proportionate contribution to overheads.

				Usually 50% intervention rate.
Pebble Trust	Grant	Up to £5,000	Any time	H&I only. The advancement of environmental protection or improvement, in particular supporting organisations and individuals developing sustainable lifestyles and projects which take into account future resource availability, fossil fuel use, climate change and the desirability of a more equal society; The advancement of community development, in particular encouraging local communities to become stronger and more self-reliant through the adoption of sustainable lifestyles; The advancement of education and science, in particular carrying out research and education relating to the technical and social aspects of sustainable lifestyles.
Heritage Lottery	10 - 250k application		Monthly decision panel,	Cannot fund PVG certification.

			8 weeks 'til decision	Intervention rate can be 100%, but generally prefer additional contributions. NB could conflict with other SCF project
UHI	LTA Scholarship and Research	Unknown	Would need ethical approval from UHI in addition to funding approval	Could fund collaborative action research element i.e project methodology and research
Highland Council	Ward discretionary fund	Up to £10,000	Decision within 6 weeks of application, can be sooner in times of need	Funder of last resort

4.2 Potential Funding Strategies

Heritage Lottery with Pebble, EDF and LTL

Heritage Lottery £4,906.50
Pebble Trust £4,906.50
EDF £2,500
LTL £478

ADVANTAGES

- Main funder therefore less applications required, easier for reporting and disbursements
- EDF, Pebble and LTL are highly targeted funds that match the project, therefore positive outcome is likely
- Heritage Fund Expression of interest can be made to determine likelihood of success
- 8 week turnaround for applications

DISADVANTAGES

- Puts reliance on one main funder which could risk project timeframe if unsuccessful
- SCF already working towards another heritage stream could mean that SCF is not the right lead partner in this scenario

Gannochy Trust and EDF, Pebble and LTL

Gannochy Trust £4,906.50
Pebble Trust £4,906.50
EDF £2,500
LTL £478

ADVANTAGES

- 2 Main funders therefore less applications required, easier for reporting and disbursements
- EDF, Pebble and LTL are highly targeted funds that match the project, therefore positive outcome is likely
- Gannochy supports environmental, community, vocational partnerships which aligns with project proposal

DISADVANTAGES

- Gannochy may be harder to get as SCF has no track record with these funders.

Project Funds separate from shared resource intiative mini-field lab

If overarching funding cannot be achieved small funds could be explored by making core project smaller and school applying direct for course material funding.

Main Project costs including Development, Management, Project Officer and Speakers total costs £7,453.68
Shared resource initiative £5,338.00

Main Project costs applied for by lead partner
Heritage Lottery, Pebble Trust or Gannochy Trust £4,953.68
EDF £2,500

Course Materials T&S applied for by school direct
MacRobert Trust £4,860
LTL £478

ADVANTAGES

- EDF, Pebble and LTL are highly targeted funds that match the project, therefore positive outcome is likely
- Gannochy supports environmental, community, vocational partnerships which aligns with project proposal
- More likely to be successful with small fund applications to Ganochy
- Project costs are distinct from course materials. Some funders may be more amenable to funding project costs rather than course materials that remain with a school as a wider legacy project and shared resource

DISADVANTAGES

- Multiple funders therefore more applications required, reporting and disbursements
- If one application unsuccessful then project at risk of not being fully funded
- School required to submit funding bids which could put pressure on capacity
- Robertson Trust application is time limited, therefore application would need to go in quite soon

Funders of Last Resort

UHI and Highland Council could be considered for applications in the case of one bid being unsuccessful.

5 Conclusion

Using peatland as a lens to enhance vocational educational opportunities the Highland Youth Peatland Education project could present a means to add to existing vocational awards that supports social, environmental and educational policy. In addition, there is scope to develop sustainable learning outcomes to support wider peatland education within, or alongside existing awards which could be implemented as part of a pilot. This report outlines a small-scale localised peatland education pilot that can deliver outcomes for change through educational attainment and enhanced practice.

Peatlands are recognised as a vital landscape to support positive management techniques to combat climate change, particularly in the remote and rural areas of the Highlands and Islands. Using peatlands as an authentic context for learning aligns with current youth initiatives for sustainability in a real-life context that could deliver wider, long-term practice to support the green economy in rural areas.

6 References

Beattie, L. & Hartley, T. (2019) Scoping Study: Proposed Training opportunities in Peatland Management. IUCN UK Peatland Programme, Edinburgh.

BERA. (2018). *Ethical Guidelines for Educational Research, Fourth edition.* Available: https://www.bera.ac.uk/wp-content/uploads/2018/06/BERA-Ethical-Guidelines-for-Educational-Research_4thEdn_2018.pdf?noredirect=1. Last accessed 15th May 2019.

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Education Scotland. (2015). *Collaborative Action Research (CAR).*Available: https://education.gov.scot/improvement/documents/sacfi12b-car-overview.pdf. Last accessed 23rd April 2019.

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Appendix

Appendix 1: Costing Data to deliver pilot

(i) Consultant fee 3 person days at £480/day incl VAT to develop, facilitate and analyse project. Develop scope of module for UHI/SQA accreditation in association with training panel members.

(ii) Using existing peatland learning materials that are suited to secondary level, project development officer to curate and maintain in a digital repository via IUCN website.

(iii) 2 person days at £480/day incl VAT to deliver workshops and presentations at appropriate at school and wider community events to encourage uptake of peatland learning. Dissemination of results to interested schools.

(iv) Lead partner (SCF) office overheads, payroll, financial administration charged at 15% of total project costs (£6,481.46).

(v) Trainer fee 4 hours face to face delivery and 1 hour preparation, a total of 50 hours over ten weeks, in addition 16 hours for a two day field visit. Renumeration will be commensurate with UHI West Highland College teacher pay salary scale T3-5 £27,925 - £30,415 per annum pro rata dependent on teacher qualifications, i.e. a maximum of £15.81/hour. Recruitment costs will include a £50 advert in the local paper and room hire at £50. This does not include payroll and pension costs.

(vi) Charged at 45p per mile for site visits by education officer as part of class planning and site visits to field centres.

(vii) Day trip for larger school excursion including ASG groups by coach. One coach at £600

(viii) Includes travel and subsistence for 16 student school group overnight excursion to Forsinard Field study centre @£12 per head, plus food @£20 per head and minibus rental @£350, 200 miles @ £200.

(ix) Includes room hire at and lunches £476

(x) Purchase of mini field lab trailer to be attached to High School and ASG group schools that can be used to house and carry out equipment for field work equipment. Includes decals to display project and funder details

(xi) Dewalt TSTAK Tote stackable containers at £30/each at Toolstation

(xii) https://www.nhbs.com/peat-probe

(xiii) Garmin GPS Map 66S https://buy.garmin.com/en-GB/GB/p/598455/pn/020-00177-02#

(xiv) Amazon priced at £22.99 https://www.amazon.co.uk/A4-Portrait-Waterproof-Clipboard-RainWriter/dp/B00JVHH1T6

(xv) Priced at £14.50 https://www.nhbs.com/search?q=lens

(xvi) Items taken from LTL product list which is supplied to schools for outdoor learning