Tender

Advancing the metabarcoding assay validation framework

Natural England

UK4: Tender notice - Procurement Act 2023 - view information about notice types
Notice identifier: 2025/S 000-027002
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Scope

Reference

NE230525AMAVF

Description

DNA-based methods have the potential to significantly change how we monitor and assess ecosystems. Natural England has been exploring the use of these methods for environmental monitoring for several years, delivering a series of reports which focus on the development of DNA-based methods with potential in a particular area. These methods are now being used more widely within Natural England, particularly the detection of ecological communities using environmental DNA (eDNA). This is often conducted by employing metabarcoding assays which target specific species assemblages (e.g. fish, mammals) or broader taxonomic groups (e.g. vertebrates, invertebrates, bacteria).

The DNA Team aims to operationalise DNA-based methods and produces guidance for

using them in monitoring projects. In order to provide sound recommendations, it is important that we understand the limitations of, and uncertainties with, DNA-based methods. Natural England staff need to be able to understand how DNA-derived data can be used, and the confidence they can have in data derived using different DNA-based methods which have been validated to different stages.

Natural England previously commissioned the development of a framework to enable end users to assess confidence in metabarcoding assays and results (Pagaling and others, under review; a copy of the framework can be provided by Natural England upon request by emailing monitoring.innovation@naturalengland.org.uk). By using the checklist and levelled scale, end users can appropriately interpret results. It also provides validation and reporting standards for the development of new metabarcoding assays. The framework will enable end-users to determine the recommended scenarios for application of a given assay and improve assay performance with further validation.

As part of development, the framework was trialled against five commonly used assays in the eDNA literature, with specific climate and habitat combinations to account for inherent differences in biodiversity between climates and different workflows used across habitats. Due to time and resource, only temperate climates and one or two habitats for each assay were considered, and the number of metabarcoding studies evaluated to assign a level for each assay varied.

This project will advance the metabarcoding assay validation framework by expanding upon this trial to conduct a comprehensive literature review and meta-analysis, covering more assays being used for different purposes and in different contexts. Feedback on the framework will be sought from the wider eDNA community and a user guide created for applying the framework.

Total value (estimated)

- £50,000 excluding VAT
- £60,000 including VAT

Below the relevant threshold

Contract dates (estimated)

- 7 July 2025 to 27 February 2026

- 7 months, 21 days

Main procurement category

Services

CPV classifications

- 73000000 - Research and development services and related consultancy services

Contract locations

- UKC - North East (England)
- UKD - North West (England)
- UKE - Yorkshire and the Humber
- UKF - East Midlands (England)
- UKG - West Midlands (England)
- UKH - East of England
- UKI - London
- UKJ - South East (England)
- UKK - South West (England)

Participation

Particular suitability

Small and medium-sized enterprises (SME)

Submission

Tender submission deadline

20 June 2025, 12:00pm

Submission address and any special instructions

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The DNA Team aims to operationalise DNA-based methods and produces guidance for using them in monitoring projects. In order to provide sound recommendations, it is important that we understand the limitations of, and uncertainties with, DNA-based methods. Natural England staff need to be able to understand how DNA-derived data can be used, and the confidence they can have in data derived using different DNA-based methods which have been validated to different stages.

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Tenders may be submitted electronically

No

Award criteria

see RfQ

Procedure

Procedure type

Below threshold - open competition

Documents

Associated tender documents

2025-05-28_RFQ_advancing_metabarcoding_assay_validation_framework.docx

RfQ

LIT63284_Commercial_Response_Basic.docx

Commercial Response Template

Order_Form_NE_Standard_Goods_Services_Terms_Conditions.docx

Contract Draft

Contracting authority

Natural England

- Public Procurement Organisation Number: PJDG-6588-XDMM

Seacole Building, 2 Marsham Street

London

SW1P 4DF

United Kingdom

Email: monitoring.innovation@naturalengland.org.uk

Region: UKI32 - Westminster

Organisation type: Public authority - central government