

A COORDINATED AGENDA FOR MARINE, ENVIRONMENT AND RURAL AFFAIRS SCIENCE (CAMERAS) (2011-2016)

Food and Environment Research Agency (FERA)
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Consultation Questions

<p><i>Question 1: Do you agree that the two broad categories of 'Local Responses to Global Change' and 'Optimising the Potential of Scotland's Natural Assets' are helpful in providing an overlying structure to the Co-ordinated Agenda?</i></p>	<p>Yes, One small comment, in using the phrase 'Optimising potential' it should be understood that it will be done in a sustainable way.</p>
<p><i>Question 2: Are the descriptions of these set out in Section 3 (and Annex 3) comprehensive?</i></p>	<p>Yes, Yes, although some elements seem to be missing in the descriptions inc. - specific reference to developing quantitative assessment of risks rather than the hazard focus that is evident here at the moment. - detail on emergency response capability and food security. - renewable energy sources. Of particular relevance re. sustainable use of natural assets and the tension between food production and renewable energy sources on land use In the descriptions the link between waste/recycling etc. and biodiversity conservation could be strengthened as well as strengthening statements on the protection of Scotland's landscape and other natural assets by mention of specific measures such as landscape-scale conservation and flagship species.</p>
<p><i>Question 3: Do these cover the major policy challenges where science can contribute as you see them?</i></p>	<p>Yes, Most challenges are covered, but statements on risk analysis, food security and emergency response are lacking.</p>
<p><i>Question 4: Are they likely to remain broadly relevant over the</i></p>	<p>Yes, Yes, plus the areas referred to in Q3.</p>

<p><i>longer time horizon (well beyond the 2016 focus of this Coordinated Agenda)?</i></p>	
<p><i>Question 5: Do you agree with the description of support for the National Capability Theme set out in Section 3 (and Annex 3)?</i></p>	<p>Yes, Yes. Although there is a need for the CAMERA approach to coordinate with issues, policy pressures and research provision outside Scotland and to tap into non-Scottish sources of evidence. Cost-effectiveness might also be achieved by collaboration with GB/UK centres of excellence especially in risk, food security and emergency response.</p>
<p><i>Question 6: What facilities, resources and data do you think are important for Scotland to maintain?</i></p>	<p>The Consultation refers to centres of excellence/one stop shops dealing with scientific evidence. There is a case for such centres to service Scottish policies and aims given the unique resources of Scotland and different policies. However capability for Scotland and Scottish problems might be administratively located outside of Scotland and there should be mechanisms to co operate with other centres of excellence to ensure valuable synergies are appropriately exploited. For example, in relation to long term datasets, aphid suction trap monitoring data gathered in Scotland and in England and Fera's in field monitoring of aphid populations can be shared to mutual advantage. Other long term datasets can similarly be independently maintained but mutually shared. Establishing a process by which these data holdings can be identified in the various research establishments and then how they can be shared through collaboration in the future will be important.</p>
<p><i>Question 7: Are there other resources that Scotland needs to acquire to support future policy development?</i></p>	<p>Yes, The priority should perhaps be to ensure Scotland has access to specific programmes e.g. risk management programmes, and experience elsewhere.</p>

<p>Question 8: Have we correctly identified the key policy issues and the associated scientific opportunities in Section 3?</p>	<p>No, Policy areas relating to risk, food security and emergency response need to be considered.</p>
<p>Question 9: Are there additional issues that should be included?</p>	<p>Yes, See comment under Q8.</p>
<p>Question 10: What do you think will be the most important influences on Scotland's future in the Marine, Environment, Rural Affairs and related areas?</p>	<p>Climate change Food security Land use Landscape-scale biodiversity conservation Invasive, non-native species Disease outbreaks and emergency responses</p>
<p>Question 11: Why do you think these are important?</p>	<p>These are issues highlighted by national government and in international fora. The new government department DECC was created to address climate change issues.</p>
<p>Question 12: Are there other scientific opportunities which should be highlighted?</p>	<p>Yes, On a generic level, opportunities for collaboration with other (non Scottish) UK institutions where programmes are well developed elsewhere e.g. knowledge management, should be pursued. Specific comment: 'In common with Natural England, Scottish Natural Heritage projects are small and are not strategic. They would be better placed letting fewer, larger and more strategic projects which would be of greater overall benefit. For example, investment in strategic research into the location of wind farms across the country could avoid long acrimonious and expensive planning disputes which divert everyone"s attention from the renewable energy targets that need to be achieved. At present each wind farm is researched separately and many studies duplicate effort on different sites.'</p>
<p>Question 13: What existing areas of Scottish based scientific expertise should be maintained to contribute evidence to key policy issues?</p>	<p>Scotland currently has internationally renowned scientific expertise in Forestry, Agriculture (especially Potato production) and Sustainability. This expertise relates to key Scottish industries/concerns and should be</p>

maintained. However at present there is insufficient funding to adequately support all of the existing (remaining) plant /environmental science institutes in the UK. There is a need to develop a UK-wide strategy on how we retain sufficient capacity and support scientific excellence, while avoiding duplication and waste. This cannot be viewed simply from a single country perspective. The same is true at the government scientific-support level too. There are undoubtedly areas where the Scottish Government could be utilizing expertise and capacity within the Defra science Agencies based in England (i.e. Fera, Cefas, VLA), rather than trying to maintain its own identical, albeit often on a much smaller, capability. There is a need for the CAMERA approach to coordinate with issues, policy pressures and research provision outside Scotland and to make use of non-Scottish sources of evidence. An example of an area where a Scottish initiative within a UK framework is working well is the Non-Native Species Secretariat (NNSS) housed in Fera. Non-natives are by definition cross border issues and need to be coordinated at an international scale. In the UK, the NNSS acts as inter-country and inter-departmental coordinators, working closely with Scottish policy makers and research providers but within a UK framework. To build and rely simply on within-Scotland expertise would reduce the effectiveness and resilience of the process. Another example of where there needs to be effective co-ordination of science and surveillance activities is in the new Phytophthora Programme funded by Defra. The previous Inter-Departmental Phytophthora Programme Board provided effective co-ordination with Scotland. There are also issues of scale for effective

research and policy support to function. For some issues Scotland leads internationally e.g. Forestry research; for others there is sufficient need within the country to maintain a critical mass of expertise, e.g. Biodiversity; whilst for other issues, the need is too small to maintain such a critical mass of expertise, e.g. research to support Bee Health. There needs to be clarity about which issues fall into which category and how best to deal with the issues that each brings. The current CAMERA approach does not make this distinction and therefore risks the maintenance of small, sub-critical units that would be better aligned at a UK level. Specific comments: Potato production is one area where Scottish R&D has been traditionally very strong and internationally successful. In many cases expertise is unique within a UK context. This is important to maintain given the lead Scotland takes for the UK in EU potato policy issues and, at present, its strong health position for the production of seed potatoes where lack of aphids means less pesticide usage. Another area of strength includes soft fruit R&D and whilst this area of the horticulture industry remains important for Scotland then it can be argued that retention of R&D capability is important. In both the potato and soft fruit areas much of the success has been in relation to plant breeding: e.g. SCRI remains one of the leading institutes in the UK with successful ongoing breeding programmes, against a background of general decline in this area over the last 20-30 years across Britain. The continuation of such breeding programmes will be useful for Scottish production particularly in context of climate change: they will also be important to UK production as a

	<p>whole. In applied sciences and extension work it will be important to maintain scientific expertise in disciplines such as agronomy, plant pathology, entomology, weed science, environmental science, forestry, sustainability, not only to deliver extension advice to farmers/growers but also to feed into global issues e.g. climate change which need a UK approach.</p>
<p><i>Question 14: How clear is the relationship between the scientific areas and the key policy issues?</i></p>	<p>The clarity of relationship is variable depending on the research deliverer e.g. most universities have a poor understanding of policy needs and environment, whereas government institutes are much better. Also, there are different relationships depending on the policy area. Plant health is closely aligned both at UK and devolved administration level: traditionally there is the three legged stool of science, inspection/delivery & policy. Also, in Defra, government R&D funding is managed directly by the plant health policy division.</p>
<p><i>Question 15: In which areas of science can we continue to make use of expertise supported elsewhere e.g. at the UK, EU and international levels?</i></p>	<p>Risk analysis and management, food-chain security and emergency response. In the plant quarantine area, pest and disease are no respecters of country borders and with factors such as climate change and international/national trade there is a need to tap into risk analysis knowledge in the rest of UK and more globally. Within the UK, collaborative joined-up work to address environmental and habitat issues arising from new pest or disease problems makes sense e.g. R&D on <i>Phytophthora ramorum</i> in <i>Vaccinium</i> and oak forest habitats. In the potato area it will be important to work collaboratively with other UK institutes to identify, investigate, and address potential issues arising from climate change e.g. increasing risk from aphids and non-native species</p>

	spreading northwards.
<p>Question 16: In the time frame for CAMERAS (2011-2016) what new emerging areas of science are likely to mature and become available for more general use or application?</p>	<p>· Genomics – will have a huge impact on crop breeding, stress biology, pathogen & pest biology and control. Also requires complementary Bioinformatics expertise. · Genetic modification – with the possibility of GM crops being approved in Europe now increasing again, there could be a resurgence in this area. · Risk assessment methodologies - Quantitative assessment of ecosystem services, e.g. using stable isotope technology</p>
<p>Question 17: Do we have the expertise available to be able to use these new opportunities?</p>	<p>Yes, Yes for the most part, although some will need to be augmented by expertise drawn from outside Scotland.</p>
<p>Question 18: In which areas does Scotland need to be self reliant?</p>	<p>At a pure or fundamental science level, work should be dealt with at a UK-wide level. There is no need for Scotland to be self-reliant. The emphasis should be on collaborative work where complimentary skills are utilized and the input from Scottish scientists draws on unique aspects of Scotland natural assets e.g. moorlands. Similarly with diagnostics and testing services (e.g. plant health, GM testing) consideration should be given to the need for independent self reliant services or whether these can be either augmented or sourced elsewhere, with associated efficiency savings. Specific comment: With the more applied sciences, Scotland should put in much more effort to produce skilled professionals in disciplines such as agronomy, plant pathology, entomology, weed science etc. If agriculture is considered as an important part of the Scottish economy, the Scottish government will need to invest in this area, which has been in sharp decline across the whole UK for some time now but with the decline accelerating in the last</p>

	decade or so.
Question 19: Knowledge Exchange is essential for scientific activity to achieve impact. Do you agree that KE should be an explicit and integral aspect of the delivery of this Coordinated Agenda?	Yes, Absolutely. The global changes inc. climate changes identified in the consultation paper demand good KE mechanisms between scientists and policy makers. However schemes are often under-subscribed or misdirected. There needs to be careful consideration about who will be the donors and recipients.
Question 20: How can we continue to improve the integration of evidence from a diverse range of sources into forms that are accessible to end users?	There should be specific funding of 'Dissemination activities' as part of commissioned or contracted research.
Question 21: How can we reconcile the requirement for science to be responsive and flexible to short term demands while at the same time ensuring that longer term strategic research continues to progress our knowledge and understanding?	<ul style="list-style-type: none"> · Fund collaborative seed corn work · Support Network opportunities for Scottish scientists e.g. European COST programme. · Draw-up programmes for scientific activity e.g. CAMERAS · Invest in strategic partnerships where actions can be called on at short notice. These exist in Defra.
Question 22: How can we ensure that the 2 way flow of knowledge from science to policy and from policy to the academic community is optimised?	<ul style="list-style-type: none"> · Invest, by the creation of dedicated posts, in science providers whose job it is to understand what government needs and who ensure a 2 way flow of communication occurs. · Define the policy process to explicitly include use of evidence and risk assessment in context setting and developing options. Also policy makers need to target scientists in communicating policy objectives and developing science strategies, and to engage with others who have their own science strategies.
Question 23: Are there alternative structures/systems or new approaches/organisations that could enhance these flows?	Yes, See Q 22 above: Better integration of research providers with cutting edge academics, i.e. providers interpret and liaise with the scientist.
Question 24: Are there science delivery models which could provide examples of good practice	Yes, The FERA science delivery model is worth consideration: in this model there is an aim to contribute

<p><i>for Scotland to follow?</i></p>	<p>scientific support to all parts of the (Defra) policy cycle and to take work from the fundamental through to applied research through to advice to policy makers. Work delivered by Fera in the environmental biology and plant health areas are good examples of this. A mapping of contributions/skill base around the policy cycle in the various UK research institutes would be helpful and might form the basis for co-operation by identifying the best combinations of skills to address specific problem areas.</p>
<p><i>Question 25: We would also welcome any other general comments you may have on any of the issues raised in this document.</i></p>	<p>The consolidation of research priorities and funds proposed in the CAMERA approach is a good thing: larger funds lead to bigger and better research capacity, less uncertainty for researchers and more value for money for fund providers. There is a need for the CAMERA approach to coordinate with issues, policy pressures and research provision outside Scotland. The breakdown of themes and approaches seems quite sensible, but there is very little reference to coordination outside Scotland or use of non-Scottish sources of evidence. The Consultation refers to the development of new collaborations and partnerships in recent years: the existence of these with non-Scottish sources -UK/European/international- should be strengthened to ensure appropriate synergy and augmenting of scientific knowledge to serve Scotland's needs. CSL are not listed as consultees on the website. When the consultation is published we are happy for you to publish our comments. Please assign them to the Food and Environment Research Agency.</p>