

UHI FOUNDATION CONFERENCE

Tuesday, 9th October 2018

North Highland College UHI, Burghfield House, Dornoch

Programme

Delegates arrive (Coffee & tea available from 09.45)	10:00 – 10:30
Introduction from the Rector – Anton Edwards	10:30 – 10:40
Welcome from North Highland College – Debbie Murray, Director of Enterprise & Innovation	10:40 – 10:50
Review from the Principal and Vice Chancellor – Prof Clive Prof Mulholland	10:50 – 11:20
Questions and comments	11:20 – 11:30
An Introduction to the Centre for History – Dr David Worthington	11:30 – 12:00
Lunch	12:00 – 13:00
Visit to Dornoch facilities – Burghfield & Ross House / Student Residences	13:00 – 14:00
Environmental Research Institute – Prof Stuart Gibb	14:00 – 14:30
Key Note Session – a discussion of “What is a university?” led by Prof Bill Ritchie (Aberdeen and ex VC Lancaster)	14:30 – 15:30
Concluding comments from the Rector	15:30 – 15:40
Coffee/tea and biscuits	15:40 – 16:00

North Highland College

Active and **Committed** academic partner of UHI

Pride ourselves in the **Quality of our students' experience and their achievement.**

We take an Innovative approach to tertiary learning and teaching

Distinctive Curriculum and Research, enriched by the **people, natural environment, culture and heritage** of the **North Highlands.**

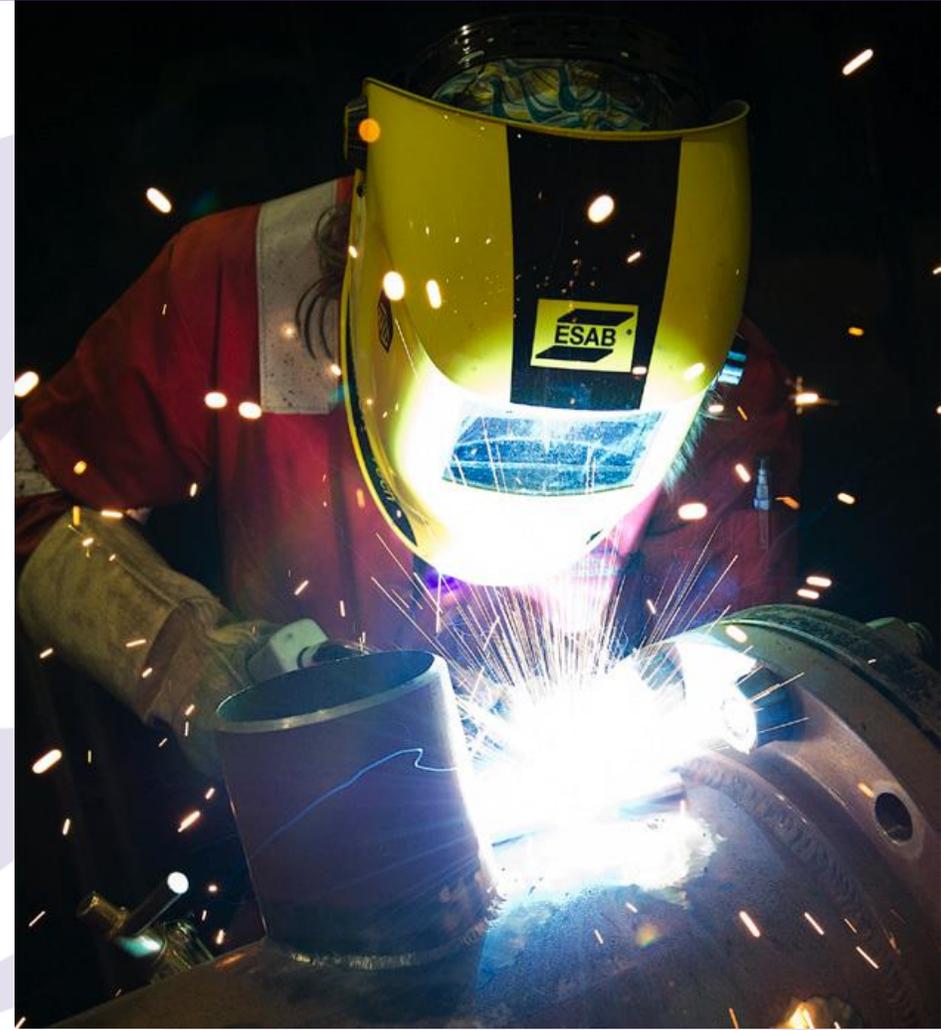
Reaching **Regionally, Nationally and Internationally** in areas of **key strength and specialism.**

A College in Thurso- 1959



Centre right is Morris Wyatt, head of engineering, Dounreay with right, T G Williams, resident engineer, Dounreay

Engineering



Landbased



CARE



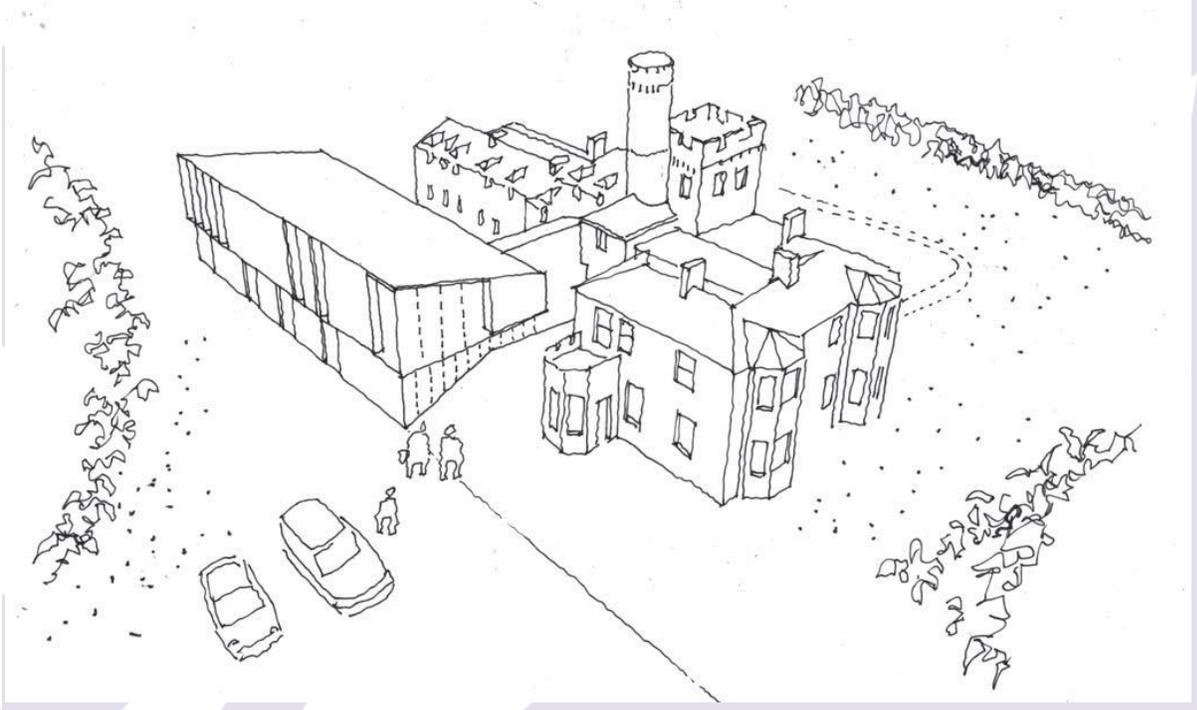
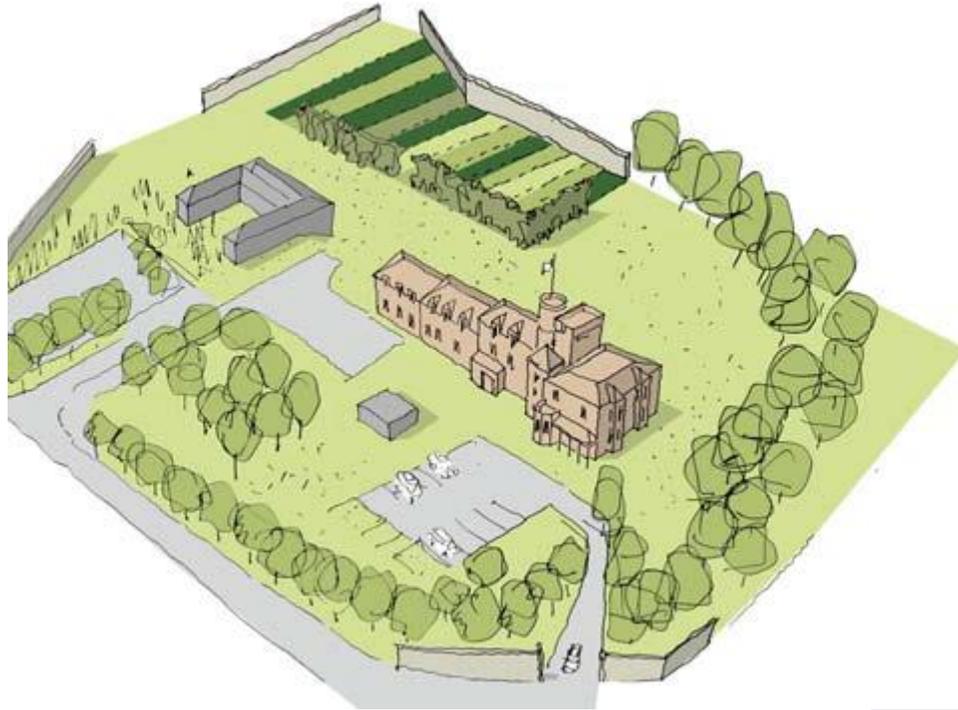
ALNESS



DORNOCH



DORNOCH – The Future







University of the
Highlands and Islands
Centre for History

Oilthigh na Gàidhealtachd
agus nan Eilean
Ionad Eachdraidh

Centre for History Newsletter — September 2018



Centre for History staff at our teaching away day in Lairg, in June.

As we write, it's early September, the new academic year has begun, and by the time you read this, we will have started teaching to a new round of undergraduate and postgraduate students.

It's been far too long since our last newsletter. We hope this belated one gives a late summer-y flavour of what's been happening at the Centre since autumn 2017. We've had to be brief about some key events, and, no doubt, have missed out a few others. Do let us know what you think of it though, and tell us if there's anything you feel we should be including in these updates, but aren't.

At a glance...

New staff
Changing responsibilities
Facebook videos
Student news
Journal news
Staff publications
Fulbright scholar visit
Seminars and events
Postgraduate research day
Contact us

New staff

The Centre for History's staff numbers (full-time and part-time) have now risen to sixteen. June 2018 saw us welcome to the team in Dornoch two completely new team members.

Full-time lecturer, Dr Philippa Woodcock begins teaching in September and is looking forward to sharing her knowledge of early modern European history with our undergraduate and postgraduate students. Find out more about Philippa's many and varied research interests at <http://bit.ly/2LtTZlx>.

Our new administrative assistant, Alison Munro, works half-time and cycles to work from Badninish, just up the road from Dornoch.

...and changing responsibilities

Three Centre for History staff have been promoted. We were delighted to see Alison MacWilliam become our Curriculum and Research Officer, while Dr Jim MacPherson and Dr Iain MacInnes each became Senior Lecturers.

Iain MacInnes has also recently been appointed Subject Network Leader (Humanities, Education and Gaelic) for three days a week, on a secondment basis until 31 August 2019. Our permanent, part-time lecturers, Dr Kathrin Zickermann, Dr Linsey Hunter, and Dr Stephen Bowman, will be covering for him and we will have the additional assistance of Dr Victoria Hodgson and Dr Amy Hayes. Both Dr Hodgson and Dr Hayes were teaching assistants for us in 2018-19, and will continue to carry out that role this year, alongside Dr Alison Chand, who also began in 2017-18, and Nicola Martin, who joins us this autumn — welcome to Nicola!

Also, after almost eight years of leading on the undergraduate programmes, Dr Iain MacInnes has passed responsibility on to Dr Elizabeth Ritchie, as named Programme Leader, part of a team now including also Dr Lucy Dean and Alison MacWilliam in recognition of the scale of this provision.

Meanwhile, after ten years of leading on the Centre's suite of masters programmes, Dr David Worthington has handed that responsibility on to Dr Iain MacInnes as of 1 August 2018.

Staff videos

With this plethora of staff it might seem a little confusing trying to remember who we all are! In order to guide you, and making the most of Dr Jim MacPherson's excellent directing and editing skills, we made some videos. In these six videos our full time academic staff introduce some of their research interests. We hope you enjoy them and find them useful when considering undergraduate study, postgraduate study, research or other possible collaborations with us.



1 - [Dr David Worthington](#) describes a return migrant from Poland to the Highlands, a case which combines his interests in Scottish migration to central Europe and in Coastal History.

2 - [Dr Iain Robertson](#) explains his background in historical geography, his focus on social protest in the Highlands and Islands, and how that links with his interests in heritage.

3 - [Dr Elizabeth Ritchie](#) tells us about her interests in the social and cultural history of the Highlands and Islands c. 1700-c. 1900, on gender, childhood and emigration

4 - [Dr Jim MacPherson](#) speaks on his interests in the public and collaborative cultural history of modern Britain, and how research on Ireland led him towards Highland history.

5 - [Dr Lucy Dean](#) talks about her work on medieval and early modern ritual, ceremony and the cycle of life, and her interests in material culture, public and community history.

6 - [Dr Iain MacInnes](#) talks about his interest in medieval Anglo-Scottish warfare, chivalry and conduct in war, as well as his more recent focus on modern depictions of medieval society.

More students

2017-18 saw us teach our biggest cohort ever of students on our undergraduate degrees. This being our first year of rolling these degrees out in a newly -validated form, staff delivered several new modules for the first time, while it has been great also to see Dr Hunter and Dr Bowman developing new upper-level modules.

Perhaps most obviously different in feel for undergraduate students in 2017-18 was a new strand of modules training them in different approaches to history: 'What is History?', 'Historians and History' and 'Public History'. Student feedback about each has been extremely helpful and it's always exciting to teach in new areas.

88% overall satisfaction!

We were gratified that History and Scottish History scored so highly in the 2018 National Student Survey, at three points above the UHI average in that element. While students made helpful, critical assessments both there, in our end-of-semester module surveys and elsewhere, it was a joy to receive the following kind of comments via the NSS:

'I have thoroughly enjoyed the course. The module set-up works really well and the assessment strategy has been both challenging and varied. All of the lecturers bring something different to the learning experience and I think they are an asset to the UHI. The learning resources available, especially the online resources, are absolutely fantastic.'

'Staff are enthusiastic in their teaching within modules, this helps students to engage as they can see how much the staff are enjoying the teaching thus allowing us the opportunity to engage more and gain a better sense of enjoyment from the content.'

At taught postgraduate level, student numbers also proved buoyant. An important new addition in 2017-18 was the module 'Rivers Ports and Coasts in European History', which ran as part of the first-year's rollout of our cross-disciplinary Mitt Coastal and Maritime Societies and Cultures, on which we collaborate with the university's Archaeology Institute and Institute of Northern Studies.

Brenda Grant wins dissertation prize

This year's winner of our Professor James Hunter Dissertation Prize for undergraduate students was 2018 graduate of West Highland College UHI, Brenda Grant, for

her work *A Woman's Fight: The Glasgow Rent Strike 1915'* Well done to Brenda! We were all tremendously impressed (though not surprised) at the quality of the research and writing that went into the dissertation.



MLitt History of the Highlands & Islands

MLitt History of the Highlands and Islands students, Helen Barton and Neil Bruce, spoke on their research into Highland childhood at the Eighteenth Century Scottish Studies Society conference in Glasgow earlier this year, as part of the panel: 'Information & Improvement: The Old Statistical Account and the County Agricultural Surveys'. Congratulations to both of them, on their hard work and success. Helen was supported by the Student Development Fund to attend and present at the conference. She and Neil are now finalising a blog version for the [Statistical Accounts](#) website.



Helen Barton and Neil Bruce, presenting at the Eighteenth Century Scottish Studies Society conference.

Research and student publications

Neil Bruce's application to the Student Development Fund supported a two-week field trip to South Uist and Benbecula, to undertake research at Stòras Uibhist in the archive of the Gordon/Cathcart 'Long Island' estate, with this research forming the basis of a journal article he's developing. This builds on a piece recently published in *History Scotland*.

Dr Elizabeth Ritchie is currently co-writing an article with Neil and another MLitt student, Kenneth MacLean, on eighteenth-century childhood in the Highlands, which has emerged, similarly, from her MLitt module on gender and the family in the region.

We were heartily impressed to see this [article](#), *Women at Work: Innkeeping in the Highlands and Islands of Scotland 1790–1840* by our MLitt History of the Highlands and Islands graduate, Canada-based Theresa Mackay, in the latest issue of the *Journal of Scottish Historical Studies*!

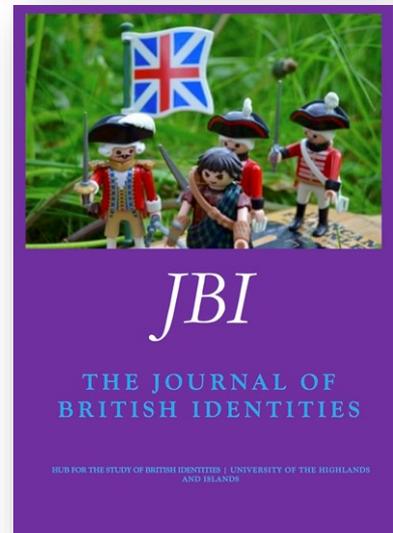


Another graduate of that programme, and current PhD student, Graham Hannaford, published an open access [piece](#) in the *Journal of the Sydney Society for Scottish History*, entitled *The 1845 New Poor Law for Scotland: A Fundamental Change*.



Steve Buchanan at the Canberra Highland Gathering.

Graham also (along with another student of ours 'down under', Steve Buchanan, shown below) attended the Canberra Highland Gathering again in September 2017, and spread the word about our degrees.



Journal news

JBI—The Journal of British Identities

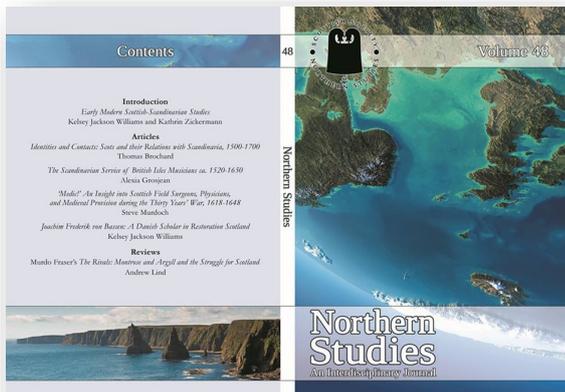
Big congratulations to Dr Jim MacPherson, who edited the first issue of the *Journal of British Identities*, an open access, peer-reviewed, cross-disciplinary journal, which went online last September: <https://jbi.scholasticahq.com> Watch out for an upcoming special issue of JBI on 'Borders, Boundaries and Brexit'.

Northern Scotland Journal

2017-18 saw a *Northern Scotland* special issue, Volume 9, featuring articles on slavery and Scotland from the 2015 'Landscapes and Lifescapes' conference: <http://eupublishing.com/toc/nor/9/1>. The journal will shortly move to two issues per year. Jim MacPherson is a co-editor and Iain MacInnes reviews editor.

Got an article to submit?

If you're interested in submitting a potential article to either of the above journals, please get in touch via the contact addresses provided on the respective websites.



Northern Studies

Dr Kathrin Zickermann of the Centre was busy earlier in the year co-editing this special edition of *Northern Studies* (a very different journal from *Northern Scotland*) focussing on Scottish-Scandinavian relations in the early modern period, and containing contributions by Thomas Brochard, Alexia Grosjean, and Steve Murdoch, among others. See <https://ssns.org.uk/>

Visualising the Iolaire

As many of you will know, Dr Iain Robertson has been working with the University of Abertay and Lewis's Comunn Eachdraidh (historical societies) to create a modern digital memorial to the men who drowned on this vessel in sight of Stornoway, at the beginning of 1919. With Dr Iain Donald of Abertay, he will be talking about the *Visualising the Iolaire* project at a free day-long event in Balallan on Lewis, on 28th September. Find out more and book your place [here](#).



Memorial to the men who died on the Iolaire, Lewis. Image courtesy of Anne Burgess.

Fulbright visitor from Oregon

This spring, the Centre hosted in Dornoch, [Dr Julie Brown](#), a scholar of coastal and maritime literature from Clatsop Community College in Oregon, USA. Funded by the Fulbright Specialist Programme, Julie provided great quotes such as those opposite! More to the point, she gave seminars, school workshops, public lectures, film screenings (in Balintore, [Dornoch](#) and Inverness) and student mentoring, in the field of public history, as well as on coastal and maritime culture and literature of the sea, this providing a great opportunity for our PGT students on our online MLitt Coastal and Maritime Societies and Cultures. She and Dr Worthington were interviewed (on Dornoch Beach) for BBC Radio Scotland's 'Out of Doors' programme. Future collaborations are being planned, so watch this space.



Dr Brown speaking at Balintore, Easter Ross in March.

I can't tell you how impressed I am by your fine faculty at UHI.

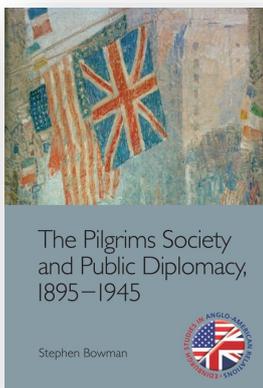
Everywhere I travelled, people spoke with great enthusiasm about UHI and the difference it is making in people's lives.

Inspired by this visit, I am hoping to host a conference in Astoria, Oregon a year from October, exploring further the cultural links between the Scottish Highlands and the Pacific Northwest.

**Dr Julie Brown,
Fulbright scholar 2018**

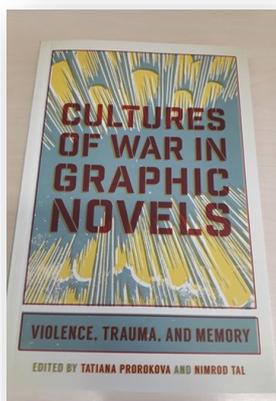
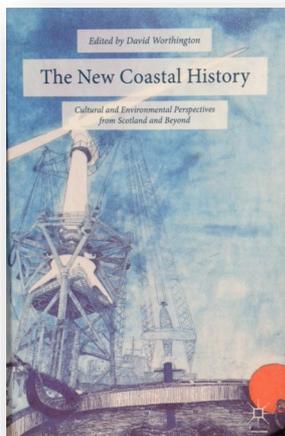
Staff publications

Many Centre staff have published peer-reviewed articles, chapters and edited volumes this year, and have given public lectures, attended workshops and conferences both nationally and internationally (in countries as diverse as Austria, Poland, Norway and soon, Australia and China). Have a look at their individual staff pages on our website to find out more.



Worthy of special mention publication-wise is Dr Stephen Bowman's Edinburgh University Press [book](#), *The Pilgrims Society and Public Diplomacy, 1895-1945*. Congratulations to Stephen!

Dr Worthington's [New Coastal History](#) edited volume was also published last October by Palgrave.



"A Clash of Arms to be Eternally Remembered"
— Dr Iain MacInnes's opening chapter in the new edited volume *Cultures of War in Graphic Novels*.

Forthcoming book by James Hunter

We are extremely excited to learn and follow the research of our Emeritus Professor James Hunter, for a forthcoming book, *Insurrection: Hunger, Riot, Repression and Fightback in Scotland's Famine Winter, 1846-47*. When blight wiped out Scotland's 1846 potato crop, the country, especially the north,

experienced a crisis. A relief effort came too late to assist in the Hebrides and on the west coast of the Highland mainland, and hunger, starvation and death ensued. Meanwhile, towns and villages from Aberdeen to Wick and Thurso, rose up in protest at food prices. These dramatic events finally have their historian, and we're excited to be able to inform you that the book will be published by Birlinn in the second half of 2019.

Speaking of Professor Hunter, he has had another extremely busy year in terms of public events and debates relating to community land ownership. As one example of the impact his work continues to have, it was moving to have it confirmed recently how highly Gaelic rock group, Runrig - as they embarked on their two farewell shows this August - have always regarded his work. We experienced a lump in the throat as we overheard former lead singer Donnie Munro, on BBC Radio Scotland (and, we are told, at both last shows in Stirling) referencing Professor Hunter's 1976 book *The Making of the Crofting Community*, as a key context for, and influence on, the approach of the band in their earlier days.

Cake time!

Mark Stirling, our third year history student, spent a busy August 'in hospital' this summer - a visit which ended with a farewell cake!



Thanks to the UHI Centre for History, I took part in a three-week placement at Dr Gray's staff library in Elgin which provided me with first-hand knowledge of the working environment within a busy medical library.

The staff at Dr Grays were fantastic. They made me feel I was part of the team and immersed me in their day to day work immediately, setting a timetable of activities and research. One of the main highlights was a three-day placement to Aberdeen where I visited NHS Grampian libraries at Cornhill and Aberdeen Royal Infirmary and met with the NHS Grampian archivist.

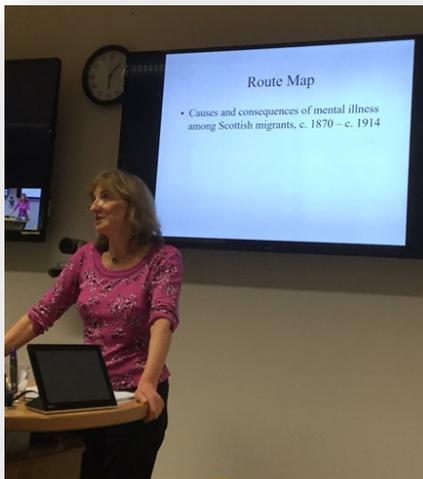
I would like to thank Dr Dean, Dr Worthington and Mrs Peta Broadfoot for setting up this placement.

Seminars and lecture programme

We had a full programme of lectures and seminars this year, including from our visiting professor, John MacKenzie, and from Drs Dean and MacInnes. Video recordings have been placed on YouTube for all of these.

Below is another of our visiting professors at the Centre, Marjory Harper, in action, delivering her truly excellent Inverness lecture for us from December 2017 on twentieth century Scottish emigrants and immigrants.

<https://www.youtube.com/watch?v=moD1tBD-js0>



Scots in Poland

Dr David Worthington took part in several workshops at the National Museum of Scotland this year focusing on Scotland's commercial diaspora, and featuring his own expertise on Poland. This included a successful and enjoyable afternoon and evening at the 'Trading Places' panel discussion last October. It was great to see three Level 8 Perth College UHI students who made the special effort to attend in Edinburgh. Thank you for coming along.

While in Edinburgh, David recorded a two-part video interview with Neil Ogilvy from the 'ELREC Routes to Roots' project, on the history of Scottish migration to Poland.

<https://www.youtube.com/watch?v=wllE3kVhziQ>
<https://www.youtube.com/watch?v=Z1ksd2pHHQw>

Our next seminar is in Dornoch on Wednesday 26 September at 5.30pm. Dr Victoria Hodgson will be speaking on *The Cult of Saints in Medieval Scotland: the Cistercian liturgical evidence*. All welcome!

James I/Charterhouse project update

Much has been going on as regards this project. Watch Dr Lucy Dean and Professor Richard Oram (University of Stirling) discuss the maps and documents surrounding it [here](#). Most recently, they spoke about *A New Brand of Kingship in Scotland? James I and the Carthusian Charterhouse at Perth* at the National Trust for Scotland's Bannockburn site.



Postgraduate research day

We had another highly successful Postgraduate Research Day in Dornoch in June, our biggest ever, chaired once again by Jim MacPherson. Our PhD students did us proud again, in displaying an extraordinarily impressive range of research on the Highlands and Islands, a contribution that is crucial in helping develop and strengthen the Centre's position. They have also been giving papers at major gatherings, such as at the International Conference of Historical Geographers, where ESF-funded student, Linda Ross, presented alongside Dr Linsey Hunter and Dr Iain Robertson.

Meanwhile, Wade Cormack (centre) received his doctorate in Inverness this summer. Dr David Worthington and Dr Elizabeth Ritchie were there to celebrate with him. Congratulations Dr Cormack!





Contact the Centre for History

For further information about our undergraduate, postgraduate and research programmes, or for additional details about any of the above articles, please contact us:

Tel: 01847 889621
Email: history@uhi.ac.uk
Web: www.history.uhi.ac.uk



Follow us on social media

The Centre for History is very active in social networking and many of our staff have their own twitter following. The following sites are all run by staff—why not take a look?



Facebook

UHI Centre for History main page @UHIHistory
<https://www.facebook.com/pages/UHI-Centre-for-History/137321449670658?fref=ts>

UHI Centre for History group
<https://www.facebook.com/groups/91416853553/>

Northern Scotland @NorthernScotEUP
<https://www.facebook.com/pages/Northern-Scotland/454289977980405>

Moray Firth History @MorayFirth
www.facebook.com/MorayFirthHistory

Firths and Fjords: A Coastal History Page
<https://www.facebook.com/FirthsandFjords/>

Scottish-Polish Historical Links @ScottishPolish
www.facebook.com/ScotlandPoland?fref=ts

Blogs

HistoryLinksDornoch blog
<https://historylinksdornoch.wordpress.com/>

Hub for the Study of British Identities @UHI BritStudies
<https://britishidentities.wordpress.com/>

Centre for Scotland's Land Futures Blog
<https://scotlandslandfutures.wordpress.com/>

Twitter

@UHIHistory
<https://twitter.com/UHIHistory>





**environmental
research
from a new
perspective**



Environmental Research Institute

- Introduction
- Focus: Pharmaceuticals in the environment

Prof. Stuart Gibb



Why environmental science ?

**environmental
research
from a new
perspective**



Importance of 'environment'

Environments of Scotland and of the Highlands and Islands:
Diverse, special & often unique habitats and species e.g.

Coastal

- Sealochs,
- Firthlands
- Soft & hard coasts



Pentland Firth

- '..the Saudi Arabia of Marine Energy'..
- Worlds foremost marine renewables area



Importance of 'environment'

Uplands

- West Highlands: Maritime influence
- Cairngorms plateau: Continental, sub-arctic



Peatlands / blanket bogs

- 'Flow Country'
- Global importance : biodiversity, C cycling
- World Heritage Site



Importance of 'environment'

Socio-economic fabric of the region is reliant on the use & management of a diverse range of natural ecosystems & environments

- Fisheries
- Aquaculture
- Forestry
- Agriculture
- Renewables
- Natural capital & Ecosystem services



'Ecological economics'

- 'environment' accounts > one quarter of Scotland's GDP
- Disproportionately higher in H&I

Why environmental research ?



Highlands & Islands

- world-class environments
- 'living laboratory' of international significance
- unrivalled scientific opportunities
- international competitiveness

Environment

- economic value - more significant than for than any other UK region
- utilisation, conservation & management -
- sustainable economic development
- potential for innovation & green economy





Environmental Research Institute

**environmental
research
from a new
perspective**



Organisational fit



A 21st century University 'in', 'of' and 'for' the Highlands & Islands

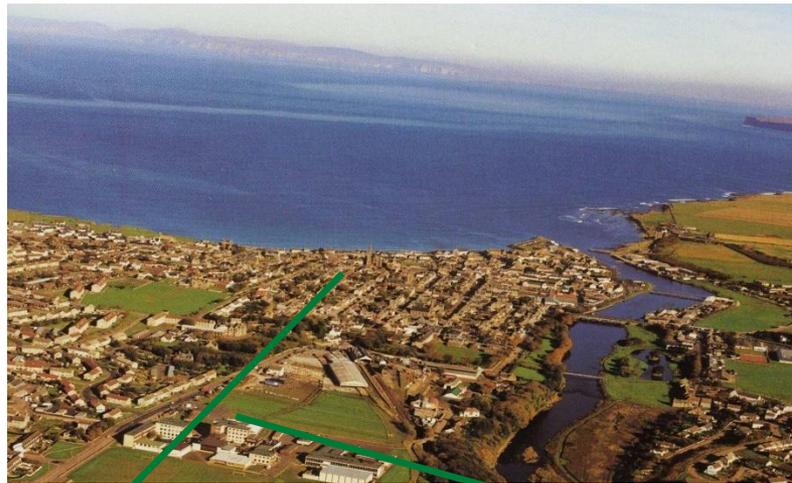
UHI Mission: *'To have a transformational impact on the prospects of our region, its economy, its people and its communities'*

Reaches out to the rest of the world through our research & teaching

Vision

'To be internationally recognised for distinctive and innovative environmental science'

Facilities



2000

2012



Castle Street, Thurso



Centre for Energy and Environment

Team

Staff / research students 2001: 2.5 FTE, 2018 ~40 FTE



Ethos and approach

Multi- & inter-disciplinary

Issue driven

Partnership and collaboration:

- Regional, national & international

Centre of aspiration !

- Achieving scientific excellence
- Strategically important areas
(scientific, economic, societal)
- Impact



Vision

Vision:
“To be internationally recognised for
distinctive & innovate environmental science’

Sites

Castle Street

Centre for Energy & the Environment

**Research
priorities**

Renewable Energy &
the Environment

Carbon Water &
Climate

Environmental
Contamination &
Ecological Health

**Strategic
priorities**

Research
(inc. KE)

Learning &
teaching

Enterprise

Outreach



ERI activity

**environmental
research
from a new
perspective**



Outreach – regionally focused



- STEM Agenda
- Awareness of environmental issues



- School outreach programmes (e.g. renewable energy)
- Placements – UK & international
- Public Seminars
- Newsletters
- Conferences (e.g. science meets art – peatlands)



Enterprise



Responsive to the needs of key regional sectors

Renewables



Energy, Food and Drink...



Learning and teaching

...provide learners with a **high quality educational experience in distinctive curriculum areas that are informed by contemporary research practice allowing them to achieve their full academic potential & enhance their career prospects**

- BSc Environmental Science
- BSc Applied Science
- BSc Sustainable Development
- BSc Archaeology & Environmental Studies
- MSc Sustainable Energy Solutions
- MSc Developing Low Carbon Communities



APPLIED SCIENCE BSC (HONS)

UCAS code C902
UHI information line 0845 272 3600

Summary Content Study mode Fees/funding Career

Apply



SUSTAINABLE ENERGY SOLUTIONS MSC

UHI information line 0845 272 3600

Summary Content Study mode Fees/funding Career

Apply

Research Excellence Framework

- **Reputation** (all serious HEIs take part)
- **Funding** – Direct (c. £2bn pa across the UK) & consequential
- Comprehensive **overview of the state of UK research**
- **UoA 7: Earth Systems and Environmental Sciences**



**Rivers and
Lochs Institute**

Rank	HEI	Cat A FTE	4*	3*	2*	1*	U/C	4*/3*	GPA	QI
1	University of Aberdeen	28.40	18	71	10	1	0	89	3.06	60.5
2	University of Glasgow	34.80	21	63	15	1	0	84	3.04	60.3
3	University of Edinburgh	104.98	21	57	17	5	0	78	2.94	57.6
4	University of the Highlands and Islands	32.45	14	66	17	3	0	80	2.91	55.6
5	Heriot-Watt University	17.50	6	72	19	3	0	78	2.81	51.4
6	University of Stirling	14.60	14	46	38	2	0	60	2.72	49.5
7	Edinburgh Napier University	6.00	7	46	47	0	0	53	2.60	44.6
8	University of Abertay Dundee	14.45	2	48	49	1	0	50	2.51	41.3

Overall top ranked modern University – Uo7 note: GPA rank & capacity

Research and KE priorities



Focus: Building capacity & sustainability in areas in which we have recognisable strengths or competitive advantage



Carbon, water & climate

- Organic matter from source to sink
- Peatlands in a changing world
(environmental, social, economic)
- Climate change in the Highlands

New PhDs

- Assessing the condition of the Flow Country peatlands to support their future protection
- Assessing the viability of long-term peat storage for future peatland restoration in a Shetland onshore E&P development



Research and KE priorities



Autumn 2018 newsletter



Renewable energy & the environment

- Resources & risk
- Environmental Interactions
- Sustainability:
Management, policy & communities



New PhDs

- Assessing tidal energy sites using HF Radar
- Using UAVs to assess behavioural changes of top predators related to tidal-stream energy extraction
- The ecology of black guillemots in relation to marine renewable and marine protected areas
- Bird flight characteristics, habitat use & impacts of wind farms



marinescotland



**environmental
research
from a new
perspective**



Environmental contamination and ecological health

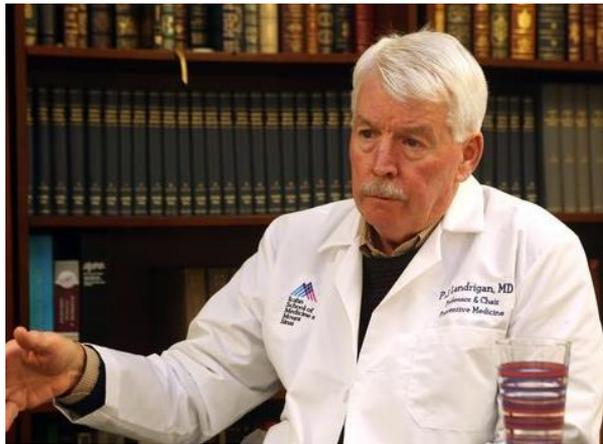
Pharmaceuticals in the environment:
Linking human & environmental health

The Lancet Commission on pollution and health

THE LANCET

Published Online: October 19, 2017:

[http://dx.doi.org/10.1016/S0140-6736\(17\)32345-0](http://dx.doi.org/10.1016/S0140-6736(17)32345-0)

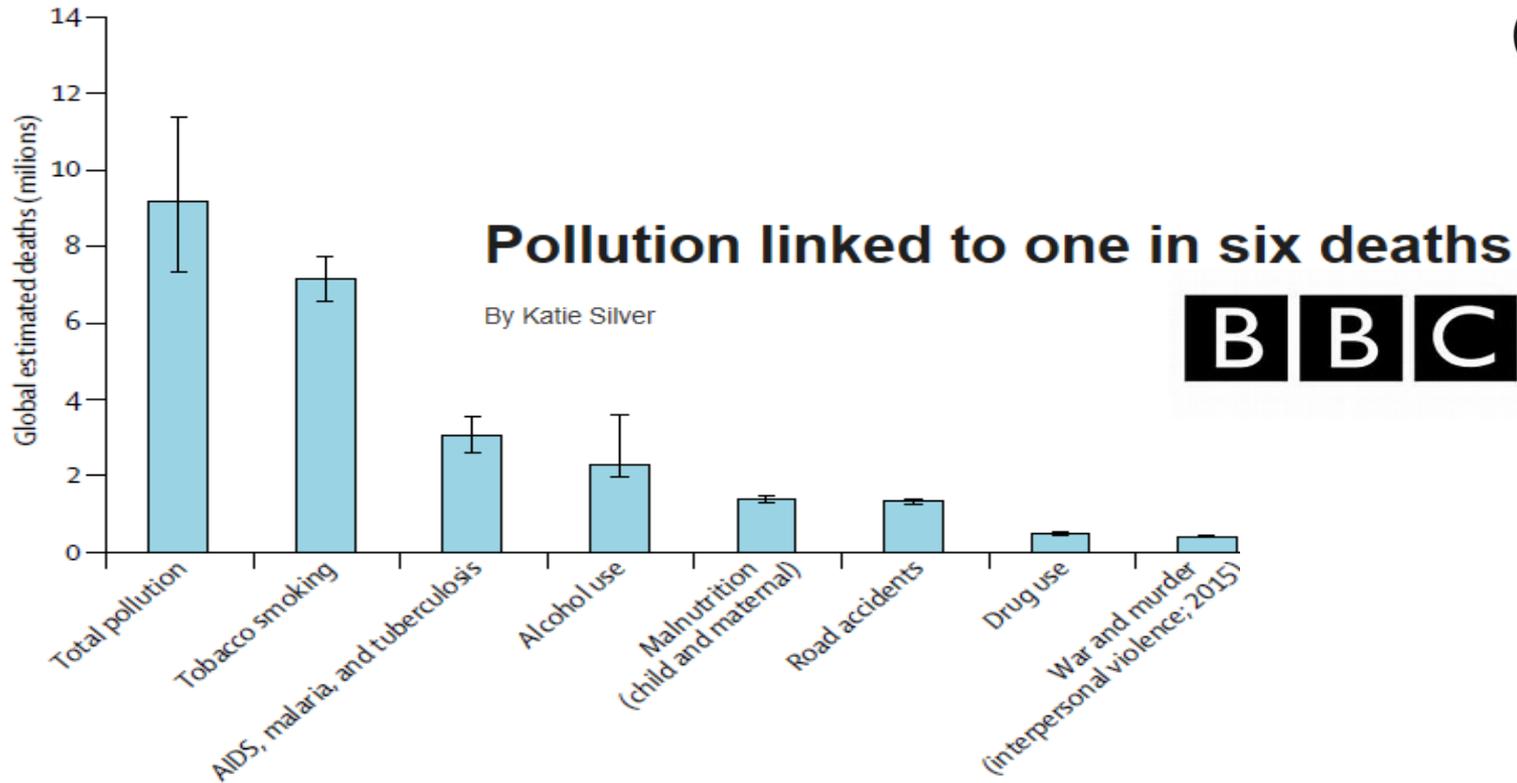


"Pollution is much more than an environmental challenge - it is a profound and pervasive threat that affects many aspects of human health and wellbeing,"

Prof Philip Landrigan,
Icahn School of Medicine, at Mount Sinai in New York

- *Diseases caused by pollution responsible for an estimated 9 million premature deaths in 2015—16% of all deaths worldwide*

Human health & the Environment



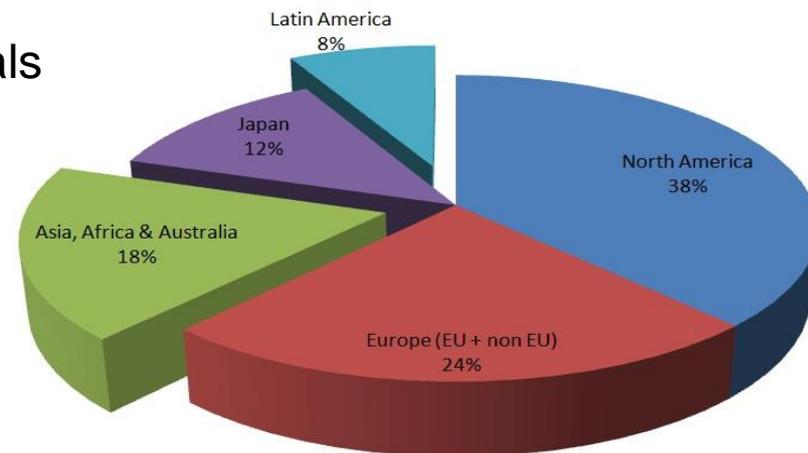
- ‘....three times more deaths than from AIDS, tuberculosis, and malaria combined....’
- Pollution-related research should: **Identify & characterise the adverse health outcomes caused by new & emerging chemical pollutants, such as ...endocrine disruptors...pharmaceuticals**

Pharmaceuticals in modern society

- Contemporary society: Usage is extensive and widespread
- Fundamental in modern health care: Prescription of medicines the most common intervention in the NHS
- Scotland: 104 million prescription items 2016/17 (£1.3 bn)
- Number of prescriptions + pharmaceuticals increasing
- EU ~3,000 substances licensed for use
- Market value \$ 1.3 trillion/yr by 2020: Global market related to income



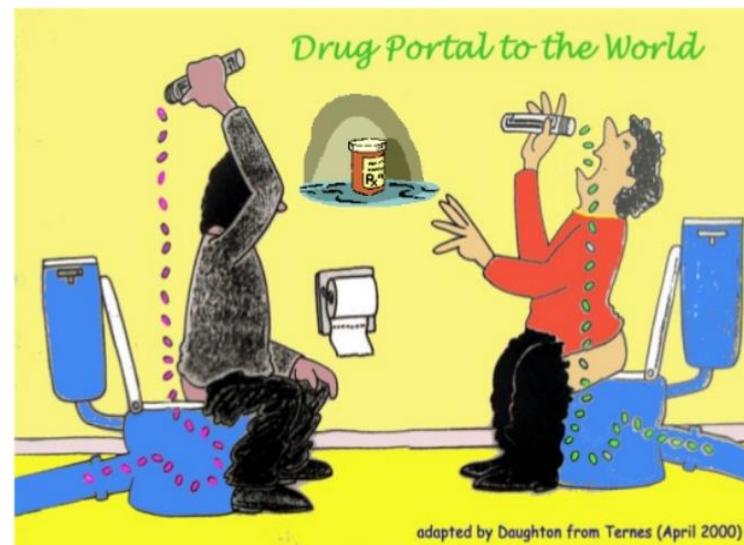
Global Pharmaceutical Market 2012



IMS Health Market Prognosis, June 2013.

Pathways to the environment

- Following administration, pharmaceuticals are excreted:
 - metabolised or un-metabolised form
- Introduced into the wastewater system:
(10-90% of dose excreted as active substance)
- Wastewater treatment plants (WWTPs) 'inefficient' in removal of pharmaceuticals (30-80 %)
- Large & growing number found in effluents from WWTPs (~600)
- => WWTPs identified as main pathway for pharmaceuticals into the aquatic environment



A global issue.....

Number of pharmaceuticals detected in surface water, groundwater, tap water, and/or drinking water

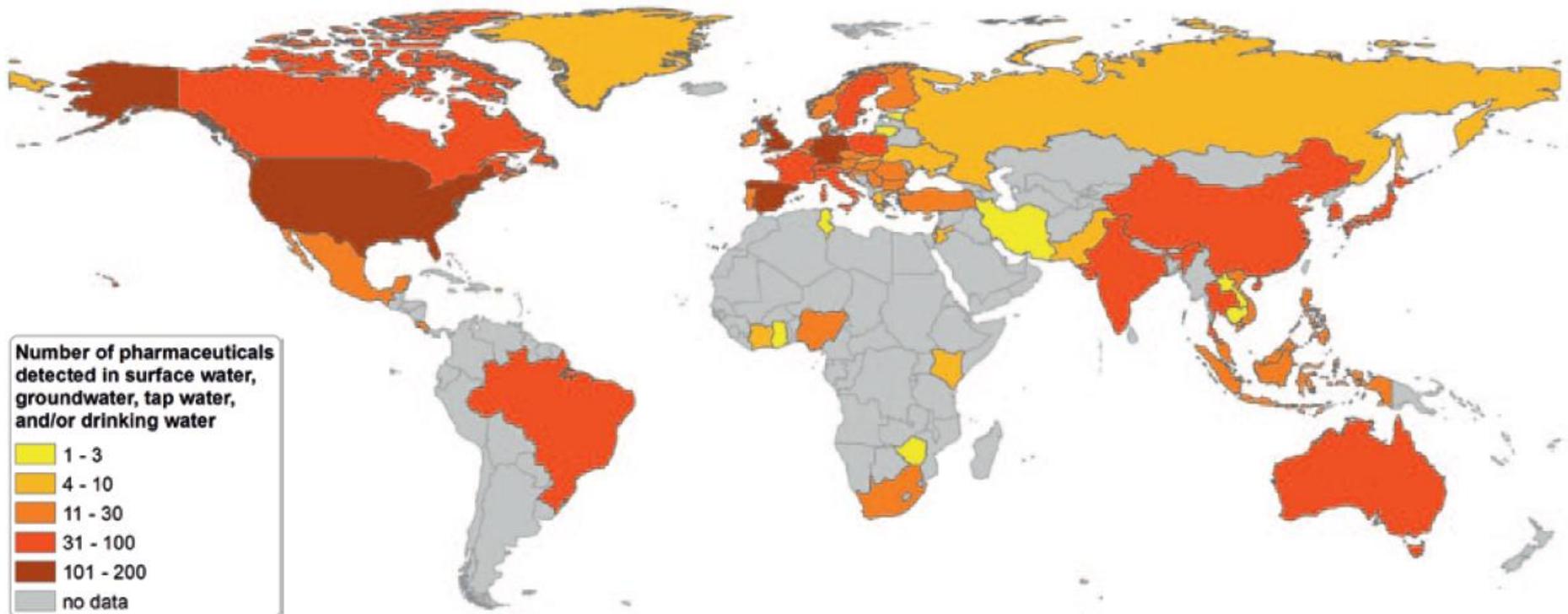
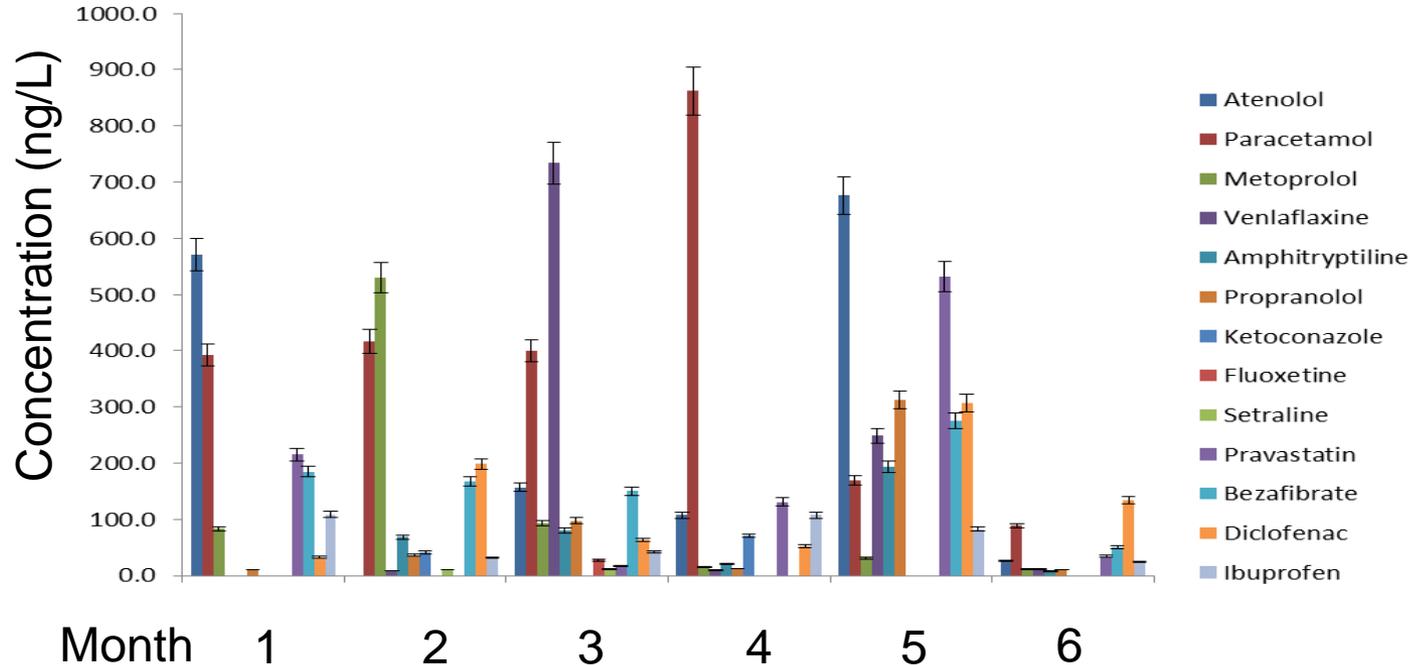


Figure 3: Global occurrence of pharmaceuticals: Pharmaceuticals have been found in the environment in all UN regional groups (IWW 2014).

Number – reflection of issue + investigation

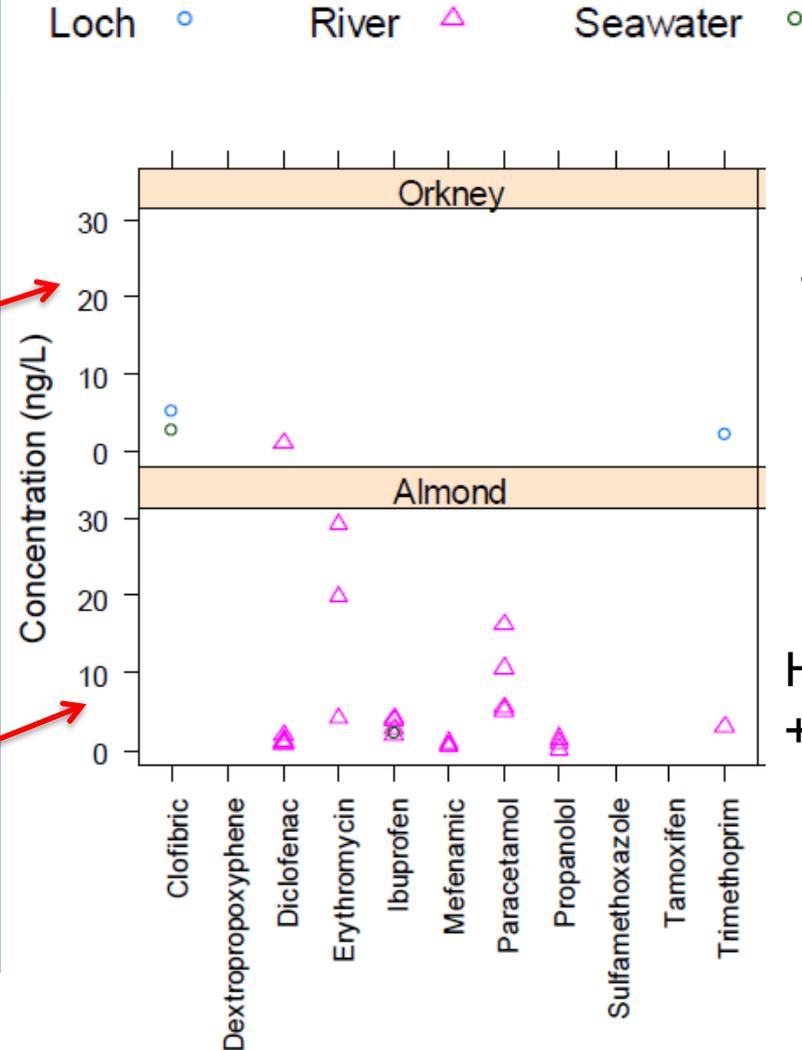
.....with a (rural) Scottish dimension

Wastewater effluent from WWTP (town – 9000 inhabitants)



- Scotland - pharmaceuticals detected in effluents
 - levels comparable to other countries
 - introduced to environment (water quality)
- Variability - loading, modelling and impact assessment difficult

.....with a (rural) Scottish dimension



Island
+ agricultural
Rural
Low population density

Food & drink
High population density
+ industrial activity

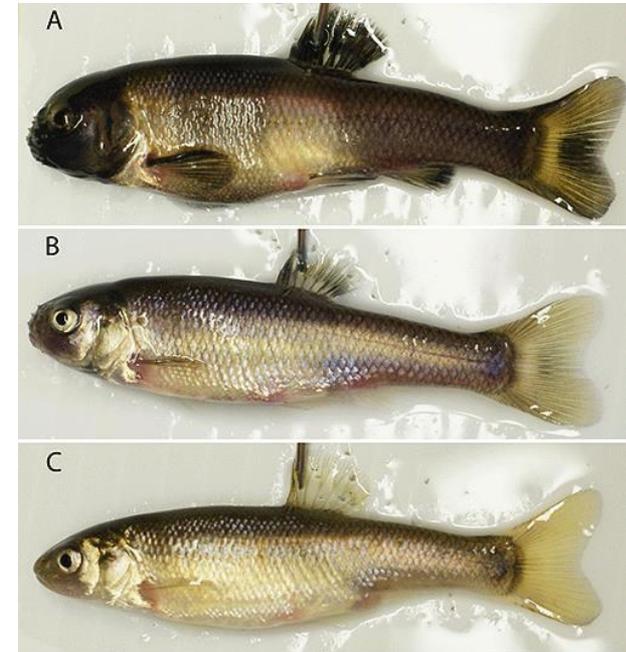
Ecological impact: Fish

Fish Devastated By Sex-changing Chemicals In Municipal Wastewater

Date: February 20, 2008

Source: Natural Sciences and Engineering Research Council

- Birth control pills - synthetic estrogens (endocrine disrupting substances, EDS)
- Physiological changes
- Male fish '*intersex*' characteristics: Carrying egg cells in their testespopulation loss



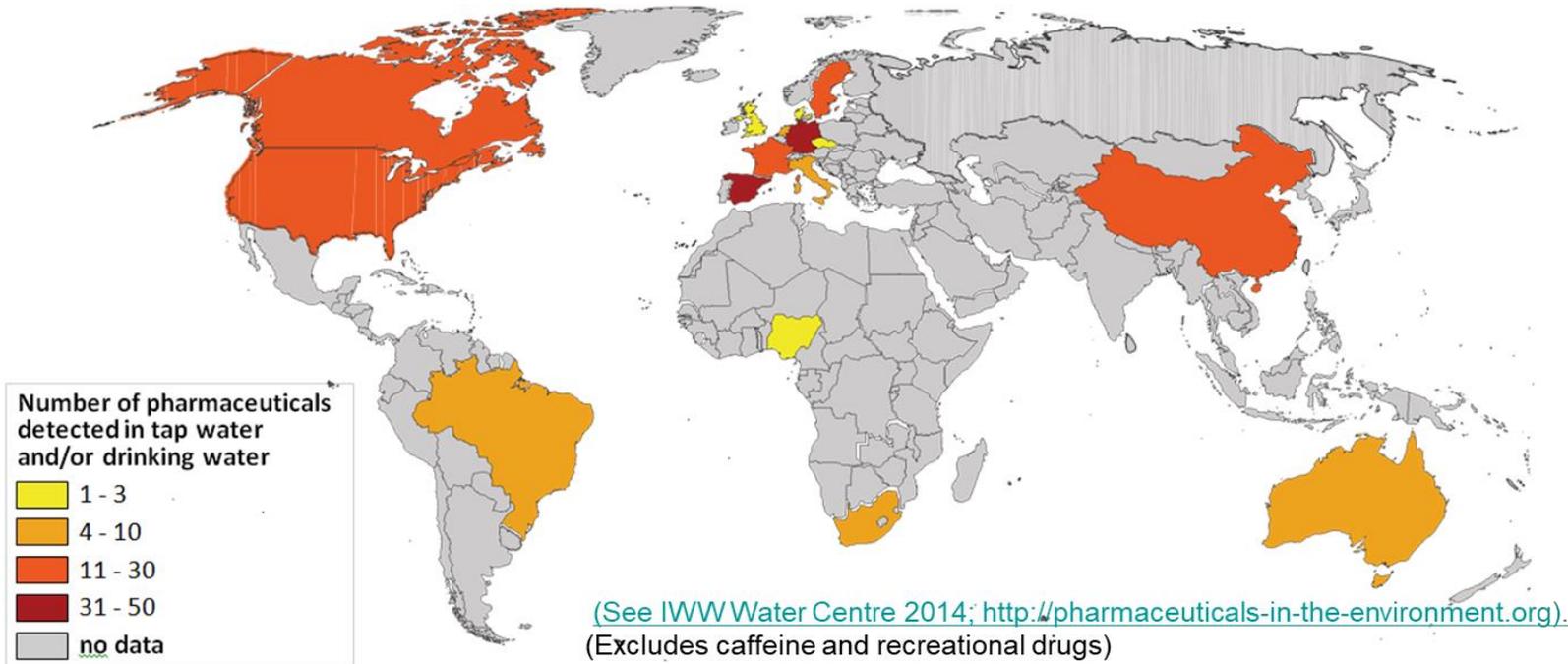
*Fathead minnows and
synthetic estrogens
Source: EPA*

Human health impact ? Drinking water



Source: inspiredhealthandhappiness

- Compromise drinking water quality
- Just another contaminant ? Low risk: No loss of life
- Designed to be biologically active



- More investigation – more +ve results.....including bottled water

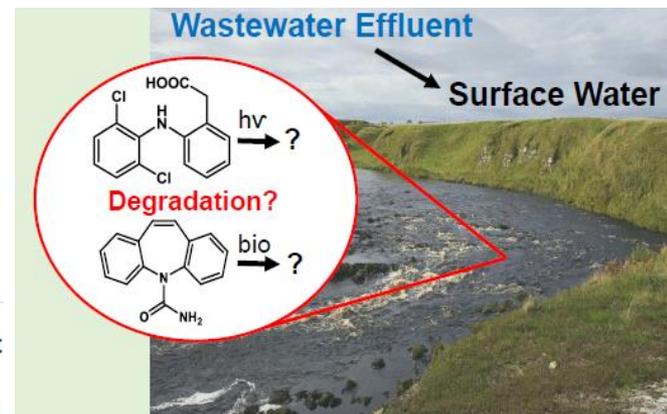
ERI Activity

Development of new analytical methodologies

- 'emerging contaminants' - pharmaceuticals
- across therapeutic classes
- PhD: Pharmaceutical transformation products : Degradation, distribution, persistence and eco-toxicity



Hydro Nation Scholars Programme



Pharmaceutical measurement & monitoring

- natural water, wastewaters
- PhD: passive sampling techniques



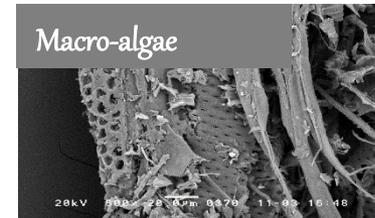
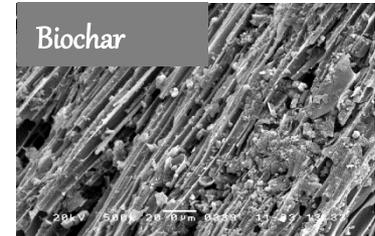
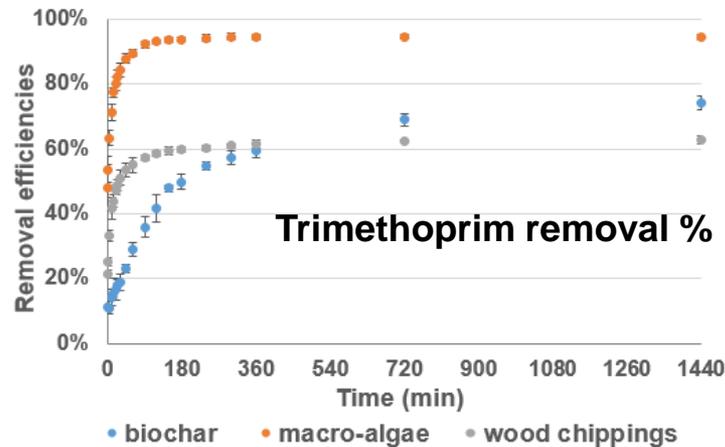
ERI Activity

Remediation: removal of pharmaceutical contaminants

- PhD: low-cost sustainable solutions (biosorption technologies)
- natural or waste materials - marine & terrestrial – applied to waste & potable waters (rural emphasis)



Hydro Nation Scholars Programme



- PhD: Using marine waste plastics in water decontamination

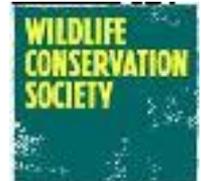


International Partnership: Asian vultures

Internationally leading research helping to protect global biodiversity



- **ERI is a member of “SAVE”** – Saving Asia’s Vultures from Extinction <http://www.save-vultures.org/> with WWF, RSPB, ZSL
- Asian vulture populations crashed since early 1990’s
 - 3 species, one once the most common bird of prey in the world (10’s millions), are now “*Critically Endangered*” (<10,000) - in 15 years
- caused by **DICLOFENAC** – a veterinary pharmaceutical
- ERI provides all of the analytical chemistry for this project



Regional Partnership: NHS Highland +

Basic & Clinical Pharmacology & Toxicology, 108, 224–233

Doi: 10.1111/j.1742-7843.2011.00682.x



The Wise List 2015

The 'Wise List' – A Comprehensive Concept to Select, Communicate and Achieve Adherence to Recommendations of Essential Drugs in Ambulatory Care in Stockholm

Joint formulary for prescribing with guidelines linked environmental impact and carbon footprint as well as clinical and cost effectiveness



Aim: Develop a similar formulary in Scotland i.e. to update the NHS Highland formulary to incorporate environmental effects as a pilot

Green Breakthrough Partnership



European Meeting on Environmental Chemistry



EMEC¹⁷
Inverness 2016





Summary

**environmental
research
from a new
perspective**





- **Centre of aspiration !**
 - Research – contemporary, competitive and issue driven
 - Curriculum- distinctive areas – research informed
 - Enterprise – supporting business
- **Location**, location, location – world class environments and resources
- **UHI**: Transforming the prospects of our region, its economy, its people and its communities + reaching out to the world through its **research & teaching**
- **Partnership & collaboration**
 - regional, national & internationally + academic, business stakeholder
- Further info:
eri.ac.uk **@ERI_UHI** **Stuart.Gibb@uhi.ac.uk**

Ecological impact: Fish

Dilute Concentrations of a Psychiatric Drug Alter Behavior of Fish from Natural Populations

T. Brodin^{1,2}, J. Fick², M. Jonsson¹, J. Klaminder¹

Science

AAAS

- European perch (*Perca fluviatilis*)
- Oxazepam (benzodiazepine): Anxiety disorders or alcohol withdrawal symptoms
- *'Increased activity, reduced sociality, & higher feeding rate'..'ecological and evolutionary consequences'*
- *.....NOT toxicity*

GABAergic anxiolytic drug in water increases migration behaviour in salmon

[Gustav Hellström](#),^{a,1} [Jonatan Klaminder](#),¹ [Fia Finn](#),¹ [Lo Persson](#),² [Anders Alanärä](#),² [Micael Jonsson](#),¹ [Jerker Fick](#),³ and [Tomas Brodin](#)¹

nature
COMMUNICATIONS

- Salmon smolts exposed to oxazepam migrated nearly twice as quickly as controls



What is a University?

Prof Bill Ritchie

(Aberdeen and ex VC Lancaster)



Teaching and Learning

Scholarship and Research

Services, Outreach and Consultancy

Very brief personal experiences

Definitions of a University

Expectations - Internal

- Students
- Staff
- Senior management
- Governance

Expectations - External

- Governance
- Society
- Local Communities and Economies

Highlands and Islands University

- Unique Structure and History
- Mission and Prospectus

Measurements of Success

- Student Satisfaction and Employment
- Peer Judgement
- Compliance and Probity

Key Measures

- Being a Going Concern
- Income and Expenditure and Cash-Flow

Challenges

UHI FOUNDATION CONFERENCE

Tuesday, 9th October 2018

DELEGATES		
Title	Last name	First name
Professor	RITCHIE	Bill
Mr	WORTHINGTON	David
Prof	GIBB	Stuart
Ms	ASHWORTH	Elizabeth
Mr	BEDFORD	Derek
Mr	BIRNIE	Graham
Mr	BRANSBURY	Allan
Cllr Dr	CLACKSON	Stephen
Mr	EDWARDS	Anton
Mrs	EDWARDS	Margaret
Cllr	FEAVER	Claire
Mr	FERGUSON	Duncan
Mr	GARDNER	Blair
Mr	GORDON	David
Ms	HANDLEY	Catherine
Dr	HAYES	Nicky
Mr	INGLIS	Tom
Ms	LARG	Fiona
Mr	MASTERSON	Phil
Mr	MCVICAR	Eric
Professor	MULHOLLAND	Clive
Mrs	MURRAY	Debbie
Mrs	MUSTARD	Seonaid
Mr	PRAG	Thomas
Mr	SENDALL	Roger
Mrs	SHAW	Christine
Mr	STEPHEN	Callum
Mr	VERNAL	Lewis
Mrs	FRASER	Zosia