Clarifications to Bidder’s Questions:

Statistician to investigate scale and drivers of shellfish mortality in The Wash

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| 1a | Could you provide details on the current state of the data, specifically: Has the data undergone any initial checks for inconsistencies or errors that would inform the scope of our data cleaning tasks? | Some data has been checked and some has not. The largest dataset (cockle stock data) has been checked for errors, quality assured, and processed (though raw data is still available). Most other datasets consist of raw data that has not been fully checked, e.g. environmental data collected by Environmental Health Officers [EHO], in-situ hydrological sondes, laboratory analysis of contaminants in sediment and water. |
| 1b | Are there any known data quality issues that we should anticipate addressing?   | There are gaps in the environmental and hydrological parameters data, spatially and temporally (i.e. temperature, pH, salinity, turbidity). Part of this contract will be addressing this; for example, we are aware of opportunities to supplement this data using data collected by other government projects or using existing modelled hydrological data. |
| 2 | Would you prefer a focus on statistical models that evaluate the relative importance of predictors (e.g., environmental factors, population density) for understanding causal relationships, or is accurate prediction of cockle mortality using machine learning methods the main objective? | The focus should be on evaluating the relative importance of predictors (e.g. environmental factors, population density) for understanding causal relationships. In order to do this, we will need to understand the scale of the cockle mortality, but accurately predicting future mortalities is not the aim of this work. |
| 3 | Is there a standard method for integrating fisher reports and photographs with official mortality assessments?  | This has not been done before and there is no standard method. However, to date, no fisher reports have actually been received. It is more likely that reports from Eastern IFCA will inform this – EIFCA can advise in which areas ‘atypical’ mortality has been observed, and which areas have suffered density-dependent ‘ridging out’ this year. |
| 4 | Will fisheries landings reports and bird density data be provided to support the analysis of cockle mortality?  | This data will be provided. |
| 5 | For the purpose of consulting on relevant predictors of cockle mortality, have specific contacts already been established within Natural England, EIFCA, Cefas, and the Environment Agency, or will we be responsible for initiating these connections? | Those contacts are already established and currently working on this project. |
| 6 | What is the date of final delivery? On p17 of the RFQ, as attached, it says the 21st of March, whereas p2 refers to the 31st of March for the final date of delivery.  | 31st March is the absolute deadline for delivery. 21st March is the deadline given for the final report to be completed, to allow contingency time for unexpected delays or final edits that may be required.   |
| 7 | There are lots of references to a Statistician – are you only looking for one scientist to work on this? This might not be possible for our team due to their availability. Could you please explain your requirements further as to how many scientists we can have working on this?  | The work can be delivered by a team.  |
| 8 | Is there a preferred method for calculating mortality, or one used in previous studies? If so, could you please share those studies?  | There is not a preferred method based on previous published studies. However, Eastern IFCA do have methods that they have used internally over the years to calculate mortality. The most appropriate method can be decided by the supplier, informed by discussions with partners.  |
| 9 | Could you provide more information on EIFCA's Bird Food Model (BFM), including its data inputs, methodology, assumptions, and approach to calculating Total Allowable Catch for shellfisheries? | The bird food model is described in detail here:  Stillman, R.A., West, A.D., Goss-Custard, J.D., Caldow, R.W.G., Mcgrorty, S., Durell, S.E.A.L.V.D., Yates, M.G., Atkinson, P.W., Clark, N.A., Bell, M.C., Dare, P.J. and Mander, M. (2003), An individual behaviour-based model can predict shorebird mortality using routinely collected shellfishery data. Journal of Applied Ecology, 40: 1090-1101. <https://doi.org/10.1111/j.1365-2664.2003.00853.x> Available at: <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2664.2003.00853.x>  A report was commissioned by Natural England in 2021 to assess whether this approach was still fit for purpose – this is an internal report but can be shared with the successful supplier if required.  The method for calculating Total Allowable Catch & the inclusion of the Bird Food Model is described in Eastern IFCA’s cockle fishery management plan: <https://www.eastern-ifca.gov.uk/wp-content/uploads/2021/03/2019_07_WFO_cockle_fishery_management_plan1.5_Final.pdf>  Please note that there was a change in 2023 on calculation of TAC, the update is published here: <https://www.eastern-ifca.gov.uk/wp-content/uploads/2023/06/2023_06_02_Review_of_Cockle_TAC_online_version.pdf>  |