Project	Focus and audience	Status	Impact
Precision Agriculture to drive production efficiency in Scottish sheep	Scottish Government is committed to reducing Greenhouse Gas emissions and agriculture is one area where savings need to be made. It is acknowledged that improving animal health and welfare and thereby livestock production efficiency is one way to achieve this. Gastro-intestinal nematodes infections rank as one of the top three production limiting endemic diseases of livestock, but uptake of sustainable control strategies/recommendations and/or diagnostics are poor and to help address this two workshops (Tomintoul, 8th March 2017 and Kelso, 16th June 2017) were designed and delivered. Audience: Vets, vet nurses and farmers.	Complete.	Developing and running these workshops allowed us to improve our methods of delivering information and bringing about changes in behaviour to best practice. The experience also taught us more about what farmers want and need from best practice advice and back up. We changed farmer perceptions and behavioural intention about more sustainable methods of parasitic worm control in their sheep flocks, with a hope to change long-term behaviour.
The Beauty of Roots Exhibition	The project was an innovative Art and Science Collaboration and the resulting Exhibition provided novel opportunities for public engagement through demonstrations of scientific and artistic processes. The exhibition was designed (a) to improve the public's appreciation of the beauty and complexity of roots and (b) to inform them of the essential roles of roots in environmental sustainability and food security by reference to work undertaken in the Scottish Government Strategic Research Programme. Audience: General Public.	Complete (although requests are still coming in to exhibit the art work).	The exhibition has been both successful and incredibly popular. Art work has been displayed at >5 venues (Exhibition,17th-30th March 2017, Dalhousie Building, University of Dundee; SEFARI Showcase Event,18th April 2017, Scottish Parliament, Edinburgh; Open Studio Event, 29th-30th April 2017, Jean Duncan's Studio, Fife; The Fascination of Plants Event , 21st May 2017,University of Dundee Botanic Gardens; Exhibition, August 2017, The SNH Conference Centre at Battleby).

Project	Focus and audience	Status	Impact
"Gracing on the Edge" screenings	The project communicated a cutting-edge, timely and collaborative research project, 'Transgrass', to influence post-Brexit government policy, parliamentary and public debate about the acute challenges in upland management. Informing and engaging key audiences took place via debate-stimulating film screenings of 'Grazing on the Edge' (a Transgrass output) at Scottish Natural Heritage Great Glen House in Inverness, Saughton House and Southern Skye (March-June 2017). Audience: Policy, Researchers and Crofters.	Complete.	The film generated important discussions and (at times) a heated debate about the ecological connections with common grazings, the necessary directions for agri-environment research and policy, and succeeded in highlighting the importance of researchers getting involved.
Metagenomics Workshop	Metagenomics and metatranscriptomics are increasingly becoming important molecular tools for the identification of microbial communities that are non-culturable and associated with 'normal' and 'diseased' states. This allows the detection of changes in these communities, known as 'microbiota', during infection and disease, and hence the identification of microbes associated with specific disease syndromes. This technology is very timely and encourages inter-disciplinary and collaborative approaches. Therefore, this project involved the delivery of an interactive workshop (27th April 2017) to look at all aspects of the technology covering methodology and key applications to encourage collaborations with leading scientists in the field and increase the impact of SEFARI research. Audience: Researchers and Policy.	Complete.	The over-subscribed event provided a great networking opportunity that has the potential to lead to new collaborations and research interactions in a key are of importance relating to animal and plant health and disease, environmental impact and mitigation of greenhouse gas emissions, which in turn could impact and inform Scottish Government Policy.

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National Science Education Resource	Science education is very important to enable greater participation and understanding of new approaches and technologies that can make a significant difference to our lives. SEFARI has a considerable resource in educational materials, activities and people that collectively can make a significant contribution to science education. The main aim of this project was for the Institutes to work collaboratively with colleagues involved in biology education at SSERC, to develop a National Science Education Resource where scientists and teachers can work together to inspire the next generation to become interested and hopefully take up careers in science going forward. Audience: Teachers and Students.	Initial project almost complete, but likely to be ongoing activity.	Raised awareness of the excellent education resources available within SEFARI that can help support science teaching in Scottish Schools. Encouraged and developed key collaborations and sustainable working relationships between teachers and scientists, including at a very successful 'Support for Higher Biology with SEFARI Researchers' event at the Moredun Research Institute (16th November 2017) which received very positive feedback from a teacher 'I was at the Moredun institute for the SEFARI support day for the Higher yesterday. Just wanted to say it is worth keeping an eye out for courses with them, and the resources that they have on their website and will come through from the SEFARI initiative' (posted on the teacher's mailing list).
My Food, Our World	The Scottish Government published its 'Good Food Nation' (GFN) consultation in 2014, setting out their ambitious vision for food in Scotland, from plough to plate. 'My food, our world' has created a cutting-edge online/digital content designed to reach a wide range of audiences, to demonstrate how the research undertaken by SEFARI is providing evidence to support the GFN. Audience: General Public, Policy etc.	Complete but still investigating widening access to the outputs e.g. via SEFARI website.	A first look video of the project offers an interesting insight into SEFARI research and the interactive digital content was trialed at Food Matters Live, Excel, London (21st-23rd November 2017) where it proved incredibly popular and initiated a range of discussions with visitors to the event.

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Scotland's Biennial Agriculture and Environment Conference	This biennial conference is the premier agri-environment conference in Scotland, attracting keynote speakers from Scottish Government Ministers and is attended by policy advisors, practitioner representatives and scientists from across Scotland, the UK and Europe. Audience: Policy, Politicians, Researchers, UK and International.	Conference planned for 27th-29th November 2018 at Dynamic Earth in Edinburgh.	Previous conferences in 2014 and 2016 had a dedicated poster display to highlight SEFARI outputs; (b) content designed as highly relevant to Scottish Government policy and SEFARI research; (c) encouraged the discussion of interdisciplinary research and (d) had a very good representation of SEFARI research across the plenary sessions. The conference (over 200 delegates in 2014) was the largest forum highlighting research across SEFARI, it has societal value and relevance to international interests, and was extensively covered on TV (inc. BBC Alba), radio, social media and newspapers) and this is expected again.
Trends in Swine Infectious Diseases	Pigs are a fast-growing species with efficient feed conversion rates that play a crucial role in the efficiency of the livestock sector. Zoonotic and non- zoonotic epidemics can put food availability at risk. The "Trends in Swine Infectious Diseases" event (3rd November 2017) brought together scientists and stakeholders with an interest in controlling porcine infectious disease to exchange knowledge and establish future research collaborations. Audience: Researchers and Industry.	Complete.	National and international researchers with significant expertise in pig diseases agreed to contribute to this event which proved attractive to both academia and industry. The event was such a success discussions are taking place on possible collaborations and the development of additional meetings or conferences.

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Science Matters (audiovisual)	This project is working to promote some of the fantastic science stories arising from across SEFARI and the interesting teams of people involved, in an accessible and engaging format. This will involve conducting audio interviews with scientists and relevant stakeholders to help tell the stories of why 'Science Matters' to many aspects of people's lives. The project will enable people to engage with the people conducting the research and hear first-hand about what it is like to be a practicing scientist, thus presenting the human stories behind the research and also encouraging young people to consider science as a relevant worthwhile and diverse career. Audience: General public, Pupils and Potential scientists of the future.	In progress, expected to complete by financial year end.	Project teams members have previously been involved in the highly successful 'Livestock Keepers' project which helped to vividly bring farmers' stories to life in a similar manner and the project has proved very popular with a range of audiences.
Cross SEFARI Film	A short film (approx. 5 mins) is being created to highlight high-impact SEFARI research and how we are working to help mitigate some of the major challenges facing Scotland, and beyond. Examples included take a closer look at research on crops, livestock and our diets and how this work can improve yields, our health and the environment. The film (in collaboration with Circa Media) is seeking dynamic and innovative ways of communicating this information to enable the challenges, solutions and the scientists involved to be relatable and accessible to a diverse audience. Audience: General Public.	In final stages, expected to complete by financial year end.	The film will be shown on a continuous loop at the John Hope Gateway, RBGE, which was visited by more than 900,000 people last year. This offers the opportunity to engage a large diverse audience with SEFARI research. Circa Media created the film 'Change' currently running at the John Hope Gateway which is very popular, attracting over 15,000 'hits' and 900 'likes' on its first day. We are also planning to make our film and edited clips digitally available on a range of platforms (e.g. SEFARI website, Twitter).

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Schools soil poster competition	Encouraging young people to understand the importance of soils and the linkages between soils and the wider environment is vital to ensuring their future sustainable use and management. In addition it is important to provide support for teachers who may find teaching soils uninspiring. This project provided a focus for young people to explore the importance of soils, and engage teachers in resources that are available to help them teach soils curriculum in an engaging way. Audience: Teachers and pupils.	In final stages.	The project involved running a poster competition open to both primary and secondary schools. The topic of the posters was "The importance of soils" and posters could be international in their focus or focus on issues relating to Scottish soils. The competition was promoted by Aberdeen Science Centre, Geobus and though the Scottish Association of Geography School Teachers. Three schools; Alloa Academy, St Peters Primary and Airyhall Primary entered the competition and prizes will be awarded shortly.
Imaginative tools for visualising complexity	Complex, multidimensional, interconnected data can be extremely difficult to communicate effectively using classic visualisation tools. In this project the team recognised staff across SEFARI could benefit further by sharing best practice and building a cross-disciplinary community-of-practice in visualisation and this would be a timely way for everyone to benefit from existing expertise, and the development of prototype materials. Audience: Cross-disciplinary teams from within SEFARI.	Workshop planned for on 6th February 2018, James Hutton Institute, Dundee.	The workshop is aiming to: establish a community on visualisation techniques; create a space for people to share tools and methods; produce examples of SEFARI research in easily understood, visually appealing, ways; and increase our capability to create high impact materials as content for the SEFARI website. This network is already gaining interest not only within, but also external to SEFARI.

Project	Focus and audience	Status	Impact
Promoting climate change adaptation in catchments – an ecological art approach	Despite strong evidence from catchment science and from our deep experience in river management it is clear we must do more to involve stakeholders in taking adaptive action to the long-term challenges of climate change. Deploying effective means of communication is essential and we need to learn from experts from other fields. This project involves being a partner in an ecological-arts activity, working with the internationally famous artist Newton Harrison on a project in the Dee/Don river catchments. Audience: Key River Management Stakeholders.	Initial stage is almost complete. This project has since received additional funding to enhance impact further.	This project is proving to be an outstanding opportunity to work with top-level environmental communication experts to try to achieve changes in stakeholder thinking by generating high-quality professional communication materials. The edited film of Newton's presentation was completed in November 2017 and a launch event (online and at Woodend Barn) is planned for 9th March 2018. An expansion of this project seeks to achieve full exposure for the materials generated amongst the research and practitioner community in natural flood management by presenting the project at the launch of the Scotland Natural Flood Management Network (14 March2018, Edinburgh Centre for Carbon Innovation).
No hitchhikers! Keeping clean for conservation	New and emerging diseases of plants and animals are one of the greatest threats to food security and natural resources today. These emergences are accelerating, driven by trade and human movement of plant and animal materials. Edinburgh is the arrival port for Scotland, and the SEFARI shared exhibition space at RBGE (the John Hope Gateway) is often one of the first stops for tourists before the Highlands and beyond. Audience: General Public (e.g. tourists).	Recently funded.	In creating an interactive museum installation we have an opportunity to effect real change around biosecurity practice by engaging with visitors to explain how worldwide movements can transmit pests and diseases—and what they can do about it.

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Raising awareness of Strategic Research Programme impacts on tackling livestock related antimicrobial resistance challenges	Antimicrobial resistance (AMR) is the quintessential planetary One Health challenge with the problem of careless use of antimicrobials (AM). In livestock, AMs are used for preventative and therapeutic purposes, but some evidence suggests that they are largely used in response to poor health/biosecurity. The aim of this project is to synergise and bring together the latest livestock related AMR research outputs from across SEFARI in order to contribute to solving the AMR challenge. This will be achieved by means of organising a Scotland wide conference in Edinburgh. Audience: Researchers, Policy and Industry.	Recently funded.	This project seeks to establish a network of stakeholders that will assist in magnifying the impact of our research on various aspects of AMR.
Really Wild Veg	Potatoes are a staple food of nutritional and economic importance to Scotland. Potato diseases cause significant losses, with late blight alone responsible for an estimated US$6.7 billion global annual loss. Climate change also threatens yields. Consequently, potato breeders need to stay one step ahead of the threats. The genetic resource of potato wild relatives offers breeders a wide variety of useful traits to tackle these challenges. Scotland and SEFARI is a world leader in potato research and maintains one of the world's largest collections of potato wild relatives. Audience: General Public (e.g. gardeners, families etc.).	Recently funded.	Displaying and interpreting the Commonwealth Potato Collection (CPC) at RBGE will showcase this work. The new displays will be used to provide content for stories on social media, other digital platforms (e.g. blogs and digital stories) and print media.