



**Antimicrobial Resistance (AMR) in the Real World – Guidance for Invited
Research Grant Full Proposals
Closing date: 16:00 3 December 2015**

Summary

Antimicrobial Resistance (AMR) in the Real World is a £6.5m programme under the AMR Cross-Council Initiative. This call is co-funded by the Natural Environment Research Council (NERC), the Biotechnology and Biological Sciences Research Council (BBSRC) and the Medical Research Council (MRC), and has potential co-funding from the Arts and Humanities Research Council (AHRC).

The programme will support two types of award; larger Research Grants and smaller, more focused, Pump Priming Grants. This guidance is for invited applicants to the Research Grants Full Proposals which can be up to £1.5m (100% FEC) per project and up to four years' duration. Another call for Pump Priming Grants is also available at present.

This programme aims to address the need for a greater understanding of the role of the outdoor environment and host microbiome in influencing the evolution, acquisition and spread of antibacterial resistance, and as a reservoir for resistance. The programme is restricted to antibacterials and resistant bacteria or bacterial resistance genes, of clinical and/or veterinary importance. Research supported can be based in agricultural, aquaculture, wastewater and natural environments (and their interfaces), the human and animal host microbiome, and also includes elements of the way people and human communities interact with the environment. Proposals will need to be interdisciplinary and consider appropriate partnerships to meet the requirements of this call.

1. Background

1.1 Strategic background

AMR is recognised as one of the most important global issues for human and animal health. There are increasing numbers of resistant infections, many existing antimicrobials are becoming less effective, and there is rapid spread of multi-drug resistance. This means that we could be close to a reality where we are unable to prevent or treat everyday infections/diseases. Furthermore, there is a lack of significant commercial innovation in antimicrobials. Part of the research challenge must therefore be to conserve the antimicrobials we have left by understanding and mitigating the development of resistance. To develop a complete picture we need to understand the role of the outdoor and host environments in the development and transmission of AMR, an area where there has been very little co-ordinated research effort to date.

The UK Government has published a [Five Year Antimicrobial Resistance Strategy](#) (2013-2018) that sets out the actions and research needed to tackle AMR. Both the Government's AMR Strategy and the Science & Technology Select Committee's recent report on [Ensuring Access to Working Antimicrobials](#), have highlighted the need to understand AMR in the real world, and the Select Committee's report recommends "a research programme that will recruit expertise across the UK to fill the knowledge gaps on how antimicrobial resistance exists and may be transmitted via environmental routes".

1.2 Call background

The [AMR Funders' Forum](#) (AMRFF) and the [AMR Cross-Council Initiative](#) have been created to enable the interdisciplinary research required to address the issue of AMR.

The AMR Cross-Council Initiative is led by MRC on behalf of the Research Councils and will be delivered via a thematic approach with research to be commissioned under four themes:

- Theme 1: Understanding resistant bacteria;
- Theme 2: Accelerating therapeutic and diagnostics development;
- Theme 3: Understanding the real world interactions;
- Theme 4: Behaviour within and beyond the health care setting.

A phased approach to delivery is being taken with the timing of calls under each of the themes being determined on a case-by-case basis. To date, the AMR Initiative has committed £27.5m to new research activities and the total investment will increase as new activities are commissioned.

This programme, AMR in the Real World, falls under Theme 3 (Understanding the real world interactions) of the AMR Cross-Council Initiative. Theme 3 aims to address the need for a greater understanding of the role of the bacterial environment, defined in the broad sense (including host microbiomes), in influencing the evolution, acquisition and spread of antibacterial resistance, and as a reservoir of resistance. This programme is focused on AMR in outdoor environments and the host microbiome, but the Research Councils also recognise the importance of understanding AMR in indoor environments, such as hospitals and homes, and the Arts and Humanities Research Council (AHRC) are coordinating a scoping exercise to determine the research priorities in this area.

NERC are leading this programme on AMR in the Real World on behalf of the Research Councils. The research priorities for the programme were defined by two workshops in 2014 on AMR in the environment (specifically the outdoor environment) and AMR in the context of the host microbiome (both human and animal). These areas are being brought together to build the interdisciplinary science which is required to address the issues. This is a £6.5m programme co-funded by NERC (£3.5m), BBSRC (£2m) and MRC (£1m). In addition, AHRC will contribute on a case-by-case basis to successful projects with an arts and humanities component.

2. Grant requirements

Research Grants should be up to £1.5m (100% FEC), for up to four years' duration, intending to start no later than 1 May 2016 and complete by 31 March 2020. This is guidance for invited Research Grant Full Proposals. Only invited grants should submit to this call; any other submissions will be rejected.

2.1 Scope

This programme aims to address the need for a greater understanding of the role of the outdoor and host microbiome in influencing the evolution, acquisition and spread of antimicrobial resistance, and as a reservoir for resistance.

This programme is restricted to antibacterials and resistant bacteria or bacterial resistance genes, of clinical and/or veterinary importance, and excludes antibacterial resistance in plant pathogens.

Research supported can be based in agricultural, aquaculture, wastewater and natural environments (freshwater, marine, soil, air, etc. and their interfaces), human and animal host microbiomes (including the gut, skin, respiratory and oral microbiomes) and also includes elements relating to the way people and human communities interact with the environment, animals and each other. Research based in the indoor environment (e.g. looking at surfaces in hospitals) is outside of the scope of this programme.

As it will not be possible to cover the full scope of the programme within a single project it is expected that supported projects will focus their research questions around specific locations, specific antibacterials and/or specific bacterial communities, however applicants should set-out how the approaches and methodologies developed could be translated to other environments, antibacterials or other bacterial communities.

Proposals that include research within the remit of more than one of the funders are welcome. AHRC will consider funding on a case-by-case basis proposals with an arts and humanities component. Areas of interest to AHRC are briefly outlined within the work packages below but further detail of approaches and possible research questions are detailed in Annex 1.

As the environmental science elements of this call are predominately in Work Package 1, it is expected that at least £3m of the NERC contribution to the call (£3.5m) will be invested in this work package.

A key aim of this programme is to develop a community of researchers with the broad range of skills and expertise needed to understand the evolution, acquisition and spread of antimicrobial resistance. This will include learning from and building on research in related areas, and applications from researchers who have not worked on AMR previously but have experience in relevant disciplines, such as environmental microbiology, gut microbiology, bacteriology or arts and humanities, are encouraged as the Funders are keen to expand the AMR research base in the UK.

2.2 Scientific objectives

There are two work packages as part of this programme. Proposals can address either Work Package 1 or Work Package 2, or can work across both work packages. In all cases applicants must clearly demonstrate how their project will deliver against the objectives of the relevant work package(s).

Work package 1

Within this work package, we specifically want to advance understanding of the acquisition, spread and evolution of AMR in the environment and to determine how this affects exposure risks for humans/animals.

Applicants must address one or more of the following three issues:

1. Understanding sources, presence, location, transport, fluxes, transformations and eventual fate of antibacterials in the environment, at an appropriate spatial and temporal scale, and relating this to usage and professional practices.
2. Understanding presence, location and levels of resistant bacteria and/or resistance genes in the environment (including measures of abundance, not just presence/absence) and how these genes are transferred within and between microbial communities (including non-pathogenic bacterial communities) and the rate at which they do so. Applicants should identify the implications for pathogens of clinical and/or veterinary importance.
3. Developing a quantitative understanding of the processes and factors that control the selection of AMR genes in the environment, including:
 - emergence of resistance (including via novel mechanisms);
 - persistence/retention (including both survival and fitness effects);
 - transfer;
 - evolution; and
 - co-selection.

This work should identify the specific environmental drivers of these selection processes, including both anthropogenic and non-anthropogenic drivers. The work should also include identifying the implications for pathogens of clinical and/or veterinary importance.

Within the projects applicants should also begin exploring how their research can inform AMR policy and management strategies. The range of research of relevance to policy is broad and some examples are listed below, note that this list is not exhaustive and research in other areas that can contribute to policy development is also welcome:

- Predict the exposure risk to humans/animals (including identifying hotspot locations for exposure and locations susceptible to emergence of resistance) and the corresponding implications for health. How the presence of humans/animals plays a part in the acquisition, spread and evolution of AMR in the environment could also be considered.
- Explore potential interventions and mitigation strategies, including new strategies, which minimise the emergence, transmission, and/or exposure risk of resistance in the environment in a cost-effective, sustainable way. Potential interventions could include physical solutions to prevent the spread of antibacterial resistance and suggested changes in environmental, agricultural, veterinary and medical management practices. Proposals that consider cultural factors around different practices (including professional practices) and community contexts, for example exploring participatory approaches to co-design interventions with diverse communities or using visualisation, narrative and/or creative arts approaches to engage diverse communities, are eligible to apply. Identifying or developing new antimicrobials or the design and use of indoor environments is outside the scope.

Work package 2

Within this work package, we specifically want to advance understanding of the acquisition, spread and evolution of AMR in the host microbiome (human and animal), and the potential role of the environment in this.

Research proposals should aim to develop an understanding of AMR genes and resistant bacteria in the context of host microbiomes, through one or more of the following:

- interactions between resistant bacteria and the wider microbial community in the host (including gut, skin, oral, respiratory, etc.);
- specific drivers of the emergence, evolution and co-selection of resistance;

- persistence/retention (including both survival and fitness effects);
- how resistance genes are transferred within the microbiome, including pathogenic and commensal bacteria;
- the influence of the 'outdoor' environment on these and the interaction between the host and the environment.

Applicants should identify whether the presence of resistant bacteria or resistance genes in the host microbiome has implications for pathogens of clinical and/or veterinary importance.

2.3 Non-scientific objectives

Proposals will address the following objectives:

1. Interdisciplinary collaborations

Applicants must consider appropriate collaborative partnerships between disciplines to tackle this research such as: bacteriology, veterinary science, ecology, informatics and computational modelling, mathematics and the arts and humanities. Attracting new disciplines to the field of AMR research is a key goal for the over-arching AMR Cross-Council initiative.

2. Partnerships

The funders strongly encourage projects to engage with potential partnerships to ensure that the research proposals are designed to provide the evidence needed to support policy/regulators and/or industry, as appropriate. There should also be a consideration of the antibacterial prescribers and users, including farmers, veterinary and medical practitioners, and the public. Appropriate involvement of such partners should be part of the project design in order to ensure appropriate pathways to impact.

Where possible applicants should include partnership activities with new or existing partners and align with on-going activities to develop new ways of working. Some organisations who have indicated in advance a desire to partner with applicants to this call can be found in Annex 2. **There is no obligation to include any of the partners listed in Annex 2 and the inclusion of partners in organisations not included in Annex 2 is also encouraged. Co-funding from industry/policy partners is not a prerequisite for this call.** However, it is a requirement that the research is of relevance to users and that projects have appropriate user engagement mechanisms in place, and applicants should ensure these issues are addressed in the proposals.

2.4 Eligibility

All applicants must meet the organisation eligibility requirements of at least one of the funding organisations (AHRC, BBSRC, MRC or NERC) (further detail provided on the [RCUK website](#)). Eligibility criteria for investigators are given in the [NERC Grants Handbook](#).

Investigators may be named on a maximum of two different Research Grant proposals but only one as the lead Principal Investigator. It is the responsibility of the lead PI to ensure that your proposal does not include ineligible Co-Is and Researcher Co-Is, or any applicants who are named on more than two proposals. Proposals which break this eligibility rule will be rejected. Applications to the Research Grant call will be counted separately to the Pump Priming Grants call.

Centre for Environment, Fisheries and Aquaculture Science (Cefas)

In addition to the £6.5m of Research Councils' funding for this programme, Cefas has made up to £200k available to cover their researchers' costs on proposals. Applicants from Cefas can be named on a proposal as Co-Investigators as long as there is a Principal Investigator from a Research Council eligible institution.

If you are requesting funding from Cefas you must:

1. Have agreement from Cefas that the project will be supported (see contact below) with an email or letter uploaded as an attachment on the Je-S system.
2. Clearly delineate the planned Cefas researchers' role in the project in the Case for Support.
3. Clearly outline the Cefas researchers' costs in the Justification of Resources and clearly indicate the funds requested from the Research councils on the Je-S system. ONLY Research Council funds should be requested through Je-S. Non-eligible Co-Is should be listed with no associated costs. Proposals where the costing is unclear will be rejected.

Due to these additional eligibility options, it is expected that proposals DO NOT include Cefas as sub-contractors on proposals. Proposals which list Cefas as a sub-contractor will not be accepted. However, any project requiring the use of Cefas facilities where there is a Cefas CoI, should request the facilities costs and associated consumables but applicants should ensure that any use of Cefas facilities, as with all costs, are fully justified in the Justification of Resources.

Cefas funding queries: Lisa Sivyer (Lisa.sivyer@cefas.co.uk).

Normal RCUK eligibility rules apply to other government funded research institutions.

2.5 Studentships

No associated studentships are permitted.

3. Process and assessment

3.1 Overview of programme delivery

This is one of two parts of the programme AMR in the Real World. This is guidance for invited Research Grant Full Proposals. These proposals will already have submitted an Outline Proposal which was assessed by an expert panel. Full Research Grant Proposals will be sent out for international peer review and Principal Investigators will be given the opportunity to respond to reviewer comments ahead of the panel meeting.

An Announcement of Opportunity (AO) for the smaller Pump Priming Grants is also available. These smaller Pump Priming Grants will be around £200k (100% FEC) for 12-36 months to stimulate "high risk/high reward" projects and new innovations. These Pump Priming Grants have the same science scope as the Research Grants, but proposals will be expected to have a narrower focus than the larger Research Grants, and so may address only part of one of the three main issues identified under each work package. The Pump Priming Grant call has the same closing date as the Research Grants Full Proposals and will be considered by the same panel. The panel will look across the grants and assess the potential for the projects to deliver a balanced portfolio which address the programme objectives.

Following the award of grants, additional funds will be available to deliver activities designed to improve integration and coordination of research efforts (such as synthesis activities and science meetings) but also carry out Knowledge Exchange, impact and innovation activities. This will be across the projects in this programme but also link with the other themes of the AMR Cross-Council Initiative where appropriate. This activity will specifically facilitate interdisciplinary and whole system working.

3.2 Application process for this call

3.2.1 Basics

Applications must be submitted using the Research Councils Joint Electronic submission system (Je-S). Please select the Scheme – ‘NERC/Standard Proposal/Directed/AMR in the Real World Research Grants’. To use this system, the applicant’s Research Organisation must be registered as a Je-S user. Full details are available on the [Je-S website](#). Further information can also be obtained by contacting the Je-S Helpdesk by email JeSHelp@rcuk.ac.uk or by telephone on 01793 444164 (Monday to Friday 8:30 – 17:00).

Applicants must ensure that they submit by **16:00 (4pm) 3 December 2015**. Applicants should leave enough time for their application to pass through their organisation’s Je-S submission route before this date. Any application that is received after the closing date, is incomplete, or does not meet the eligibility criteria will be returned to the applicant and will not be considered.

It is very important to note that from January 2015, NERC has updated its position on [adherence to grant rules](#). Applicants should ensure that their proposal conforms to all eligibility and submission rules, otherwise their proposal may be rejected without peer review. More details on NERC’s submission rules can be found in the [NERC Grants Handbook](#) and in the submission rules on the NERC website.

3.2.2 Full Proposal stage

Only applicants successful at the Outline stage have been invited to proceed to the Full Proposal stage.

It is expected that proposals will evolve between the Outline and the Full Proposal (including personnel), but major science elements of the project proposed are expected to remain broadly the same, within the confines of any feedback from the Outline stage. Applicants should agree any significant proposed changes with the Research Councils prior to submitting their Full Proposals; all requests to modify the scope of projects should be sent to amr@nerc.ac.uk who will coordinate the Councils’ response to requests.

Applicants should be aware that any changes of resources requested should still be within the upper limit specified by the call (£1.5m at 100% FEC).

3.2.3 Application guidance

The proposal will consist of sections completed in JeS which form the proforma plus attachments. The attachment document lengths will be based on that required by a NERC Standard Grant. Further detail is provided in annex 3 or point 186 in the [NERC Grants Handbook](#). There is also additional information provided for any joint proposals (i.e. projects made more than one component

proposal, which enables funding to be awarded directly to different Research Organisations) or applicants can refer to points 203-208 in the NERC Grants Handbook.

In addition to the attachments specified in the Grants Handbook, any proposals including the use of animals and/or human participants in research should include the relevant form (see section 3.2.8) to be uploaded as attachment type “other”.

All documents should be completed in single-spaced typescript of minimum font size 11 point Arial font or other sans serif typeface of equivalent size to Arial 11, with margins of at least 2 cm, unless otherwise specified in a given template. References must now also be presented in minimum font size 11 point. Please note that Arial narrow and Calibri are not allowable font types as they are smaller and any proposal which has used either of these font types within their submission will be rejected.

Applicants are advised that they should convert their attachments to PDF prior to upload in order to avoid formatting issues.

3.2.4 Finances

Applicants should follow the financial conditions set out in Section E of the [NERC Grants Handbook](#).

3.2.5 Data management

NERC requires that strategic research programmes implement a data management scheme which covers practical arrangements during the programme and subsequent long-term availability of the data sets. In line with the [NERC data policy](#) the data from the programme will be lodged with the appropriate NERC Designated Data Centre or other appropriate publically available data repositories. NERC puts an obligation upon PIs to ensure that data management is undertaken in a suitable way. Applicants are required to submit an outline Data Management Plan (ODMP), to identify the data sets likely to be available for archiving and reuse at the end of the grant. There will be no charge to the project for a NERC Data Centre to accept and manage the agreed data sets at the end of the grant but any in-project data management activities should be costed and included within the proposals. If proposals do include any costs for the Data Centre then these will be removed from the proposal. Further information is provided on the [NERC data management planning webpages](#). For any population or patient based studies, the applicants must comply with requirements for data management in the [MRC Guidance for Applicants and Award Holders 2015](#) (section 2.8).

3.2.6 Pathways to Impact

NERC requires all grant proposals to include a Pathways to Impact plan, which should focus on engagement with users (industry, business, government, charities or the general public), specifically considering what will be done during and after the project to increase the likelihood of the research reaching the identified beneficiaries and maximise the likelihood of the identified benefits being achieved. Further information is given in point 185 of the [NERC Grants Handbook](#) and on the [NERC pathways to impact webpage](#).

3.2.7 Services and facilities

Applicants may also apply for access to any of the RCUK [services and facilities](#). Prior to submitting the proposal, applicants must first contact the facility to seek agreement that they could provide the

service required and obtain a technical assessment (quote). Applicants should contact the relevant facility at least one month prior to the closing date to ensure that the facility can provide the quote in time to be submitted with the proposal. Applicants should refer to the point 219 of the [NERC Grants Handbook](#) for further detail.

3.2.8 Use of animals and/or human participants

For any proposals including the use of animals and/or human participants in research, the guidance in sections 4.1 and 5.1, respectively, of the [MRC Guidance for Applicants and Award Holders 2015](#) must be followed. Applicants using animals and/or human participants are also required to complete and submit the template form in annex 4 on the landing page of this guidance as part of the application.

3.3 *Assessment process*

Proposals received prior to the deadline which fit the basic requirements of the call will be sent out for international peer review, with the aim of achieving a minimum of three reviews covering the breadth of the science of a proposal. There will be a PI response stage in JeS around mid-February; PIs should be ready to respond to this and consult with their teams as there will be one week to return this response.

The reviews and PI response will be considered at a moderating panel in mid-March 2016.

Proposals will be assessed on Excellence and Fit to Scheme (scientific and non-scientific objectives). Further information on scoring, as well as details of guidance for reviewers and panel, is provided on the [NERC assessment process webpage](#). The panel will look across the grants and assess the potential for the projects to deliver a balanced portfolio which address the programme objectives. The funders reserve the right not to fund up to the limit allocated to the programme, and will consider the overall balance of science needed to deliver the programme, in making decisions about which grants to fund.

Applicants will be given brief feedback from the panel summarising the reasons why the proposal was successful/unsuccessful. No further feedback will be available.

4. Timeline

AO for Research Grant Outlines launched	August 2015
AO for Pump Priming Grants launched	August 2015
Town Meeting	11 September 2015
Closing date for Research Grant Outlines	6 October 2015
Assessment panel for Research Grant Outlines	22 October 2015
Closing date for Full Proposal Research Grants and Pump Priming Grants	3 December 2015
Full Proposal Research Grants and Pump Priming Grants panel	March 2016
Research Grants and Pump Priming Grants start	1 May 2016
All grants will have completed by	31 March 2020

6. Contacts

Scientific queries, application process and general enquiries:

Daniel Knight

amr@nerc.ac.uk

01793 411672

For queries on specific council remit please contact:

AHRC:

Gail Lambourne/Sam Lambshead

amr@ahrc.ac.uk

BBSRC:

Sian Rowland

amr@bbsrc.ac.uk

MRC:

Ghada Zoubiane

amr@headoffice.mrc.ac.uk

Cefas funding queries:

Lisa Sivyer

Lisa.sivyer@cefas.co.uk

Annex 1

Specifications of approaches and potential research questions of interest to AHRC

Proposals to this call with an arts and humanities component will be considered by AHRC on a case-by-case basis.

To fully understand the interaction between people, communities (including professional) and the environment and its role in AMR, the use of a wide range of approaches and methods could be utilised as part of arts and humanities research. This could include ethnography, creative expression, history, literature, design and the use of narrative and storytelling to understand the complexity of these interactions.

Research questions could include:

- Working with professional and local communities to develop more sustainable practices to help mitigate AMR development/emergence in the environment through for example:
 - o Improving understanding of changes in environmental, landscape and agricultural management practices, and public health over time and applying this to modern contexts;
 - o learning from past successes and failures in engaging communities (including professional communities) in this area;
 - o employing participatory approaches to co-design interventions with diverse communities;
 - o using visualisation, narrative and/or creative arts approaches to engage diverse communities in mitigation strategies focused around the interface and relationship between AMR and the environment;
 - o understanding the impact of cultural factors (historical perspectives, beliefs, cultural values, ethnicity) and cultural inequalities in developing (multi-level) intervention and mitigation strategies;
- What approaches are most effective in different groups?
- How sensitive is AMR emergence to community contexts, including the practices of professional communities?
- How can services be integrated in such a way to take into account the above factors to transform health practices and processes of user engagement?
- Understanding the take-up/scaling-up of interventions which work and how better understanding of cultural and professional practices and traditions can help more effective scaling up of interventions.

Annex 2

Potential project partners which applicants may wish to approach

Several organisations have expressed an interest in contributing resources to individual projects for this call. Applicants can approach any of these of relevance but are not obliged to include any of these organisations.

Industry

Agriculture and Horticulture Development Board (AHDB)

Where proposals are interested in systems of relevance to the pork, beef, lamb or dairy sectors, applicants may wish to approach AHDB for which they can provide access to strategic work of relevance, EU collaborative research groups and Knowledge Transfer avenues within the organisation. Please contact Martin Smith (Martin.Smith@ahdb.org.uk).

AstraZeneca

Where proposals seek to provide novel tools and approaches that could (i) underpin the prospective environmental risk assessment of antibacterials and associated antibacterial resistance and (ii) target retrospective environmental risk management and mitigation strategies for resistance that encompass the pressures of co-selection and fitness etc. applicants may wish to approach AstraZeneca as a project partner for which they could provide advice, data, other forms of in kind support and in-part funding, as appropriate. Please contact Jason Snape (Jason.Snape@astrazeneca.com).

Scottish Salmon Producers' Organisation

Where proposals have any relevance to Scottish salmon aquaculture, applicants may wish to approach SSPO as a project partner for which they could provide knowledge, access to information and resources. Please contact Dr John L Webster, Technical Director (JWebster@scottishsalmon.co.uk).

Water Industry Research Group

Where proposals cover aspects of wastewater discharges, applicants may wish to approach UK Water Industry Research ("UKWIR") to identify a possible project partner from the UK sewerage companies. Such partners may be able to offer access to sites, advice, data, and other forms of in kind support, as appropriate. Hans Jensen is Chief Executive of UKWIR, and the programme lead for wastewater is Howard Brett (howard.brett@thameswater.co.uk).

Government departments and agencies

Environment Agency

The Environment Agency regulate intensive farming, the spreading of material to land (e.g. sewage sludge, digestate, animal by-product treated material) and the discharge of treated wastewater to water bodies. Where proposals seek to further our understanding of the emergence, dissemination and impact upon environmental quality and health of antimicrobials, antibiotic residues, antimicrobial resistant bacteria and genes from such activities, applicants may approach the Environment Agency as a project partner. In addition to being an end-user of the information, they could facilitate access to pig and poultry sites, provide technical expertise, access to data and other forms of in kind support, as appropriate. Please contact Alwyn Hart (alwyn.hart@environment-agency.gov.uk).

Food Standards Agency (FSA)

The FSA is commissioning a systematic review on the contribution that food makes to AMR which it hopes will report in early 2016. The FSA would be interested to hear from applicants to this call who may be considering proposals which have the potential to address key evidence gaps in this area. Please contact Alisdair Wotherspoon in the first instance (Alisdair.wotherspoon@foodstandards.gsi.gov.uk).

Natural England

Of England's 224 National Nature Reserves (NNRs), Natural England are responsible for the management of 143 sites directly, 23 of which are managed in partnership or in various forms of shared management with Approved Bodies. Almost the entire NNR area is SSSI (over 99% by area) and 84% of NNRs are also either SAC or SPA (or both). Natural England are offering their 143 NNRs as potential sample sights as part of this call. This would provide researchers with a range of environments from the relatively wild uplands of northern Pennines to coastal sites. Some sites are actively managed with stock, whilst others are not. For more information please contact Dave Stone, Dave.Stone@naturalengland.org.uk.

Annex 3

Detailed information for submission of application through JeS

All attachments, with the exception of letters of support and services/facilities/equipment quotes, submitted through the JeS system must be completed in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm. Please note that Arial narrow and Calibri are not allowable font types and any proposal which has used either of these font types within their submission will be rejected. References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case. Embedded diagrams or pictures or numerical formulae may contain text that is smaller than 11 point but applicants should ensure that the font is legible. Text in tables and figure labels not within embedded diagrams should be at least 11 point.

The correct attachment type should be used in JeS as that determines whether attachments are visible to reviewers and/or moderating panel members. Letters of support must be on headed paper and signed/dated. Attachments must not exceed the page limits specified for the attachment type and scheme (see below), regardless of the number of component Research Organisations. Attachments should be converted to PDF and checked prior to attaching to the proposal in JeS, as PDF conversion of documents with any non-standard fonts (scientific notation, diagrams etc.) can result in changes, such as missing data or increased document length. It is the responsibility of the applicant to ensure that font size and margins remain the same when documents are converted to a pdf.

Grant proposals the following should be submitted to NERC via the JeS system:

Document/ attachment type	Requirements (see also paragraph 171)
Proposal Form	JeS proforma (All component proposals must use the same call as the lead proposal or the whole proposal (lead and components) will be rejected.
Case for Support	Incorporating the Previous Track Record (up to 2 sides A4) and Description of Proposed Research (up to 8 sides A4
Outline Data Management Plan (ODMP)	up to 1 side A4
Justification of Resources	up to 2 sides A4 for all Research Organisations in the proposed grant, including justification for items of equipment between £10,000 and the OJEU threshold.
C.V.	CVs are required for named research staff (including Researcher Co-Investigators), Visiting Researchers, all Principal and Co-Investigators named in the proposal (up to 2 sides A4 for each CV). There is a JeS validation requiring the same number of CVs as named investigators and researchers on the proposal. Note: Only CVs for the PI, any CoIs and named researchers will be sent out for peer review. Other submitted CVs e.g. from project partners should not be attached and will not be made available to reviewers or panel members.
Pathways to Impact	up to 2 sides A4
Project Partner Letter of Support	From any named Project Partners (up to 2 sides A4 each). There is a JeS validation requiring the same number of attachments as Project Partners

Letter of Support	Letters of support should generally be from Project Partners so be attached as above. No further letters of support should be attached, except in exceptional cases where permission has been received from amr@nerc.ac.uk . Letters of support can only be attached to the lead proposal. Applicants should ensure that any letter of support adds value to the scientific case e.g. where access to data is being granted. NERC reserves the right to not make letters of support available to reviewers and panel members where they do not add value to the scientific case.
Facility Form	Use only for application forms for Ship-time/Marine Equipment (SME), Antarctic Logistics Support and for High Performance Computing (HPC) when use of ARCHER exceeds 160MAU (in any one year).
Technical Assessment	Mandatory for any NERC Facility selected on the JeS proforma except those listed in the previous row. The full list of NERC facilities is available. The attachment should be a quote from the relevant facility.
Non-UK Components	To be used only where specific guidance requires this attachment. For example, where NERC and an International Funding Organisation have a joint agreement (e.g. NSF or FAPESP:

Joint proposals

The following guidance applies where a research proposal consists of more than one component proposal, which enables funding to be awarded directly to different Research Organisations. Any component proposals must use the same call as the lead or the whole proposal (lead and components) will be rejected. Alternatively a single proposal may include Co-Investigators from the non-lead Research Organisation and funding for a number of Research Organisations. In this case the award would be made to the lead/submitting Research Organisation which would pass funds on to collaborating Research Organisations (including Directly Allocated and Directly Incurred costs). Where the award to a Research Organisation would be under £65,000, funding must go via the lead Research Organisation.

For this call there is no limit to the number of component Research Organisations requesting direct funding.

The minimum sum that can be awarded to an individual Research Organisation in a joint proposal is £65,000 (100% fEC). Where an individual Research Organisation is requesting more than £65,000 (100% fEC) they can either be included as part of the lead proposal or can submit their own component proposal. There will be one overall lead Principal Investigator and lead Research Organisation with responsibility for the management of the project as a whole. In addition, each constituent Research Organisation must name a Principal Investigator who will have responsibility for the input of the component organisation.

The following information should be common to all proposal proformas and text such as “See Lead Proposal” should not be submitted:

- Title of proposal
- Objectives
- Summary
- Academic Beneficiaries
- Impact Summary
- Preliminary Request for Antarctic Logistic Support form (for proposals requiring Antarctic Logistic Support)

For each component Research Organisation we require:

- CVs for named research staff (including Researcher Co-Investigators) and Visiting Researchers at the component Research Organisation (up to 2 sides A4 for each CV). These should be attached to the relevant component Research Organisation proposal.
- CVs for all Principal and Co-Investigators named in the proposal (up to 2 sides A4 for each CV).
- Business case for items of equipment above the OJEU threshold (up to 2 sides A4 for each item)
- Price quotations/documentary evidence of estimated cost for equipment costing more than £25,000.
- Facilities forms, where relevant.

The following should be included in the lead Research Organisation proposal proforma or submitted as attachments to the lead Research Organisation proposal **only**:

- Nominated referees.
- Project Partners.
- Letters of support from named Project Partners.
- Case for Support (all parts)
- Outline Data Management Plan (ODMP)
- Justification of Resources (including any justification for items of equipment between £10,000 and the OJEU threshold).
- Pathways to Impact.
- Preliminary Request for Antarctic Logistic Support form (for proposals requiring Antarctic Logistic Support).

Summary of requirements for joint proposals:

Document Type	Common to all proposals	Submitted by lead only	Submitted by individual components
Title of proposal (proforma)*	X		X
Objectives (proforma)*	X		X
Summary (proforma)*	X		X
Academic Beneficiaries (proforma)*	X		X
Impact Summary (proforma)*	X		X
* The title and content of all the sections above should be the same on all components. Do not use "see lead" (or similar) as the individual grants of any successful projects are included on the website and in reporting systems, like "Grants on the Web".			
Nominated referees (proforma)	X	X	
Project Partners (proforma)	X	X	
Facility (proforma)			X
Previous Track Record (Part 1 of the Case for Support)	X	X	
Description of Proposed Research (Part 2 of the Case for Support)	X	X	
Outline Data Management Plan (ODMP)	X	X	
Business Case for items of equipment above the OJEU threshold	X	X	
Justification of Resources	X	X	
Pathways to Impact	X	X	
Letters of support from named Project Partners	X	X	
CVs for all Principal and Co-I Investigators, named research staff and Visiting Researchers from all component Research Organisations			X

Price quotations/documentary evidence of estimated cost for equipment costing more than £25,000	X		X
Preliminary Request for Antarctic Logistic Support form (for proposals requiring Antarctic Logistic Support)	X	X	
Facility forms (Ship-time/Marine Equipment, High Performance Computing involving ARCHER, if total use likely to exceed 160MAU (in any one year))			X
Technical Assessment/quote for all other NERC facilities selected.			X