Convention on the Conservation of Migratory Species of Wild Animals (CMS)

Secretariat provided by the United Nations Environment Programme (UNEP)

Twelfth Meeting of the CMS Scientific Council

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SPECIFICATIONS OF REQUIREMENTS FOR A STUDY ON CLIMATE CHANGE AND MIGRATORY SPECIES

The attached specifications of requirements has been prepared by the Department for Environment, Food and Rural Affairs (DEFRA) of the Government of the United Kingdom with a view to commissioning a study aimed at assessing the strength of scientific evidence of links between climate change and migratory species' behaviour, abundance and distribution; and if so, whether predicted effects on these species can be relied upon if climate change follows expected patterns.

DEFRA has kindly agreed to make the specifications available to participants at the 12th Meeting of the Scientific Council with the main objective of informing the meeting of the existence of the initiative and its scope, so that it can be taken into account in the planning of the work of the Council and of the Convention on the issue of the consequences of climate change on migratory species. DEFRA also expressed an interest in receiving possible suggestions/recommendations from the Council relevant to the undertaking of the study, and a willingness to take them into account insofar as they would not imply a major shift in its scope.

At the time these specifications are circulated, tenders for the study have already been invited. It should therefore be understood that the circulation of these specifications does not aim at soliciting additional bids.

SPECIFICATION OF REQUIREMENTS

Climate Change and Migratory Species

1. SUMMARY STATEMENT OF REQUIREMENT

1.1 To assess the strength of scientific evidence of links between climate change and migratory species' behaviour, abundance and distribution; and if so, whether predicted effects on these species can be relied upon if climate change follows expected patterns.

2. AIMS AND OBJECTIVES

2.1 This research should, by means of a literature review and analysis and an international workshop:

- assess the strength of current scientific evidence of links between climate change and migratory species' behaviour, abundance and distribution; and if there is
- identify what effects, if any, climate change has had, and may have, on migratory species;
- identify which, if any, species are threatened by climate change and comment on measures proposed to tackle such threats; and
- comment on whether predicted effects can be relied upon if climate change follows expected patterns.

3. ISSUES AND SCOPE

3.1 This research requirement is of particular relevance to the Department's responsibilities as a party to the UN Convention on the Conservation of Migratory Species (CMS). The contractor will need to take account of this in undertaking the research.

3.2 CMS seeks to conserve endangered and vulnerable migratory species by prohibiting their capture or killing; and to facilitate their long-term survival by endeavouring to remove obstacles that hinder migration; protect habitats; and lessen the impact of non-indigenous species. Migratory species are considered important as they can act as linkages between ecosystems, and therefore can be indicators of ecological change.

3.3 The fifth Conference of CMS parties identified climate change as an issue that needed investigation. The Convention's Scientific Council has been keeping the matter under long-term review. This research will help steer thinking and help identify what impact, if any, climate change is having, and will have, on migratory species.

3.4 The Earth's climate has been relatively stable since the end of the last ice age (about 10,000 years ago), but it is now changing. The average global temperature is warmer than any other century in the last 1,000 years. About 0.6°C of warming has occurred over the last century, with land warming more than the oceans. The 1990s were the warmest decade in the last 100 years. There is also evidence that rainfall patterns are changing, sea levels are rising, glaciers are retreating, arctic sea-ice is thinning and that the incidence of extreme weather is increasing in

some parts of the world. Projected global average temperature rises are very likely to be without precedent in the last 10,000 years which could well have significant implications for the functioning of natural ecosystems.

3.5 Further information on climate change including what changes have been observed, what changes may occur over the next century, and research into the potential impacts of climate change can be found on the following websites www.ukcip.org.uk1 and www.ipcc.ch2. In particular the Contractor should seek out information of the following research projects which will potentially provide useful contextual information for this review.

3.6 **Marclim – Marine Biodiversity and Climate Change**

Marclim is assessing and predicting the influence of climatic change using inter-tidal biota on rocky shores under a range of climate change scenarios around Britain and Ireland. Relationships between inter-tidal and off-shore species are being explored to identify indicators of marine climate change. Details can be found at www.mba.ac.uk

3.7 **Monarch – Modelling the Natural Resource Response to Climate Change**

MONARCH considered the likely changes in climate space fro a number of species and habitats under a range of climate change scenarios across Britain and Ireland. Phase 2 includes factors , such as land cover, dispersal capability, reproductive ability and ecosystem changes to outline possible alterations in species range and the composition of species communities. The first report can be found on the UKCIP website (www.ukcip.org.uk). Further information on Phase 2 can be obtained from Mike Harley English Nature (mike.harley@english-nature.org.uk).

3.8 **Review of the impact of climate change on UK species and habitat conservation policy**

The former DETR and MAFF funded a study into the impacts of climate change on nature conservation which was published in 2000. This study used a literature review and expert consultations to (i) review climate change impacts on UK species and habitats and current policy commitments (ii) consider and outline policy responses and a framework for implementing those policies; and (iii) recommend prioritised research and an early detection system. The report is available on the UKCIP website (www.ukcip.org.uk).

3.9 Although the CMS is the principal driver for this review the findings might be relevant to other provisions such as those under the Convention on Biological Diversity (CBD) and the EC Birds and Habitats Directive (in particular the Natura 2000 site network). The contractor should take due regard of such provisions, as relevant, when undertaking this review.

1 Established in 1997, the objective of UKCIP is to co-ordinate and integrate a stakeholder-led assessment of the impacts of climate change. It also provides underpinning technical support for its participants and has co-ordinated the provision of climate and socio-economic scenarios for the UK and developing pioneering methodologies to produce quantified integrated assessments of climate change.

2 The Intergovernmental Panel on Climate Change (IPCC) has been established by WMO and UNEP to assess scientific, technical and socio- economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation.

4. USES AND USERS OF THE RESULTS

4.1 The results will help to identify those, if any, migratory species whose survival is most threatened by climate change and will enable international and domestic conservation efforts to be directed.

4.2 The results will be of benefit to policy makers, scientific advisers and conservation practitioners within Government and the NGO community both at home and abroad. They will be of particular interest to the Convention on Migratory Species and its scientific council.

4.3 The results can also be used to guide future research priorities in this area.

5. DETAILED REQUIREMENTS

5.1 The project comprising of a literature review, workshop and analysis should:

Sample

5.2 cover a range of species representing different taxa and conservation status, including those that are endangered, and where possible, those that migrate through the UK, or did in the past, or might in the future (it is expected that the sample would include all those species listed in Appendix 1 of the Convention on Migratory Species and those in Appendix 2 with a UK interest, including UK Overseas Territories);

General Investigation and Analysis

5.3 indicate whether broadly consistent arguments are presented to support or deny the existence of links between climate change and migratory species behaviour, abundance and distribution; and comment on the scientific credibility of these arguments;

Detailed Analysis

5.4 identify, by extrapolation from the sample where necessary, which, if any, migratory species are, or are most likely to be, affected by climate change, and in particular where any effects could result in a threat to their survival;

5.5 highlight any discernible trends attributable to climate change;

5.6 identify the different climatic changes that could affect or have affected migratory species, and comment on how any effects manifest themselves, or might manifest themselves if climate change were to follow predicted models, as well as their scale and over what time frame they have or could become apparent;

5.7 identify the indirect effects of climate change that could affect or have affected migratory species and consider the how climate change effects might interact with other factors such as land-use change (eg afforestation under Kyoto), changes in habitat quality and competition between species;

5.8 identify any short term, medium term and long term measures proposed for tackling any effects that result in a threat to species survival and comment on their respective merits

5.9 identify any barriers for taking forward any of the adaptations solutions in 5.8 and comment on how they might be overcome

5.10 comment on the reliability of any predictions and whether they could be used to detect the effects of climate change on migratory species;

5.11 identify other factors, if any, that might cause the changes identified;

5.12 comment on the risks of relying on the predictions identified and identify and comment on what factors could lead to the predictions becoming unreliable;

Other Issues/Points of Consideration

5.13 identify any gaps in knowledge and priorities for future research;

5.14 liaise with the researchers in the Monarch and Marclim projects on climate change;

5.15 explain how the results have not been skewed by the sample of species selected.

6. OUTPUTS

6.1 It is the intention of the Department to publish the results of the work through one or more routes. The 'General Conditions of Contract for Services' annex A relating to intellectual property rights, and copyright will apply. Where it is required, the Contract Manager will make submissions for Ministerial approval prior to the publication of outputs.

6.2 Progress reports (maximum 10 copies) succinctly reporting progress in achieving objectives against the timetable and identifying any proposed changes to the programme of work. These will be produced and circulated at least 10 working days before steering group meetings.

6.3 Final report of no more than 100 pages *in toto* covering the policy and background to the work, the methodologies employed, results, conclusions and recommendations. The report will contain an executive summary of not more than five pages and should be written in Plain English. The Contractor may find it useful to refer to the Department's guide: "Guidelines for Writing Well in Defra".

6.4 The contractor shall provide two summaries of the project and its principal findings, suitable for publication on the Internet. One will be of no more than 100 words summarising the final report. The second will be prepared according to a proforma to be provided by the Department, approximately 2 sides of A4 in length. Both of these will contribute to reporting more widely on the Wildlife and Countryside Research programme.

6.5 The draft final report (maximum 10 copies) will be submitted one month before the end of the project. Following receipt of the draft final report and a decision on dissemination by the Department, the contractor will be asked to make any amendments or changes which may be required and will deliver the final text, together with the original artwork and photographs where appropriate, in a format in accordance with Departmental design standards. The Contractor will be responsible for proof-reading the final report prior to publication. Delivery will be as a paper copy in its final proof read version and in an electronic format compatible with Departmental IT standards (ASCII).

6.6 In the event that the Department does not take up its option to publish the final report, the Contractor may be required to undertake publication and dissemination on behalf of the Department at a price which covers all costs reasonably incurred. In order for the report to be printed to the Departmental standard, the contractor may need to establish and manage a sub contract with one of the Department's approved contractors. Prior to publishing, the contractor would be required to obtain a non-exclusive 'Crown copyright: first publishing right'. Discussions on these arrangements, including costs and dissemination, would take place towards the end of the contract and would be likely to require a variation to the contract to cover the costs of the subcontract. Tenderers should therefore indicate their willingness and ability to undertake responsibility for publishing the final report to Departmental design standards on this basis.

6.7 The Department may occasionally request summaries of interim results during the contract, which may be required in an electronic format to be agreed.

6.8 Colour visual aids (35mm or A4 transparencies) of figures and diagrams to illustrate the project will be supplied to the Department for presentation purposes.

7. QUALITY ASSURANCE

7.1 Tenderers must display a good understanding of the issues involved. They should also have the ability to edit and present written material in a clear, concise and informative style.

7.2 Tenderers will provide a quality assurance plan that demonstrates how the quality of inputs and outputs will be ensured.

7.3 Tenderers should describe the methods that they will use to assess scientific validity of the results including for example peer reviews and/or a panel of experts.

8. MANAGEMENT

8.1 The Contract will be managed in accordance with the Department's 'General Conditions of Contract for Services'.

8.2 The contractor will be managed by an official of the Department who will act as Contract Manager responsible for the day-to-day management of the contract. The contractor will appoint a project manager who will act as the principal point of contact for the Department.

8.3 The nominated official of the Department will be able to contribute to the management of the project through a series of informal and steering group meetings with the contractor during the course of the project.

8.4 The Department will establish a small steering group. The steering group will monitor progress and provide guidance on objectives, output, information needs on technical and analytical matters, and will be chaired by the Contract Manager at times to be agreed. Steering group meetings will be held at the outset of the project, approximately half-way through and after receipt of the draft final report. The contractor will be responsible for organising and providing the secretarial and administrative support for these meetings.

8.5 Before the end of the contract, the contractor shall attend a meeting with the Department to discuss the management and performance of the contract with a view to informing each other of any strengths and weaknesses exposed.

9. TIMING

9.1 The contract will be expected to last approximately nine months. The anticipated start date is stated in the invitation to tender letter.

9.2 The Contractor will be required to:

- deliver an interim report before each steering group meeting, other than the initial meeting at the outset of the project; and
- submit a copy of the draft final report one month before the end of the contract

10. PROGRAMME OF WORK AND MILESTONES

10.1 Tenderers are invited to propose a work programme designed to meet the above objectives, requirements and timetable. Tenders should include a time schedule for the work that identifies the main tasks and key milestones that will be used to monitor progress (see enclosed 'Guidance to Tenderers' note for further details).

11 PROJECT TEAM (INCLUDING SUB CONTRACTORS)

11.1 Details of the project team should be supplied indicating the experience of the individuals. The organisation of the project team should be linked to the work programme, indicating the grade of staff and number of days allocated to specific work areas (see 'Guidance to Tenderers' note for further details).

12. ELECTRONIC SECURITY

12.1 Electronic media of any type or format supplied to the Department by the Contractor must be checked for viruses before shipment. The Contractor must provide details of the computer virus detection and virus eradication software (or hardware) that is used to prevent infection and the frequency at which it is updated.

13. EVALUATION CRITERIA

13.1 Tenders will be evaluated on best value for money. This will be judged on the basis of overall cost (excluding VAT), the extent to which tenders are clearly written and meet the specified objectives; present a sound methodology, identifying any potential problems; address outputs and ensure that these are in line with requirements; and on proposed team composition, expertise and management.