**7th Citizen Science Working Group Meeting  
Thursday 8th September 2015 11:00-16:00**  
  
**Note of Meeting**

**Attendees**Patrick Bell BGS Vicky Morgan UKEOF  
Jake Brown Met Office Jake Morris Defra/FC   
Natalie Clark (minutes) UKEOF Jon Parr (telecon) MBA  
Hilary Geoghegan ESRC/Uni Reading Liesbeth Renders UKEOF   
Rob Grew (Chair) EA Anna Robinson JNCC  
Paul Griffiths SEPA Gemma Smith NE  
Dylan Lloyd (telecon) NRW

**Invites speaker**

Muki Haklay UCL

**Apologies**David Allen NRW Deborah Proctor JNCC  
Alan Cameron SNH Helen Roy CEH

Helen Miller-Bakewell Defra

1. **Welcome and introductions**
   1. The Chair welcomed participants to the teleconference and introduced Muki Haklay as the speaker and Gemma Smith and Anna Robinson as new members.
   2. Gemma Smith has joined the group to replace Andy Nisbet as the NE representative, and Anna Robinson will be acting as the JNCC representative for the next few months in the place of Deborah Proctor. Dylan Lloyd was attending on behalf of David Allen (NRW).
2. **Minutes and Actions from 5th Citizen Science Working Group Teleconference**
   1. The minutes and actions from the previous Working Group teleconference were checked and agreed. Most actions have been completed.
   2. Action 1 is ongoing; Hilary Geoghegan will circulate details as and when they become available.
   3. Action 2 is ongoing; Hilary Geoghegan will be able to provide further details following an ECSA meeting in late September.
   4. Action 15 is ongoing; the video is almost finalised and Hilary Geoghegan will forward the link when available.
3. **UKEOF Management Group update**
   1. Natalie Clark gave an update from the last UKEOF Management Group Meeting (3rd September).
   2. The Group were pleased with progress around the two Citizen Science contract projects and agreed the likely overspend of around £16,500 due to the VAT payable on the projects.
   3. The Group continued their discussion from the last Management Group meeting to identify a topic of common interest across the partners to which UKEOF can usefully contribute. Natural Capital has been identified as a possible topic and members discussed the potential contribution, including a better understanding of the metrics (how much, how much change) which could be valued (by economists). The Secretariat will continue to develop these plans.
   4. Most of the UKEOF partner organisations are facing funding cuts, particularly in light of the upcoming Comprehensive Spending Review which is likely to affect UKEOF’s two main funders – NERC and Defra. Uncertainty was a common theme across partners and it was noted that UKEOF does not have secure funding beyond April 2016. The Secretariat will develop various options based upon likely funding cuts and keep plans fluid over the upcoming months.
   5. The Royal Society Environmental Observations report was published in July. The report was commissioned by the Government Office for Science and provides an overview of environmental observations in the UK. The Secretariat and the Management Group will be following up with GO Science to better understand the next steps for this work and the role that UKOF can play.
   6. The Secretariat will be preparing a newsletter over the next few weeks and members are asked to send announcements and news items to office@ukeof.org.uk by end of September. Members are also asked to continue to send any examples of impact as evidence of the value of UKEOF, which could be important for justifying future funding models.

**ACTION 1:** Natalie Clark to circulate the Royal Society Environmental Observations report by 30th September

**ACTION 2:** All to send newsletter content (announcements, news items) to Secretariat by 30th September

**ACTION 3:** All to send examples of UKEOF impact to Secretariat

1. **Motivations for Citizen Science contract project**
   1. Jake Morris gave an update on the Motivations for Citizen Science contract and asked members not to forward the budget information beyond the Working Group.
   2. Seven complete bids were submitted to the tender call and the evaluation panel unanimously decided to award the contract to the University of Reading. The strengths of the Reading proposal included the ability to build on existing work on motivations, an experienced project team with strong connections to citizen science projects, and existing strengths in the four proposed case study areas (pollution, air quality, tree health and climate change).
   3. A Project Steering Group will support and advise the study and feedback to the Working Group. The Group is comprised of Jake Morris (Chair), Patrick Bell, Paul Griffiths and Natalie Clark (Project Officer and Secretariat support) and has established some Terms of Reference. The project inception meeting is scheduled for 9th September. A near project completion meeting is planned to take place as part of the March 2016 Citizen Science Working Group meeting, where the contractors will present and discuss their findings.
   4. Hilary Geoghegan is the Principal Investigator on the project team and stated that the team were delighted to win the bid. Other members of the project team are based at York and the University of West England and have much experience of citizen science (both from an environmental science and social science perspective), social science methods and similar government funded studies.
   5. The project will include a desk based review of motivations for citizen science and an online social science survey targeting both existing citizen scientists and potential citizen scientists in the four case study areas. Qualitative interviews will also be conducted to examine stakeholder motivations.
   6. The Group discussed the focus on existing volunteer groups to target potential citizen scientists rather than a sample of the general public. It may be more effective to target people who have already shown an interest in nature specifically, rather than just broad-scale volunteering. Bioblitz events were noted as a potential avenue to access people who show an interest in citizen science but do not proceed any further, as well as those who register for citizen science monitoring schemes but do not submit any data. The project should attempt to identify the mindset and skillset of those who want to participate in citizen science.
   7. Care should be taken over the definition of citizen science, to ensure that respondents understand what is being asked. Existing volunteers may be more likely to be familiar with the term.
   8. Vicky Morgan asked Hilary Geoghegan to enquire about the VAT payable on the project, as this is a research study. Any further thoughts on the project proposal should be emailed directly to Hilary.

**ACTION 4:** Vicky Morgan and Hilary Geoghegan to correspond regarding the VAT payable on the Motivations project by 30th September

1. **Opportunities, costs and benefits contract project**
   1. Rob Grew introduced the project specification which has undertaken a number of iterations since the last Working Group meeting. The study will investigate opportunities to involve citizens in environmental monitoring and give monitoring agencies the tools to assess the financial case for such inclusion.
   2. Five complete bids have been submitted for the contract which the Project Steering Group are now evaluating and scoring. The Steering Group consists of Rob Grew (Chair), Alan Cameron, Nikki Parker (replacing Helen Miller-Bakewell who is leaving Defra this week) and Liesbeth Renders (Secretariat support), and will also produce some Terms of Reference.
   3. The Group discussed the scenarios which will be developed as part of the project. It was noted that, ideally, the scenarios would be based on examples from monitoring organisations, so that they are informative and directly applicable. Jake Morris enquired about the link between the scenarios and existing monitoring, stating that it would be useful to infer results from the scenarios to monitoring more widely.
   4. The Project Steering Group will report back to the Working Group when more information is available and the contract has been awarded.

**ACTION 5:** Natalie Clark to send Rob Grew the Motivations project finalised Terms of Reference by 30th September  
**ACTION 6:** Liesbeth Renders to circulate details when the contract has been awarded by 30th September (or as soon as possible afterwards)

1. **Low cost sensors and Environmental Observation System (EOS) framework**
   1. Paul Griffiths and Patrick Bell introduced this item, which is a continuation of previous discussions considering a project on the potential for low cost sensors in citizen science. The idea focuses on the use of low cost sensors to fill in the micro networks of citizen science alongside the more expensive associated macro networks infrastructure. The work could take the form of a case study within the larger EOS framework or take a strategic approach and assess the higher level research questions that need to be addressed. The Working Group were asked to comment on the suggestion and the resources available.
   2. Paul Griffiths described a SEPA project to assess air quality in schools using low cost sensors, although the sensors still cost ~£1000 and so the schools can only borrow the equipment for a couple of weeks at a time. Such sensors are robust with the electronics requiring replacement parts approx. once per year. Similar sensors are being used in other projects, such as [Change London](http://www.changelondon.org/index.php) and a [UNEP project in Nairobi](http://www.unep.org/newscentre/Default.aspx?DocumentID=26840&ArticleID=35403&l=en).
   3. Vicky Morgan noted that the Secretariat is fully committed this year in terms of resources but offered limited secretariat support, e.g. setting up meetings. If the Working Group decide to take this further, they will need to report back to the Management Group with much more refined and achievable plans for 2016/17.
   4. Rob Grew suggested an in-house piece of work to review the current landscape for low cost sensors in citizen science, with the aim to progress further when more funding is available. Such a review could identify relevant projects and assess the drivers of success. At a minimum, this could produce a 3-4 page proposal including a scope for further work. It would be useful to describe the variety of environmental measurements which can be taken with low cost sensors, including air quality, noise/sound, light, images and moisture/humidity, and the different typologies of sensors, e.g. environmental management (air quality, soil moisture, biodiversity presence) or technology dependencies (e.g. light, electrochemical).
   5. It was noted that it is important for the data gathered from low cost sensors to link into other existing datasets and be of use to others, and a connection with earth observation data was mentioned.
   6. Patrick Bell and Paul Griffiths agreed to lead on this item and develop a reworked proposal for the next meeting.

**ACTION 7:** Patrick Bell and Paul Griffiths to write a low cost sensors proposal by 1st December

1. **Muki Haklay talk: Citizen Science and Policy – International Perspective**
   1. Muki Haklay is Professor of geographical information systems at UCL with a background mainly in participatory mapping. Muki created [ExCiteS](https://www.ucl.ac.uk/excites) at UCL, which works with community-led citizen science projects across the globe.
   2. Muki has recently been involved in two reports which detail more of the information provided in his talk – [*Citizen Science and Policy: A European Perspective*](https://www.wilsoncenter.org/publication/citizen-science-and-policy-european-perspective)and [*Crowdsourced Geographic Information Use in Government*](http://discovery.ucl.ac.uk/1433169/).
   3. Muki described the different methods of information flow through crowdsourcing, namely: public to government; government to public to government; and public to government to public. Success factors identified for crowdsourcing projects include: individual level influence, organisational level influence, good business models, and preparation for technical and conceptual issues.
   4. Citizen science began (c.1969) with experts and the public only talking directly to decision makers and not to each other, with the public assumed to know very little and the experts collecting data to advise the government. Over time, experts have increasingly conversed with the public, with modern projects allowing information to flow freely between experts, citizens and decision makers. These changes have evolved alongside advancing technologies (including the internet), improving levels of education and the public having more free time. Citizen science has become more accepted by scientists and decision makers, and embraced by the public.
   5. Muki stressed the importance of geography scale in a citizen science project and noted that it is linked to the policy area targeted, policy process aims and mode of engagement used. Local, smaller scale projects are often easier to coordinate and have more funding available. Regional programmes are the most difficult scale to manage, as they can suffer from a weak governance structure, lack of funding and communication difficulties. Larger, national scale projects have better governance and subsequently more available funding but communication can be difficult, and continental scale programmes have issues caused by crossing national boundaries, such as weak governance, cultural differences and expensive communication.
   6. Public involvement in policy can cycle between discovery, education, measurement of public opinion, persuasion, legitimization of the decisions and implementation. Policy aims of citizen science include awareness raising, data gathering, generating participation, supporting interest groups and policy implementation. The mode of engagement in projects ranges from passive sensing, volunteer computing and thinking, environmental observations, participatory sensing and civic/community science.
   7. Muki ended his talk by describing the trade-offs that citizen science projects have to make between engagement, participation, complexity and level of interaction. Projects will either attract a large crowd for the short term or a small crowd over a long term; a large crowd over the long term is usually only possible if the data collection is passive.
   8. The Group discussed the importance of geography scale in citizen science projects, with relevance to some of the UKEOF partners still conducting monitoring at a regional level, even though most partners operate at a national/UK level. The issues associated with regional scale citizen science projects could be tackled by scaling down national level programmes to have a regional focus. There is not thought to be a lack of motivation from citizens as there are examples of good participation in regional level projects. Water catchments were mentioned as a region size geographic scale which citizens may not currently appreciate, for example the entire Thames basin.

**ACTION 8:** Natalie Clark to circulate Muki’s presentation by 30th September

1. **Citizen Science in Europe and internationally**
   1. Rob Grew summarised his attendance at the European Protection Agency’s (EPA) Citizen Science Network meeting in Copenhagen. The meeting participants discussed citizen science projects across Europe, why the EPA is interested in citizen science and how we should support such projects. Rob will circulate the summary paper from the workshop when it is available.
   2. Rob Grew asked members to consider UKEOF’s role in citizen science across Europe and think about how our own priorities line up with those of the EPA and the European Citizen Science Association (ECSA). Rob recommended that we should be familiar with (and, where possible, contribute to) the activities of the EPA and ECSA, and publicise our own activities. There may be potential for UKEOF to get more involved at future EPA and ECSA meetings.
   3. Hilary Geoghegan noted that she is a member of the ECSA Policy Working Group, which includes other UK representation from David Slawson (OPAL) and Katherine Mathieson (British Science Association). This Policy Working Group looks to identify gaps in EU legislation which might be filled by citizen science monitoring. Hilary also noted that UKEOF could apply for institutional membership to ECSA (c. €100/year).
   4. Muki Haklay noted an ECSA conference in May/June 2016 (potentially in Berlin) focusing on citizen science policy at both a national and EU level.

**ACTION 9:** Rob Grew to circulate EPA meeting summary paper by 1st December

1. **Update on the Weather Observations Website**
   1. Jake Brown gave a summary of progress to update the Weather Observations Website – the Met Office’s weather observations portal – which was established in 2011. The updated site will collect data from the MO’s established climate network and also from the public who collect their own weather observations, allowing increased public engagement. The site is planned to go live at the start of the 2016 financial year.
   2. Technical advances using will better allow collaborations, e.g. with the Dutch, New Zealand and Australian Met Services, the integration of data from mobile observations platforms, and the inclusion of a variety of data measurements with the potential for citizens to choose their own measurements. Further, amateurs will be able to submit their data to organisational networks.
   3. Data will be available to view and not necessarily use. However, contributors will be able to choose to whom their data is available, creating private areas with limited access rights for sharing data if appropriate.
   4. Currently, the Met Office gather some data from social media (Twitter), e.g. encouraging citizens to use #snow or #fog.
   5. It was noted that there are similarities with the low cost sensors project – the organisational networks are recording at a macro level and the amateur citizen scientists (including social media input) are filling in the gaps at a micro level.
2. **Member updates**
   1. Gemma Smith informed members of a potential citizen science group at NE, with interest from social scientists and a landscape specialist. The idea of the group is to bring people together to share citizen science information across NE. Paul Griffith mentioned a similar group in SEPA and SEWeb, Patrick Bell noted potential for an internal workshop on citizen science in BGS, and Rob Grew said there has been interest in a similar group at EA but this has yet to form. Dylan Lloyd noted that citizen science interest across NRW is likely to become more crystallised as they progress through their environmental monitoring review.
   2. Gemma Smith mentioned other work at NE which could be classed as citizen science, such as volunteers making environmental observations at Nature Reserves, but is not aware of any national/strategic level coordination of the resulting data.
   3. Paul Griffiths mentioned an upcoming project to build a new citizen science online portal for SEWeb which is due to be completed around the end of March 2016. The portal will act as a pilot project which could then be replicated wider for SEPA and other SEWeb partners. The portal will capture data from long-term established programmes, such as daily rainfall records from the rainfall observers network, as well as new and future citizen science projects. Many of the existing projects have traditional methods of collating data which can be time-consuming and costly, such as hand-written data sent through the post. The portal will provide a common infrastructure for this data collection.
   4. Paul Griffiths also mentioned a new [river obstacles app](http://www.river-obstacles.org.uk/) released by SEPA and Nature Locator. The app will provide information on river obstacles to a variety of stakeholders (public bodies, local authorities, river users, etc) to identify obstacles which should be removed. Paul encouraged members to promote the app wherever relevant.
   5. Anna Robinson gave a verbal update from JNCC, noting the Defra Earth Observation Data Integration Pilot, for which JNCC are involved in the detailed habitat maps, and which has a citizen science validation component. Anna also mentioned a new State of Nature partnership report due in 2016 which will is likely to include a citizen science aspect.

**ACTION 10:** Gemma Smith to ask Andy Nisbet for information on the landscape change app and circulate to the Working Group by 1st December  
**ACTION 11:** Natalie Clark and Liesbeth Renders to promote the river obstacles app via Twitter and the UKEOF newsletter by 15th October

1. **Next meetings**
   1. The next CSWG teleconference will take place on Tuesday 1st December 2015 10:00-12:00.
   2. The next CSWG meeting will be a face-to-face meeting around March 2016. Hilary Geoghegan offered Reading as a location and Gemma Smith offered to investigate meeting facilities at Natural England in York. Members also discussed holding a future meeting in Scotland.

**ACTION 12:** Natalie Clark to circulate a Doodle Poll to identify a date for the March face-to-face meeting by 15th October **ACTION 13:** Gemma Smith to investigate meeting venues at Natural England (York) for a face-to-face meeting in March by 15th October

**Table of Actions**

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|  | Action | Owner | Deadline |
| 1 | Circulate the Royal Society Environmental Observations report | Natalie Clark | 30th September |
| 2 | Send newsletter content (announcements, news items) to Secretariat | All | 30th September |
| 3 | Send examples of UKEOF impact to Secretariat | All | Ongoing |
| 4 | Correspond regarding the VAT payable on the Motivations project | Vicky Morgan and Hilary Geoghegan | Complete |
| 5 | Send Rob Grew the Motivations project finalised Terms of Reference | Natalie Clark | 30th September |
| 6 | Circulate details of the Opportunities, costs and benefits contract project when awarded | Liesbeth Renders | 30th September (or as soon as possible after) |
| 7 | Prepare a reworked low cost sensors proposal | Patrick Bell and Paul Griffiths | 1st December |
| 8 | Circulate Muki Haklay’s presentation | Natalie Clark | 30th September |
| 9 | Circulate EPA meeting summary paper | Rob Grew | 1st December |
| 10 | Ask Andy Nisbet for information on the landscape change app and circulate | Gemma Smith | 1st December |
| 11 | Promote the river obstacles app via Twitter and the UKEOF newsletter | Natalie Clark and Liesbeth Renders | 15th October |
| 12 | Circulate a Doodle Poll to identify a date for the March face-to-face meeting | Natalie Clark | 15th October |
| 13 | Investigate meeting venues at NE (York) for a March face-to-face meeting | Gemma Smith | 15th October |