



Rijkswaterstaat
Ministerie van Infrastructuur en Waterstaat

Market Consultation

Tender Monitoring of microplastics in Dutch marine sediments

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Project description

Monitoring of microplastics in Dutch marine sediments

1. Introduction

Rijkswaterstaat (RWS) is the Dutch government organization which is largely responsible for the MSFD and OSPAR monitoring. As a part of this, RWS has to monitor microplastics in marine sediments. RWS is consulting the European market, in order to find a microplastic monitoring laboratory, who has the experience to deliver monitoring results with the desired monitoring quality.

Reliable microplastic data in Dutch marine sediment are important to comply with European MSFD reporting demands and internationally agreed OSPAR reporting, and are necessary to establish the microplastic status in Dutch marine sediments, to test for Dutch trends, and for compliance checking with an EU threshold value for microplastics which is expected in the future.

Microplastic monitoring in the marine environment is still in its infancy, and the reported methods often refer to research projects and methods. Furthermore, the monitoring of microplastics is complex, due to the large suite of polymers, particle sizes and shapes which are found in the environment. Therefore, Rijkswaterstaat is exploring the market to find a monitoring laboratory with sufficient years of monitoring experience and with a high monitoring quality.

The aims of this project are:

- a. To obtain a readily available analytical monitoring method for microplastics in marine sediments with high quality and good practicality.
- b. To apply this method to Dutch marine sediment samples for a period of three years.
- c. To present the method used and results obtained in annual technical reports and a scientific publication

Key question

The key question of this project is to provide a high-quality monitoring method and reliable monitoring results for the Dutch marine region for a period of three years.

2. Assignment description

1. The proposed method for the monitoring of the Dutch samples must be fully described in a discussed and agreed protocol in the beginning of the project. If necessary, some additional method validation is performed to finalize the start method.
2. The monitoring is performed for the 2022 samples. This concerns 9 sampling locations. Per location two samples are combined into a composite sample. The 9 aggregated samples are preferably to be measured in triplicate, and at least in duplicate.
3. The results of the 2022 samples are presented in a compact technical report.
The report should be suitable for dissemination and communication and is written in English
If necessary, small technical updates for the monitoring of the 2023 samples will be described in the report.
The monitoring method for the 2023 samples should be the final method for Rijkswaterstaat monitoring
If necessary, a limited amount of additional validation may be requested to finalize the method.
4. The 2023 samples are measured using the final monitoring method for Rijkswaterstaat.
5. In the second half of 2023, a draft manuscript is written using the results of two years of monitoring data and presenting the monitoring method.
6. Preferably, in spring 2024 the third year of monitoring data is collected and added to the manuscript.
7. The manuscript is finalized and submitted for publication in spring 2024.
8. Sampling and sample characterization are not a part of this assignment. Continued monitoring after the 3 year period can be an option

3. Quality demands

1. The main contractor of the laboratory must have a good knowledge of marine microplastic measurement methods, as proved by at least 10 scientific publications in this field (co-author or author).
Please provide a list of publications in the response form.
2. The laboratory must have at least 2 senior microplastic researchers at PhD level.
Please provide the Curriculum Vitae of the researchers
3. The laboratory must be actively involved in an OSPAR microplastic expert group
Specify the person and his/her role.
4. The laboratory must have at least 3-4 years of experience with microplastic monitoring, which must be evidenced by a significant number of monitoring publications and/or reports in this period.
Please provide this information in the response form.
5. The laboratory must have, at least partially, a focus on microplastic monitoring and associated quality control procedures.
6. The laboratory must have strict quality control procedures into place, including data processing and reporting. These procedures have to be demonstrated via available laboratory protocols and standard operation procedures (SOPs).
Please provide these protocols as annexes to your response. They will be kept fully confidential and deleted after the market consultation.
7. The sample preparation method offered should be as simple, gentle and practical as possible; and should avoid mechanical sieving.
Please motivate in the response form shortly why you think that your method is suitable for these demands.
8. The analytical method must be based on uFTIR with Focal Plane Array detection.
9. The offered monitoring method must be sufficiently characterized.
Please provide the available performance characteristics (e.g. recoveries of reference materials, analytical variation, blank levels, analysis time, etc) must be described as a part of the offered monitoring protocol document (see point 6).
10. The laboratory must be involved in current interlaboratory method development exercises for microplastics analysis such as Quasimeme. This involvement must be documented.
11. The laboratory must have working capacity for three years of monitoring for Rijkswaterstaat. An option for prolonged monitoring after this period is appreciated.
12. The laboratory must also perform monitoring of sediment microplastics in the Southern North Sea area (where also the Dutch monitoring locations are situated).
Please specify these activities in the response form.
13. The laboratory must have experience with the analysis of muddy samples.

4. Budget

The total available budget for this project is maximum 138.000 euro including VAT.

For possible future continuation of the monitoring after this project, approximately 30.000 including VAT is available.

5. Procedure Marketconsultation

5.1 Publication on TenderNed

Rijkswaterstaat opts for an open market consultation through TenderNed and TED for the Dutch and worldwide market. Link TED toevoegen voor de volledigheid?

5.2 Registration

You can register via the registration form. The registration form had been uploaded in TenderNed/TED. The form must send **within 7 workdays** to tim.kievit@rws.nl.

We would like to make it clear once again that the consultation is non-binding and there are no rights can be derived from the tender procedure.

5.3 Selection of market suppliers

Rijkswaterstaat's resources are limited and it would place a disproportionate burden on the organization to enter into an individual conversation with each supplier. In addition, Rijkswaterstaat wishes to limit any participation and transaction costs for the market in a general sense. Rijkswaterstaat will therefore enter into discussions with a maximum of 4 selected suppliers. Since no rights can be derived from the consultation, but also because no gain or financial advantage can be gained from this procedure, Rijkswaterstaat sees no need to carry out an extensive selection and apply the assessment methodology. Therefore Rijkswaterstaat will select a maximum of 4 parties that will be interviewed. The parties that register are asked to fill in the requested information by means of the registration form. The committee that selects potentially suitable parties consists of the same people who will conduct the conversations. If you are not selected for a conversation, you can submit a question for an explanation via the following email address: Tim.Kievit@rws.nl

5.4 Individual conversations with the suppliers

The individual conversations will take place via Microsoft Teams.

The conversations will take place in the week of 16-20 May or the week of 23-27 May. The specific dates will be set later depending on the availability of all persons participating in the respective conversations.

In this conversation, Tim Kievit, Willem van Loon (RWS-WVL) and Ingrid Bakker (RWS-CIV laboratory) will be present.

The conversations will be reported. Rijkswaterstaat has chosen to share the report of the market consultation with all parties that apply and are suitable for the tender, regardless of whether they have attended the meeting or not. No commercial data or company-specific data will be shared in the report. The report provides an outline of the direction and form of the research. This means that not every question can be answered at a detailed level.