

## **Minutes of SESEF Steering Meeting**

**Moray House School of Education  
24 November 2004, 2-5 pm**

### **Present:**

John Hull (formerly British Geological Survey) JH  
Juliet Robertson (Primary Headteacher - Aberdeenshire Council) JR  
Colin Graham (University of Edinburgh GeoSciences) Chair CG  
Alan Crane (University of Aberdeen GeoSciences) AC  
George Meldrum (Royal Meteorological Society) GM  
Chris King (Earth Science Education Unit) CK  
Colin Donaldson (University of St Andrews GeoSciences) CD  
Andrew McLeish (formerly Scottish Qualifications Authority) AM  
Chris Burton (University of Glasgow GeoSciences) CB  
Dan Hillier (Royal Observatory Edinburgh) DH  
Allison Long (Moray House School of Education) AL  
Neil Clark (Curator of Palaeontology, Hunterian Museum) NC  
Stuart Monro (Our Dynamic Earth) SM  
Hamish Ross (SESEF Development Officer) HR

### **Apologies:**

Aubrey Manning (Broadcaster)  
Peter Harrison (Secondary Headteacher - Ullapool High School)  
Suzanne Miller (National Museums Scotland)  
Jon Turner (Postgraduate Office, University of Edinburgh)  
Colin Macfadyen (Scottish Natural Heritage)

## **1. WELCOME AND APOLOGIES**

## **2. MINUTES OF MEETING OF DECEMBER 2003**

## **3. MATTERS ARISING**

HR reported that since the last meeting SESEF had been successful in obtaining funding from Scottish Natural Heritage and the UK Offshore Operators Association but had been unsuccessful in bidding to the Royal Society of Edinburgh Science Fellowships for Teachers scheme.

It was re-iterated that SESEF's activities might usefully be reported in Teaching Earth Sciences and in GeoScientist magazines.

## **4. UPDATE ON 2004 ACTIVITY**

HR reported on SESEF activity in 2004.

The numbers of participants in SESEF CPD workshops and the resources that participants receive attending these workshops are shown in Annexe 1. The courses are run throughout Scotland and are evaluated variously during the event and up to a year later by telephone interview. The numbers given in the TTT category are trainers. DH reported that there is research on-going to determine how many teachers these trainers have engaged with.

Development activity for both primary and secondary teachers is shown in Annexe 1.

The ESTA conference was successful in terms of overall numbers and in terms of the willingness with which expertise throughout Scotland agreed to participate. There were relatively few Scottish Geology teaching delegates for the main event but more for the SQA meeting on the Sunday. HR will discuss means of promoting Scottish membership of ESTA at the ESTA council meeting in January on the back of the conference. However, there was doubt over whether Scottish teachers would travel to ESTA conferences elsewhere.

Vicky Aldridge has been seconded to work with SESEF, the Royal Meteorological Society and City of Edinburgh Council for one year (this is the secondment that the Royal Society of Edinburgh declined to support – see Matters Arising). She has been working on 5-14 Physical Environment strand activities, and has been testing these with pupils throughout Edinburgh. Some of her work was piloted as a CPD course by NESciE on a tour of NW Highland. The future of NESciE, and therefore the roll-out of this material as CPD, remains an unknown.

The work with BGS demonstrates a more proactive approach to education, which is in keeping with the Memorandum of Understanding between BGS and ESTA and the recent availability of BGS' digital archive.

The deployment of Development Officer time in 2004 is shown in Annexe 1. It was noted that SESEF survives, financially, on a high level of contracted project work, which is of more or less relevance to the organisation's aims. This allows relatively little scope for planning the strategic direction of the organisation.

## **5 PLANS FOR 2005 ACTIVITY**

CG reported that 41% of Development Officer salary for 2005 was in place from Scottish Natural Heritage and that a bid to the UK Offshore Operators Association to further develop the ESEU/SESEF partnership, for a further 40% was pending. It was reasonable to claim that SESEF development work on 5-14 was largely complete and that the sustainable roll-out of this remained.

There were numerous issues to consider in turning SESEF attention to the secondary sector. Wide ranging discussions ensued on the following areas:

### **5a. Secondary Geology Teacher Support**

Regardless of longer-term involvement in curriculum review, SESEF must support SQA Geology teachers and promote the qualification among other schools. Although the apparent threat of the SQA Low-Uptake Subject reviews seemed immediate, the greater threat was that the subject was likely to expire with the retirement of its current teachers unless more was done to promote it, to develop, invigorate and energise a school geology teaching community, especially the 'next generation'. More SESEF 'presence' (in the sense of an analogue to the extensive primary activity) would help to relieve the individual isolation (and even collective despondency) of secondary geology teachers. SESEF action to this end could include:  
5a-1 finding funds for Andrew McLeish or similar to make development visits to schools who are looking for subject support that is more than the moderation meeting

offered by SQA. (It was thought that funding a collective meeting of secondary geology teachers would not be as successful as individual, tailored support).

**5a-2** enhanced communication from SESEF to its membership, including concerning the contents of these minutes and, as in previous communications, the provision of opportunities for members to participate in development activity. (It was suggested that there was little demand for development activity in the field of teaching resources/material).

**5a-3** the possibility of SESEF identifying potential new geology teachers among scientists and geographers in schools and directly approaching Headteachers to promote the qualification. It was noted that if we can find the next generation of geology teachers, we could anticipate support for them from the existing cohort.

CK reported that the ESTA experience in England and Wales was that this kind of invigoration activity was successful and could be achieved relatively easily. HR is to meet with Peter Harrison and Paul Ewing to all the above ends.

### **5b SQA Review of Low-Uptake Subjects**

CD reported that the Science and maths manager at SQA, Noel Donoghue hopes that Geology will not be reviewed for at least 6 months and HR reported that the SQA would not enter into discussions with SESEF until the official letter had been sent to Head Teachers. This was expected to happen in the next two weeks. The SQA Geology panel will respond to that letter. There was a perceived danger of Head Teachers contributing negatively to the review concerning the future of Geology. The SQA officer recommended that Geology teachers themselves should lobby their Head Teachers. SESEF could bring additional pressure to bear, either directly or through various partners. CK reported that he could arrange a variety of significant signatures for a letter. There is some difference of opinion concerning whether such SESEF co-ordinated engagement should take place immediately, or after SQA's official notification. Additional notes were:

**5b-1** the review cycle is 3-5 years so this is would not be an annual issue

**5b-2** the review runs counter to the whole thrust of recent curriculum review publications which emphasise more choice and flexibility for pupils

**5b-3** CK reported that asking schools what they wanted to teach in England and Wales had resulted in a step backward for earth science in the past

### **5c Other Secondary Teacher Support**

The potential engagement of science and geography teachers is discussed above. DH reported that the Royal Observatory Edinburgh's efforts to support the secondary sector were being focused on the Faulkes Telescope Project, which provides direct, remote telescope time to schools. This is a project that SESEF could work with.

### **5d Curriculum Review**

The 3-18 curriculum review documents have been published but it is not clear how organisations such as SESEF are to respond. The Ministerial Response said that

science would be reviewed first and that a process of consultation and engagement would take place. Important questions are:

**5d-1** To what end should SESEF engage with the curriculum review process?

There was general agreement that SESEF's preferred outcome was some notion of an integrated and holistic earth science curriculum. There was little consensus concerning how this would be delivered. Both an integrated earth science 'subject' was argued for, as well as notions of using earth science to teach and somehow integrate the basic sciences. These different approaches might correspond to provision for future scientists on the one hand, and provision for 'scientifically literate citizens' on the other. CK reported teaching separate sciences in schools was, internationally, very unusual. He also reported that in England and Wales, the relaxation of the curriculum had allowed for multi-strand approach that included physics, chemistry, biology and earth science & astronomy in Key Stage 4. There has also been work on, for example, 'teaching physics in an earth context'. It was suggested that with a small base of earth science teachers in schools, and the absence of earth science initial training for teachers, a dramatic earth science-based revolution in practice would be difficult to create.

**5d-2** When and how should SESEF engage with the review process?

The current publication and Ministerial Response should be treated as an invitation to engage with the process. Constant advocacy and agitation over the long term are important as well. SESEF will speak urgently to Colin Brown at the Executive to find out how to engage with the process. Moray House School of Education staff are expecting to hear more about the process in the coming weeks. We should audit earth science against the 'Purposes of the curriculum from 3-18' as a way into such discussions.

**5d-3** Should we engage as SESEF or collaborate in a wider engagement?

The curriculum review, and some of SESEF's objectives, requires engagement with a range of school disciplines and these have their own professional associations. It is possible that a co-ordinated approach to the review process would be effective. Perhaps the Institute for Science Education in Scotland might develop this.

**5d-4** How much SESEF resource should be engaged?

It was noted that talking and writing about the curriculum, beyond generalities, can become endless. In addition, the process in which SESEF would be engaging will probably take years to impact large numbers of schools. Therefore even if the 'writing is on the wall' for the existing curriculum, it and its teachers should remain a SESEF priority. Moreover, implementing curriculum change by 'doing' things with teachers (e.g. CPD) may be just as effective as engaging with policy fora. This is especially so since the curriculum review is about deregulating and decluttering the curriculum, not developing 'top down' solutions.

## **6 FUTURE STRUCTURE OF SESEF**

CMG Outlined 3 'futures' for SESEF, concerning where SESEF wants to be in 3-5 years' time: (1) continue as at present, dependent on ongoing and opportunistic short-term funding, but with an evolving focus (for example from primary to secondary); (2) development of longer term financial plans, strategy plans, and re-launch as an independent charitable organisation; (3) wind down SESEF.

Option 3 was not thought to be a short-term goal but might be an aspiration in part of a more joined up science education strategy.

The issue of the viability of option 2 was considered. There are advantages to remaining under the institution of Edinburgh University. But it was also thought that a more independent entity would fare better in major fundraising from the private, public and trust sectors.

It was also suggested that moving out of Edinburgh University as part of option 2 would result in a re-structuring that would engage more stakeholder groups more directly in the strategic management of SESEF. It was noted that many SESEF-like organisations had less professional officer input than SESEF and more closely-constituted management and steering arrangements. DH reported that there were organisations who could help to sort out such arrangements (e.g. the Lloyds TSB Trust). NC reported that he could justify his involvement more if his institution was more involved in the organisation. The possibility of universities contributing financially to an independent organisation was raised, as was the endorsement of SESEF by the Association of Scottish Earth Science Institutes (ASESI), which represents the Scottish Higher Education Institution earth science departments and BGS.

There was a general consensus that restructuring (option 2) should be considered, with these cautions:

- whatever re-structuring was needed, we should retain the diverse range of stakeholder groups currently represented on the Steering Group
- we should ask the SESEF membership for their views on what it would like from SESEF. A pre-requisite of this was to inform the membership about what had been achieved already.

## **7 SESEF FUNDING**

CMG reported that we have 41% of DO salary from SNH and are awaiting the outcome of a bid for a further 40% from the UK Offshore Operators' Association. Various other funding initiatives were the subject of bids or were at an early stage of consideration.

## **8 ESEU/ESTA MATTERS**

CK reported that matters concerning ESEU and ESTA had been reported as above.

## **9 AOCB**

**9a** Discussion of the SQA Low Uptake Review process is discussed above

**9b** CMG reported that the membership database was due some consideration, possibly dividing it by stakeholder group in order to better target communication.

## **ANNEXE 1**

Development Officer Activity 2004 (Jan - Dec)

### **A1-1 Output**

#### **A1-1a Training (teacher participants)**

2003: 185 (CPD)

2004: 407 (CPD); 160 (ITE); 50 (TTT)

(2005 - bookings to date): 310 (CPD); 400 (ITE); 50 (TTT)

CPD - Continuing Professional Development (In-service)

ITE - Initial Teacher Education

TTT - Train the Trainer

Courses include:

- \* 5-14 Earth in Space (with the Royal Observatory Edinburgh)
- \* 5-14 Scotland's Journey (with the Earth Science Education Unit)
- \* 5-14 Science Through the Window (with the Earth Science Education Unit)
- \* 5-14 Improving Science Education (ISE) (with the SEES Consortium)

#### **A1-1b Teaching Resources**

(Resources are free and only available through participation in the above courses)

- \* A0 Simplified Geology Maps of Scotland (1,000)
- \* Rock Kits for Scotland's Journey workshop (436)
- \* CDs for Scotland's Journey and Science Through the Window workshops (1,000)
- \* Resource Packs for Earth in Space workshops (100s)

#### **A1-1c Primary Development Activity**

- \* 1 year full-time seconded primary teacher (with RMS and CEC)
- \* NESciE CPD development
- \* ISE Trainers (incl. Secondary)

#### **A1-1c Secondary Development**

- \* ESTA Conference (120 delegates)
- \* SQA Meeting at ESTA Conference
- \* Assynt / Glaciation Resources with British Geological Survey

### **A1-2 Development Officer Input (% time Jan-Dec 04)**

Contracts:

- \* CPD (most primary) 30%
- \* Teaching 11%
- \* Other 16%

Commitments:

- \* ESTA Conference 13%
- \* Annual Leave 11%
- \* All Other SESEF: 19%