**Clarifications to Bidders Questions – Ludham & Potter Heigham Marshes NNR**

**Questions from Bidder:** With the 2 costings, should the second one (factoring in the use of D-GPS) assume fewer hours spent refinding feno markers, or is it merely a case of adding the cost of the equipment rental to the quote?

Did the 2018 surveyors use a metal detector or were they only checking visually (explaining the low refind rate)? I need to establish an average time for finding each marker. Allotting 30-60 minutes for the finding of every marker would add up to a week to the fieldwork (assuming 10 hour days to improve minimise overall travel time and improve sustainability). If metal detectors weren’t used I think it’s reasonable to assume a lower average time of about 15 mins per marker.

Will replacement feno markers be provided, or should these costs be included?

Are any measures in place to reduce between-observer variation in species identification across the surveys? I note a lower number of bryophyte records in the 2018 survey when compared to the 2013 data – are ways that we can minimise these discrepancies?

**Answers:** The project specification, under ‘survey preparation’, describes the approach needed regarding using a high-accuracy gps and finding the permanent plots. I apologise that the request for quotation is misleading in that it asks for two quotes – one with and one without use of high-accuracy gps. We definitely need high-accuracy gps to be used this time, both to help with finding the original permanent plots and laying down fresh co-ordinates for improving plot replication going forwards. So, there is the time element of using the machine and hunting for the plots, and the cost of hiring the machine. I attach a revised request for quotation, accordingly.

For the survey in 2018, I wasn’t involved but looking through our files I cannot find any mention of the contractor using a metal detector – indeed it is not mentioned in our project specification, although this is an essential and standard requirement now! So, you could be right that using a metal detector this time will help, however, I do know how challenging it is where the feno markers have sunk below ground and the previous co-ordinates were derived from something like a handheld Garmin, necessitating a 3-5m radius of search.

Regarding replacement fenos, we do not want these. I have talked to the site manager and we agree that it is pointless to install new feno markers that will just get trampled by the cattle and sink again. And, posts won’t work either. So, for this site, we should make a reasonable effort to find the original feno markers and survey/photograph at those found; and for any not found, record high-accuracy co-ordinates and survey/photograph at those, without installing a new feno marker. The vegetation is relatively species-poor and homogenous, which helps with this approach at this site.

Regarding plant species identification, it is important to spot and identify any mosses and liverworts present – and we always aim to get the best botanical expertise possible (e.g. FISC level 4, ideally 5). I see that six relatively common moss species were found in 2013 and one in 2018, which does appear inconsistent. The Agrostis species will also need a close look. For this survey, we need good botanists who can do the grasses and other vascular plants, and basic mosses and liverworts. Other ways of minimising surveyor differences are to have at least two people working on the same quadrat and if necessary to collect samples (without destruction) for later identification.