



## **NWH Research and Knowledge Exchange**

Institutional development - Regional impact – Global connection

### **Quarterly Report:**

**September – November 2023**

# CONTENTS

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Introduction .....	3
Activity Reports.....	4
• Pollution .....	5
• Peatlands .....	6
• Tourism.....	7
• Society .....	8
• Education.....	9
• Other .....	9
Outputs .....	10
• Peer-reviewed publications.....	10
• Book chapters.....	10
• Conference/event presentations .....	10
• Media coverage .....	11
• Awards and nominations.....	11
Staff and PGR Students .....	12
• Staffing.....	12
• Postgraduate Students .....	12
• Visiting staff and placement students .....	13
Research and KE funding applications .....	14
Appendix: .....	16
Learning and teaching.....	16

# INTRODUCTION

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The NWH Research and Knowledge Exchange Quarterly Report provides an update on Research and KE activity across NWH. It is not intended to be comprehensive; but rather give a representative picture of the range and diversity of research and knowledge exchange being undertaken across the institution while highlighting initiatives, outputs and impacts where appropriate.

To ensure consistency and to mitigate excessive reporting burden, the same report is circulated to a number of groups and interested parties i.e., to act as a 'single point of truth' that can be used and shared with confidence. The report will be circulated to:

- NWH Research and Knowledge Exchange Staff
- NWH Communication team
- NWH Executive
- NWH Highland Board of Management
- UHI Dean of Research and Knowledge Exchange

Certain sections of the report are relevant to particular Committees of the NWH Highland Board of Management. These are as follows:

- Finance and General purposes Committee - Research and KE funding applications
- Learning Teaching and Research Committee - Activity Reports and Outputs

The report is produced on a quarterly basis to enable KPIs to be monitored according to the following schedule:

<b>Period covered</b>	<b>Circulation</b>
September to November	December
December – February	March
March - May	June
June – August	September

## ACTIVITY REPORTS

Theme	<ul style="list-style-type: none"> <li>Energy</li> </ul>
Highlights	<ul style="list-style-type: none"> <li>Nicholas Petzinna has published the first paper from his PhD titled “Evaluating the Performance of a Dual-Frequency Multibeam Echosounder for Small Target Detection”.</li> <li>James Slingsby’s paper “A review of unmanned aerial vehicles usage, as an environmental survey tool, within tidal stream environments” has been accepted for publication.</li> <li>Caitlin Harris is completing equipment preparation with Benjamin Williamson for the <b>IFLOW project</b>, ahead of deployment in December 2023.</li> <li>Natalie Isaksson has led a joint <b>PREDICT-PELAgIO</b> manuscript now accepted for publication titled “A paradigm for understanding whole ecosystem effects of offshore wind farms in shelf seas”.</li> <li><b>Energy KE</b> activities have included signing an SSE/UHI Strategic Partnership and moving forward with research collaboration framework, and hosting a UHI/SSE Research collaboration workshop at UHI Inverness with the Institute for Biodiversity Freshwater Conservation (IBFC) and the Environmental Research Institute (ERI). Stephanie Strother and James Slingsby exhibited for UHI Energy Innovation at the Floating Offshore Wind conference in Aberdeen.</li> <li>Sustainable Aviation Test Environment (<b>SATE</b>) project won the inaugural Aerospace Technology and Innovation Team award at the recent Aerospace Technology Institute (ATI) Conference in Birmingham and was a finalist for Net Zero collaboration of the year at the Praxis Auril KE Awards. Windswept Brewery/KTP project won Best Small Business at the 2023 VIBES Scottish Environment Business Awards.</li> <li>Samuel Langlois Lopez (supervised by Elizabeth Masden) defended his PhD thesis titled “The foraging ecology and conservation of the Great Black-backed Gull <i>Larus marinus</i>”.</li> <li>Benjamin Williamson secured £105k funding plus £277k equipment and fieldwork support for the <b>ETP-Sonardyne PhD studentship</b> “Validating next-generation biophysical and metocean monitoring techniques for offshore renewable energy” currently in recruitment.</li> </ul>
Current major projects/initiatives (select; with partners + funders) - examples	<ul style="list-style-type: none"> <li>The <b>UHI Net Zero Hub</b>, hosted by ERI, held the first cross-UHI workshop, and is recruiting for a Net Zero Coordinator.</li> <li>The <b>ENGINE Wave Energy Systems</b> feasibility study for wave energy electricity generation in Indonesia has completed detailed modelling of resource assessment and is supporting the project to completion.</li> <li><b>ROBINSON</b> (Smart integration of local energy sources and innovative storage for flexible, secure, and cost-efficient energy supply on industrialised islands) fieldwork was completed, and a manuscript arising from a previous deliverable on methods for prioritisation of ecological survey is in review. Partners joined the 36-month review meeting in Stornoway in September 2023.</li> <li>The £2.5m NERC and Crown Estate funded <b>PELAgIO</b> project (Physics-to-Ecosystem Level Assessment of Impacts of Offshore Wind Farms) has completed 2023 fieldwork and Julie Salvetat is analysing datasets, after presentations with Benjamin Williamson at the ECOWind Annual Impact Meeting.</li> <li>The <b>OSC PAM KTP</b> has completed initial equipment prototype designs for passive acoustic monitoring.</li> </ul>

Theme	<ul style="list-style-type: none"> <li>● Pollution</li> </ul>
Highlights	
<ul style="list-style-type: none"> <li>• <b>Christina Karmann</b> (PhD student) joined the team for 3 months (under an Erasmus+ Traineeship) – from the Czech Republic – to work on “<i>Conversion of sewage sludge into biochar: Phosphorus recovery and pollutant removal</i>”. She worked mainly with Szabolcs Pap on our IBioIC project.</li> <li>• Lonneke Goddijn-Murphy, with Heriot-Watt and Plymouth Marine Laboratory, are developing a ~€100k project proposal for <b>ESA funding (SALAMI)</b> to look at plastics (and the surfactants associated with them) in the ocean and their impacts on sea surface roughness and air-sea gas exchange.</li> <li>• Mark Taggart was Co-I on a <b>HORIZON consortium proposal</b> (submitted in September) under the “Soil-friendly practices in horticulture, including alternative growing media” call – to develop a peat free growing media for use in horticulture using various novel materials (€9M project; ERI - €750K).</li> <li>• The new £600K <b>ion tunnel – time of flight – mass spectrometer</b> funded through the Wolfson Foundation (involving several Co-I's from ERI) was installed in UHI Inverness LSIC. This should open up new collaborations and opportunities in terms of ‘organics’ analysis at UHI. This is only the 4<sup>th</sup> instrument of its type in Scotland and its focus will be on metabolomics/exposomics work.</li> <li>• A new <b>Hydro Nation PhD</b> is currently being advertised involving Szabolcs Pap and Mark Taggart and colleagues at Scottish Water and in Serbia. The project is entitled “<i>Sewage-sludge biochar for resource recovery: A circular and low carbon solution for wastewater treatment plants</i>”.</li> <li>• Lydia Niemi and Stuart Gibb are engaging with the University of Exeter’s <b>Pharmaceutical Pollution Hub</b> – contributing to a UK White Paper “<i>A Cross-Sectoral Action Plan to Reduce the Environmental Impact of Pharmaceuticals</i>”. Lydia is leading the Environmental Monitoring and Management working group and co-developed the first stage report out for consultation (closing Jan 31<sup>st</sup> 2024).</li> </ul>	
Current major projects initiatives (select; with partners + funders) – examples	
<ul style="list-style-type: none"> <li>• The <b>CO-OP Carbon Innovation Fund</b> (£200K project) project with SAMS and SRUC has started. The project “<i>Green Shoots from Blue Growth – creating blue/green circularity</i>” will look at repurposing wastes from aquaculture for use in wastewater treatment &amp; soil fertilisation.</li> <li>• Mark Taggart attended kick-off meetings in September in Brussels for <b>two EU COST projects</b> – on “Beekeeping product valorization and biomonitoring for the SAFETY of BEES and HONEY” and on “Safety in the Game Meat Chain” - he will be part of the Management Groups for both projects.</li> <li>• Szabolcs Pap, Thomas Thompson &amp; Mark Taggart have almost completed the <b>IBioIC Feasibility Fund</b> (£92K) project creating biochar from sewage sludge with Scottish Water. The project uses biochar for nutrient (phosphate) removal from water. Field trials at Bo’Ness were successful - final reporting underway.</li> <li>• The <b>RSPB Neonicotinoids in Forestry</b> project continued (£15K) with the 2<sup>nd</sup> round of samples taken in September - method development is complete and neonicotinoid levels in sampled trees are surprisingly high(!) – follow-on work will be agreed with the RSPB for 2024.</li> <li>• Season 4 of <b>SHOT-SWITCH</b> has started – with volunteers across the UK collecting shot from pheasants to identify if toxic (Pb) or non-toxic (Fe, Bi, etc.) ammunition has been used to shoot those pheasants. The 4<sup>th</sup> annual dataset will be published in February 2024. Wild Justice are also funding further ERI surveys of game meat across the UK. This all coincides with the current HSE public consultation on whether Pb ammunition should be banned completely in the UK (in parallel to similar ongoing consultations in Europe).</li> </ul>	

Theme	<ul style="list-style-type: none"> <li>● Peatlands</li> </ul>
Highlights	
<ul style="list-style-type: none"> <li>● <b>Chris Marshall, Mascha Bischoff and Roxane Andersen</b> secured an <b>innovation UK KTP</b> worth £286K to work with <b>Highland Distillers Limited</b> on the development of a responsible peat management and restoration programme at their Hobbister site (Highland Park). The project agreement is currently being completed and signed off, with recruitment imminent for a 3-year KTP associate.</li> <li>● In the last quarter, <b>Roxane Andersen</b> featured twice on the BBC (TV), with another BBC programme completing an interview for future diffusion. A 3-part documentary “Secret of the Peat” showcased some of the bog breathing research and the global significance of the Flow Country, a news feature highlighted the work around World Heritage Site Status and a piece filmed for BBC2 Sunday Live programme will also discuss the World Heritage Site and the global importance of peatlands.</li> <li>● The Peatlands theme hosted two academics from Michigan Tech University, <b>Prof. Rod Chimner and Dr Sigrid Resh</b>, who came to spend 2 months with the team to learn about research on peatland restoration. As part of the visit, Rod and Sigrid provided seminar and accompanied several students and staff on site visits around the Flow Country. The visit was funded by a US-based sabbatical programme.</li> <li>● <b>Chris Marshall</b> was invited to attend a green finance workshop in Dublin led by the Landscape Lab.</li> <li>● <b>Roxane Andersen</b> gave three invited webinars to the Royal Scottish Geography Society (RSGS), Scottish and Southern Energy (SSE) and University College Dublin – Environmental Science Students. She also contributed to a call for evidence (POSTnote) from the UK government on peatland condition mapping.</li> <li>● <b>Rob McHenry</b> secured a £500 Small Research Grant from SAGES to put towards research expenses on his PhD</li> </ul>	
Current major projects initiatives (select; with partners + funders) – examples	
<ul style="list-style-type: none"> <li>● <b>Leverhulme Leadership Award</b> (£980K, 2020-2025). The project supports Mascha Bischoff, Chris Marshall, Heather Johnstone, Jake Witherington, Callum Thompson and Sam Webber, as the team continues to explore mechanisms of resilience across scale and time. In the last quarter, all the PhD student successfully completed their PhD annual progression.</li> <li>● <b>MOTHERSHIP</b> – NERC Large Grant (£3M, 2022-2027) led by JHI with UoN, UKCEH, U.Exeter and U. Leeds also involved. The project supports Roxane Andersen and Liam Godwin and seeks to develop a better representation of peatland processes and feedback in global land surface models. In the last quarter, the team attended the virtual 1.5 year meeting.</li> <li>● <b>KTP – UHI &amp; Highlands Distillers LTD.</b> (£285K, Innovate UK). Following the announcement of funding success, the team held the initial start-up meeting, and is working towards getting the letter of agreement signed off before starting with the recruitment of the 3-year KTP associate</li> <li>● <b>NatureScot - “Bog Breathing” project</b> (Lead: University of Nottingham, partners: NatureScot Peatland ACTION, Forestry and Land Scotland). The team is currently working towards the completion of the 4<sup>th</sup> report on Large Scale mapping.</li> </ul>	

<b>Theme</b>	● Tourism
<b>Highlights</b>	
<ul style="list-style-type: none"> <li>• Steve Taylor is a co-investigator on a new five-year, £1.3 million University of Glasgow project, funded through UKRI, that seeks to capture insights into the unprecedented social and environmental pressures being placed on tourism dominant landscapes and communities.</li> <li>• Katie Murray is leading a Scottish Government-funded Arctic Connections project with University of Lapland, to work with smaller, less-visited destinations to develop a digital platform to help them to position themselves within the tourism market and digitally preserve their heritage. The pilot study will conclude with a 'how to' guide for other organisations seeking to market their area through similar means.</li> <li>• Steve Taylor, Katie Murray and Kendra Turnbull have been working with researchers at UHI Perth on an Innovation Voucher project with TISOs, John Muir Trust and Mhor Outdoors. Entitled Connect Outdoors, the work is centred on developing a monitoring and evaluation framework for a new programme designed to people (who might not otherwise get into nature) outdoors.</li> <li>• Steve Taylor is second supervisor on a new Scottish Graduate School for Arts &amp; Humanities Collaborative Doctoral Award PhD, led by Prof. Jane Downes. The PhD candidate, Cameron Taylor, will examine how Neolithic archaeological information is managed and communicated at visitor destination, site, and individual visitor levels.</li> <li>• Katie Murray has had a KE Tourism challenge fund application approved to work with History of Highland Hospitals on a visitor trail with audio that explores and celebrates, err, the history of highland Hospitals.</li> <li>• Katie Murray had an Innovation Voucher (plus UHI top-up) approved to work with the Royal Scottish Geographical Society on a project that explores how the body can make better use of its archival material.</li> <li>• Pete White had an Innovation Voucher (plus UHI top-up) approved to work with the Institute of Outdoor Learning and the Adventure activities Industry Advisory Committee on a project that seeks to provide structure and opportunities for knowledge creation in safety and risk management within the UK outdoor adventure activities sector.</li> </ul>	
<b>Current major projects initiatives (select; with partners + funders) – examples</b>	
<ul style="list-style-type: none"> <li>• Steve Taylor is working with Ros Bryce and Nick Woolridge at the Centre for Mountain Studies on CULTIVATE, a 2021-24 Joint Programming Initiative project that seeks to understand the role of cultural heritage in shaping sustainable landscapes and communities in the context of societal challenges such as the Covid-19 pandemic, the climate emergency and transitions required to meet the SDGs.</li> <li>• Steve Taylor is a co-investigator on a new five-year University of Glasgow project, funded through UKRI, that seeks to capture insights into the unprecedented social and environmental pressures being placed on tourism dominant landscapes and communities. It will do so by developing an interdisciplinary framework to capture insights into both the form and process of (in)justice as it unfolds within specific place-based contexts. Three case studies will be utilised: Tenerife: Spain, Skye: Scotland, and Gotland: Sweden. A key aspect of JUST TOUR will be the development of a Spatial Justice Network that seeks to unite stakeholders concerned with justice in tourism development and management.</li> </ul>	

Theme	<ul style="list-style-type: none"> <li>• Society</li> </ul>
Highlights	
<ul style="list-style-type: none"> <li>• Flow Country Partnership selected as a finalist in the Nature Rich Scotland category of the <b>VIBES Scottish Environment Business Awards</b> partnership between SEPA, The Scottish Government, Energy Saving Trust, Highland &amp; Islands Enterprise, Scottish Enterprise, South of Scotland Enterprise, Scottish Water, Zero Waste Scotland and NatureScot).</li> <li>• The IRNS and FIRSN funded “<b>Flow Country Green Finance</b>” project host a workshop run by the Landscape Lab in Armadale Farm and the Halladale Hall. Roxane Andersen is on the steering group for both projects</li> <li>• The <b>Flow Country Partnership</b> submitted an application to OSCR to formally become a Scottish Charitable Incorporated Organisation, and Roxane Andersen became a founding Trustee</li> <li>• Lydia Niemi and Stuart Gibb hosted visitors from the <b>University of Uppsala, Swedish Medical Products Agency</b>, and regional Drug and Therapeutics Committee in the Highlands, to engage on eco-directed prescribing, sustainable healthcare, and One Health initiatives. Project scoping and grant development is ongoing.</li> <li>• Lydia Niemi participated in the 3<sup>rd</sup> and final workshop developing “The Blueprint for Scotland’s Blue-Green Prescribing Programme for Primary Mental Healthcare” organised by Glasgow Caledonian University.</li> <li>• OHBP and MRC research team hosted the “<b>Towards eco-directed prescribing</b>” end of project workshop at the Royal Pharmaceutical Society in Edinburgh, on Oct 12th (hybrid). Research outputs were presented, with workshop to map next stage activity engaging with representatives from the healthcare, prescribing, government, environment and water sectors. OHBP workshop followed.</li> <li>• Lydia Niemi and Stuart Gibb were invited to the UK Mission to the EU’s <b>One Health fair in Brussels</b>, to showcase OHBP partnership and outputs. Successful engagement with Scottish Government in Brussels and Scotland Europa, next stage discussions planned on One Health.</li> </ul>	
Current major projects initiatives (select; with partners + funders) – examples	
<ul style="list-style-type: none"> <li>• Lydia Niemi, Stuart Gibb and Mark Taggart completed work on the Medical Research Council project (£100k), “<b>Developing frameworks for eco-directed sustainable prescribing</b>”, with NHS Highland, University of Nottingham, and project partners SEPA, Scottish Water, the James Hutton Institute, and University of Uppsala. Journal publication, reporting and dissemination ongoing.</li> <li>• Lydia Niemi, Neil James and Stuart Gibb continued work on the One Health Hydro-Nation project (£82k) funded by the Scottish Government’s Water Industry Division for continued support of the <b>One Health Breakthrough Partnership</b>’s activity.</li> <li>• Lydia Niemi participated in first stage EoI for UKRI NIHR bid “<b>LENS (Low Emission, Net Zero, and Sustainable) Healthcare Hub</b>” led by NHS Highland and Glasgow Caledonian University, for call “<a href="#">Realising the health co-benefits of the transition to net zero – UKRI</a>”. Including elements of eco-formulary work developed in the UKRI MRC project. Costings not yet identified.</li> <li>• Lydia Niemi and Sharon Pflieger participated in <b>MRC Impact Accelerator Funding</b> proposal (total approx £45k) for next-stage development of the University of Exeter’s Pharmaceutical Pollution Hub</li> </ul>	



Theme	• Education
Highlights	
<ul style="list-style-type: none"> <li>• <a href="#">CORE: Database of Indigenous Gàidhealtachd Educational Research Methods</a> (Tùs: mapping sustained, open-access educational research), 2024-2026.</li> <li>• <a href="#">Global EdD in Remote Pedagogy and Stewardship</a> (Open-access Canadian grant with Kara Smith, Gareth Davies and Frank Rennie), completed in 2022.</li> </ul>	
Current major projects initiatives (select; with partners + funders) – examples	
<ul style="list-style-type: none"> <li>• £ 7,440 British Academy Flexigrants application for CORE to map the first-ever database of Indigenous Gàidhealtachd</li> <li>• £2,241 British Landmark Trust grant for 2-day May, 2024 research mapping (declined by College). 7/11/2023.</li> </ul>	

Theme	• Other
Highlights	
<ul style="list-style-type: none"> <li>• No updates</li> </ul>	
Current major projects initiatives (select; with partners + funders) – examples	
<ul style="list-style-type: none"> <li>• No updates</li> </ul>	

## OUTPUTS

### All themes

<ul style="list-style-type: none"> <li>Peer-reviewed publications</li> </ul>	Journal Impact Factor
<b>Citation with ERI authors in bold</b> <b>N. Petzinna</b> , V. Nikora, J. Onoufriou, <b>B.J. Williamson</b> (2023). Evaluating the Performance of a Dual-Frequency Multibeam Echosounder for Small Target Detection. Journal of Marine Science and Engineering. <a href="http://doi.org/10.3390/jmse11112084">http://doi.org/10.3390/jmse11112084</a>	2.9
Dean, J.F., Billett, M.F., Turner, T.E., Garnett, M.H., <b>Andersen, R.</b> , McKenzie, R.M., Dinsmore, K.J., Baird, A.J., Chapman, P.J. and Holden, J., 2023. Peatland pools are tightly coupled to the contemporary carbon cycle. <i>Global Change Biology</i> , p.e16999.	11.6
Radenković, M., Petrović, J., <b>Pap, S.</b> , Kalijadis, A., Momčilović, M., Krstulović, N., Živković, S., 2023. Waste biomass derived highly-porous carbon material for toxic metal removal: Optimisation, mechanisms and environmental implications. <i>Chemosphere</i> , p.140684.	8.3
<b>Van der Muelen, Barbara.</b> (2023). University-based Teacher Educators in Scotland: a poorly understood occupational group. The Association of Teacher Educators of Europe Proceedings. Budapest.*	
<b>Smith, K.</b> (2023a). <a href="#">Battles for Occupied Academic Space</a> . <i>Journal of Perspectives in Applied Academic Practice (JPAAP)</i> , 11(1):10-14. DOI: 10.56433/jpaap.v11i1.541	
Carroll, Suzanne. (2023). DHH (Deaf and Hard of Hearing) Student supports and engagement across Central Scotland colleges and universities. Belize International Education Symposium Proceedings.*	
<b>Graham, E.</b> , Smart, D., Lee, S.H., Harris, D., Sibley, A. and Holley, D., (2023) An atmospheric river and a quasi-stationary front lead to heavy rainfall and flooding over Scotland, 6–8 October 2023. <i>Weather</i> . <a href="https://doi.org/10.1002/wea.4501">https://doi.org/10.1002/wea.4501</a>	2.239

<ul style="list-style-type: none"> <li>Book chapters</li> </ul>
<b>Badmus, U.</b> , Hefft, D.I., <b>Taggart, M.A.</b> , <b>Boyd, K.</b> , 2023. Nutritional composition of selected seaweeds. In: <i>Applications of seaweeds in Food and Nutrition</i> ; Chapter 7, 101-113.

<ul style="list-style-type: none"> <li>Conference/event presentations</li> </ul>	Poster / podium / invited
Kelly Morrison gave a presentation on the Coast that Shaped the World to the Association for Heritage Interpretation, Lincoln, October 12th	Podium
Pete White presented a workshop at the Institute for Outdoor Learning National Conference on 14th October, entitled "Surviving (and Thriving) in a Career in the Outdoors".	Podium
20th September - Katie Murray gave a presentation on the Coast that Shaped the World project to a Historic Environment Scotland event	Podium
<b>Lonneke Goddijn-Murphy</b> attended (oral presentation and chairing a session) the Remote Sensing of Marine Litter Workshop 2023, 16-17 October 2023, ESA-ESTEC, Netherlands.	Podium
Lydia Niemi presented MRC project outputs "Developing frameworks towards eco-directed prescribing" at the Royal Pharmaceutical Society's annual conference in London (Nov 11), and NHS Highland annual R&D conference (Nov 3) in Inverness	Podium - Invited

Roxane Andersen, "Tales from the Flow Country" - Invited webinar to UG and PG students of the Environmental Science Degree in University College Dublin (30 <sup>th</sup> November)	
Roxane Andersen, "Thoughts on peatland resilience and why it matters", Invited webinar to RSGS, 11 <sup>th</sup> November	
Stuart Gibb, University of Zadar, Croatia – Invited presentation, November 2023 - 'One Health – making connections'	

- Media coverage

There was coverage in the Oban Times of Kendra Turnbull's initiative in Ardgour to create promotional videos with Ardgour's community that encourage tourism and hospitality after the Corran Ferry crisis: [Videos welcome visitors to Ardgour - The Oban Times.](#)

Roxane Andersen features in the 3-part documentary "Secrets in the Peat" on BBC Alba: [BBC ALBA - Miorbhail na Monach - Secrets in the Peat](#), and on BBC News "Reporting Scotland" in Sept. 2023.

- Awards and nominations

Flow Country Partnership selected as a finalist in the Nature Rich Scotland category of the **VIBES Scottish Environment Business Awards** partnership between SEPA, The Scottish Government, Energy Saving Trust, Highland & Islands Enterprise, Scottish Enterprise, South of Scotland Enterprise, Scottish Water, Zero Waste Scotland and NatureScot).

Lydia Niemi received award from the Cabinet Secretary for Health and Care and National Clinical Director for her work on sustainable healthcare with NHS Highland and the One Health Breakthrough Partnership. Presented at the Sustainable Care Workstream Event hosted by NHS Scotland, September 4<sup>th</sup>

## STAFF AND PGR STUDENTS

- Staffing

- to be added next report

- Postgraduate Students

	31 August 2023	30 November 2023	28 February 2024
Postgraduate Research Student numbers (PGR, at time of report)	19	11 (ERI) 7 (Outer Hebrides) 1 (West Highlands)	
PGR completed in 22- 23/23_24	2 completed	1 examined + passed viva, minor corrections underway Nov 2023	

Degree	Funder	Start date	End Date	Status	DoS	Additional NWH Supervisors
PhD	SSER/RS PB	01/09/2022	31/08/2025	Ongoing	Roxane Andersen	Lucy Mitchell, Chris Marshall
PhD	MASTS SUPER DTP	01/10/2019	31/03/2024	Ongoing	Roxane Andersen	Paul Gaffney
PhD	Hydro- Nation	01/10/2020	31/03/2024	Ongoing	Mark Taggart	Paul Gaffney
PhD	MASTS SUPER DTP	01/10/2020	31/03/2024	Ongoing	Benjamin Williamson	
PhD	MASTS SUPER DTP	01/10/2020	31/03/2024	Ongoing	Peter Gilbert	Roxane Andersen
PhD	Leverhu lme	06/09/2021	05/03/2025	Ongoing	Roxane Andersen	Mascha Bischoff
PhD	Leverhu lme	06/09/2022	05/03/2025	Ongoing	Roxane Andersen	
PhD	Leverhu lme	13/09/2021	12/03/2025	Ongoing	Chris Marhsall	Roxane Andersen
PhD	Hydro- Nation	01/10/2021	30/09/2025	Ongoing	Mark Taggart	Paul Gaffney
PhD	RSPB	02/02/2022	01/09/2026	Ongoing	Roxane Andersen	

PhD	MASTS SUPER DTP	01/09/2022	31/03/2026	ongoing	Benjamin Williamson
PhD	Self- funded	01/11/2021	31/10/2024	Ongoing	Steve Taylor
ADD any others					

- Visiting staff and placement students

Name	Staff / student	Home country/ organisation  (Programme if applicable)	Dates  (Length of visit/ placement)	Project title	NWH Theme
<b>Recently completed /current</b>					
Williams, Lewis & Ullrich Kockel UHI	Staff (NWH2KS)	UWO, Canada and New Zealand	16-18/10/2023	Climate change and contemporary expressions of Gaelic place- based knowledge.	Education
Itziar Insausti Mujica	Student (NWH@KS)	Public University of Navarra (UPNA) Basque, Spain	November, 2022	<a href="#">Nature connectedness</a> and nature-based solutions in education.	Education
Prof. Rod Chimner & Dr Sigrid Resh	Staff	Michigan Tech University, USA	3 <sup>rd</sup> September – 6 <sup>th</sup> November (2 months)	Mountain Peatland Restoration	Peatland
Dr Dušan Materić (Matt)	Staff	Helmholtz Centre for Environmental Research - UFZ	6 <sup>th</sup> October	Nanoplastics in peatlands	Peatland
Dr David Large	Staff	University of Nottingham UK	3-7 <sup>th</sup> September	Supervisory meetings	Peatland

## RESEARCH AND KE FUNDING APPLICATIONS

A summary of the applications contributing to the NWH Research and KE ‘pipeline’ is provided in the table below.

**Please note:**

- The pipeline below covers 12-month period: Prior to August ERI only; - from August all NWH
- New proposals submitted within this reporting period (Sep-Nov 2023) are shown in lines 404
- The status of pending proposals is 'dynamic', but the table reflected the position as of 10/12/2023.
- Proposals under negotiation, or subject to resubmission, may be subject to changes in value
- Proposals submitted of value less than £5k are not included
- Intervention rates vary per project, as does the monthly euro conversion rate used by EU Projects

In the meantime, we continue to explore new funding opportunities, including those in partnership with external universities, research institutions, businesses, and stakeholders.

### General comments

- Changes in the internal environment resulting from merger have increased financial administration and reporting burdens in the management of Grants and Contracts. Additional services are required to service these.
- The new ANF process is 'bedding in', and is beginning to provide a consistent approach to proposal development across NWH (and has also been well received by UHI Grants and Contract). The process will be reviewed by NWH Research and KE Committee and modifies as necessary after 12 months).
- As of 1 January 2024, the UK becomes an associated country to Horizon Europe ([Horizon Europe - European Commission \(europa.eu\)](https://europeancommission.europa.eu)). As a result, UK researchers will be able to participate in this research and innovation programme of the EU on the same terms as researchers from other associated countries and will have access to Horizon Europe funding. However, it should be noted that Horizon Europe Projects involve extensive partnerships (and generally involving 'centres of excellence'). Therefore, the potential for participation of NWH is modest, In addition, as there is little capacity within NWH to commit to the extensive proposal development process, any leadership of Horizon Europe projects is unrealistic, but participation as a smaller partner is an option.
- Meetings in Brussels with Scotland Europa and the Scottish Government have explored options for post-Brxit participation in Interreg programmes supported by the European Regional Development Fund (ERDF). While unlikely to yield significant change it has been important to highlight and re-emphasise the disproportionate importance of these finds to UHI and the H+I regions.
- UHI are now looking at how to collectively respond to Scotland's new innovation strategy. Currently UHI benefits from SFC's University Innovation Fund (UIF) that provides incentives to universities to work collaboratively to exploit their research to improve Scotland's economy. This supports activity in UHI's key sector groups of energy, water, tourism, health, creative industries, aquaculture and rural health.

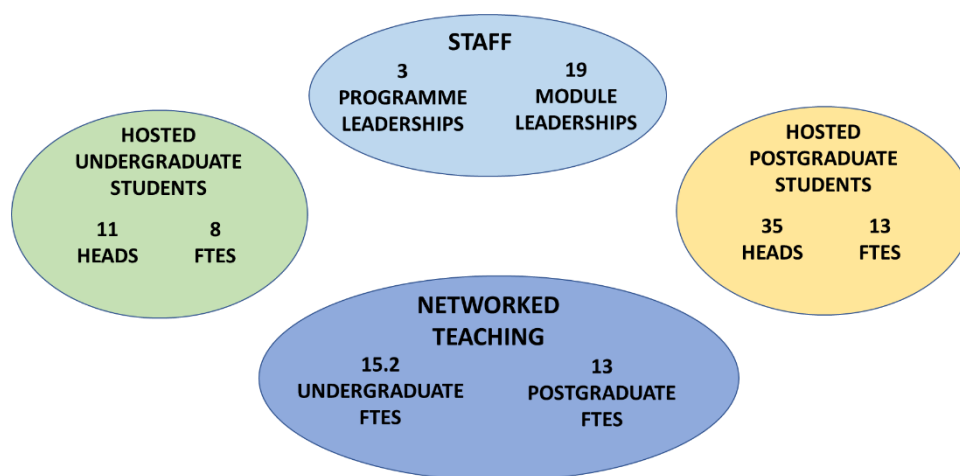
The move by SFC will be towards 'Building successful Innovation Clusters' and focus on the areas of: Energy Transition; Health & Life Sciences; Data & Digital Technologies; and Advanced Manufacturing with the aim of 'elevating our performance to a world-class level' The UHI consensus view is that these changes will financially favour central-belt, research-intensive, large Universities (and that within UHI capacity and credibility at scale exist perhaps only in the 'energy tranistion' area).

EOI or ANF Number	proposal/theme		overall project value	NWH component	% likelihood of success	Duration (months)	Funder	% FY 22-23	% FY 23-24	% FY 24-25	Status	Project completion date
<b>Application submitted Dec 2022- Feb 2023</b>		<b>ERI</b>										
367	SAPHIRE -Asia	POLLUTION	10,000	7,808			RSE Asia				unsuccessful	
368	SAFE MEAT	POLLUTION	200,000	20,000	5	24	COST-EU resubmission	0	50	50	secured	
369	platform for fish monitoring	ENERGY	250,000	10,727	10	12	SCOTMER	100			secured	
370	OHBP second phase	SOCIETY	32,000	32,000	25	12	Scottish Government	100			secured	
371	BEE keeping Biomonitoring_	POLLUTION	200,000	20,000	5	24	COST_EU		50	50	secured	
372	particle tracking model	ENERGY	9,100	9,100	10	6	Highland Wind Ltd	100			secured	
373	wave data sets analysis	ENERGY	29,500	29,500	10	6	Northlands Sheena Ltd	100			secured	
374	oil spills & seabirds_PhD	POLLUTION	172,000	150,000	?	36	ITDPF				unsuccessful	
375	removal of CIP3 contaminants	POLLUTION	15,000	15,000	5	12	Carnegie		100		secured	
376	whisky cask biochar	POLLUTION	16,952	12,700	25	6	Interface	100			secured	
<b>Application submitted Mar- May 2023</b>		<b>ERI</b>										
377	sewage sludge biochar	POLLUTION	92,219	51,500	25	6	IBioC feasibility		100		secured	
378	PhD support vessel time	ENERGY	40,000	40,000	50	36	Equinor		50	50	secured	
379	Karnataka research exchange	POLLUTION	20,000	10,000	50	12	British Council India	25	75		secured	
380	PhD ecology black guillemot	ENERGY	90,000	75,000	50	42	DAERNA				unsuccessful	
381	PhD Marine remote sensing	ENERGY	90,000	75,000	33	42	UHI		30	30	secured	
382	reusing aquaculture waste	POLLUTION	200,000	70,000	50	30	COOP green fund		40	40	secured	
383	porous alpha material	POLLUTION	10,000	7,500	50	6	Interface		100		secured	
384	OHBP third phase	SOCIETY	82,000	82,000	50	12	Scottish Government		100		secured	
385	Dram Filtration FiltraFlo biochar	POLLUTION	90,000	36,000	25	6	IBioC		100		secured	
386	migratory tracking network Arctic	ENERGY	8,345	8,345	?	6	Arctic Connections				unsuccessful	
387	SBRI MRV sollution 2	PEATLANDS	260,000	40,000	?	24	Innovate UK				unsuccessful	
<b>Application submitted Jun - Aug 2023</b>		<b>ERI</b>										
388	trial of SPOOR AI	ENERGY	7,500	7,500	40	12	Vattenfall/BTO		100		secured	
389	Energy Catalyst Round 10	ENERGY	1,500,000	45,708	25	24	Innovate UK /Inginie			50	secured	
390	KTP Highland Park	PEATLANDS	400,000	228,000	10	36	Innovate UK			33	secured	
<b>Application submitted Jun - Aug 2023</b>		<b>ERI / NWH</b>										
391	North Coast Space Cluster	ENERGY	75,000	3,000	25	4	UK Space Agency		100		secured	
392	EuropeWave3	ENERGY	6,000,000	120,000	10	33	Horizon/ Energy Wave Scotland			40	awaiting outcome	
393	ENHANCE_ Coastal Communities	ENERGY	2,000,000	100,000	5	60	UKRI_ resilient communities			20	unsuccessful	
395	ROBINS_ reducing bird impacts	ENERGY	500,000	50,000	5	24	UKRI cross council			50	unsuccessful	
396	Offshore Energy Sensing	ENERGY	1,200,000	150,000	5	24	UKRI cross council			50	unsuccessful	
397	Modelling boundary effects	PEATLANDS	1,200,000	50,000	5	24	UKRI cross council			50	unsuccessful	
398	Biochar in Circular Economy	POLLUTION	25,000	20,000	25	6	EBNET		100		unsuccessful	
399	Metocean monitoring_ PHD	ENERGY	105,000	105,000	25	42	ETP +company			30	secured	
400	Offshore Env. Measurements	ENERGY	39,000	39,000	50	6	Orsted		100		secured	
401	COMPEAT_ soilless growing_	POLLUTION	6,000,000	700,000	10	36	H2020			33	awaiting outcome	
402	Sewage sludge biochar_ PhD	POLLUTION	105,000	105,000	10	42	HydroNation			30	second stage	
403	Nest incorporation of plastic_ PhD	POLLUTION	75,000	75,000	10	42	SUPER DTP			30	secured	
<b>Application submitted Sep-Nov 2023</b>		<b>NWH</b>										
404	HNSP dentistry	SOCIETY	102000	102000	10	48	Hydro Nation				unsuccessful	
405	KE Net Zero Hub - coordination	ENERGY	78000	78000	50	10	UHI				secured	
406	Marine sensing techniques	ENERGY	26000	26000	50	12	Ocean Science Consulting		100		awaiting outcome	
407	Offshore Ocean Wind Demonstrator	ENERGY	250000	250000	50	24	industry			50	awaiting outcome	
408	Mountain Epistemes and Justice	TOURISM	600000	45000	10	36	AHRC				awaiting outcome	
409	Healthy Young minds	TOURISM	80000	5000	25	18	public health intervention				awaiting outcome	
410	database gaelic education research	EDUCATION	10000	10000	10	24	british academy		100		awaiting outcome	
411	salami_satellite altimetry	POLLUTION	90,000	45,000	25	12	ESA			100	awaiting outcome	
412	plastic spills & seabirds PhD	POLLUTION	125,000	125,000	10	48	ITOPF			25	awaiting outcome	
413	Monitoring metals in water	POLLUTION	750,000	90,000	10	30	NERC				unsuccessful	

## APPENDIX:

### Learning and teaching

ERI: **Status November 2023**



METRIC	VALUE		
	2021-2022	2022-2023	November 2023
PROGRAMME LEADERSHIPS	3	3	3
MODULE LEADERSHIPS	20	19	19
HOSTED UNDERGRADUATES (HEADS)	15	14	11
HOSTED UNDERGRADUATES (FTEs)	12.5	11	8
HOSTED POSTGRADUATES (HEADS)	33	46	35
HOSTED POSTGRADUATES (FTEs)	15	16.1	13
NETWORKED TEACHING UG (FTEs)	16.3	19.5	15.2
NETWORKED TEACHING PG (FTEs)	19.7	16.1	13

#### Metrics - Definitions

##### Staff

- Programme Leaderships: Programme Leaderships as appointed by UHI.
- Module Leaderships: Module Leaderships as appointed by UHI.

##### Hosted Undergraduate Student

- Hosted Undergraduates: Undergraduates on the following Programmes who are hosted at NHC- UHI (Bioscience, Applied Science, Environmental Science, Archaeology and Environmental Studies, Sustainable Development, Culture Heritage and Scottish History). Heads are the number of students registered on these Programmes. Full Time Equivalents (total number of annual credits/120). Numbers from SITS.

##### Hosted Postgraduate Students

- Hosted Postgraduates: All students on the following Programmes (MSc Sustainable Energy Solutions and MSc Net Zero Communities). Heads are the number of students registered as taking these Programmes. Full Time Equivalents (total number of annual credits/120). Numbers taken from SITS.

##### Teaching

- Undergraduate FTEs: Number of students taught across all our modules divided by 6 (a full-time student will take six modules per year). Numbers taken from SITS.
- Postgraduate FTEs: Number of students taught across all our modules divided by 6 (a full-time students will take six modules per year). Numbers taken from SITS.

'Outer Hebrides' **Status November 2023**



- Inclusion of critical AI pedagogic learning in Digital Pedagogy (X400); and the newly mapped Indigenous Hebridean Educational methodologies in Qualitative Methods (QI, UX211935) is attracting students.
- MEd research programmes had 100% student satisfaction rate on the NSS PTES in 2022/2023
- The NWH has three (3) Master's of Education (L11) post-graduate (Pg) education research programmes, and four (4) research modules which receive enrolments across the UHI from MRes, MSc, and PhD students: the [Pg Research Methods](#) (X200); the [MEd Tertiary & Higher Education](#) (X300); and the [MEd Digital Pedagogy](#) (X400). Students from these programmes are encouraged to present at conferences and publish. Two graduates did so in 2023\*.

