

Back to the Future: A short story of SFG's History & Success

Peter Maitland, Colin Adams,
Laurence Carvalho, Pauline Lang &
Jennifer Dodd



Acknowledgments



Dave Gilvear



Colin Bull



Alan Law



Centre for Ecology & Hydrology
NATURAL ENVIRONMENT RESEARCH COUNCIL



Where did the SFG come from?

- **North of Scotland Hydro-Electric Board (1943)**
[Scottish and Southern Energy]
- **Brown Trout Research Laboratory (1948)**
[Marine Scotland Freshwater Fisheries Laboratory]
- **Nature Conservancy (1949)**
[Scottish Natural Heritage]
- **River Purification Boards (1951)**
[Scottish Environment Protection Agency]



Three men in a car: Bill Munro, Peter Maitland, Ian Waddington

To provide an open forum to facilitate informal contact and discussion among the many people in Scotland concerned with fresh water and encourage crossover between disciplines

In the beginning...

SCOTTISH FRESHWATER GROUP

The 1st Meeting of this Group will be held on Thursday 5th September, 1968, in the Department of Biology at the University of Stirling (situated on the A9, between Stirling and Bridge of Allan). All those interested are invited to attend and are requested to complete and return the attached slip so that appropriate arrangements can be made for the numbers participating.

Programme

- 1030. Introductory remarks by Mr. K.A. Pyefinch, Chairman of the 1st Meeting.
- 1045. ~~Mr. J. Ian Worthington, 'Physico-chemical aspects of some research in the Clyde area, work'.~~
Mr. Andrew Miller. 'Auto analysis in river pollution presentation'
- 1130. Dr. D.H.N. Spence. 'Light and the distribution of freshwater macrophytes'.
- 1215. Lunch, followed by an opportunity to view the University Buildings and Estate.
- 1430. Dr. H.D. Slack. 'The occurrence of Chironomus anthracinus in Loch Lomond'.
- 1515. Dr. H.J. Egglislaw. 'Estimates of the production of Salmon and Trout in highland streams'.
- 1600. Open discussion on the function and value of the Group.

Peter S. Maitland,
The Nature Conservancy,
12 Hope Terrace,
EDINBURGH, 9.



Prof Peter Maitland,
Nature Conservancy
1st SFG Convenor



Sir Fred Holliday,
Univ. of Stirling
Establish SFG at Stirling



Prof Donald McLusky,
Univ. of Stirling,
Local convenor



Dr Harry Slack,
Univ. of Glasgow
Speaker at 1st Meeting

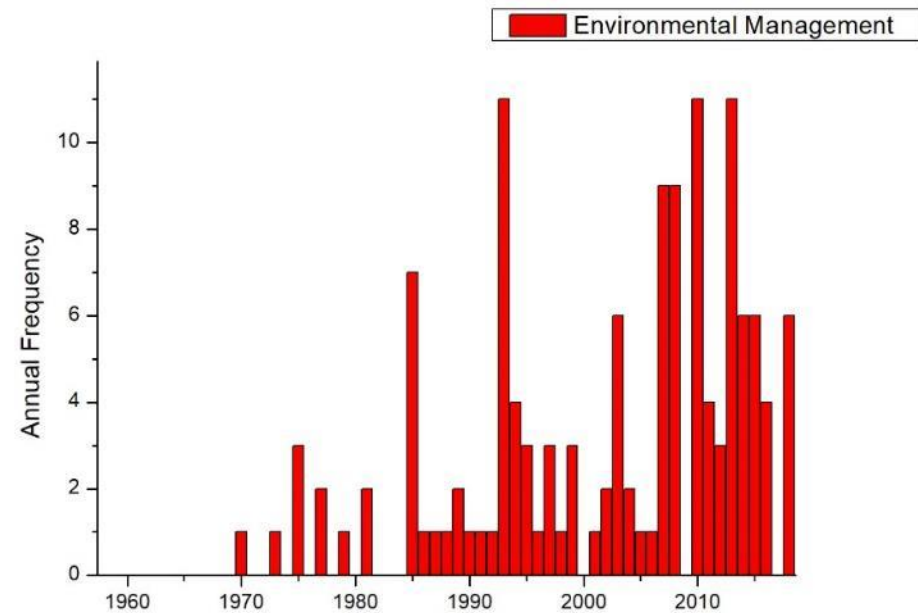
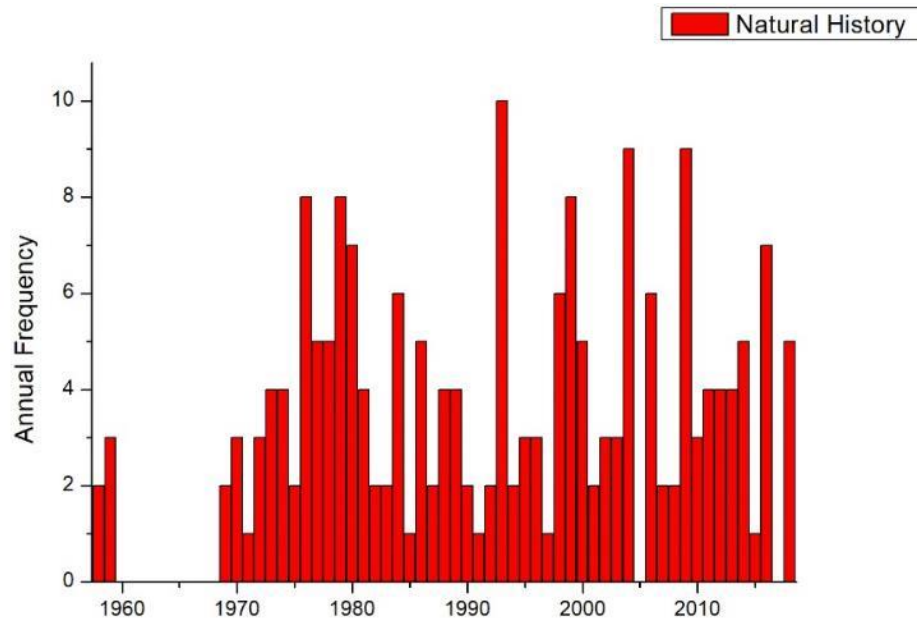
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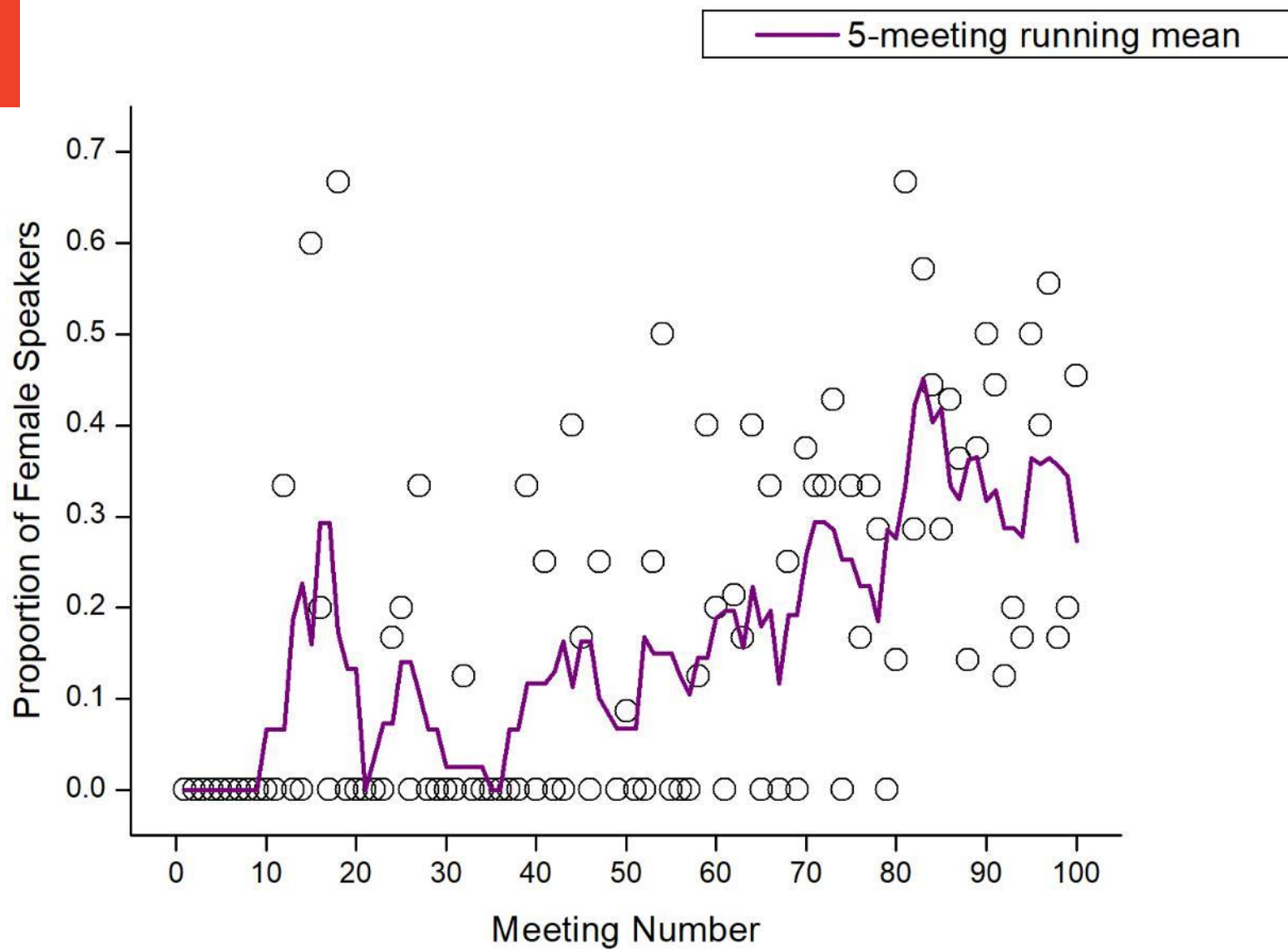
Dr Jennifer Dodd
University of Glasgow



The Stats

- 100 meetings
- 640 talks
- 84 different chairs
- 57% on rivers
- 40% on lochs & ponds
- 3% on canals





First mentions...

1979 **Acid precipitation** 1: Its relevance to wildlife conservation in Britain [Dr G.L.A. Fry]

1993 **Eutrophication** risk assessment [R.L. Norton]

2002 **Sustainable** urban drainage systems: some ecological perspectives [Dr Nigel Willby]

2003 Patterns and participation - meeting the challenge of **sustainability** in river basins [Joanne Tippet]

2005 Upland trout fisheries and **sustainable development** [Drew Jamieson]

2012 Payment for water **ecosystem services** in Latin America: review of existing evidence [Dr Julia Martin-Ortega]

2016 CXC **Climate Change** Adaptation Indicators [Anna Moss]



Innovation in the SFG

- 1976 A **coded check list of freshwater animals** occurring in the British Isles [Dr P.S. Maitland]
- 1980 Routine physical and chemical data for the Forth & Clyde Canal - **computerised tabulations and graphs** [Mr J.D Hamilton & Mr S.L. Ross]
- 1982 Chromosomes and **DNA** sequences in British salmonid fishes [Dr S.E. Hartley]
- 1983 From **tally counter to microcomputer** - a review of some counting devices [Dr Linda May]
- 1983 A preliminary assessment of the use of **remote sensing** for mapping wetland water levels [Dr Dave Gilvear & A. Watson]
- 1995 Development of a **GIS database** for Scottish loch catchments [David Miller]
- 2018 Investigating the use of **Google Earth** to capture the multiple benefits provided by river environments [Victoria Keele]



Gunn et al. 2018
UK Checklist of
Freshwater Species



Commitment to the Cause

8 talks



11 talks



7 talks



Rank	Surname	Talks
1	Campbell	11
2	Maitland	8
3	Adams	7
4	Moir	6
4	Bailey-Watts	6
4	Carvalho	6
4	Doughty	6
4	Gilvear	6
5	Armstrong	5
5	Harriman	5
5	Lang	5
5	Tippett	5

1972 Freshwater on Film



National Library of Scotland

Leabharlann Nàiseanta na h-Alba

Moving Image Archive

WATER, WATER EVERYWHERE

Title: WATER, WATER EVERYWHERE

Reference number: 2253

Date: 1967

Director: d. Edward McConnell

Sponsor: Films of Scotland

Production company: IFA (Scotland) Ltd.

Sound: sound

Original format: 35mm

Colour: col

Fiction: non-fiction

Running time: 26.00 mins

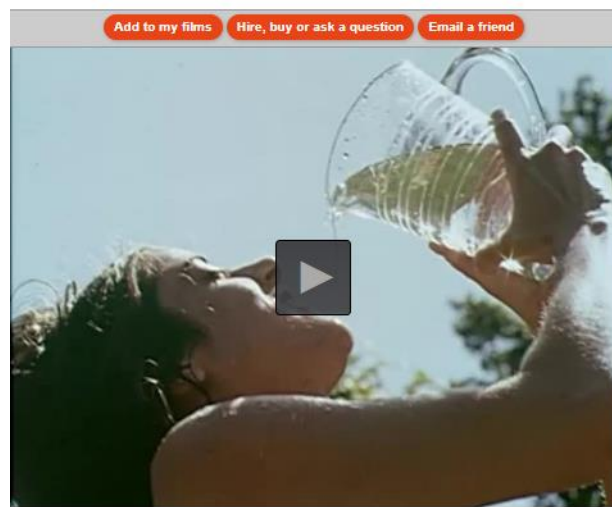
Description:

This film looks at the world problems of water shortage, and specifically at the position of Scotland, where the natural supply of water is immense and more than sufficient to meet the demands made on it. [synopsis from SCFL catalogue]

Credits:

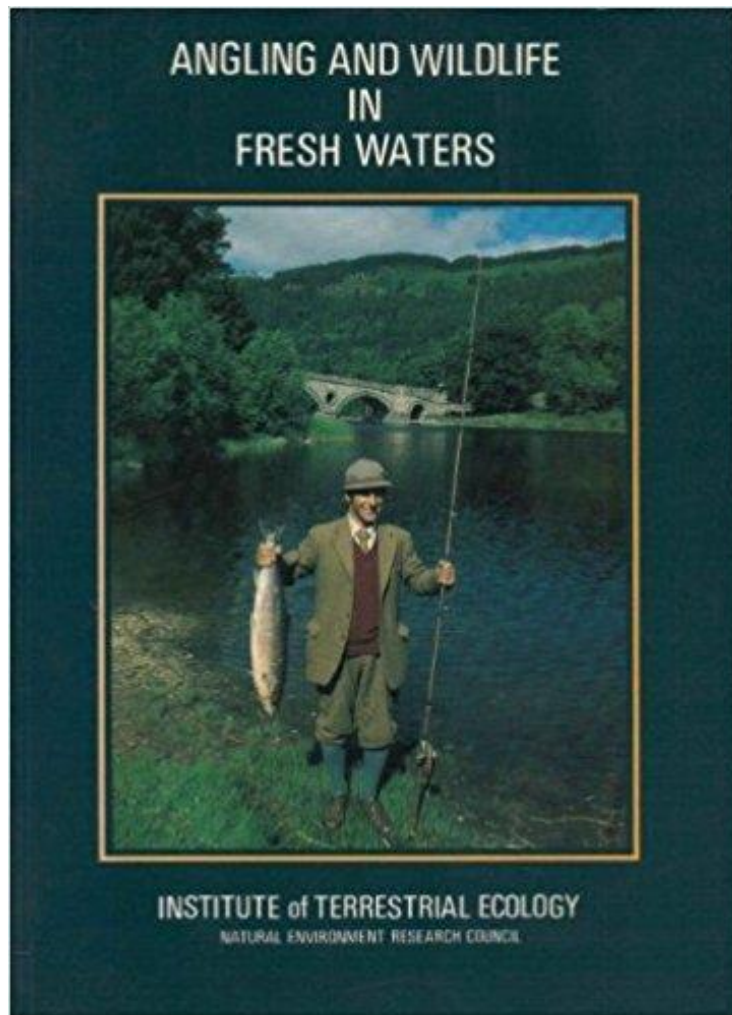
ph. Edward McConnell

ed. Michael Morgan



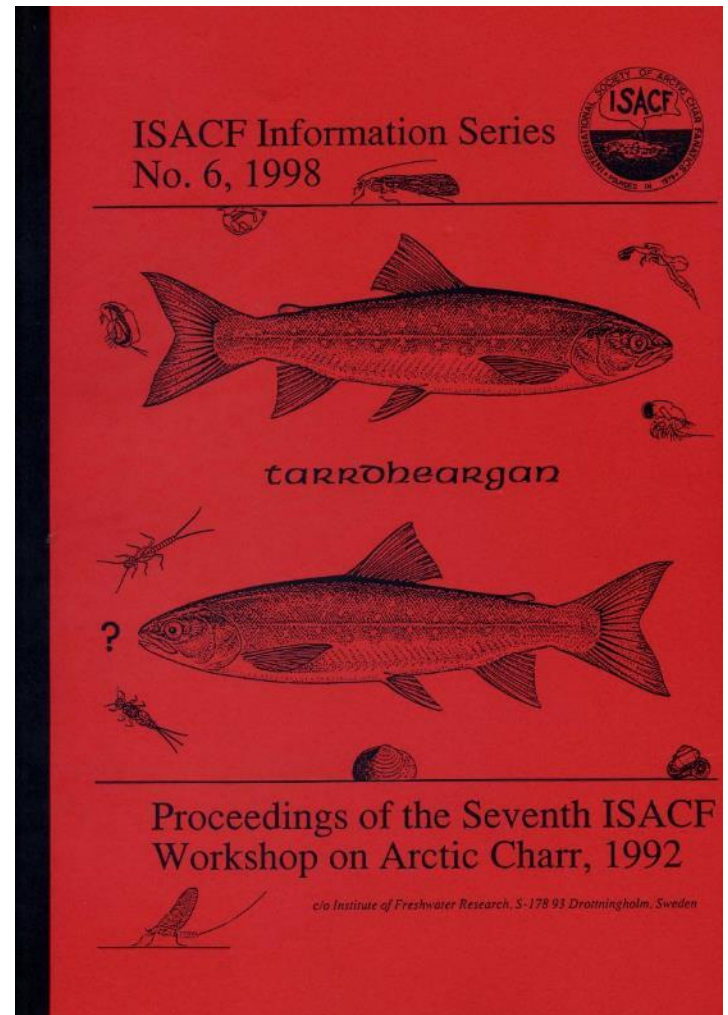
<http://movingimage.nls.uk/film/2253>

1985



1985 Joint BES-SFG meeting

1992



1992: 'Arctic Charr: an international resource'
Fishery scientists from 15 countries

1993 50th Meeting

THE FRESH WATERS OF SCOTLAND

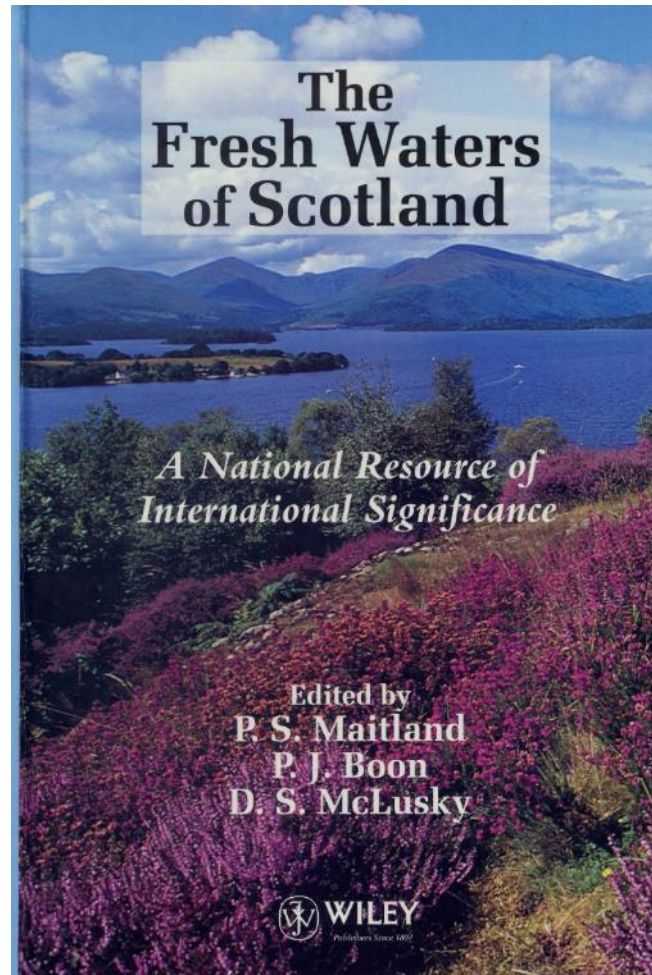
The 50th meeting



To be held at the UNIVERSITY OF STIRLING
2-3 FEBRUARY 1993



Sir William Stewart
Chief Scientific Adviser, Cabinet Office
“Science and Technology, 2000 and beyond”



Prof Peter Maitland



Prof. Phil Boon, SNH



Prof Donald McLusky

2016 96th Meeting SCENE & Bio-Blitz

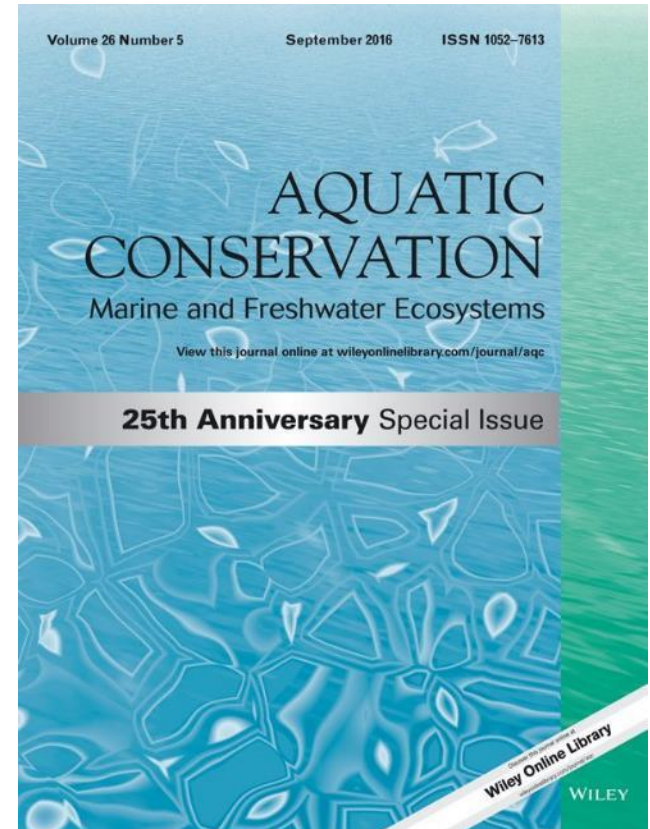
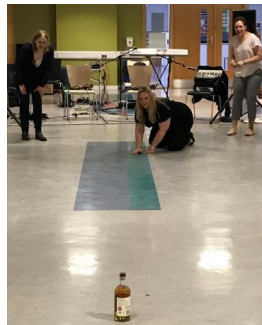


*Developing an integrated forum of environmental stakeholders –
a collaborative output from the first ‘Bio-blitz’ activity undertaken
by Scottish Freshwater Group members*

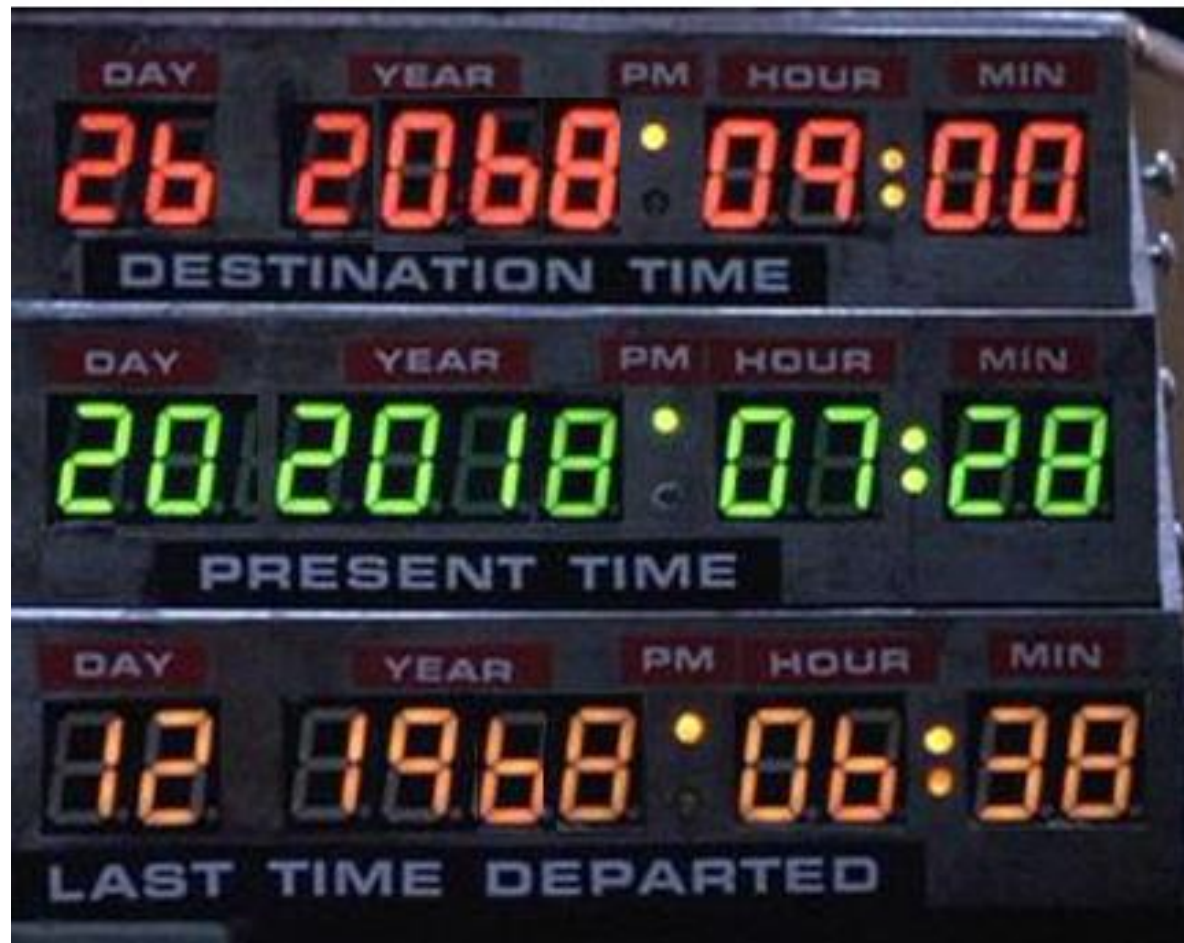
Pauline Lang^{1,3}, Laurence Carvalho², Colin E. Adams³, Peter Maitland³, Jennifer A. Dodd³, Craig Macadam⁴, Iain Gunn², Alan Law⁵, Colin Bean^{3,6}, Jessica Fordyce³, Hannele Honkanen³, Lucia Lencioni⁷, Alex Lyle⁸, Garth Foster⁹, Iain Sime⁶, Helen Woods², Philip Taylor², Alanna Moore², Jessica Richardson², Stephen Ives², Charlie Perfect^{5,10}, Anna Doeser⁵, Alex Seeney⁵, Tom Leatherland¹¹, Cameron Easton³, Janey Keay¹², Nick Bengel¹³, Steve Coates¹⁴, Kathryn Elmer³, Calum Campbell³, Madeleine Carruthers³, Arne Jacobs³, Hans Recknagel³ & Geoff Hancock¹⁵

2018 100th meeting

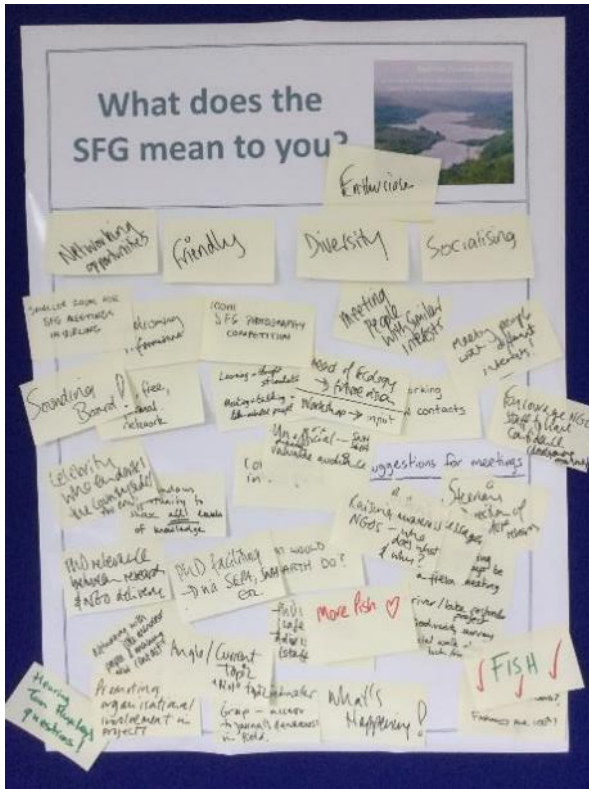
- 34 talks
- 17 (lead) institutes, 6 universities
- Stirling (7), Glasgow (4)
- 12 ceilidh dances
- 4 kilts
- 1 winner of a whisky distillery tour



The Future – SFG envisioning next 50 years



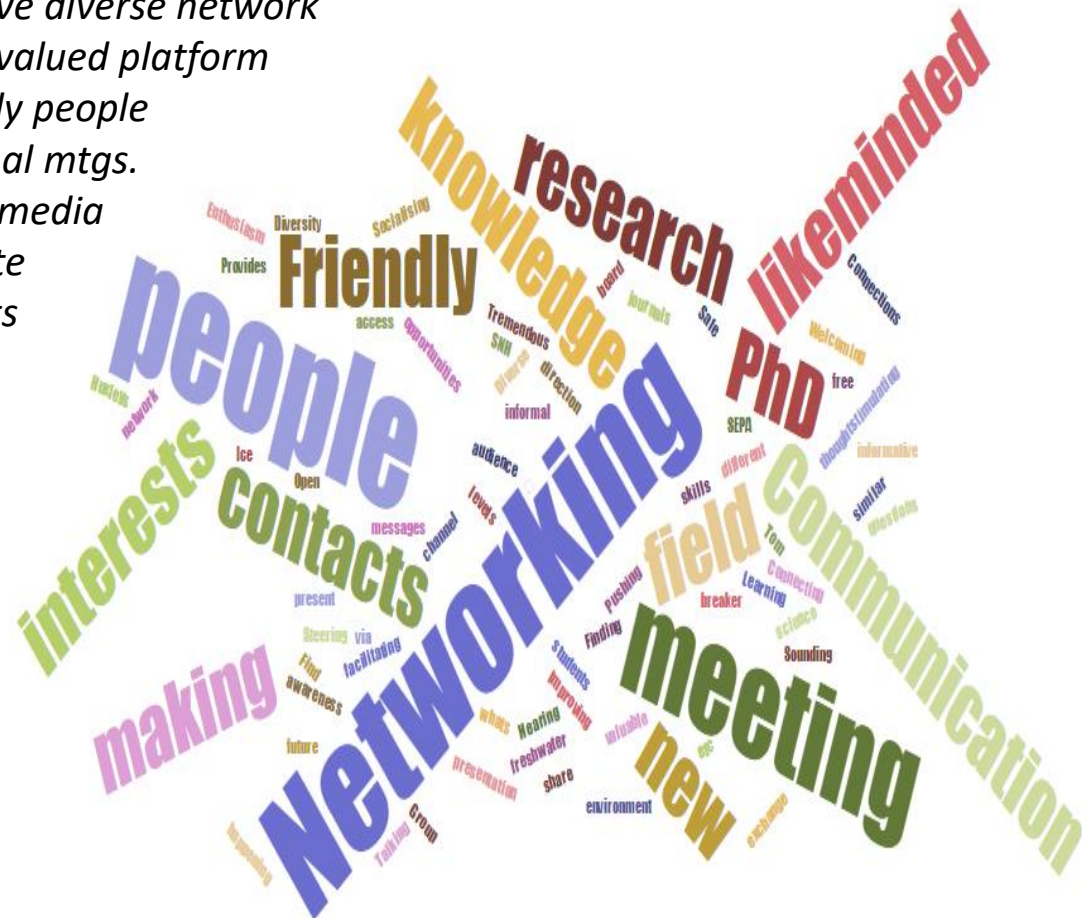
The Future – SFG Cultural Connectivity



Scottish Freshwater Group:

A community of people who care about and have real connections with the freshwater environment

- Inclusive diverse network
- Much valued platform
- Friendly people
- Informal mtgs.
- Social media
- Website
- Reports



Scottish Freshwater Group

Promoting awareness of current issues and research related to the freshwater environment in Scotland
Home

The Scottish Freshwater Group (SFG) is a forum for members to exchange information across disciplines and to promote awareness of current issues and research related to the freshwater environment in Scotland. Membership is open to anybody with an interest in freshwater ecosystems. Currently there are ~ 350 members from universities, research institutes, government and non government agencies, industry and interested members of the public. There is no subscription fee.

Meetings

The SFG holds a meeting **twice yearly in April and October**. Meetings usually consist of seven or eight talks and a lunchtime poster display. In particular the meetings offer a forum for postgraduate students to present their work. Please see the links below for presentations from previous meetings. If you wish to receive agendas for future SFG meetings, or give a talk or poster, please email **Dr Pauline Lang** or contact us on **Facebook** or **Twitter**.

Unless stated otherwise, meetings are held at the **University of Stirling**, hosted by **Colin Bull** of the School of Biological and Environmental Sciences. Talks are usually in Lecture Theatre 2V1 and poster displays in adjacent room 2V2, both in the Cottrell Building. Lunch can be obtained in Haldane's Eatery or takeaway outlets in the Atrium. There is normally no fee and no need to pre-register just turn up and follow the signs for the meeting in the Cottrell Building. See a **campus map**.

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SFG Contacts

SFG Coordinator:
Dr Pauline Lang

SFG Deputy Coordinator:
Dr Jennifer Dodd

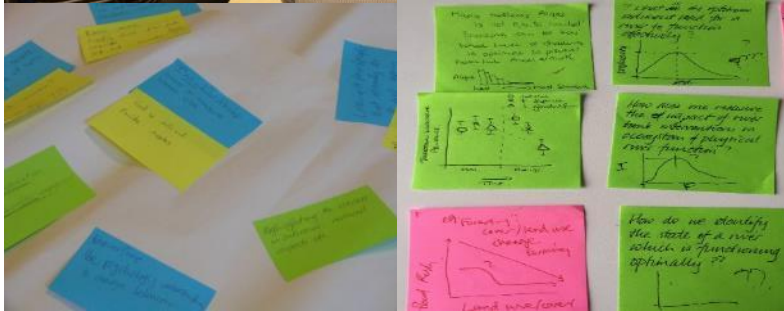
SFG Communications Officer:
Tië Caribé

SFG Publicity Officer:
Dr Martin Hughes

SFG Local Liaison:
Dr Colin Bull, University of

The Future – SFG Collaborative Outcomes

e.g. 99th SFG Meeting, Autumn 2017



Scottish Freshwater Group 99th Meeting



Terry A'Hearn, SEPA CEO – Summary

"The world's population is already over 7 billion and is predicted to rise above 9 billion by 2050. This will put massive pressure on freshwater systems globally. Even countries with abundant fresh water, like Scotland, must treat it as the precious resource it is."

At the 99th meeting of the Scottish Freshwater Group, it was great to see a group of professionals thinking about local environmental quality and water management but also pushing the boundaries on innovation on a range of activities to better protect our freshwaters."

Enabling Sustainable Mind-sets

Within this workshop we discussed barriers to sustainable "One Planetary" mind-sets, developing potential solutions to these barriers and identifying meaningful actions for the group to own going forward. These included:

- > Joining up work streams and using the SFG network to link together academic and industry work
- > Routinely engage with stakeholders to share sustainable practices
- > Normalise sustainability through our daily lives
 - o Eat seasonally, travel choices, remake and reuse instead of dispose of resources.
- > Focus on positive outcomes to encourage others instead of tough criticism
- > Develop an SFG group sustainability pledge
- > Make SFG meetings as sustainable as possible and share these practices outside of the group

21st Century Monitoring

This workshop asked delegates to consider how innovations in monitoring can reduce costs, improve data quality and support better environmental management decisions.

Members of the SFG felt that with advances in monitoring capabilities, it is important that the data collected is made more relevant to people. To do this we need to think outside the box and link different groups of people and data sets together to maximise our return on investment when tackling our biggest environmental challenges.

Inspiring Innovation – how can we overcome barriers through partnerships to reach success?

In this workshop delegates reflected on what success would look like for Scotland's freshwaters, identifying the barriers to this success and how these barriers could be overcome. Whilst cost and resourcing was considered to be the greatest barrier to achieving success, methods to overcome barriers included:

- > Education, partnerships and public engagement
 - o Plain English communication
 - o Build engagement between communities and scientists
 - o Share inspiring stories
 - o Visit schools
 - o Developing strong working partnerships within industry
- > Data
 - o Share more data to build partnerships and get the most value out of it
 - o Always consider Open access when developing new projects

For a more detailed account from the workshops, please find attached the workshop output documents.



The Future – SFG Transforming Capabilities

- **Enabling Meaningful Action**

- **NERC *Call for Ideas*** in 2018, 2019...
- Need SFG input on **prioritising** 99th mtg. workshop outcomes
- Proposal to develop virtual SFG **project** team(s) for moving 'themes' forward
 - enthusiastic volunteers & other suggestions welcome

- **21st C Environmental Challenges**

- Climate Change, Diffuse Pollution, Natural Resource & Energy Use, Plastic Waste, Biodiversity Loss, Flood Risk & Water Scarcity, Societal Behaviour etc.

- **Exploring & Influencing Opportunities**

- Robust Evidence & Bigger Picture Understanding, Sustainable Living, Emerging Technologies, Innovative Thinking, Interdisciplinary Approaches, Adaptive Environmental Monitoring & Management Strategies, Education, Low Carbon & Circular Economy, Collaborative Partnership Working
e.g. Scottish Government's Hydro Nation, SEPA's One Planet Prosperity, Scottish Water's Sustainable Land Management

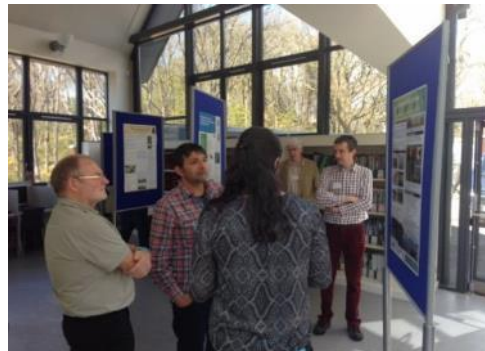
The Future – SFG People

- **SFG Members**

- Your contributions are invaluable for sustaining the SFG's vitality & longevity
- Encouraging new, long-standing and SFG members in between is important

- **SFG Team**

- Coordinating delivery & communication, connecting our people, creating development opportunities for all
- Providing experience for CV, building confidence & enabling potential e.g. chairing, speaker slots, poster presentations & helping organise events
- Fancy getting more involved with the SFG? Please let us know 😊



The Future – SFG Vision & Purpose

- **Built on strong values which endure to this day**
 - Founding principles live on through SFG coordinators, team & members
 - Bring people together with a shared interest in freshwaters
 - Provide an open forum for discussion in Scotland
 - Facilitate informal & broadly inclusive network
- **Supporting the SFG community for next 50 years**
 - Shaping outcomes for Scotland's freshwaters
 - Nurturing future generations of environmental leaders



The Future – SFG Logo Legacy

Option #1



Option #2



Option #3



All [#sciart](#) designs created by Dr Stephen Thackeray (CEH)
to celebrate our 50 year anniversary & future of the Scottish Freshwater Group

Twitter [@SteveThackeray](#)