EDINBURGH GEOLOGICAL SOCIETY

Promoting public interest in geology and advancement of geological knowledge

Annual Report and Proceedings

187th Session
2020-2021

www.edinburghgeolsoc.org Charity registered in Scotland SC008011

Edinburgh Geological Society
Report of Council for the Year Ended 30th September 2021

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Cover picture: Some of our EGS Council who, along with Angus Miller (our EGS Promotion Co-ordinator), participated via a Zoom conference call in a scheduled Council meeting this year – apologies to Council members who were either omitted from the photograph or who were unable to attend this meeting (photograph courtesy of Angus Miller). All of the Society's business meetings and evening lectures were hosted on Zoom during the 187th session.

Welcome

The Council of the Edinburgh Geological Society takes great pleasure in presenting the Annual Report and Accounts for the year ending 30th September 2021.

Tom Challands, President

Council 2020-21 (Elected 17th March 2021)

President	Tom Challands
Vice-President	Emrys Phillips
Immediate Past President	Bob Gatliff
Honorary Secretary	Neil Mackenzie
Assistant Secretary (Annual Report)	Don Cameron
Assistant Secretary (Minutes)	Neil Mackenzie*, Katie Strang
Honorary Treasurer	Christian Ranken
Membership Secretary	Euan Mitchell**
Lectures Secretary	Graham Leslie
Excursions Secretary	Ian Kearsley
Assistant Secretary (Clough/Awards)	Graham Leslie
Assistant Secretary (Excursion Bookings)	David Graham
Assistant Secretary (Geoconservation)	Mike Browne
Assistant Secretary (Fellows Night Co-ordinator)	Chris Lofthouse
Assistant Secretary (Publications)	Patrick Condon
Publication Sales Officer	Don Cameron
Archivist	Christine Thompson
Scientific Editors	Tom Challands Heather Stewart Romesh Palamakumbra
Ordinary Members	Con Gillen, Stuart Monro, Daryl Sawyer, Rachel Walcott Angela Mathis

*Neil Mackenzie was acting Assistant Secretary (Minutes) until Katie Strang was co-opted on 29 September 2021. Patrick Condon assisted in taking minutes. **Angus Miller was acting Membership Secretary until March 2021.

Charity Name: Edinburgh Geological Society

Scottish Charity Number: SC008011

Official Contact Address: c/o British Geological Survey, The Lyell Centre, Research Avenue South, Edinburgh EH14 4AP

Website Address: www.edinburghgeolsoc.org/

Report on Activities

Overview

The global Covid-19 pandemic continued to wax and wane in waves in Scotland throughout our Society's 187th Session. Measures enforced and recommendations made by government in an effort to slow the virus's spread continued to affect all of the Society's activities. The hosting of public meetings indoors was forbidden, so our entire 2020-21 lecture programme and our Fellows Night were presented instead as a series of webinars at fortnightly intervals throughout the winter. Attendances at the webinars were consistently higher than at our indoor venues in recent years. We envisage that our enforced adoption of virtual technology for lectures will continue into the post-pandemic world, with recorded webinars being made available for those who are unwilling or unable to attend our public meetings once these can resume as indoor meetings once again.

On a positive note, our membership reached record levels again. In the spring, a relaxation of government restrictions on public gatherings outdoors allowed an ambitious programme of field excursions to go ahead as planned, albeit with reduced participation to ensure social distancing. The traditional September Long Weekend excursion took place in the Berwick-on-Tweed area. Our Society hosted the Geopoetry 2020 virtual event on the 1st October jointly with the Geological Society and the Scottish Poetry Library. A resultant publication, Earth Lines, will be available for purchase in the new session.

Angus Miller continued in his paid role as our Promotion Co-ordinator. In Edinburgh's Science Festival, Angus and Council members led 4 Climate Change–themed walking tours, assisted by postgraduate students from the University of Edinburgh.

The Edinburgh Geological Society was founded in 1834 and its objectives are the stimulation and encouragement of public interest in geology and the advancement of geological knowledge. Its governing document is The Laws of the Society, which serves as its constitution. The Society is an unincorporated association with charitable status. Its membership elects the members of its Council as the Charity Trustees at the Annual General Meeting of the Society.

The Council is the management body for the Society and there are a number of Committees which manage particular aspects of the Society's work and report to the Council. These include the Finance and Planning, Clough, Excursions, and Publications Committees and also the Lothian and Borders GeoConservation Group and Tayside Geodiversity Group. The Scottish Journal of Geology is owned jointly by the Society and the Geological Society of Glasgow. The Society is affiliated to the Geologists' Association.

Council

The Council met six times during the year to maintain an overview of the full range of activities of the Society. The Finance and Planning Committee met once to compile and monitor a budget for the financial year 2020-21. The Council's Promotion and Coordination Group continued to organise various promotional activities.

Membership

The number of members rose by 34 (5.4%) in 2020-21, largely due to significant increases in the numbers of Junior Associates and Glasgow Associates. The Society has enjoyed a sustained increase in membership since 2016, with the number of members now at its highest level in more than 30 years. This was despite rises in annual subscription rates on 1 October 2020 to £25 for Ordinary Fellows and £12.50 for Family and Senior Fellows and Glasgow Associates.

	2020	2021	Change
Life Fellow	10	13	3
Ordinary Fellow	422	430	8
Family Fellow	26	29	3
Senior Fellow	108	109	1
Glasgow Associate	16	24	8
Junior Associate	29	40	11
Distinguished Fellow	9	9	0
Corresponding Fellow	4	4	0
Honorary Fellow	2	2	0
TOTAL MEMBERSHIP	**626**	**660**	**34**

Lectures Programme 2020-2021

Government restrictions associated with the ongoing Covid-19 pandemic prevented the hosting of our entire 2020-21 lecture programme at the University of Edinburgh's Grant Institute and also our Fellow's Night at the Lyell Centre on Heriot-Watt University's campus. Nevertheless, the programme of 10 lectures and the Fellows Night organised respectively by Lectures Secretary Graham Leslie and Chris Lofthouse were delivered instead as a series of webinars at fortnightly intervals throughout the winter as originally scheduled. Audience levels consistently exceeded attendances

at the Grant Institute in pre-pandemic times. Lectures held during the session were:

2020

14 Oct **Dave McCarthy** (British Geological Survey): The geological controversies of the Falklands Plateau.

28 Oct **Andy Mitten** (BDRG/Keele University): Delta tops and succession hops: the Clackmannan Group, Midland Valley, Scotland.

11 Nov **Alasdair Murphy and colleagues** (University of St Andrews): Exploring Southern Greenland's magmatic past: new perspectives from the giant dykes on Tuttotooq.

25 Nov **Graham Leslie** (British Geological Survey): A Caledonian cruise across Iapetus on Anglesey.

9 Dec **Fellows Night,** with short contributions by **Roger Crofts** (Geoconservation in Nature Protection), **Rachael Paul** (Mapping, Modelling and Mining: a geological overview of the KOV deposit), **Daryl Sawyer** (Ice Age Sahara: Cambro-Ordovician sediments in the Tassili Najjer, Algeria), and **Katie Strang** (Petrography of lime mortars).

2021

6 Jan **Lucy McKay** (Strathclyde University): Core surprise: what's inside a plate boundary fault in Scotland?

20 Jan **Charlie King** (Scotgold): Gold: exploring Scotland's untapped potential.

3 Feb **Alison Monaghan** (British Geological Survey): Joint MIS/EGS lecture – Drilling into mines for heat: the UK Geoenergy Observatory in Glasgow.

17 Feb **Anthony M Spencer**: Clough Medal lecture – The Port Askaig Formation in Argyll: uncovering the evidence for repeated climatic changes in a Cryogenian glacial sequence.

3 Mar **Tom Challands** (University of Edinburgh): Presidential Address: Scottish palaeontology in the 21st century.

17 Mar **Heather Stewart** (British Geological Survey): Ocean trench geology.

Promotion of the Society and Public Interest in Geology

Our paid Promotion Co-ordinator, Angus Miller, continued to support the work of the Society in engaging the general public and EGS members. Our main public engagement activity this session comprised a series of 4 outdoor events for the Edinburgh Science Festival in July. We worked with a team of

enthusiastic MSc and PhD students from the University of Edinburgh's School of GeoSciences to explore how Edinburgh would need to change to meet net-zero CO_2 emission targets by 2050. The timing of the Science Festival and general limited promotion of in-person events in the programme meant that audience numbers were small. However, the event was appreciated by those who attended and created a good model for future engagement with student volunteers on this topic.

The Society supported Geopoetry 2020 held on 1 October 2020 with contributions from 45 poets. This day-long meeting had to be rescheduled from the Scottish Poetry Library and Holyrood Park to an online event – it was co-ordinated by Patrick Corbett. Following the meeting, EGS worked with Patrick and other editors to prepare many of the poems for publication, supported by beautiful images and several essays exploring Geopoetry, Geopoetics and the subtle differences between them. The result is a stunning new volume, *Earth Lines*, described as "a delightful outcrop of poetry and prose" by author Elsa Panciroli. The new book will be launched in an online event as part of the Scottish Geology Festival on 1 October 2021, and it is now available to buy from the EGS website at a reduced price of £12 for members. The book is supported by a substantial and growing collection of online material; it is hosted on our website at https://www.edinburghgeolsoc.org/earth-lines/ and includes audio and video recordings of some of the poems and poets.

The number of EGS members has grown by 20% since 2016, putting strain on our existing membership system. Angus Miller stood in as acting Membership Secretary from February 2020 and coordinated the transition to a new membership and event booking database, hosted online by WebCollect. This came into operation from the start of the new Session, and Euan Mitchell took over as Membership Secretary from March 2021.

Excursions Programme 2020-2021

Our 2020 excursion programme had been almost completely cancelled due to government restrictions associated with the Covid-19 pandemic. A partial lifting of these restrictions enabled a limited programme to be reinstated from September, including the following 2 excursions held in October 2020:

Sat 3 Oct Whinny Hill: Leader Angus Miller.

Sat 10 Oct Kinghorn/Seafield: Leader Ian Kearsley.

Both of these excursions were also made available as webinars on our Society's website at https://www.edinburghgeolsoc.org/excursions/. A third excursion scheduled for mid-October was cancelled after a resumption of government restrictions on travel within Scotland. By the onset of the 2021 field season these restrictions had been partially lifted once more,

enabling Ian Kearsley and his team to devise an ambitious programme of 6 Wednesday evening and 6 Saturday excursions between June and September, albeit with a reduction in attendees to conform with government advice on social distancing. David Graham took bookings for these excursions and provided information on the excursions to participants. The 2021 excursions to end-September were:

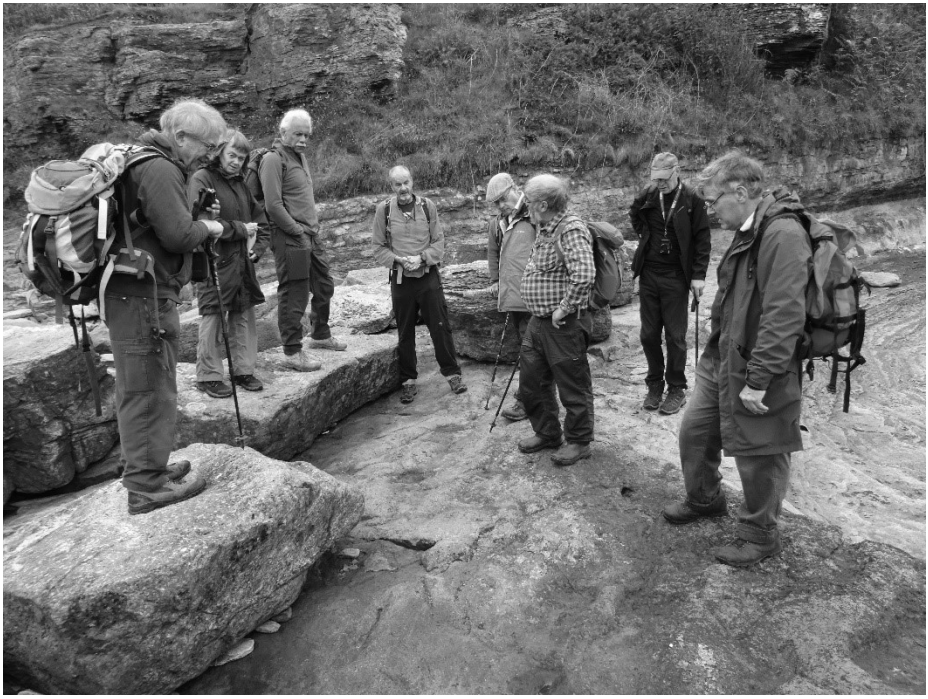
Wed 9 Jun	Eddleston: Leaders Al McGowan and John Preston.
Wed 23 Jun	Cramond: Leader Angus Miller.
Sat 3 Jul	Charlestown: Leader Katie Strang.
Wed 7 Jul	Bavelaw/Pentlands: Leader Richard Smith.
Sat 17 Jul	Yellowcraig: Leaders Brian Upton, David Stephenson and Angus Miller.
Wed 21 Jul	Joppa: Leader Bob Gatliff.
Sat 31 July	Gasswater: Leaders Graham Leslie and Mike Browne
Wed 4 Aug	Arthur's Seat: Leader Angus Miller.
Sat 14 Aug	Arbroath: Leader Al McGowan.
Wed 18 Aug	Wardie shore: Leader Tom Challands.
Sat 21 Aug	Dob's Linn: Leader Tom Challands.
Sat 11 Sep	Seafield/Kirkcaldy: Leader Ian Kearsley.

A week-long excursion to the Isle of Man rescheduled from 2020 to May 2021 was again unable to proceed due to Covid-19 restrictions. Our traditional Long Weekend excursion did take place between 17-19 September 2021 with 10 participants – the excursion was led by Ian Kille (Northumbrian Earth) and organised by Ian Kearsley, and was much enjoyed by all. The principal theme for the weekend was investigation of the Carboniferous sedimentary sequences of the Northumberland Trough, exposed along the coast at Howick and Cocklawburn. We investigated how deposition of the strata was affected by syn-depositional tectonics, and how they were later modified by Variscan influence, including the magmatism that created the Whin Sill.

Before proceeding to Northumberland, most of the group met on the Friday afternoon at Eyemouth for a short excursion led by David Stephenson to examine exposures of Lower ORS volcanics and Upper ORS sandstones, and to visit the historic Eyemouth Fort around Hairy Ness. The cyclothemic nature of much of the Northumberland Trough's Early Carboniferous succession was observed on the Saturday at Howick. Of particular interest were *Temnospondyl* (amphibian) footprints on the hummocky surface of a sandstone bed. These were originally described in a paper by Maurice Tucker that contains excellent photos of pristine footprints and a body-

sculpted groove. Unfortunately, all of these have been severely eroded by wave action since the paper's publication. We also investigated the influence of movement of the E-W trending Howick Fault on local sedimentation. A dolerite dyke with affinity to the Whin Sill is intruded along the fault plane. Further more complex faulting was also observed at Cullernose Point, where intrusion of several further dykes complicates interpretation of the sequence of events.

On the Sunday, the party examined Middle Limestone Group strata, including an enigmatic feature – grooved bedding in the Sandbanks Limestone – at Cocklawburn near Berwick. Next, tight folds with NNW-aligned axial planes were observed near Cargie's Plantation – these folds are associated with the Berwick Monocline. The excursion ended on a high note, a visit to the algal oncolite bed above the Woodend Limestone. Unfortunately, this outcrop could only be accessed down a steep slope that wasn't doable by everyone.



Participants on the Long Weekend Excursion examining amphibian footprints in Namurian deltaic strata at Howick, Northumberland. Though indifferently preserved, these are amongst the earliest amphibian footprints recorded in Europe. (photograph courtesy of Anne Burgess).

Publications

Tom Challands writes: Unfortunately, there has been a reduction in the number of submissions to the Scottish Journal of Geology and accepted papers in 2021. The journal had a total of 22 submissions in 2021 compared with 32 the previous year.

Of these submissions, 7 papers received a reject decision and 12 papers were accepted giving a 37% rejection rate for 2021. 19 papers were published in Volume 57, including one review paper and 7 discussion/ discussion reply articles. Three accepted papers are to be published in a 2022 volume. We may speculate as to why there has been a reduction in submissions but the returning to more normal work patterns for academics may have had an influence.

The three most viewed papers (by download) were Monaghan *et al. Discussion on 'Borehole temperature log from the Glasgow Geothermal Energy Research Field Site: a record of past changes to ground surface temperature caused by urban development* with 2939 downloads; Kean *et al. First and most northern occurrence of a thalattosuchian crocodylomorph from the Jurassic of the Isle of Skye, Scotland* with 631 downloads and Leather: *A new geological map and review of the Middle Devonian rocks of Westray and Papa Westray, Orkney, Scotland* with 378 downloads.

If EGS members have their own research that they would like to publish but are not sure how to, do get in touch with members of the Society or Council who have published before. It's an invaluable way to get your own work out in the public domain and immortalised forever!

Bob Gatliff compiled and edited Issues 69 and 70 of our twice-yearly Edinburgh Geologist magazine, and these were distributed to members in September and May. Two editions (Spring & Autumn) of the EGS Newsletter were again produced by our Promotions Co-ordinator, Angus Miller. These were distributed to members as hard copy, but are also available online, via the Society's website. In addition to keeping members informed about the Society's activities, the Newsletter is proving useful in promoting the Society to a wider readership of non-members. The GeoConservation Groups continued to work on leaflets; a full list can be found on our website, see: https://www.edinburghgeolsoc.org/publications/geoconservation-leaflets/.

At £1,771, EGS book sales revenue remained at only 60% of pre-pandemic levels. This revenue was augmented by £257 received from National Museums of Scotland (NMS) as the Society's share of proceeds from our four jointly published excursion guides. Whereas sales through our EGS website have been unaffected by the Covid-19 crisis, income from bookshops and geoparks has remained depressed – in previous years this had accounted for more than 50% of our book sales revenue. EGS members received their book

orders made from our EGS website postage-free throughout the session, and this arrangement will continue until they can make their purchases at EGS lecture evenings once more.

The entire stock of EGS excursion guides and geoconservation leaflets remains housed in secure rental storage in Leith. Storage continues to cost the Society approximately £1,200 per year, and the search continues for a cheaper alternative – ideas from the membership would be most welcome.

Geoconservation Groups (report by Mike Browne, chair)

This has been another low-key session for Lothian and Borders GeoConservation, largely because of continuing Covid-19 restrictions. Our Business Committee has met once by Zoom, and now has active support from all four Local Authorities (City of Edinburgh, East Lothian, Midlothian and West Lothian) for the first time for several years. Only Midlothian Council is lacking a full suite of Local Geodiversity Sites. Our key volunteers (led by Alison Tymon) have started work on surveying the sites in Midlothian, short-circuiting the long wait for funding to be secured by the Authority. We also continued work on site condition monitoring following on from 3 Zoom workshops run by the Scottish Geology Trust and GeoConservationUK on the whole process of site designation and condition monitoring. Subsequent training sessions were held at Petershill and The Knock Local Geodiversity Sites in West Lothian. West Lothian Council have praised the standard of the work produced to date. The City of Edinburgh Council's local geodiversity working group were able to raise the standard of all existing documentation for their 30 designated Edinburgh sites in time to be included in the next local development plan. EGS and our Group have written to Scottish Borders Council objecting to the proposed Slipperfield gravel working between Carlops and Dolphinton, based on the excellence of the local glacial landscape and landforms. The outcome is now believed to be with the Scottish Government.

Our Volunteer Group met eight times during the year by Zoom. With the exception of our surveying and monitoring work, the only group field visits undertaken in support of compiling new leaflets were at Dalkeith Palace and Country Park. Projects under way include the Two Laws Trail (North Berwick and Traprain), Edinburgh New Town (east) and Calton Hill Trails, and a rewrite of North Berwick Trail. Members of the Volunteer Group also helped with planning the Society's excursions programme. Tayside Geodiversity Group is still carrying out site surveys in Perthshire and Angus.

Finally, we wish to record our sincere appreciation of David McAdam who was our Secretary from 1999 to 2011. He was still an active member (by Zoom) of the Group at the time of his death in July. His obituary (page 20) indicates the many facets of our work that he both led and contributed to.

Donation to Inchnadamph Field Centre Appeal, Ian Jackson bequest, and donation by David Cook

In July 2021, Bob Holdsworth (Durham University) approached our Society on behalf of the Scottish Geology Trust to canvass support for a campaign aiming to ensure that the Inchnadamph Field Centre near Lochinver remains as a field centre for use by geology field parties. The campaign group's proposal was that a benefactor be found for a community buy-out, with support funding to be applied for from a Scottish Government grant. Their first step was for a feasibility study to look at the state of the buildings, how they will be used, and the economics. The cost of the study was priced at £10,000, with £6,000 already raised by mid-summer from university donations. EGS agreed to make a £2,000 donation towards the feasibility study, refundable in the event that this study does not proceed.

Our Society received a bequest of £3,780 from the Estate of the late Ian Jackson this session. A further £695 was raised from the sale of Ian's extensive collection of geological books and maps. Our Society also wishes to record its gratitude to David Cook for his generous gift of £500, which will be used to augment funds available for the Society's Grant Scheme.

Grants and Awards

The EGS Grant Scheme supports projects which further the aims of the Society, namely to encourage public interest in geology and to advance geological knowledge. Council considered grant applications on one occasion during the year. The following were approved in 2019/20 to a total of £1,124, but were eventually paid out during the current session:

Richard Batchelor (University of St Andrews)	£260	Publication of a self-guided leaflet about the geological features of the area around Elie, Fife
Allan Audsley (University of Stirling)	£864	Radiocarbon dating and chemical analysis of shells in sea-bed pockmarks to determine the timing of sea-bed methane leakage

The following table records two awards made in 2020/21 to external (non-EGS) recipients, but neither was paid out this session:

James Gilgannon (University of Bern, Switzerland)	£864	Testing of grain-size palaeopiezometery in mylonites
Richard Batchelor (University of St Andrews)	£260	Publication of a self-guided leaflet: 'Building Stones of Dunfermline'

In recent years a £200 EGS Science Prize has been awarded annually for top marks achieved in the Scottish Environmental Science Higher examination. No prize was awarded this session, because Covid-19 restrictions had prevented national school examinations from being held in 2020.

The Clough Memorial Award (£300) was made to George Guice (Smithsonian Institution, Washington DC, USA) for his outstanding research into mineral ore genesis.

Clough Medal and Research Grants

The Clough Medal was awarded this session to Dr Anthony Maxwell (Tony) Spencer in recognition of his contribution to the international understanding of ancient glaciations. In particular, his ground-breaking work on the Port Askaig Formation over the last 50 years laid the foundations for the 'Snowball Earth' model. His meticulous research is widely regarded as an exemplar of scientific method. He has encouraged and supported numerous PhD students to develop projects in this field, even while pursuing his own long career in the oil industry. Now in retirement, he remains active in the field, in particular guiding international efforts to understand the geological evidence underpinning global climate perturbations. He is a world-renowned geologist whose work in Scotland, his contribution and his achievements make him a worthy recipient of the Clough Medal.

A contribution of £420 was awarded from the Mykura Fund to Kerstin Wright to support an MSc dissertation study of silicon isotope variability in the Archaean crust of north-west Scotland at the University of St. Andrews. A request by Paige dePolo (University of Edinburgh) for £560 from the Mykura Fund had been approved in our 186th Session to support fieldwork on the island of Muck. Her Covid-19 delayed fieldwork was completed in 2021, and payment has now been made accordingly. A contribution of £420 was made from the Clough Fund to Angela Turner (Keele University) towards a study aiming to constrain the glacial history and associated relict landscapes of the south-west Pennines and Cheshire Plain.

Financial Review

The Society produced a surplus in 2020-21 of £4,715, being the result of several factors that included:

- Enhanced membership and membership subscriptions.
- Lower than anticipated expenditure on excursions and on grants and awards.

The surplus was further enhanced by gains in the value of the Society's investments, as global stock markets continued their recovery from uncertainties resulting from the Covid-19 pandemic, such that total Reserves increased from £124,505 to £143,849.

The Council's policy is that it should maintain a minimum level of Unrestricted Reserves of £50,000 (in previous years £35,000) to guard against financial risks. The current level of Unrestricted Reserves comfortably exceeds that at £101,445. Council has determined that it can continue to fund the Promotion Co-ordinator costs from its Reserves for the time being. Other initiatives may be similarly funded, although the Council's overall Strategy requires it to keep the level of its Reserves under regular review.

Within the total funds of £143,849 are two Restricted Funds, the Clough and Mykura Funds, which are described in Note 6 to the accounts. These Funds make up the remaining £42,404 of the Reserves, having increased by £4,647 during the year.

The Council is guided by its Strategic Plans for EGS 2015-19 and 2019-23, and by an annual budgeting process under which it allocates and controls expenditure. Its investments are managed by Rathbones.

Approved by the Council of the Edinburgh Geological Society and signed on its behalf by:

Tom Challands, President

Date:

Statement of Financial Activities including Receipts and Payment Account for the year ended 30th September 2021

	Note	Unrestricted £ 2021	Restricted £ 2021	Total £ 2021	Total £ 2020
Receipts					
Voluntary Income					
Members' subscriptions		14,018	0	14,018	10,526
Gift aid		0	0	0	1,544
Donations and Grants		5,193	0	5,193	11,194
Investment Income		2,036	941	2,977	3,094
Income from Charitable Activities					
Excursions	3	350	0	350	1,990
Fundraising trading					
Sales of Publications		1,850	0	1,850	1,709
Total Incoming Resources		**23,447**	**941**	**24,388**	**30,057**
Payments					
Investment management costs		480	0	480	519
Storage		1,188	0	1,188	1,188
Fundraising trading:					
Cost of sales		1,647	0	1,647	3,551
Charitable activities:					
Lectures		275	0	275	850
Newsletters		1,847	0	1,847	1,660
Edinburgh Geologist		2,034	0	2,034	1,982
Excursions	3	305	0	305	360
Events & Initiatives		1,983	0	1,983	1,748
Grants and Awards*		1,124	1,400	2,524	5,040
Charitable donations		2,000	0	2,000	10,000
Promotions		2,940	0	2,940	4,034
Administration		2,631	0	2,631	2,144
Governance		1,345	0	1,345	1,234
Total Resources Expended		**19,799**	**1,400**	**21,199**	**34,310**

Continued overleaf

	Unrestricted £ 2021	Restricted £ 2021	Total £ 2021	Total £ 2020
Net incoming/(outgoing) resources before investment sales and (purchases)	**3,648**	**(459)**	**3,189**	**(4,253)**
Proceeds from sale of investments	8,162	0	8,162	10,783
Purchase of investments	(6,636)	0	(6,636)	(9,979)
	1,526	**0**	**1,526**	**804**
Surplus/(deficit) for year	**5,174**	**(459)**	**4,715**	**(3,449)**

Statement of Balances as at 30th September 2021

	£ 2021	£ 2020
Cash Funds		
Cash and bank balances at start of year	25,027	28,476
(Deficit)/surplus shown on receipts & payments account	4,715	(3,449)
Cash and bank balances at end of year	**29,742**	**25,027**
Stock		
Stock of publications	5,650	4,179
Other stock	0	284
	5,650	**4,463**

Investments – Analysis of Movements of Investments

Market value at beginning of year	93,980
Add: additions to Investments at cost	6,636
Less: disposals at market value	(8,023)
Add net loss on revaluation	16,017
	108,610

The notes on pages 17-18 form part of these accounts.

Approved by Council and signed on its behalf by

C Ranken, Treasurer 2022

Notes forming part of the Financial Statements

1) Accounting Policies

The accounts have been prepared on a receipts and payments basis.

2) Geoconservation Groups

Lothian and Borders GeoConservation and Tayside Geodiversity groups are constituted as committees of the Society, but have their own office-bearers and bank accounts. Their financial results are included in these accounts.

3) Excursions

Particulars of the Society's excursions etc are as follows:-

	2020/21		2019/2020	
	Contributions £	**Cost £**	**Contributions £**	**Cost £**
Day Excursions	350	305	0	0
Weekend Excursions	0	0	0	0
Long Excursions	0	0	1,790	197
Fellows' Night	0	0	200	163
TOTAL	**350**	**305**	**1,990**	**360**

4) Publications

Stocks of publications have been valued at cost.

5) Trustee Remuneration and related party transactions

No members of Council received any remuneration during the year. Costs totalling £155.54 incurred on behalf of the Society were refunded to 2 members of Council.

No trustee had any personal interest in any contract or transaction entered into by the charity during the year. One member of the Society entered into a contract for services to provide promotion activity to the Society.

6. Funds

Endowment Funds

The purpose of the Clough Memorial Fund is to provide a medal annually to a geologist whose original work has materially increased the knowledge of the geology of Scotland and the North of England, and to award grants for fieldwork. A medal was awarded, and one grant was made from the Clough Fund during the year (see page 13). One grant was eligible from an additional Mykura Fund, which supports fieldwork in Scotland, and another Mykura Fund grant that had been approved in 2019 was paid out this year (see page 13).

Accounting

The gross income from investments and bank interest received during the year, together with net gains (losses) on disposal or revaluation of investments, has been apportioned to the various Endowment funds in the ratio of their opening balances.

The assets of the Society have been apportioned to the various Endowment funds in the ratio of their closing balances.

	Unrestricted Funds £	Endowment Funds Clough £	Endowment Funds Mykura £	Total £
Investment income	2,036	471	470	2,977
Other Incoming resources	21,411	0	0	21,411
Total incoming resources	**23,447**	**471**	**470**	**24,388**
Grants and awards	1,124	840	560	2,524
Other outgoing resources	18,675	0	0	18,675
Total outgoing resources	**19,799**	**840**	**560**	**21,199**
Gain/loss on Investments	11,050	2,557	2,549	16,156
Net movement in funds	14,698	2,188	2,459	19,345
Funds brought forward	86,747	19,747	18,010	124,504
Funds carried forward	**101,445**	**21,935**	**20,469**	**143,849**
Represented by:				
Investments	74,283	17,188	17,139	108,610
Current assets	27,162	4,747	3,330	35,239
	101,445	**21,935**	**20,469**	**143,849**

Independent Examiner's Report to the Trustees of the Edinburgh Geological Society

For the year to 30th September 2021

I report on the Accounts of the Charity for the year ended 30th September 2021 which are set out on pages 14 to 18.

Respective responsibilities of trustees and examiner

The charity's trustees are responsible for the preparation of the accounts in accordance with the terms of the Charities and Trustee Investment (Scotland) Act 2005 and the Charities Accounts (Scotland) Regulations 2006 (as amended). The charity's trustees consider that the audit requirement of Regulation 10(1)(d) of the 2006 Accounts Regulations does not apply. It is my responsibility to examine the accounts as required under section 44(1)(c) of the Act and to state whether particular matters have come to my attention.

Basis of independent examiner's statement

In the course of my examination, no matter has come to my attention:

1) which gives me reasonable cause to believe that, in any material respect, the requirements:

   to keep accounting records in accordance with Section 44(1)(a) of the 2005 Act and Regulation 8 of the 2006 Accounts Regulations

   and to prepare accounts which accord with the accounting records and comply with Regulation 8 of the 2006 Accounts Regulations

   have not been met, or

2) to which, in my opinion, attention should be drawn in order to draw a proper understanding of the accounts to be reached.

Jessie W Craig MA, CA
33 Braehead Avenue
Edinburgh
EH4 6QN

_____ 2022

Obituaries

During the year we recorded with the greatest regret the deaths of Dr John Stuart Myers, David McAdam and Clive Richman. They will all be sorely missed.

David McAdam was born in Glasgow in 1939, where he attended primary sections of Eastwood Secondary School and Hutchesons' Grammar School until the family moved to Edinburgh in 1949. He completed his education at the Royal High School. David studied next at Edinburgh University, where he gained an Honours Degree in Geology with the highest distinction. He represented the University in athletics and gained his University Blue.

David's entire post-university career was with the Institute of Geological Sciences/British Geological Survey. He was initially assigned in 1961 to the Midlands and Central & North Wales Unit, then based at the Geological Museum in South Kensington, and from where he surveyed the geology of the Towcester (Northampton) area. He and his new wife Ann moved to Scotland in 1964, and they later adopted two girls, Fiona and Donna. Ann died in January 1986, and later that year David married Valerie, who he had met through the Edinburgh Geological Society. David retired in 1999, and in 2003 he and Valerie moved to North Berwick.

David spent 35 years with BGS in Edinburgh, mapping mainly the geology of south-east Scotland from Eyemouth around the Firth of Forth and its estuary to Livingston and Kirkcaldy. He also surveyed around Kilmarnock, Hamilton and Limavady in Northern Ireland. David contributed to numerous geological maps, memoirs and economic reports. He reported on the oil-shales of the Lothians (present resources and former workings), and sand and gravel resources of both the Borders Region and the Lothians. From 1981 onwards, like many others in BGS, David was involved in the Department of the Environment's many environmental projects, such as at Lochgelly and Cowdenbeath in Fife. David was a co-author of the BGS 1:250,000 Series Solid Geology maps of the Tay-Forth and Clyde sheets.

One of David's proudest achievements was the production of popular booklets on local geology aimed at the interested general public, such as Edinburgh and West Lothian, East Lothian and The Borders, and Arran and the Clyde Islands. He was a member of the Edinburgh Geological Society from 1964, and served as Secretary (1970-1974) and President (1982-1984). David co-edited our Society's popular excursion guides to Lothian Geology, and Scottish Borders Geology; the latter is now sadly out of print. He was our Excursions Secretary between 1994 and 2004, helping to introduce members to the fascinating geology of Central Scotland and beyond. He became a Distinguished Fellow of the Society in 2001.

David shared his love of geology with a wider audience when he appeared on Weir's Way with Tom Weir in 1981. In the programme entitled *An Edinburgh Volcano* he described the geological history of Arthur's Seat. He always knew which of his friends were insomniacs when they commented "I saw you on TV last night", having seen repeats of the show in the wee small hours.

As secretary of our Society's Lothian and Borders GeoConservation Committee from 1999 to 2011, David was instrumental in securing the listing of our early Local Geodiversity Sites with the local authorities. He helped to produce numerous popular leaflets explaining sites of local geological interest including Corstorphine Hill, Calton Hill, Canongate Wall, and another on the volcanoes of North Berwick. He was still advising on new editions of these leaflets until his death, joining committee meetings via Zoom. David made major contributions to two projects of which the GeoConservation Group is very proud. The first was his collaboration with Girl-guiding East Lothian that produced five geology leaflets written by the guides; the second was the construction of the Witch Craig Wall (Beecraigs Country Park) and explanatory leaflet. David was often to be seen at the many public events that the Group attended around the Lothians, often with all sorts of pre-prepared rock games.

After moving to North Berwick in 2003 David became the leader of the local U3A Geology Group until 2019, inspiring a whole new group of people with his love of geology. The group continues to thrive, and he was able to listen to their recent lectures via Zoom.

Apart from geology, David had many other interests including golf, philately, rockery gardening and country dancing, and he was President of the local Probus Club when the Queen visited North Berwick in 2009. He was very proud of the fact that, following a stint of grouse beating, he had danced with both the Queen and Princess Margaret at the Ghillies' Ball on the Balmoral Estate. David loved the poetry of Robert Burns and was president of the North Berwick Burns Club in 2014. He would memorise *Tam O' Shanter* while walking the dog in the evening and was sure that his dog could also have recited the poem by heart!

David suffered a major stroke in 2019 and was hospitalised for 5 months before he could return home. He was determined that the stroke would not affect his enjoyment of life. He tried to go out every day and enjoyed using his power chair to go for long walks accompanied by Valerie, Fiona or Donna. Dressed in his distinctive high visibility cape and hat the family nicknamed him The Yellow Peril. The Covid pandemic came as a mixed blessing; it meant he couldn't meet up with friends very easily, but he was able to attend Edinburgh Geological Society lectures and U3A and Lothian and

Borders GeoConservation Group meetings via Zoom. David celebrated his 82nd Birthday a few days before he died suddenly on 16th July 2021. David joined our Society in session 1964-65, all of 57 years ago.

John Stuart Myers: Graham Park writes - John was born and grew up in the West Riding of Yorkshire surrounded by Carboniferous stone quarries. At the age of thirteen, a school field trip to Fort William generated a lifelong interest in Scotland and its rich geological and historical heritage. His education continued at The Leys School in Cambridge where the stimulating environment encouraged free thought and expression.

As an undergraduate at Imperial College, London, in the years 1962-65, he received inspirational teaching in structural geology from John Ramsay, who taught him how to investigate and map complex structural terrains in exquisite detail, following the example of the nineteenth-century geological mapping of Peach, Horne and Clough of the Geological Survey. Other inspirational teachers were the volcanologist George Walker and sedimentologist Doug Shearman.

John's decision to map part of the Lewisian gneiss complex on Harris for his Honours mapping project in 1964 was to have far reaching consequences. It was extended to a PhD project between 1965 and 1968 investigating the origin and development of the granitic gneiss complex, supervised by Janet Watson, and initiated a ten-year research project leading eventually to the production of the Geological Survey 1:100,000 map sheets and memoir on the Outer Hebrides. In his Harris work, John learnt to observe, measure and record sometimes seemingly insignificant unconventional features of the diverse complex geology that, however small, were important in understanding the bigger picture.

John and I first met in the 1970s during meetings of the Tectonic Studies Group of which he, along with other Imperial College ex-PhD students, was a prominent member. I remember well the occasion when he told me of his intention to take up a post in Australia, which I believed would be a loss to British structural geology, and to the Lewisian, but I think he felt that the field was rather crowded –with hindsight, he clearly made the right decision!

His Lewisian work was followed in 1968-70 by a post-doctoral project mapping a 55 km-wide section across the Coastal Batholith of Peru and its volcanic envelope in the Western Andes, as part of a project led by Walter Pitcher of Liverpool University. The geology was magnificently exposed in mountainous desert from sea level to 6,000 metres. This was an exciting time in the early days of plate tectonics when the Coastal Batholith came to be recognised as the classic example of the 'Andean type' of subduction zone.

Between 1971 and 1980, John was employed by the Geological Survey of Greenland to map part of the Archaean Gneiss Complex of southwest Greenland, which included the mapping and study of the Fiskenaesset anorthosite complex that was, and still is, the best exposed and best preserved example of Archaean anorthosite in the world. This study revealed a great deal about igneous processes in layered intrusions and provided a rare example of primary way-up structures in an Archaean gneiss complex by means of which it was possible to understand the evolution of large-scale tectonic structures. He recorded examples of how banded gneisses had been developed from a variety of plutonic and volcanic protoliths by intense deformation, at a time when most banded gneisses were thought to represent a primary stratigraphy of metasedimentary rocks.

After a brief spell as Lecturer in Structural Geology at Bedford College, London, he joined the Geological Survey of Western Australia in 1982 as Chief Geoscientist. He organised and supervised the Survey's geological mapping, and was able to investigate the geology of the Fraser Range region, where he discovered that the very large body of metamorphosed mafic rocks was derived from a large mid-crustal layered intrusion rather than from volcanic rocks as formerly thought. He also carried out detailed mapping of the Narryer Gneiss Complex in the Yilgarn craton that contained the oldest known rocks in Australia, including the oldest known layered anorthosite, and was involved with Ian Williams in the discovery of rocks containing zircon crystals more than four billion years old that are the oldest known remnants of continental crust.

During John's time with the Geological Survey of Western Australia, he introduced plate tectonic interpretations to the Precambrian geology of Australia. Rather than being an ancient and intact continent, he demonstrated that Australia was made up of many smaller pieces of continental crust that from time to time were assembled and dispersed. When this concept was introduced during his Presidential Address to the Geological Society of Australia in 1985, it was met with strong opposition from influential figures in Australian geology, but is now of course universally accepted.

During this period in Australia, John joined a research project with the Geological Survey of Greenland which enabled him to make a detailed geological map of the Isua region which contained the best-exposed examples of the world's oldest known supracrustal rocks. He discovered that many of the gneisses and schists previously interpreted as metasedimentary rocks, and which now resembled marbles and quartzites, were derived from intensely deformed and metasomatised basaltic and ultramafic rocks.

In 1999, John was appointed to the Paterson Chair in Tectonics and Mineral

Exploration Research at Memorial University, Newfoundland, which he held until 2005. There he built up a team of graduate and post-doctoral geologists to investigate the mid-Proterozoic anorthosite complexes of Labrador (the unexpected setting of the Voisey's Bay nickel deposit) as well as the Archaean gneiss complex of Greenland.

I last met John during a field excursion to the Lewisian of the NW Highlands as part of the 2007 Conference at Ullapool, held to celebrate the 100th Anniversary of the famous Geological Survey '1907 Memoir'. The field excursion involved an interesting discussion aimed at resolving the dispute over the nature of the 'Laxford Front' and whether or not it represented a terrane boundary. At some point John and I detached ourselves from the main group to make a long tramp to the headland of Rubha Ruadh to examine the granite sheet there. His comments were typically incisive and pertinent. The return to Tarbet over some rather hilly terrain, which left me quite exhausted, John seemed to take in his stride!

John's career embraced a wide variety of geological experience and discovery, and is a perfect example of the often-repeated dictum that 'the best geologists are those who have seen the most rocks'. He was regarded by his peers as one of the outstanding field-orientated geologists of our generation. I particularly admired the quality of his meticulous field mapping of the Harris granite-migmatite complex, one of the most challenging pieces of ground in my experience.

Since his retirement in 2005, John was involved in promoting a better public understanding of the geology and landscape evolution of the region around Albany in southwest Western Australia where he lived.

John had been a member of the Edinburgh Geological Society since 1965. He leaves behind his wife Maggie of 53 years, his two sons, and four grandchildren.

Clive Richman had been an EGS member since session 1987-88.

Acknowledgements

The affairs of the Society are organised predominantly by voluntary effort, assisted by one paid part-time independent contractor (Angus Miller). Members of Council jointly contribute hundreds of hours of time to the running of the Society, much of this in quiet ways behind the scenes. Council is supported by many other people, including lecturers, excursion leaders and organisers.