

REQUEST FOR PROPOSAL – Development of Industry Guidance on eDNA Sampling Standards and Guidelines

This Opportunity – Summary

The oil and gas industry have identified several applications of environmental DNA (eDNA), including, but not limited to:

- Baseline assessments
- Monitoring of environmental effects of oil and gas activities
- Detection of key species (rare, threatened, endangered)
- Species population status and dynamics
- Invasive species detection (marine invasive species in vessel ballast water, vessel biofouling, or in ports, terrestrial invasive species)
- Remediation of contaminated sites
- Restoration of disturbed habitats
- Habitat delineation
- Hydrocarbon-associated microbial applications such as seep and leak detection, reservoir souring
- Bio-corrosion

Within industry, staff environmental scientists are often required to provide technical oversight of sampling programs for a given monitoring application. Therefore, as an industry, we are seeking guidance that will allow staff environmental scientists to commission robust eDNA sampling programs, provide technical direction and oversight of these programs, and confidently interpret data in the light of the nuances, limitations and advantages of eDNA.

Section I - Key Information

Context

This Request for Proposal (RFP) is an invitation to suitably qualified suppliers to submit a Proposal for the “Development of Industry Guidance on eDNA Sampling Standards and Guidelines” contract opportunity.

Timeline

Steps in RFP process:	Date:
RFP Issue Date	06 10 21
Letter of Intent	13.10.21
Selection of Suppliers Invited to send Proposal	20.10.21
Deadline for IOGP to answer suppliers' questions:	30.10.21
Deadline for Proposals:	20.11.21
Anticipated Contract start date:	01.12.21
First Draft	01.04.22
Contract end date	01.08.22

All dates and times are dates and times in London, UK. Dates are subject to discussion with the Supplier.

Contact

All enquiries must be directed to our Point of Contact. We will manage all external communications through this Point of Contact.

Our Point of Contact:

Name: Felicite Robertson

Title/role: JIP34 Manager

Email address: fr@iogp.org

Developing and Submitting your Proposal

The RFP sets out the step-by-step process and conditions that apply.

- a. Take time to read and understand the RFP. In particular:
 - develop a strong understanding of our Requirements detailed in Section 2.
 - in structuring your Proposal consider how it will be evaluated. Section 3 describes our Evaluation Approach.

- If anything is unclear or you have a question, ask us to explain. Please do so before the Deadline for Questions. Email our Point of Contact.

Address for submitting your Proposal

Proposals must be submitted by email/electronically to the following address:

fr@iogp.org

Later changes to the RFP or RFP process

If, after publishing the RFP, we need to change anything about the RFP, or want to provide suppliers with additional information we will inform all suppliers by email.

Section II - Our Requirements

The oil and gas industry have identified several applications of environmental DNA (eDNA), including but not limited to:

- Baseline assessments
- Monitoring of environmental effects of oil and gas activities
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Within industry, staff environmental scientists are often required to provide technical oversight of sampling programs for a given monitoring application. Therefore, as an industry, we are seeking guidance that will allow staff environmental scientists to commission robust eDNA sampling programs, provide technical direction and

oversight of these programs, and confidently interpret data in the light of the nuances, limitations and advantages of eDNA.

Objectives:

We are seeking proposals to develop guidance that:

- stipulates minimum sampling design requirements that allow environmental practitioners within industry to deploy eDNA technology or have technical oversight of deployed technology and confidently rely on data it provides
- is relevant to a range of environments, taxa and questions, so that it is broadly applicable across the oil and gas industry
- allows identification of critical knowledge gaps that hinders the ability to design a robust sampling program.

Since eDNA is a rapidly evolving technology, the guidance document is not intended to be complete in content, but is instead intended to be evergreen, with updates on a regular basis to include new information.

Scope:

It is recognised that eDNA is a rapidly evolving technology and that there are many gaps that remain to be filled before prescriptive procedures for sampling programs can be developed. As such, the guidance should not aim to be definitive and prescriptive, but instead should highlight the minimum factors that need to be considered when designing a sampling program. For example, in a marine environment, factors such as temporal and spatial variation need to be considered, potentially including a knowledge of DNA residence times and DNA transport rates.

Considerations should be supported, where possible, with relevant published literature and examples, in order to present the current state of science that underpins the thinking behind this consideration. The guidance should be written wherever possible, using over-arching considerations across habitats, taxa and study questions. However, where there are specific considerations for each of these factors (e.g. considerations in sampling a marine versus terrestrial environment), they should be discussed separately in the text. If well-validated procedures already exist for a particular habitat, set of taxa or study objective (such as sterilisation protocols), these should be included in appendices or links.

Wherever possible, external efforts and resources should be leveraged to develop guidance, tailored to industry objectives (e.g. sampling protocols and standards developed by DNAquanet).

Where published literature is lacking to support a consideration in sampling design, and therefore, no guidance can be developed, this should be highlighted as a knowledge gap (with separate supporting notes to describe the gap and any high-level recommendations for addressing these gaps) so that future research priorities can be identified that might help to fill gaps.

In scope

It is anticipated that the guidance will include at a minimum, the following considerations in sampling design:

- Procedures for minimizing contamination of equipment and samples and cross-contamination of samples

- Defining study objectives and target species or assemblages to be surveyed
- Defining substrates to be sampled relevant to question and taxa of concern (e.g., sediment, water, marine growth, soil, air)
- DNA representation of species targeted (e.g. including consideration of DNA shedding rates, DNA abundance, DNA transport, DNA persistence)
- High level statistical design considerations for sampling
- Level of spatial and temporal sampling required
- Sampling strategy (grid, transects, gradients etc.)
- Minimum level of replication per sampling location or treatment
- Minimum volume of sample to be collected
- Contextual data to be collected in addition to samples (e.g. temperature, pH, salinity, depth)
- How to account for levels of false positives (detecting a species not present) and false negatives (not detecting a species that is present)
- Procedures for storing and shipping samples and how to account for the effects of storage and transport processes on DNA yield and detection
- The ability to quantify species abundance may warrant a mention (including the current state of science on quantitative genomic approaches, limitations and validation requirements), however, this should not currently form a large part of guidance document.

Out of scope

- Considerations relevant to the application of eDNA technology to compliance and impact monitoring; these topics are of high priority for industry but will be addressed in subsequent guidance.
- Laboratory standards and protocols
- Bioinformatics standards and protocols
- The Scope for this theme pertains to field work (as opposed to lab analysis, statistical data interpretation)

Format

The guidance is intended to be used as an everyday go-to document for industry environmental practitioners. To achieve greatest uptake and use, the guidance should be as readable and streamlined as possible. Ideally, the main guidance document should be limited to approximately 50-100 pages, with more detailed protocols and habitat-specific requirements relegated to an appendix.

We encourage cooperation between suppliers.

Key Outcomes

The following are the key outcomes that are to be delivered.

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First draft 20/12/21

Other information

- a. Payment will be 85% on first draft and remaining 15% on delivery of final draft (with all comments from JIP34 members considered and inserted).
- b. New Intellectual Property arising as a result of the Contract will be the property of IOGP.

Section IV – Pricing Information

Pricing information to be provided by Respondents

Respondents are to provide their price as part of their Proposal. In submitting the price, the Respondent must meet the following:

- c. the pricing schedule is to show a breakdown of all costs, fees, expenses and charges associated with the full delivery of the Requirements.
- d. where the price, or part of the price, is based on fee rates, all rates are to be specified, either hourly or daily or both as required.
- e. in preparing their Proposal, Respondents are to consider all risks, contingencies and other circumstances relating to the delivery of the Requirements and include adequate provision in the Proposal and pricing information to manage such risks and contingencies.
- f. prices should be tendered in UK£. Unless otherwise agreed, the Buyer will arrange contractual payments in UK£.

Section V: RFP Process

Note to suppliers and Respondents

- In managing this procurement, the Buyer will endeavour to act fairly and reasonably in all of its dealings with interested suppliers and Respondents, and to follow due process which is open and transparent.

Each Respondent will:

- a. examine the RFP and any documents referenced in the RFP and any other information provided by the Buyer
- b. consider all risks, contingencies and other circumstances relating to the delivery of the Requirements and include adequate provision in its Proposal to manage such risks and contingencies
- c. document in its Proposal all assumptions and qualifications made about the delivery of the Requirements, including any assumption that the Buyer or a third party will deliver any aspect of the Requirements or incur any cost related to the delivery of the Requirements
- d. ensure that pricing information is quoted in UK£
- e. satisfy itself as to the correctness and sufficiency of its Proposal, including the proposed pricing and the sustainability of the pricing.

Respondents' Deadline for Questions

- a. Each Respondent should satisfy itself as to the interpretation of the RFP. If there is any perceived ambiguity or uncertainty in the RFP document/s Respondents should seek clarification before the Deadline for Questions.
- b. All requests for clarification must be made by email to the Buyer's Point of Contact. The Buyer will endeavour to respond to requests in a timely manner.
- c. If the Buyer considers a request to be of sufficient importance to all Respondents, it may provide details of the question and answer to other Respondents. In doing so the Buyer may summarise the Respondent's question and will not disclose the Respondent's identity.
- d. In submitting a request for clarification, a Respondent is to indicate, in its request, any information that is commercially sensitive. The Buyer will not publish such commercially sensitive information.

Submitting a Proposal

- a. Each Respondent is responsible for ensuring that its Proposal is received by the Buyer at the correct address on or before the Deadline for Proposals. The Buyer will acknowledge receipt of each Proposal.
- b. The Buyer intends to rely on the Respondent's Proposal and all information provided by the Respondent (e.g. correspondence and negotiations). In submitting a Proposal and communicating with the Buyer each Respondent should check that all information it provides to the Buyer is:
 - c. true, accurate and complete, and not misleading in any material respect
 - d. does not contain Intellectual Property that will breach a third party's rights.

Confidential Information

- a. The Buyer and Respondent will each take reasonable steps to protect Confidential Information and, without limiting any confidentiality undertaking agreed between them, will not disclose Confidential Information to a third party without the other's prior written consent.

- b. The Buyer and Respondent may each disclose Confidential Information to any person who is directly involved in the RFP process on its behalf, such as officers, employees, consultants, contractors, professional advisors, evaluation panel members, partners, principals or directors, but only for the purpose of participating in the RFP.
- c. Respondents acknowledge that the Buyer's obligations are subject to requirements imposed by obligations imposed by law.

Confidentiality of RFP information

- a. For the duration of the RFP, to the date of the announcement of the Successful Respondent, or the end of the RFP process, the Respondent agrees to keep the RFP strictly confidential
- b. A Respondent may disclose RFP information to any person described in bullet a) of the section on confidentiality in but only for the purpose of participating in the RFP. The Respondent must take reasonable steps to ensure that such recipients do not disclose Confidential Information to any other person or use Confidential Information for any purpose other than responding to the RFP.

England and Wales law

The laws of England and Wales shall govern the RFP and each Respondent agrees to submit to the exclusive jurisdiction of London courts in respect of any dispute concerning the RFP or the RFP process.

Disclaimer

The Buyer will not be liable in contract, tort, equity, or in any other way whatsoever for any direct or indirect damage, loss or cost incurred by any Respondent or any other person in respect of the RFP process.

Nothing contained or implied in the RFP, or RFP process, or any other communication by the Buyer to any Respondent shall be construed as legal, financial or other advice.