Request for Quotation

Development and validation of a species-specific environmental DNA (eDNA) assay for American mink (*Neovison vison*)

22/08/2024



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Development and validation of a species-specific environmental DNA (eDNA) assay for American mink (*Neovison vison*)

You are invited to submit a quotation for the requirement described in the specification, Section 2.

Please confirm by email, receipt of these documents and whether you intend to submit a quote or not.

Your response should be returned to the following email address by:

Email: annie.ivison@naturalengland.org.uk

Date: 05/09/2024

Time: 12:00 BST

Ensure you include the name of the quotation and ‘Final Submission’ in the subject field to make it clear that it is your response.

Contact Details and Timetable

Annie Ivison will be your contact for any questions linked to the content of the quote or the process. Please submit any clarification questions via email and note that, unless commercially sensitive, both the question and the response will be circulated to all tenderers.

| Action | Date |
| --- | --- |
| Date of issue of RFQ | 22-Aug-2024 |
| Deadline for clarifications questions | 30-Aug-2024 at 12:00 BST |
| Deadline for receipt of Quotation | 5-Sep-2024 at 12:00 BST |
| Intended date of Contract Award | 12-Sep-2024 |
| Intended Contract Start Date | 01-Oct-2024 |
| Intended Delivery Date / Contract Duration | 28-Mar-2025 |

Section 1: General Information

Glossary

Unless the context otherwise requires, the following words and expressions used within this Request for Quotation shall have the following meanings (to be interpreted in the singular or plural as the context requires):

|  |  | |
| --- | --- | --- |
| “Authority” | | means Natural England who is the Contracting Authority. |
| “Contract” | | means the contract to be entered into by the Authority and the successful supplier. |
| “Response” | | means the information submitted by a supplier in response to the RFQ. |
| “RFQ” | | means this Request for Quotation and all related documents published by the Authority and made available to suppliers. |

Conditions applying to the RFQ

You should examine your Response and related documents ensuring it is complete and in accordance with the stated instructions prior to submission.

Your Response must contain sufficient information to enable the Authority to evaluate it fairly and effectively. You should ensure that you have prepared your Response fully and accurately and that prices quoted are arithmetically correct for the units stated.

By submitting a Response, you, the supplier, are deemed to accept the terms and conditions provided in the RFQ. Confirmation of this is required in Annex 2.

Failure to comply with the instructions set out in the RFQ may result in the supplier’s exclusion from this quotation process.

Acceptance of Quotations

By issuing this RFQ the Authority does not bind itself to accept any quotation and reserves the right not to award a contract to any supplier who submits a quotation.

Costs

The Authority will not reimburse you for any costs and expenses which you incur preparing and submitting your quotation, even if the Authority amends or terminates the procurement process.

Self-Declaration and Mandatory Requirements

The RFQ includes a self-declaration response (Annex 1) which covers basic information about the supplier, as well as any grounds for exclusion. If you do not comply with them, your quotation will not be evaluated.

Any mandatory requirements will be set out in Section 2, Specification of Requirements and, if you do not comply with them, your quotation will not be evaluated.

Clarifications

Any request for clarification regarding the RFQ and supporting documentation must be submitted via email no later than the deadline for clarifications set out in the Timetable. The Authority shall be under no obligation to respond to queries raised after the clarification deadline.

The Authority will respond to all reasonable clarifications as soon as possible but cannot guarantee a minimum response time. The Authority will publish all clarifications and its responses to all suppliers via email unless deemed commercially sensitive.

If a supplier believes that a request for clarification is commercially sensitive, it should clearly state this when submitting the clarification request. However, if the Authority considers either that:

* the clarification and response are not commercially sensitive; and
* all suppliers may benefit from its disclosure,

then the Authority will notify the supplier (via email), and the supplier will have an opportunity to withdraw the request for clarification by sending a further message requesting the withdrawal of the clarification request. If not withdrawn by the supplier within 2 working days of the Authority’s notification, the Authority may publish the clarification request and its response to all suppliers and the Authority shall not be liable to the supplier for any consequences of such publication.

The Authority reserves the right to seek clarification of any aspect of a quotation and/or provide additional information during the evaluation phase to carry out a fair evaluation. Where the Authority seeks clarification on any aspect of the quotation, the supplier must respond within the timeframe requested by the Authority.

Amendments

The Authority may amend the RFQ at any time prior to the deadline for receipt. If it amends the RFQ the Authority will notify you via email.

Suppliers may modify their quotation prior to the deadline for Responses. No Responses may be modified after the deadline for Responses.

Suppliers may withdraw their quotations at any time by submitting a notice via the email to the named contact.

Conditions of Contract

The Authority’s [standard condensed terms and conditions](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1149567/standard-condensed-terms.odt) provided as part of the RFQ will be applicable to any contract awarded as a result of this quotation process. The Authority will not accept any changes to these terms and conditions proposed by a supplier.

Suppliers should note that the quotation provided by the successful bidder will form part of the Contract.

Prices

Prices must be submitted in £ sterling, exclusive of VAT.

Disclosure

All Central Government Departments, their Executive Agencies and Non-Departmental Public Bodies are subject to control and reporting within Government. In particular, they report to the Cabinet Office and HM Treasury for all expenditure. Further the Cabinet Office has a cross-Government role delivering overall Government policy on public procurement, including ensuring value for money and related aspects of good procurement practice. For these purposes, the Authority may disclose within Government any details contained in your quotation. The information will not be disclosed outside Government during the procurement.

In addition, the Authority is subject to the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, which provide a public right of access to information held by public bodies. In accordance with these two statutes, the Authority may be required to disclose information contained in your quotation to any person who submits a request for information pursuant to those statutes.

Further to the Government’s transparency agenda, all UK Government organisations must advertise on Contract Finder in accordance with the following publication thresholds:

* Central Contracting Authority’s: £12,000
* Sub Central Contracting Authority’s and NHS Trusts: £30,000

For the purpose of this RFQ the Authority is classified as a Central Contracting Authority with a publication threshold of £12,000 inclusive of VAT.

If this opportunity is advertised via Contracts Finder, we are obliged to publish details of the awarded contract including who has won the contract, the contract value, and indicate whether the winning supplier is a small and medium-sized enterprise (“SMEs”) or voluntary organisation or charity. A copy of the contract must also be published with confidential information redacted.

By submitting a Response, you consent to these terms as part of the procurement.

Disclaimers

Whilst the information in this RFQ and any supporting information referred to herein or provided to you by the Authority have been prepared in good faith the Authority does not warrant that this information is comprehensive or that it has been independently verified.

The Authority does not:

* make any representation or warranty (express or implied) as to the accuracy, reasonableness or completeness of the RFQ;
* accept any liability for the information contained in the RFQ or for the fairness, accuracy or completeness of that information; or
* accept any liability for any loss or damage (other than in respect of fraudulent misrepresentation or any other liability which cannot lawfully be excluded) arising as a result of reliance on such information or any subsequent communication.

Any supplier considering entering into contractual relationships with the Authority following receipt of the RFQ should make its own investigations and independent assessment of the Authority and its requirements for the goods and/or services and should seek its own professional financial and legal advice.

Information Security requirements

The Government Security Classification Policy (GSCP) sets out the administrative system used by HM Government (HMG) to protect information and data assets appropriately against prevalent threats through the use of ‘classification tiers’. HMG uses three classification tiers; OFFICIAL, SECRET and TOP SECRET. Each tier provides a set of recommended baseline behaviours and a set of protective controls, which are proportionate to the threat profile for that tier AND the potential impact of a compromise, accidental loss or incorrect disclosure of information held within that tier.

Tenderers and suppliers must ensure that appropriate protective security controls are in place to comply with the GSCP and manage the information shared and received as part of this tender exercise.

A full suite of guidance documents is available on GOV.UK, with specific guidance for tenderers and suppliers set out in [Guidance 1.6 - Contractors and Contracting Authorities.docx (publishing.service.gov.uk)](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1166155/Guidance_1.6_-_Contractors_and_Contracting_Authorities.pdf).

Use of Artificial Intelligence

The Authority expects suppliers to declare where they have used AI software in the creation of Tender responses or intend to use AI software in the performance of the contract. How any AI software was, or will be, used should be to be declared within the technical submission part of the tender. We may require you to answer specific question/s on this topic, particularly where the Authority expects that usage is highly likely or clearly relates to the contract requirements.

Suppliers must follow any guidelines or regulations related to AI use and declarations as indicated in the [PPN 2/24 Improving Transparency of AI use in Procurement](https://www.gov.uk/government/publications/ppn-0224-improving-transparency-of-ai-use-in-procurement/ppn-0224-improving-transparency-of-ai-use-in-procurement-html).

Any information, instructions, or data provided by the Authority to suppliers as part of this tender, the requirements, or contract should not be directly inserted into Generative AI software (such as Gemini, ChatGPT, or CoPilot) without prior permission, unless this information is clearly published in the public domain.

Use of any Authority confidential tender information for training AI software is prohibited. it is advised that Defra’s data or instructions, or anything marked as confidential should not be directly inserted into AIs. For example, putting Authority’s instruction email into Gemini, ChatGPT, or CoPilot is not recommended.

If you intend to use AI to provide goods or services to the Authority, then you are required to complete a declaration which is simply answering the question stated within the 'Information to be returned’. The answer to this question will not be used in scoring your quote.

Protection of Personal Data

In order to comply with the General Data Protection Regulations 2018, the supplier must agree to the following:

* You must only process any personal data in strict accordance with instructions from the Authority.
* You must ensure that all the personal data that we disclose to you, or you collect on our behalf under this agreement are kept confidential.
* You must take reasonable steps to ensure the reliability of employees who have access to personal data.
* Only employees who may be required to assist in meeting the obligations under this agreement may have access to the personal data.
* Any disclosure of personal data must be made in confidence and extend only so far as that which is specifically necessary for the purposes of this agreement.
* You must ensure that there are appropriate security measures in place to safeguard against any unauthorised access or unlawful processing or accidental loss, destruction or damage or disclosure of the personal data.
* On termination of this agreement, for whatever reason, the personal data must be returned to us promptly and safely, together with all copies in your possession or control.

General Data Protection Regulations 2018

For the purposes of the Regulations the Authority is the data processor.

The personal information that we have asked you provide on individuals (data subjects) that will be working for you on this contract will be used in compiling the tender list and in assessing your offer. If you are unsuccessful the information will be held and destroyed within two years of the award of contracts. If you are awarded a contract it will be retained for the duration of the contract and destroyed within seven years of the contract’s expiry.

We may monitor the performance of the individuals during the execution of the contract, and the results of our monitoring, together with the information that you have provided, will be used in determining what work is allocated under the contract, and in any renewal of the contract or in the award of future contracts of a similar nature. The information will not be disclosed to anyone outside the Authority without the consent of the data subject, unless the Authority is required by law to make such disclosures.

Equality, Diversity & Inclusion (EDI)

The Client is striving to create a diverse and inclusive working environment where every individual has equality of opportunity to progress and to apply their unique insights to making the UK a great place for living. The Service Provider is expected to respect this commitment in all dealings with Natural England staff and service users.

Suppliers are expected to:

* support Defra group to achieve its Public Sector Equality Duty as defined by the Equality Act 2010, and to support delivery of [Defra group’s Equality & Diversity Strategy](https://www.gov.uk/government/publications/defra-group-equality-diversity-and-inclusion-strategy-2020-to-2024/defra-group-equality-diversity-and-inclusion-strategy-2020-to-2024).
* meet the standards set out in the [Government’s Supplier Code of Conduct](https://www.gov.uk/government/publications/supplier-code-of-conduct)
* work with Defra group to ensure equality, diversity and inclusion impacts are addressed (positive and negative) in the goods, services and works we procure, barriers are removed and opportunities realised.

Sustainable Procurement

Addressing global sustainability impacts and realising additional community benefits within commercial activity is core to Defra group’s approach, working with its supply chain is key to achieving sustainable outcomes. In addition to supporting Defra group to meet its outcomes we look to understand and reduce negative sustainability impacts associated with our commercial activity and realise benefits.

The Client encourages its suppliers to share these values, work to address negative impacts and realise opportunities, measure performance and success.

Suppliers are expected to have an understanding of the Sustainable Development Goals, the interconnections between them and the relevance to the Goods, Services and works procured on the Client’s behalf.

Conflicts of Interest

The concept of a conflict of interest includes but is not limited to any situation where an Involved Person or Relevant Body has directly or indirectly, a financial, economic or other personal interest which might be perceived to compromise their impartiality and independence in the context of the procurement procedure and/or affect the integrity of the contract award.

We expect suppliers to mitigate appropriately against any real or perceived conflict of interest through their work with government. A supplier with a position of influence gained through a contract should not use that position to unfairly disadvantage any other supplier or reduce the potential for future competition.

Where the supplier is aware of any circumstances giving rise to a conflict of interest or has any indication that a conflict of interest exists or may arise you should inform the Authority of this as soon as possible (whether before or after they have submitted a quotation). Tenderers should remain alert to the possibility of conflicts of interest arising at all stages of the procurement and should update the Authority if any new circumstances or information arises, or there are any changes to information already provided to the Authority. Failure to do so, and/or to properly manage any conflicts of interest may result in a quotation being rejected.

Provided that it has been carried out in an open, fair and transparent manner, routine pre-market engagement carried out by the Authority should not represent a conflict of interest for the supplier.

Section 2: The Invitation

Specification of Requirements

Background to Natural England

Natural England is the government’s adviser for the natural environment in England. We protect England’s nature and landscapes for people to enjoy and for the services they provide. Within England, we are responsible for:

* promoting nature conservation and protecting biodiversity;
* conserving and enhancing the landscape;
* securing the provision and improvement of facilities for the study, understanding and enjoyment of the natural environment;
* promoting access to the countryside and open spaces; and
* contributing to social and economic well-being through the sustainable management of the natural environment.

Development and validation of a species-specific environmental DNA (eDNA) assay for American mink (*Neovison vison*)

Background to the specific work area relevant to this purchase

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 single species and ecological communities using environmental DNA (eDNA) analysis.

Published research studies have demonstrated the potential of eDNA metabarcoding (i.e. the simultaneous identification of multiple taxa) for monitoring a large number of semi-aquatic and terrestrial mammal species in the UK from pond and river water, including elusive and declining species (L. R. Harper and others 2019; Sales and others 2020; Broadhurst and others 2021; Broadhurst and others 2023). This method could facilitate non-invasive mammal monitoring at a national level; however, carnivorous mammals tend to elude detection or are identified less frequently in collected samples. Suggested reasons for sporadic detection of these species include their ecology (i.e. carnivores are generally wide-ranging and solitary) and the potential for ‘species masking’, where DNA of more abundant species such as group-living herbivores could suppress the detection of less abundant species in the sample when universal metabarcoding tests or assays are being used (L. R. Harper and others 2019; Sales and others 2020; Broadhurst and others 2021; Lyet and others 2021).

Targeted single species assays, using either qPCR (quantitative PCR), ddPCR (digital droplet PCR) or dPCR (digital PCR) technology, could offer higher detection sensitivity for challenging species, e.g. rare, low-density, elusive (Wood and others 2019). qPCR technology is widespread and more commonly used for single species eDNA analysis in comparison to ddPCR and dPCR technology (Johnsen and others 2020). However, several studies have shown that ddPCR or dPCR technology has greater detection success and is less prone to inhibition due to samples being partitioned into thousands of droplets with an individual PCR reaction occurring in each droplet (Mauvisseau and others 2019; Wood and others 2019; Dimond and others 2022). Conversely, other studies have not observed differences in performance of the two technologies (Baudry and others 2023) or have found lower performance of ddPCR (Johnsen and others 2020). Furthermore, ddPCR or dPCR technology may be more time consuming and expensive to run with higher upfront costs (Doi and others 2015), although costs per sampling site may be reduced due to the lower replication required for ddPCR or dPCR (Dimond and others 2022).

Natural England recently commissioned a large-scale study of 61 rivers throughout England to detect European otter (*Lutra lutra*) eDNA using a newly developed ddPCR assay (McDevitt and others, unpublished). Otter presence was confirmed in 23 rivers and the species was potentially present in a further 10 rivers. These ddPCR results will be compared to multi-species eDNA metabarcoding data and traditional transect field sign surveys currently underway as part of the National Otter Survey.

Like otter, the American mink (*Neovison vison*) has proven equally challenging to detect with eDNA metabarcoding even when known to be present in an area (Broadhurst and others, 2021, 2023). The early detection of invasive species such as the American mink is even more critical than native carnivores given its significant impact on water vole (*Arvicola amphibius*) colonies. This work will contribute to a pilot Species Conservation Strategy for water vole.

This project aims to develop and validate a highly sensitive, targeted single species eDNA assay for the American mink to support the long-term monitoring and local eradication efforts of this highly invasive species.

Requirement

The American mink assay should be validated *in silico* against reference sequences and *in vitro* against tissue samples from the target species as well as closely related and co-occurring non-target species. Natural England will assist the contractor with sourcing tissue samples. The assay should be validated using both qPCR and ddPCR or dPCR technology if the latter is available. The assay should be validated *in situ* on natural water samples collected along select UK rivers where the species is known to be present and absent. The performance of eDNA monitoring should be compared to traditional monitoring methods (e.g. mink rafts) with assistance from Natural England.

Please provide separate quotes for undertaking each requirement. Natural England reserves the right to let only one of these requirements.

1. qPCR validation
   1. The successful contractor will evaluate four existing assays for American mink that target either the COI gene (Pugh 2022), cyt-b gene (Di Girolamo 2022) or ND2 gene (Takaba and others 2024) using the validation scale for single species eDNA assays (Thalinger and others 2021).
   2. Areas for assay improvement should be identified, and further *in silico* and *in vitro* testing conducted using qPCR to ensure at least one assay reaches Level 3 minimum on the validation scale (Thalinger and others 2021). The assay(s) should be able to achieve a R-squared value ≥0.990 and efficiency of 90-110%.
   3. If these validation criteria are not met, the successful contractor must design a new assay that does meet the validation criteria.
   4. A confidence assessment should be undertaken for the best-performing assay following the requirements set out in NECR359 “A framework for assessing confidence in environmental DNA qPCR assays and results” (K.J. Harper and others 2021). This framework (also known as COASTER) requires a standardised data input, as well as user-defined settings, and can be accessed through common web browsers. The tool operates in R under the Shiny framework. A link to the tool will be made available to the successful contractor (it is planned for this to be open access in the near future).
2. ddPCR or dPCR validation
   1. The successful contractor will transition the best-performing assay with qPCR technology to ddPCR or dPCR technology.
   2. *In vitro* testing should be repeated to confirm assay specificity as well as redetermine the Limit of Detection (LOD) and Limit of Quantification (LOQ) due to the higher detection sensitivity of ddPCR and dPCR technology.
   3. Costs of running ddPCR or dPCR vs. qPCR should be compared.
3. Field validation
   1. The successful contractor will design a sampling strategy to test the assay in areas of known American mink presence and absence determined via trapping in consultation with the Natural England Project Officer. At least three sites with known mink presence and three sites with known mink absence should be sampled, and field negative controls should be included.
   2. Water sampling equipment, protocols and collection forms will be provided for the agreed sampling strategy by the contractor. Consideration should be given to in-field applicability (e.g. single-use filters) by Natural England staff and the need to reduce or eliminate cross-contamination in the field. Freezing samples is not generally possible so alternative methods should be considered for sample preservation prior to shipping to the laboratory. Shipping should be arranged by the contractor and sample storage and packaging instructions provided.
   3. The contractor will extract DNA from samples (including extraction negative controls) and analyse resulting DNA extracts with the best-performing assay using qPCR and ddPCR or dPCR technology to compare detection sensitivity. At least three technical replicates per sample should be performed with both technologies for DNA amplification, and PCR positive and negative controls should be included.
   4. Samples that fail to amplify should be tested for inhibition. If inhibition is identified, affected samples should treated for inhibition and retested using qPCR and ddPCR or dPCR technology.
   5. Positive samples should be sequenced to confirm species identity.

The results should be compiled into a final detailed report (see Outputs and Contract Management for details).

Quotation submission

Please provide the following supporting documents:

* Proposed methodologies
* Health & Safety Policies/certificates
* CVs of key personnel who will be directly involved with this contract
* Examples of past work

Sustainability

Natural England protects and improves the environment and is committed to reducing the sustainability impacts of its activities directly and through its supply chains.  We expect the Contractor to share this commitment and adopt a sound, proactive sustainable approach in keeping with the 25 yr environmental plan/our commitments compliant with all applicable legislation. This includes understanding and reducing direct and indirect sustainability impacts and realising opportunities, including but not restricted to; resilience to climate change, reducing greenhouse gas emissions, water use and quality, biosecurity, resource efficiency and waste, reducing the risk of pollution, biodiversity, modern slavery and equality, diversity & inclusion, negative community impacts.

As a delivery partner, the successful contractor is expected to pursue sustainability in their operations, thereby ensuring the Contracting Authority is not contracting with a supplier whose operational outputs run contrary to the Contracting Authority’s objectives. The successful contractor will need to approach the project with a focus on the entire life cycle of the project

Please provide details of how any plastic waste produced as part of DNA extraction will be reduced.

Outputs and Contract Management

A final written report detailing the activities and analysis undertaken should be provided to the Natural England Project Officer. The final report must follow the [Natural England report writing guidance](https://publications.naturalengland.org.uk/publication/5790636781600768) including use of template and adherence to the accessibility requirements.

The data and report produced will be made available by Natural England under an Open Government Licence.

The American mink assay must be:

* Shown to match the target species’ DNA *in silico*, with the database, sequence records and software used for *in silico* testing named.
  + Mismatches between the primer and probe sequences and closely related non-target species must be identified and shown.
  + A UK sequence for the target species must be used where possible. If a UK sequence is not used, specify why and give the country of origin of the sequence.
* Tested on DNA extracted from tissue from multiple specimens of the target species, including at least one UK specimen of the target species where possible. If a UK specimen is not used, specify why and give the country of origin of the specimen.
  + Results should show a clear positive result with appropriate negative controls showing no amplification.
* Tested on DNA extracted from tissue from multiple specimens of non-target species, including at least one UK specimen of each non-target species where possible. If UK specimens are not used, specify why and give the country of origin of the specimens.
  + The tested species should include those that are closely related to the target species and any co-occurring species that are shown to be a potential co-amplification risk in the *in silico* analysis.
  + Results for non-target species should be negative with appropriate negative controls showing no amplification and a positive control of the target species showing correct amplification.
* Tested on an environmental sample from a location where and season when the target species is known to be present.
  + Results should be positive for the target species, with appropriate field and extraction negative controls showing no amplification and a positive control of the target species’ DNA showing correct amplification.
* Tested on an environmental sample from a location where the target species is known to be absent.
  + Results should be negative with appropriate field and extraction negative controls showing no amplification and positive control of the target species’ DNA showing correct amplification.

The Final Report must include:

* Detailed description of methods including assay development and testing (see above and Table 1 below as a guide on what should be included).
* Validation results, including:
  + The concentration of DNA extracted from each sample.
  + Correct amplification of expected PCR products at each stage.
  + The range and average amplification efficiency and R-squared values across all amplification runs.
  + The LOD and LOQ for the assay.
  + The number of technical replicates from each sample that gave positive results.
  + Any results from sequencing the PCR products.
  + Correct amplification of positive and negative controls.
  + Report from COASTER on confidence in assay and samples.
* A discussion of the pros and cons of the assay in detecting the target species, including any challenges/problems and how they were resolved, such as issues with qPCR leading to a change of reagents or amplification conditions etc.
* A detailed discussion explaining the results and confidence levels in the results. The limitations of the assay should be discussed. This should include reference to a report from the COASTER tool (K. J. Harper and others 2021), to assess confidence levels in this assay and to the single species validation scale (Thalinger and others 2021). The discussion should make clear what conclusions can be drawn from these results.
* Recommendations for further work, based on the results of the current study.

Table 1: Suggested methods that should be included.

|  |  |
| --- | --- |
| Sampling | State how samples were collected, number of samples and locations of sampling. State how sites were selected, and the dates and times of sample collection. State the volume of material sampled, and storage and processing of samples prior to DNA extraction. Give details of field negative controls. |
| DNA extraction methods | State any kits used. State how the DNA was quantified. Discuss how sample contamination was controlled for and avoided. Describe the extraction negative controls used, and whether these behaved as expected. |
| PCR amplification | State the type of PCR used and the number of PCR replicates per sample. Specify the target gene, primers, probe, PCR cycle conditions, reagents, and volumes used. Specify the proportion of positive PCR replicates required for a positive result. Contractors may only reference another publication without providing these details if the protocol is followed as written, including the same type of PCR, number of PCR replicates per sample, primers, probe, PCR cycle conditions, reagents, and volumes. Describe the positive and negative controls used, and whether these behaved as expected. Specify whether tissue DNA or synthetic DNA was used for PCR positive controls and what the concentration range was. State LOD and LOQ of the assay, and the methods and level of replication used to establish these. State whether samples were tested for degradation and / or inhibition, and if so, how many samples were affected and measures taken to promote amplification. |
| Sequencing | If any sequencing is done for QA purposes, please state the model of the sequencing machine and the methodology used. |
| Bioinformatic processing | If any bioinformatic processing was required, explain this process in detail by specifying the steps taken. |
| Reference Libraries | Name any reference libraries used if appropriate. |
| QA | Explain the QA checks that have been undertaken on the results, including thresholds that may have been set. |

The following data are required as outputs of the project:

* Comma-separated values spreadsheet (.csv) detailing the sample location, with the results of the assay detailing the number of positive and negative replicates per sample and the average Cq value and/or copy number of each sample at each location.
* Full report generated from COASTER following input of required data.

Important timescales and deadlines for key deliverables are outlined below.

|  |  |  |
| --- | --- | --- |
| Deliverable | Responsible Party | Date of completion |
| Inception meeting held | Successful contractor and Natural England | October 2024 |
| Project plan – updated project plan setting out in detail the refined methodology, key tasks, dependencies and project timeline. | Successful contractor | Within two weeks of the inception meeting identified above. |
| Fortnightly updates to Natural England's project officer | Successful contractor | Annie Ivison |
| Draft report (in digital format, details above) sent to Natural England | Successful contractor | 31st January 2025 |
| Draft report with any Natural England comments returned | Natural England | 14th March 2025 |
| Final report (in digital format) and data submitted to Natural England | Successful contractor | 28th March 2025 |

References

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Payment

The Authority will raise purchase orders to cover the cost of the services and will issue to the awarded supplier following contract award.

The Authority’s preference is for all invoices to be sent electronically, quoting a valid Purchase Order number. Invoice to be submitted on completion of the contract.

It is anticipated that this contract will be awarded for a period of 6 months to end no later than 28/03/2025. Prices will remain fixed for the duration of the contract award period. We may at our sole discretion extend this contract to include related or further work. Any extension shall be agreed in writing in advance of any work commencing and may be subject to further competition.

Evaluation Methodology

We will award this contract in line with the most economically advantageous tender (MEAT) as set out in the following award criteria:

Technical – 60%

Commercial – 40%

Evaluation criteria

Evaluation weightings are 60% technical and 40% commercial, the winning tenderer will be the highest scoring combined score.

| Award Criteria | Weighting (%) | Evaluation Topic & Weighting | Sub-Criteria | Weighted Question |
| --- | --- | --- | --- | --- |
| Technical | 60% | Service / Product Proposal | Methodology | 4 Questions  Q1.1 (25% of technical score available)  Q1.2 (10% of technical score available)  Q1.3 (15% of technical score available)  Q1.4 (10% of technical score available) |
| Key personnel | 3 Questions  Q2.1 (10% of technical score available)  Q2.2 (10% of technical score available)  Q2.3 (10% of technical score available) |
| Experience of similar contracts | 1 Question  Q3 (10% of technical score available) |
| Commercial | 40% | Whole life cost of the proposed Contract | Commercial Model | 1 Question  Q4 (100% of commercial score available) |

Technical (60%)

Technical evaluations will be based on responses to specific questions covering key criteria which are outlined below. Scores for questions will be based on the following:

| Description | Score | Definition |
| --- | --- | --- |
| Very good | 100 | Addresses all the Authority’s requirements with all the relevant supporting information set out in the RFQ. There are no weaknesses and therefore the tender response gives the Authority complete confidence that all the requirements will be met to a high standard. |
| Good | 70 | Addresses all the Authority’s requirements with all the relevant supporting information set out in the RFQ. The response contains minor weaknesses and therefore the tender response gives the Authority confidence that all the requirements will be met to a good standard. |
| Moderate | 50 | Addresses most of the requirements with most of the relevant supporting information set out in the RFQ. The response contains moderate weaknesses and therefore the tender response gives the Authority confidence that most of the requirements will be met to a suitable standard. |
| Weak | 20 | Substantially addresses the requirements but not all and provides supporting information that is of limited or no relevance or a methodology containing significant weaknesses and therefore raises concerns for the Authority that the requirements may not all be met. |
| Unacceptable | 0 | No response or provides a response that gives the Authority no confidence that the requirement will be met. |

Technical evaluation is assessed using the evaluation topics and sub-criteria stated in the Evaluation Criteria section above.

Separate submissions for each technical question should be provided and will be evaluated in isolation. Tenderers should provide answers that meet the criteria of each technical question.

| Methodology | Detailed Evaluation Criteria | |
| --- | --- | --- |
| Q1.1 Provide details of the methodology and approaches proposed to deliver requirement 1 of the project.  Responses should not exceed two sides of A4, and use Arial font, size 11. | | Your response should:  1) Demonstrate a clear understanding of the nature of the requirements.  2) Be a clear, practical, achievable, and cost-effective methodology to deliver these requirements.  3) Have information in sufficient detail to allow a full appraisal of the suitability of the approach to deliver for the project. |
| Q1.2 Provide details of the methodology and approaches proposed to deliver requirement 2 of the project.  Responses should not exceed two sides of A4, and use Arial font, size 11. | |
| Q1.3 Provide details of the methodology and approaches proposed to deliver requirement 3 of the project.  Responses should not exceed two sides of A4, and use Arial font, size 11. | |
| Q1.4 Provide proposed project plan for the work, together with mitigation for any potential risks  Responses should not exceed two sides of A4, and use Arial font, size 11. | | Your response should:  1) Provide a proposed timeline.  2) Highlight any potential risks to demonstrate understanding of the project and provide potential mitigation. |

| Key personnel | Detailed Evaluation Criteria | |
| --- | --- | --- |
| Q2.1 Provide details of key staff involved in requirement 1 of the project  Responses should not exceed 1 page of A4 (Arial font, size 11) per person | | Your response should:   1. Provide evidence of staff experience in eDNA assay validation. 2. Provide evidence of staff experience in running qPCR and ddPCR or dPCR. 3. Provide evidence of staff experience in collection and extraction of eDNA samples. |
| Q2.2 Provide details of key staff involved in requirement 2 of the project  Responses should not exceed 1 page of A4 (Arial font, size 11) per person | |
| Q2.3 Provide details of key staff involved in requirement 3 of the project  Responses should not exceed 1 page of A4 (Arial font, size 11) per person | |

| Experience of similar contracts | Detailed Evaluation Criteria | |
| --- | --- | --- |
| Q3 Provide details of similar contracts / work that you have been involved in | | Your response should:  1) Give clear examples of previous, similar, experience, particularly developing species-specific eDNA assays. |

Commercial (40%)

The Contract is to be awarded as a fixed price which will be paid according to the completion of the deliverables stated in the Specification of Requirements.

Suppliers are required to submit a total cost to provide the deliverables stated in the Specification of Requirements. In addition to this the Commercial Response template must be completed to provide a breakdown of the whole life costs against each deliverable used in the delivery of this requirement.

Calculation Method

The method for calculating the weighted scores is as follows

* Commercial

Score = (Lowest Quotation Price / Supplier’s Quotation Price ) x [40%] (Maximum available marks)

* Technical

Score = (Bidder’s Total Technical Score / Highest Technical Score) x [60%] (Maximum available marks)

The total score (weighted) (TWS) is then calculated by adding the total weighted commercial score (WC) to the total weighted technical score (WT): WC + WT = TWS.

Information to be returned

Please note, the following information requested must be provided. Incomplete tender submissions may be discounted.

Please complete and return the following information:

* completed Commercial Response template
* separate response submission for each technical question (in accordance with the response instructions)
* completed Mandatory Requirements (Annex 1)
* completed Acceptance of Terms and Conditions (Annex 2)

Award

Once the evaluation of the Response(s) is complete all suppliers will be notified of the outcome via email.

The successful supplier will be issued the contract via a Purchase Order.

Annex 1 Mandatory Requirements

Part 1 Potential Supplier Information

Please answer the following self-declaration questions in full and include this Annex in your quotation response.

Part 1.1 Potential Supplier Information:

| Question no. | Question | Response |
| --- | --- | --- |
| 1.1(a) | Full name of the potential supplier submitting the information |  |
| 1.1(b) | Registered office address (if applicable) |  |
| 1.1(c) | Company registration number (if applicable) |  |
| 1.1(d) | Charity registration number (if applicable) |  |
| 1.1(e) | Head office DUNS number (if applicable) |  |
| 1.1(f) | Registered VAT number |  |
| 1.1(g) | Are you a Small, Medium or Micro Enterprise (SME)? | (Yes / No) |

Note: See EU definition of SME <https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en>

Part 1.2 Contact details and declaration

By submitting a quotation to this RFQ I declare that to the best of my knowledge the answers submitted and information contained in this document are correct and accurate.

I declare that, upon request and without delay you will provide the certificates or documentary evidence referred to in this document.

I understand that the information will be used in the selection process to assess my organisation’s suitability to be invited to participate further in this procurement.

I understand that the authority may reject this submission in its entirety if there is a failure to answer all the relevant questions fully, or if false/misleading information or content is provided in any section.

I am aware of the consequences of serious misrepresentation.

| Question no. | Question | Response |
| --- | --- | --- |
| 1.2(a) | Contact name |  |
| 1.2(b) | Name of organisation |  |
| 1.2(c) | Role in organisation |  |
| 1.2(d) | Phone number |  |
| 1.2(e) | E-mail address |  |
| 1.2(f) | Postal address |  |
| 1.2(g) | Signature (electronic is acceptable) |  |
| 1.2(h) | Date |  |

Part 2 Exclusion Grounds

Part 2.1 Grounds for mandatory exclusion

| Question no. | Question | Response |
| --- | --- | --- |
| 2.1(a) | Please indicate if, within the past five years you, your organisation or any other person who has powers of representation, decision or control in the organisation been convicted anywhere in the world of any of the offences within the summary below. | |
|  | Participation in a criminal organisation. | (Yes / No)  If yes please provide details at 2.1 (b) |
|  | Corruption. | ((Yes / No)  If yes please provide details at 2.1 (b) |
|  | Fraud. | (Yes / No)  If yes please provide details at 2.1 (b) |
|  | Terrorist offences or offences linked to terrorist activities | (Yes / No)  If yes please provide details at 2.1 (b) |
|  | Money laundering or terrorist financing | (Yes / No)  If yes please provide details at 2.1 (b) |
|  | Child labour and other forms of trafficking in human beings | (Yes / No)  If yes please provide details at 2.1 (b) |
| 2.1(b) | If you have answered yes to question 2.1(a), please provide further details.  Date of conviction, specify which of the grounds listed the conviction was for, and the reasons for conviction.  Identity of who has been convicted  If the relevant documentation is available electronically please provide the web address, issuing authority, precise reference of the documents. |  |
| 2.1 (c) | If you have answered Yes to any of the points above have measures been taken to demonstrate the reliability of the organisation despite the existence of a relevant ground for exclusion? (i.e. Self-Cleaning) | (Yes / No) |
| 2.1(d) | Has it been established, for your organisation by a judicial or administrative decision having final and binding effect in accordance with the legal provisions of any part of the United Kingdom or the legal provisions of the country in which the organisation is established (if outside the UK), that the organisation is in breach of obligations related to the payment of tax or social security contributions? | (Yes / No) |
| 2.1(e) | If you have answered yes to question 2.3(a), please provide further details. Please also confirm you have paid or have entered into a binding arrangement with a view to paying, the outstanding sum including where applicable any accrued interest and/or fines. |  |

Part 2.2 Grounds for discretionary exclusion

| Question no. | Question | Response |
| --- | --- | --- |
| 2.2(a) | The detailed grounds for discretionary exclusion of an organisation are set out on this [webpage](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/551130/List_of_Mandatory_and_Discretionary_Exclusions.pdf), which should be referred to before completing these questions.  Please indicate if, within the past three years, anywhere in the world any of the following situations have applied to you, your organisation or any other person who has powers of representation, decision or control in the organisation | |
| 2.2(b) | Breach of environmental obligations? | (Yes / No)  If yes please provide details at 2.2 (f) |
| 2.2(c) | Breach of social obligations? | (Yes / No)  If yes please provide details at 2.2 (f) |
| 2.2(d) | Breach of labour law obligations? | (Yes / No)  If yes please provide details at 2.2 (f) |
| 2.2(e) | Shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity, or a prior concession contract, which led to early termination of that prior contract, damages or other comparable sanctions? | (Yes / No)  If yes please provide details at 2.2 (f) |
| 2.2 (f) | If you have answered Yes to any of the above, explain what measures been taken to demonstrate the reliability of the organisation despite the existence of a relevant ground for exclusion? (Self Cleaning) |  |

Annex 2 Acceptance of Terms and Conditions

I/We accept in full the terms and conditions appended to this Request for Quote document.

Company \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Print Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_