

BIFoR Advisory Group Meeting
28 January 2022, 09:00-11:30, Virtual meeting on Zoom

Present
Chaired by Laura Green (LG) Head of College of Life and Environmental Sciences (LES)
Caroline Ayre (CA), Confor
Alice Broome (AB-FR)), Project Leader for Protected Species, Forest Research (joined by Skype)
Anna Brown (AB-FC), Head of Tree Health and Contingency, Forestry Commission England
Robin Daniels (RD), JABBS Foundation
Louisa Day (LD), University of Birmingham, Alumni Department
Christine Foyer (CF), Member of the BIFoR Science Committee
Eva Frickel (EF), BIFoR internal challenger
Vincent Gauci (VG), Member of the BIFoR Science Committee
Jeanette Hall (JH), Woodland Advisor, Scottish Natural Heritage
Robert Jackson (RJ), BIFoR Director and Chair in Tree Pathology
David Johnson (DJ), Chair in Microbial Ecology, University of Manchester
Estrella Luna Diez (ELD), Member of the BIFoR Science Committee
Rob MacKenzie (RMK), BIFoR Director
Ghilleen Prance (GP), formerly Director of Royal Botanical Gardens KEW
Jeremy Pritchard (JP), Director of Education and BIFoR (Education)
Deanne Brettell (DB) – BIFoR Project Officer and secretary to the Advisory Group

1. Apologies

Apologies
Jo Bradwell – JABBS Foundation
Lorna Booth (LB), University of Birmingham, Financial Services
Clive Elphick
Nicola Spence (NS), Chief Plant Health Officer, Defra and University of Birmingham

2. Chair's introduction

LG thanked everyone for attending. The BIFoR annual meeting due to take place the two days prior to this meeting is rescheduled to 21,22,23 June 2022 due to uncertainties around Covid19. Therefore as members did not have the added value of travelling to Birmingham to attend both the annual meeting and the Advisory Group a decision was made to make this meeting a virtual meeting.

3. Minutes of the last meeting & matters arising

CF reported back on the Trees for the Future conference in November 2021. The conference was well attended and there was lots of discussion between 'in person' delegates in the breaks/evening reception and online delegates used the 'chat function' of Zoom to have discussions too.

The main theme of the meeting was to discuss mixed woodlands for enhancing tree growth and productivity, and work towards a list of recommendations of what trees to plant. There is much debate around 'right tree, right place, right purpose' and answers are needed now (or preferably decades ago!). Some of the messages coming out through the conference are; that mixed woodlands are key to the UK meeting its net zero by 2050; the increase in CO₂ is helpful at the moment; there are benefits of mixed populations of trees in terms of tree growth but we need also to consider other factors such as timber and social benefits; there are benefits of woodland creation if long term care and adequate skilled workforce is also in place; we need to consider incorporating trees not wide spread in UK; we need to consider the importance of planting nitrogen fixing trees. CF is working on a 'white paper'

which will go to Defra. JB and RMK have commented and CF will approach delegates from the conference also. Advisory Groups present are also keen to comment

Action 1 Jan 2022 - CF will circulate the draft white paper to the Advisory Group for comment

4. Carbon Dioxide supply to the BIFoR FACE facility

On the matter of the increase in the cost to buy carbon dioxide (CO₂) which is required in large quantities for the BIFoR FACE facility, RMK reported

- The Operations Manager (Kris Hart) has become very knowledgeable regarding the CO₂ market
- Collaboratively, various departments in UoB have worked together to look at how we can best manage the risk to the science and to the budget and business plan. For example, the Directors have written to NERC to explain the risk to the research projects funded through them (eg QUINTUS, FACE Underground) and have requested £150k additional funding. A response from NERC is pending.
- Questions have been tabled at Parliament and we have received a response to say they will work with us to understand the science.
- Discussions have been started with large CO₂ users to see if corporate partnership responsibility can be investigated.
- A good option for a partnership for the provision of anaerobic digestion-sourced CO₂ is being pursued. This is with a new supplier not currently set up for carbon capture from their plant. The partnership will bring benefits to both parties and ultimately for BIFoR a more consistent CO₂ supply with a transparent cost model. However, the earliest this supplier could provide CO₂ is for 2023 (possibly October 2022).
- There will be a bumpy 2022 ahead however, we will put all our efforts into ensuring the supply doesn't become so low that we can't defend our science

RD shared that JABBS are happy to talk to UoB about how their funding is released if this helps in terms of weathering the next years' uncertainties.

RMK shared that UoB will request a midterm review of BIFoR with longer term planning, details yet to be provided, which is very encouraging.

5. Education

Paper 2 was circulated prior the meeting. The members were supportive of UoB looking to increase its education offering with a module focussed on forestry/forest sciences and welcomed the idea. There was then a discussion on industry needs around education. The advice was to; consider working in partnerships; decide what part of the forestry skills shortage we wish to target; decide who we want to market it to; consider including supply chains/circular economy; consider what can offer as CPD to trained foresters as well as what can offer new recruits; consider international engagement eg student exchange. It was agreed the best way forward would be to consult with the Forestry Skills Forum (FSF) members and that an academic should join the FSF meetings and liaise with members of the board. DB has been secretary to the FSF since 2015.

Action 2 January 2022: JP to form a sub group to work on education and report back at the October Advisory Group meeting (suggestions and market research).

6. Impact

i) Defra Trees and Woodlands Science Advisory Group (TaWSAG)

RMK provided information about the membership and remit of TaWSAG. Rob is Chair of the Group. BIFoR Advisory Group members encouraged RMK to take back to the group the importance of consideration of supply chains (the circular economy) and RMK agreed and stated that TaWSAG should look to bring in external advisers when they need other skills than those of core members. Some suggestions for contacts were shared (DB has a note of these if needed). The Advisory Group commented that having RMK as Chair of this important group it is helping BIFoR position ourselves as an important player in the UK treescaping research and policy space.

ii) Nutrient Management Expert Group (NMEG)

SU provided information about NMEG. The Group discussed that due to the global soils crisis the world is turning to organic skills to maintain and improve soil quality and this knowledge should be fed into forestry skills for the future as well as agriculture. A few useful papers that were brought to attention are:

[Expanding productive forests creates cost effective carbon sinks and reduces loss of natural forests by offsetting timber extraction](#)

[Commercial afforestation can deliver effective climate change mitigation under multiple decarbonisation pathways](#)

iii) UK Forestry Standard

RJ presented some information about his involvement in the review of the UK Forestry Standard

A few useful links were provided by members:

[A Consultation on the UK Forestry Standard: Analysis of Responses Why Research, September 2021](#)

[Scottish Forestry consultation answers to questions regarding UK Forestry Standard](#)

This led to a discussion around exotic / non-native tree planting. CA commented that our whole timber processing industry is built on "non-native" species and it is very important that we look beyond non-native/native - there is a lot of work being done on wood fibre per se and innovation, i.e. wood fibre insulation, CLT, etc. JH commented that investigating (in Scotland at least) native timber production is important. TaWSAG are not advising against non-natives and feel there is value in non-natives filling niches for example the niche the decrease in Ash trees will create. The research coming from Ruth Mitchell examines the risks / advantages of non-natives in terms of biodiversity (disease/pests). JH commented an important gap in knowledge is the different impacts of native/ non-native (very broadly) and of establishment methods on soils and cryptic biodiversity - most of our knowledge is on birds, plants, butterflies, with major gaps relating to other groups. It would be much more practical to investigate some of this now meta-barcoding techniques are widely available.

7. Research updates

- i) Climate /BIFoR FACE - Sami Ullah presented an update on BIFoR FACE research. One of the important findings is metagenomics research reveals the dominant species of oak is *Quercus Robur* the trees inside the FACE arrays are closely related and are not hybrids.
- ii) Forest Health - Rob Jackson updated the Advisory Group that a few new awards have been granted (Mojgan Rabiey, Megan McDonald (Royal Society start up award) Rob Jackson (Defra). The new Wolfson Advanced Glasshouses are busy and a considerable amount of the space is for tree research. There is a new video available showcasing the Glasshouses <https://youtu.be/bYjQ6uMph-Q>. Applications to the UK Treescapes second call are in development. ELD has been researching the fungal pathogen oak powdery mildew and has found oak seedlings are more affected under eCO₂ which has an impact on oak regeneration in the future. ELD has been invited to write a high profile paper for 'Current Opinion in Plant Biology', which has a wide reach, the focus is on the challenge ahead in tree-pathogen interactions research. Current Opinion papers have a maximum of 5 authors but they have agreed (unusually) to have 10 co-authors allowing other early career researchers within BIFoR to gain valuable experience and exposure.
- iii) Global - VG introduced himself. He has taken on lead for BIFoR global engagement. VG shared that beyond BIFoR FACE/Climate and Health there is a clear critical mass of international engaged researchers working at large scales and across the globe. BIFoR Global will bring this research under one theme. It was noted that UoB Dubai campus could afford opportunities for mangrove research. A discussion followed around Agroforestry. The Advisory Group had identified in the January 2021 meeting that there will be opportunities within agroforestry research that BIFoR could consider pursuing. RJ shared there is a project on the go with St Ewe Eggs and Farm Carbon Toolkit to analyse the diversity of human pathogen population in soils of a hen farm to see if trees influence soil 'health' – currently data gathering to develop a larger proposal.
- iv) Interdisciplinary - RMK shared some information about BIFoR interdisciplinary research. He extended his thanks to honorary BIFoR member Prof Jon Drori for his input to interdisciplinary discussions. A BIFoR Anthology is being drafted, members of BIFoR have been invited to share some of their favourite text (related to forests) and comment how this has impacted them. The anthology should be ready for the next Advisory Group meeting. For COP26 a series of essays was written by academics across the colleges <https://www.birmingham.ac.uk/research/cop26/climate-publications/publications.aspx>

8. Emerging issues and opportunities – Estrella Luna Diez

DJ shared that as BIFoR are developing a good reputation for interdisciplinary research, that we might consider providing a workshop/report to the wider academic sector on how to write convincing interdisciplinary proposals. ELD shared that we are looking into this, for example the School of Biosciences academic away day (March 2022) will be based specifically on interdisciplinary collaborations and ELD will be giving a presentation on writing convincing interdisciplinary proposals.

There was a discussion on influencing BBSRC and how to influence experts with understanding of and/or commitment to tree, woodland and forest research to join /be invited to join the panel. It was agreed we would all continue to try to influence BBSRC through our networks and consider how we can extend influence the referees somehow. SU reported that a positive influence will be BBSRC

seeing farmers as key stakeholders further to the impetus of diversifying catchments under the Environmental Land Management Policy of Defra supporting farmers to plant trees on farm.

A note on UK NERC Services and facilities: BIFoR is bidding for a UK Canopy Access Facility (~£4 million) with Oxford and Edinburgh.

9. AOB

Congratulations were extended to Advisory Group members Malcolm Press and Nicola Spence who both received a New Year Honour in January 2022.

BIFoR Advisory Group members are invited to give their feedback on today's meeting to DB.

The BIFoR Annual Meeting will be 21,22 and 23 June 2022 and all Group members are invited to attend. A visit to the BIFoR FACE facility will be offered on 21 June 2022.

Date of next meeting

October 2022 date to be confirmed

January 2023 date to be confirmed